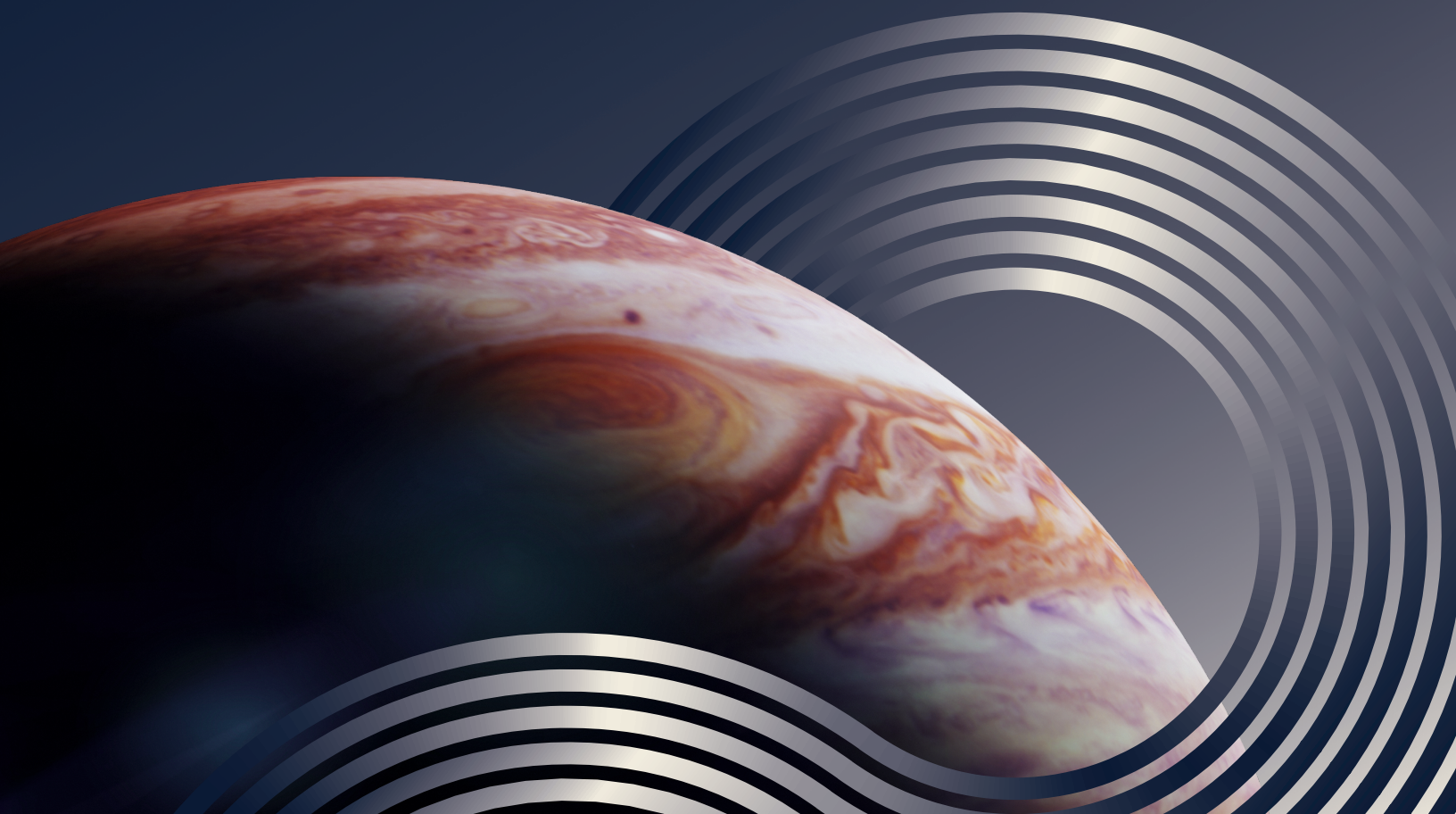


 LATE-STAGE COMPANY RESEARCH
**SpaceX Initiation
Report: When Venus
and Jupiter Align**

A financial model for SpaceX
covering its IPO and beyond



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\$1.25T

Last known valuation

\$10B

Total raised

8.55

Private Business
Quality Score (out of 10)

\$1.4T

Analyst
estimated valuation

Primary industries:

Space technology, satellite communication, and AI

Key takeaways

- **Launch services:** SpaceX has flipped launch services from a bespoke, capacity-scarce offering into an industrial operation defined by cadence and reuse. In 2025, SpaceX flew 165 Falcon 9 missions (and 170 total orbital attempts, including Starship),¹ representing about 52% of all global orbital launches in 2025. We estimate the company has reflown Falcon first-stage boosters 529 times out of 630 possible uses (84% reuse rate), reducing launch costs by as much as 65%. SpaceX is the default logistics provider for commercial, civil, and national security payloads—not merely because it is cheaper, but because it delivers schedule certainty at a tempo no competitor can match.
- **Starlink:** Starlink extends SpaceX’s advantage by vertically integrating the full connectivity loop—satellite design, manufacturing, launch, and network operations—at unprecedented scale. The constellation comprises over 9,600 operational satellites (about 66% of all active satellites globally).² Starlink serves 9.2 million subscribers across over 150 countries,³ having doubled its base for two consecutive years. We estimate Starlink generated \$10.6 billion in revenue and \$5.8 billion in EBITDA (54% margin) in 2025, comprising about 67% of total company revenue.
- **Our proprietary financial model:** We have built a granular, bottom-up financial model that breaks down both of SpaceX’s businesses into their own income statements, with their own sets of drivers. As a private company, SpaceX has not filed public financial statements, so our work triangulates from public disclosures, regulatory filings, third-party datasets, and our own analysis of the business. Additionally, we have not communicated with the company about our financial estimates. We believe this model is of significant value to those looking to dive deep into the business, understand how different variables impact results, and assess the growth. Everything we discuss in this report is directly tied to our assumptions in our financial model. We estimate the company generated nearly \$16 billion in revenue and \$7.5 billion in EBITDA in 2025, driven almost entirely by explosive subscriber growth within the Starlink segment. Looking ahead, we forecast 2040 revenues of \$150 billion and EBITDA of \$95 billion.

Ahead of what is set to be the biggest IPO in history, we are launching coverage of SpaceX. We view SpaceX as the category leader across two foundational layers of the modern space economy: first, space logistics (getting mass to orbit repeatedly, reliably, and cheaply), and second, space-enabled connectivity (turning satellites in low Earth orbit into a global, software-defined telecommunications platform). The company operates two highly synergistic business segments: launch services and Starlink.

- **The xAI merger:** On February 2, 2026, SpaceX announced the acquisition of private artificial intelligence company xAI in a deal valuing the combined entity at \$1.3 trillion. We discuss the acquisition in this report; however, the core focus of this report is on the original SpaceX business. Additionally, our model for SpaceX excludes any potential contribution from the recent merger with xAI. We will integrate xAI into our estimates once we have a clearer understanding of the implications for the business. In the meantime, we recommend investors read our coming Late Stage Company Research report that dives into the business of the top private AI companies, including xAI, for more information about the company, its value, and a better understanding of what SpaceX is acquiring beyond the color we provide here.
- **Valuing SpaceX:** At \$1.5 trillion, SpaceX is priced between the 75th percentile and 90th percentile peer ERGs in our direct comp SOTP (\$1.1 trillion to \$1.6 trillion) and requires top-decile conviction in the large-cap growth universe (1.9x ERG, second only to Palantir). Both frameworks validate the IPO as expensive but not irrational—provided Starship commercializes on or near its proposed timeline and D2C scales as projected. Execution timing, not the directional thesis, is the primary risk. We view the asymmetry as favorable for investors with a 3-5 year horizon and tolerance for Musk-amplified volatility.

1: "Launches," SpaceX, n.d., accessed February 23, 2026.

2: "Jonathan's Space Report," Planet4589, Jonathan McDowell, n.d., accessed February 23, 2026.

3: "Starlink Progress Report 2025," Starlink, 2025.

- Operational excellence:** SpaceX's moat is a compounding learning loop: Vertical integration keeps critical knowledge in-house, extreme flight cadence generates proprietary operational data, and reusability converts that learning into economics. Each cycle of design, construction, flight, and measurement produces knowledge that competitors cannot replicate without matching SpaceX's tempo. Blue Origin spent more than \$10 billion over a decade to reach orbit with one flight; SpaceX has completed 611.⁴
- Starship:** Starship marks the beginning of a new growth era, shifting the industry bottleneck from launch scarcity to mass abundance. The fully reusable architecture could reduce internal launch costs by about 80% at scale, driving a 70% decrease in incremental Starlink capacity cost (measured in Gbps) from Day 1 of V3 satellite deployments. V3 satellites offer 10x the capacity of the V2 Mini model,⁵ meaning capacity added per Starship launch increases 25x (or 6x to 12x versus optimized Falcon 9 configurations). We expect the first commercial payload delivery in 2026 and anticipate Starship will comprise the entirety of SpaceX's launch manifest by 2040.
- Direct-to-cell:** D2C is Starlink's ubiquity wedge in global telecom, turning the constellation into a roaming cell tower in space. With 651 D2C-capable satellites in orbit, 27 carrier partnerships, and over 6 million subscribers added in about 18 months,⁶ commercial traction has outpaced expectations. SpaceX's \$19.6 billion acquisition of the radio spectrum from EchoStar fundamentally shifted D2C's strategic posture from wholesale roaming service to spectrum-owning platform, and the company has filed for a dedicated 15,000-satellite VLEO constellation optimized exclusively for D2C.⁷ We forecast D2C scaling to 1.1 billion subscribers by 2040 (for about \$42 billion in revenue), with zero terminal subsidy costs and outsourced distribution making it highly accretive to margins.
- IPO summary:** Ahead of a rumored mid-June 2026 IPO, we believe SpaceX will be marketed as a platform business, targeting a valuation of about \$1.5 trillion (around 94x 2025 revenue). The company plans to float about 3.3% of its equity to raise a \$50 billion war chest—the largest IPO in history by 2x—funding the Starship scale-up, Starlink expansion, and the D2C constellation build-out (\$19.6 billion purchase of EchoStar's spectrum alone exceeds full-year 2025 revenue). The de-risked financial profile, including \$7.5 billion in EBITDA and double-digit FCF margins (excluding the spectrum purchase), positions SpaceX to withstand public market scrutiny.
- Uses of cash:** The IPO narrative includes two aspirational capital deployment targets: orbital datacenters (up to 1 million satellites for space-based AI compute) and Moonbase Alpha. We treat both as long-duration valuation call options. The orbital compute concept addresses real terrestrial constraints, such as power, cooling, and permitting, but the scale targets require about 6,667 Starship flights annually—roughly 530x current global launch mass—placing realization well beyond any near-term planning horizon. We assign zero revenue to either initiative in our model.
- Verticalization strategy:** The \$1.3 trillion combined valuation merger with xAI (SpaceX at about \$1 trillion, xAI at about \$250 billion) formalizes Musk's shift toward a vertically integrated infrastructure conglomerate. SpaceX provides \$7.5 billion in EBITDA to support xAI's estimated \$1 billion monthly spending rate. The all-stock, tax-efficient structure consolidates the Musk entity web pre-IPO and acts as a rescue ladder for legacy Twitter investors, converting marked-down positions (about 71.5% impairment at one point) into meaningful ownership of a \$1.5 trillion liquidity event.
- Tesla tie-ins:** SpaceX will trade like Tesla with amplified dynamics. The shared factory-first DNA and Musk leadership create a "credibility ledger" dynamic: Investors will discount management timelines by 1.5x to 2.5x while maintaining directional conviction. The critical amplifier is float—at about 3.3%, where Tesla sees 10% to 15% swings on milestone slips, we expect SpaceX to experience 20% to 30% moves on equivalent catalysts. Musk's dual CEO role and political visibility will generate headline-driven volatility uncorrelated to operational performance.

4: "Launches," SpaceX, n.d., accessed February 23, 2026.

5: "Starlink Progress Report 2025," Starlink, n.d., accessed February 23, 2026.

6: Ibid.

7: "SpaceX Eyes 15,000 More Satellites for Cellular Starlink, Hints at Carrier Plans," PCMag, September 20, 2025.

Private Business Quality Framework methodology

1. Capital efficiency (20% weight)

Capital efficiency measures how effectively a company converts capital into sustainable growth and value.

We analyze the ratio of annualized run-rate economics (annual recurring revenue (ARR) for subscription businesses, revenue run-rate for transactional models, or run-rate gross profit for margin-volatile businesses) to cumulative capital raised, adjusted for the maturity of the business model, gross margin trajectory, and the clarity of the path to free cash flow (FCF).

- Score of 10: Exceptional multiplier effect (greater than 0.5x revenue/capital ratio with positive FCF).
- Score of 1: Capital destruction; high spending rate with no clear profitability path.

This metric penalizes companies that raise faster than they monetize, regardless of growth rate. Companies that convert capital efficiently will survive market corrections, while those that do not become cautionary tales. In tighter capital environments, capital efficiency is often the difference between “fast-growing” and “enduring.”

2. Revenue quality (25% weight)

This metric penalizes companies that raise faster than they monetize, regardless of growth rate.

Companies that convert capital efficiently will survive market corrections, while those that do not become cautionary tales. In tighter capital environments, capital efficiency is often the difference between “fast-growing” and “enduring.”

- Score of 10: Highly durable, repeatable revenue with strong retention, long-duration/customer stickiness, pricing power, and stable-to-improving margins.
- Score of 1: Pre-revenue, purely transactional revenue with no repeat dynamics or revenue that is structurally fragile.

Not all revenue is created equal. A dollar of recurring, high-margin revenue from a diversified enterprise base is worth significantly more than a dollar of low-margin, transactional revenue. Revenue quality determines if current performance is a leading indicator of future stability or a lagging indicator of a churning customer base.

3. Computing independence (15% weight)

Strategic velocity is a measure of clarity regarding the company's core strategy and its realized impact on business trajectory. We assess the company's ability to execute on its roadmap, navigate market pivots, and align resource allocation with its stated competitive advantage.

- Score of 10: The strategy is creating a flywheel effect; key performance indicators (KPIs) are compounding, and the company is dictating market terms rather than reacting to them.
- Score of 1: The company is suffering from an identity crisis and frequent or reactive pivots. Resources are spread thin across conflicting initiatives.

A strategy is only as good as its impact on profits and losses. This metric filters out companies that are "busy" from companies that are "progressing." A high score indicates a management team that has correctly identified a market wedge and is widening it; a low score indicates execution paralysis or a fundamental disconnect between the product roadmap and market demand.

4. Governance optionality (20% weight)

Governance optionality is an assessment of a company's ability to execute strategic transactions: IPO readiness, M&A optionality, and capital-raising flexibility. We evaluate corporate-structure complexity, board composition and control, key-person risk, related-party entanglements, regulatory standing, and the quality of financial reporting and audit readiness.

- Score of 10: A clean structure with immediate IPO readiness.
- Score of 1: Prohibitive structural complexity, "poison pill" clauses, or extreme key-person risk.

Governance optionality determines whether a company captures value or destroys it through structural complexity. A company may be operationally sound but unfit as a target for investment due to a tangled cap table, unresolved litigation, or a founder-centric structure that prevents professional management succession.

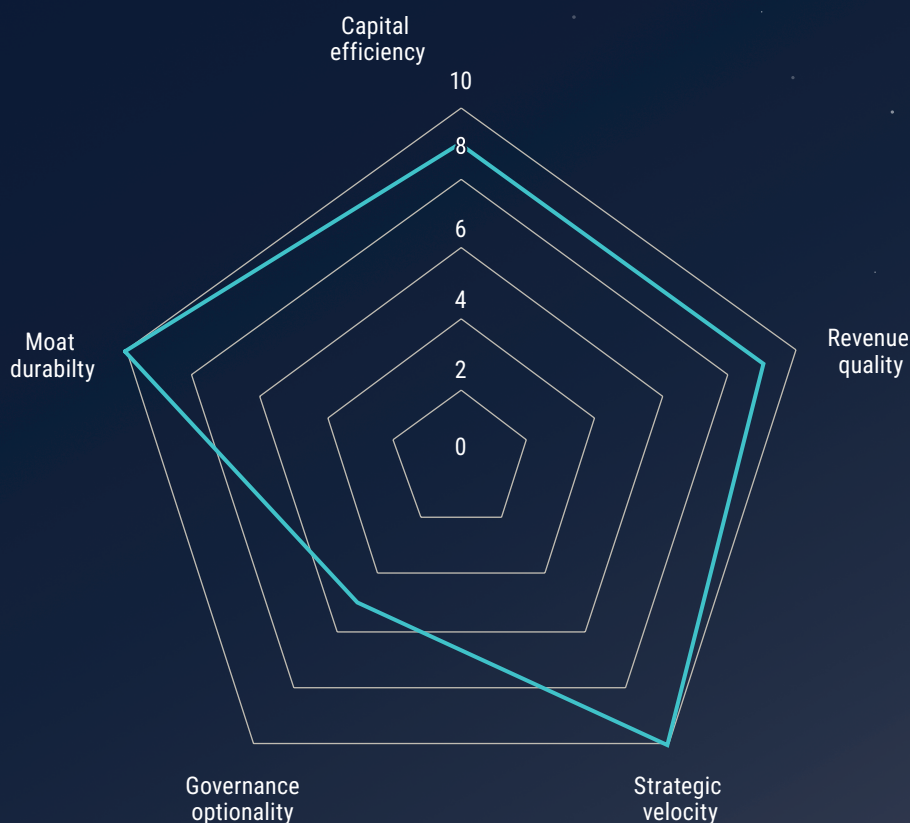
5: Moat durability (20% weight)

Moat durability is a metric based on the sustainability of competitive advantages and defensibility against commoditization. We assess brand strength, capability differentiation, switching costs, and network effects as part of moat durability.

- Score of 10: Multiple reinforcing moats (for example, high switching costs and network effects).
- Score of 1: Purely reputational positioning with no structural advantage.

Products can be copied; ecosystems are harder to replicate. As technical or service differentiation narrows in maturing industries, the “moat” is what prevents margin compression. We prioritize structural advantages (regulatory licenses and deep integration) over fleeting advantages (features and hype).

SpaceX Private Business Quality Framework



Source: PitchBook • Geography: Global • As of February 8, 2026

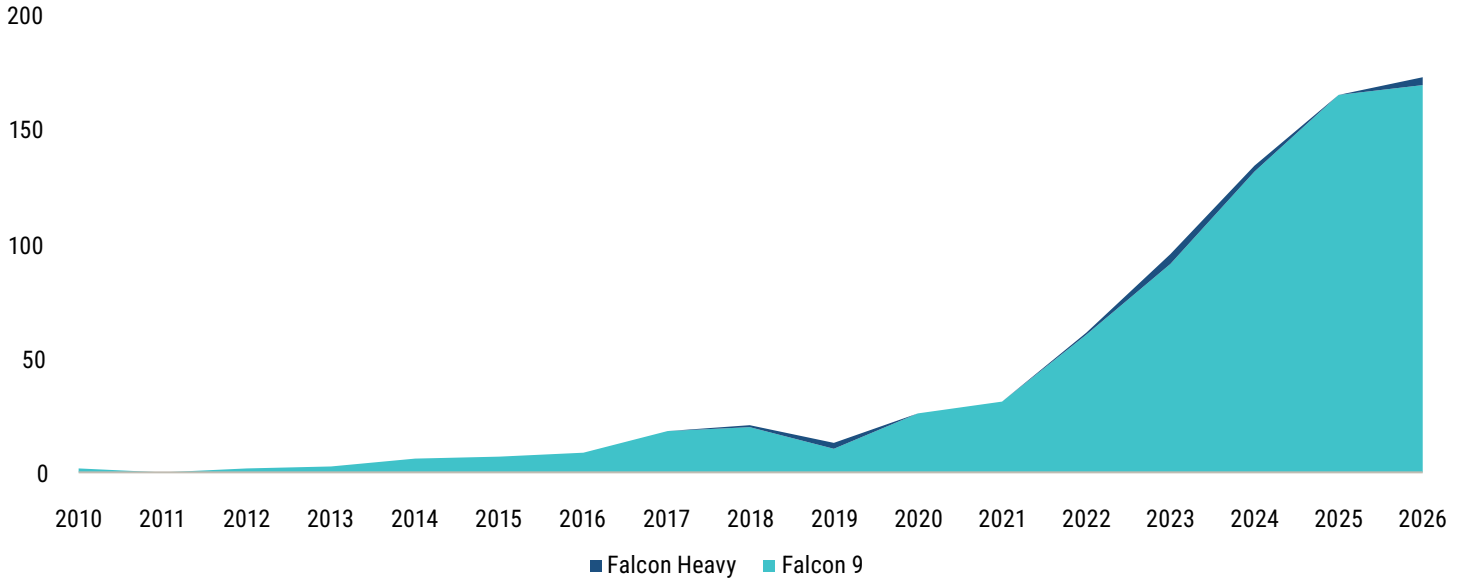
SpaceX Private Business Quality Framework breakdown

| Criteria | Score | Rationale |
|------------------------|-------------|---|
| Capital efficiency | 9 | \$16 billion in revenue and \$7.5 billion in EBITDA on \$10 billion in Starship development (less than half NASA's Space Launch System cost). Positive Starlink FCF in 2024; 2025 FCF negative only due to deliberate \$19.6 billion spectrum acquisition. |
| Revenue quality | 9 | 60% or more recurring Starlink subscriptions at 50% EBITDA margins, subscribers doubling 2x consecutively, government backlog visibility. Docked one point for D2C ARPU uncertainty and lack of audited financials. |
| Strategic velocity | 10 | Highest-conviction score. 52% of global launches, D2C from zero to 6 million in 18 months, \$19.6 billion spectrum deal transforming competitive posture, Starship retiring its two biggest technical risks in 2025. SpaceX dictates market terms; it does not react to them. |
| Governance optionality | 5 | The drag on the composite. IPO-ready financials, but extreme Musk key-person risk (dual CEO), Tesla-xAI circular capital flows, DOGE political exposure, and xAI merger adding structural complexity pre-listing. |
| Moat durability | 10 | Multiple reinforcing moats: 611 flights, 84% reuse rate, manufacturing at industrial scale, \$19.6 billion owned spectrum, internal launch costs a fraction of competitors'. The gap is widening. |
| Overall score | 8.55 | Top-decile quality, constrained only by governance risk that is structural to the Musk ecosystem and unlikely to change at IPO. |

Source: PitchBook • Geography: Global • As of February 8, 2026

Key growth drivers

Falcon rocket launch count



Source: SpaceX • Geography: Global • As of February 8, 2026

Operational excellence is a deep-rooted, hard-to-replicate moat

SpaceX’s competitive edge is not a single technology; it is an integrated operating system that compounds over time. The company has built a tightly coupled loop that compresses the path from engineering insight to flight-proven hardware, converts operational cadence into economic advantage via reuse and rapid refurbishment, and leverages Starlink’s scale to industrialize manufacturing and deepen supply chain leverage.

The result is a moat rooted less in any single breakthrough and more in a repeatable, high-velocity learning-and-throughput machine where more launches generate more data, more data drives faster improvements, lower costs expand feasible cadence, and the cycle repeats.

Vertical integration compresses cycles and keeps critical learning in-house

SpaceX designs, builds, tests, launches, and iterates major subsystems internally—a level of stack ownership rare in aerospace, where prime contractors typically outsource propulsion, avionics, and structures to a fragmented vendor base.

Propulsion is the clearest proof point. Merlin, the engine powering Falcon 9, has been repeatedly redesigned and productized inside SpaceX’s Hawthorne, California, facility rather than treated as a bespoke, externally procured subsystem. We view this as strategically critical: Engines represent an estimated 60% of a rocket’s first-stage cost,⁸ and they are the single highest-leverage constraint on performance, cadence, and reliability. By keeping the engine in-house, SpaceX retains decision rights on its most important variable and the accumulated process learning from manufacturing yields, test outcomes, and operational wear. A competitor purchasing engines from a third party (as United Launch Alliance sources its Vulcan’s BE-4 engine from Blue Origin) cedes that learning to the supplier.

The same logic extends into Starlink. SpaceX operates an end-to-end telecom service: satellites, user terminals, gateways, software, spectrum strategy, and continual operational tuning. The common thread is that field and flight realities translate into design changes that move through production without waiting on a fragmented contractor ecosystem. That organizational structure increases the frequency of improvement and reduces the cost of each iteration.

⁸: "With Block 5, SpaceX to Increase Launch Cadence and Lower Prices," NASASpaceflight.com, Michael Baylor, May 17, 2018.

Falcon booster landing outcomes

| | Precluded | Controlled ocean landing | Failure | Partial failure | Success | No attempt |
|--------------|-----------|--------------------------|---------|-----------------|---------|------------|
| Falcon 9 | 0% | 1% | 3% | 0% | 91% | 5% |
| Falcon Heavy | 0% | 0% | 18% | 9% | 0% | 73% |

Source: SpaceX • Geography: Global • As of February 8, 2026

Cadence-driven learning compounds: Reusability turns learning into economics

We believe the primary competitive variable in modern launch services is the learning rate, and SpaceX has built a system to maximize it. Each cycle of design, construction, flight, and measurement produces proprietary operational knowledge—failure modes, refurbishment procedures, inspection workflows, software changes, and manufacturing process improvements—that feeds directly into the next revision. Over time, that knowledge compounds and becomes increasingly difficult for competitors to replicate without matching SpaceX's operational tempo.

The Falcon rocket demonstrates that reusability is an operational discipline, not a one-time technical achievement. SpaceX's ability to routinely recover and reflly boosters reflects ownership of the hardware, the refurbishment workflows, and launch operations as one continuous system. In March 2025, SpaceX turned a Falcon 9 booster around in just over nine days—a meaningful signal, because the economic benefit of reuse depends on shortening the time and cost between revenue-generating flights, not simply proving a landing.

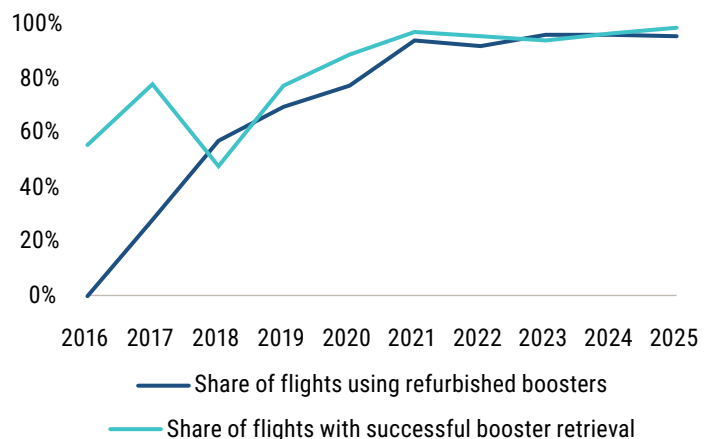
We analyzed all 611 launches to date and uncovered strong operational proof points:⁹

- Successful booster retrieval launches (including those of Starlink) ramped from one in 2015 to 162 in 2025, with 14 in 2026 YTD.
- Total booster reuses scaled from five in 2017 to 157 in 2025, with 13 in early 2026 YTD.

- As of February 2026, Falcon first-stage boosters have been reflown 529 times out of 630 possible uses (84%), based on our analysis of launch data, including flights where no recovery attempt was made.
- In 2023-2025, annual reuse events tracked retrieval events closely, indicating refurbishment throughput has scaled with recovery operations rather than becoming a bottleneck.

The unit economics case is straightforward: We estimate that the components refurbished and reused on most missions represent about 70% of the total Falcon 9 vehicle cost. Based on our assumptions around process improvements over time, reusability reduces launch costs by as much as 65%—a figure we do not view as aggressive. With reuse, each incremental reflight has outsized leverage on effective cost per mission, and the durable advantage is making recovery routine, refurbishment predictable, and turnaround fast enough to raise utilization—a feat no competitor has come close to achieving.

Share of Falcon flights with successful reusability efforts



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

9: "Launches," SpaceX, n.d., accessed February 23, 2026.

Assumed fully expendable Falcon 9 launch cost

| Cost | Share of cost | Assumed cost (\$M) | | |
|---|---------------|--------------------|---------------|---------------|
| | | 2017 | 2025 | 2030 |
| Booster | 60% | \$36.0 | \$31.0 | \$27.0 |
| Second stage | 20% | \$12.0 | \$10.0 | \$9.0 |
| Payload fairing | 10% | \$6.0 | \$5.1 | \$4.5 |
| Launch ops & range | 6% | \$3.6 | \$3.1 | \$2.7 |
| Payload integration & mission assurance | 3% | \$1.8 | \$1.5 | \$1.4 |
| Propellant | 1% | \$0.6 | \$0.5 | \$0.5 |
| Total | 100% | \$60.0 | \$51.0 | \$45.0 |

Source: PitchBook • Geography: Global • As of February 8, 2026

Assumed reusable Falcon 9 launch cost

| Cost | Share of cost | Assumed cost (\$M) | | |
|---|---------------|--------------------|---------------|---------------|
| | | 2017 | 2025 | 2030 |
| Booster refurbishment & recovery operations | 33% | \$12.0 | \$2.5 | \$1.8 |
| Second stage | 33% | \$12.0 | \$10.0 | \$9.0 |
| Payload fairing | 17% | \$6.0 | \$0.8 | \$0.6 |
| Launch ops & range | 10% | \$3.6 | \$3.1 | \$2.7 |
| Payload integration & mission assurance | 5% | \$1.8 | \$1.5 | \$1.4 |
| Propellant | 2% | \$0.6 | \$0.5 | \$0.5 |
| Total | 100% | \$36.0 | \$19.0 | \$16.0 |
| Reusability cost savings | | 40% | 64% | 65% |

Source: PitchBook • Geography: Global • As of February 8, 2026

Launch cost estimates

These learning loops extend beyond rockets. Starlink manufacturing and network operations create an even tighter feedback cycle: The installed base produces continuous telemetry and customer experience data (dropouts, latency, thermal behavior, and component failures) that translate into terminal design changes and production adjustments on short timescales. SpaceX’s Bastrop, Texas, facility—effectively a manufacturing center running a philosophy summarized as “raw materials in, finished kits out”—is the physical manifestation of that same iterative flywheel.

Starlink industrializes SpaceX’s advantage and strengthens supply chain leverage

We believe Starlink is strategically additive in two ways: It creates recurring internal demand that justifies large-scale capital expenditure, and it forces SpaceX to behave like a high-volume manufacturer rather than a bespoke aerospace producer.

Scale is the point. On the satellite side, SpaceX has discussed manufacturing Starlink satellites at roughly 70 per week,¹⁰ a rate that resembles industrial production more than traditional

10: “Starlink Progress Report 2025,” Starlink, n.d., accessed February 23, 2026.

aerospace cadence. On the customer-hardware side, SpaceX has publicly described producing about 15,000 Starlink kits per day (over 70,000 per week)¹¹ and has highlighted plans to expand manufacturing space and bring more processes in-house. In our view, these numbers matter because they support a fundamentally different cost curve: volume manufacturing accelerates learning, improves yields, and increases bargaining power.

At this volume, supply chain leverage becomes structural. One example is STMicroelectronics disclosing that it has shipped more than 5 billion radio-frequency front-end modules/antenna elements to SpaceX for Starlink since around 2015 and indicating volumes over the next two years could roughly double the prior decade's shipment volume.¹² When a program pulls components at this scale, suppliers rationally prioritize allocation, pricing, and co-development, reinforcing SpaceX's cost and iteration advantages.

Why replication is difficult, including for state-backed programs

We believe many competitors can copy individual tactics, but fewer can replicate the integrated system at a comparable tempo. The evidence is accumulating:

- Blue Origin spent over a decade and an estimated \$10 billion or more to reach orbit with New Glenn in early 2025, achieving two flights versus SpaceX's 611.
- Arianespace's Ariane 6 debuted in 2024 after years of delays and launched as a fully expendable vehicle. Europe's sovereign access mandate, while strategically rational, optimizes for assurance and governance rather than iteration speed, leaving it structurally disadvantaged on cost curves.
- China's commercial launch sector (LandSpace, ispace, and Galactic Energy) is making real progress on reusability research & development (R&D), but no companies in the sector have demonstrated routine booster recovery. The gap in cumulative flight data is measured in hundreds of missions of dollars.

- United Launch Alliance's Vulcan debuted an expendable system in 2024 that costs about \$100 million per launch.¹³ Its proposed Sensible Modular Autonomous Return Technology (SMART) recovery concept (midair engine section capture) has not been operationally implemented, leaving it at a persistent cost disadvantage versus SpaceX's Falcon 9.

The pattern is consistent: Programs optimizing primarily for sovereignty, governance, or procurement assurance tend to slow iteration and weaken accountability to commercial unit economics. In markets where the learning rate and manufacturing throughput drive cost curves, that institutional orientation becomes a structural disadvantage. The moat is not a single technology choice; it is the combination of hardware ownership, operational throughput, manufacturing discipline, and incentive structures that reward iteration speed and reliability at scale.

Starship will launch SpaceX into a new growth era

Starship is SpaceX's fully reusable superheavy-lift launch vehicle, designed to carry about 150 metric tons to low Earth orbit (LEO) in reusable configuration (about 250 tons expendable)—a nearly 9x increase over Falcon 9's 17-ton reusable capacity.¹⁴ After a decade of development, \$10 billion in development costs, and 11 test flights, we expect SpaceX to begin commercial payload delivery this year. We believe Starship marks the start of the third era for SpaceX: the industrialization of orbital operations and the beginning of viable cislunar logistics.

The development investment is remarkable in context: NASA's Space Launch System (SLS), the only other superheavy-lift vehicle currently flying, cost an estimated \$2.8 billion to develop and flies expendably at about \$4 billion per launch with no reuse architecture.¹⁵ SpaceX has built a vehicle with comparable-to-superior lift capacity for less than half the development cost, with full reusability as a design objective from Day 1. The magnitude of the step-function improvement in unit economics, competitive positioning, and use-case expansion is why this vehicle is, in our view, the single most important catalyst for SpaceX's long-term trajectory.

11: Ibid.

12: "STMicroelectronics Has Shipped Over 5 Billion Chips to SpaceX for the Starlink," [SemiWiki, December 15, 2025](#).

13: "5 Fast Facts On Vulcan: ULA's Rocket for the US Space Force," [SimpleFlying, May 2024](#).

14: "Starship," [SpaceX, n.d.](#), accessed February 23, 2026.

15: "White House Budget Seeks to End SLS, Orion, and Lunar Gateway Programs," [Ars Technica, Eric Berger, May 2, 2025](#).

Internal launch cost comparison by vehicle and reusability stage

| | Falcon 9 (2027 estimate) | Falcon Heavy (2027 estimate) | Starship (2027-Early Reusability) | Starship (2040-Proven Reusability) | Starship (Moonshot Scenario) |
|----------------------|--------------------------|------------------------------|-----------------------------------|------------------------------------|------------------------------|
| Price (\$M) | \$74.0 | \$105.0 | \$100.0 | \$63.0 | \$40.0 |
| Internal cost (\$M) | \$17.0 | \$54.0 | \$61.0 | \$26.0 | \$10.0 |
| Payload to LEO (kg) | 22,500 kg | 30,000 kg | 150,000 kg | 150,000 kg | 150,000 kg |
| Price per kg | \$3,289.0 | \$3,500.0 | \$667.0 | \$420.0 | \$267.0 |
| Internal cost per kg | \$756.0 | \$1,800.0 | \$407.0 | \$173.0 | \$67.0 |

Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Starship shifts the binding constraint from launch scarcity to launch abundance

The economics are straightforward: By driving third-party launch costs from about \$3,000/kilograms (kg) today to under \$700/kg at scale, Starship converts previously nonviable missions into routine operations. For SpaceX’s own internal flights, the implications are even more significant—we estimate internal costs could fall below \$200/kg at a mature launch cadence, fundamentally reshaping the unit economics of Starlink constellation deployment.

Starlink Is the first and most important beneficiary

Starlink benefits from Starship along two reinforcing vectors:

1. Starship dramatically lowers the cost per kilogram it takes to reach orbit. We estimate internal launch costs could fall by almost half in the early days of Starship (as seen on the figure above), nearly 80% once it achieves a meaningful launch cadence, and by over 90% in a full-reusability theoretical scenario.

2. Starship enables the deployment of V3 satellites

at a radically higher density. Starship’s payload bay accommodates the larger V3 satellites at a higher satellite-per-launch ratio. The key number: V3 satellites offer a 10x capacity increase over V2 Mini models, meaning capacity added per launch increases by 25x, based on our estimates, or 6x versus the V2 Mini optimized configuration.¹⁶

Combined, these dynamics yield a 70% decrease in incremental capacity cost, measured in dollars per gigabits per second (\$/Gbps), from Day 1 versus the V2 Mini optimized on the Falcon 9, with the potential to reach an 87% reduction at mature Starship cadence. We view this as the single most impactful driver of Starlink’s long-term margin expansion.

¹⁶: “This post was sent through a SpaceX Direct to Cell satellite in space,” X post, SpaceX (@SpaceX), February 26, 2024.

Cost per Gbps deployed

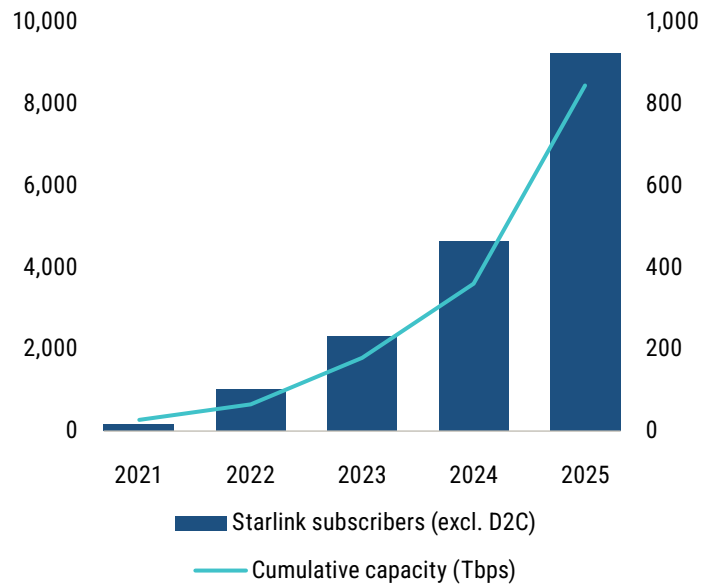
| Satellite version | Downlink capacity (Gbps) | Uplink capacity (Gbps) | Weight (kg) | Falcon 9/ Starship capacity | New capacity per launch (Gbps) | Falcon 9 incremental capacity cost per Gbps | Starship incremental capacity cost per Gbps | | |
|-------------------|--------------------------|------------------------|-------------|-----------------------------|--------------------------------|---|---|---------------------------|------------------------------|
| | | | | | | | Early reusability (2027) | Proven reusability (2040) | Starship (moonshot scenario) |
| V0.9 | 10 | 1 | 260 | 60 | 600 | 28,333 | - | - | - |
| V1 | 15 | 1 | 260 | 60 | 900 | 18,889 | - | - | - |
| V1.5 | 24 | 2 | 306 | 55 | 1,320 | 12,879 | - | - | - |
| V2 Mini | 96 | 7 | 800 | 23 | 2,208 | 7,699 | - | - | - |
| V2 Mini Optimized | 165 | N/A | 575 | 28 | 4,620 | 3,680 | - | - | - |
| V3 | 1,000 | 200 | 1,500 | 55 | 55,000 | N/A | 1,109 | 473 | 182 |

Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Beyond unit economics, we believe the capacity unlock directly translates into subscriber growth. Up until now, Starlink’s growth has been visibly capped by deployment bandwidth. The evidence is concrete: SpaceX implements high-demand surcharges of up to \$1,000 in congested areas, withholds promotional pricing from high-density markets where service degrades without sufficient bandwidth, based on our own testing, and has allocated about 74% of its 2025 Falcon 9 launches to Starlink constellation build-out—yet still cannot launch fast enough to fully serve demand.

Once V3 deployments begin from late 2026 to early 2027, we believe SpaceX will no longer have to choose between customer growth and network performance. That is the unlock.

Subscriber count and total network capacity



Source: SpaceX • Geography: Global • As of February 8, 2026

Starship expands the addressable launch market by enabling new payload classes

Beyond Starlink, Starship coming online expands the addressable market in three practical directions:

1. Volumetric dominance enables “lazy engineering.”

Starship’s payload fairing volume of about 1,000 cubic meters is roughly 7x Falcon 9’s 145 cubic meters and larger than that of any operational vehicle.¹⁷ We believe this volumetric surplus is just as valuable as the mass capability. It allows satellite manufacturers to substitute expensive, miniaturized components for heavier, cheaper, off-the-shelf industrial parts—dramatically lowering the barrier to entry for national security architectures and commercial constellations that prioritize deployment cost over weight optimization.

2. Starship unlocks monolithic architectures and large-scale science.

Current megaprojects like the James Webb Space Telescope consumed about \$10 billion in part because of the complex “origami” folding mechanisms required to fit inside narrow fairings. Starship enables launching monolithic (single-piece) structures, with immediate applications for next-generation observatories (the Habitable Worlds Observatory), commercial space stations (Starlab and Orbital Reef), and fully assembled pressurized modules that eliminate risky, multi-launch modular assembly.

3. Starship may hold the key to unlocking the cislunar economy.

Starship introduces in-orbit refueling as a core operational competency, unlocking the flight patterns required for a permanent cislunar industrial footprint. Unlike legacy heavy-lift systems constrained by the rocket equation, Starship is designed to replenish propellant in LEO, effectively resetting its range for deep space. We view NASA’s Human Landing System (HLS) contract as the critical forcing function: Its requirement to deliver massive landers to the moon mandates the maturation of cryogenic fluid transfer—government-backed R&D that underwrites the core infrastructure for cislunar transport.

Read more about the cislunar opportunity in our recent analyst note [Moonshot: The Next Stage of the Lunar Space Economy](#).

Commercialization timeline: When does this affect the income statement?

For investors, the question is not whether Starship works—it is when it transitions from flight test to revenue generation. Based on the current development trajectory and our launch model, we project the following cadence ramp:

- **2026: The first commercial payload delivery occurs and Starship Block 3 debuts (Flight 12 is expected March).** SpaceX’s Federal Aviation Administration license covers up to 25 launches per year.¹⁸ We estimate five to 10 total Starship flights this year, with the majority still in the test/qualification category.
- **2027-2028: Starship enters early operational cadence and the first V3 Starlink satellite deployments will occur via Starship.** We expect Starship to begin displacing Falcon 9 for internal Starlink missions, with third-party commercial flights ramping in parallel.
- **2029-2030: Falcon 9 winds down for Starlink.** We model a rapid decline in Falcon 9 Starlink launches through 2029 as Starship cadence scales. This is the transition period where our model shows EBITDA compression in the launch segment as mature Falcon 9 margins phase out before Starship reusability savings fully materialize.
- **2032 and beyond: Starship launches enter mature cadence.** We forecast Starship comprising the entirety of the launch manifest by 2040, with the vehicle launching more than once per day. At this stage, reusability savings reach maturity and drive the 39% EBITDA margin we model for launch services.

We flag one important dynamic in this transition: our model shows launch services EBITDA turning negative in 2030-2031 as Starship’s reusability cost benefits have not fully materialized while Falcon 9’s mature margin contribution is phasing out. We view this as a temporary trough, not a structural concern, but investors should expect a visible earnings dip during the transition.

17: “Orbital Launch Vehicle Comparison,” Cheatsheets.com, David Veksler, n.d., accessed February 23, 2026.

18: “Final Tiered Environmental Assessment for Additional Launch Trajectories and Starship RTLS Mission Profiles for the SpaceX Starship/Super Heavy Launch Vehicle Program at Boca Chica, Texas,” Federal Aviation Administration, September 2025.

Technical maturity: Pivoting from "flight test" to "orbital utility"

In our view, the 2025 flight campaign successfully transitioned the program's risk profile from "aerodynamic viability" to "operational repeatability." From flight test 7 through flight test 11, SpaceX achieved the successful soft splashdown of a Super Heavy booster (retiring the largest recovery risk), validated the heat shield tile system on the upper stage (retiring the largest reentry risk), and demonstrated payload deployment mechanics including the "Pez-style" Starlink dispenser concept. These milestones have effectively retired the two largest existential technical risks for the program.

The focus now shifts to "stage zero" efficiency—specifically, the "Mechazilla" tower catch system. This is not a gimmick; it is the linchpin of the unit economics. By removing landing legs and placing the booster directly back on the launch mount, SpaceX eliminates days of recovery and transport time, theoretically enabling turnaround in under 24 hours—the tempo required to fly over 100 times per year. The first successful booster catch during Starship flight test 5 in October 2024 was a proof of concept; the challenge now is making it routine.

Near-term catalysts and execution risks

We are watching three specific milestones that will determine whether Starship meets its 2026 commercialization timeline:

- 1. The Starship Block 3 debut (Flight 12):** Expected March 2026, this larger variant is the true "commercial" Starship. Success here validates the payload volume and mass claims underpinning our Starlink V3 deployment model.
- 2. A propellant transfer demonstration:** Later this year, SpaceX must demonstrate cryogenic fuel transfer between two Starship vehicles in orbit. This is the binary risk for the entire moon/Mars thesis: Without it, Starship is a very large LEO freighter; with it, Starship becomes a deep-space transport system. The HLS contract timeline depends on this capability.

3. Proving regulatory velocity versus engineering speed:

The primary bottleneck is now regulatory. The FAA has expanded SpaceX's license to include 25 launches per year,¹⁹ but the environmental review process for each vehicle modification remains slower than SpaceX's iteration cycle. We view regulatory drag as the single highest risk to 2026 launch cadence and the most likely source of timeline slippage that public market investors will need to price.

Direct-to-cell: Starlink's "ubiquity wedge" in global telecom

We believe direct-to-cell (D2C) tech is Starlink's most strategically important adjacency. It transforms Starlink from a dish-based broadband product into a ubiquitous connectivity layer riding on existing smartphones, vehicles, and Internet of Things (IoT) devices—shifting the scaling bottleneck from terminal logistics to constellation capacity and regulatory coverage. With 651 D2C-capable satellites in orbit, 27 carrier partnerships, and over 6 million monthly customers added in about 18 months,²⁰ commercial traction has outpaced expectations.

More importantly, SpaceX's \$19.6 billion radio spectrum acquisition from EchoStar has fundamentally shifted D2C's strategic posture from wholesale roaming service to spectrum-owning platform with optionality to operate independently or as a far more leveraged partner. We see D2C following a product arc most reporting is underappreciating: From emergency SMS novelty to coverage-assurance utility and eventually habit-forming connectivity layer. T-Mobile's T-Satellite launched in July 2025 as text-only;²¹ less than a year later, the "Starlink-ready" app list includes WhatsApp, Google Maps, and X. That product trajectory, combined with spectrum consolidation, is what makes D2C worth modeling at scale.

Architecture and spectrum: From borrowed airwaves to owned infrastructure

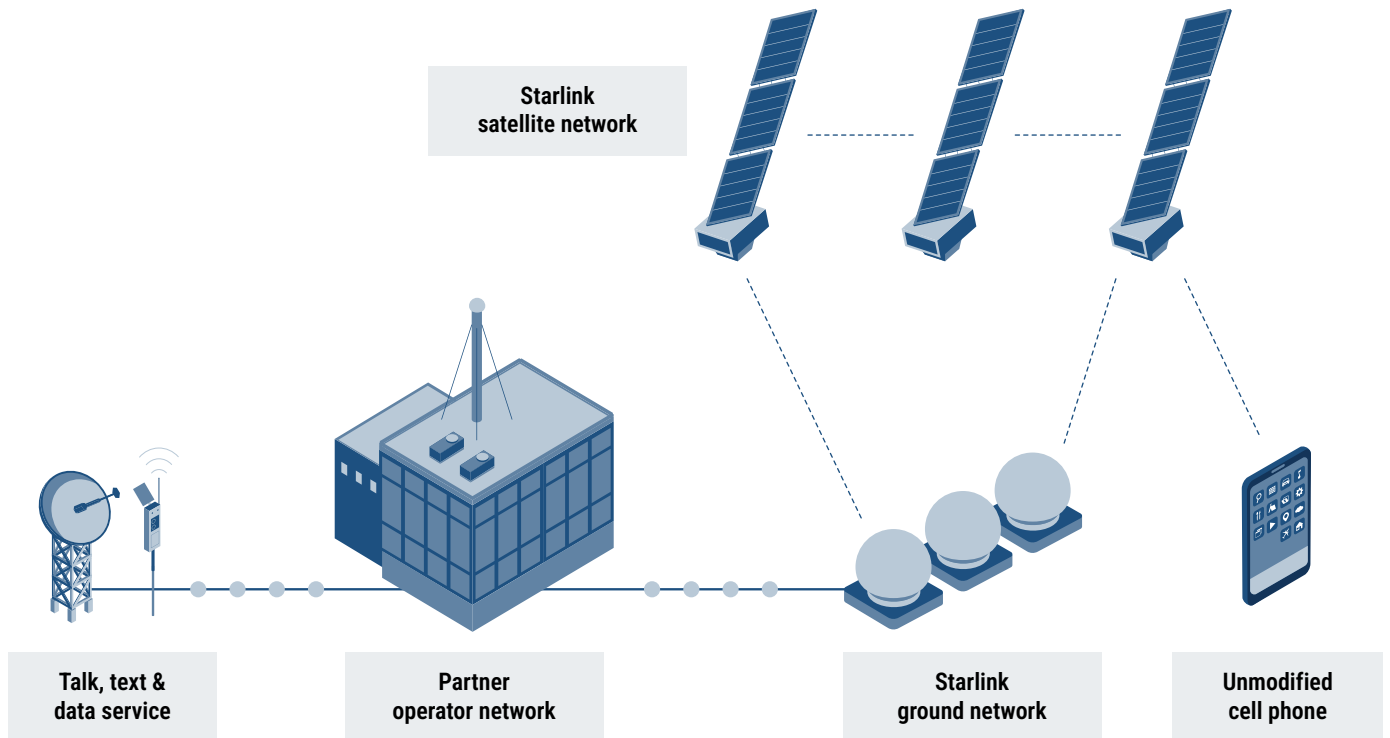
Starlink's D2C satellites connect unmodified phones using the cellular spectrum and route traffic into carrier core networks—conceptually a roaming partner with the "tower" in orbit. D2C-capable satellites connect to the broader constellation via laser backhaul and leverage Starlink's existing ground stations and points of presence, enabling expansion without dedicated ground infrastructure (typically the dominant cost for telecom providers).

19: "Final Tiered Environmental Assessment for Additional Launch Trajectories and Starship RTLS Mission Profiles for the SpaceX Starship/Super Heavy Launch Vehicle Program at Boca Chica, Texas," Federal Aviation Administration, September 2025.

20: "Starlink Progress Report 2025," Starlink, n.d., accessed February 23, 2026.

21: "Satellite Phone Service," T-Mobile, n.d., accessed February 23, 2026.

Starlink direct-to-device infrastructure



Source: SpaceX

However, SpaceX’s September 2025 filing with the Federal Communications Commission (FCC) reveals that the next phase of D2C is not piggybacking on the broadband constellation; it is a dedicated build.²² SpaceX has requested authorization for up to 15,000 additional satellites exclusively for D2C operations, operating in very low Earth orbit (VLEO) at 326-335 kilometers (km)—significantly lower than the 550 km broadband constellation.²³ This lower altitude reduces signal path loss and enables smaller beam footprints (critical for spatial frequency reuse with low-power phone antennas), but comes with a structural trade-off: at VLEO altitudes, atmospheric drag causes orbital decay within about 3-5 years, requiring continuous replacement launches to maintain the constellation at a steady state. We believe maintaining a 15,000-satellite VLEO fleet will require launching more replacement units annually.

The spectrum-ownership shift is the key strategic development. Under the original T-Mobile model, D2C

operated on a narrow 10 megahertz (MHz) slice of T-Mobile’s PCS G-block.²⁴ In September 2025, SpaceX acquired EchoStar’s wireless spectrum for \$17 billion (\$8.5 billion cash and \$8.5 billion stock), followed by a \$2.6 billion follow-on deal for AWS-3 uplink licenses.²⁵ The combined \$19.6 billion (SpaceX’s biggest acquisition to date) gives SpaceX 50 MHz of S-band spectrum (AWS-4 and PCS-H), matching AWS-3 uplink capacity, and global mobile satellite service (MSS) licenses. SpaceX also committed about \$2 billion toward EchoStar debt interest through November 2027. In practice, this means:

- **Standalone optionality.** With paired uplink (AWS-3) and downlink (AWS-4, H-block) capability, SpaceX can technically operate its own cellular service—pending FCC approval for satellite-to-handset use of AWS-3 and AWS-4 bands. That approval is nontrivial (AWS-3 is adjacent to the federal weather-satellite spectrum), but we view it as likely given the regulatory environment.

22: "SpaceX 15,000 V3 Starlink Direct-to-Cellphone Satellites," NextBigFuture, Brian Wang, September 2025.

23: Ibid.

24: "T-Mobile and SpaceX’s Satellite Partnership Paves the Way for Real Use of Satellite in 5G," Moor Insights & Strategy, Anshel Sag, August 12, 2022.

25: "EchoStar Agrees to Sell Full Unpaired AWS-3 Spectrum License," EchoStar, September 16, 2025.

- **Transformed negotiating leverage.** SpaceX’s surplus spectrum is valuable to terrestrial carriers. Instead of paying for D2C spectrum access, SpaceX can now trade spectrum for the carrier access it needs—fundamentally shifting partnership economics from a pay-for-access dynamic to a trade-for-access dynamic.
- **100x capacity on the roadmap.** SpaceX states next-gen D2C satellites—with custom silicon, wider-bandwidth phased arrays, and optimized 5G protocols—will deliver about 20x per satellite throughput and about 100x system capacity versus first-generation models. Their stated target is “full 5G cellular with a comparable consumer experience to current terrestrial LTE service.”²⁶ If delivered, this closes the performance gap outside dense urban areas.

Partnerships remain central to the near-term go-to-market strategy: Even as an owner of spectrum segments, SpaceX benefits from carrier distribution, billing, and terrestrial integration. The difference is that SpaceX now negotiates as an infrastructure owner, not a dependent.

Subscriber forecast: 6 million today, 1.1 billion by 2040

In our model, the long-term upside is substantial. We estimate D2C could expand to about 1.1 billion total subscribers by 2040—about 750 million phone subscribers and about 350 million vehicle/IoT connections—driving over \$42 billion of

D2C subscriber forecast



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

26: “SpaceX Plans New Constellation as Companies Pitch EchoStar Deal to FCC,” *Broadband Breakfast*, n.d., accessed February 23, 2026.

27: “Vision 2040: Future Spectrum Needs,” GSMA, November 2025.

28: “Direct-to-Cell Market,” *Market.us*, n.d., accessed February 23, 2026.

Vehicles are the next logical target. ABI Research forecasts the number of vehicles shipping with satellite communications capabilities rising from about 1 million annually in 2025 to about 30 million by 2034—a 30x increase.²⁹ We expect the use cases to center on high-value services that justify premium pricing: emergency and SOS messaging, fleet monitoring, and network resilience for autonomous driving systems. OEM integration will likely accelerate once carrier billing models for satellite backup connectivity are standardized, which we expect in the 2027-2028 timeframe as D2C partnerships mature.

D2C is highly accretive to margins. Compared with Starlink's core broadband business, D2C carries meaningfully higher incremental margins on a per-subscriber basis, though the infrastructure investment is more substantial than initially framed. Three structural dynamics are worth noting:

- 1. Zero terminal subsidy is required:** unlike Starlink broadband, where SpaceX subsidizes \$349-\$600 dishes, D2C requires no hardware for the end user, eliminating the single largest capital expenditure drag in the core business.
- 2. Distribution is outsourced:** under the carrier partnership model, SpaceX avoids customer acquisition, support, and billing costs (though these would increase if SpaceX operates independently, offset by retaining 100% of the revenue).
- 3. The dedicated infrastructure investment is significant:** while the first 651 D2C satellites piggybacked on the broadband constellation at minimal incremental cost, the next phase requires a dedicated 15,000-satellite VLEO fleet with custom silicon and wider-bandwidth arrays, operating at altitudes (326-335 km) that require continuous replacement due to atmospheric drag. This is a capital-intensive build that changes the D2C margin calculus: Per-subscriber infrastructure cost remains low at scale (1.1 billion connections amortize the fleet), but the absolute capital expenditure commitment is material and ongoing. SpaceX's internal launch costs provide a structural advantage in managing this replacement cycle versus any competitor that must purchase launches at commercial rates.

Revenue model

Our revenue model segments D2C into two subscriber categories with distinct average-revenue-per-user (ARPU) dynamics:

- 1. Phone D2C (about 750 million subscribers by 2040).** Financial details about the mobile network operator (MNO) partnerships have not been disclosed. Our model assumes the following dynamics: Premium plan subscribers (85% of the phone base) generate \$3 per month to Starlink, about 3% of the cheapest plan that includes T-Satellite. Add-on subscribers (15%) generate \$5 per month via a 50-50 revenue share. A blended phone ARPU would be about \$3.30 per month or \$40 per year.
- 2. Vehicle/IoT D2C (about 350 million connections by 2040).** Flat \$3 per connection per month (or \$36 per year), reflecting the low-bandwidth, intermittent nature of IoT data (telemetry data, alerts, and location pings). We expect OEMs to embed satellite backup connectivity into vehicle connectivity packages and asset management subscriptions.

²⁹: "Enhancing Vehicle Connectivity With Satellite Communications," ABI Research, n.d., accessed February 23, 2026.

2025 D2C ARPU build

| | Plan | Cost per month | Cost per year | Hardware | Share of plan | Existing subscriber ARPU | New subscriber ARPU |
|-----|------------------------|----------------|----------------|----------|---------------|--------------------------|---------------------|
| D2C | Mobile (complementary) | \$3.00 | \$36.00 | 0 | 85% | \$36.00 | \$36.00 |
| | Mobile (add-on) | \$5.00 | \$60.00 | 0 | 15% | \$60.00 | \$60.00 |
| | IoT/vehicles | \$3.00 | \$36.00 | 0 | 0% | \$36.00 | \$36.00 |
| | Blended | | \$40.00 | | 100% | \$40.00 | \$40.00 |

Source: SpaceX • Geography: Global • As of February 8, 2026

Our ARPU assumptions are low in confidence given zero public disclosure. At 1.1 billion projected connections, a \$0.50 blended ARPU swing changes 2040 revenue by about \$6.6 billion. Additionally, if FCC approval enables SpaceX to bypass carrier revenue share and operate independently, phone ARPU could increase materially—we have not modeled this scenario but flag it as upside optionality tied to the spectrum acquisition.

The competitive landscape: From wholesale partner to platform owner

The \$19.6 billion spectrum acquisition is SpaceX's response—a signal that it will go around carriers who refuse to partner. The industry is converging on three competing architectures:

- 1. Starlink:** The Starlink system includes 651 D2C satellites in orbit today,³⁰ with a 15,000-satellite dedicated VLEO constellation filed with the FCC. The deployment target is after 2026 via Starship. There are 27 carrier partnerships, more than 6 million subscribers,³¹ the \$19.6 billion owned spectrum, a 100x capacity roadmap, and internal launch costs that are a fraction of competitors' costs. SpaceX has partnered with T-Mobile and Boost Mobile (EchoStar), making it a first mover at scale.
- 2. AST SpaceMobile:** The company has large-aperture satellites (about 64-cubic-meter phased arrays) for broadband-grade D2C speeds. They are partnered with AT&T, Verizon, Vodafone, and Rakuten.³² Five commercial BlueBird satellites launched late 2024,³³ but face delays (including a missed late 2025 launch deadline).³⁴ The company is dependent on Blue Origin for launch. They offer no commercial service in market.

- 3. Apple/Globalstar:** The main offering here is emergency SOS calling on iPhone, funded by Apple's \$1.5 billion investment and 20% stake in Globalstar. These assets validate the category but operate at a fundamentally different scale. Globalstar is reportedly exploring a sale with SpaceX among potential suitors—an acquisition would give SpaceX Apple's handset integration, potentially the most valuable D2C distribution asset in the market.

Starlink's durable advantage remains cost structure—internal launch at a fraction of competitors' costs, amplified once Starship begins deploying next-gen D2C satellites in late 2026 and early 2027. SpaceX's spectrum consolidation is happening at precisely the moment competitors face delays and capital constraints—the competitive window is narrowing.

On the carrier relationship front, T-Mobile called T-Satellite a "huge success" on its Q4 2025 earnings call but emphasized it is "fundamentally complementary."³⁵ We agree for dense urban markets. However, as constellation density increases and next-gen satellites deliver 100x first-gen capacity, the line between "coverage assurance" and "capacity substitute" gets blurrier in suburban/rural markets where terrestrial tower economics are already marginal. Our estimate of 1.1 billion Starlink subscribers does not assume Starlink becomes a terrestrial telecom substitute—it is built on coverage-assurance and bundled-utility assumptions. Any evolution toward capacity substitution or independent operation at higher retained ARPU would represent upside.

³⁰: "Starlink Progress Report 2025," Starlink, n.d., accessed February 23, 2026.

³¹: Ibid.

³²: "AST SpaceMobile, Verizon Strike Deal for Direct-to-Cellular Using 850 MHz," RCR Wireless News, Sean Kinney, May 29, 2024.

³³: "AST SpaceMobile Secures Strategic Investment From AT&T, Google and Vodafone," Business Wire, January 18, 2024.

³⁴: Ibid.

³⁵: "T-Mobile Q4 2025 Earnings Call and Capital Markets Day Update," T-Mobile, February 11, 2026.

SpaceX IPO rundown

We believe SpaceX will be marketed to public investors as a platform business rather than a traditional aerospace contractor, targeting an about \$1.5 trillion valuation at about 94x to 100x 2025 revenue. The IPO is timed to a de-risked financial profile (\$7.5 billion EBITDA and double-digit FCF margins excluding the spectrum purchase), a reopening IPO window, and a broadening corporate narrative via the xAI acquisition. By floating about 3.3% of equity, SpaceX can raise a \$50 billion war chest for Starship, Starlink expansion, and D2C build-out while keeping dilution and control impact minimal. We view the proposed uses of cash—orbital datacenters and Moonbase Alpha—as long-duration valuation call options, not near-term revenue drivers, and recommend investors treat them accordingly.

Symbolic timing at unprecedented size

SpaceX is reportedly weighing an initial public offering in mid-June 2026, aiming to raise as much as \$50 billion at a valuation around \$1.5 trillion. That mid-June window also sits near two high-visibility events:

- **The Venus-Jupiter conjunction (June 8-9, 2026):** a widely noted naked-eye event where Venus and Jupiter will be a thumb's width apart in the sky.
- **Elon Musk's 55th birthday (June 28, 2026):** referenced in Reuters' IPO reporting as an anchor point for the contemplated IPO timing.³⁶

In our view, this is directionally consistent with Musk's historical preference for narrative-rich milestones. Investors should still treat the timing as opportunistic (based on market conditions and execution readiness), not deterministic.

Valuation framing

A \$1.5 trillion IPO valuation against our \$16 billion 2025 revenue estimate implies roughly an enterprise value (EV)/revenue multiple of 94x—a multiple applied to platforms, not aerospace companies. We view this as a deliberate market

statement: SpaceX will be positioned with Starlink as the cash flow engine with multiple call options (Starship-enabled scale, direct-to-device functionality, and orbital compute) layered on top.

How much equity is actually being sold?

If SpaceX raised \$50 billion at a \$1.5 trillion valuation, that is only about 3.3% of the implied equity value in primary proceeds (before any secondary shares). In our view, this matters: SpaceX can raise a war chest large enough to fund multiple capital expenditure cycles while keeping dilution modest and control largely intact, assuming the structure is not heavily secondary. For context, this would be the largest IPO in history by a wide margin—Saudi Aramco's 2019 IPO raised \$25.6 billion.

Why now?

We believe the answer comes down to IPO readiness converging with capital need. The base business is now strong enough to withstand public market scrutiny, while the next phase of growth requires public-scale capital.

The financial profile has de-risked meaningfully

Starlink has significantly increased cash flow: Starlink now has over 9.2 million subscribers (up 100% year over year),³⁷ the constellation has grown to 9,600 satellites (about 66% of all operational satellites)³⁸ and generated \$10.6 billion in revenue (67% of total SpaceX) as well as nearly \$6 billion in EBITDA based on our estimates. For an IPO audience accustomed to profitless growth stories, this profile stands out.

Launch cadence and reusability have achieved meaningful scale: SpaceX had another record year of launches in 2025 with 165 Falcon 9 launches, with all but three boosters landing successfully.³⁹ Milestones included the 500th rocket landing; the 500th launch of a reusable booster; and the 32nd reuse of the same booster.⁴⁰ These events are all evidence of a mature, repeatable, high-cadence operation.

³⁶: "SpaceX Generated About \$8 Billion Profit Last Year Ahead of IPO, Sources Say," Reuters, Joey Roulette and Marisa Taylor, January 30, 2026.

³⁷: "Starlink Progress Report 2025," Starlink, n.d., accessed February 23, 2026.

³⁸: "Jonathan's Space Report," Planet4589, Jonathan McDowell, n.d., accessed February 23, 2026.

³⁹: "Launches," SpaceX, n.d., accessed February 23, 2026.

⁴⁰: Ibid.

Subscriber and launch services snapshot

| | 2025 | 2040 |
|---|--------|---------|
| Revenue (\$B) | \$15.8 | \$150.0 |
| EBITDA (\$B) | \$7.5 | \$95.0 |
| EBITDA margin | 47.0% | 63.0% |
| Starlink subscribers (excl. D2C) (millions) | 9.2 | 68.0 |
| D2C subscribers (millions) | 6.0 | 1,100.0 |
| Orbital launches | 165 | 478 |
| Third-party launches | 43 | 308 |

Source: SpaceX • Geography: Global • As of February 8, 2026

The capital stack is expanding faster than private markets want to underwrite in one single round

SpaceX is simultaneously scaling Starlink, funding Starship, and pushing into the direct-to-device market. SpaceX bought \$19.6 billion of wireless spectrum rights from EchoStar as part of the direct-to-device build-out. These are multiyear, heavy-capital expenditure programs that benefit from an IPO’s ability to raise large sums efficiently and create an acquisition currency (public equity).

The \$19.6 billion EchoStar spectrum acquisition underscores the capital intensity. SpaceX purchased \$19 billion in wireless spectrum rights from EchoStar in September and November of 2025.^{41,42} To put that in context: \$19.6 billion is more than SpaceX’s entire 2025 revenue (\$16 billion) and nearly 40% of the proposed \$50 billion IPO raise. This single transaction illustrates why private funding rounds—even at SpaceX’s scale—are insufficient for the next phase. Spectrum is the regulatory moat for D2C; owning it outright (versus leasing carrier spectrum through partnerships) gives SpaceX long-term pricing power and operational flexibility.

The IPO window is reopening, and 2026 is set up for megalistings. Macro matters. Goldman Sachs is projecting a major rebound in US IPO issuance in 2026, explicitly citing large companies as potential drivers.⁴³ We believe SpaceX is positioning itself as the flagship of that reopening window—first-mover advantage in a crowded pipeline matters for pricing and investor allocation.

The corporate narrative is being broadened heading into public markets. The xAI acquisition (discussed below) is not incidental to the IPO—it is preparatory. By merging with xAI before going public, SpaceX transforms its investor narrative from “rockets plus internet” into “AI plus space-infrastructure platform.” Even if investors heavily discount the out-year AI options, platform narratives materially influence earliest IPO demand and valuation scaffolding. The all-stock structure also cleans up the Musk’s entity web heading into public market disclosure requirements.

Two proposed uses of the cash

The IPO narrative hinges partly on two aspirational capital deployment targets: orbital datacenters and Moonbase Alpha. We recommend investors treat both as long-duration valuation call options, not base-case revenue drivers, and size their conviction accordingly.

Datacenters in space: Big idea, real constraints

SpaceX has filed with the FCC to deploy an “Orbital Data Center” system of up to 1 million satellites,⁴⁴ operating in narrow shells (in the altitude of 500 km to 2,000 km) with optical intersatellite links and solar power. The filing frames the economic thesis around escaping terrestrial bottlenecks: power delivery, cooling costs, and permitting constraints. It also includes an aggressive scale illustration: “launching 1 million tonnes per year” and achieving about 100 kilowatts (kW) of compute per ton, implying about 100 gigawatts (GW) of compute capacity added annually. Notably, the filing does not provide a deployment timeline:

“Launching a million satellites that operate as orbital datacenters is a first step towards becoming a Kardashev II-level civilization—one that can harness the Sun’s full power-while supporting AI-driven applications for billions of people today and ensuring humanity’s multiplanetary future amongst the stars.”

SPACEX

41: “EchoStar Announces Spectrum Sale and Commercial Agreement With SpaceX,” EchoStar, February 5, 2026.

42: “EchoStar Agrees to Sell Full Unpaired AWS-3 Spectrum License,” EchoStar, September 16, 2025.

43: “U.S. IPO Proceeds Quadruple to Record \$160 Billion in 2026 as Dealmaking Rebounds, Says LSEG,” Reuters, Anirban Sen, February 9, 2026.

44: “Application Summary: SAT-LOA-20260108-00016,” Federal Communications Commission, n.d., accessed February 23, 2026.

We believe there are three real motivators here:

- 1. Energy availability (always-on solar):** SpaceX argues that certain high-sunlight orbital regimes can support near-continuous solar exposure, improving utilization of generation assets versus terrestrial grids.
- 2. Cooling economics (radiating heat versus moving heat):** On Earth, datacenters spend a lot of money moving heat away (using fans, chillers, and water). In space, heat radiates directly into the vacuum—mechanically simpler, though not automatically cheaper once shielding, redundancy, and replacement cycles are included.
- 3. Narrative fit with AI power constraints:** The International Energy Agency (IEA) projects datacenter electricity demand could exceed 1,700 Terawatt-hours by 2035 in a high-growth scenario.⁴⁵ Space-based compute is a “step over the bottleneck” narrative: If terrestrial siting and grid interconnection become the limiter, the market starts paying for alternatives.

The concept is not physically impossible, but the filing’s scale targets are aspirational by orders of magnitude relative to today’s industrial and regulatory reality. We see five binding constraints:

- 1. The throughput target is nearly 530x current global capacity.** SpaceX’s illustration references 1 million tons per year. For context, the Space Foundation reported total mass brought to orbit in 2024 was about 1,900 tons—roughly 13 Starship flights at full capacity.⁴⁶ We estimate reaching 1 million tons per year would require about 6,667 Starship flights annually, or about 18 per day, every day. This gap does not mean “never,” but it places the timeline well beyond any reasonable near-term planning horizon.
- 2. Power density affects satellite reality.** The filing’s implied 100 kW per ton compute intensity is extremely aggressive once you include the full satellite stack (solar arrays, radiators, structure, propulsion, communications, shielding, and redundancy). This is the single biggest “too clean on paper” assumption: It is easy to quote compute-per-mass figures; it is harder to deliver it at reliability targets while factoring in radiation, thermal cycling, and debris.

- 3. AI training data lives on Earth.** If workloads require moving massive datasets up and down, the communications system becomes the bottleneck and cost driver. Orbital compute is most credible first for space-native data, such as Earth observation and remote sensing, where processing occurs in orbit, not the raw data firehose that characterizes terrestrial AI training and inference.
- 4. Maintenance and refresh cycles present issues.** Terrestrial hyperscale developers win by continuously swapping failed parts and refreshing silicon. In orbit, you either over-engineer and accept lower performance, replace parts frequently (which is costly), or solve on-orbit servicing at scale. SpaceX’s filing discusses end-of-life disposal and debris mitigation similar to that of Starlink satellites (planned to deorbit after five years),⁴⁷ but the economics of refreshing high-cost compute hardware in orbit versus that of an internet satellite appear to be on different planets.
- 5. Regulatory hurdles and debris are externalities.** A million-spacecraft end state invites heavy scrutiny on collision avoidance, disposal reliability, astronomical interference, and spectrum coordination. SpaceX addresses debris and disposal concepts in the filing, but the bar for permission will rise sharply at that scale.

Bottom line: How should investors value this?

We believe small-scale orbital compute is realistic this decade—especially for defense and remote sensing workloads where latency is acceptable and data originates in orbit. The filing itself reads like the opening move in a multistage strategy: The plan is to secure regulatory optionality now, then iterate into “real” deployments as Starship cost and cadence as well as space-rated compute mature.

At the same time, the framework of “up to 1 million satellites or 100 GW of capacity added annually” looks too aggressive to underwrite as a base-case commercial plan today. It is better treated as a valuation call option with timelines measured in decades and multiple technical, economic, and regulatory failure modes between here and there.

⁴⁵: “Energy and AI: Executive Summary,” International Energy Agency, 2025.

⁴⁶: “The Space Report 2024 Q4,” The Space Foundation, January 21, 2025.

⁴⁷: “Application Summary: SAT-LOA-20260108-00016,” Federal Communications Commission, n.d., accessed February 23, 2026.

Moonbase Alpha

Moonbase Alpha is the next evolution of the orbital datacenter vision described above. Elon Musk's ambitious plans call for building a settlement on the moon to manufacture space computers that would then be launched into deep space, with aspirations to surpass 1,000 TW per year of AI satellites.

If you are like us, these numbers are starting to look overly ambitious and purely abstract. To ground these numbers in physical reality: Our orbital datacenter analysis above estimated that deploying 100 GW per year would require about 6,667 Starship flights. Deploying 1,000 TW per year—a 10,000x increase—would require about 6.7 billion Starship launches, or roughly 211 per second for an entire year. These figures are clearly intended to convey scale ambition rather than an engineering plan. We set them aside to focus on what is plausibly on the horizon.

As part of these plans, Musk has stated the goal of achieving an uncrewed lunar landing by March 2027, positioning the moon as a faster path than Mars for “securing the future of civilization.”

Why the moon? Why now?

1. **The moon is a shorter trip to Mars.** Cislunar operations compress timelines versus Mars operations (shorter travel and more frequent windows), which matters because SpaceX's core advantage has historically been iteration rate. A lunar program creates more opportunity for Starship, with tanking, landing, and surface operations, than a Mars-first path allows.
2. **Geopolitics is reasserting itself as a demand driver.** At a time when the race between China and the US to land on the moon is heating up, this goal sends a clear message to China, with the country targeting a 2030 crewed lunar landing. That dynamic tends to unlock budget, urgency, and institutional tolerance for ambitious architectures.

3. **It expands the “platform” story beyond Starlink.** If SpaceX can establish early infrastructure, it gains leverage over how cislunar traffic, surface power, communications, and launch services evolve. This is essentially an attempt by SpaceX to get first say at the emerging cislunar economy.

We view Moonbase Alpha as directionally plausible, but aggressive on timeline and scope for several reasons:

- **Technology maturity is the bottleneck.** Starship has only flown 11 times since 2023 and is yet to deploy a payload into orbit or prove in-orbit refueling capabilities. Further, we anticipate approvals for Starship to become qualified for lunar operations will take many years. It is all about the framing and the scope of the marketing here. A landing might be possible, but a lunar city is a decade-plus endeavor.
- **The “self-growing city” is an order-of-magnitude leap from HLS.** NASA's HLS work can credibly anchor early lunar excursions. A self-growing city implies surface power, radiation/thermal mitigation, dust-tolerant systems, repairability, and an industrial cadence that is not yet demonstrated. In our view, this is best treated as a long-duration endpoint, not a near-term deliverable.
- **Governance risk scales with ambition.** Lunar activity sits at the intersection of NASA, the Department of Defense, export controls, and international coordination. A Moonbase Alpha roadmap will invite scrutiny on safety, dual-use implications, and governance—especially if framed as establishing early presence to shape usage norms.

As with orbital datacenters, we assign zero revenue to Moonbase Alpha in our model. We view it as a long-duration call option whose value depends on Starship's cost curve, regulatory permissiveness, and geopolitical demand—all of which are multiyear variables.

xAI acquisition

We recommend investors read our upcoming Late Stage Company Research report, which dives into the business of the top private AI companies, including xAI, for more information about the company, its value, and a better understanding of what SpaceX is acquiring, beyond the color we provide here.

On February 2, 2026, SpaceX announced it had acquired xAI in an all-stock transaction that values SpaceX at around \$1 trillion and xAI at around \$250 billion, with a combined value of \$1.3 trillion. Reported terms include a share-exchange ratio of 0.1433 SpaceX shares per xAI share, with some xAI executives reportedly offered \$75.46 per xAI share.⁴⁸ xAI will sit as a wholly-owned subsidiary and the businesses will remain operationally separate because SpaceX is subject to defense and export-control regimes (and xAI is not), with internal guidance urging caution on cross-company interfacing.

The economics favor SpaceX as the acquirer. SpaceX provides immediate liquidity and cash flow to support xAI's development. In 2025, SpaceX generated approximately \$7.5 billion in EBITDA on \$16 billion in revenue, primarily driven by Starlink. Conversely, xAI has been operating with a burn rate of approximately \$1 billion per month to sustain compute infrastructure and model training.

xAI valuation estimate

| | December 2025 | February 2026 |
|---|---------------|-----------------|
| SpaceX price per share | 421 | 527 |
| Reported valuation (\$M) | \$800.0 | \$1,250.0 |
| Implied share count | 1,900,238 | 2,373,774 |
| SpaceX shareholders dilution | N/A | 20% |
| SpaceX standalone at \$527 million | N/A | \$1,000,641,479 |
| xAI implied share count at 0.1433 ratio | N/A | \$3,304,513 |
| xAI implied share price at 0.1433 ratio | N/A | \$75.46 |
| xAI implied valuation | N/A | \$249,358,521 |

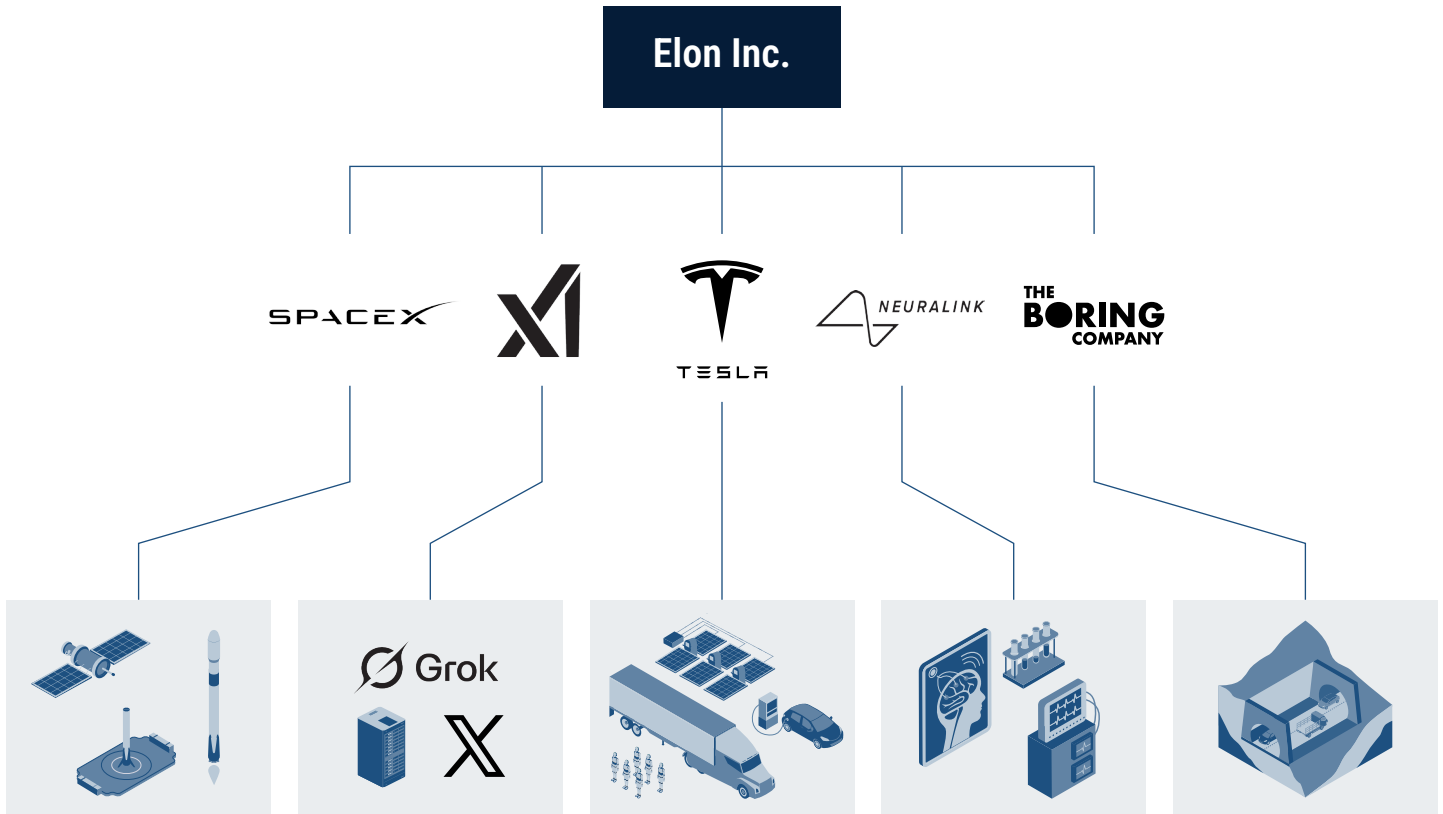
Source: Reuters and PitchBook • Geography: Global • As of February 8, 2026

The structure is IPO-preparatory. Reuters describes a triangular merger structure designed to be tax-efficient, avoid triggering certain debt covenants, and ring-fence liabilities—with xAI reported to carry substantial debt.⁴⁹ We read this as SpaceX preserving a clean equity story while importing xAI's upside narrative. The all-stock structure also consolidates the Musk entity web, reducing the corporate complexity that public market investors and regulators would otherwise scrutinize.

⁴⁸: "SpaceX, xAI Set Share Exchange Ratio at 0.1433, Source Says," Reuters, Joey Roulette, February 3, 2026.

⁴⁹: "Sale of xAI Comes With Tax, Financial, Legal Benefits for xAI, SpaceX Investors," Reuters, Milana Vinn and Anirban Sen, February 6, 2026.

Elon Musk’s network of companies



A rescue ladder for legacy X investors

The deal’s most notable secondary effect is what it does for legacy X (formerly Twitter) investors. Through this transaction, take-private investors who have been sitting on a marked-down, illiquid social media position effectively convert it into meaningful ownership of a much larger, higher-momentum asset—ahead of a potential \$1.5 trillion liquidity event.

The impairment history is stark. Musk took Twitter private for \$44 billion in October 2022. By late 2023, Fidelity’s disclosures (as reported by Axios)⁵⁰ implied X was worth about 71.5% less than the take-private price—a markdown of about \$31 billion.

Reset one (March 2025): xAI acquired X in an all-stock deal valuing X at \$33 billion (\$45 billion enterprise value including about \$12 billion of debt). Whatever one thinks of the optics, the mechanism matters: It rolled X holders into xAI equity and

an AI-growth narrative rather than leaving them anchored to a stressed ad-driven platform.

Reset two (February 2026): The SpaceX-xAI transaction gives xAI investors about 20% of the combined company. A meaningful portion of what could become the largest IPO on record is now owned by a shareholder base that originally underwrote the Twitter take-private.

Operational integration: The “Muskonomy” takes shape

The acquisition formalizes a shift in Musk’s conglomerate strategy from a loose federation of companies to a formally integrated infrastructure engine. The primary stated rationale is developing orbital datacenters—a plan to shift AI compute from Earth to space. We covered the technical feasibility and constraints of this concept in detail above.

50: “Elon Musk’s X Suffers Steep Valuation Cut From Fidelity,” Axios, Hope King, December 31, 2023.

Operational entanglement

What matters for investors is the existing operational entanglement:

- 1. Connectivity:** Starlink already provides backbone connectivity for xAI's distributed inference, and xAI's Grok chatbot has been integrated into Starlink for customer support. These are live integrations, not slide-deck synergies.
- 2. Launch-vehicle dependence:** The economic feasibility of orbital datacenters is entirely predicated on Starship. Falcon 9's payload capacity is insufficient for gigawatt-scale orbital compute—making Starship's commercialization timeline directly relevant to the xAI investment thesis.
- 3. Cross-entity capital flows:** Tesla recently committed \$2 billion to xAI, while xAI purchased about \$230 million in Tesla Megapack batteries for its Memphis, Tennessee, "Colossus" datacenter. These circular flows illustrate the "Muskonomy" dynamic: Capital, products, and strategic priorities flow between Musk-controlled entities in ways that create real synergies but also governance complexity that public market investors will scrutinize.

Tesla parallels: Trading patterns and the Musk factor

Tesla's public market history provides the most relevant template for understanding how SpaceX will likely trade post-IPO. Both companies share operational DNA—vertical integration, rapid iteration, and internalizing critical components to compress cost and cycle time. Both operate under Elon Musk's leadership, inheriting his communication style, timeline management, and the market dynamics that follow. Tesla's trading patterns offer concrete lessons about volatility expectations, milestone sensitivity, and the tension between near-term execution and long-term vision.

The credibility ledger: How markets learn to interpret Musk timelines

Tesla's factory-first model generates confidence that ambitious targets are achievable through iteration—encouraging

aggressive public commitments. The Model 3 ramp exemplifies this: Tesla promised 5,000 units weekly by late 2017, missed badly through quarters of "production hell," and finally hit the target mid-2018. The stock swung violently—declining 40% during shortfalls, then rallying 150% as volume scaled.⁵¹

Over time, shareholders developed what we call a "credibility ledger": mentally discounting management timelines by 1.5x to 2.5x while maintaining directional conviction. When Musk announces fully self-driving cars "next year," the market translates to "meaningful progress over 2-4 years."

SpaceX will develop an identical ledger. Starship timelines, D2C subscriber ramps, and production targets will be scrutinized through this framework. The market will learn which commitments are hard guidance versus aspiration, and multiples will adjust accordingly.

Float is the critical amplifier. SpaceX's 3.3% public float will exacerbate price discovery volatility relative to Tesla's experience. With limited tradable shares, any directional conviction (positive or negative) gets expressed in a thinner order book. Where Tesla sees 10% to 15% swings on milestone slips, we would expect SpaceX to experience 20% to 30% moves on equivalent catalysts, particularly in the first 12-18 months before the float broadens through lockup expirations and secondary offerings.

Trading the dual scoreboard: Execution KPIs versus optionality narratives

Tesla trades on two scoreboards that can pull valuation in opposite directions. The first tracks near-term execution: deliveries, margins, and competitive positioning. The second captures optionality narratives that investors pull forward: autonomous driving, robotaxis, energy storage, humanoid robotics.

The disconnect can be extreme. Tesla stock appreciated 73% from early 2024 through early 2026 despite vehicle deliveries declining 1% and 9% respectively,⁵² while the global EV market grew about 20% annually. AI and robotics narratives offset deteriorating core fundamentals. Vision dominated metrics.

⁵¹: "Elon Musk Hails Tesla Reaching Goal of 5,000 Model 3s a Week," NPR, Camila Domonoske, July 2, 2018.

⁵²: "Quarterly Disclosure," Tesla Investor Relations, n.d., accessed February 23, 2026. ⁵³: "SpaceX No Longer Taking Losses to Produce Starlink Satellite Antennas," CNBC, Michael Sheetz, September 13, 2023.

SpaceX will exhibit identical dynamics. Near-term KPIs (launch cadence, Starlink subscribers, ARPU, and manufacturing throughput) will trade alongside long-term narratives: Starship economics, D2C subscriber growth, enterprise services, and orbital compute. When core metrics soften, management can emphasize longer-duration opportunities to maintain the company's valuation. This cuts both ways: if narratives lose credibility while fundamentals remain solid, the stock underperforms despite strong execution. Investors must learn to distinguish genuine strategic pivots from narrative management smoothing quarterly volatility.

The Musk factor: A narrative amplifier and volatility generator.

Musk's real-time communication via X functions as both a valuation amplifier and a volatility generator. His ability to set narratives instantly pulls forward future value when investors believe in compounding technical progress. However, this compresses the distance between commentary and price action, creating tradable moments outside earnings cycles. Product announcements, strategic pivots, and updates increasingly arrive via social media rather than press releases, forcing markets to price incomplete information.

The "funding secured" precedent remains instructive. In August 2018, Musk tweeted about taking Tesla private at \$420, causing a 6% stock jump before the SEC intervened. The settlement imposed financial penalties and required preapproval of certain Tesla-related posts. The Supreme Court declined Musk's challenge in 2024. The takeaway: Regulators treat Musk's social media channels as price-relevant disclosure subject to securities law.

The political dimension is newer and increasingly material. Musk's role leading the DOGE initiative since early 2025 has introduced a category of risk that did not exist during Tesla's early public years. SpaceX is a major government contractor for entities such as NASA, the US Space Force, and the National Reconnaissance Office. Its single largest revenue-generating customer is the US government at about 71% of Falcon 9 third-party revenue. Musk's political visibility creates a two-sided risk: Supportive administrations may accelerate contract awards and regulatory approvals, while political opposition could invite heightened scrutiny of SpaceX's government relationships, pricing, and competitive bidding practices. Investors should expect this dynamic to create headline-driven volatility uncorrelated to operational performance.

Putting it together: SpaceX will trade like Tesla on steroids

Musk's dual CEO role creates cross-company correlation that amplifies volatility in both directions. Negative Tesla headlines—production misses and political controversies—will pressure SpaceX shares, even when operationally irrelevant, as investors reassess Musk's bandwidth allocation. Positive Tesla catalysts could lift SpaceX on pure association. SpaceX investors cannot diversify away Musk-specific risk by avoiding Tesla; they are exposed to his entire ecosystem.

The combination of lower float, earlier-stage technologies, and concentrated Musk exposure suggests volatility exceeding Tesla's historically turbulent patterns. Investors who navigated Tesla understand the playbook: maintain conviction through drawdowns, apply 2x to 3x timeline discounts to management guidance, focus on directional progress over quarterly precision, and accept volatility as the price of asymmetric opportunity.

Financial model

Note: As a private company, SpaceX has not published detailed financial disclosures. We have not communicated with the company about our financial estimates. On February 2, 2026, SpaceX announced the acquisition of private artificial intelligence company xAI in a deal valuing the combined entity at \$1.3 trillion. Our model for SpaceX excludes any potential contribution from this transaction. We will integrate xAI into our estimates once we have a clearer understanding of the implications for the business.

In this section, we provide an overview of SpaceX's historical financial model and our estimates through 2040. These are all estimates built from a triangulation effort where we took as much information into account as possible within the scope of this report.

The company has not provided a comprehensive view of its financials—disclosure events are sporadic and typically occur around milestones. Still, there is available data we could leverage as a foundation for our model, including government-contract awards, tracked rocket-launch activity, satellite monitoring, company management commentary, and a handful of community-led datasets.

Based on our understanding of the business, we have made assumptions about several inputs, including but not limited to satellite constellation growth; satellite manufacturing and launch costs; ground infrastructure size and cost; pricing

strategy; user terminal costs; subscriber growth; subscriber mix; ARPU by customer type; service plan and regional mix; launch cadence, pricing, costs, and reusability savings; capital expenditure; and the rest of the cost structure.

With that said, we believe our model provides a sensible way to analyze the business's trajectory and visualize how each of the company's two segments—launch services and Starlink—contributes to the overarching story. We consider our estimates a base scenario for where the company could be 5, 10, or 15 years out, absent of any significant development not considered here.

View each of the business segments' sections for a more detailed analysis of the key operating drivers under consideration.

2025 was a stellar year, setting the stage for a 2026 IPO

We believe 2025 revenues for SpaceX came in at \$16 billion, growing 24% from 2024 sales of \$12.5 billion, fully driven by increasing momentum from Starlink. Accordingly, the revenue split continues to shift away from launch services, with the segment now comprising only 33% of the total sales (down from 50% two years ago). EBITDA for the combined company came in at 7.5 billion, equating to an impressive 47% margin, with Starlink contributing to nearly 80% of the dollars.

We break down our 2025 view and growth outlook for each separate segment before we consolidate it for the complete SpaceX outlook.

Starlink

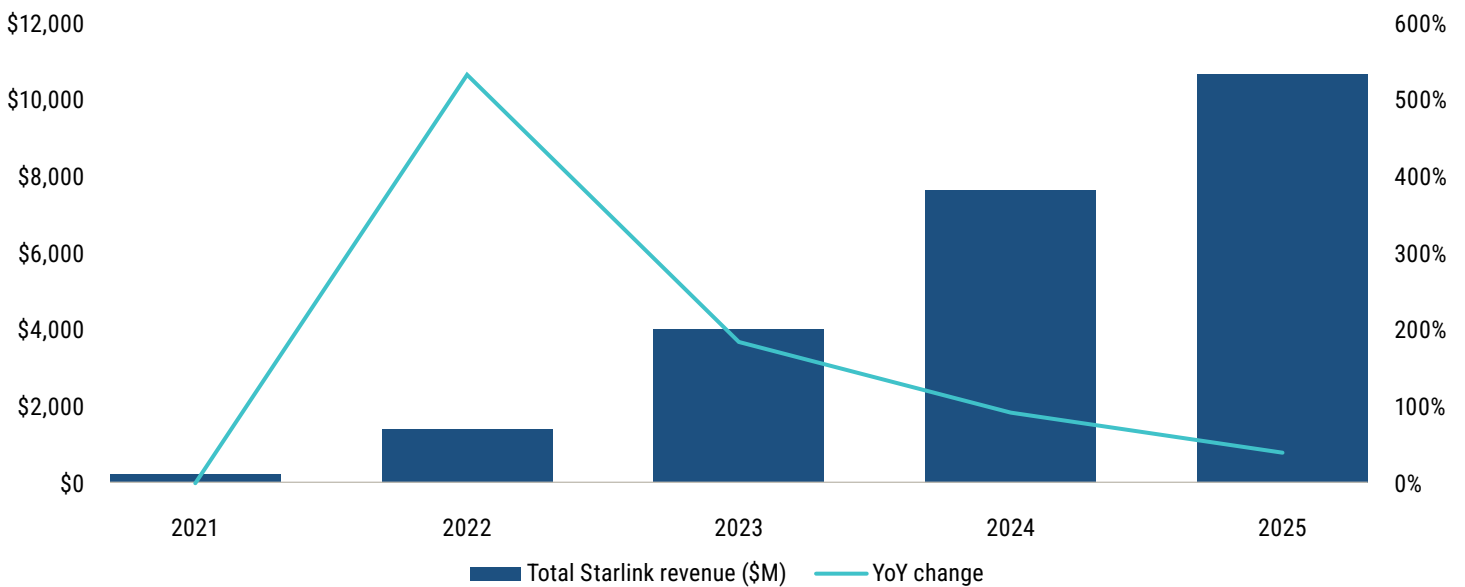
2025 recap

We estimate Starlink’s 2025 revenue was \$10.6 billion, a 40% increase from \$7.6 billion in 2024, driven by subscribers doubling for a second year in a row to 9.2 million. Momentum was broad-based:

- Residential subscribers more than doubled to 7.8 million from 3.6 million.
- Business customers doubled to 300k.
- Roam grew 25%.
- Maritime doubled to 150,000.
- Aviation subscribers expanded 4x.
- D2C reached 6 million subscribers.

Our revenue build for Starlink is pulled from two buckets: subscriber revenue (85% to 90%) and Starshield and other government contracts (10% to 15%).

Starlink revenue



Source: SpaceX • Geography: Global • As of February 8, 2026

Subscription revenue

For our subscriber revenue build, we delineate revenue across each subscription plan: residential, business, roam, maritime, aviation, and D2C. The company gives annual commentary on the rough size of the maritime, aviation, and D2C customer base, but it does not extrapolate the rest of the categories. We use the company’s broad trend commentary, its social media’s activity, and other one-off signals to triangulate the size of each bucket.

We estimate Starlink’s non-D2C subscriber base will grow to 67 million by 2040, up from 9.2 million in 2025, while we expect D2C subscribers to swell to 1.1 billion, up from 6 million. By subscription type:

- **Residential:** The core Starlink customer; one that connects to the internet through an user terminal installed onto the roof or side of the home, with clear view of the sky. We expect that the residential subscriber category will grow to about 51 million subscribers in 2040 from about 7.8 million at the end of 2025.

- **Business:** Similar to residential customers, business clients use Starlink to connect to the internet. We view these clients as more “capacity-hungry,” as one business may serve dozens of users at once. Higher ARPU and stickier demand make this a disproportionately valuable cohort on a per-subscriber basis. We expect this segment to grow to about 2.7 million subscribers by 2040, up from 300,000 in 2025.
- **Roam:** This category captures mobile or semimobile users (for example, RVs, overlanders and temporary worksites) that need broadband on the move or at changing locations rather than at a fixed address. We model roam/mobility growing to about 12.4 million subscribers in 2040 from about 1 million in 2025.
- **Maritime (individual vessels):** Maritime subscribers are ships and boats that use Starlink for broadband connectivity at sea, where terrestrial networks are unavailable and legacy satellite communication is expensive and bandwidth-limited. We model Maritime growing to about 1.7 million vessel subscriptions in 2040 from about 150,000 in 2025.
- **Aviation (individual aircraft):** Aviation subscribers are aircraft equipped with Starlink terminals to provide in-flight connectivity for passengers and crew, spanning commercial fleets and private aviation. We model Aviation growing to about 21,600 aircraft subscriptions in 2040 from about 2,400 in 2025.
- **D2C:** D2C represents Starlink connectivity delivered directly to standard smartphones via carrier partnerships, expanding Starlink from a dish-based broadband product into a ubiquitous coverage layer. Over time, we believe this category will expand to include other device connections, including IoT devices and vehicles. We model D2C scaling to about 1.1 billion subscribers in 2040 from about 6 million in 2025. Due to the size of the D2C subscriber base (and different pricing dynamics), we present data where we exclude and include it.

ARPU build

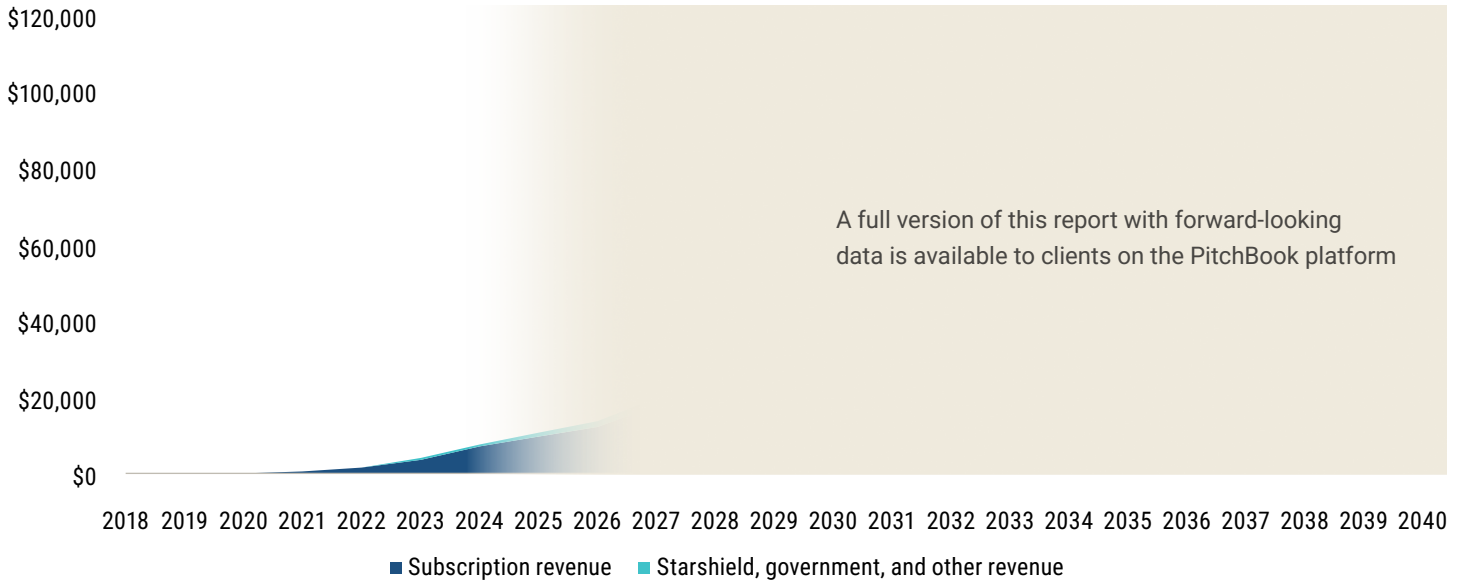
We base our ARPU assumptions per subscription type on a number of variables, including the percentage of subscribers across the different “sub” plans (for example, the Residential 100 GB versus the Residential Max plans) based on a geographic breakdown estimate and potential demand at each price point as well as the percentage of users paying for hardware (to account for promotions and premium capacity-restricted areas). We also modify our new subscriber ARPU calculation to account for growth throughout the year and to not overestimate or underestimate pricing changes that happen throughout the year. We account for hardware costs (adjusted, per above) for new subscriber ARPU. Our blended ARPU estimate (excluding D2C) for 2026 is \$809, meaningfully down from \$1,027 in 2025, reflecting the more aggressive hardware subsidizing strategy across the US, the UK, Australia, and New Zealand in 2026, based on our research. For D2C, we consider two types of clients: those that pay for the add-on plan and those who receive it as part of their mobile plan.

ARPU for Residential Lite plan

| Plan | Cost per month | Cost per year | Hardware cost | Share of plan | Share of new subscribers paying for hardware | Existing subscriber ARPU | New subscriber ARPU |
|------------------|----------------|---------------|---------------|---------------|--|--------------------------|---------------------|
| Residential Lite | \$35 | \$420 | \$200 | 30% | 85% | \$420 | \$590 |

Source: SpaceX • Geography: Global • As of February 8, 2026

Subscription revenue (\$M) by type



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

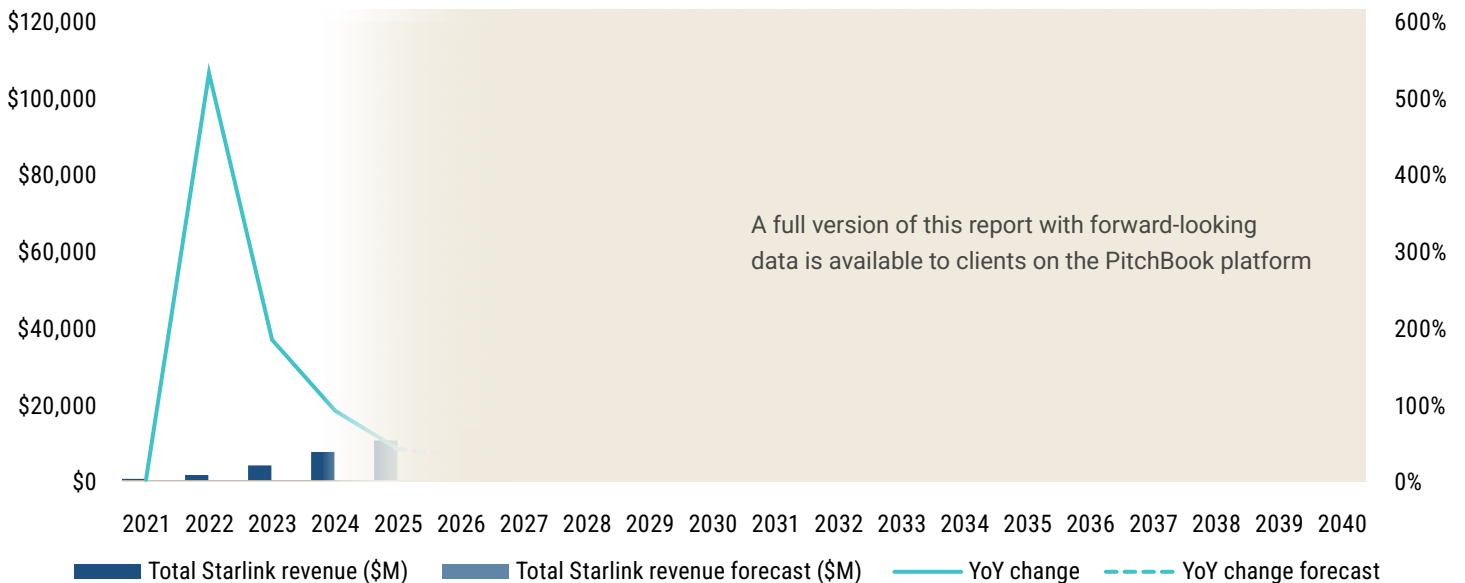
Total subscription revenue: We believe the company generated \$9.5 billion in subscription revenue in 2025, and it could grow to \$113 billion in 2040, with D2C growing to about 37% of subscription revenue on 1.1 billion subscriptions.

Starshield and other government revenue: This revenue line captures SpaceX’s government-focused Starlink variants and related services, including secure/mission-tailored satellite communications, dedicated capacity, and defense-oriented

network capabilities delivered to US and allied agencies. We estimate the category generates \$1 billion to \$2 billion annually, and forecast it to represent 6% of revenue in 2040.

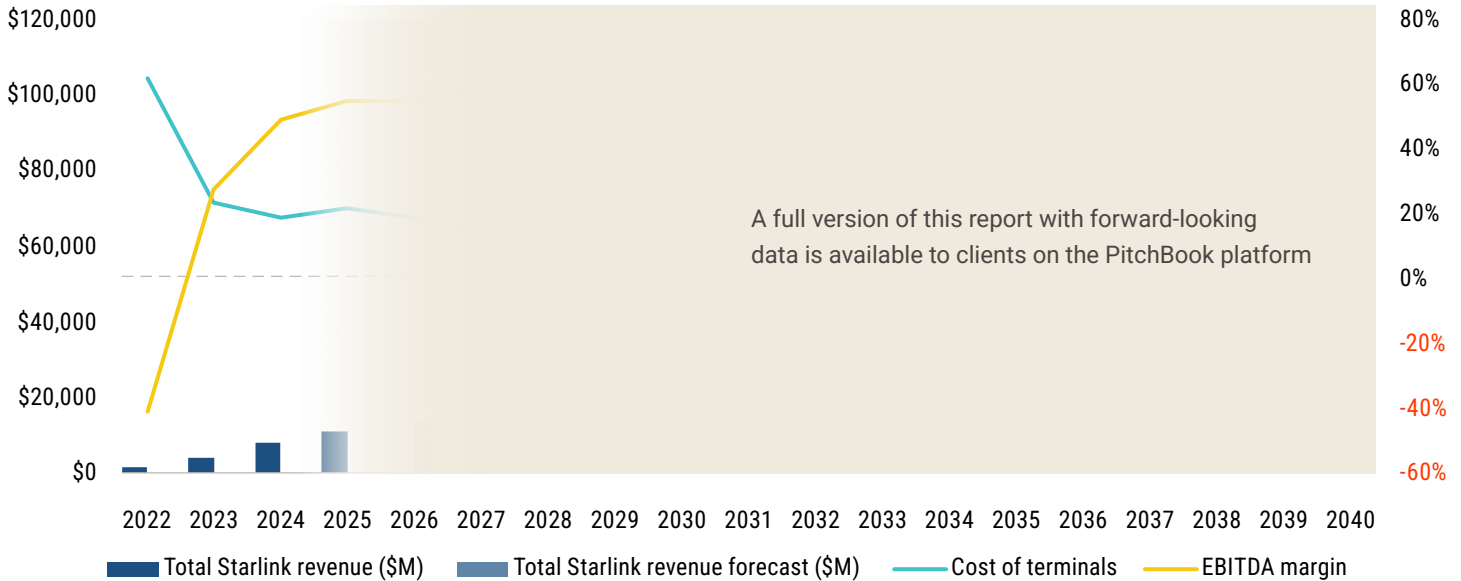
Total revenue: We estimate Starlink’s 2040 revenues at \$120 billion, up from \$10.6 billion in 2025, driven by momentum across the board, namely D2C, which grows to become a contributor of 35% or more.

Starlink revenue forecast



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Revenue and terminal cost forecast



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

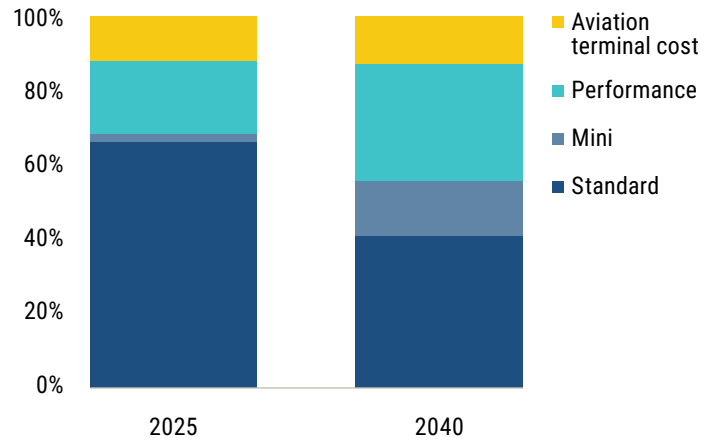
Expenses

Our model breaks down operating expenses into two buckets: the cost of manufacturing the user terminals and other operating expenses, which include employee salaries, overhead, and marketing.

Terminals: Manufacturing costs for user terminals have declined significantly since their first introduction in 2020 thanks to consistent process enhancements, scale, and supply chain maturation. While the initial generation of user terminals (2020) cost around \$3,000 to manufacture, SpaceX quickly halved production costs by April 2021. By September 2023, terminals reached a break-even point (around \$600), with the company’s vice president of commercial sales indicating the company was no longer subsidizing them.⁵³ Over the past year, we believe prices have come down further, with the price dropping to \$349. We note that as of February 2026, the company seems to be reemphasizing customer growth, as it is subsidizing terminals in most of the premium markets (the US, Australia, Canada, New Zealand, and the UK). Data for the Mini, aviation, and performance terminals is sparse. We assume the company achieved cost reductions for these terminals as well, albeit of lower magnitude given the smaller scale.

In 2025, our terminals cost estimate places them at around 20% of revenue, which declines dramatically to only 1% in 2040

Share of terminal cost forecast



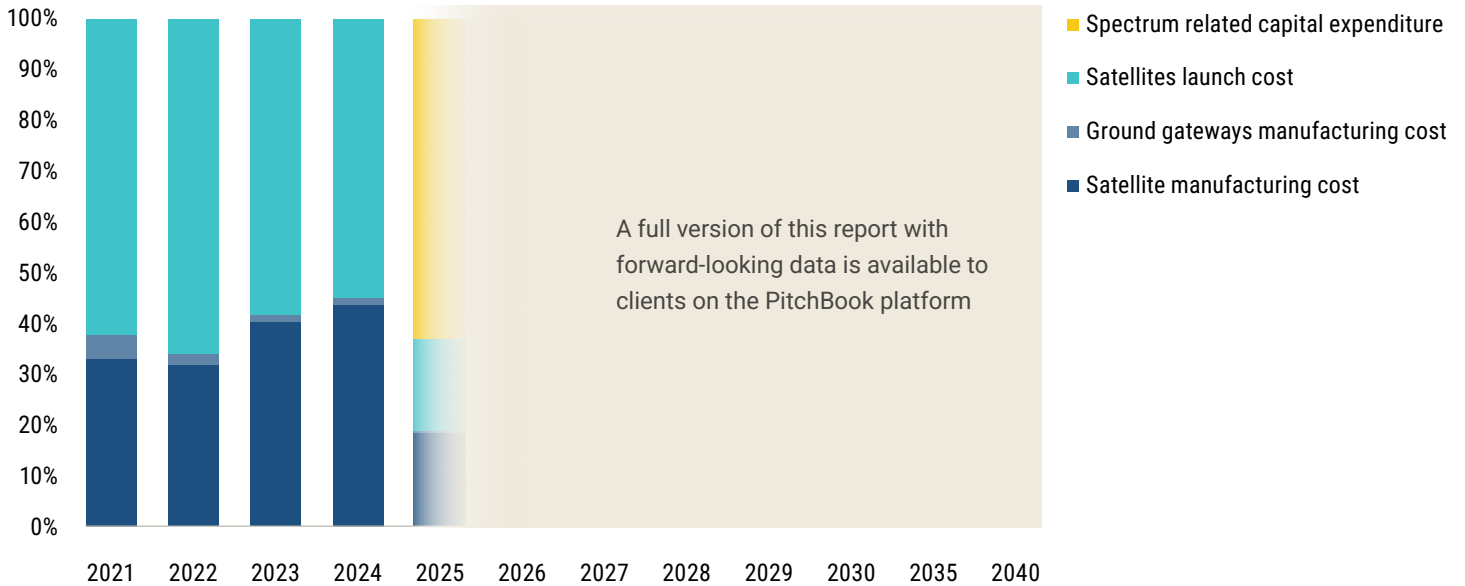
Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

due to economies of scale and growth in the D2C business. For 2026 onward, we model out a 2% to 3% annual decrease in manufacturing costs for the terminals.

Regarding the other expenses bucket, we believe these expenses amount to about 30% of revenue at current scale and we do not assume any leverage from them as a conservative measure and to account for fluctuations in investment from year to year.

53: "SpaceX No Longer Taking Losses to Produce Starlink Satellite Antennas," CNBC, Michael Sheetz, September 13, 2023.

Projected SpaceX capital expenditure by type



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Capital expenditures, depreciation, and amortization

Our capital expenditures build for Starlink includes our estimates for the costs associated with the growth of the satellite constellation and the spectrum purchase from EchoStar in 2025. Constellation related costs include satellite and ground gateway manufacturing as well as launch costs. Our model delineates costs for different satellite versions, different launch vehicles at different levels of reusability levels, and different terminal versions. We expect capital expenditure to increase year over year through 2032 (while remaining at a steady rate of about 40% of revenue), until the company reaches a more mature reusability rate with Starship. As the Starlink constellation reaches maturity and satellite deployments shift to refreshing versus growing, capital expenditure dollars should decline starting 2032.

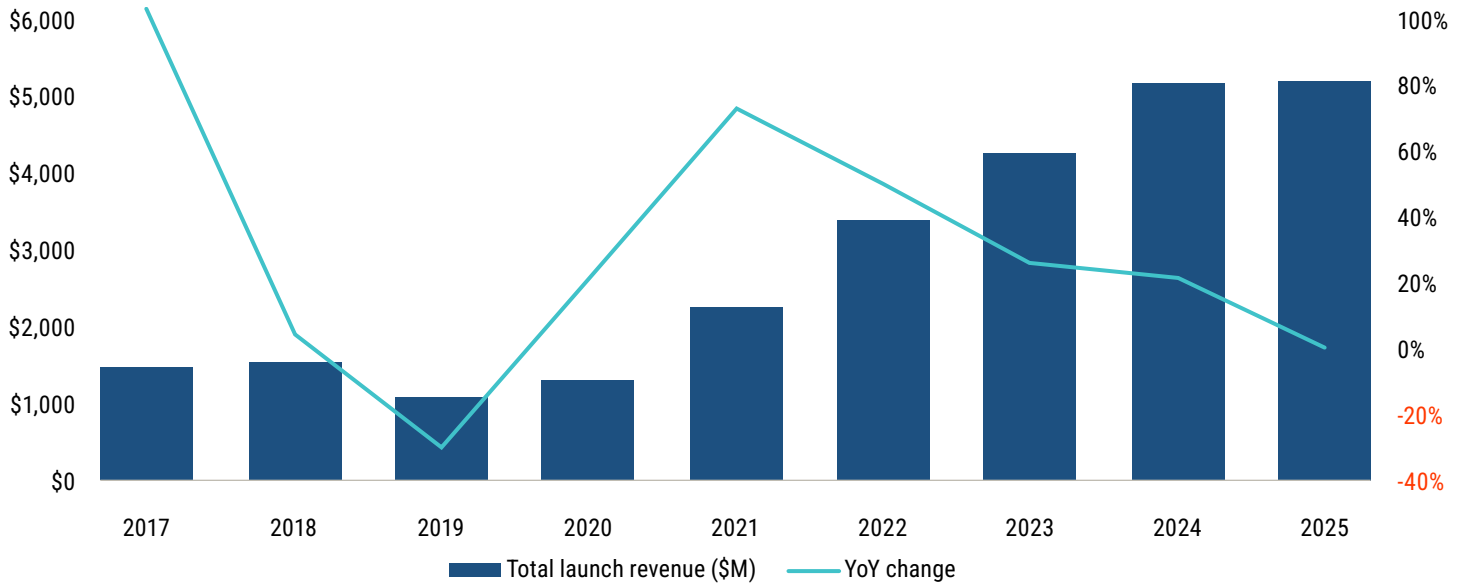
Profitability

EBITDA: We estimate Starlink EBITDA for 2025 was \$5.8 billion at a 54% margin, up from \$3.7 billion in 2024 at 48%, and is poised to expand to \$85 billion and 70% in 2040, respectively.

Net income: We believe Starlink generated \$3 billion in 2025, up from \$2 billion in 2024, and could reach \$56 billion in 2040.

Free cash flow: We modeled -\$7.2 billion in FCF for 2025 (a -65% yield), down from \$230 million in 2024, largely due to the EchoStar spectrum purchase late in the year. We expect FCF yield to expand significantly through 2040, to 60%.

SpaceX launch revenue



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Launch services

2025 recap

2025 revenue for launch services came in at \$5.2 billion, up 0.3% YoY, based on our estimates. Revenue was essentially flat for the year due to a prioritization of Starlink launches for Falcon 9 and the lack of Falcon Heavy launches.

Some stats:

- Total Falcon launches reached a record high of 165, up from the previous record in 2024 at 134.⁵⁴
- Third-party launches (non-Starlink launches) increased by one to 43, based on higher government activity.
- 2025 was the third year that Falcon Heavy had no launches.

Launch services revenue is driven by the price customers pay to secure rocket launches to deploy payloads into space as well as the mission services, quality assurance, insurance, and other complementary services associated with the launch. SpaceX also generates revenue from government awards for milestone-based programs, such as the Human Landing System contract from NASA for the Artemis program. We estimate a 90/10 revenue split between transactional revenue and milestone-based contracts.

⁵⁴: "Launches," SpaceX, n.d., accessed February 23, 2026.

Approach

To estimate SpaceX’s historical revenue, we took the long route. We collected data for each of the 611 flights (as of the writing of this report) and have identified key parameters useful for our analysis of the business, including:

- **Exact date:** Timing helps in determining price.
- **Flight type:** Commercial, government, cargo resupply services (CRS), crewed mission, rideshare, or Starlink.
- **Vehicle type:** Falcon 9 or Falcon Heavy.
- **Orbit:** This data determines at quick glance if the rocket was expended or not.
- **Booster landing outcome:** The booster landing is key reusability metric.
- **Booster name:** This helps track reusability.
- **Launch outcome:** The outcome is a measure of the success rate.
- **Launch site:** Geographic location helps determine launch capacity.
- **Customer:** Information on the purchaser helps narrow flight-type estimates.
- **Payload mass:** This figure measures capacity usage and price per kg launched.

From there, we searched for relevant information about the contract’s value, any publicly released information through statements or court documents, and the most comparable mission for each and every government, CRS, and crewed mission launch, as those carry the biggest price differentials from mission to mission (and thus a big impact to the model).

We then searched for pricing information for each flight type since 2010 to create a pricing table we could standardize across flights we had no reliable information on (granular information on pricing is included in our financial model).

Flight-type categorization

We delineate revenue in our model by both vehicle type and flight type.

Commercial: deliveries of payloads on behalf of private third parties across the world. Prices for commercial flights have increased over time and currently sit at \$74 million for the Falcon 9 and about \$100 million to \$105 million for the Falcon Heavy.

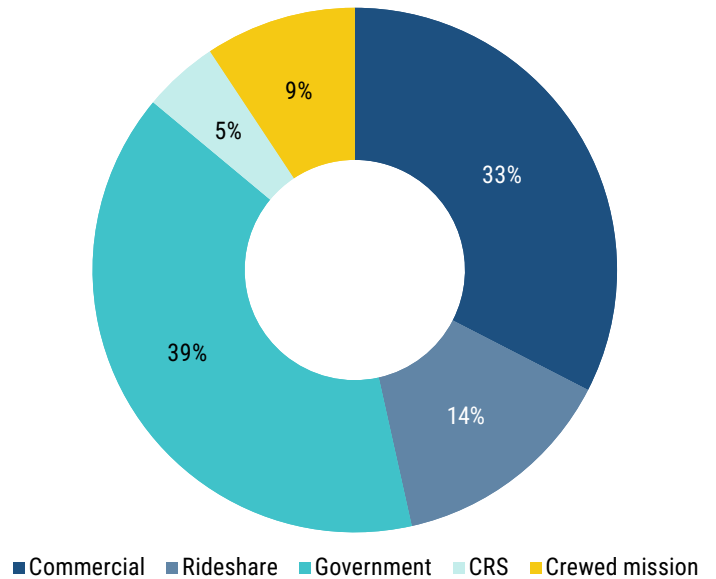
Government: flights launching payloads into space paid for by government entities around the world, such as NASA, the US Space Force, and the European Space Agency. Launches range in price significantly from \$60 million to \$110 million on the Falcon 9, depending on mission-specific parameters, and \$110 million to \$335 million on the Falcon Heavy.

CRS: missions aimed at supply deliveries to the International Space Station (ISS). Contracts are won through awards, and paid for by NASA. Prices range from \$133 million to \$225 million.

Crewed missions: missions that use the Dragon spacecraft, carrying people on a variety of missions for both government and private travelers, typically to and from the ISS.

Rideshare: missions carrying out multiple payloads for multiple parties, typically priced by the weight of the cargo and the necessary configuration to make it fit inside the payload fairing. These flights typically carry lower capacity than the normal Falcon 9 flight.

Share of Falcon third-party launches by payload type



Source: SpaceX • Geography: Global • As of February 8, 2026

Share of payload by type



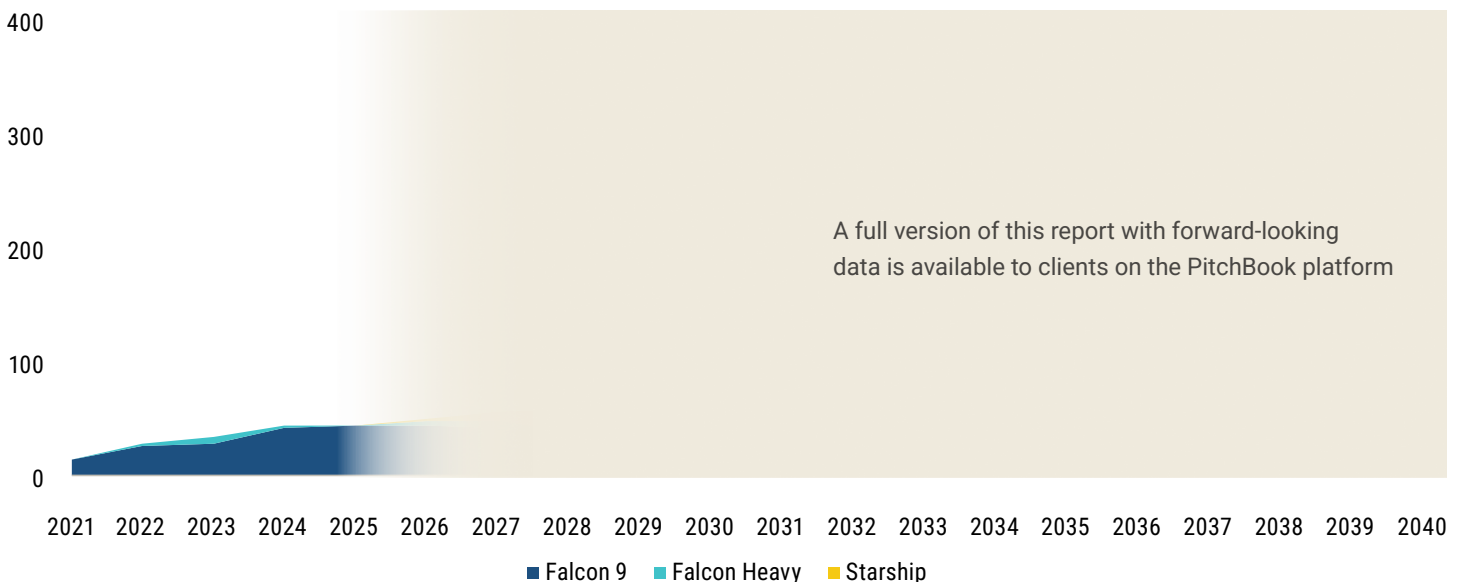
Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

We are forecasting SpaceX to build on the momentum it carried through the beginning of 2026, with a dip in 2028-2030 as Starship’s launch cadence improves and the Falcon 9 begins to give way. We forecast total launch count by 2040 to reach 308 for third-party launches and 468 for the entire company.

launches for the year and a prioritization of launch capacity for Starlink. Looking out to 2040, we expect the manifest will consist solely of Starship launches. We also anticipate declining prices, as the company passes on savings from reusability to achieve an even higher launch cadence. We estimate 2040 revenue of \$30 billion.

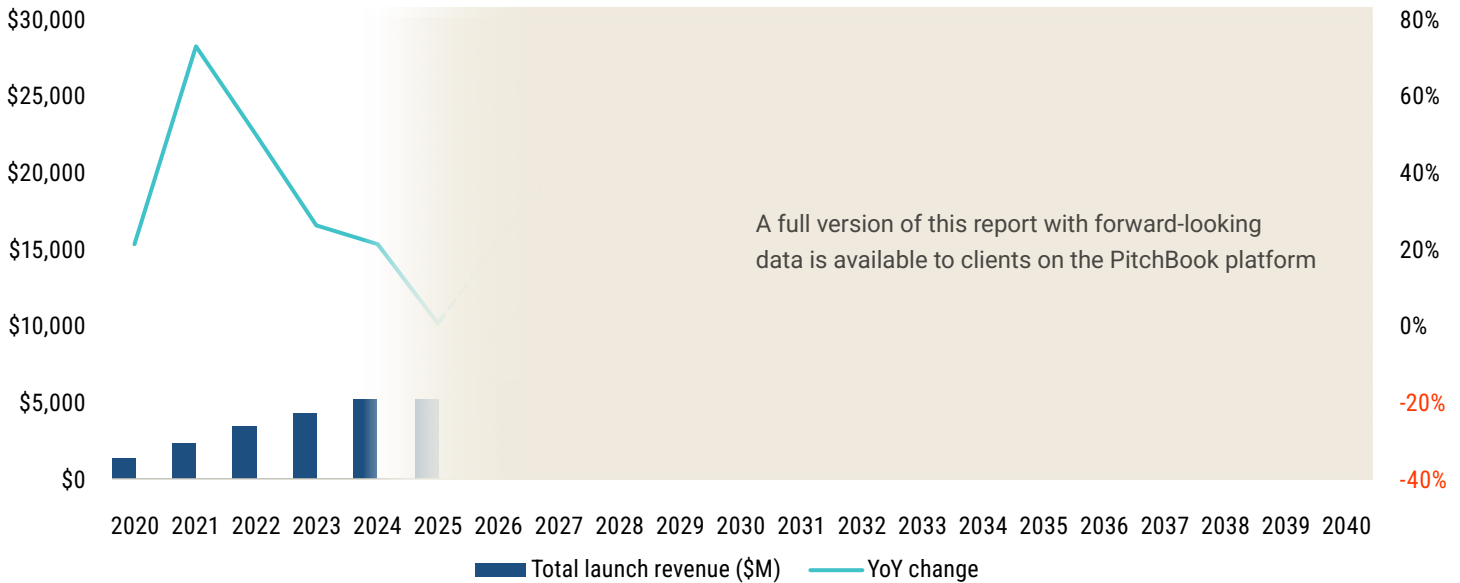
We estimate 43 third-party launches in 2025 drove total launch revenue to \$5.2 billion, flat YoY, on the lack of Falcon Heavy

Third-party launch count forecast by type



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Launch revenue growth forecast



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

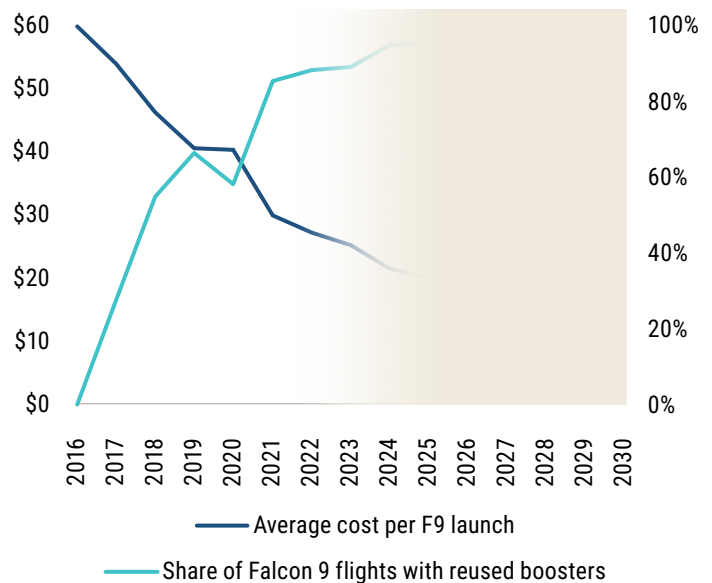
Expenses

Launch costs are the main expense driver for this business. Our model accounts for the cost of each launch, depending on whether the company uses refurbished boosters or not. For a fully expendable Falcon 9 launch (one where no component of the rocket is reused), the most important part of the cost equation is the first-stage booster, representing about 60%, followed by the second stage at 20%, payload fairing at 10%, and the launch itself the remaining 10%.⁵⁵ There is no single source of truth for how much a fully expendable Falcon 9 launch costs SpaceX, but the industry assumption is \$60 million per launch before the company achieved meaningful scale (2017-2018). We assume that once the company industrialized its launch business in 2017-2018, costs began to decline 2% per year (we believe this is a conservative estimate).

For flights using refurbished boosters, our estimates do not assume the company immediately cut costs by 60% or more per launch once it began reusing boosters; rather, we model steady cost reductions over time as the company's processes improved and it achieved higher reusability rates.

Note that our launch cost estimates do not include additional mission-specific costs for unique government contracts, such as unusual trajectories, extra quality assurance, or particular

Falcon 9 launch cost forecast (\$M)



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

hardware configurations, due to the confidential nature of these requirements. We try to capture those on our other expense bucket.

We believe a Falcon 9 launch cost could decrease by as much as 64% when reusability achieves maturity.

⁵⁵: "With Block 5, SpaceX to Increase Launch Cadence and Lower Prices," NASASpaceflight.com, Michael Baylor, May 17, 2018.

Regarding the other expenses bucket, we believe these expenses amount to about 50% of revenue at current scale and expect them to decline over time as the Starship launch cadence improves and the reusability economic benefits are more palpable.

Capital expenditures: We are modeling capital expenditures for launch services at 15% to 20% of launch revenue through 2040.

Profitability

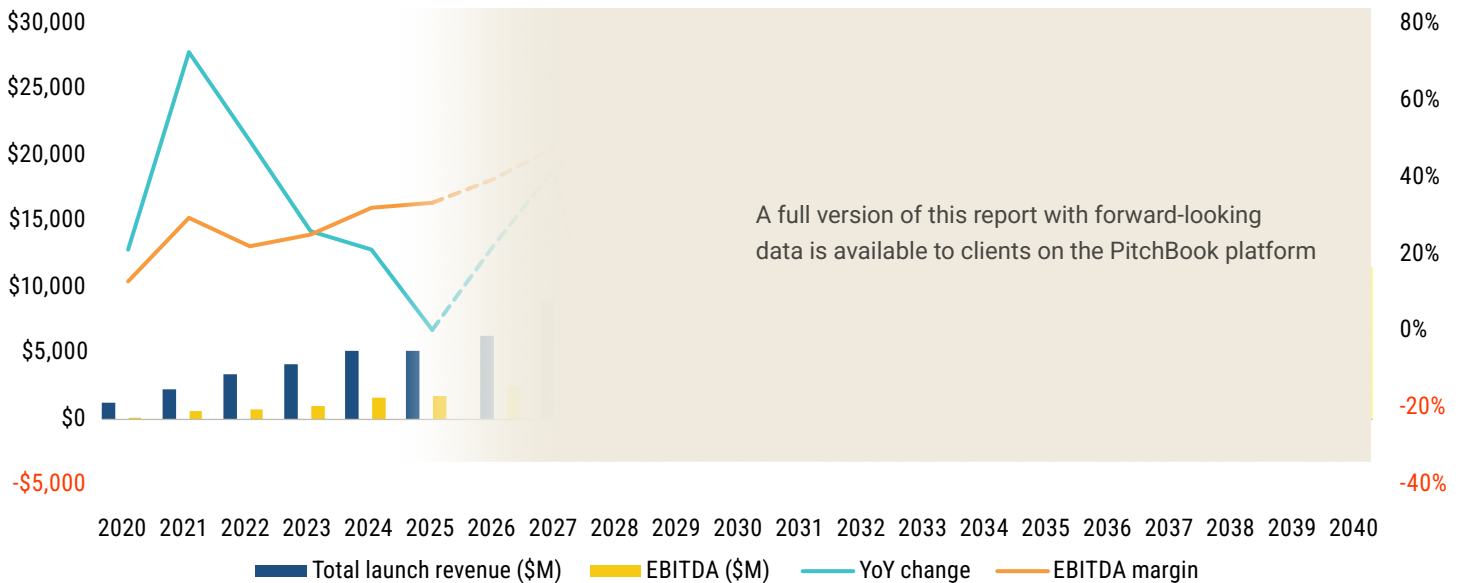
EBITDA: We estimate 2025 launch EBITDA came in at \$1.7 billion (a 33% EBITDA margin), flat year over year. We are modeling EBITDA fluctuations into the negative in 2030 and 2031 as the company's reusability cost benefits are not fully materialized and the margin benefits from a mature Falcon 9

rockets are phased out. For 2040, we expect \$11.5 billion of EBITDA at a 39% margin.

Net income: We believe launch generated \$925 million of net income in 2025 (18% margin), up from \$888 million in 2024 thanks to continued reusability savings improvements. Net income could reach \$5.4 billion in 2040 (18% margin).

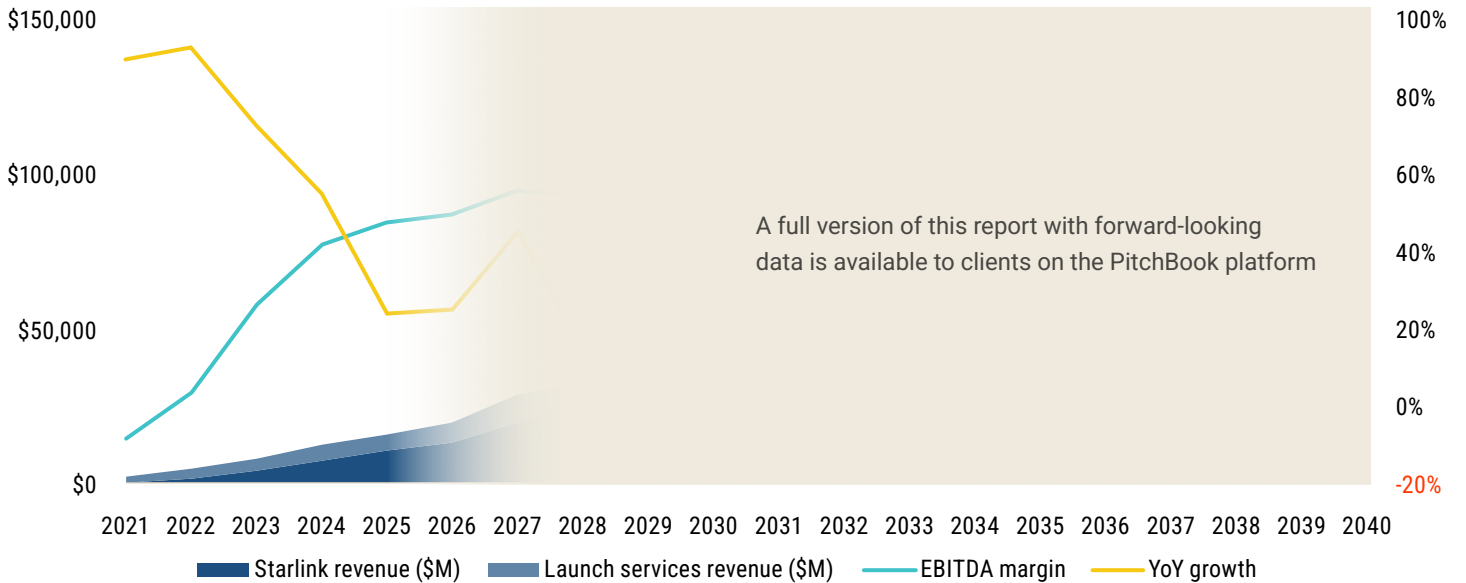
Free cash flow: We modeled \$587 million in FCF for 2025 (an 11% yield), up from \$462 million in 2024, largely due to the an increase in profitability from declining launch costs and relatively steady capex year over year. We expect FCF yield to dip significantly through 2030 due to profitability declines as Starship costs do not get fully absorbed into the model yet—we forecast margins turning positive again in 2034, climbing to 26% by 2040.

Profitability forecast



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Revenue forecast



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Forecast share of revenue by type



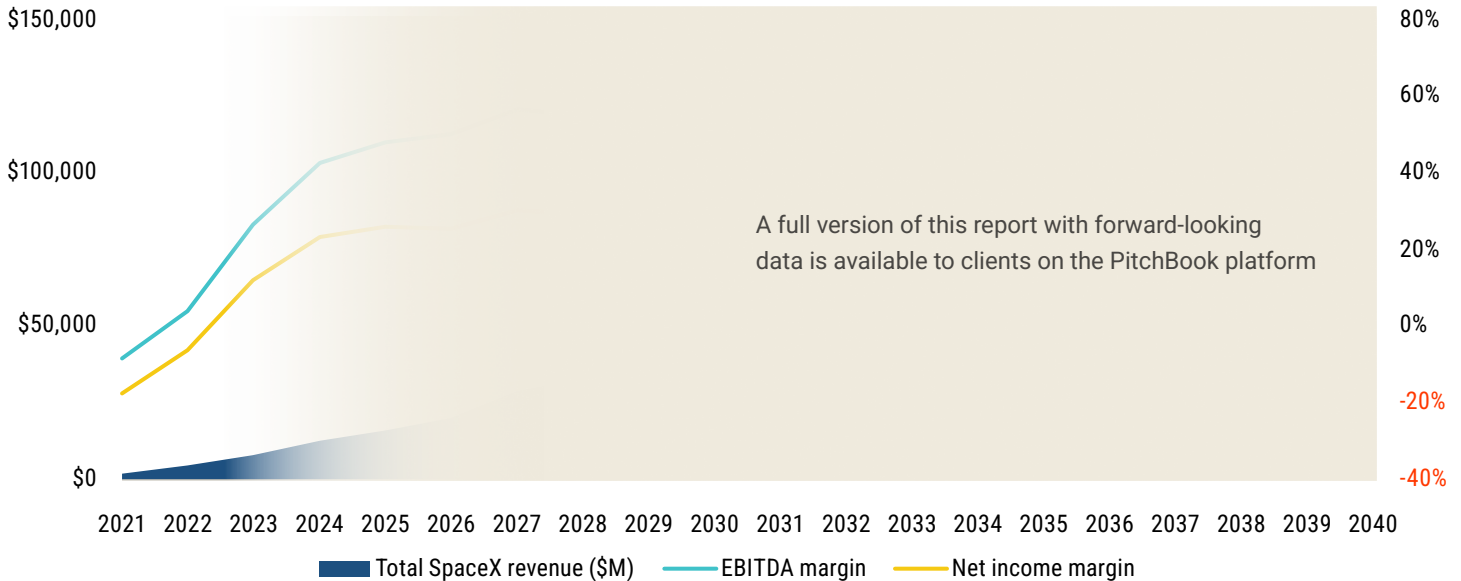
Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Consolidated financials

Forecast: A 16% CAGR through 2040, with Starship launch cadence in full swing, unlocking Starlink growth.

Consolidated revenue: We estimate SpaceX 2040 revenue could reach \$150 billion, a 16% CAGR over about 15 years, driven by a mature launch cadence for Starship, launching more than once per day, and a Starlink constellation that enters maintenance mode and serves nearly 1.2 billion subscribers.

Revenue and margin forecast



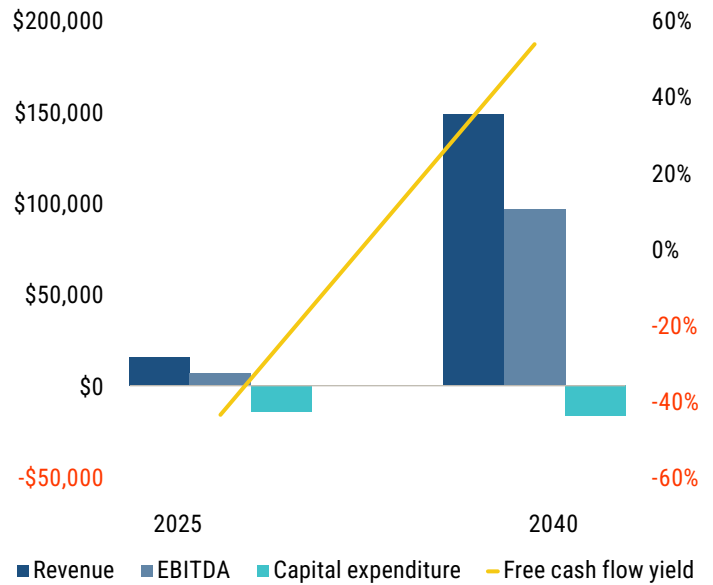
Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

EBITDA: We estimate 2025 consolidated EBITDA at about \$95 billion, representing an impressive 65% EBITDA margin. At this stage, reusability savings for Starship are reaching maturity and D2C subscribers are highly accretive to margins.

Net income: We believe net income for SpaceX will reach about \$60 billion by 2040, commanding 40% margins. At this scale of profitability, we expect the company to invest in growth optionality.

Free cash flow: We are modeling 2025 FCF -\$7.1 billion (a 45% yield), down from \$700 million in 2024, largely due to the EchoStar spectrum purchase late in the year. We expect the margin impact from the Starship ramp to be fully offset by ramping profitability at Starlink. We forecast FCF margins to 54% by 2040. We anticipate the company is likely to reinvest much of this profit back into growth initiatives or returning capital to shareholders.

FCF forecast (\$M)



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

Valuation analysis

In this section, we approach the question investors care most about heading into the IPO: Is \$1.5 trillion the right price? We triangulate from two distinct angles to give investors multiple lenses through which to assess the offering: First, direct peer comparisons using an enterprise value/revenue/growth (ERG) sum-of-the-parts framework; and second, a broader growth-adjusted large-cap comparable universe. Our conclusion: The \$1.5 trillion valuation is defensible on a 3-5 year horizon if execution proceeds on or near the projected timeline, but the market is unambiguously pricing in the 2030+ growth trajectory, not trailing fundamentals.

Approach 1: Direct comparable companies

We selected publicly traded companies with the closest operational overlap to SpaceX’s two core segments. For Starlink, we benchmark against satellite connectivity operators and D2C competitors. For launch services, we compare against defense primes, orbital launch providers, and space infrastructure companies. The fundamental challenge with this approach is that no single public company replicates

SpaceX’s integrated model—the comps are structurally inferior on growth, margins, or both—so we present the data for context but caution against mechanical application of peer medians. For each peer set, we calculate the ERG ratio (EV/revenue ÷ three-year revenue CAGR), apply the resulting ratios to SpaceX’s segment-level financials, and combine them in a sum-of-the-parts framework to derive implied enterprise values.

The comps tell a clear story: Legacy satellite operators trade at 2x to 3x revenue, reflecting their structural disadvantage. Viasat and Eutelsat are geostationary earth orbit (GEO) legacy businesses with declining relevance as LEO constellations scale. EchoStar’s market cap has surged about 50% since the SpaceX spectrum deal, but the stock is trading on its SpaceX equity stake (about \$25 billion of the \$33 billion market cap), not operating fundamentals. AST SpaceMobile is the only pure-play D2C comp, but at \$27 billion on \$19 million TTM revenue, it trades on optionality with no commercial service in the market—making it a narrative comp, not a financial one.

Starlink connectivity peers

| Company | Ticker | Enterprise value (\$M) | Total revenue 2025 (\$M) | Three-year revenue CAGR (2022-2025) | ERG (2025) | Implied Starlink valuation (\$M) |
|---|--------|------------------------|--------------------------|-------------------------------------|-------------|----------------------------------|
| AST SpaceMobile Inc Ordinary Shares - Class A | ASTS | \$12,696 | \$59 | 137.1% | 1.6x | \$1,619,126 |
| Eutelsat Communications | ETCMY | \$3,378 | \$1,244 | 2.6% | 1.0x | \$1,076,597 |
| Viasat Inc | VSAT | \$11,477 | \$4,520 | 23.2% | 0.1x | \$112,612 |
| EchoStar Corp | SATS | \$56,449 | \$14,990 | -7.0% | N/A | N/A |
| Median | | \$12,086 | \$2,882 | 12.9% | 1.0x | \$1,076,597 |
| Mean | | \$21,000 | \$5,203 | 54.3% | 0.9x | \$936,112 |

Source: PitchBook • Geography: Global • As of February 8, 2026

Launch services and space infrastructure peers

| Company | Ticker | Enterprise value (\$M) | Total revenue 2025 (\$M) | Three-year revenue CAGR (2022-2025) | ERG (2025) | Implied launch valuation (\$M) |
|-----------------------|--------|------------------------|--------------------------|-------------------------------------|-------------|--------------------------------|
| Rocket Lab Corp | RKLB | \$33,018 | \$600 | 41.7% | 1.3x | \$104,410 |
| Planet Labs PBC | PL | \$6,364 | \$244 | 23.0% | 1.1x | \$89,463 |
| Northrop Grumman Corp | NOC | \$113,813 | \$41,954 | 4.7% | 0.6x | \$46,111 |
| Lockheed Martin Corp | LMT | \$170,218 | \$75,048 | 4.4% | 0.5x | \$40,929 |
| Firefly Aerospace Inc | FLY | \$2,123 | \$154 | 40.8% | 0.3x | \$26,648 |
| Boeing Co | BA | \$209,516 | \$89,463 | 10.3% | 0.2x | \$17,930 |
| Median | | \$73,415 | \$21,277 | 16.7% | 0.6x | \$43,520 |
| Mean | | \$89,175 | \$34,577 | 20.8% | 0.7x | \$54,248 |

Source: PitchBook • Geography: Global • As of February 8, 2026

Sum-of-the-parts (SOTP) valuations using direct comp set

| Percentile | Launch peers | Starlink peers | Launch implied valuation (\$B) | Starlink implied valuation (\$B) | SpaceX implied valuation (\$B) |
|------------------|--------------|----------------|--------------------------------|----------------------------------|--------------------------------|
| Median | 0.6 | 1.0 | \$44 | \$1,077 | \$1,120 |
| 75th Percentile | 1.0 | 1.3 | \$79 | \$1,348 | \$1,427 |
| 90th Percentile | 1.2 | 1.5 | \$97 | \$1,511 | \$1,608 |
| Highest Multiple | 1.3 | 1.6 | \$105 | \$1,619 | \$1,724 |

Source: PitchBook • Geography: Global • As of February 8, 2026

Applying legacy satellite multiples to Starlink is a category error. At 2x to 3x revenue, Starlink would be worth \$23 billion to \$34 billion—barely over what SpaceX paid for EchoStar’s spectrum alone. We view this as the “floor of irrelevance,” which is useful only to demonstrate that SpaceX belongs in a different valuation paradigm. When we instead apply peer ERG ratios—which normalize for growth rate—the implied Starlink valuations range from \$112 billion (Viasat’s 0.1x ERG) to \$1.7 trillion (AST SpaceMobile’s 1.6x ERG), with the median at about \$1.2 trillion. Starlink’s 40% YoY revenue growth, 54% EBITDA margins, and doubling subscriber base have no analog in the current satellite peer set.

The launch comp set illustrates a stark bifurcation. Defense primes (Lockheed Martin, Northrop Grumman, Boeing) carry ERGs of 0.2x to 0.6x, reflecting mature, low-growth government-contract businesses where the market pays a fraction of one revenue turn per point of growth. At these ERGs, the implied SpaceX launch valuation ranges from \$17 billion to \$46 billion—a reasonable floor for the standalone launch business if it were a traditional defense contractor.

“NewSpace” companies trade in a different universe. Rocket Lab (1.3x ERG), Planet Labs (1.1x), and Firefly Aerospace (0.3x) reflect the market’s willingness to pay for orbital-access growth optionality. At these ERGs, implied launch valuations range from \$27 billion to \$105 billion, which captures how aggressively the market prices Starship-adjacent narratives. We view the truth as lying between these poles: SpaceX’s launch business has defense-prime reliability with NewSpace growth optionality.

Approach 1 takeaway

When we apply peer-derived ERG ratios in a sum-of-the-parts framework, the valuation picture sharpens considerably. At 75th percentile peer ERGs (1x for launch, 1.3x for Starlink), the implied combined SpaceX valuation is about \$1.4 trillion—slightly above the \$1.3 trillion pre-IPO round. At 90th-percentile ERGs, the implied value rises to about \$1.6 trillion, which brackets the \$1.5 trillion IPO target. Applying the highest peer ERGs in each set pushes the implied value to about \$1.7 trillion. In other words, the IPO price is not an outlier relative to how

the market currently values SpaceX’s closest public analogs on a growth-adjusted basis—it sits between 75th-percentile and 90th-percentile peer pricing. The critical caveat: The peer set is structurally inferior on growth, margins, and integration, so these comps likely understate SpaceX’s fair value rather than overstating it.

.Approach 2: Growth-adjusted large-cap comparable universe

Because SpaceX’s growth trajectory transcends its industry peer set, we constructed a second comp framework: all US public companies above the \$100 billion market cap with three-year revenue CAGR exceeding 10%, excluding real estate, financials, and materials. This universe captures the market’s willingness to pay for sustained, high-quality growth at scale—regardless of industry. The logic: Investors at IPO will not benchmark SpaceX against Viasat; they will benchmark it against NVIDIA, Palantir, and other platform-growth stories.

Select large-cap high-growth comps

| Company | Ticker | Enterprise value (\$M) | Three-year revenue CAGR (2022-2025) | EV/revenue (2025) | ERG (2025) | Implied valuation |
|-----------------------|--------|------------------------|-------------------------------------|-------------------|------------|-------------------|
| Palantir | PLTR | \$314,562 | 32.2% | 71.5x | 2.2x | \$1,737,942 |
| SpaceX | | \$1,250,000 | 49.1% | 79.0x | 1.6x | \$1,250,000 |
| Broadcom | AVGO | \$1,628,162 | 24.4% | 25.5x | 1.0x | \$816,564 |
| Howmet Aerospace | HWM | \$104,087 | 13.4% | 12.6x | 0.9x | \$736,830 |
| AppLovin | APP | \$136,924 | 26.8% | 23.8x | 0.9x | \$693,991 |
| Oracle | ORCL | \$563,791 | 10.6% | 9.8x | 0.9x | \$724,592 |
| Alphabet | GOOGL | \$3,670,691 | 12.5% | 9.1x | 0.7x | \$568,868 |
| Palo Alto Networks | PANW | \$115,026 | 18.8% | 12.5x | 0.7x | \$518,584 |
| CrowdStrike | CRWD | \$101,329 | 39.7% | 25.6x | 0.6x | \$504,862 |
| Netflix | NFLX | \$339,469 | 12.6% | 7.5x | 0.6x | \$464,299 |
| NVIDIA | NVDA | \$4,483,263 | 69.3% | 34.4x | 0.5x | \$387,485 |
| Shopify | SHOP | \$140,914 | 27.3% | 12.2x | 0.4x | \$348,727 |
| Eli Lilly and Company | LLY | \$968,861 | 31.7% | 14.9x | 0.5x | \$366,419 |
| Adobe | ADBE | \$112,770 | 10.5% | 4.7x | 0.5x | \$352,194 |
| GE Aerospace | GE | \$345,334 | 16.3% | 7.5x | 0.5x | \$360,549 |
| Meta | META | \$1,649,113 | 19.9% | 8.2x | 0.4x | \$322,196 |
| Amazon | AMZN | \$2,182,514 | 11.7% | 3.0x | 0.3x | \$202,698 |
| Boeing | BA | \$209,516 | 10.3% | 2.3x | 0.2x | \$177,033 |

The ERG ratio normalizes the valuation for growth rate, enabling cross-sector comparison. We calculate it as 2025 enterprise value/revenue ÷ three-year revenue CAGR.

A ratio of 1x implies the market is paying one turn of sales per percentage point of growth—a useful benchmark for “fair” growth-adjusted pricing.

Large-cap names

At 1.6x ERG, SpaceX sits in the top quartile of the universe—but is not the most expensive. Palantir leads at 2.2x, reflecting the market’s extreme premium for AI narratives plus government-contract stickiness. Among the more than 40 companies in our screen, the median ERG ratio is about 0.5x, the 75th percentile is about 0.8x, and only six names exceed 1x (Palantir, Prologis, Vertex Pharmaceuticals, SpaceX, Broadcom, and Intuitive Surgical). SpaceX’s 1.6x places it as the second most expensive stock in the universe on this metric.

Source: PitchBook • Geography: Global • As of February 8, 2026

Applying different ERG percentiles to SpaceX’s 2025 financials yield implied valuations ranging from \$415 billion to \$778 billion. Notably, applying Palantir’s ERG yields a \$1.7 trillion valuation. To justify the range of \$1.3 trillion to \$1.5 trillion, the market must assign SpaceX an ERG of 1.6x to 1.9x—placing it alongside Palantir as a top-of-universe premium.

Approach 2 takeaway

The \$1.3 trillion pre-IPO valuation requires top 5% conviction in SpaceX’s growth durability. The \$1.5 trillion IPO target pushes into Palantir territory—territory the market has been willing to assign, but only to companies where narrative momentum and execution compounding reinforce each other. We believe SpaceX qualifies, but investors should understand they are paying for 2030 economics at 2026 prices.

Conclusion

Both approaches converge on the same conclusion: the \$1.5 trillion IPO valuation is aggressive on trailing metrics but defensible on a forward basis. The direct peer ERG analysis, applied in a sum-of-the-parts framework, places SpaceX between \$1.4 trillion (75th percentile) and \$1.6 trillion (90th percentile)—meaning the IPO price falls within the range that public market comps would support today. The large-cap ERG framework confirms this: At 1.9x ERG, SpaceX would trade in Palantir territory, which is expensive but not unprecedented for a company with a 56% revenue CAGR, 47% EBITDA margins, and multiple compounding growth vectors.

Implied valuations by forecast percentiles

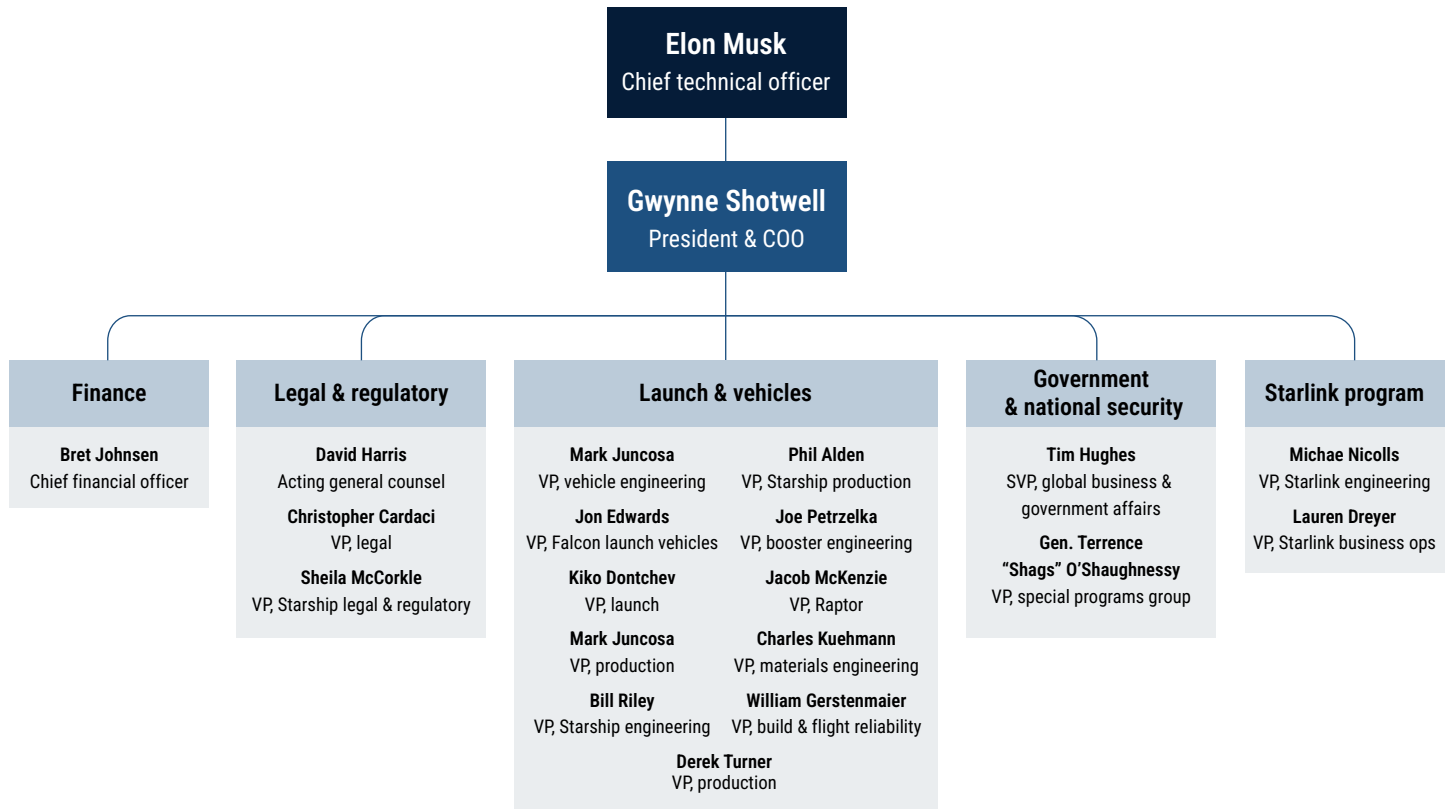
| Percentile | ERG | Implied EV/revenue | Implied valuation (\$B) |
|------------------------------|-------------|--------------------|-------------------------|
| Median | 0.5x | 26.1x | \$414 |
| 75th Percentile | 0.8x | 40.1x | \$635 |
| 90th Percentile | 1.0x | 49.2x | \$778 |
| Palantir's multiple | 2.2x | 109.2x | \$1,728 |
| SpaceX at \$1.25T IPO | 1.6x | 79.0x | \$1,250 |
| SpaceX at \$1.50T IPO | 1.9x | 94.8x | \$1,500 |

Source: PitchBook • Geography: Global • As of February 8, 2026

The tension is timing. At \$1.5 trillion, investors are underwriting 2030 economics: Starship commercialization driving a 70% reduction in dollar per Gbps deployed, D2C scaling from 6 million to 1.1 billion subscribers, and EBITDA expanding from \$7.5 billion to \$95 billion. If execution tracks within 1.5x to 2x of management timelines—consistent with Tesla’s historical pattern—the valuation compresses rapidly on out-year fundamentals. If Starship delays push V3 deployment beyond 2028, or D2C carrier partnerships stall, the market will reprice the gap between narrative and delivery. We believe the risk/reward is asymmetric in SpaceX’s favor, but investors should size positions with the understanding that they are paying a platform premium today for infrastructure-monopoly economics tomorrow.

Company overview

SpaceX leadership



Source: PitchBook • Geography: Global • As of February 8, 2026

Headquartered in Starbase, Texas, SpaceX is the world's leading designer, manufacturer, and operator of advanced rockets and spacecraft. Founded in 2002 by Elon Musk with the goal of reducing space transportation costs to enable the colonization of Mars, the company has evolved into a dual-pronged industrial giant: It is simultaneously the dominant provider of global launch services and the operator of the world's largest satellite constellation. The company has an estimated 15,000 employees.

Operational footprint and facilities

SpaceX utilizes a vertically integrated manufacturing model spread across key US hubs:

- **Starbase (Boca Chica, Texas):** Starship manufacturing, testing, and launch operations.
- **Hawthorne, California:** Falcon 9 and Dragon design, manufacturing, and mission control.
- **Redmond, Washington:** Starlink satellite R&D and high-volume manufacturing.
- **Bastrop, Texas:** Starlink user terminal (kit) manufacturing and semiconductor packaging.
- **McGregor, Texas:** Rocket engine testing and development (every engine is tested here before flight).
- **Launch sites:** Cape Canaveral Space Force Station (Florida), Kennedy Space Center (Florida), and Vandenberg Space Force Base (California).

Operating segments

The company operates two highly synergistic business lines:

Launch services (about 30% of 2025 revenue): SpaceX designs, manufactures, and launches advanced rockets and spacecraft. This segment generates revenue through long-term contracts for delivering satellites, cargo, and astronauts to orbit.

Key vehicles:

- **Falcon 9:** The world's first and only orbital-class reusable rocket; the operational workhorse of the global space economy.
- **Falcon Heavy:** A heavy-lift derivative composed of three Falcon 9 cores.
- **Dragon:** A free-flying spacecraft capable of carrying humans and cargo to the ISS.
- **Starship:** A fully reusable, superheavy-lift transportation system currently in flight testing, designed to carry crew and cargo to Earth orbit, the moon, and Mars

Customer base:

- **Government:** NASA (commercial crew & cargo), the US Space Force (National Security Space Launch), and the National Reconnaissance Office.
- **Commercial:** Commercial satellite operators (for example, SES and Intelsat), Earth observation companies, and rideshare aggregators.

Starlink (around 70% of 2025 revenue): Starlink is a low-latency, broadband internet system delivered via a constellation of thousands of LEO satellites. Starlink extends SpaceX's advantage by vertically integrating the full loop (design, manufacturing, and operation) at unprecedented scale. The Starlink constellation comprises over 9,600 operational satellites, constituting about two-thirds of the 14,300 active payload satellites globally.⁵⁶ Starlink serves over 9.2 million users across more than 150 countries, providing internet connectivity to a growing number of user types.

Services:

- **Commercial:** High-speed internet for residential, business, maritime, and aviation customers globally.
- **Starshield:** A specialized government-focused product line leveraging Starlink technology for national security use cases, including secure communications and Earth observation.
- **Direct-to-cell:** An emerging connectivity service (in partnership with carriers like T-Mobile) designed to provide text and voice coverage to unmodified LTE cell phones.

Customer base

- **Connectivity:** Over 9.2 million Starlink subscribers across more than 150 countries, with several use cases, including residential, business, roam (on the go), maritime, and aviation.
- **Direct-to-cell:** Over 6 million monthly subscribers and 12 million people connected at least once. SpaceX serves customers through complementary service to premium mobile carrier plans or as an add-on.

⁵⁶: "Jonathan's Space Report," Planet4589, Jonathan McDowell, n.d., accessed February 23, 2026.

Segment overview

Launch services

Launch services designs, manufactures, and launches advanced rockets and spacecraft into outer space. This segment generates revenue through transactional and long-term contracts for delivering satellites, cargo, and astronauts to orbit. The company delivers a variety of payloads for three types of customers: commercial third parties, government entities, and SpaceX itself. This section focuses on the commercial and government business; the next section discusses the Starlink business, including the launches of the satellites. Prices for launches vary significantly based on the payload and mission-specific requirements; as of February 2026, a commercial launch costs \$74 million.

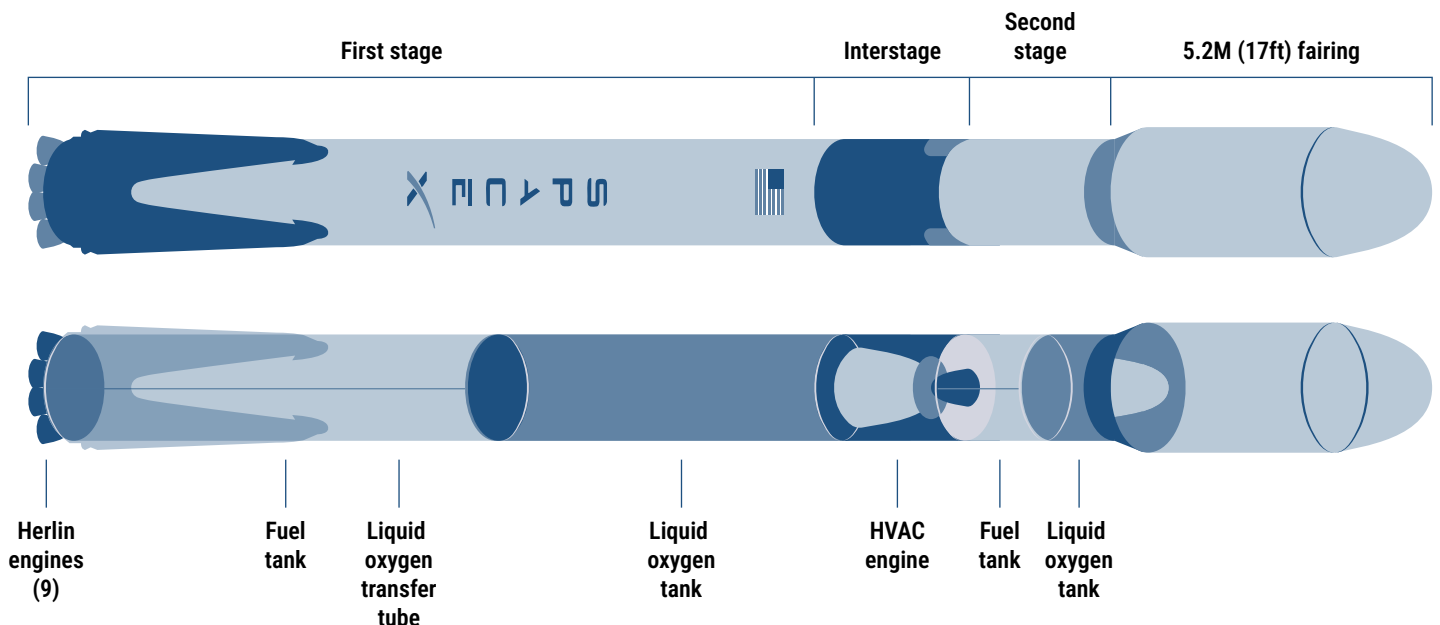
Reusability is the key differentiator

SpaceX pioneered reusability with the first reflight of an orbital-class rocket in 2017. As of February 2026, SpaceX

has reflown Falcon first-stage boosters 529 times out of 630 possible uses, achieving an impressive 84% reusability rate, including flights where no attempt of recovery was made. The development of a reusable orbital-class booster cost SpaceX about \$1 billion, according to business insider.

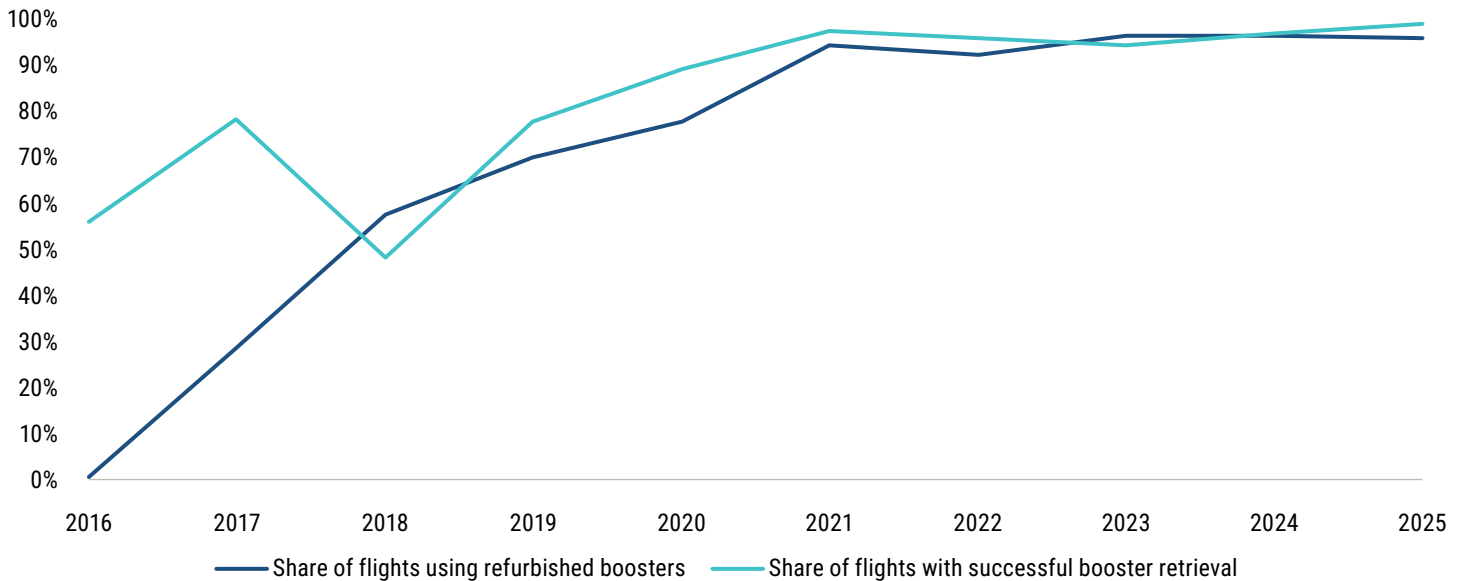
The company has long emphasized payload fairings recovery due to their high cost (estimated at about \$6 million); however, their reuse is not always guaranteed. Fairing halves separate at high altitude and then must survive reentry heating loads, parachute/parafoil deployment, and controlled splashdown—any failure in that chain can destroy a half or make it unrecoverable. Recovery is also constrained by sea state, weather, and the ability of SpaceX’s recovery assets to be in the right place at the right time, so operations sometimes prioritize mission cadence over retrieval. Even when a half is recovered, saltwater exposure, impact damage, or hardware wear can render it uneconomical to refurbish and reflly, so “recovered” does not always translate to “reusable.”

Falcon rockets



Source: SpaceX

Share of flights with successful component reuse



Source: SpaceX • Geography: Global • As of February 8, 2026

Reusability of the payload fairing is harder for us to track than that of the booster, as the data is not publicly available, so our fairing reuse estimate is not as accurate as that of the boosters. SpaceX states that as of February 2025, it had reflowed fairing halves on 307 missions—note this does not specify how many halves have been refurbished.⁵⁷ Still, this implies that at least one fairing half has been reused on 68% of all missions up to that point. While the reuse ratio is much lower than boosters, this initiative has saved the company hundreds of millions of dollars.

The second-stage equipment is not recovered or reused. SpaceX’s own Falcon User’s Guide frames post-deployment requirements around enabling a controlled deorbiting of the second stage after satellite separation (meaning disposal rather than recovery).⁵⁸

We analyzed all of the company’s launches to date and uncovered impressive operational proof points:

- Successful booster retrieval launches (including for Starlink) ramped from one in 2015 to 162 in 2025, with 14 in early 2026 YTD.
- Total boosters retrieved increased from one in 2015 to 162 in 2025 (boosters retrieved can exceed retrieval launches due to multicore recovery on select missions).
- Total booster reuses scaled from five in 2017 to 157 in 2025, with 13 in early 2026 YTD.
- As of February 2026, Falcon first-stage boosters have been reflown 529 times out of 630 possible uses, for a rate of 84%, including flights where no recovery attempt was made.

⁵⁷: "Falcon User's Guide," SpaceX, May 9, 2025.

⁵⁸: "Falcon Heavy," SpaceX, n.d., accessed February 23, 2026.

By refllying boosters and fairings, SpaceX increases reliability and improves its designs and procedures by servicing and inspecting hardware as well as incorporating lessons that can only be learned from flight.

If reusable, then why is the marginal launch cost not zero? It is believed that the cost of replacing the upper stage, refueling, and refurbishing the booster amount to about \$15 million per launch.

Falcon Heavy reusability

While Falcon Heavy’s side boosters are reusable, the center core is purpose-built with extra structural reinforcement to carry them, so it cannot reuse a standard Falcon 9 booster in that role.

While the company attempted to recover the core booster during the first three flights, it was unsuccessful. Despite one successful landing, the booster tipped in the ocean before it could be secured. For the subsequent eight launches, the company has not attempted to recover the core booster.

We believe the company would have succeeded in landing and eventually reusing the core booster if it had tried again. However, it seems like the significant performance boost of expending the core booster, while still recovering the side boosters, is now a feature of the Falcon Heavy, albeit at higher cost. In a semireusable configuration, the vehicle can carry heavier payloads or travel into farther orbits.

Vehicles

With the Falcon 9 and Falcon Heavy launch vehicles, SpaceX is able to offer a full spectrum of medium- and heavy-lift launch capabilities to its customers, as well as small and microsatellite launch capabilities via its rideshare program. SpaceX currently operates Falcon launch facilities at Cape Canaveral Space Force Station (CCSFS), Kennedy Space Center (KSC), and Vandenberg Space Force Base (VSFB) and can deliver payloads to a wide range of inclinations and altitudes, from LEO to geosynchronous transfer orbit (GTO) to escape trajectories for interplanetary missions.

The Falcon family has conducted successful flights to the ISS, LEO, medium-Earth orbit (MEO), highly elliptical orbit (HEO), GTO, and Earth-escape trajectories.

Assumed fully expendable Falcon 9 launch cost

| Cost | Share of cost | Assumed cost (\$M) | | |
|---|---------------|--------------------|---------------|---------------|
| | | 2017 | 2025 | 2030 |
| Booster | 60% | \$36.0 | \$31.0 | \$27.0 |
| Second stage | 20% | \$12.0 | \$10.0 | \$9.0 |
| Payload fairing | 10% | \$6.0 | \$5.1 | \$4.5 |
| Launch ops & range | 6% | \$3.6 | \$3.1 | \$2.7 |
| Payload integration & mission assurance | 3% | \$1.8 | \$1.5 | \$1.4 |
| Propellant | 1% | \$0.6 | \$0.5 | \$0.5 |
| Total | 100% | \$60.0 | \$51.0 | \$45.0 |

Source: PitchBook • Geography: Global • As of February 8, 2026

Assumed reusable Falcon 9 launch cost

| Cost | Share of cost | Assumed cost (\$M) | | |
|---|---------------|--------------------|---------------|---------------|
| | | 2017 | 2025 | 2030 |
| Booster refurbishment & recovery operations | 33% | \$12.0 | \$2.5 | \$1.8 |
| Second stage | 33% | \$12.0 | \$10.0 | \$9.0 |
| Payload fairing | 17% | \$6.0 | \$0.8 | \$0.6 |
| Launch ops & range | 10% | \$3.6 | \$3.1 | \$2.7 |
| Payload integration & mission assurance | 5% | \$1.8 | \$1.5 | \$1.4 |
| Propellant | 2% | \$0.6 | \$0.5 | \$0.5 |
| Total | 100% | \$36.0 | \$19.0 | \$16.0 |
| Reusability cost savings | | 40% | 64% | 65% |

Source: PitchBook • Geography: Global • As of February 8, 2026

Falcon 9 (operational)

Falcon 9 is a two-stage launch vehicle powered by liquid oxygen and rocket-grade kerosene. It can be flown with a fairing or with a SpaceX Dragon spacecraft. All first- and second-stage vehicle systems are the same in the two configurations; only the payload interface to the second stage changes between the fairing and Dragon configurations.

Falcon 9 was updated in the summer of 2015 to a Full Thrust configuration from its previous V1.1 configuration (flown from 2013 to summer 2015). Falcon 9 underwent further updates and first flew its Full Thrust Block 5 configuration in spring 2018. The Falcon 9 Block 5 architecture focused on improving the performance, reliability, and life of the vehicle, as well as ensuring the vehicle's ability to meet critical government human spaceflight and nonhuman spaceflight mission requirements. Engine performance on both stages was improved, releasing additional thrust capability. Thermal protection shielding was modified to support rapid recovery and refurbishment. Avionics designs, thrust structures, and other components were upgraded for commonality, reliability, and performance.

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Falcon 9

- \$69.9M per commercial flight
- 22,899 kg LEO payload capacity
- 8,300 kg GTP payload capacity
- 4,020 kg Mars payload capacity



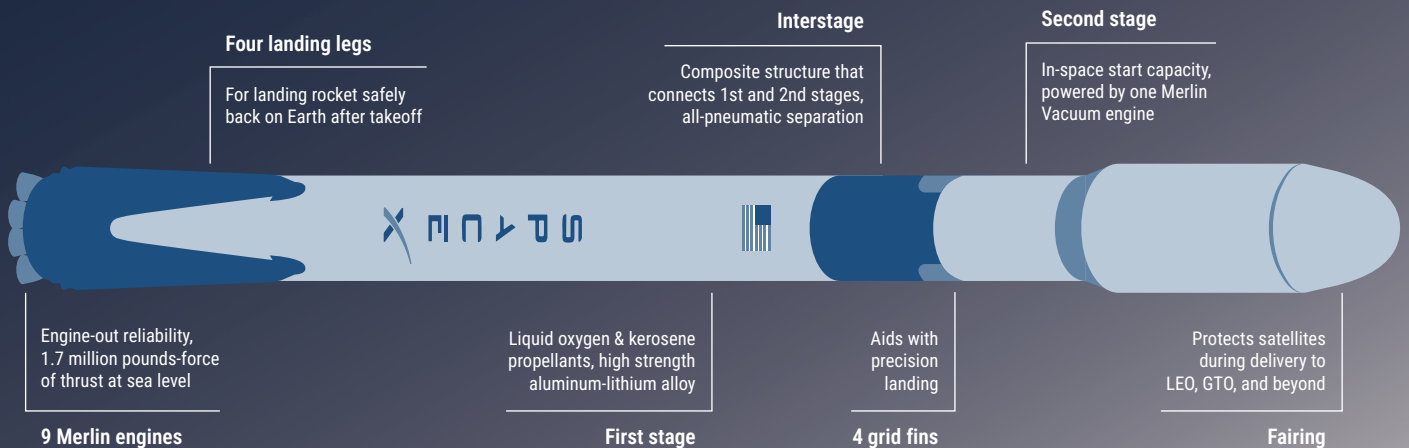
Reusability

- 562 attempted booster recoveries
- 547 successful booster recoveries (97% rate)
- 15 failed recoveries
- 513 total reuses of boosters (86% reusability)

Falcon 9 launches to date

- 597 attempted launches
- 593 successful launches (99% success rate)
- 4 failures
- 1 simulated failure

Falcon 9 design

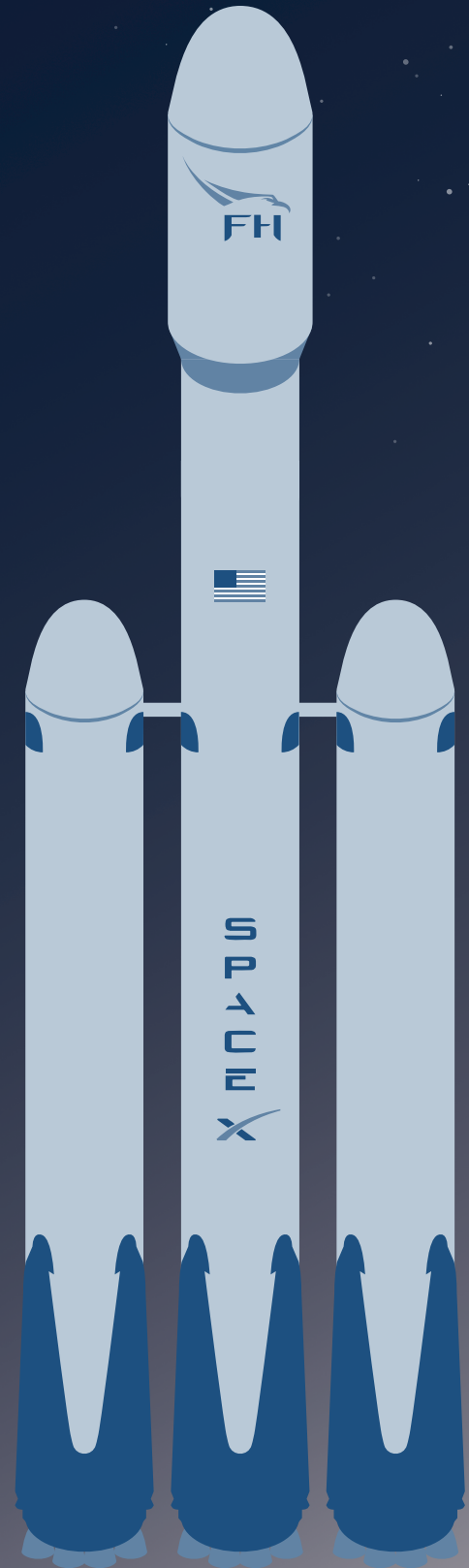


Source: SpaceX

Falcon Heavy (operational)

Falcon Heavy is a two-stage, heavy-lift launch vehicle that builds on the design of Falcon 9. In fact, the Falcon Heavy's first stage comprises three Falcon 9 first stages, with enhancements provided to strengthen the cores. It the same second stage and the same payload fairing as flown on the Falcon 9. SpaceX first launched the Falcon Heavy vehicle in February of 2018. All in, the rocket has 27 first-stage Merlin engines that produce 3x the thrust at liftoff compared with a Falcon 9.⁵⁹

Interestingly, the Falcon Heavy has only flown 11 times, with seven of them (64%) carrying payloads for government customers, four carrying payloads for commercial customers, and one carrying Elon Musk's own Tesla Roadster during the first demo flight.⁶⁰ We believe the low flight count relative to the Falcon 9 is a function of how efficient the Falcon 9 is, even when fully expended, and an indicator of SpaceX's own manifest prioritization of Falcon 9 flights to expand its Starlink constellation.

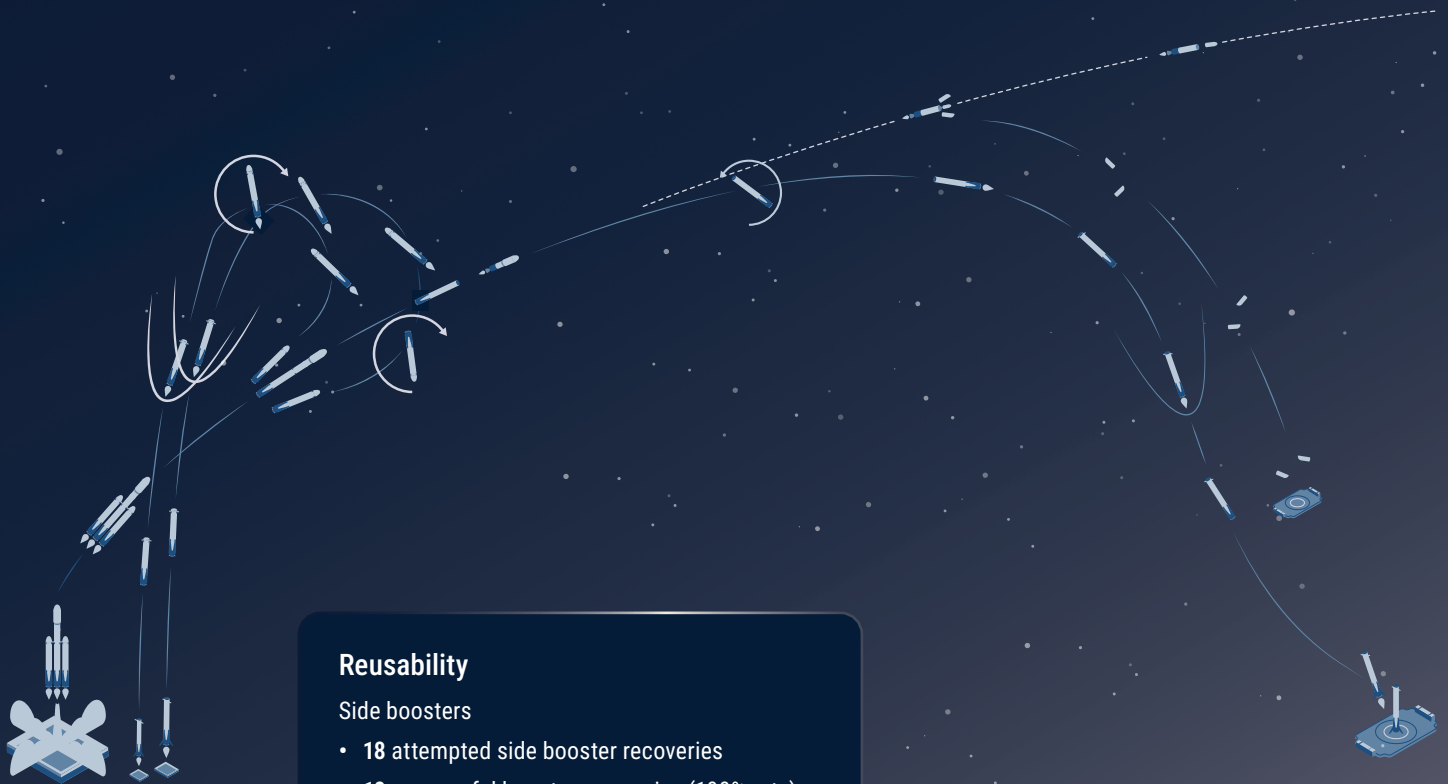


59: "Launches," SpaceX, n.d., accessed February 23, 2026.

60: "Starship," SpaceX, n.d., accessed February 23, 2026

Falcon Heavy

- \$97.0M per commercial flight
- 63,800 kg LEO payload capacity
- 26,700 kg GTP payload capacity
- 16,800 kg Mars payload capacity



Reusability

Side boosters

- 18 attempted side booster recoveries
- 18 successful booster recoveries (100% rate)

Core boosters

- 3 attempted core booster recoveries
- 10 successful core booster recoveries (0% rate)
- 2 full and 1 partial failure

Falcon Heavy launches to date

- 11 attempted launches
- 11 successful launches (100% success rate)

Dragon

Dragon is SpaceX's workhorse crew and cargo spacecraft, capable of carrying up to seven passengers to and from Earth orbit. It holds two distinctions no other vehicle currently matches: it is the only operational spacecraft capable of returning meaningful cargo quantities to Earth's surface (NASA's Orion capsule, by contrast, is designed for crew transport only), and it was the first private spacecraft to dock with the ISS, doing so in 2012 under the Commercial Orbital Transportation Services (COTS) program. After this milestone, NASA formally handed LEO logistics to the commercial sector, a structural shift that ultimately made SpaceX's launch business what it is today.

Starship (testing phase)

Starship is the name commonly used in reference to the collective of the Super Heavy booster and the Starship ship. It is SpaceX's upcoming superheavy-lift launch vehicle, slated to become the successor to the Falcon 9 and Heavy launchers. After a decade of development, around \$10 billion in development costs, and 11 test flights, we expect SpaceX to begin taking payloads into space this year. We believe Starship marks the start of the third era for SpaceX, one where the industrialization of space and travel to the moon/Mars becomes viable.

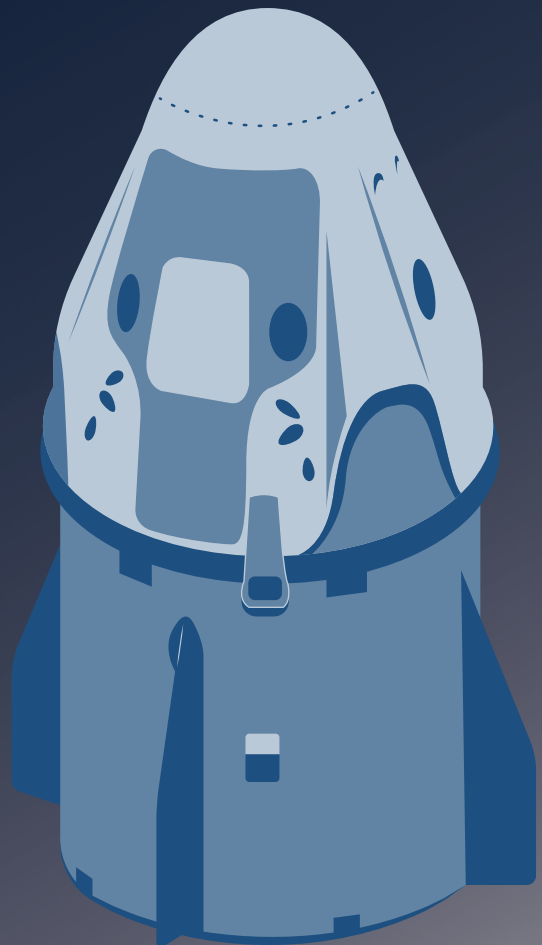
Starship's value to SpaceX rises materially if it can launch larger batches of next-gen Starlink satellites at meaningfully lower marginal cost and with more flexible deployment geometry. Importantly, SpaceX has now demonstrated pieces of the Starlink deployment stack during Starship flight testing, including payload deployment of Starlink simulators and a Pez-style dispenser concept that is explicitly oriented toward high-throughput constellation deployment. That matters because it ties Starship progress directly to SpaceX's largest scaled commercial platform and its most important long-duration cash flow engine.

The company is already advertising flights to Mars, quoting cargo delivery for \$100 million per metric ton.⁶¹

Overview

Dragon

| | |
|----------------------------|--|
| Height | 8.1m/26.2ft |
| Diameter | 4m/13ft |
| Spacecraft volume | 9.3m ² /328ft ² |
| Trunk volume | 37m ² /1,300ft ² |
| Launch payload mass | 6,000kg/13,228lbs |
| Return payload mass | 3,000kg/6,614lbs |



⁶¹: "Form S-1 Registration Statement," US Securities and Exchange Commission, June 2025.

Launch cadence

Based on our analysis of the launch data, SpaceX has increased the number of launches dramatically—from about 2-3 launches per month in 2018, to a current rate of 3.2 launches per week. Most recently, the Falcon 9 launched the first crewed mission of the year, sending four astronauts of Crew-12 up to the ISS to conduct research to further our ability to reach the moon.

As SpaceX increases its launch cadence, the company also looks to expand the amount of payload it can lift with each launch. While the Falcon 9 has a payload capacity of 22,800 kg, Starship is expected to support 4x to 6x that mass: 100-150 tons (100,000 kg to 150,000 kg).⁶²

Payload types

SpaceX's launch manifest serves three distinct customer classes: its own Starlink constellation, commercial third parties, and government customers. Starlink dominates the manifest by a wide margin—74% of all Falcon 9 launches in 2025 were internal Starlink missions, based on our analysis of launch data, a figure we expect to hold roughly steady with 125 Starlink launches projected in 2026 versus 122 in 2025. The degree to which SpaceX has cannibalized its own third-party capacity in service of constellation build-out is, in our view, the clearest signal of how strategically critical Starlink has become to the overall business.

Third-party launches account for the remaining 26% of the manifest. Within that slice, commercial operators—SES, Eutelsat, EchoStar, Inmarsat, Intelsat, Telesat, and others

constitute about 33% of third-party launches, with the majority of these launches delivered satellites into orbit. The more consequential customer, however, is the US government. NASA, the Space Force, and the Air Force collectively account for 71% of Falcon 9 third-party revenues and approximately 53% of all non-Starlink payloads, based on our estimates. Government contracts are high-value, long-duration, and largely noncyclical, providing a revenue floor that insulates the launch business from commercial pricing pressure. Within the government mix, ISS resupply missions represent roughly 5% of non-Starlink payloads and crewed ISS transportation another 9%.

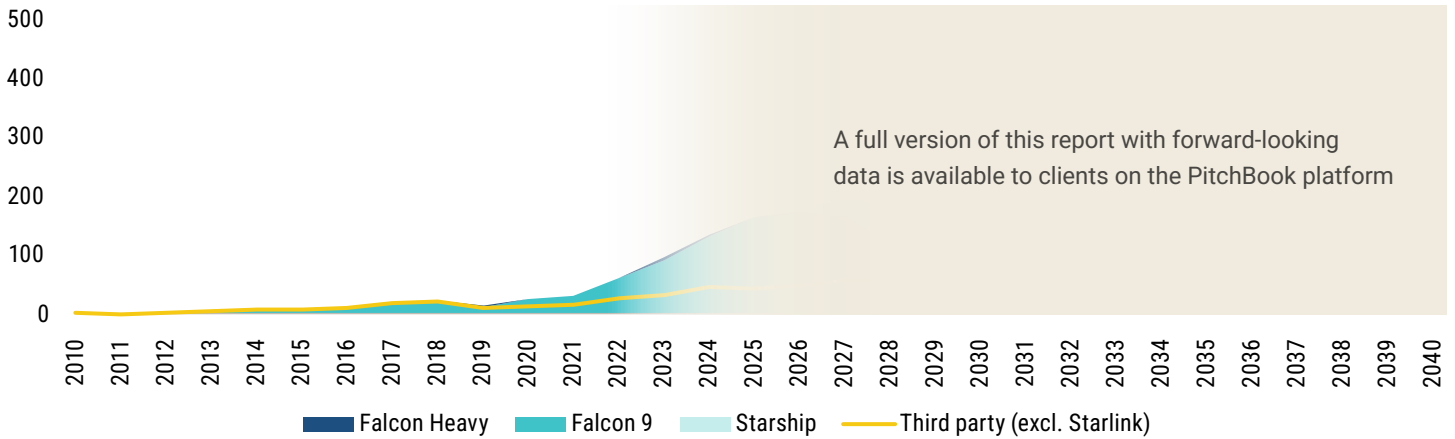
Capacity constraints

The launch manifest illustrates the strategic trade-off between generating additional revenue from third-party launches and growing the Starlink constellation. Although launch cadence has increased dramatically in the past four years, most of that growth has been allocated toward Starlink launches.

In 2025, Starlink satellite launches accounted for 74% of Falcon 9's launches, up from 68% in 2024, with the 25% YoY launch growth fully taken up by its satellite business. We believe SpaceX's strategic decision to allocate such a high percentage of its launches to Starlink highlights the strategic importance of its internet satellite business. Despite this prioritization, the company cannot launch them fast enough, leaving it capacity-constrained. Starship should alleviate this constraint by allowing the deployment of the V3 Starlink satellites into orbit, potentially increasing network capacity by 25x per launch versus V2 Mini deployments on the Falcon 9. Looking 5-6 years ahead, as Starship comes online, SpaceX will likely bifurcate its manifest based on the payload customer.

⁶²: "Vulcan Centaur," United Launch Alliance, n.d., accessed February 23, 2026

Falcon launch count by type



Source: SpaceX and PitchBook • Geography: Global • As of February 8, 2026

For internal missions, we expect SpaceX to perform an aggressive transition away from the Falcon 9. As with the Falcon 9, we expect Starlink to serve as SpaceX’s main customer while the company refines and streamlines its processes to increase the launch cadence.

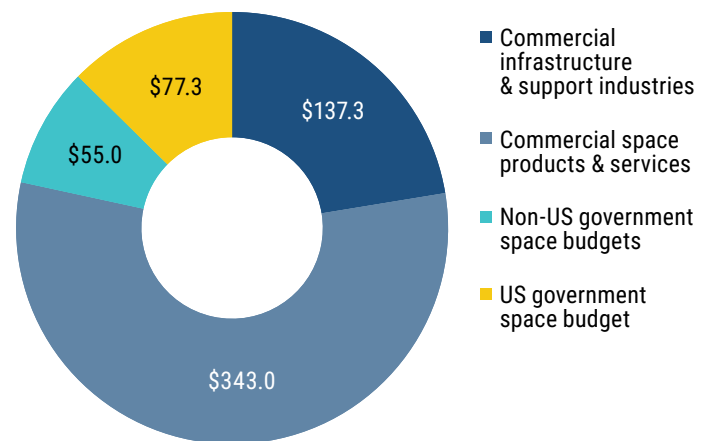
We expect Falcon 9 Starlink launches to remain at elevated levels through 2027, followed by a rapid decline through 2029 as Starship becomes operational.

Competitive environment

SpaceX is the dominant player in commercial launch, with over 60% of the global commercial launch market in 2025. This dominance is driven by SpaceX’s reusable rocket technology, which dramatically lowers cost and enables an unmatched flight rate. SpaceX’s Falcon rockets (and upcoming Starship) have reshaped customer expectations for price and cadence. The global space economy is projected to reach \$1.8 trillion by 2035 (per Firefly Aerospace’s S-1 filing).⁶³ Consequently, competitors have been forced to innovate and differentiate to keep pace. SpaceX’s main rivals in the launch sector include both long-established launch providers and NewSpace entrants as well as major state-run space agencies.

- **Established private-sector competitors:** United Launch Alliance (ULA) and Arianespace have decades of experience launching payloads for governments and commercial satellite operators. They are now introducing new rockets (ULA’s Vulcan, Arianespace’s Ariane 6) to compete with SpaceX’s Falcon 9 and Falcon Heavy.

Global space tech market estimate (\$B)



Source: The Space Foundation • Geography: Global • As of February 8, 2026

- **NewSpace startups:** Blue Origin (backed by Jeff Bezos) and Rocket Lab are prominent newer entrants. Blue Origin is developing a heavy launcher (New Glenn) to rival Falcon Heavy, while Rocket Lab’s smaller Electron rocket has carved out the small-satellite niche, and the company is now developing a medium launcher, Neutron.
- **State-backed agencies:** China’s China Aerospace Science and Technology Corporation (CASC) (with the Long March rocket family) and Russia’s Roscosmos (with the Proton, Soyuz, Angara rockets) remain significant players in global launch capability. These government-run organizations have substantial launch infrastructure and serve domestic and allied markets, though they are not fully open to commercial customers due to geopolitical factors.

63: “ULA Unveils Its Future With the Vulcan Rocket Family,” Spaceflight Now, Stephen Clark, April 13, 2015.

Blue Origin

- **Market position:** After years of delay, Blue Origin has entered the orbital market with the New Glenn.
- **Vehicle:** New Glenn is a massive heavy-lift rocket (7-meter diameter).
- **Propulsion:** Powered by seven BE-4 Methalox engines on the first stage (the same engine used by Vulcan).⁶⁴
- **Capabilities:** It is designed to lift 45,000 kg to LEO. Like the Falcon 9, the first stage is reusable and lands on a moving ship at sea.

Economics: Blue Origin is aggressively pricing New Glenn (\$60 million–\$90 million—the going industry estimate) to undercut ULA and compete with Falcon Heavy. The company has secured a massive contract for Amazon’s Project Kuiper, serving as a primary launch provider alongside ULA and Arianespace.

United Launch Alliance (ULA)

- **Market position:** ULA is a joint venture between Boeing and Lockheed Martin. Historically the monopoly provider for US national security launches, it is now transitioning from its legacy Atlas V and Delta IV rockets to the new Vulcan Centaur.
- **Vehicle:** Vulcan Centaur.
- **Propulsion:** The first stage is powered by two BE-4 Methalox engines supplied by Blue Origin. The upper stage (Centaur V) uses RL10 Hydrolox engines for high-energy orbit insertions.⁶⁵
- **Status:** Vulcan entered service in early 2024. It is designed to meet the rigorous requirements of the US Space Force’s National Security Space Launch Phase 2 and Phase 3 contracts.

Reusability strategy: Unlike SpaceX, ULA launched Vulcan as an expendable rocket. They have proposed a concept called SMART, or Sensible Modular Autonomous Return Technology, which would detach the engine section after burnout and recover it via midair capture with a helicopter or parafoil. As of late 2025, this feature has not been operationally implemented,

leaving Vulcan at a cost disadvantage (about \$100 million per launch)⁶⁶ compared to Falcon 9 and New Glenn.

Arianespace

- **Market position:** Arianespace is the commercial arm of the ESA launcher program. It operates under a mandate to ensure sovereign European access to space.
- **Vehicle:** Ariane 6.
- **Technology:** An expendable launcher utilizing a Hydrolox core stage (Vulcain 2.1) and solid rocket boosters (P120C). It comes in two configurations: A62 (2 boosters) and A64 (4 boosters).⁶⁷
- **Challenges:** The Ariane 6 program faced years of delays, finally debuting in 2024–2025. It has been criticized for being technologically obsolete upon arrival due to its lack of reusability.

Economics: With a launch price estimated between €75 million and €115 million,⁶⁸ it relies on European institutional subsidies and block buys (like Amazon Kuiper) to remain solvent against SpaceX.

Rocket Lab

Market position: The premier dedicated small-satellite launch provider and the only publicly traded pure-play launch company. Rocket Lab commands about 50% of the global small launch market and is transitioning into a full-service space company (including launch, spacecraft, and components). 2025 revenue hit a record about \$600 million with 37% gross margins and a \$1.1 billion contract backlog.

Vehicles: The Electron rocket (operational) is a two-stage, partially reusable small-lift rocket delivering 300 kg to LEO at about \$7.5 million.⁶⁹ Electron saw 21 successful missions in 2025 across two launch sites (New Zealand and Virginia).⁷⁰ The Neutron rocket (in development) is a medium-lift, partially reusable rocket targeting 13,000 kg to LEO—designed to compete directly with Falcon 9. The maiden flight was delayed from late 2025 to mid-2026 following extended Archimedes engine qualification and a first-stage tank rupture during pressure testing.

64: "Ariane 6 Achieves Maiden Launch," [NASASpaceflight.com](#), Chris Bergin, July 9, 2024.

65: "Europe's Long-Delayed Flagship Rocket Is About to Launch for the First Time," [Ars Technica](#), Eric Berger, July 8, 2024.

66: "Rocket Lab Aims to Launch Electron With Nine Reusable Engines," [Payload](#), Ryan Duffy, March 14, 2024.

67: "Rocket Lab Successfully Launches for iQPS, Ends 2025 With 21 Launches and 100% Mission Success," [GlobeNewswire](#), December 21, 2025.

68: "Firefly Aerospace: Forging an End-to-End Path in the New Space Economy," [New Space Economy](#), June 30, 2025.

69: "Northrop Grumman Invests \$50 Million in Firefly Aerospace to Advance Medium Launch Vehicle Named Eclipse," [Firefly Aerospace](#), August 7, 2024.

70: "China's LEO Megaconstellations: Closing the Gap in the Global Space Race," [Frank Rayal](#), May 19, 2025.

Reusability: Electron has demonstrated first-stage recovery via parachute; operational reuse is not yet routine. Neutron features the “Hungry Hippo” integrated fairing—hinged halves that open to release the second stage and close for recovery alongside the first stage. The landing barge “Return on Investment” is under construction.

Economics: Rocket Lab is investing heavily in Neutron at the expense of near-term profitability (The Rocket Lab CFO noted the company would be profitable today without Neutron spend). The \$816 million Space Development Agency contract for 18 missile-warning satellites underscores the space systems diversification strategy. Electron profitability was achieved at 20 launches per year—a threshold now consistently exceeded. The NSSL Lane 1 program (a \$5.6 billion indefinite delivery/indefinite quantity contract) is a key target for Neutron.

Strategic assessment: Rocket Lab is the most credible emerging Western competitor to SpaceX in commercial launch. Electron dominates small-satellite use cases, and Neutron could capture a meaningful share of the medium-lift market. The risk is timeline execution: Neutron has slipped repeatedly, and Falcon 9’s continued cadence and cost improvements raise the bar. We view Rocket Lab as SpaceX’s most formidable long-term commercial competitor.

Firefly Aerospace/Northrop Grumman

Market position: Newly public NewSpace entrant Firefly Aerospace, with an IPO August 2025 after raising \$868 million at \$10 billion valuation, is pursuing an “end-to-end” space services model: launch, lunar landers, and orbital transfer vehicles. The company is now co-developing a medium-lift rocket with Northrop Grumman. With a market cap of about \$4 billion as of early 2026, the company is trading about 59% below IPO price.

Vehicles: Alpha, an operational, small-lift rocket, delivers 1,030 kg to LEO at about \$15 million per launch.⁷¹ However, launch history is mixed: 4-in-6 Alpha flights have experienced anomalies, including an April 2025 mission failure and a September 2025 ground testing explosion. Eclipse (formerly the Medium Launch Vehicle made in development with Northrop Grumman) is a medium-lift rocket targeting 16,000 kg to LEO with a 5-meter fairing. The first launch expected late 2026 from Wallops Island, Virginia.⁷²

Reusability: Eclipse is designed for return-to-launch-site (RTLS) propulsive first-stage landing. The company is targeting reusability by the sixth flight; initial flights are expendable.

Additional capabilities: The Blue Ghost lunar lander achieved the first fully successful commercial moon landing in March 2025 (including over 14 days of surface operations funded by a \$102 million NASA CLPS contract). Elytra orbital transfer vehicles provide “last-mile” satellite delivery. The company demonstrated 27-hour launch-on-demand capability for US Space Force in September 2023.

Strategic assessment: Firefly’s diversified model (including launch, lunar, and orbital services) is differentiated, and the Northrop Grumman partnership provides credibility and capital. However, Alpha’s 33% full-success rate is not viable for a commercial launch provider. Eclipse must succeed early to establish credibility. We view Firefly as a compelling concept with higher execution risk than Rocket Lab.

China’s commercial launch sector

Market position: China is the world’s second-largest launch nation by volume. CASC, the state-owned prime contractor, operates the Long March rocket family and conducts the majority of Chinese orbital launches. A growing ecosystem of commercial startups—LandSpace, iSpace, Galactic Energy, Space Pioneer—is pursuing reusability and cost reduction.

Vehicles: Long March family spans small- to heavy-lift rockets. Long March 5 targets 25,000 kg to LEO; Long March 9 is in development, targeting about 150,000 kg to LEO—competing with Starship. Commercial startups developing medium-lift reusable vehicles include LandSpace’s Zhuque-3, iSpace’s Hyperbola-3, Galactic Energy’s Pallas-1.

Reusability progress: Several Chinese commercial companies are making real progress, with hop tests and landing demonstrations completed. However, none have demonstrated routine booster recovery from an orbital mission. The gap in cumulative flight data versus SpaceX is measured in hundreds of missions.

71: “Jonathan’s Space Report,” Planet4589, Jonathan McDowell, n.d., accessed February 23, 2026.

72: “Starlink Progress Report 2025,” Starlink, n.d., accessed February 23, 2026.

Strategic constraints: International Traffic in Arms Regulations restrictions and geopolitical factors effectively exclude Chinese vehicles from Western commercial markets. China's ecosystem primarily serves domestic constellations: Guowang includes 13,000 satellites authorized and G60/Qianfan includes 1,296+ satellites.⁷³ Other services include support for government payloads and allied/nonaligned nations. State subsidies distort commercial pricing.

Strategic assessment: China is the only nation with the state-backed resources and industrial base to potentially replicate SpaceX's integrated model at scale. The Guowang constellation authorization signals intent to build a Starlink-equivalent. However, the commercial sector remains 5-10 years behind SpaceX on reusability, and geopolitical segmentation means Chinese and Western markets are effectively separate competitive arenas. We monitor China as the long-term systemic competitor, not a near-term commercial threat.

Russia/Roscosmos

Market position: Once a dominant commercial launch provider, Russia's commercial launch business has effectively

collapsed following the 2022 invasion of Ukraine and resulting Western sanctions.

Vehicles: Projects include Soyuz, a medium-lift rocket with about 8,200 kg to LEO; Proton a heavy-lift rocket with about 23,000 kg to LEO; and Angara a new modular family with limited flights. Soyuz remains operational for domestic and allied missions. Angara A5 is positioned as a Proton successor but has flown only a handful of times.

Current status: Sanctioned out of Western commercial markets. Arianespace terminated its Soyuz launch partnership in 2022. OneWeb's Soyuz-dependent launch schedule was disrupted, forcing a pivot to other providers. Russian launch cadence has declined significantly with the elimination of the Western commercial payload pipeline.

Strategic assessment: Roscosmos is no longer a relevant competitor in SpaceX's addressable commercial launch market. Russian capability now serves domestic programs, crewed ISS flights (under existing agreements), and launches for geopolitically aligned nations. We exclude Roscosmos from our competitive analysis of SpaceX's addressable market.

⁷³: "Jonathan's Space Report," Planet4589, Jonathan McDowell, n.d., accessed February 23, 2026.

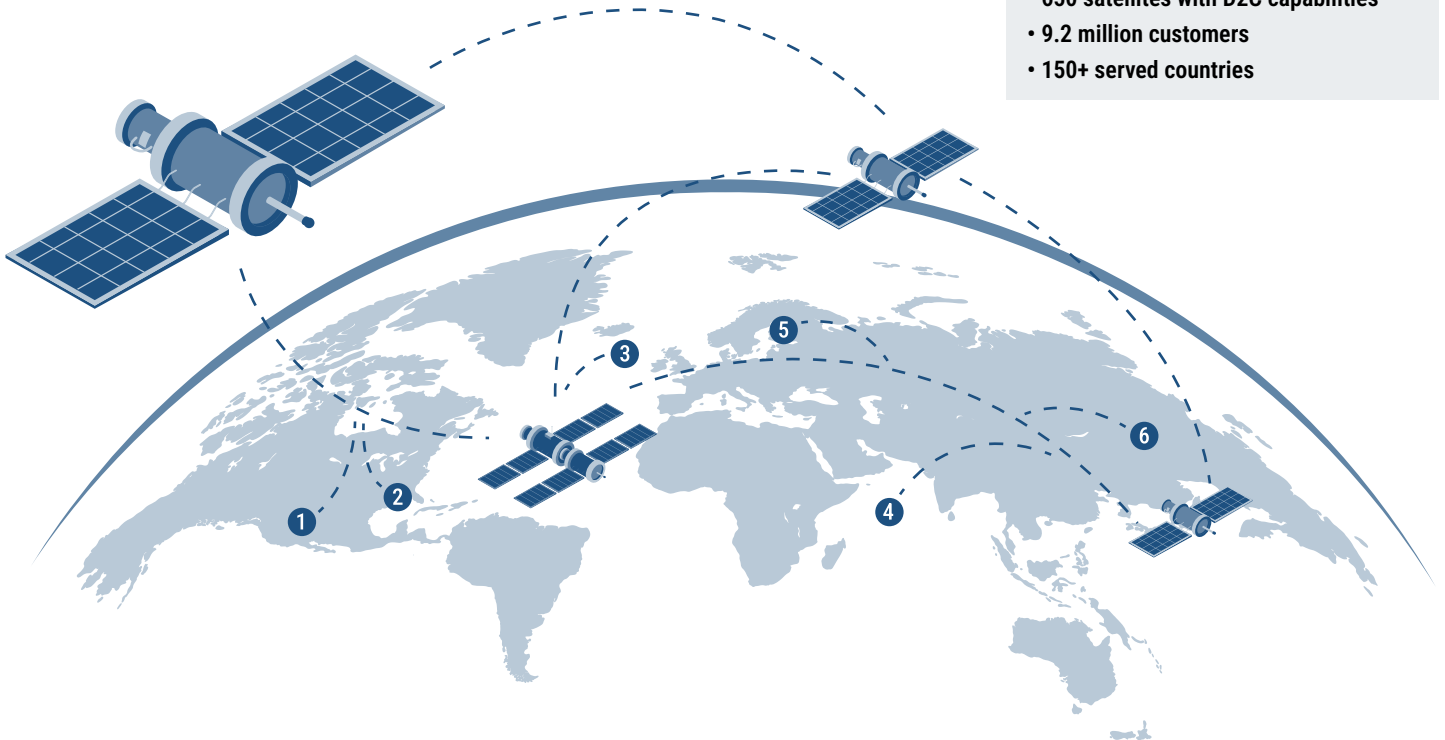
Starlink: A vertically integrated LEO connectivity platform at global scale







Starlink 101

Starlink is SpaceX's low Earth orbit satellite internet network, and, increasingly, the company's defining business. The

system connects consumer, commercial, and government users to broadband via a constellation of satellites communicating with ground gateways and user-side terminals. The constellation is the largest ever built, comprised of over 9,600 active satellites now serving a rapidly growing user base of over 9.2 million active users (doubling in 2025 from 4.6 million in 2024).^{74,75}

- 9,700 working Starlink satellites in orbit
- 650 satellites with D2C capabilities
- 9.2 million customers
- 150+ served countries



| | | | | | |
|---|--|---|--|---|--|
| <p>1</p>  | <p>Households: 80% of subscribers \$35-\$120/month</p> | <p>2</p>  | <p>Businesses (fixed): 3% of subscribers \$65-\$540/month</p> | <p>3</p>  | <p>Aviation: 1,400 subscribers \$2,000-\$10,000/month</p> |
| <p>4</p>  | <p>Maritime: 150 subscribers \$3,000-\$25,800/month</p> | <p>5</p>  | <p>Roam: 11% of subscribers \$50-\$165/month</p> | <p>6</p>  | <p>Direct to cell: 6M+ monthly customers through T-Mobile partnership</p> |

74: "FCC Approves 7,500 Additional Starlink Satellites," SpaceNews, Sandra Erwin, December 1, 2022.

75: "FCC Partially Grants SpaceX Gen2 Broadband Satellite Application," Federal Communications Commission, December 1, 2022.

Starlink’s ascent within SpaceX’s financial architecture has been swift and decisive. In 2025, we estimate the segment contributed approximately 70% of total company revenue and nearly 80% of EBITDA—figures that would have seemed implausible five years ago when the constellation had fewer than 1,000 satellites in orbit. The launch business remains strategically essential, but Starlink is now the primary earnings engine, the primary growth driver, and, increasingly, the primary geopolitical asset. Governments from Ukraine to rural Indonesia have come to treat Starlink access as critical infrastructure—a dimension of the business that creates both durable demand and policy complexity that SpaceX will need to navigate carefully as a public company.

View a full map of current satellites in Earth’s orbit at satellitemap.space.

Constellation scale and regulatory assessment

Starlink’s main advantage over its peers is the sheer scale of its constellation. As of February 2026, Starlink operates over 9,600 active satellites, and the Starlink satellite constellation is by far the largest in existence, as it now constitutes the majority of all active satellites—66% of the 14,132 operational satellites as of December 13, 2025.⁷⁶

Regulatory runway: SpaceX’s satellite deployment path through 2040 rests on three distinct FCC authorizations: the mature Gen2 constellation, dormant VLEO optionality, and the recently filed D2C-specific constellation.

Gen2 and Gen1 upgraded constellation (around 30k satellites):

On the authorization side, Starlink’s near-term expansion path is clear: In January 2026, the FCC gave SpaceX the green light to launch an additional 7,500 Gen2 satellites (V2 and V3),⁷⁷ on top of the original Gen2 authorization in 2022,⁷⁸ bringing the authorized Gen2 total to 15,000 (versus SpaceX’s broader about 29,988 Gen2 request).⁷⁹ The initial authorization for Gen1 satellites (known as V0.9, V1, and V1.5) allowed operation of

up to 4,408 Gen1 satellites. In August 2024, the FCC’s August 2024 ruling permitted SpaceX to upgrade its original 4,408 Gen1 satellites to Gen2 specifications due to enhancements in collision avoidance and beam-forming capabilities—we believe this approval is likely folded into the broader 15,000 Gen2 satellites already approved.⁸⁰

We estimate the company has about 50% of the authorization remaining, which should last through 2028 at the current launch cadence. While this creates regulatory risk in theory, we believe it is low, as the FCC’s stance has been to allow constellation growth to increase broadband access to underserved areas. Even as competitors ramp up the deployments of their satellite constellations, they are at least five years behind SpaceX assuming a similar growth cadence as Starlink.

V-band VLEO Constellation (7,500 satellites): In November 2018, the FCC approved a separate very low Earth orbit constellation of 7,518 satellites operating at 335-346 km altitude using V-band frequencies (37.5-50.2 GHz).⁸¹ However, SpaceX has deployed zero VLEO satellites in the seven years since authorization, instead incorporating V-band capability directly into Gen2 satellites operating at higher altitudes (525-550 km). We view VLEO as dormant optionality that could provide 15% to 20% upside if SpaceX later pursues ultra-low-latency urban coverage, but we exclude it from our base case given deployment inactivity and operational preference for higher-altitude Gen2 architecture.

MSS Constellation—D2C-specific hardware (15,000 satellites): In September 2025—immediately following the \$17 billion EchoStar spectrum acquisition—SpaceX filed for a purpose-built MSS constellation of 15,000 satellites optimized exclusively for direct-to-cell connectivity using newly acquired 2 GHz spectrum (AWS-4, AWS-H Block).⁸² Based on our interpretation of the request, this represents a separate orbital system from Gen2, with dedicated satellites, distinct spectrum rights, and a standalone regulatory application. The FCC opened review of the request in early December 2025,⁸³ but no approval timeline has been disclosed. We assign 50%

76: "Order and Authorization," Federal Communications Commission, January 8, 2026.

77: "FCC Approves Starlink First-Generation Upgrade Plan," SpaceNews, Jason Rainbow, November 27, 2023.

78: "FCC Grants SpaceX NGSO V-Band Authorization," Federal Communications Commission, November 19, 2024.

79: "SpaceX Eyes 15,000 More Satellites for Cellular Starlink, Hints at Carrier Plans," PCMag, Michael Kan, September 20, 2025.

80: "FCC Opens Review for SpaceX’s 15,000-Satellite VLEO Constellation," SatNews, December 9, 2025.

81: "Order and Authorization," Federal Communications Commission, January 8, 2026.

82: "Memorandum Opinion, Order and Authorization," Federal Communications Commission, December 1, 2022.

83: "Technology," Starlink, n.d., accessed February 23, 2026.

to 60% probability to approval by 2029-2030, reflecting higher regulatory uncertainty for a new system architecture versus expanding an already-approved Gen2 constellation. Critically, MSS approval is contingent on FCC authorization to use AWS-3/AWS-4 spectrum for satellite-to-handset operations; there is not a spectrum currently approved for this use case.

Regulatory risk assessment: While the FCC has consistently approved constellation expansions to expand broadband access, three risks warrant monitoring:

1. **MSS approval binary:** AWS-3/AWS-4 usage for satellite-to-handset functionality is not yet authorized and faces potential interference concerns with adjacent federal/weather-satellite bands.
2. **Orbital debris scrutiny:** the FCC explicitly deferred action on satellites above 600 km altitude pending further debris mitigation review.⁸⁴
3. **Competitive objections:** Viasat, Globalstar, and others have filed petitions citing spectrum/orbital resource foreclosure concerns,⁸⁵ though these have not materially delayed prior approvals. We view Gen2 expansion risk as low and MSS approval risk as medium-high.

Starlink technology architecture

Structural advantage over legacy technologies: It begins with orbital physics. Legacy satellite internet services rely on single geostationary satellites positioned roughly 35,786 km above Earth—a distance that produces round-trip data latency of 600+ ms, making real-time applications like video calls, gaming, and streaming functionally unusable. Starlink eliminates that constraint by operating a dense constellation of thousands of satellites at approximately 550 km altitude, reducing latency to around 25 ms (roughly 24x lower than GEO) and delivering median peak-hour download speeds of nearly 200 Mbps across US customers as of mid-2025, per Starlink’s own network data.

Starlink satellite technology: Each satellite is purpose-built around SpaceX’s core design philosophy—compact, manufacturable at scale, and continuously improvable through high-cadence deployment. Key systems include:⁸⁶

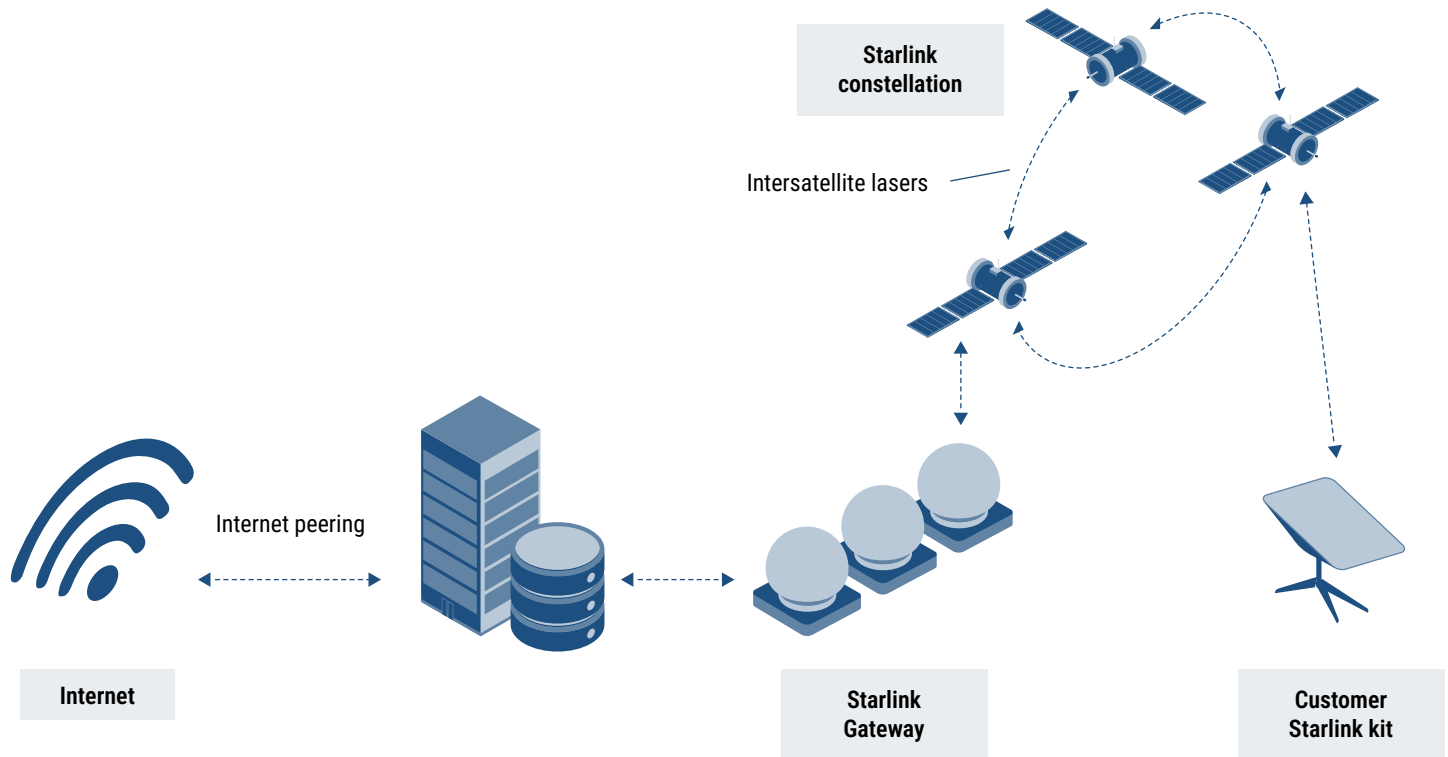
- **Flat-panel form factor:** A compact, flat-panel design minimizes volume and enables a dense launch stack, maximizing payload utilization on each Falcon 9 mission.
- **Advanced antenna array:** Five Ku-band phased-array antennas and 3 dual-band Ka/E-band antennas enable high-bandwidth connectivity across multiple frequency configurations simultaneously.
- **Optical intersatellite links (OISLs):** Space lasers relay hundreds of gigabits of traffic directly between satellites in orbit, routing data globally without requiring a ground station handoff at every hop—the single most important structural differentiator from legacy GEO operators.
- **Argon ion propulsion:** Krypton-powered ion thrusters on earlier generations have given way to argon on current satellites, enabling orbital maneuvering and active deorbit. Starlink remains the first argon-propelled spacecraft ever flown.
- **Autonomous collision avoidance:** Onboard systems draw on real-time conjunction data, and SpaceX publicly shares high-fidelity ephemeris data for its entire constellation—the only operator to do so.
- **Star tracker navigation:** Custom navigation sensors survey the stars to determine each satellite’s precise location, altitude, and orientation, enabling accurate beam placement.
- **Aero-neutral solar arrays:** Two aerodynamically neutral solar arrays enable faster on-orbit maneuvers; four reaction wheels in a hot-spare configuration provide agile, high-reliability attitude control.

84: "Network Update," Starlink, n.d., accessed February 23, 2026.

85: "Unofficial Starlink Global Gateways & PoPs," Google Maps, n.d., February 4, 2026.

86: "Starlink Max 100 Mbps Plans," SatelliteInternet.com, n.d., accessed February 23, 2026.

Starlink network infrastructure



Source: SpaceX

The technological moat: LEO physics and laser mesh

Starlink's technology value proposition is anchored in the physics of LEO. By operating at about 550km (versus 35,000km for legacy GEO), the network delivers "fiber-like" latency (at a median time of 25.7 milliseconds) and average uptime of 99.9%,⁸⁷ enabling real-time applications previously impossible via satellite.

However, the true structural advantage lies in the optical intersatellite links:

- **The mechanism:** Lasers allow satellites to route data dynamically between each other in a vacuum, rather than bouncing signals back to Earth immediately.
- **The commercial implication:** This creates a mesh network in space. Crucially, OISLs decouple revenue generation from ground station proximity. A satellite over the middle of the Pacific Ocean can now service a cruise ship (monetizable traffic) and laser that data to a gateway in Japan or the US, effectively raising the "utilization ceiling" of the entire fleet.

Gateway terminals

Starlink's ground gateways are the network's terrestrial "on-ramps/off-ramps." They provide the radio-frequency link between the satellites and the public internet/backbone, concentrating capacity and enabling peering, redundancy, and regulatory routing. In simple terms, a user device sends a data request to a satellite through a user terminal, which then searches for a gateway that can fulfill the request, sending the data to a satellite in view of the user terminal, to then be transferred to the user device.

In our view, gateways were more structurally critical in the early architecture, but their proliferation is less determinative today because intersatellite laser links let traffic hop across the constellation and exit through a more optimal gateway rather than requiring a gateway near every demand pocket. That said, we believe gateways remain strategically important as D2C ramps: D2C satellites effectively behave like a cell tower in space and still need robust ground egress into carrier core networks and terrestrial backhaul to scale quality of service.

⁸⁷: "Network Update," Starlink, n.d., accessed February 23, 2026.

In terms of footprint, Starlink claims it operates over 100 gateways in the US but does not disclose the international count. Based on community-gathered data, we estimate the company has over 160 gateways today.⁸⁸ We expect a deployment acceleration in the coming years to address the capacity demands stemming from a scaling D2C offering.

Production leverages SpaceX's core vertical integration

Leveraging SpaceX's deep experience with both spacecraft and on-orbit operations, Starlink's advanced satellites are produced and operated in Redmond, Washington, and Starlink's kits for customers are manufactured in Bastrop, Texas, all to deliver high-speed, low-latency internet all around the world.

A note on the difference between D2C and the regular Starlink Spectrum: The structural difference between D2C and regular broadband service is defined by a massive asymmetry in both spectrum availability and signal directionality. While Starlink's broadband service operates in the Ku- and Ka-bands with access to around 2,000 MHz of spectrum, the D2C service is constrained to a sliver of terrestrial spectrum (for example, T-Mobile's nearly 5 MHz PCS G-block)—a 400x disparity in raw "pipe" width.

Furthermore, the physics of the user terminal fundamentally alters the network's capacity ceiling. A broadband dish is a high-gain phased array that "stares" at a single satellite with extreme precision, allowing thousands of beams to coexist in the same cell without interference. In contrast, a smartphone is an omnidirectional receiver that "hears" the entire sky; to prevent co-channel interference, the satellite must project a signal that covers a vast geographic area, effectively blocking other satellites from reusing that same frequency nearby. Consequently, while broadband capacity scales via spectral depth and beam precision, D2C capacity is strictly limited by spatial geometry—a constraint that can only be overcome by lowering the constellation's altitude (VLEO) to physically shrink the beam footprint.

Subscription plans overview

Residential

- **Pricing:** \$50-\$120 per month depending on tier and region. Plans include Residential 100 Mbps (\$50 per month with limited availability in select US markets like Nebraska and parts of Minnesota and Nevada), Residential 200 Mbps/Lite (\$80 per month and available in areas with excess capacity), and Residential Max (\$120 per month with up to 400 Mbps with unlimited data and a free Mini router). Max subscribers also receive a 50% discount on roam add-ons.⁸⁹
- **Terminals:** Standard Kit (\$349, often waived under current promotions) and Mini Kit. As of early 2026, SpaceX is waiving hardware costs for most new customers across the US, the UK, Australia, Canada, New Zealand, and most of Europe—a significant shift from the prior \$500-\$600 upfront cost that was Starlink's biggest adoption barrier. In high-demand, congested areas, a one-time surcharge of up to \$1,000 applies and the \$349 standard kit price remains.
- **Typical customer:** Rural homeowners, remote workers, and households in areas underserved by fiber or cable. Starlink is price-competitive on Day 1 cost against terrestrial internet service providers in these markets once hardware is waived. Typical speeds are 100-200 Mbps with 20-40 millisecond latency.⁹⁰
- **Notable:** The move to subsidize hardware marks a strategic pivot from monetizing upfront hardware to maximizing subscriber growth and recurring revenue. We believe this shift signals that Starlink is prioritizing market penetration ahead of the IPO—trading near-term cash flow for subscriber count momentum that will anchor the valuation narrative. This strategy also enables a refurbishment cycle: SpaceX can test, clean, and reship returned units to the next subscriber at a fraction of the cost of manufacturing new hardware.

⁸⁸: "Business," Starlink, n.d., accessed February 23, 2026.

⁸⁹: "Roam," Starlink, n.d., accessed February 23, 2026.

⁹⁰: "Maritime News Week 36," SCG Global, n.d., accessed February 23, 2026.

Business (fixed-site)

- **Pricing:** \$65-\$2,510 per month depending on tier and priority data allocation (50GB to 2TB or more). Local and Global plan variants available. Speeds of 135-310 Mbps download. Once priority data is exhausted, speeds throttle to 1 Mbps—a meaningful constraint for data-intensive operations. Additional priority data available in 50 GB top-up blocks.⁹¹
- **Terminals:** Standard Kit (\$599) to High-Performance Kit (\$2,500), depending on throughput and environmental requirements.
- **Typical customer:** Remote offices, farms, hotels, construction sites, and enterprises requiring guaranteed performance tiers. Businesses with multiple simultaneous users who need consistent throughput above what residential plans deliver.
- **Notable:** Alaskan lodges have reported increased bookings after installing Starlink, as reliable guest Wi-Fi for photo and video sharing has become a competitive differentiator for remote tourism operators—a practical illustration of how Starlink creates economic value in markets where connectivity was previously a binding constraint on business viability.

Roam

- **Pricing:** Roam 100 GB is priced at \$50 per month (doubled from 50 GB in January 2026) and Roam Unlimited is priced at \$165/month. Service can be paused and resumed—a feature that makes Roam attractive for seasonal users. There are no long-term contracts.⁹²
- **Terminals:** Standard Kit (\$599) or Starlink Mini (\$599). The Mini is a standout product: It fits in a backpack, delivers 100 Mbps or more, and weighs under 2.5 pounds—the first truly portable satellite broadband terminal. It can be used anywhere Starlink is licensed.

- **Typical customer:** RV travelers, digital nomads, overlanders, seasonal workers, and temporary worksites. Roam appeals to mobile or semimobile users who need broadband on the move or at changing locations rather than at a fixed address.
- **Notable:** We are keeping our Roam subscriber growth projection conservative to account for potential churn from the deprecation of the cheapest plan of \$10 per month. One constraint worth flagging: Starlink enforces a two-month rule for unsupported countries—accounts risk suspension if used for more than two consecutive months in a country where Starlink is not licensed, limiting the total addressable market for international digital nomads and liveaboard cruisers.

Maritime

- **Pricing:** Global Priority plans range from \$250 per month for 50 GB to about \$2,000 per month for 2 TB, with a \$150 connection fee and cost structure of \$100 per 50 GB data block introduced in March 2025. Mobile Priority Unlimited for International Maritime Organization-registered commercial vessels was slashed from \$25,000 per month to \$2,500 per month in September 2025—a 90% reduction designed to accelerate merchant fleet adoption.⁹³ Additional priority data is priced at \$2 per GB after allocation exhausted.
- **Terminals:** The Flat High-Performance terminal (priced at \$2,500 or more), is IP56 water/dust resistant and rated for maritime environments. It has speeds of 40-220 Mbps download, 8-25 Mbps upload, and 20-40 millisecond latency.⁹⁴ Self-installation is required (SpaceX does not provide installation services); top deck mounting with a clear sky view recommended.
- **Typical customer:** Commercial shipping, cruise lines, oil & gas support vessels, superyachts, and fishing fleets. Worldwide coverage has been active since February 2023, with territorial waters subject to government approval. The system is not certified as a Safety of Life at Sea (SOLAS) service.

91: "Maritime," Starlink, n.d., accessed February 23, 2026.

92: "Royal Caribbean Group to Use SpaceX's Starlink in an Industry-First to Provide High-Speed Internet to Guests," PR Newswire, August 30, 2022.

93: "Carnival Corporation Rolls Out SpaceX's Innovative Starlink Across Entire Global Fleet, Rivaling the Best Wi-Fi Experiences Available on Land," PR Newswire, May 28, 2024.

94: "Starlink on Regent Seven Seas Cruises," Find Your Cruise, n.d., accessed February 23, 2026.

- **Notable:** Cruise industry adoption has been remarkably swift. Royal Caribbean completed fleetwide installation by Q1 2023, mounting six dishes per ship to power its VOOM internet service.⁹⁵ Carnival Cruise Line equipped all ships across multiple brands.⁹⁶ Norwegian Cruise Line Holdings deployed Starlink across NCL, Regent Seven Seas, and Oceania.⁹⁷ Passengers pay \$20 to \$27 per day (prepurchase) for premium streaming. In commercial shipping, EDT Shipmanagement, Anglo-Eastern (200 installations in 2023), and authorized distributors Marlink, Elcome, Tototheo, and Clarus are actively deploying across fleets.^{98, 99, 100} The 90% pricing cut for unlimited commercial plans signals SpaceX's intent to make Starlink the default connectivity standard for ocean-going vessels.

Aviation

- **Pricing:** Not publicly disclosed for commercial airlines; enterprise contracts are individually negotiated. Published private aviation plans range from about \$2,000 per month (20 GB) to about \$10,000 per month (unlimited).¹⁰¹ Reports indicate commercial airline pricing of about \$120 per seat per month for basic service, plus about \$120 for live TV. Boeing 737 installations run about \$300,000; larger widebodies, such as the 787 Dreamliner, are priced at about \$500,000 per aircraft.
- **Terminals:** The Aviation Performance Kit, priced at \$2,500 or more, is capable of 400 Mbps with gigabit speeds planned for 2026. It is IP68/IP69K rated, operating from -40° Celsius to 60° Celsius, rated for 270 kilometer per hour winds with a 10-year saltwater lifespan. The installation time takes approximately 8-10 hours. For general aviation, the Starlink Mini works as a portable electronic device requiring no supplemental type certificate.
- **Typical customer:** Commercial airlines, business aviation, and general aviation operators. Speeds of 40-220 Mbps are typical (with over 400 Mbps reported by Qatar Airways). 20-30 millisecond latency is typical, with global coverage including oceans and polar regions via intersatellite laser links.¹⁰²
- **Notable:** Starlink Aviation is rapidly becoming table stakes for commercial carriers. The deployment roster reads like a who's who of global aviation: United Airlines leads with over 300 aircraft equipped (early 2026), targeting full fleet (over 1,000 aircraft) by the end of 2027—the largest single deal in in-flight connectivity.¹⁰³ Lufthansa Group has committed 850 aircraft across seven brands.¹⁰⁴ IAG Group (British Airways and Iberia) is deploying across over 500 aircraft, with British Airways offering free gate-to-gate service starting 2026.¹⁰⁵ Emirates signed 230 aircraft (December 2025).¹⁰⁶ Qatar Airways completed all 777s 50% ahead of schedule, reporting over 400 Mbps.¹⁰⁷ Southwest Airlines, Alaska Airlines, Korean Air's Hanjin Group (Asiana, Air Busan, Jin Air), Gulf Air, and Singapore Airlines have all signed on. Critically, most carriers are offering the service free to passengers—using connectivity as a loyalty differentiator rather than a direct revenue line.

The one notable holdout narrative is budget short-haul. Ryanair CEO Michael O'Leary has publicly stated the only way Starlink works on budget short-haul is "if you give it away for free,"¹⁰⁸ citing the about 2% fuel cost increase for equipment his fleet currently does not carry. We view this as a temporary position—once competitors offer free Wi-Fi as standard, passenger expectations will force adoption even on budget carriers.

95: "Tototheo Maritime Supports EDT Shipmanagement Towards a More Competitive and Reliable Connectivity With Starlink," Tototheo Maritime, n.d., accessed February 23, 2026.

96: "Anglo-Eastern Installs Starlink Maritime," The Digital Ship, n.d., accessed February 23, 2026.

97: "Starlink Maritime Slashes Unlimited Data Plan Price by 90%," Splash247, Sam Chambers, July 5, 2023.

98: "Aviation," Starlink, n.d., accessed February 23, 2026.

99: "Qatar Airways to Introduce Starlink Wi-Fi on Boeing 777," AeroTime, Milda Jankauskaitė, October 17, 2024.

100: "United Airlines Adding Starlink Wi-Fi," One Mile at a Time, Ben Schlappig, January 5, 2026.

101: "Lufthansa Group to Roll Out Starlink In-Flight Wi-Fi Across Global Fleet," Aerospace Global News, December 18, 2025.

102: "Lufthansa Group to Adopt Starlink Inflight Connectivity," Economy Class & Beyond, Gavin Bonshor, January 13, 2026.

103: "Emirates Set to Operate the World's Largest Starlink-Enabled International Wide-Body Fleet," Ada Derana Biz English, January 10, 2026.

104: "Qatar Completes Starlink Installation Programme Ahead of Schedule," Aviation Business News, January 22, 2026.

105: "Ryanair CEO Michael O'Leary Thinks Airlines Will Offer Free Onboard Wi-Fi to Customers After Feud With Elon Musk," Benzinga, Shanthi Rexaline, January 14, 2026.

106: "Jonathan's Space Report," Planet4589, Jonathan McDowell, n.d., accessed February 23, 2026.

107: "Starlink Progress Report 2025," Starlink, n.d., accessed February 23, 2026.

108: "The Global Satellite Market Is Forecast to Become Seven Times Bigger," Goldman Sachs, n.d., accessed February 23, 2026.

Competitive environment

Market overview

Starlink is the dominant force in LEO satellite broadband, operating about 9,600 active satellites (about 66% of all operational satellites globally)¹⁰⁹ and serving 9.2 million subscribers across over 150 countries.¹¹⁰ The global satellite internet market is estimated at \$10 billion to \$15 billion in 2025, with Goldman Sachs projecting the addressable broadband-from-space market reaching \$108 billion by 2035 in a base case and up to \$457 billion in a bull scenario.¹¹¹ The LEO satellite communications market specifically is expected to grow from about \$16 billion in 2025 to about \$55 billion by 2035.

Starlink's structural advantages—vertical integration (satellite design through network operations), internal launch costs a fraction of competitors', and a constellation 15x larger than the next competitor—have established a lead measured in years, not quarters. Competitors are differentiated primarily by orbit strategy, target customer segment, and the depth of their balance sheets:

- **LEO-native broadband competitors:** Amazon Leo (formerly Project Kuiper) and Eutelsat OneWeb are building or operating LEO constellations to compete with Starlink directly. Amazon is the only competitor with the financial resources to match Starlink's capital intensity (over \$10 billion committed), while OneWeb is commercially live but at a fraction of the scale.
- **GEO/MEO incumbents are pivoting to broadband:** Viasat and SES operate large geostationary and MEO fleets and are investing in next-generation capacity (ViaSat-3 and O3B mPOWER) to defend enterprise and mobility verticals where they hold established customer relationships.

- **Niche/emerging players:** Telesat Lightspeed targets enterprise-only markets (5G backhaul and military projects) with a smaller, purpose-built LEO constellation. AST SpaceMobile is pursuing D2C service with a fundamentally different satellite architecture (large-aperture phased arrays) and partnerships with AT&T and Verizon.

Amazon Leo (Project Kuiper)

Market position: Amazon has placed a \$10 billion constellation bet and is the only competitor with the financial firepower to match Starlink's capital intensity at scale. The service launch is expected in 2026 across the US, Canada, the UK, Germany, and France, with 26 countries targeted by year-end. The project was rebranded from "Project Kuiper" to "Amazon Leo" in November 2025, signaling maturation from an R&D project to a core business line.

Constellation: 3,236 LEO satellites authorized across three orbital shells (590-630 km).¹¹² As of February 2026, about 212 production satellites deployed across eight launches. The FCC license requires 1,618 satellites operational by July 2026—a deadline Amazon is unlikely to meet, with an extension request filed in January 2026.¹¹³

Launch strategy: 92 rocket launches contracted across ULA (Atlas V and Vulcan), Arianespace (Ariane 6), Blue Origin (New Glenn), and SpaceX (Falcon 9). Over 20 launches are planned for 2026.¹¹⁴ Launch supply—not satellite production—is the binding constraint, per Kuiper Government Solutions president Ricky Freeman: "My biggest problem right now is not the satellites—it is launch."¹¹⁵

Technology: Custom "Prometheus" baseband system-on-chip processing operates at up to 1 Tbps per satellite. Optical intersatellite links operate at 100 Gbps. There are three terminal variants: compact standard (under 11 inches, up to 400 Mbps), ultra-portable (about 7 inches, up to 100 Mbps), and enterprise (up to 1 Gbps). Dielectric mirror film reduces astronomical reflectivity.¹¹⁶

109: "Project Kuiper," eoPortal Directory, n.d., accessed February 23, 2026.

110: "Amazon Seeks FCC Extension for Project Kuiper," GeekWire, Alan Boyle, January 14, 2026.

111: "Project Kuiper: Satellite and Rocket Launch Progress Updates," About Amazon, n.d., accessed February 23, 2026.

112: "Amazon Project Kuiper: 'Our Problem Is Not Satellites, It's Launch – If You Had a Slingshot, Now We'd Probably Use It,'" Space Intel Report, February 2024.

113: "Amazon's Project Kuiper Gears Up to Go Against Starlink With Three New Satellite Antennas," autoevolution, Daniel Patrascu, May 19, 2023.

114: "Project Kuiper Mission Overview," YouTube, Amazon, n.d., accessed February 23, 2026.

115: "Combined General Meeting Convening Brochure," Eutelsat Communications, September 28, 2023.

116: "Airbus Awarded Eutelsat Contract to Build OneWeb Low-Orbit Satellites," Airbus, December 12, 2024.

Strategic edge: AWS integration is the key differentiator—Amazon claims significantly reduced cloud latency via co-located ground stations,¹¹⁷ positioning Kuiper as an edge networking extension for AWS enterprise customers. Amazon’s existing distribution network, Prime ecosystem, and over 200 million household relationships provide a consumer acquisition channel Starlink lacks. The government division partnered with L3Harris for defense and military markets.

Economics: Estimated \$16.5 billion to \$20 billion for total first-generation capital expenditure (launch contracts alone are about \$10 billion). There is no revenue to date. Amazon can fund constellation losses from core e-commerce/AWS cash flows indefinitely, making this a patient-capital competitor—the one rival SpaceX cannot financially outlast.

Eutelsat OneWeb

Market position: Eutelsat OneWeb is The only LEO broadband constellation that is fully deployed and commercially operational (besides Starlink). Eutelsat completed its merger with OneWeb in September 2023, creating a multiorbit operator combining 34 GEO satellites with 648 LEO satellites. It is publicly traded on Euronext Paris.

Constellation: 648 Gen-1 LEO satellites at about 1,200 km altitude across 12 orbital planes, providing pole-to-pole global coverage.¹¹⁸ Design life extends to about 2027-2028. In December 2024, Airbus was contracted to build 100 satellites for constellation continuity.¹¹⁹ Gen-2 plans scaled back from the original 6,300-satellite vision to a about 300-satellite upgrade focused on service continuity. The Gen-2 capital expenditure budget was reduced by about \$1.3 billion to about \$2.7 billion.¹²⁰

Technology: Ku-band user links and Ka-band gateway links. There are no optical intersatellite links on Gen-1 (but they are planned for Gen-2). Speeds can go up to 195 Mbps download and 32 Mbps upload in served areas. Latency is about 70 milliseconds—higher than Starlink’s about 25 milliseconds due to higher orbital altitude.

Go-to-market strategy: Exclusively B2B/wholesale distribution through telecom partners—no direct consumer sales. OneWeb connectivity revenue grew 59.7% in H2 2025. Target verticals include government/defense, telecom backhaul, maritime, aviation, and enterprise.

Strategic assessment: OneWeb’s fundamental challenge is scale. At 648 satellites versus Starlink’s 9,600, capacity per coverage area is structurally limited. The scaled-back Gen-2 approach trades growth ambition for financial discipline—rational given Eutelsat’s about 4x net debt/EBITDA leverage, but it effectively concedes the consumer broadband market to Starlink and Amazon Leo. We view OneWeb as a durable niche player in enterprise/government, not a viable Starlink competitor at scale.

Viasat

Market position: Viasat is the largest traditional satellite broadband operator, with \$4.5 billion in annual revenue (for fiscal year 2025)¹²¹ and a fleet of GEO satellites serving consumer, aviation, and government markets. It completed the \$7.3 billion acquisition of Inmarsat in 2023, adding maritime and aviation connectivity assets.

Constellation: GEO-based architecture. ViaSat-3 constellation targeting about 1 Tbps capacity per satellite—the highest-capacity GEO satellites ever built. First ViaSat-3 (serving the Americas) launched in 2023 but experienced a deployment anomaly limiting capacity.¹²² Two additional ViaSat-3 satellites (serving EMEA and Asia-Pacific) are in production.¹²³ The legacy fleet includes ViaSat-1, ViaSat-2, and Inmarsat’s GEO assets.

Technology: Ka-band high-throughput GEO satellites with spot-beam frequency reuse. Consumer terminals are priced at \$299 (or \$14.99 per month as a rental)¹²⁴ versus Starlink’s \$349-\$599. There are no data caps on premium plans. Professional installation is included. Latency of 600 milliseconds or more is inherent to GEO orbit—a structural disadvantage for real-time applications.

117: "Eutelsat's Plan to Extend OneWeb's Satellite Lifespan," BC Satellite, n.d., accessed February 23, 2026.

118: "Quarterly Results," Viasat Investor Relations, n.d., accessed February 23, 2026.

119: "Viasat-3 Americas Satellite Faces Deployment Issue," Reuters, Joey Roulette, July 12, 2023.

120: "Viasat-3," Gunter's Space Page, n.d., accessed February 23, 2026.

121: "CAF II Satellite Internet," Viasat, n.d., accessed February 23, 2026.

122: "Quarterly Results," Viasat Investor Relations, n.d., accessed February 23, 2026.

123: "Telesat Contracts MDA as Prime Satellite Manufacturer for Its Advanced Telesat Lightspeed Low Earth Orbit Constellation," Telesat, August 11, 2023.

124: "Indian Rocket Launches BlueBird 6 Satellite for AST SpaceMobile," Space.com, Brett Tingley, January 3, 2026.

Customer base: 2,230 commercial in-flight connectivity aircraft were in service as of 2023. There are over 60,000 connected sites in Brazil. The company boasts strong defense/government business (about 25% of revenue).¹²⁵ Maritime connectivity comes through Inmarsat's established global fleet.

Strategic assessment: Viasat's GEO architecture delivers high throughput per satellite but cannot match LEO latency or global coverage density. The ViaSat-3 deployment anomaly was a significant setback. We view Viasat as increasingly defensive—protecting incumbent aviation and government contracts while LEO competitors erode its consumer and maritime positions. Immediate focus is cash generation and debt reduction.

Telesat Lightspeed

Market position: The company is a Canadian satellite operator pursuing a smaller, enterprise-focused LEO constellation designed for high-value verticals rather than mass-market consumer broadband.

Constellation: 198 LEO satellites (revised down from earlier, larger plans). Manufacturing contracted to MDA, a Canadian launch services provider. The launches are scheduled for 2026, with commercial service targeted for 2027.¹²⁶

Technology: Optical intersatellite links for global mesh networking. The high-throughput design targets about 50-millisecond latency. The company is focused on enterprise-grade applications: 5G backhaul, aviation Wi-Fi, maritime, and military communications.

Key customers: Canadian Armed Forces (including Arctic communications). Mobile network operators for 5G backhaul. The company has chosen not to compete for mass-market consumer subscribers.

Strategic assessment: Telesat's 198-satellite plan avoids the capital trap of trying to out-scale Starlink and instead targets

high-ARPU enterprise niches. The risk is execution timing: If Lightspeed slips further, Starlink and Amazon Leo's enterprise products will occupy the market. We view Telesat as a niche player with limited impact on Starlink's trajectory.

AST SpaceMobile

Market position: The most architecturally ambitious D2C competitor to Starlink's direct-to-cell service. AST's approach uses the largest commercial phased-array antennas ever deployed in space (about 64 square meters), enabling broadband-grade connectivity directly to unmodified smartphones.

Constellation: BlueBird satellites, including five launched late 2024, with BlueBird 6 launched December 2025, featuring a 3x larger aperture than predecessors. The company targets a range of 45-60 satellites operational by end of 2026.¹²⁷

Technology: Large-aperture phased arrays deliver 10 GHz bandwidth and up to 120 Mbps per cellphone—5G data speeds.¹²⁸ They are designed for broadband-grade D2C from the start, versus Starlink's text-first, progressive capability approach.

Partnerships: AT&T, Verizon, Vodafone, Rakuten.¹²⁹ These carrier relationships provide spectrum access and distribution but also create dependency—AST does not own its own spectrum (unlike SpaceX after its EchoStar acquisition).

Strategic assessment: AST's satellite architecture is technically impressive but faces three structural disadvantages versus Starlink: First, its dependence on third-party launches via Blue Origin, which creates schedule risk and cost exposure; second, no owned spectrum, leaving it as a wholesale provider; and third, at such low scale, the company has no internal cost advantage for the full constellation build-out. We view AST as a credible D2C alternative with a narrowing window to achieve commercial scale before Starlink's 100x capacity upgrade and dedicated 15,000-satellite D2C constellation deployment.

¹²⁵: "ASTS's BlueBird 6 Is the Largest Satellite for Direct-to-Device Connectivity," Market Chameleon, January 5, 2026.

¹²⁶: "AST SpaceMobile Secures Strategic Investment From AT&T, Google and Vodafone," Business Wire, January 18, 2024.

¹²⁷: "Indian Rocket Launches BlueBird 6 Satellite for AST SpaceMobile," Space.com, Brett Tingley, January 3, 2026.

¹²⁸: "ASTS's BlueBird 6 Is the Largest Satellite for Direct-to-Device Connectivity," Market Chameleon, January 5, 2026.

¹²⁹: "AST SpaceMobile Secures Strategic Investment From AT&T, Google and Vodafone," Business Wire, January 18, 2024.



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