

MoatPeak Independent Research

SpaceX: Valuing the Final Frontier of AI Infrastructure



Figure 1. The future of critical AI infrastructure is not on Earth

Key takeaway: We frame the SpaceX thesis as an attempt to extend AI infrastructure beyond terrestrial constraints, with orbital compute as the long-term ambition.

1. Executive Summary: The Orbit Shift in AI Infrastructure

SpaceX's upcoming Initial Public Offering is not just another big tech listing. It has the potential to reshape how the world builds, powers, and connects AI infrastructure. (see Figure 2).

The SpaceX IPO is a Thesis on Orbital Infrastructure, Not Just Rockets.

The market's focus on a **\$1.5 trillion valuation** misses the underlying story. This is not about launching satellites; it is a strategic bid to control the next generation of AI compute infrastructure, moving it from terrestrial constraints into orbit. We see this thesis resting on three core pillars.



Figure 2. The SpaceX IPO as an orbital infrastructure thesis

Key takeaway: In our view, the opportunity is best understood as a three-pillar thesis: Starlink as a cash engine, launch dominance, and orbital compute optionality.

The company is inching toward a possible 1.5 trillion dollar valuation. To make sense of a number that large, investors need to look beyond rockets and satellites and ask a different question: what is SpaceX really trying to become? (see Figure 3).

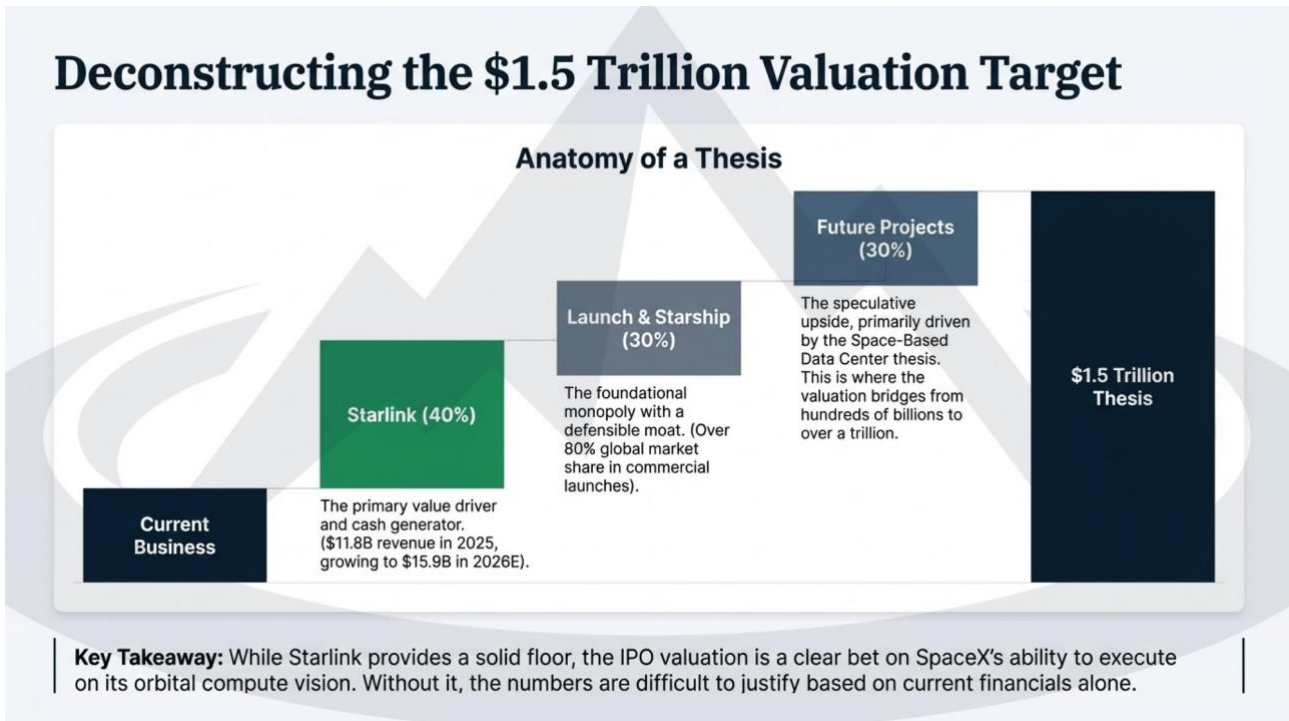


Figure 3. Deconstructing the \$1.5 trillion valuation target

Key takeaway: At the valuation being discussed, investors are paying for more than rockets and satellites; the premium depends heavily on validating the orbital compute vision.

Our answer is that SpaceX is working toward a new kind of infrastructure platform. Its long-term goal is to move part of the world's compute into orbit, building space-based data centers that tap constant solar power and use the natural cold of space for cooling. In other words, it wants to become a core utility for the AI era.

Three forces are driving this moment.

First, Starlink is now a real business, not an experiment. It is on track for about 11.8 billion dollars in revenue in 2025, with more than 8.5 million subscribers as of the third quarter of 2025. That gives SpaceX a steady and growing cash engine to fund more ambitious projects. (see Figure 4).

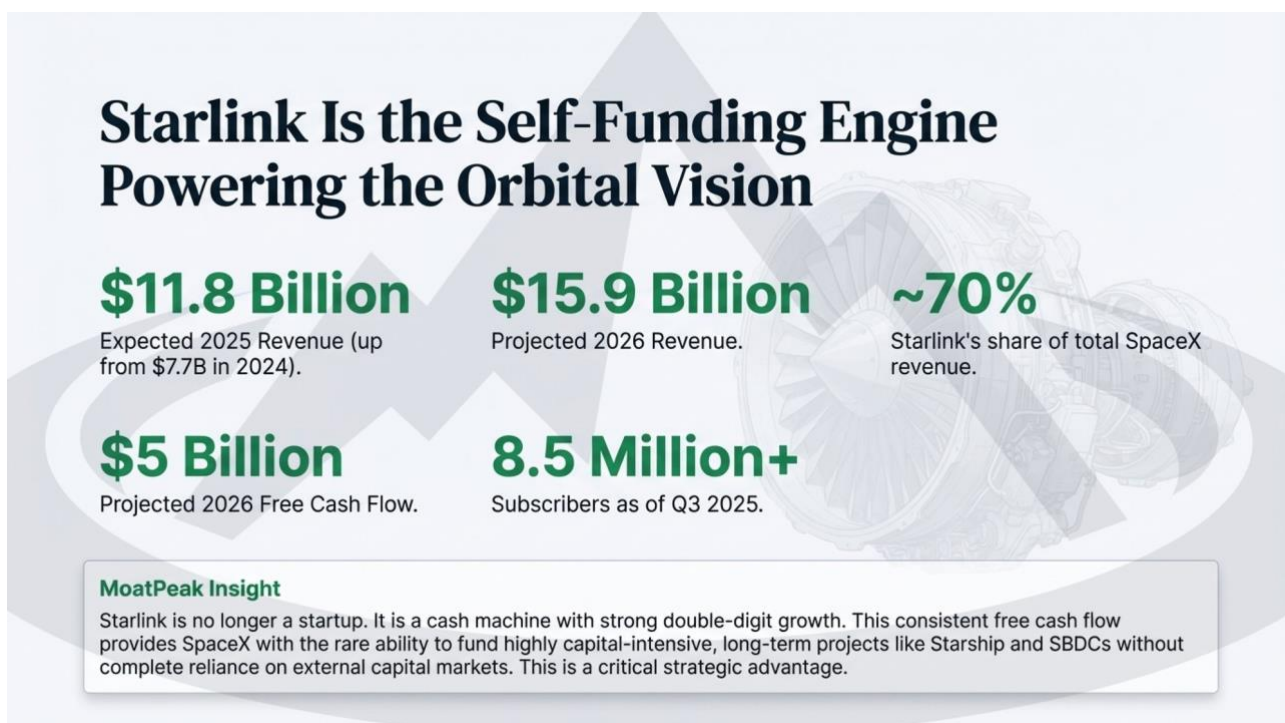


Figure 4. Starlink as the self-funding engine

Key takeaway: Starlink is on track for about \$11.8bn revenue in 2025 with more than 8.5m subscribers, providing funding capacity for longer-dated projects.

Second, SpaceX has turned launch into its home field. It already handles more than 80 percent of the commercial launch market. Starship, once fully operational, is designed to cut launch costs dramatically. That will not just improve margins; it will also make it harder for any competitor to catch up. (see Figure 5).

A De-Facto Monopoly on Earth's Access to Orbit



Dominant Market Share: In 2025, SpaceX conducted over 140 Falcon 9 launches, accounting for more than **80% of the global commercial launch market.**



The Cost Moat: Reusability has fundamentally altered the capital cycle. Competitors (Blue Origin, ULA, Arianespace) face years of delays and higher costs, reinforcing SpaceX's leadership.



Starship: The Moat Widener: Starship promises to reduce the cost of launching a kilogram to orbit by another **10x**. This doesn't just lower costs; it enables entirely new business models, starting with the mass deployment of orbital data centers.

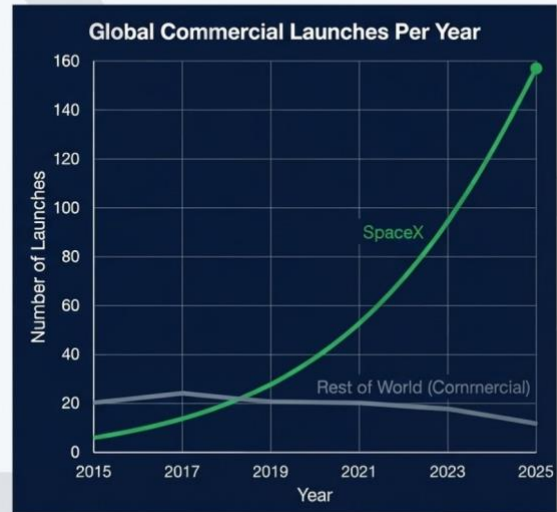


Figure 5. A de-facto monopoly on access to orbit

Key takeaway: SpaceX already handles more than 80% of the commercial launch market; if Starship cuts costs as designed, the moat can widen further.

Third, the world's AI infrastructure is running into physical limits on Earth. Data centers are hitting constraints on land, power, and cooling. Space offers an alternative. In orbit, sunlight is constant and free, and the vacuum of space provides a natural thermal sink. Space-based data centers are a bold idea, but they are also a logical response to AI's exploding appetite for energy and compute. (see Figure 6).

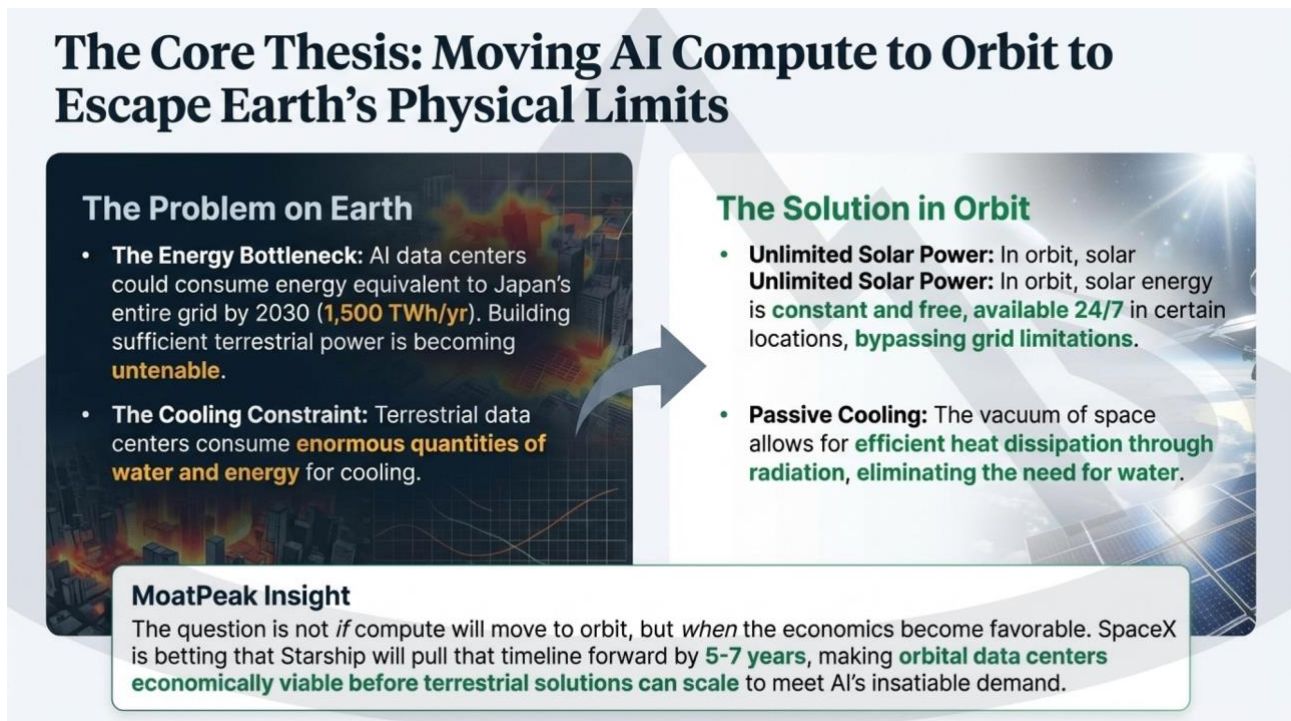


Figure 6. Moving AI compute to orbit to escape physical limits

Key takeaway: Terrestrial data centers are running into land, power, and cooling constraints; orbit offers constant solar power and a natural thermal sink.

Our core view is that the high valuation being discussed is not purely speculative. It rests on a combination of a dominant launch platform, a strong and growing connectivity business in Starlink, and a credible, though unproven, path to a new infrastructure category in orbit.

The rest of this note looks at what that means for U.S. markets, global competition, key related stocks, major risks, and realistic outcomes for investors.

2. Impact on U.S. Markets: The Gravitational Pull of a Trillion-Dollar IPO

An IPO that aims to raise 30 to 35 billion dollars at a potential valuation of 1.5 trillion will not sit quietly in the background. It will attract global capital, move benchmarks, and force investors to rethink how they allocate money to high growth technology and aerospace.

Tesla, Alphabet, and Nvidia are likely to sit close to the center of this gravity well.

For Tesla, the link is not only about a shared founder. There is a credible possibility of a SPARC structure that gives Tesla shareholders priority access to the SpaceX IPO. That idea, originally proposed by investor Bill Ackman, would reward long-term Tesla investors and formally tighten the narrative of a Musk-led ecosystem. If it happens, it could lift sentiment around Tesla itself, because owning Tesla

would feel more like owning a piece of a broader technology platform than a single car and energy company.

Alphabet's connection is more direct and financial. Back in 2015, it put 1 billion dollars into SpaceX. If the IPO values SpaceX at 1.5 trillion dollars, that stake could be worth roughly 150 billion, a 150x return. Beyond the optics, this would give Alphabet a fresh pool of capital that it can reinvest into its own AI roadmap, including its orbital data center project, Suncatcher. In effect, Alphabet would be funding its future by cashing in on a prescient past decision.

Nvidia plays a different but equally critical role. Any realistic vision of space-based data centers depends on very advanced AI chips, and the most likely candidate today is Nvidia's Blackwell family. If SpaceX successfully builds orbital compute capacity, it will create a new, dedicated demand source for Nvidia. In that sense, Nvidia remains the classic pick-and-shovel provider in the AI boom. Whether AI runs in traditional data centers or in orbit, Nvidia's hardware is likely to sit at the heart of it.

Taken together, the SpaceX IPO is not just about one new stock listing. It is likely to influence how investors think about Musk-linked companies, large tech platforms, and the entire AI hardware supply chain. (see Figure 7).

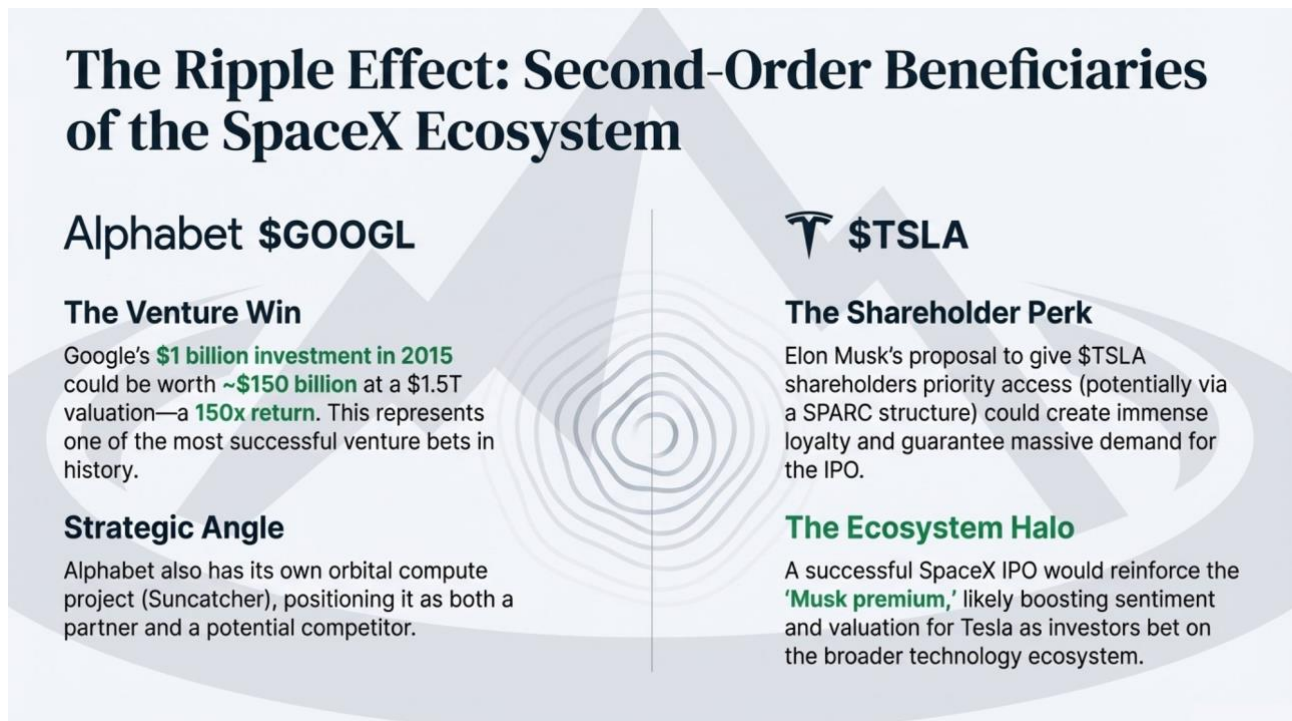


Figure 7. Second-order beneficiaries of the SpaceX ecosystem

Key takeaway: We expect the IPO to influence positioning across the adjacent value chain, with Tesla, Alphabet, and Nvidia closest to the gravity well.

3. Global Market Implications: A New Space Race for Capital and Control

The SpaceX story is unfolding in a global arena. Its IPO is not just a funding event. It is part of a broader contest over who builds and controls the infrastructure that underpins the digital economy.

Traditional launch players have lost ground. ArianeGroup in Europe and ULA in the United States have struggled with delays and lower launch cadence. SpaceX's quick iteration cycles and vertically integrated model have widened the gap.

Blue Origin is the clearest commercial challenger. It remains years behind in terms of operational scale, but it took a meaningful step forward when New Glenn flew successfully in January 2025. Blue Origin is also exploring orbital data center concepts of its own. It is not yet a peer in terms of volume or capability, but it is no longer purely theoretical competition.

The more important long-term rival is China. The Chinese government is backing an aggressive program to launch a megaconstellation of around 13,000 satellites and to build its own orbital AI clusters. That effort is not driven only by profit motives. It is part of a strategic push for technological sovereignty and control over key infrastructure.

In that context, SpaceX is part of a new kind of space race. Instead of racing to plant flags on the Moon, the contest is about who controls the networks, the launch systems, and the compute platforms that will quietly run much of the world's economy.

4. Key Tickers and Sector Analysis: The AI Infrastructure Value Chain

To make sense of the opportunity around SpaceX, it helps to think about an ecosystem rather than a single company. SpaceX sits at the intersection of launch, connectivity, AI compute, and capital markets. Around it are incumbents, suppliers, and adjacent plays.

Oracle is a useful contrast. It represents the traditional, terrestrial approach to AI infrastructure: very large, centralized data centers that require heavy upfront capital. Oracle is in a peak investment phase, with around 50 billion dollars in capital expenditure, negative free cash flow on the order of 10 billion dollars per quarter, and debt approaching 99.9 billion dollars. This is a model that front-loads risk and relies on scale to work. (see Figure 8).

The 'Oracle Problem': Why Terrestrial AI Infrastructure is a Capital Furnace

Metric	Oracle's Terrestrial Buildout	SpaceX's Orbital Thesis
Capital Expenditure	\$50 Billion planned for FY2026.	\$30-40 Billion IPO to fund SBDC chip procurement and deployment.
Free Cash Flow	Negative \$10 Billion in a recent quarter due to CapEx.	FCF positive from Starlink, funding initial R&D internally.
Key Constraint	Physical limits: Land, power grid access, construction permits, labor.	Launch capacity and chip supply. Starship is designed to solve the first.
Market Reaction	Stock punished despite a \$523B order book. Investors fear value destruction.	Market is pricing in future success, creating a high valuation premium.

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Oracle's challenges reveal the market's growing anxiety about the capital intensity of terrestrial AI. SpaceX offers a **radically different model**: scalable, distributed, and independent of earthly infrastructure. If successful, it circumvents the very problems that are causing investors to penalize companies like Oracle.

Figure 8. The 'Oracle problem' and the terrestrial capital furnace

Key takeaway: Oracle illustrates the capital intensity of terrestrial AI buildouts; SpaceX's modular, launch-by-launch scaling is a different, potentially more flexible model.

SpaceX is pursuing something more modular. Its orbital infrastructure can, at least in theory, be scaled launch by launch. Each mission can add capacity. If that model works, it may prove more flexible and ultimately more capital efficient.

Nvidia, again, is central to both paths. Whether compute stays on Earth or some of it migrates to orbit, the same basic truth holds: modern AI runs on high-end accelerators, and Nvidia currently dominates that segment. It is the underlying supplier to almost every serious AI infrastructure strategy.

For investors who cannot buy SpaceX directly, Tesla and Alphabet offer partial access. Alphabet gives a clear financial link through its equity stake. Tesla offers potential access through a SPARC-like structure if it is implemented, as well as broader exposure to the Musk ecosystem.

Rocket Lab is a smaller but relevant player. It is one of the few pure-play, public launch companies. It does not compete directly with Starship on heavy lift, but it benefits from the general expansion of the space economy and from investor interest in the sector when SpaceX is in focus.

Seen as a whole, these companies map out an investable theme at the intersection of AI and space.

5. The Gray Rhinos: Obvious but Underpriced Risks

In our work, we look for what we call gray rhinos: large, visible risks that investors are aware of in theory, but often discount in practice until it is too late.

We see two such risks hanging over the AI infrastructure rush. (see Figure 10).

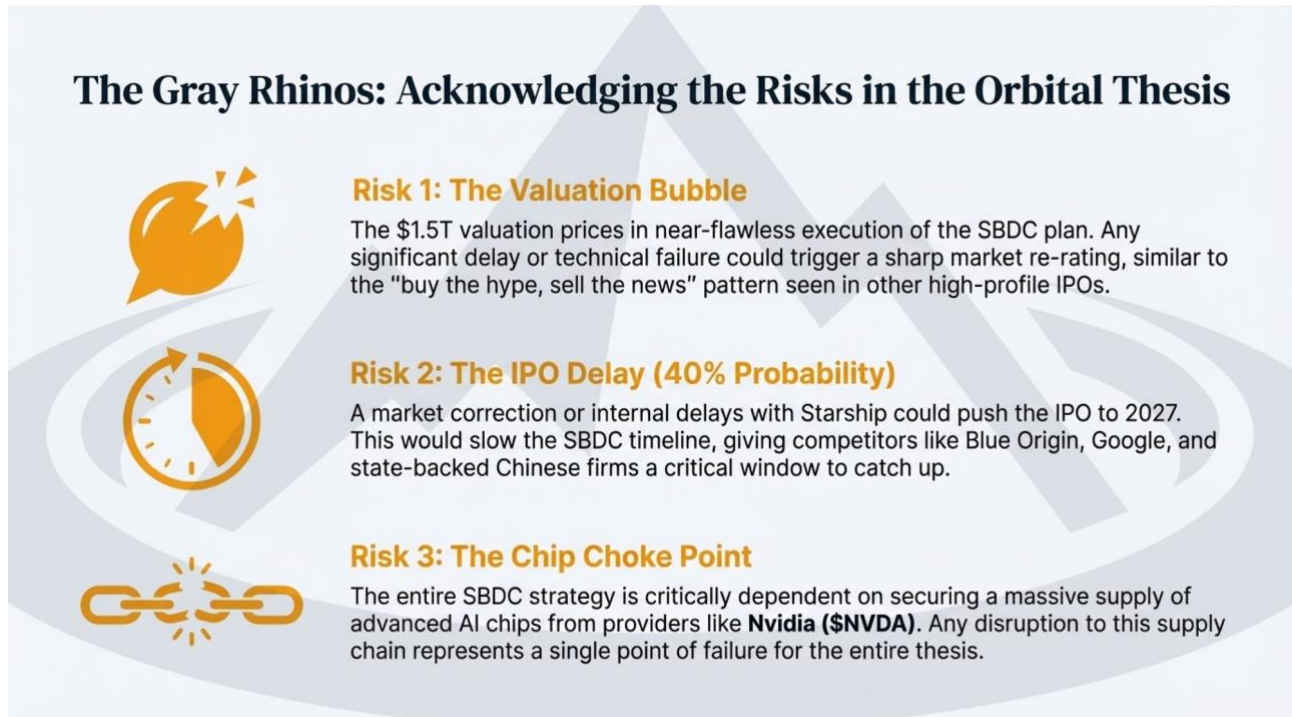


Figure 10. Gray rhinos in the orbital thesis

Key takeaway: The most visible risks are an AI infrastructure bubble and a chip bottleneck, given how dependent orbital compute is on scarce advanced AI silicon.

The first is the risk of an AI infrastructure bubble. Across the sector, companies are pouring enormous sums into data centers and related assets long before the revenue is fully proven. Oracle’s spending is just one clear example of this pattern. If demand for AI services grows more slowly than expected, or if pricing power weakens, a lot of these investments could look overbuilt in hindsight. That would not only hit individual companies; it could trigger a broader rerating of AI-related infrastructure and hardware names.

The second risk is the chip bottleneck. SpaceX’s strategy for orbital data centers currently depends on Nvidia. That concentration creates a single point of failure. Global demand for advanced AI chips already exceeds supply. Any disruption in production, export rules, or Nvidia’s own allocation decisions could slow SpaceX’s rollout and push revenue and profit expectations further into the future.

In simple terms, this is not just a race to build rockets or data centers. It is also a race to secure enough silicon.

6. Our Scenarios: Mapping the Trajectory of the SpaceX IPO

Given the number of moving parts, we use scenario analysis to frame the range of likely paths for the IPO.

In our base case, the IPO goes ahead in the middle of 2026, most likely in June or July. SpaceX raises roughly 30 to 35 billion dollars at a valuation around 1.5 trillion. The new capital goes toward accelerating Starship, expanding the Starlink v3 constellation, and starting to procure chips for early space-based data center prototypes between 2026 and 2027. In this path, SpaceX validates the basic concept of orbital compute and secures a clear first-mover advantage. We assign this outcome a probability of about 60 percent. The main indicators to watch are equity market conditions in the first half of 2026, continued successful Starship test flights, and tangible progress on any SPARC structure for Tesla shareholders. (see Figure 11).

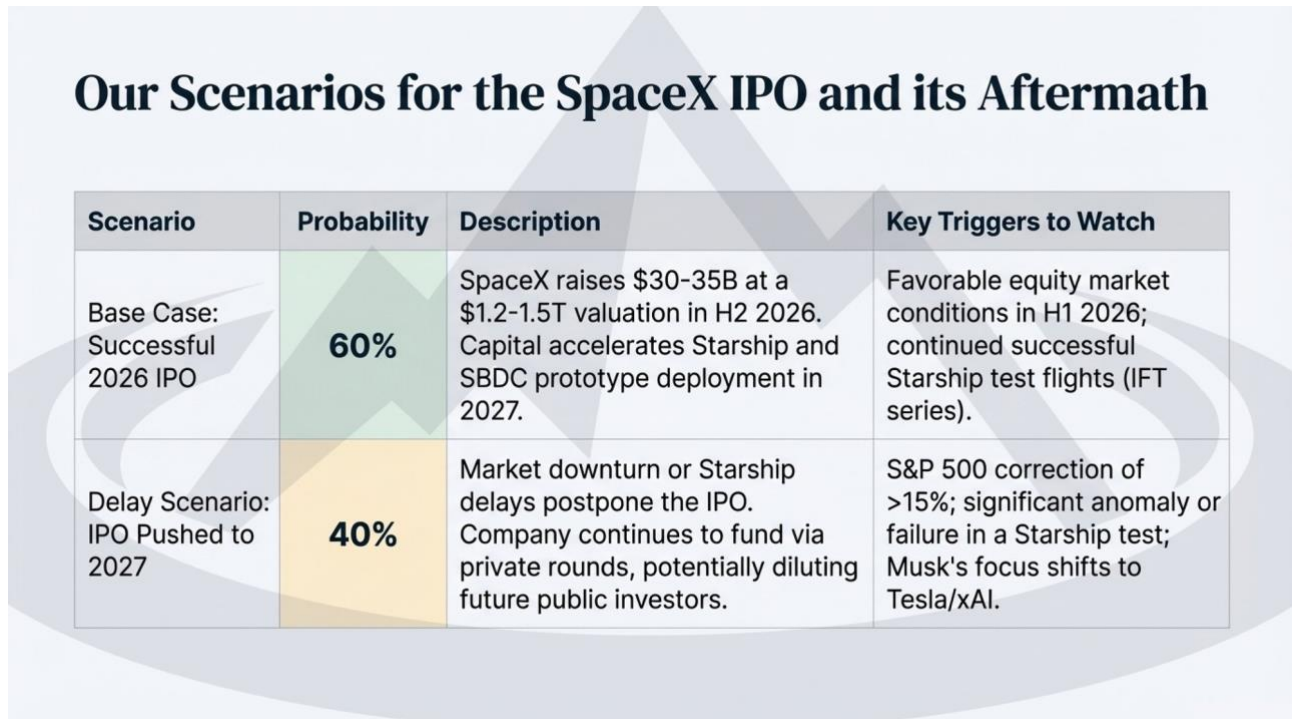


Figure 11. Scenarios for the SpaceX IPO and its aftermath

Key takeaway: Our framework assigns roughly 60% probability to a mid-2026 IPO and 40% to a delay into 2027+, with Starship progress and market conditions as key triggers.

In the alternative case, market volatility or technical setbacks push the IPO into 2027 or later. That delay slows the build-out of orbital data centers into the 2029 to 2030 window and gives competitors such as Blue Origin or newer players like Starcloud more time to develop. SpaceX would likely have to rely on extra private rounds in the meantime, which could dilute future public shareholders. We assign this scenario a probability of about 40 percent. Signals here include a major market correction in early 2026, failed or delayed Starship tests, or a visible shift in Elon Musk's attention and resources toward Tesla or xAI.

These timelines matter, but they sit on top of a deeper question: what is SpaceX worth today on fundamentals?

7. MoatPeak Insight: The Geopolitical Moat and the Valuation Challenge

To build a grounded view of SpaceX, we look at it through two lenses. One is strategic: its role as a geopolitical asset. The other is financial: what its current businesses and near-term projects are actually worth.


On the strategic side, SpaceX is becoming a kind of private, global utility for power projection. It is already deeply embedded in the United States' ability to access and operate in space. (see Figure 9).

Beyond a Company: SpaceX is Becoming a Geopolitical Monopolist

Control Over Critical Infrastructure: SpaceX controls not just launch, but also a global communication network (Starlink) vital for military and civilian use, as demonstrated in Ukraine.

A Strategic National Asset: In the technological race against China, SpaceX's speed and innovation make it an indispensable partner for the U.S. government, receiving implicit support through contracts and favorable regulation.

The Future Digital High Ground: Control over orbital data centers would give SpaceX and, by extension, the United States, an unprecedented strategic advantage in intelligence and data processing.



MoatPeak Insight

Investing in SpaceX is a proxy for a bet on U.S. technological supremacy in the 21st-century space race. This geopolitical moat is far more durable than any single technological advantage and provides a significant backstop to the investment thesis.

Figure 9. The geopolitical moat

Key takeaway: Strategically, SpaceX's combination of launch dominance and Starlink connectivity makes it difficult to replicate and increasingly embedded in Western space access.

It dominates Western commercial launch, with more than 80 percent market share. Starlink has proven its value as a communications lifeline in conflict zones, most notably in Ukraine, and as a tool for U.S. and allied militaries. If SpaceX successfully adds space-based data centers, it will sit across the full stack: launch and orbital logistics, global connectivity, and compute.

That combination is extremely difficult to replicate. In practice, only a few nation-states could attempt to build something comparable from scratch.

On the financial side, our valuation work points to a more sober conclusion. A simple sum-of-the-parts model, which breaks out Starlink, launch, and Starship and then adds platform and AI optionality premiums, suggests a fair value that is well below both the current private market valuation and the 1.5 trillion IPO figure being discussed.

In a conservative case, we arrive at a total value of about 255 billion dollars. Our base case comes in around 356 billion. Even in an optimistic case that assumes strong execution and favorable conditions, we reach roughly 502 billion. (see Figure 12).

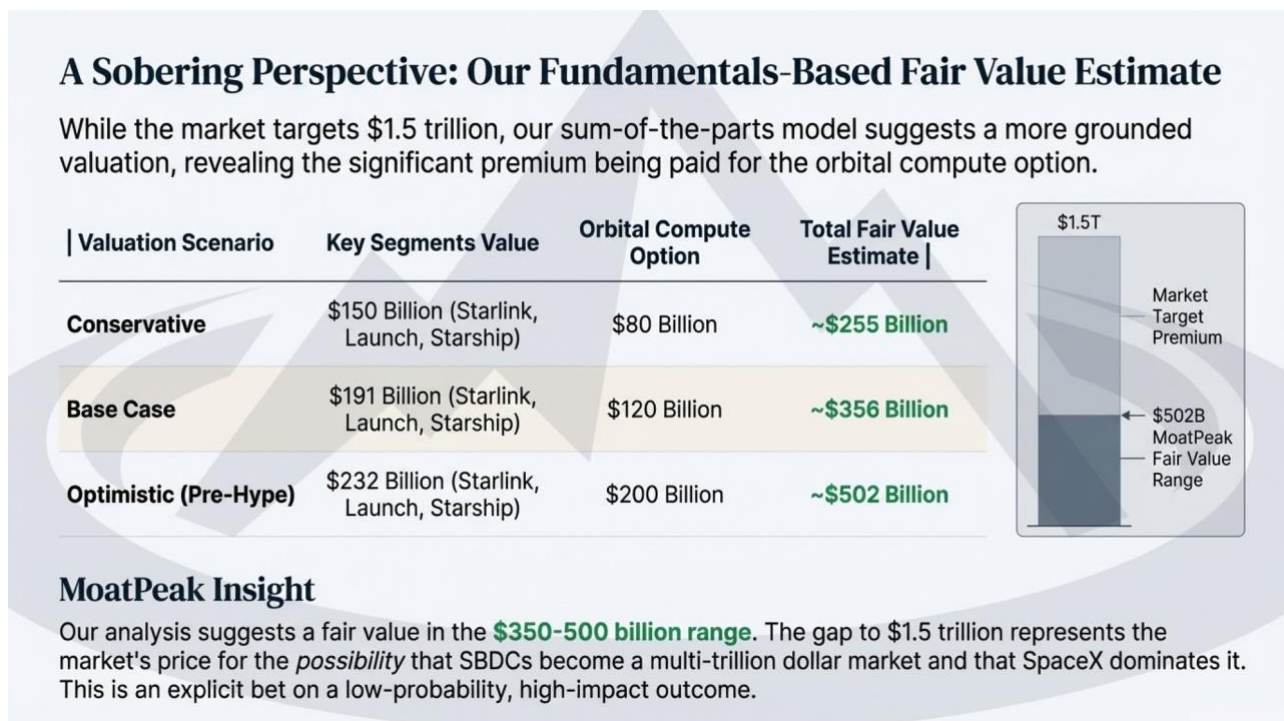


Figure 12. Fundamentals-based fair value estimate

Key takeaway: Our sum-of-the-parts work implies a ~\$255bn conservative, ~\$356bn base, and ~\$502bn optimistic value range, highlighting how much current pricing depends on orbital compute success.

These estimates highlight a key point. The current private valuation around 800 billion, and any push toward 1.5 trillion at IPO, assumes that the space-based data center vision not only works, but becomes a major and profitable business within a reasonable time frame. Almost all of the upside beyond our fundamental estimates is tied to that specific project.

From our perspective, today's implied valuations already bake in a lot of tomorrow's hoped-for success.

8. Actionable Framework for the Retail Investor

Rather than giving a simple yes or no on buying the IPO, we think it is more useful to give individual investors a way to decide whether this fits their own situation and temperament. (see Figure 13).



Figure 13. Investor playbook: how to approach the opportunity

Key takeaway: We think this is best suited to investors with a decade-long horizon; given valuation uncertainty and long-dated execution, position sizing discipline matters.

The type of investor best suited to a direct SpaceX position is someone who can think in decades, not quarters. A 10 year or longer time horizon is more realistic than a two or three year trade. This is a high risk, high potential reward investment that sits at the intersection of deep technology, heavy infrastructure, and geopolitics.

Short term speculators may find that the early price action is driven more by sentiment and hype than by fundamentals. After the initial excitement fades, the stock will trade on a slower drumbeat of launch cadence, Starlink metrics, capex plans, and progress on orbital compute. That is rarely a smooth path.

For those who do want to participate, access will be the first question. Tesla shareholders should watch closely for any confirmed SPARC structure or similar mechanism that gives them priority. Other retail investors will likely have to wait for trading to open and buy in the secondary market.

Position sizing is equally important. Given the uncertainty around the valuation and the dependence on long dated projects, we think most investors should limit SpaceX exposure to a single digit percentage of their overall portfolio, typically in the 5 to 10 percent range at most. That keeps the upside meaningful while containing the downside if things do not go as planned.

Patience is the final ingredient. The key value drivers, such as full Starship deployment and profitable orbital data centers, will take years to realize. A realistic minimum holding period is five years. Many investors will need to be willing to hold for longer if they truly want to see the full thesis tested.

For those who like the theme but cannot or do not want direct exposure, there are other paths. Alphabet offers a direct financial link through its SpaceX stake and its own AI and orbital ambitions. Nvidia is the core hardware supplier that benefits from AI infrastructure growth in almost any scenario. Tesla is a way to participate in the Musk ecosystem more broadly and may, depending on structure, provide indirect access to SpaceX. Rocket Lab offers a smaller, publicly traded launch and space infrastructure play. (see Figure 14).



Figure 14. Alternative paths to gain exposure beyond the IPO

Key takeaway: For thematic exposure without direct SpaceX ownership, the narrative highlights Alphabet (stake), Nvidia (hardware), Tesla (ecosystem access), and Rocket Lab (pure-play).

SpaceX's IPO will force markets to put a number on something hard to value: the future of space-based AI infrastructure. The company brings a rare mix of proven execution and extreme ambition. It also carries very real execution, concentration, and valuation risks. (see Figure 15).

The MoatPeak View: The Future is in Orbit, But It Comes with Earthly Risks

The SpaceX IPO is more than a financial event; it is a referendum on the future of critical global infrastructure. The company is building an unassailable moat, fortified by a monopoly on launch and a symbiotic relationship with the U.S. government.

The Central Question: The **\$1.5 trillion valuation** is not based on today's cash flows but on the conviction that SpaceX will solve AI's terrestrial energy problem by moving it to space. This thesis is ambitious and fraught with execution risk.

Final Thought: Our analysis suggests a fair value is significantly lower, meaning investors today are paying a steep premium for a ticket to orbit. The question for every investor is not whether space is the future, but whether they are prepared to pay the price for the journey.

Figure 15. MoatPeak view: orbital upside with earthly risks

Key takeaway: SpaceX combines rare execution with extreme ambition, but valuation and execution risks are material; the key question is whether today's price compensates for the uncertainty.

Most investors already accept that AI will reshape the economy. SpaceX adds a further twist: some of that future may be built off planet. The real question for each investor is not whether that is possible, but whether it is worth paying today's price for a seat on that journey.

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