ICIT

America’s Space Launch Infrastructure: A Critical Infrastructure Crisis?

Authors: Sam Berryessa, Hugo Holopainen, and Brett Freedman

Table of Contents

About ICIT

The Institute for Critical Infrastructure Technology (ICIT) is a nonprofit, nonpartisan, 501(c)3 think tank with the mission of modernizing, securing, and making resilient critical infrastructure that provides for people's foundational needs. ICIT takes no institutional positions on policy matters. Rather than advocate, ICIT is dedicated to being a resource for the organizations and communities that share our mission. The views and opinions expressed in this essay are solely those of the author(s) and do not necessarily reflect the official policy or position of ICIT. Any assumptions made within the analysis are not reflective of the position of any entity other than the author(s). To learn more, please visit www.icitech.org

America's Space Launch Monopoly: A Critical Infrastructure Crisis?

On the evening of May 28, 2026, residents of Cocoa Beach, Florida watched the sky turn orange. A Blue Origin New Glenn rocket, undergoing a routine engine test ahead of a satellite launch, exploded on its pad at Cape Canaveral's Launch Complex 36, destroying the vehicle and severely damaging the company's only operational launch site. No one was hurt, but in a single fireball, one of only three American companies capable of launching heavy payloads to orbit was completely hamstrung, delaying multiple projects including Amazon's Leo internet satellites and NASA's Artemis Moon mission. Despite Blue Origin's pledge to fly again by December, by some industry estimates, New Glenn launches could be completely frozen, potentially for a year or more.

Imagine, instead, that the explosion had happened to SpaceX.

Rockets Are Not the Whole System

When Americans think about "space launch," they picture rockets, but a rocket is only the visible tip of a sprawling industrial system. Launch infrastructure includes the launch pads which determine how the rocket is positioned and how everything is connected, integration hangars where rockets are assembled or connected, propellant pipelines which carry fuel from storage to launch, payload processing facilities which inspect and prepare the payload for integration, tracking ranges which follow the rocket during flight and coordinate airspace and maritime safety, roads, bridges, and power grids. When taken together, all of this infrastructure is what is required to place satellites in orbit. It is, in every meaningful sense, transportation infrastructure: a port system for a domain the entire modern economy depends on.

That infrastructure is in trouble. A June 2026 NASA Inspector General report found that Kennedy Space Center and Wallops Flight Facility are both in danger of reaching launch capacity as soon as 2028. In fact, Kennedy's Launch Complex 39 still relies on a power distribution system dating to the 1960s. The gaseous nitrogen pipelines running across Cape Canaveral cannot support simultaneous launch campaigns by New Glenn and the United Launch Alliance (ULA)'s Vulcan. NASA estimates the center needs at least $1 billion in upgrades; so far it has secured $250 million, only one quarter of that amount.

U.S. policy categorizes highways, ports, rail, and telecommunications networks as critical infrastructure — sixteen sectors formally designated by the federal government as so vital that their disruption would debilitate national security or the economy. Space systems are not one of them, despite the fact that GPS timing underpins financial transactions, satellite links carry military communications, and space-based sensors warn of missile attacks. Experts from RAND to the Space ISAC have argued that space already functions as critical infrastructure in everything but name, and the Cyberspace Solarium Commission recommended making the designation official. Launch is the chokepoint of this entire ecosystem.

America's Bottleneck Access to Space

The state of American access to space in mid-2026 is troublingly concentrated. SpaceX's Falcon 9 has flown more than 675 times with a success rate above 99.5 percent, which is a genuinely historic engineering achievement, yet it is also, right now, effectively the only ride. In the fourth quarter of 2025, SpaceX conducted 97 percent of all U.S. launches, and 83 percent of launches worldwide.

The would-be competitors keep stumbling. The rocket the Pentagon spent years waiting for, ULA's Vulcan Centaur, was finally certified for National Security Space Launch missions in March 2025 and flew its first national security payload that August. However, in February 2026, a solid rocket booster issue prompted the Space Force to pause national security launches on Vulcan, with officials weighing alternatives amid a potentially months-long grounding. Blue Origin's New Glenn managed three flights with only one fully successful before the May explosion grounded it entirely. Aerospace company Rocket Lab launches reliably and saw significant success with its responsive rapid launch Victus Haze mission with the U.S. Air Force, but its flagship Electron rocket is a small-lift vehicle carrying a few hundred kilograms; national security payloads routinely require ten to a hundred times that capacity. Rocket Lab's medium-lift Neutron has yet to fly.

In sum, of the three providers holding the Pentagon's most critical launch contracts, one is flying, one is paused, and one has no launch pad.

Congress enacted laws to prevent this situation from occurring. Federal law 10 U.S.C. § 2273 establishes as U.S. policy the maintenance of at least two launch vehicles capable of delivering any national security payload to orbit. That mandate exists precisely because a single point of failure in space access is a single point of failure in missile warning, secure communications, and reconnaissance. Yet despite this, here we are.

The Redundancy Paradox

The irony is that American satellite architecture has never been more resilient. The Pentagon has deliberately moved away from launching a handful of billion-dollar satellites, each one a giant target, toward proliferated constellations of many cheap, redundant spacecraft. The Space Development Agency's Proliferated Warfighter Space Architecture is deploying hundreds of small satellites in "tranches" for missile tracking and data transport, on the theory that an adversary cannot meaningfully degrade a mesh of hundreds of nodes.

However, this resilience in orbit depends on fragility on the ground, proliferation means more launches, and yet nearly every one of these launches funnels through one of two facilities: Cape Canaveral Space Force Station in Florida and Vandenberg Space Force Base in California, with Wallops Island, Virginia a distant third. The Cape supported 109 launches in 2025 and the Space Force projects that number could reach 500 per year by 2036. Vandenberg, the only U.S. site that can safely reach the polar orbits reconnaissance satellites require, surged from a handful of annual missions to 66 over five years, straining 1960s-era roads, bridges, and propellant logistics.

In September 2016, a Falcon 9 exploded during a pad test at the Cape, the same kind of accident that just befell Blue Origin, and that launch pad was out of action for more than a year. SpaceX survived because it had backup pads, but if a similar accident today took out SpaceX's launch pads in Cape Canaveral and Vandenberg, during an investigation which would ground SpaceX's Falcon fleet, the United States would lose essentially all of its launches. A nation planning for hundreds of missions a year could find itself capable of executing tens of or no missions for months, while constellations designed around constant replenishment slowly thinned out overhead. The satellites may be redundant, but the current system that sustains them is not.

What Europe's Hard Lesson Teaches

If this dangerous bottleneck sounds abstract, ask Europe. When Russia invaded Ukraine in 2022, Moscow pulled its Soyuz rockets from Europe's spaceport in French Guiana. With Ariane 5 retiring and Ariane 6 delayed, the continent briefly lost independent access to space entirely and resorted to buying rides from SpaceX for its own flagship missions. Europe is now clawing its way back. Ariane 6 debuted in July 2024 and has since strung together eight successful missions in a row, with up to eight launches planned for 2026. ESA leadership frames every flight in the same terms: "autonomous access to space" — sovereignty first, cost second. Europe is deliberately diversifying beyond one rocket and one pad, converting the old Soyuz site at Kourou for new entrants and supporting a wave of launch startups from Norway's Andøya Spaceport to Spain's PLD Space.

Europe's numbers remain a fraction of one percent of global launches, but the strategic logic is exactly right, and it is the same logic the U.S. Congress articulated in law.

Redundancy at Every Layer

The good news is that the policy scaffolding already exists; it just needs money, urgency, and follow-through. The Space Force's NSSL Phase 3 program was explicitly designed to widen the field, with a "Lane 1" for commercial-like missions that has now on-ramped seven providers: SpaceX, ULA, Blue Origin, Rocket Lab, Stoke Space, and most recently Relativity Space and Impulse Space. This Phase 3 program also has a "Lane 2" that for the first time named three primary providers instead of two, splitting $13.7 billion in contracts through 2029. In April 2026, with Vulcan grounded and New Glenn uncertified, the Space Force went further, asking industry whether anyone else could take on 25 high-priority missions through 2029.

Contracts alone, however, do not create rockets, and rockets alone do not create resilience. Four things need to happen:

First, fund the ports. Congress has provided $1.3 billion through 2028 for the "Spaceport of the Future" effort at the Cape and Vandenberg. This funding represents a solid start, but falls well short of the several billion officials say the ranges need, and short of the $1 billion-plus Kennedy requires.

Second, build a third door. Air Force Secretary Troy Meink told Congress in May that a Space Force study recommends developing a third launch site capable of hosting large vehicles. The service is already exploring partnerships with spaceports in Texas and Virginia, and even sea-based platforms. Geographic dispersion of pads is to launch what route diversity is to telecommunications: the difference between an outage and a catastrophe.

Third, keep widening the vehicle base and get new entrants to the pad. Rocket Lab's Neutron, NASA's Nova, Relativity Space's Terran R, and a re-flown New Glenn each represent a hedge against the day a Falcon anomaly grounds the fleet. Congress should sustain the on-ramp mechanism, and resist the false economy of solely consolidating around the cheapest provider.

Lastly, call space and launch what they are. Designating space systems and expressly including launch infrastructure as the seventeenth critical infrastructure sector would unlock the risk-management machinery, information sharing, and emergency funding pathways we routinely extend to transportation and telecommunications, sectors that themselves run on the domain of space.

The May 28 fireball at Launch Complex 36 cost no lives and, in the grand scheme of things, one rocket and one pad. We should treat it as a cheap warning. The United States has built the most capable launch enterprise in human history atop two coastal ranges, one dominant company, and a set of pipelines and power grids older than Apollo. This launch enterprise has achieved resilience through redundancy in orbit, but this resilience means nothing without improved redundancy on the ground.

ICIT

www.icitech.org