

SNIntelligence FROM **SPACE**NEWS

Understanding the SpaceX-Era Economy

Part 1: Launch Supremacy

July 21, 2025



Introduction 3

- ✦ SpaceX Growth Timeline 5

Commercial Dynamics in Launch 6

- ✦ Falcon Launch Rate 6
- ✦ Estimating SpaceX's Earth-Based Business via 2040 7
- Piggybacking the industry 7
- ✦ Notable Launchers 9
- Europe scrambles for strategic autonomy 10
- ✦ Global Orbital Attempts 11
- Challengers bet big on reusability 12

Government Dynamics in Launch 14

- ✦ American Priorities for NASA 15
- SpaceX solidifies role as Pentagon's preferred launcher partner 16
- Musk-Trump fallout underscores political volatility and shaky U.S. space policy foundations 16
- Strong U.S. support fuels SpaceX growth 18
- Europe's new space strategy charts path to independence amid shifting geopolitics 19
- Starship's scale and speed could redefine global launch (again) 20
- ✦ Starship Stats 20
- ✦ SpaceX Mission to Mars 21

On the cover: A Falcon 9 booster touches down after launching satellites for broadband rival OneWeb. (Credit: SpaceX)

Published originally on July 21, 2025

Written by Jason Rainbow
Edited by Mike Gruss

© 2025 SpaceNews. All rights reserved. No part of this report may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the copyright owner, except in the case of brief quotations and academic or noncommercial use permitted by copyright law, or where material has been clearly attributed to and remains the copyright of other creators. All third-party content, including text, images, or data, remains the intellectual property of the original authors or rights holders.

SpaceX has risen from scrappy startup to the space sector's 800-pound gorilla in little more than two decades, defying early skepticism about its rockets and business model to become a primary force reshaping the industry.

Established launch companies initially looked on with incredulity when SpaceX began advocating reusable rockets, but those feelings soon turned to awe as the company proved it could dramatically cut launch costs with its Falcon boosters.

By routinely landing and re-flying rockets, SpaceX validated CEO Elon Musk's insistence that access to space was too expensive and could be made far cheaper through reusability.

The payoff has been profound. Lower costs and an aggressive launch cadence have enabled SpaceX to build its global low Earth orbit (LEO) broadband constellation Starlink into a profitable enterprise.

Starlink has even overtaken SpaceX's legacy launch business to become the company's main growth engine, according to Novaspace and other boutique consultancy firms.

Musk said June 3 that SpaceX is projecting \$15.5 billion in revenue for 2025, of which \$1.1 billion would come from NASA contracts.

Novaspace has a slightly more optimistic \$15.8 billion forecast for 2025, attributing the difference to the timing of National Reconnaissance Office milestone contract payments and Starlink-related revenues, after estimating SpaceX made \$11.8 billion in total revenue in 2024.

Rapid expansion is reshaping communications and beyond

Of the record 134 launches SpaceX made in 2024, 89 were dedicated to expanding Starlink. That constellation numbers roughly 8,000 satellites in orbit with more than six million customers across 140 countries, territories and other markets.

This success has upended expectations in LEO satellite communications, an arena where ventures ranging from Iridium and Globalstar to relative newcomer OneWeb have been unable to avoid bankruptcy, let alone turn a profit.

Similar to early reactions in the launch market, legacy broadband operators in geostationary orbit (GEO) shrugged off suggestions Starlink could encroach on their businesses, not least because SpaceX initially focused only on residential consumers.

However, SpaceX's sprawling LEO network has steadily expanded far beyond households into lucrative government and enterprise markets, reshaping the satellite communications landscape as it goes.

Next up for the company is the fledgling direct-to-device market, where SpaceX is using Starlinks to extend the coverage of terrestrial mobile operator partners beyond the reach of their cell towers.

Most recently, SpaceX has outlined how Starlink could provide positioning, navigation and timing (PNT) services, joining others developing commercial alternative and complementary GPS services.

Pressure is on competitors to adapt and keep pace

Rivals continue to claim differentiation from SpaceX in launch and communications, emphasizing niche strengths such as government backing, regional focus and multi-orbit architectures beyond LEO to avoid head-to-head battles with the company's massive scale.

These competitors have also rushed to strike strategic deals, such as French GEO operator Eutelsat's acquisition of OneWeb to fast-track a multi-orbit strategy that many legacy players now see as vital in a LEO-driven future.

Still, SpaceX's presence continues to loom large across their earnings calls and industry conferences.



Still in development and facing its share of setbacks, SpaceX's massive Starship continues its push to leave rivals further behind through rapid iteration and bold ambition.

The company's proven ability to rapidly innovate and vertically integrate — building everything from rockets to satellites to user terminals in-house — has pressured the rest of the industry to reinvent business models or risk irrelevance.

In some cases, would-be rivals have opted to partner with SpaceX. Legacy satellite operators such as SES, which recently acquired geostationary satellite rival Intelsat, have pooled their capacity with Starlink for U.S. military, cruise ships and other users.

And while SpaceX brings fierce competition, its high-profile successes have also raised the overall visibility of space-based services. Thanks to Starlink, satellite broadband has become a household name, shedding its old image as a patchy, last-resort internet option and attracting customers who might never have considered a space-based alternative.

But as SpaceX shows no signs of slowing down, the launch sector must now grapple with how the company's "megaton class" Starship rocket promises to upend the market all over again.

This analysis dives into SpaceX's drive to extend its lead in the launch market, and how rivals are adjusting to meet evolving commercial ambitions and government priorities amid a returning Trump administration, shifting geopolitical dynamics and Musk's sway in Washington.

SpaceX Growth Timeline



2002 to 2008

◀ SpaceX is founded in 2002 by **Elon Musk** post PayPal success. After three failed attempts, the small Falcon 1 rocket reaches orbit on its fourth try in 2008 — the first privately developed liquid-fueled launcher to do so. This breakthrough secures SpaceX initial NASA contracts and investor confidence.

2010 to 2012

The larger Falcon 9 rocket debuts in 2010, designed from the outset with eventual reusability in mind. In 2012, SpaceX's Dragon capsule becomes the first privately developed spacecraft to berth with the International Space Station. These milestones marked the beginning of SpaceX's transition from a promising startup to a trusted NASA partner.

2015

SpaceX achieves a landmark in rocket reusability when a Falcon 9 first-stage booster lands back on Earth post satellite launch. This silences many skeptics and paves the way for routine booster recovery in subsequent missions. It sparks a paradigm shift in how the launch industry approaches cost and cadence.

2017 to 2018

SpaceX re-flies a previously landed Falcon 9 booster in 2017, proving that orbital rockets can be refurbished and relaunched. In 2018, SpaceX's Falcon Heavy launches successfully, expanding capabilities with the world's most powerful operational rocket at the time. By this point SpaceX begins regularly reusing boosters multiple times, mostly for its workhorse Falcon 9 rocket, dramatically improving turnaround and economics.



2019

SpaceX begins deployment of its **Starlink** constellation to mark its entry into satellite communications. Regular Starlink launches ramp up quickly thereafter, solidifying SpaceX's dual role as both launch provider and satellite operator.

2020

SpaceX launches astronauts for the first time, restoring U.S. crewed launch capability after nearly a decade of having to rely on Russia's Soyuz. Meanwhile, Starlink rolls out a public beta service, bringing high-speed internet to remote areas for the first time.

2021–2022

Starlink's growth accelerates rapidly. By late 2021, Starlink has roughly 100,000 users and continues to expand service internationally. SpaceX's launch cadence also reaches new highs, with 31 Falcon 9 launches in 2021 and 61 in 2022, with the latter setting an all-time record for any rocket in a calendar year. In 2022, Starlink demonstrates its strategic value by providing crucial connectivity during the Ukraine conflict.

2023–2024

▲ SpaceX's **Starship** program achieves its first integrated test flight in April 2023, followed by a second test later that year, marking the dawn of a fully reusable super-heavy launcher that Musk hopes one day could ferry people to Mars. Analysts also say SpaceX attained its first full year of profitability in 2023, thanks to surging Starlink revenues. By late 2024, Starlink's subscriber base exceeds four million users as SpaceX's launch cadence continues to shatter industry records.

2025

The Falcon family surpasses 500 flights and SpaceX aims even higher. The company set a goal of roughly 180 launches in 2025 and a higher cadence of Starship tests. Starlink remains the world's largest satellite network with nearly 7,500 Starlink satellites deployed as of early 2025, easily dwarfing all other constellations.

Commercial Dynamics in Launch

Key Takeaways

- ♦ Falcon 9's cost to SpaceX is likely around \$15 million thanks to reuse, a fraction of the retiring and expendable Atlas V, the former U.S. workhorse.
- ♦ Transporter rideshare missions as low as \$325k disrupt smallsat economics. Spaceflight Inc., once a leader in third party satellite launch aggregation, exited that market and was sold to Firefly after losing ties with SpaceX.
- ♦ SpaceX's launch cadence also remains unmatched, with more orbital launches in 2024 than the rest of the world combined.

SpaceX's launch output is unprecedented and continues to accelerate.

The company completed a staggering 134 Falcon 9 and Falcon Heavy launches in 2024, up from 96 in 2023 and accounting for more than half of all worldwide launch attempts that year.

For 2025, SpaceX aims to break its world record with as many as 180 launches.

A decade ago, just a few dozen missions a year would have been a major achievement for any single launcher, but SpaceX has now normalized a new reality of rapid, routine access to orbit.

"Elon [Musk] is like, 'I want to launch 1,000 times a year,'" SpaceX president and chief operating officer Gwynne Shotwell said Dec. 17 during a Center for Strategic and International Studies (CSIS) event.

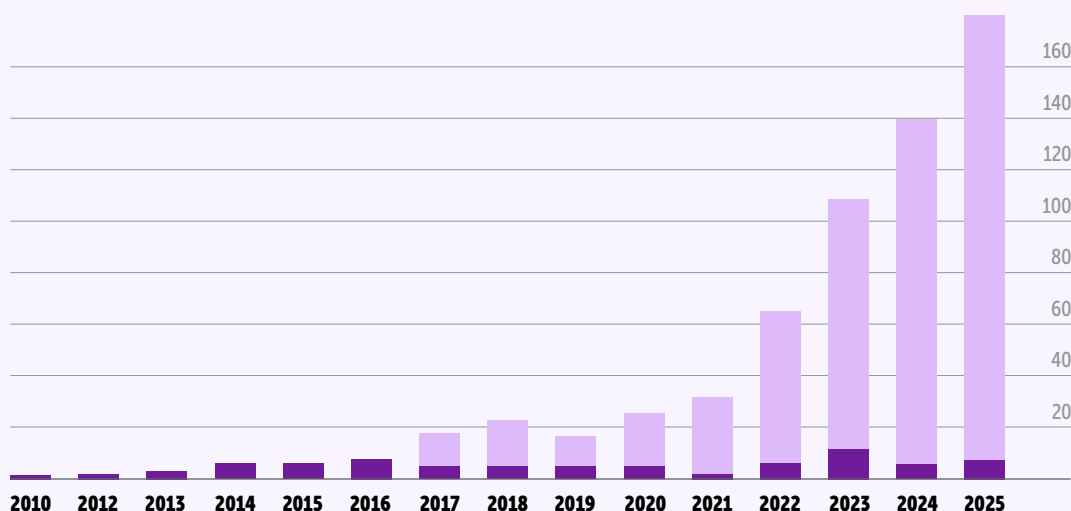
"We've got to figure that out, but that will be Starship, not Falcon," referring to SpaceX's gargantuan next-generation rocket currently in development.

Reusability has been the key enabler of this surge in launch frequency. By re-flying boosters again and

Falcon Launch Rate

SpaceX's Falcon launch cadence has surged dramatically amid growing reliance on reused boosters.

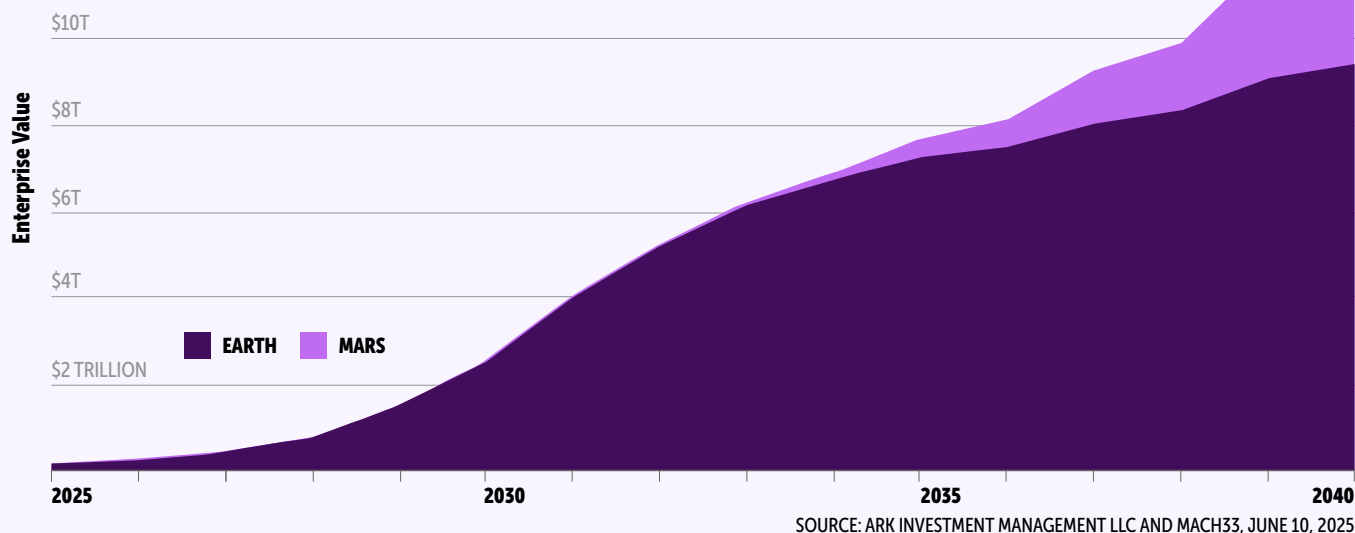
■ NEW BOOSTERS
■ FLIGHT PROVEN BOOSTERS



SOURCE: SPACEX, DEC. 31, 2024

Estimating SpaceX's Earth-Based Business via 2040

ARK's latest model values SpaceX's Earth-based business using industry EBITDA multiples, and its Mars efforts based on funds and infrastructure set aside for future development.



SN Intelligence

again, SpaceX has driven down the marginal cost of each launch and dramatically increased frequency.

Only 6% of Falcon 9 flights in 2024 used new boosters, with some individual rockets flying as many as 24 times in a single year, according to Novaspace.

But while SpaceX charges somewhere around \$70 million for a standard Falcon 9 mission, much cheaper than other medium-lift rockets on the market, analysts say the internal cost is significantly lower. The internal cost may be as low as \$15 million on average, because the company does not need to build a new booster from scratch for each mission.

Given the state of current competition, SpaceX has little incentive to undercut itself, amassing plenty of cash for Starlink, Starship and other massive projects. There also seems to be no rush for a highly anticipated Starlink initial public offering of shares right now, as SpaceX reportedly explores a private funding round at a \$400 billion valuation.

That would be up from \$350 billion in December, placing SpaceX among the most valuable companies in the world, although still behind tech giants such as Nvidia, Microsoft, Apple and Amazon that are measured in the trillions.

That said, investment manager Ark Invest released analysis June 10 forecasting an enterprise value of around \$2.5 trillion for SpaceX in 2030.

Piggybacking the industry

Another factor disrupting launch economics is the thriving and routine rideshare business SpaceX pioneered as technological advances enable cheaper, more powerful small satellites.

By packing dozens of small payloads together on a single Falcon 9, SpaceX's dedicated rideshare missions offer slots as cheap as \$1.3 million for 200 kilograms to sun-synchronous orbit (SSO) or as low as \$325,000 for 50 kilograms to SSO, according to SpaceX, which touts affordable rates for mid-inclination LEO, geostationary transfer orbit (GTO) and trans-lunar injection (TLI).

In contrast, a dedicated launch from small satellite specialist Rocket Lab costs around \$8 million, using an Electron rocket that can carry only a few hundred kilograms across a handful of payloads.

SpaceX is also flying its dedicated Transporter rideshare missions roughly every four months to SSO at price points undercutting many launch providers dedicated to deploying small satellites. The first Transporter mission in 2021 lofted 143 payloads, which remains a world record.

More recently, SpaceX introduced its Bandwagon

rideshare missions, which attach small payloads to launches already carrying a primary customer. These non-dedicated rideshares expand orbit options and flight windows for smallsat operators while preserving much of the cost advantage that made Transporter missions so disruptive.

"The innovation in launch is phenomenal," said Ian Canning, CEO of OneWeb's business in the United States, during an April 2025 SpaceNews webinar on SpaceX competition.

"And actually, what SpaceX are doing is helping all of us," he continued, "because it's driving down the cost of launch, which traditionally has been one of those big financial barriers to constellations actually being delivered."

Even Rocket Lab, one of the more successful small launch specialists, has been driven to adjust its strategy in SpaceX's shadow, pursuing a larger rocket (Neutron) and expanding into spacecraft manufacturing to diversify revenues while eyeing its own communications constellation.

Still, Rocket Lab maintains that its core launch offering with Electron occupies a unique niche that does not directly compete with SpaceX Transporter and Bandwagon missions.

"Dedicated small launch is a real market, and it should not be confused with rideshare," Rocket

Lab CEO Peter Beck said in an April 7 interview. "It's totally different."

He said demand for Electron is growing from companies seeking more control over their schedule and orbit — traits that a dedicated launch offers over a dedicated rideshare.

This has included customers such as Kinéis, a French company that launched its constellation of 25 small connectivity satellites across five Electron missions, and Japanese radar mapping companies iQPS and Synspecive.

"We have a lot of customers that will go and fly on a Transporter, and then they'll come back and they'll go book their whole constellation on us," Beck added.

"The innovation in launch is phenomenal. And actually, what SpaceX are doing is helping all of us because it's driving down the cost of launch, which traditionally has been one of those big financial barriers to constellations actually being delivered."

—Ian Canning, CEO of OneWeb's business in the United States



An Electron booster, descending under a parachute (right), as seen from the helicopter that captured but released it moments later due to anomalous load behavior observed by the pilot.

United Launch Alliance, the Lockheed Martin-Boeing joint venture long seen as SpaceX's primary U.S. rival, has conducted only a handful of missions per year recently and charges prices that can be multiples of Falcon 9, in part due to its traditional expendable rockets, government-oriented business and exceptional reliability.

But with its legacy workhorse Atlas 5 and Delta 4 rockets no longer in production, ULA's transition to its next-generation Vulcan Centaur rocket has been rocky, with an anomaly on its second flight in October.

A manufacturing defect was blamed for the loss of a solid rocket motor nozzle during the mission, which was nonetheless able to complete after the vehicle compensated for the lack of thrust.

ULA aims to return to flight in the coming months to deploy a mission for the U.S. Space Force.

In March, ULA CEO Tory Bruno projected a dozen launches this year, split roughly evenly between Atlas and Vulcan and between national security and commercial missions.

Still, Vulcan will initially lack reusability, putting ULA at a cost disadvantage for the foreseeable future.

Notable Launchers

Established launch providers and startups are racing narrow the gap with SpaceX by finding innovation in reusability, launch cadence and cost. Not every company here sees itself as going head-to-head with SpaceX. Some explicitly target niches where dedicated access, flexibility or lower payload needs take priority over raw lift capacity or cadence. Others are focused on national or regional markets where geopolitical or strategic considerations limit direct competition. But whether they position themselves as complementary, competitive, or something in between, these players all operate in a market increasingly shaped by SpaceX's pull.

United Launch Alliance (U.S.)

Transitioning from expendable workhorse rockets to Vulcan Centaur, which has a roadmap for partial reusability.

MAXIMUM PAYLOAD TO LEO (METRIC TONS)
✦ Vulcan Centaur = 27.2 t

STRENGTHS	WEAKNESSES
Long history of exceptional reliability and trusted for critical U.S. government missions.	Dependent on a few high-value contracts; development delays; and yet to prove rapid launch cadence

Arianespace (Europe)

Recently transitioned to Ariane 6 with medium and heavy lift configurations. Italy's Avio is taking over launch responsibilities of small-lift Vega C by end of year.

MAXIMUM PAYLOAD TO LEO (METRIC TONS)
✦ Ariane 6 = 21.6 t ✦ Vega C = 3.3 t

STRENGTHS	WEAKNESSES
Proven track record with decades of Ariane reliability and strong government backing in Europe.	No reusable system, high costs and development delays created a launch gap and lost market share to SpaceX.

Rocket Lab (U.S.)

Operates only small launch vehicle capable of partial recovery. Building larger Neutron rocket and vertically integrating into satellites and communications.

MAXIMUM PAYLOAD TO LEO (METRIC TONS)
✦ Electron = 0.3 t ✦ Neutron = 13 t

STRENGTHS	WEAKNESSES
Flew 16 times in 2024, relatively high among commercial players, thanks partly to three dedicated launch pads across U.S. and New Zealand.	Limited payload size, unproven in medium-lift and far smaller scale than SpaceX.

ISRO (India)

Expendable rockets with low launch rate but relatively cheap missions.

MAXIMUM PAYLOAD TO LEO (METRIC TONS)
✦ SSLV = 0.5 t ✦ PSLV = 3.8 t ✦ LVM3 = 10 t

STRENGTHS	WEAKNESSES
Lean operations, solid Indian government backing and a roadmap for a reusable Next-Gen Launch Vehicle (NGLV).	Low cadence limits impact internationally, limited payload capacity and no reusability.

JAXA (Japan)

Transitioning to medium-to-heavy lift H3 after retiring H-2A this year. Very low cadence.

MAXIMUM PAYLOAD TO LEO (METRIC TONS)

✦ Epsilon S = ~1.4 t ✦ H3 = ~6.5 t

STRENGTHS

Advanced engineering expertise and strong government support.

WEAKNESSES

Epsilon development delayed following failures.

Blue Origin (U.S.)

Heavy-lift New Glenn rocket in development to bring orbital launch capability, alongside reusable New Shepard vehicle for suborbital tourism.

MAXIMUM PAYLOAD TO LEO (METRIC TONS)

✦ New Glenn = 45 t

STRENGTHS

Massive financial backing with capital from Amazon's Jeff Bezos, demonstrated suborbital reuse with New Shepard, builds advanced BE-4 engines for ULA.

WEAKNESSES

Slow development pace with New Glenn years behind schedule and no orbital track record yet.

Maximum payload to LEO is used as a baseline for comparison here because it represents the most commonly published and directly comparable performance metric across all vehicles. LEO capacity also reflects a rocket's underlying capability and flexibility, even when providers target other orbits, and is especially relevant in an era dominated by constellation deployments.

Firefly Aerospace (U.S.)

Small launcher Alpha reached orbit in 2022, though cadence remains low, and lunar lander Blue Ghost successfully completed debut mission in 2025. Developing a partially reusable medium launcher called Eclipse.

MAXIMUM PAYLOAD TO LEO (METRIC TONS)

✦ Alpha = 1 t ✦ Eclipse = 16.3 t

STRENGTHS

Agile newcomer with demonstrated rapid launch capability for U.S. government.

WEAKNESSES

Limited capacity, expendable hardware and few flights to speak of so far.

Relativity Space (U.S.)

3D-printing specialist pivoted to developing medium-heavy Terran R rocket after retiring smaller vehicle Terran 1, which reached space during a 2023 test flight but not orbit..

MAXIMUM PAYLOAD TO LEO (METRIC TONS)

✦ Terran R = 33.5 t

STRENGTHS

Strong venture funding backing for additive manufacturing technology that promises fast rocket iteration.

WEAKNESSES

Terran 1's retirement delayed any chance of reaching orbit until at least 2026.

SNIntelligence

Europe scrambles for strategic autonomy to reduce SpaceX reliance

Key Takeaways

- ✦ At least 12 European payloads launched on SpaceX rockets in 2024 amid Ariane 6 delays and the loss of access to Russia's blacklisted Soyuz.
- ✦ Europe's sovereign broadband constellation will require at least 13 Ariane 6 launches over the next five years.

Europe's **Arianespace** faces a similar inflection point. Its workhorse Ariane 5 rocket was retired in 2023, and the next-generation Ariane 6 (also initially a fully expendable launcher) has been plagued by delays.

The company launched a French reconnaissance satellite in March on the first commercial mission for Ariane 6, which is slated to launch another four times this year, including the first launch of the more powerful Ariane 64 variant with four solid-rocket boosters.

In addition to the heavy-lift Ariane 5, Europe had long relied on medium-lift Soyuz rockets from Russia.

However, that partnership fell apart following Russia's invasion of Ukraine in 2022.

In the interim, even Europe's institutional customers have had to turn to SpaceX. At least 12 SpaceX

launches in 2024 carried European satellites, ranging from strategically vital Galileo navigation payloads to scientific and technology missions for the European Space Agency (ESA).

Amid geopolitical shifts stemming from U.S. President Donald Trump’s “America-first” agenda, European officials jumped on Ariane 6’s commercial debut as a chance to highlight the need for “strategic autonomy” in space.

The Ariane 6 commercial debut “is proof of our space sovereignty,” said Philippe Baptiste, former head of French space agency CNES.

“We are facing a new global reality in the space sector. The return of Donald Trump to the White House, with Elon Musk at his side, already has significant consequences,” referring to Musk’s previous government advisory role and uncertainties about future cooperation between U.S. government and French agencies.

“If we want to maintain our independence, ensure our security and preserve our sovereignty, we must equip ourselves with the means for strategic autonomy,” Baptiste added, which includes space.

“For this sovereignty, we must not yield to the temptation of preferring SpaceX or another competitor that may seem trendier, more reliable or cheaper.”

Europe’s proposed Infrastructure for Resilience, Interconnectivity and Security by Satellite (IRIS²) sovereign broadband constellation alone requires 13 Ariane 64 launches, as part of plans for more than 290 satellites slated to enter service by early 2031.

But despite European officials declaring an end to the continent’s “launcher crisis,” ESA recently booked Rocket Lab to deploy a pair of navigation tech demonstrators, underscoring how they have yet to fully shake a dependence on U.S. firms.

During a panel at the Paris Air Show June 17, Arianespace CEO David Cavaillolès suggested it might be a few years until it reaches a goal of “cadence 10,” or 10 launches per year.

“In ’29, when we start deploying IRIS², which is a milestone program, we’ll be more than for sure at cadence 10,” he said.

Before that, Arianespace has a contract with Amazon for 18 Ariane 64 launches of its Project Kuiper LEO broadband satellites. Amazon is the largest customer in the Ariane 6 backlog, which includes more than 30 launches, and is racing to meet looming regulatory deadlines for deploying the constellation.

Speaking on the same panel, Martin Sion, CEO of Ariane 6 prime contractor ArianeGroup, said he expected the first Ariane 64 launch in a few months. Some industry sources say that the launch could

slip into early 2026.

Given the prime role Ariane 64 is set to play for both Project Kuiper and IRIS², the pressure is on Arianespace to ramp up cadence in the coming years as the company points to growing demand for SpaceX competition.

Cavaillolès added: “We see a lot of states, a lot of space agencies, wanting to develop their own space infrastructure because they don’t want to rely on other people.

“For us, of course, this is an opportunity [as commercial operators] tell me that the current situation, the dependency on one actor — the situation of, let’s

Global orbital attempts

As countries and commercial players ramp up orbital attempts, maintaining high success rates will be critical to earning long-term trust from both governments and industry.

COUNTRIES	SUCSESSES FAILED ATTEMPTS		2017	2018	2019	2020	2021	2022	2023	2024
United States	29	31	21	34 3	43 2	76 2	104 5	145		
Russia	18 1	16 1	22	12	16	21	19	17		
China	17 1	38 1	32 2	35 4	53 3	62 2	66 1	66 2		
Europe	11	11	8 1	10	15	5 1	3	3		
Japan	6 1	6	2	4	3		2 1	5 2		
India	5	7	6	2	1 1	5	7	5		
North Korea							1 2	1		
Iran			2	2	1 1	1	1 1	4		
Israel				1			1 1			
South Korea					1	1	2			
New Zealand	1	3	6	6 1	5 1	9	6 1	13		
Other	11 2	16	14 2	14 2	9 5	16 1	20 5	27 3		
Total	86 4	112 2	97 5	105 9	136 10	180 6	212 11	258 5		

SOURCE: JONATHAN MCDOWELL'S
SPACE ACTIVITIES IN 2024 REPORT, JAN. 24, 2025

say, hegemony — is a big threat to them. It's absolutely unacceptable to rely on only one provider."

Rising global demand for broadband constellations is also pushing China to accelerate its launch cadence.

Primarily serving domestic and government payloads, China's state-led launch sector is preparing for a significant ramp-up as deployments begin for two mega-constellations totaling 27,000 satellites.

The country conducted 68 orbital launches in 2024, according to spaceflight analyst Jonathan McDowell, matching similar tallies in 2023 and 2022. These included missions for Qianfan, China's answer to Starlink, which has deployed around 90 satellites in LEO so far.

China had aimed to add roughly 500 more satellites this year to support a planned global rollout in 2025, though there have been rumors that a recent launch tender went unfilled.

Internationally, SpaceX effectively maintains a near-monopoly on Western commercial heavy launch capability until competitors like Ariane 6 and less established providers become fully operational.

India, despite possessing cost-effective launch capabilities, remains a limited competitor on the global stage due to modest launch cadences of typically a few missions a year, and limited payload capacities.

The **Indian Space Research Organisation (ISRO)** also recently experienced a rare Polar Satellite Launch Vehicle (PSLV) launch failure, highlighting reliability concerns that may affect confidence among potential international customers.

To help increase launch cadence and strengthen India's commercial space economy, ISRO announced June 20 that it would transfer technology for its Small Satellite Launch Vehicle (SSLV) to Hindustan Aeronautics Limited (HAL), a commercial company.

"The SSLV technology transfer marks a pivotal moment in India's transformative commercial space segment, as this is one of the first instances of a space agency transferring complete launch vehicle technology to a company," said Pawan Goenka, Chairman of Indian regulator IN-SPACe.

"Under this technology transfer agreement, HAL will have the capability to independently build, own, and commercialize SSLV launches."

The technology transfer agreement includes training and close supervision for the launch of two SSLVs in the next two years.

Challengers bet big on reusability proven only by SpaceX at scale

Key Takeaways

- ✦ SpaceX flew a first-stage engine for the 28th time in May. No other company has flown an entire orbital-class booster more than once.
- ✦ Launch providers other than SpaceX have raised more than \$7.8 billion in equity capital since 2020, according to data from InsightOrca, about \$1 billion more than what Musk's company raised in new equity capital over the period (not including secondary transactions).
- ✦ Relativity Space, which has pivoted from full reusability, pulled in around \$1.15 billion in two venture capital rounds, both ranking among the biggest in the space industry.

Blue Origin has long been seen as SpaceX's most formidable competitor on the horizon, thanks to the vast financial resources that come with being owned by Amazon's billionaire founder Jeff Bezos.

Blue Origin has been working on a heavy-lift New Glenn rocket with a reusable first stage akin to



New Glenn lifts off on its inaugural flight Jan. 16. While the launch successfully delivered its payload, an investigation concluded an issue with the booster's landing legs led to a failed recovery attempt.

Falcon 9, but its schedule has also repeatedly slipped. The company had until recently hoped the rocket would be ready to fly again as soon as late spring, following a failed booster landing on its inaugural flight earlier this year.

However, Blue Origin CEO David Limp said June 9 that the company is now targeting no earlier than Aug. 14 for New Glenn's second mission.

"One of our key mission objectives will be to land and recover the booster," Limp said. "This will take a little bit of luck and a lot of excellent execution."

Blue Origin's delays in delivering its BE-4 engines have also held up ULA's Vulcan.

Rocket Lab has also experimented with recovering its small Electron boosters, initially designed to be recovered via parachute and mid-air helicopter catch, before shifting to marine recovery. The company has paused efforts to recover and reuse Electron boosters to focus on Neutron, a medium-lift reusable launch vehicle. It is not clear when, or if, Electron reusability tests will resume.

Meanwhile, **Firefly Aerospace** has started work on a reusable rocket as it becomes a more formidable player in the small-to-medium launch class thanks to growing defense partnerships.

In May, Northrop Grumman invested \$50 million into the company to help accelerate the development of a new, partially reusable medium-lift launch vehicle, building on their joint work reviving the Antares rocket with U.S.-made components.

A month and a half later, Firefly filed to go public, submitting paperwork to list its shares on the Nasdaq Global Market and raise an undisclosed amount of capital.

Relativity Space, an emerging player known for partially 3D-printed rockets, has shifted in the opposite direction and moved away from full reusability.

While announcing a \$650 million funding round in 2021 that valued the company at \$4.1 billion, Relativity co-founder and former CEO Tim Ellis unveiled plans for a Falcon 9-class rocket called Terran R that would be fully reusable, including its upper stage and payload fairings.

But in 2023, as Relativity announced the retirement of its smaller rocket Terran 1 just months after its first flight failed to reach orbit, the company said Terran R was being redesigned so only its first stage would be recovered after landing on a ship downrange from the launch site.

Billionaire and former Google CEO Eric Schmidt replaced Relativity co-founder Tim Ellis at the company's helm earlier this year, in a move that reportedly came with an undisclosed investment. A maiden launch for Terran R is slated for 2026.

Even so, momentum across the industry continues to push firmly toward greater reusability as a norm rather than an exception.

"All of you realize that reusability is mandatory for launchers," ISRO Chairman S. Somanath said in November during a head-of-agencies plenary at the International Astronautical Congress (IAC) in Milan.

In addition to developing plans for a Next-Generation Launch Vehicle (NGLV) featuring a reusable first stage, ISRO has been testing technology for an uncrewed reusable spaceplane with wings.

Even Arianespace, once a vocal skeptic of the economics behind booster reuse, has shifted its stance as European startups and ESA programs belatedly pursue the capability.

MaiaSpace, a spin-off of Arianespace's parent company ArianeGroup, and Spain's **PLD Space** are developing rockets with Falcon 9-style vertical landing capabilities.

In December 2020, ESA awarded ArianeGroup an initial development contract for a reusable booster demonstrator called Themis.

Officials had originally targeted 2022 for the demonstrator's first "hop test," echoing the early reusability flight trials SpaceX began in 2012 with its Grasshopper vertical takeoff and landing test vehicle.

However, that milestone has since slipped to 2025. ArianeGroup recently announced it had successfully completed four successive ignitions of Prometheus during tests June 20, marking an important milestone for Europe's reusable, throttleable engine that would be integrated with Themis for the hop demo.

A few days earlier, Japanese auto giant Honda successfully landed a 6.3-meter-tall rocket for the first time after a hop reaching a little over 271 meters.

The test is part of technology development work that includes research for lunar activities. Honda said "no decisions have been made regarding commercialization of these rocket technologies," even as the company aims to be capable of providing suborbital launches by 2029.

Meanwhile, SpaceX's ambitions for a fully reusable Starship, despite its third consecutive launch failure May 27, could further cement SpaceX's grip on launch.

But even as challengers invest and regroup, it's important to consider the outsized role governments also play in shaping the launch sector's dynamics as sovereignty climbs to the top of political agendas.

The desire for autonomous access to space isn't new, Arianespace CEO David Cavailloles noted during the 2025 Satellite conference in Washington, D.C., but its urgency is only now being fully appreciated as geopolitical winds shift.

Government Dynamics in Launch

Key Takeaways

- ◆ SpaceX has easily reaped more than \$20 billion in NASA and Pentagon contracts and well placed for billions more.
- ◆ As geopolitical pressures increase the urgency for autonomy outside of the U.S., NATO allies have pledged to more than double defense spending to 5% of GDP by 2035 in a major boon for space.
- ◆ Starship remains central to ambitious U.S. government plans beyond Earth.

SpaceX's rise has had a profound influence on government space programs and contracting, both in the United States and abroad. In the U.S., SpaceX is now a critical national launch provider for civil and military missions alike, to the point that Washington's reliance on the company has become a topic of both pride and anxiety.

NASA has been heavily relying on SpaceX since its Commercial Resupply Services program, using the company's Falcon 9 and Dragon capsule to transport cargo to the International Space Station since 2012, and astronauts eight years later in a move that restored America's crew launch capability.

The U.S. has only deepened its ties since then, awarding SpaceX a \$2.9 billion contract in 2021 to develop Starship as the lunar lander for the Artemis program, later adding a second mission option worth another \$1.15 billion.

NASA has paid SpaceX approximately \$2.6 billion of its Starship Human Landing System (HLS) contract to date, following the completion of early development milestones.

But while SpaceX has been making progress toward ambitious development milestones, Starship has yet to place payloads in orbit.

It took SpaceX nearly three months to secure regulatory approvals and prepare Starship for its latest test flight May 27 following its previous failure.

"Launch cadence for next 3 flights will be faster, at approximately 1 every 3 to 4 weeks," Musk wrote May 27 after pinning the latest failure on leaks that caused a loss of main tank pressure during the coast and re-entry phase.

However, an upper stage that SpaceX had planned to use for its next Starship flight exploded June 19 during preparations for a static-fire test, casting further doubt over its development timeline.

A day earlier, a Federal Aviation Administration advisory had indicated that the next Starship flight could launch as soon as June 29, pending FAA approvals.

SpaceX is also preparing for more ambitious demonstrations, including testing an in-space refueling system for Starship that is essential for the rocket's role in NASA Artemis missions to the lunar surface.

NASA's Artemis program, aiming to return astronauts to the Moon, relies on Starship as a lunar lander for Artemis III in mid-2027, and again for Artemis IV. Blue Origin's Blue Moon lander was picked for Artemis V.

Meanwhile, broader lunar ambitions have faced headwinds from diminishing public and governmental support, budgetary constraints and a shift to prioritize the importance of Mars.

NASA proposed canceling its Gateway lunar space station as part of its fiscal year 2026 budget request, which would slash the agency's funding from \$24.9 billion in FY2025 to \$18.8 billion. Congress is showing signs it may disagree.

Amid the cancellation of dozens of science missions and the potential loss of thousands of

Musk's Mars ambitions will likely hinge upon collaboration between Starship, other commercial innovators and government agencies.

jobs, the proposal still sets aside more than \$1 billion for projects tied to human Mars exploration, a long-standing personal aspiration of Musk's.

While most Americans believe it is essential for the U.S. to remain a world leader in space, only 12% of more than 10,000 U.S. adults surveyed by the Pew Research Center in 2023 said sending human astronauts to the moon should be a top priority for NASA.

Just 11% identified crewed missions to Mars as a top priority, far behind the 60% who said NASA should focus on monitoring asteroids and other objects that could impact Earth.

Still, Musk is forging ahead with his long-held ambition to reach the Red Planet. "Starship [uncrewed] departs for Mars at the end of next year," he declared in March on his social media platform, X.

"If those landings go well, then human landings may start as soon as 2029, although 2031 is more likely."

Ultimately, these Mars ambitions will likely hinge upon collaboration between Starship, other commercial innovators and government agencies. The timeline also heavily depends on a number of technical feats, including a successful in-orbit Starship refueling demonstration.

Carrying astronauts is a role historically reserved for national programs. While NASA's decision to trust a commercial player for such a critical piece of Artemis drew controversy, Starship appears so far to have avoided the severe cost overruns and delays that have put the government's Space Launch System (SLS) and Orion spacecraft in line for cancellation from Artemis IV, according to the NASA budget proposal.

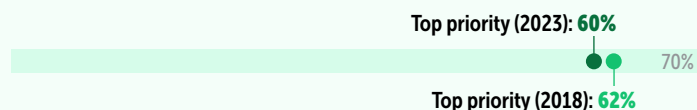


SpaceX's Crew Dragon also supports private missions, such as Axiom Space's Ax-4, which launched to the ISS June 25.

American priorities for NASA

Percentage of U.S. adults who say each of the following should be top priority for NASA

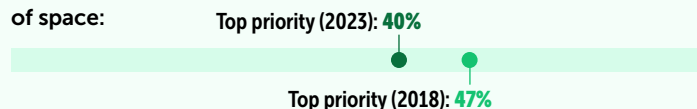
Monitor asteroids, other objects that could hit Earth:



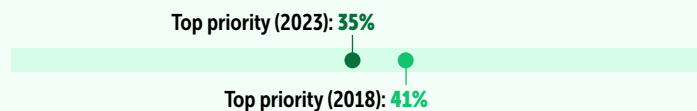
Monitor key parts of the Earth's climate system



Conduct basic scientific research to increase knowledge of space:



Develop technologies that could be adapted for other uses:



Conduct research on how space travel affects human health:



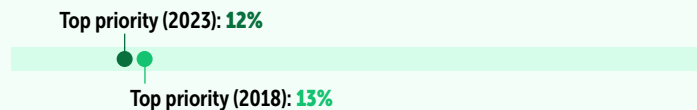
Search for resources, materials that could be used on Earth



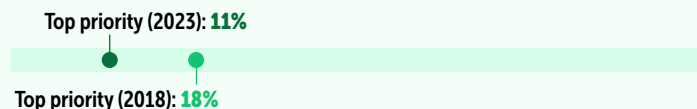
Search for life and planets that could support life:



Send human astronauts to explore the moon:



Send human astronauts to explore Mars:



SOURCE: PEW RESEARCH CENTER SURVEY, MAY 30-JUNE 4, 2023

SpaceX solidifies role as Pentagon's preferred launcher partner

Key Takeaways

- ◆ SpaceX won seven of nine Space Force launches for FY2025, worth a total ~\$846 million.
- ◆ Overall, SpaceX set to secure ~60% of NSSL Phase 3 Lane 2 missions, or ~\$5.9 billion projected revenue.
- ◆ Entrenchment ensures steady government revenue and critical national security role.

SpaceX has also evolved from an upstart disruptor to an indispensable Pentagon partner, breaking the launch monopoly once held by ULA with Falcon rockets that now fly a significant share of military and intelligence payloads.

SpaceX captured seven of the first nine missions in the U.S. Space Force's latest procurement round, valued at approximately \$846 million, leaving two launches to ULA for a combined \$427.6 million.

These assignments represent the fiscal year 2025 portion of five-year contracts announced April 4, which are expected to distribute around 54 missions worth \$13.7 billion among SpaceX, ULA and Blue Origin through fiscal year 2029.

Industry sources told SpaceNews the original plan for fiscal 2025 envisioned a 5-to-4 split between SpaceX and ULA. However, ULA lost the NROL-96 and NROL-157 missions to SpaceX due to ongoing construction and upgrades at its West Coast launch complex for the Vulcan rocket. Both missions require launches into lower-energy orbits from the Western Range at Vandenberg Space Force Base.

This marks the first time the U.S. Department of Defense has selected three companies for its National Security Space Launch (NSSL) Phase 3 Lane 2 procurement. Newcomer Blue Origin is slated for seven launches beginning in the second year of the contract, pending certification of its New Glenn rocket.

The 54 Lane 2 missions are expected to be assigned annually, with launches taking place between fiscal years 2027 and 2032. Missions are typically awarded two years in advance to allow for extensive planning and integration with government teams to ensure mission success.

Lane 2 focuses on high-complexity missions to high-energy orbits and comes with elevated mission assurance requirements. These include support for critical national security assets such as secure communications and missile warning systems, making it the most demanding tier of the NSSL program and underscoring the need for highly reliable launch providers.

Over the full contract period, SpaceX is projected to receive \$5.9 billion in awards, followed by ULA with nearly \$5.4 billion and Blue Origin with close to \$2.4 billion.

SpaceX is expected to conduct roughly 60% of the 54 launches, with ULA carrying out about 35%, providing a steady stream of significant revenue to plan growth projects around.

Musk-Trump fallout underscores political volatility and shaky U.S. space policy foundations

Key Takeaways

- ◆ Musk's Trump advisory role may have eased regulatory challenges and helped funnel funds to key areas in a cost-cutting environment, but also brought unwelcome exposure for his companies.
- ◆ Questions now over long-term stability and continuity of U.S. policy toward SpaceX.

Under the latest Trump administration, there were signs until recently of an even greater strategic embrace of SpaceX's capabilities. The White House's 2025 budget proposal explicitly refocuses a downsized NASA on human Mars exploration and appears to lean on Starship as a centerpiece for that goal.

Musk had been an outspoken advocate and financial supporter of Trump's return to office, even serving as a "special government employee" to help the administration cut costs across NASA and other agencies.

However, their alliance frayed in spectacular fashion during heated exchanges on social media June 5, less than a week after that role ended, with Musk labeling a Trump-backed budget reconciliation bill as a "disgusting abomination."



SpaceX's Elon Musk was presented with a golden key bearing the White House insignia by U.S. President Donald Trump during a May 30 send-off, following his roughly four-month tenure leading the Department of Government Efficiency. Trump praised Musk's service to America as unmatched in modern history.

After Trump floated cancelling government contracts with Musk's companies worth "billions and billions of dollars," the tech billionaire said SpaceX "will begin decommissioning its Dragon spacecraft immediately," before walking back that threat about five hours later.

With Boeing's Starliner still grounded after repeated delays, Dragon remains NASA's only operational crew vehicle.

An industry source speaking to SpaceNews on background dismissed the exchanges as "bluster," noting the reliance the federal government has on SpaceX and the company's desire to retain government revenue.

Still, the public bust-up, and periodic flare-ups between the two, serve as another stark reminder of just how malleable U.S. politics and policies have become, amid a Reuters report that the White House has ordered agencies to scrutinize Musk's contracts to ready possible retaliation.

Trump's initial pick to lead NASA, former SpaceX flight customer Jared Isaacman, had to publicly assure lawmakers he would treat SpaceX like any other contractor and not give Musk undue influence over the agency.

Ultimately, the point was moot because, just a day after holding a press conference to mark the end of Musk's tenure as a special government employee, Trump said he was withdrawing Isaacman's nomination after "a thorough review of prior associations."

Some sources speculate the move stemmed from Trump and Musk's eroding relationship — a

view Isaacman shares.

Trump later said it would have been "inappropriate" for Isaacman to lead the space agency given his ties to Musk and history of political donations.

"Elon asked that one of his close friends run NASA and, while I thought his friend was very good, I was surprised to learn that he was a blue-blooded Democrat, who had never contributed to a Republican before," Trump said July 6.

According to public records, Isaacman has donated to Republican candidates, including Rep. Sam Graves (R-Mo.), now the chairman of the House Transportation Committee.

While more recent donations, including those in the 2024 election cycle, were to Democratic candidates and organizations, that donation history almost certainly would have been part of the vetting process for his nomination. These donations were widely reported shortly after Isaacman's nomination was announced last year.

Isaacman's nomination was pulled a day after NASA released more details about a fiscal year 2026 budget proposal that would slash the agency's overall spending by about 25%, with steeper cuts in science, space technology and other areas outside of exploration.

After sharply criticizing Trump's "Big Beautiful Bill," a sweeping tax cut and spending package that narrowly passed Congress July 3, Musk has also moved to set up a new political party, the America Party.

Trump announced July 9 that Sean Duffy, his transportation secretary, would serve as acting

NASA administrator to replace Janet Petro, director of Kennedy Space Center.

A former congressman, Duffy has no direct background in space, aside from overseeing the FAA's Office of Commercial Space Transportation as head of the Department of Transportation.

The appointment caught the space industry off guard, not least because it marks the first time in NASA's nearly 70-year history that a Cabinet-level official has taken the helm, even temporarily. Acting administrators have traditionally come from within the agency's civil service ranks, such as associate administrators or, in Petro's case, a center director.

It remains to be seen how the increasingly fractured relationship between Musk and Trump will impact an alignment once close enough to fuel concerns at home and abroad, amid growing perceptions that U.S. policy decisions were increasingly favoring SpaceX.

Strong U.S. support fuels SpaceX growth

Key Takeaways

- ♦ Home advantage boosts SpaceX on world stage.
- ♦ Trump 10%-plus tariffs weigh on SpaceX and customer satellites.
- ♦ SpaceX also faces myriad of regulatory complexities and trade barriers abroad.

SpaceX's rapid pace of launch and development has benefited from swift FAA approvals.

In March, the FAA outlined a draft decision for a sharp increase in Falcon 9 launches at Cape Canaveral Space Force Station, for instance, raising the annual cap from 50 to 120.

The U.S. Federal Communications Commission and Department of Commerce have also recently made several decisions that boost Starlink's competitiveness (to be covered in Part 2).

Whether these moves reflect political influence or simply long-signalized intentions from U.S. agencies to streamline oversight in response to the industry's breakneck evolution is unclear.

Musk is seeking U.S. approval on at least four proposals to expand launch operations, either by building new pads or ramping up launch frequency at federal spaceports in Florida and California.

However, as SpaceX scales its commercial reach globally, trade policies and tariff disputes are also creating new friction points that complicate the company's privileged position.

Trump imposed a 10% tariff on most imports entering the United States April 2, calculated based on the declared value of the goods. Some countries face even higher tariffs or additional trade restrictions.

Arad Gharagozli, CEO of Canada-based satellite startup Galaxia, said his business was hit earlier this year with a 25% duty to ship its first spacecraft to California for a launch in June on a SpaceX rideshare mission.

The Canadian startup considered canceling the mission and seek an alternative launch provider, according to Gharagozli, before coming up empty.

While not ideal for startups lacking the financial flexibility to absorb unexpected costs, the U.S. Customs and Border Protection's Duty Drawback program offers a way to recover up to 99% of duties paid on exported or re-exported goods, including satellites delivered for launch.

Jeanne Allarie, chief marketing officer at Exolaunch, said the German launch services provider is managing this process on behalf of Galaxia and other customers that used its deployment dispenser for SpaceX's latest Transporter-14 mission June 23.

"It's not a quick nor easy process, but given the amounts that we're talking about, it is definitely worth it to our customers," she told SpaceNews.

Gharagozli declined to give financial details but the Canadian Space Agency has said it awarded Galaxia just over \$1 million to help develop its first Earth observation demonstration satellite.

SpaceX has also been impacted more directly amid the twists and turns of an unpredictable trade war rippling through the space industry's global supply chains.

Ontario, Canada's most populous province, has scrapped a \$68 million contract with Starlink in response to U.S. tariffs.

In April, Yukon Premier Ranj Pillai said the northern Canadian territory will begin "reviewing Yukon government Starlink accounts and cancel accounts that are not required for business continuity or emergency response."

SpaceX's vertically integrated manufacturing helps minimize dependency on imports.

However, responding to the U.S. government's call for information on unfair trade practices and non-reciprocal arrangements, SpaceX outlined multiple international regulatory barriers that increase costs for its business, including tariffs on Starlink user terminals and other equipment.

"As a general matter, SpaceX faces a range of

regulatory complexities and trade barriers in every country that the U.S. Government should seek to address in order to support continued U.S. leadership in the space domain,” Mat Dunn, SpaceX’s senior director of global business and government affairs, said in a March 11 letter.

“Specifically, SpaceX must pay foreign governments for access to spectrum, import duties on Starlink equipment, and other regulatory fees that substantially increase the cost of operating in these countries — artificially.

“Additionally, some countries require SpaceX to pre-coordinate on spectrum sharing with domestic satellite operators prior to activating service — clearly a protectionist non-tariff trade barrier that ill-serves consumers and underserved populations.”

Foreign operators have used these policies to block or slow SpaceX from improving quality and lowering the costs of services to customers in these countries, Dunn added.

Europe’s new space strategy charts path to independence amid shifting geopolitics

Key Takeaways

- ◆ ESA gets 12 proposals for launch vehicle funding competition.
- ◆ EU Space Act could complicate SpaceX’s European access.

Europe’s reusable rocket demonstrator Themis is just one part of a broader push by ESA to boost the region’s space autonomy and competitiveness.

The space agency unveiled its Strategy 2040 roadmap for the next 15 years March 20, with securing independent, competitive access to space listed as one of the five primary goals.

“A first key pillar in this regard is having guaranteed autonomous and competitive access to and mobility in space, free from external dependencies,” the document states.

ESA director general Josef Aschbacher said a council meeting of member states that formally approved Strategy 2040 had discussed “geopolitical aspects that are requiring Europe to be stronger and also more independent,” referring to a potentially



Ariane 6 lifts off on its first commercial mission March 6, carrying a French reconnaissance satellite. The launch marked the vehicle’s second flight and a key milestone in ESA’s efforts to secure independent European access to space under Strategy 2040.

volatile relationship with the U.S.

That discussion will feed into planning for ESA’s next ministerial conference in late November, where member states will approve and fund programs.

European Union members “have asked us to look in detail on some of the elements where the existing package may need to be reinforced or may need to be readjusted in order to better respond to the current situation,” Aschbacher said in a media briefing, “and see whether there are new elements that might need to be put on the table which have not been in the package before.”

Although Aschbacher did not elaborate on those potential changes, he and other ESA officials emphasized the European Launcher Challenge, a competitive program to fund the development of new small launch vehicles.

ESA has shortlisted five of the 12 proposals submitted for the European Launcher Challenge, with up to 169 million euros (\$199 million) in funding per project on offer, pending approval at the November ministerial conference.

As ESA charts the long-term roadmap, lawmakers are moving to ensure future market rules align with those ambitions.

In June, the European Union unveiled a long-awaited draft law to overhaul the regulation of space services, introducing unified rules for companies operating in or selling to the European market, including satellite launch providers.

Although the EU Space Act remains subject to negotiations and isn't expected to take effect until 2030, its current form marks a decisive shift in how Europe intends to shape and uphold safety, cybersecurity and sustainability standards throughout the space sector.

The legislation would restrict European space companies from using non-EU launch providers, for instance, unless they're registered with the European Commission, come from a country with equivalent regulations or qualify for an exemption.

"In the current state of the launch market, where most launches occur from the U.S., this would entail SpaceX and other U.S. launch providers becoming approved for EU launches," said John Worthy, a partner at Fieldfisher and head of satellite and space projects at the law firm.

"As the European launch capability matures, the [European] Commission no doubt anticipates that there will be less need to rely on U.S. launch in future."

Starship's scale and speed could redefine global launch (again), if SpaceX overcomes regulatory headwinds and technical challenges

Key Takeaways

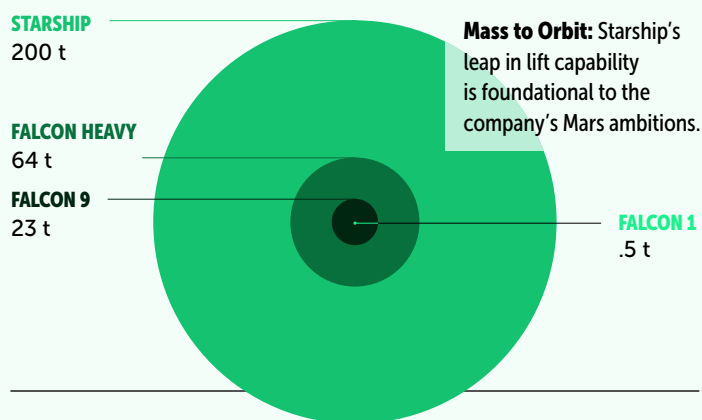
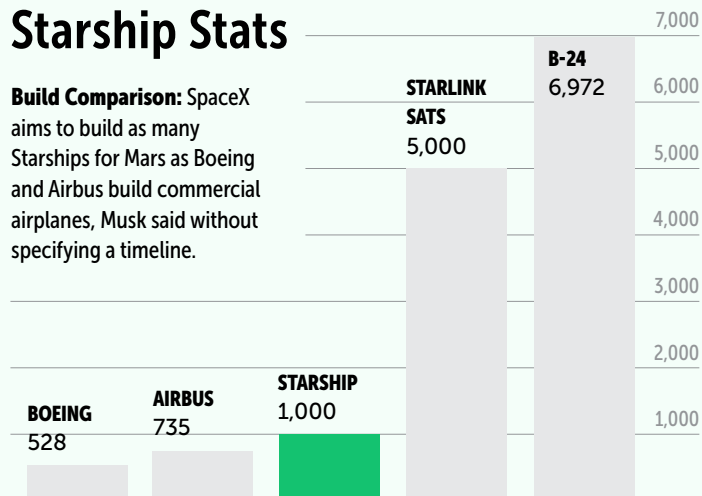
- ♦ Starship's potential monthly/weekly launches by 2027 could marginalize non-reusable competitors.
- ♦ Regulatory or geopolitical backlash could complicate SpaceX's global operations.
- ♦ Pentagon and international agencies are likely to sustain multi-source models for strategic redundancy, though SpaceX dominance remains strong.

SpaceX's dominant position across both launch and satellite communications (which we'll explore further in Part 2) did not emerge overnight. It is the product of bold technical bets, significant private capital and savvy navigation of public partnerships.

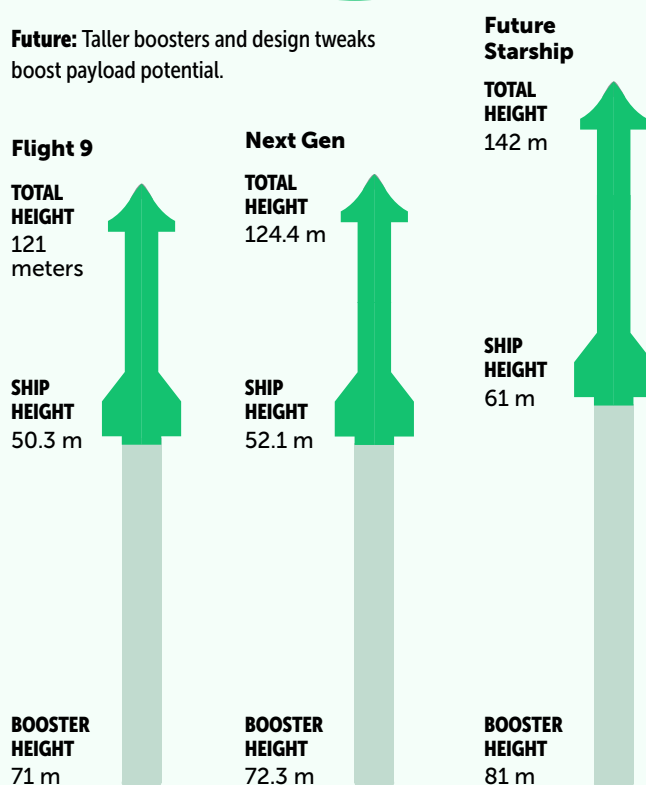
In just two decades, SpaceX has evolved from a

Starship Stats

Build Comparison: SpaceX aims to build as many Starships for Mars as Boeing and Airbus build commercial airplanes, Musk said without specifying a timeline.



Future: Taller boosters and design tweaks boost payload potential.



SOURCE: SPACEX PRESENTATION, MAY 29, 2025

SpaceX Mission to Mars

SpaceX aims to significantly increase the frequency of flights to Mars for every upcoming two-year transfer window to the Red Planet.

2026	2028-2029	2030-2031	2033
LANDERS 5	LANDERS 20	LANDERS 100	LANDERS 500
PAYLOAD PER SHIP (TONNES) 10	PAYLOAD PER SHIP 75	PAYLOAD PER SHIP 150	PAYLOAD PER SHIP 300
GOALS	GOALS	GOALS	GOALS
<ul style="list-style-type: none"> Prove SpaceX can get to Mars Send minimum viable vehicles with goal of maximizing learning Demonstrate key technologies needed for Mars transit and landing 	<ul style="list-style-type: none"> Land initial infrastructure Confirm resource availability Prepare landing areas Deliver equipment for humans 	<ul style="list-style-type: none"> Mine resources and generate propellant Build roads and pads Construct habitat Increase power generation and storage 	<ul style="list-style-type: none"> Increase independence from Earth Mine and process Mars resources Achieve global mobility Establish global communications

SOURCE: SPACEX PRESENTATION, MAY 29, 2025

SNIntelligence

scrappy startup to a cornerstone of the global space economy. But beyond record-breaking launch numbers and megaconstellation milestones, SpaceX has fundamentally reshaped mindsets in a sector once governed by slow-moving bureaucracies.

It demonstrated that a rocket launcher can function like an airline, that space-based internet can become mass-market and that a commercial player can become central to military operations, even during wartime.

The ripple effects are accelerating. Competitors are innovating, sometimes emulating SpaceX, sometimes diverging. Governments are recalibrating industrial and security policies, weighing the benefits of SpaceX's capabilities against the growing risks of strategic dependency.

And Musk is far from finished.

In a May presentation at SpaceX's Starbase in Texas, he revealed plans for a "gigabay" in Texas and Florida, a sprawling facility envisioned to churn out one thousand Starships per year.

The company is currently capable of producing a "ship" roughly every two to three weeks, according to Musk, when no design upgrades are being incorporated.

"But ultimately we're aiming for the ability to produce a thousand ships a year," he said, "so three ships a day."

Starships are designed for full reusability. The company has already successfully caught its Super

Heavy booster after flight on several occasions, and Musk hopes to achieve a similar feat for Starship's upper stage later this year.

This will be critical for plans to dramatically increase launch cadence to transport the people and cargo needed to establish a self-sustaining civilization on Mars.

"These numbers — while they are insanely high by traditional space standards — are achievable by humans, because they have been achieved in other industries," Musk added, pointing to how his electric car company Tesla can produce more than 1.7 million cars a year.

Starship is already the world's largest rocket at 121 meters tall, with the current version designed to lift around 100 metric tons to LEO in reusable mode.

But, according to Musk, work has already begun on a next-generation Starship stretching to 124 meters with a first flight slated before the end of this year. An even larger Starship in planning would be capable of lifting more than twice the payload of NASA's Saturn V that carried humans to the Moon, potentially exceeding 200 metric tons.

"In principle the Super Heavy Booster can be reflown within an hour of landing," Musk said, or "two hours — to give it some extra time," because the same giant "chop sticks" that catch the rocket's return can position it for the next mission.

For now, the FAA has increased the allowable flight

rate from five to 25 Starship launches per year from Texas to accommodate SpaceX's plans to ramp up.

If Starship achieves a monthly or even weekly cadence by 2027, legacy providers lacking full reusability and scale could be relegated to niche roles in government or regional and backup contracts, assuming they survive at all.

SpaceX's unmatched vertical integration, cost advantages and rapid design cycles have left rivals with stark choices: specialize, consolidate or disrupt themselves.

Yet caution remains warranted. Musk has promised audacious timelines before, such as a commercial lunar mission by 2023, which have slipped or been shelved entirely.

The possibility of a politically driven regulatory crackdown also looms large. A future U.S. administration more skeptical of Musk, or retaliatory actions from foreign governments, could disrupt global growth, delay Starship deployments or ignite new rounds of subsidized competition.

Still, as European leaders and others readily acknowledge, there are currently no alternatives that can match SpaceX.

New launch systems are steadily progressing' however, and a wave of well-funded LEO broadband competitors are also poised to enter service. As these players come online, the next chapter in the battle for the skies is beginning to take shape — one where innovations, geopolitical tensions and commercial ambitions are more tightly intertwined than ever.

The years ahead will determine who can genuinely narrow the gap, and what revolutionary technologies will redefine the boundaries of possibility.



A redesigned fuel transfer tube, roughly the size of a Falcon 9 first stage, awaits installation in SpaceX's next-generation Super Heavy booster.

SpaceX's unmatched vertical integration, cost advantages and rapid design cycles have left rivals with stark choices: specialize, consolidate or disrupt themselves.

Coming in Part 2: The satellite network that becomes a household name

SpaceX's mastery of reusability and rapid launch cadence has made orbit more accessible than ever before, but launch is only half the story.

With Starlink, SpaceX has staked a claim to another critical infrastructure, deployed with unmatched pace and scale.

Part 2 of this report will explore how SpaceX is rewriting the rules of global connectivity, and what that means for markets, militaries and the future of internet access itself. As SpaceX pushes beyond rockets into the networks that underpin an increasingly digital planet, its transformation carries even more far-reaching implications for global power and influence.

Part 2 will include:

- ◆ How launch dominance and vertical integration have given SpaceX an unassailable lead in LEO broadband
- ◆ Global competition and consolidation, from Amazon's deep-pocketed Project Kuiper to multi-orbit challengers like Eutelsat
- ◆ Military and geopolitical stakes, including Starshield's growing role in national security and rising concerns about overreliance on a single provider
- ◆ The direct-to-device revolution and how SpaceX is positioning Starlink to connect mass-market smartphones to forge a promising new market
- ◆ The regulatory and sustainability flashpoints that could shape, or constrain, Starlink's expansion.