WHITEPAPER

Capital Under Pressure: Treasury Management and the Space Industrial Base

How Smart Financial Architecture Will Separate the Winners from the Casualties in the Next Era of Space Commerce

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$1.8T
Projected global space economy by 2035

43 days
2025 government shutdown — longest in modern U.S. history

76x
Higher cost for space-grade components vs. commercial equivalents

Executive Summary

The space economy is entering its infrastructure era — and it is arriving at the worst possible moment for companies that have not prepared their financial foundations. The global space industry, valued at over $613 billion annually, is projected to reach $1.8 trillion by 2035. Yet this headline growth masks a set of compounding financial vulnerabilities that are actively threatening the survival of otherwise technically excellent companies.

This whitepaper argues that treasury management — cash segmentation, working capital planning, capital stack diversification, and cash flow forecasting with contract-level granularity — is no longer a back-office function. For space companies transitioning from development to production, it is an existential strategic capability.

Drawing on Klear's analysis of the space finance landscape and a landmark March 2026 supply chain report by PwC and the Aerospace Industries Association (AIA), this paper documents the

convergence of four pressures: exploding demand signals, deeply constrained supply chains, unpredictable government cash flows, and undercapitalized financial infrastructure. Understanding how these forces interact — and how to build a capital architecture resilient enough to withstand them — is the defining challenge for space company leadership in 2026 and beyond.

KEY FINDING

Space companies are not failing because their technology is wrong. They are failing because their capital architecture is not built for the transition from development to production — a transition now underway at scale across the entire industry simultaneously.

1. The Infrastructure Era and Its Financial Demands

From Deep Tech to Manufacturing Firm

Space companies have historically funded themselves through equity — venture capital, angel rounds, and government grants. This model works well in R&D mode, when the primary currency is human capital and prototype hardware. But the industry has crossed a threshold. Companies that spent the last five years maturing technology from TRL 4 to TRL 8 are now being asked to deliver production hardware on fixed-price contracts with milestone-based government payment schedules.

This is a fundamentally different business. You no longer spin up compute capacity and deploy code. You bend metal, qualify optics, manage subcontractors, navigate International Traffic in Arms Regulations (ITAR), and operate supply chains with 18-month lead times. Your bill of materials does not compress with scale the way software marginal costs do — and the working capital demands of a $25 million production contract are categorically different from a $2 million prototype award.

PwC and AIA's 2026 supply chain report confirms that this transition is happening at scale. As aerospace products and parts manufacturing output grew 30% over the past five years, capacity utilization in the sector reached 74% as of December 2025 — not because new capacity was added, but because existing facilities are being pushed harder. The average age of private industrial structures in the aerospace sector reached 25.9 years in 2024. The industry is running faster on aging infrastructure, and the financial pressure is flowing directly onto the balance sheets of every company in the supply chain.

The Demand Signal Has Never Been Louder — Or More Dangerous

The macro picture is genuinely compelling. Commercial revenues now account for nearly 80% of space industry activity. U.S. space startups raised $3.1 billion in Q2 2025 alone — the second-highest quarter on record. Satellite manufacturing is growing at a 16%+ compound annual growth rate. Launch costs have fallen more than 80% compared to early-2000 levels.

But a paradox lies at the heart of this growth story: success, in deep tech manufacturing, can accelerate cash burn faster than it accelerates cash receipts. When a SaaS company wins a $5 million deal, it deploys existing infrastructure. When a space company wins a $5 million deal, it needs to procure long-lead materials, hire specialized engineers, manage subcontractors, qualify components, and deliver hardware — often on a fixed-price basis — with milestone payments that lag actual expenditures by quarters, not days.

This structural cash flow mismatch gets worse as companies win more business. A $15 million contract sounds transformational until you realize it requires $4 million in long-lead procurement six months before the first milestone payment arrives. Capital risk — the risk that you have the right product, the right customer, and the right contract, but run out of runway before the cash arrives — is what kills companies that should have survived.

2. The Supply Chain Squeeze: What PwC and AIA Found

A System Built for Yesterday

The March 2026 PwC/AIA white paper, 'Strengthening America's Space Supply Chain,' documents a supply chain under extraordinary strain. Its central finding: demand growth is accelerating while supply capacity is not keeping pace — and the constraints are deeply structural, not cyclical.

Space launched nearly ten times as many objects in 2025 as it did in 2019 (3,708 in the U.S. alone). But the industrial base supporting this activity was built for a different era. Legacy designs persist because qualifying a new supplier or component requires extensive testing and documentation, often costing millions with no immediate return. The result is that the industry defaults to familiar configurations — even as those configurations become increasingly difficult to source.

Specific Bottlenecks Creating Financial Pressure

The PwC/AIA report identifies specific component-level constraints with direct financial consequences for space companies:

- Carbon-fiber composites — essential for satellite bus panels, payload fairings, and pressure vessels — are available from only three major U.S. aerospace-grade suppliers. Aerospace-grade carbon fiber has a minimum lead time of six months, and U.S. 'Buy American' requirements limit the ability to source alternatives abroad.
- Space-grade switchgears — power distribution components used in manufacturing facilities and launch sites — are carrying lead times of up to 27 months, compared to less than 30 weeks as recently as December 2023. This is a direct result of the AI industry's semiconductor demand crowding out space-sector orders.
- Space-grade connectors cost 76 times their commercial equivalents. FPGA development kits for space applications run 104 times the price of commercial versions. These are not

anomalies — they are the result of high qualification burdens, limited supplier competition, and the space sector's structural inability to compete on volume with automotive, data center, and defense customers.

- Optical inter-satellite links (OISLs), critical for the next generation of satellite constellations, face severe supply chain delays. The Space Development Agency's initial demonstration tranche launched two years behind schedule, with 50% of prime contractors unable to demonstrate OISL capabilities.

Each of these constraints translates directly to financial risk for space companies. Long lead times mean procurement capital must be committed months before milestone payments arrive. Limited supplier competition means higher component costs must be absorbed in fixed-price contracts. Qualification burdens mean that adapting to supply disruptions is slow and expensive.

The AI Boom Is Making It Worse

A particularly significant finding from the PwC/AIA analysis is the role of AI infrastructure growth in crowding out space industry access to critical components. Hyperscalers and major technology companies pursuing space-based data centers and large satellite constellations are better positioned to secure long-term supply agreements and pre-purchase production capacity — leaving traditional space programs competing for whatever remains.

This is not a temporary dynamic. The Department of Energy projects that U.S. transmission systems need to expand by 60% by 2030, driving continued demand for the same electrical equipment — switchgears, transformers, power distribution components — that space companies need for launch sites, test stands, and manufacturing facilities. The space sector's relatively small procurement volumes make it a structurally disadvantaged buyer in this environment.

SUPPLY CHAIN REALITY CHECK

PwC's analysis found that products receiving five or more competitive bids achieve nearly 50% savings on average compared to products receiving only two bids or fewer. Space companies typically receive two to three quotes for critical components. This is not just a supply chain problem — it is a direct cost structure problem with immediate balance sheet consequences.

3. Government as Both Customer and Risk Factor

The Payment Gap Problem

For most space companies, the U.S. government is the primary customer. This creates a fundamental dependency on a payment system that is structurally slow, politically volatile, and increasingly unpredictable.

Even in normal operating conditions, the gap between winning a government contract and receiving the first payment is far longer than most founders anticipate. Procurement Acquisition Lead Time — just the period from solicitation to contract award — routinely stretches six months or more. After award, funding may not be obligated immediately. Performance begins, invoices are submitted, and payment processing adds another 30 to 90 days. For milestone-based contracts, a company may complete significant work before triggering the first payment event.

The PwC/AIA report documents the systemic nature of this problem: continuing resolutions have appeared in 46 of the last 49 federal fiscal years. Under continuing resolutions, agencies are prohibited from initiating new programs, delay contract awards, and force suppliers into stop-start production cycles. Government-obligated contract awards for space products have seen swings of 56% growth in a single year and 49% decline over a two-year period. The volatility is structural, not exceptional.

The 2025-2026 Policy Environment: A Perfect Storm

The current environment represents an acute intensification of these chronic conditions. FY2026 opened with the longest government shutdown in modern U.S. history — 43 days, running from October 1 through November 12, 2025. During that period, the Department of Defense could not issue new contracts, modify existing ones, or process payments. Even after reopening, continuing resolutions prohibited new program starts.

The Department of Government Efficiency's influence on federal contracting compounded the disruption. Billions in defense contracts were cancelled or terminated in FY2025. The federal acquisition workforce — reduced by roughly 25% in some agencies — became more cautious, slower to make award decisions, and less willing to use the flexible contracting mechanisms (OTAs, SBIRs, rapid acquisition pathways) that space startups depend on.

The SBIR/STTR programs — a critical early-stage funding source — saw their authorization lapse on October 1, 2025, and reauthorization remained stalled as of this writing. For space companies modeling government cash flows, the combination of shutdown-driven delays, continuing resolution restrictions, DOGE-driven contract reviews, and an acquisition workforce in reorganization means that a contract expected to generate cash in Q1 might not produce its first payment until Q3 or Q4.

For a company burning $300K per month, that is $1.8 million in unplanned bridge financing that has to come from somewhere. If the capital stack cannot absorb that shock, the company may not survive — not because its technology failed or its customer walked away, but because the federal budget process is broken.

THE NDAA REFORM PARADOX

The FY2026 NDAA contains genuinely meaningful acquisition reforms — portfolio-based acquisition management, higher compliance thresholds for nontraditional contractors, and expanded preferences for commercial products. But reform creates transition risk. The Pentagon is simultaneously implementing a new acquisition framework and operating under

continuing resolutions. For space companies waiting on contract actions, the near-term effect is delay, even as the strategic intent is acceleration.

4. Treasury Management as Strategic Infrastructure

What Treasury Management Actually Means for Space Companies

For most early-stage founders, 'treasury management' sounds like something a Fortune 500 CFO worries about — sweep accounts and money market funds, back-office plumbing that can wait until the company is bigger. That instinct is wrong, and in the space industry specifically, it can be fatal.

Treasury management, properly understood, is the discipline of ensuring that the right capital is in the right place at the right time — with enough yield, liquidity, and protection to support the company's operational and strategic objectives. For a Series A to Series B space company, this means five interconnected capabilities:

1. Cash Segmentation

Most founders treat all their cash as a single pool. That is how you end up accidentally committing to a procurement timeline you cannot fund. Effective cash segmentation requires understanding — at a granular level — the difference between operating cash (what you need in the next six months to sustain operations), near-term reserves (six to 18 months of committed obligations), and strategic cash (capital earmarked for longer-term growth and optionality).

Given the supply chain lead times documented by PwC/AIA — six months for aerospace-grade carbon fiber, 27 months for space-grade switchgears — cash segmentation must extend further forward than most standard financial models assume. The capital required for procurement commitments on a contract awarded today may not appear in traditional burn-rate analysis at all.

2. Contract-Level Cash Flow Forecasting

Generic burn-rate math does not work for hardware companies. You need to model cash flows against specific contract milestones, procurement timelines, and payment schedules. A 90-day delay on a government milestone payment — entirely plausible given the dynamics described above — can create a liquidity crisis that has nothing to do with the company's technology or market position.

This requires modeling worst-case scenarios: What is the company's cash position if two major payments slip simultaneously? What if a continuing resolution delays a contract award by a quarter? What if a sole-source supplier delivers late, triggering a milestone delay? These scenarios should be modeled before contracts are signed, not after the company is already in cash crisis.

3. Yield on Idle Capital

A company that has raised $12 million with a gross burn of $300K per month has significant capital sitting idle at any given time. At current risk-free rates, optimizing that capital through Treasury bills, government money market funds, or FDIC-insured sweep accounts can generate meaningful non-dilutive returns. On a $10 million balance, that is potentially $300,000 to $400,000 per year — the equivalent of two additional engineers — without taking on any investment risk.

This is not a minor consideration. For companies competing for scarce engineering talent in a tight labor market, non-dilutive yield on idle capital is a meaningful source of operating leverage. It also extends runway — which, given the government payment delays documented above, is existential.

4. Counterparty and Concentration Risk

The SVB collapse in 2023 was a recent reminder that concentration risk is real. Space companies with large cash balances held at a single institution face the risk that a bank failure or operational disruption could freeze access to operating capital at exactly the moment a procurement deadline must be met. Diversifying across FDIC-insured institutions or using automated sweep networks is basic financial hygiene — but it requires deliberate architecture, not passive default.

5. Working Capital Planning for Contract Growth

This is the most critical piece for scaling space companies. As the contract pipeline grows, each new contract must be modeled for its working capital requirements before execution begins. What are the procurement lead times? When do milestone payments arrive relative to when expenditures must be made? What is the worst-case cash position if two major payments slip simultaneously? For supply-constrained components — like those documented in the PwC/AIA report — how far in advance must purchasing commitments be made, and what is the capital implication?

5. Building the Right Capital Stack

Why Pure-Equity Financing Is Insufficient

Early-stage space companies typically fund themselves through equity. That model works when the company is in R&D mode. But as the transition from development to production accelerates, a pure-equity capital stack becomes dangerously inefficient.

Consider the implication: if you are raising dilutive equity to fund working capital on contracts you have already won, you are giving away ownership in your company to finance accounts

receivable. That is not venture capital — it is bridge financing at venture pricing. Your investors did not write you a check to become your company's line of credit.

The mature capital stack for a scaling space company requires multiple layers, each serving a distinct purpose:

Capital Type	Best Use	Key Risk if Misused
Venture Equity	R&D, long-term capability development, strategic hires, growth optionality	Diluting founders to finance receivables — giving away equity at venture pricing to solve a working capital problem
Venture Debt / Credit Facilities	Working capital fluctuations, contract execution gaps, procurement float	Over-leveraging against future government payments that may be delayed by CRs or shutdowns
Contract Financing / Factoring	Monetizing long-duration receivables from creditworthy counterparties (DoD, NASA, prime contractors)	Under-leveraging — not monetizing receivables that have real economic value
Government Instruments (SBIR/STTR, OTAs, Advance Payments)	Technology maturation, reducing equity burden on R&D, bridging development-to-production transition	Over-reliance — lapsed SBIR authorization in 2025 demonstrated that government instruments can disappear without warning

6. The Supply Chain-Treasury Interface

Why Supply Chain Constraints Are Finance Problems

The PwC/AIA supply chain analysis and Klear's treasury management framework converge on a single insight: supply chain constraints are, at their core, financial constraints. Every long lead time, every sole-source supplier, every qualification burden represents a capital commitment that must be made before a corresponding revenue event — and must be managed as such.

Consider the carbon-fiber composite supply chain. With only three major U.S. aerospace-grade suppliers and a minimum six-month lead time, a space company that wins a new production contract in January cannot simply order materials in April. It must commit procurement capital in July of the prior year — potentially before the contract is even awarded. That capital commitment is an off-balance-sheet financial obligation that standard burn-rate analysis will not capture.

The PwC/AIA report documents that focused supply chain improvement efforts have achieved dramatic results — reducing lead times from over a year to under 100 days in some cases. But until these systemic improvements materialize across the industrial base, space companies

must manage their financial architecture around the constraints that exist today, not the ones that policymakers aspire to solve.

Practical Implications for Financial Planning

Several supply chain realities identified by PwC and AIA have direct implications for treasury management practice:

- Long-lead material procurement must be modeled as a separate cash flow category, not bundled into general operating expenses. A company with $500K in monthly operating burn may have a $3M procurement commitment sitting outside its standard financial model — invisible until it comes due.
- Sole-source supplier dependencies represent not just operational risk but financial risk. The PwC/AIA finding that products with five or more competitive bids achieve nearly 50% savings compared to products with one to two bids means that expanding the supplier base is also a margin improvement strategy. Treasury planning should account for the cost premium of concentrated sourcing.
- Qualification and testing costs — documented by PwC/AIA as a significant barrier to supplier expansion — are capital expenditures that may qualify for R&D tax credits. Space companies regularly leave these credits unclaimed due to unfamiliarity with the rules or concerns about audit risk. A company performing high-uncertainty technical activities — prototyping, testing, systems integration, qualification — almost certainly has qualifying activities that are not being captured.
- AI-driven demand for space-based infrastructure may crowd out access to critical components in the near term. Space companies should model scenarios in which key long-lead components become unavailable or face cost increases of 20 to 40 percent — and stress-test their capital positions against those scenarios before signing fixed-price contracts.

7. What Capital Intelligence Looks Like in Practice

From Reactive to Proactive Financial Architecture

The term 'capital intelligence' captures something that goes beyond traditional financial management. It means understanding not just how much cash a company has, but where it needs to be, when it needs to arrive, and what it should be doing in the meantime. It means modeling the capital stack against the contract pipeline, not just the burn rate. It means treating treasury management as a strategic function that directly enables the ability to win, execute, and scale — not as an administrative task to be outsourced or deferred.

In practice, capital intelligence requires several capabilities that most early-stage space companies do not currently have:

Dynamic Cash Flow Modeling

A static financial model — projected burn rate, projected cash balance, projected runway — is insufficient for hardware companies with milestone-based government contracts. Dynamic modeling requires building cash flow projections at the contract level, integrating milestone payment schedules, procurement commitment timelines, and probabilistic scenarios for government payment delays.

The key questions the model must answer: What is the company's cash position in each of the next 18 months under three scenarios — base case, delayed payments (90-day slip), and compounded delay (two major payments slip simultaneously)? What is the minimum cash threshold below which operations are compromised? How much idle capital exists in each period, and is it earning appropriate yield?

Supplier Financial Risk Integration

The PwC/AIA report documents significant supplier-level financial risk — companies declining to bid on space work because the economics are unfavorable, sole-source situations that leave buyers with no alternatives when a supplier faces capacity constraints. Space companies should understand the financial health of their critical suppliers, particularly for sole-sourced long-lead components. A supplier that exits the market mid-program is not just an operational crisis — it is a financial one, requiring emergency sourcing at premium cost and potentially triggering milestone delays that cascade through the company's payment schedule.

Working Capital Covenant Management

For companies using venture debt or credit facilities, understanding the covenant structure relative to working capital demands is essential. Government payment delays can cause covenant violations that trigger technical defaults — not because the underlying business has deteriorated, but because a government contracting officer was furloughed for 43 days. Companies should negotiate credit facility terms that account for the documented volatility of government cash flows, including provisions for milestone payment delays attributable to government budget dysfunction.

THE NON-DILUTIVE OPPORTUNITY

On a $10 million average cash balance, optimizing yield through government money market funds and Treasury instruments at current rates generates $300,000-$400,000 in annual non-dilutive return. Over a 24-month period between funding rounds, that is $600,000-$800,000 — enough to fund a critical engineering hire or cover a government payment delay without raising a bridge round.

8. Recommendations for Space Company Leadership

For Founders and CEOs

- Treat treasury management as a Q1 priority, not a later-stage concern. The companies that survive the current transition will be those that built financial infrastructure before they needed it, not those that scrambled to construct it during a cash crisis.
- Conduct a working capital audit for every contract in the pipeline. Before signing any new contract, model the cash flow implications at the milestone level. Understand the worst-case payment scenario and verify the company can survive it.
- Segment cash explicitly. Establish distinct pools for operating cash, near-term reserves, and strategic capital. Do not commingle procurement commitments with operating budget.
- Begin optimizing idle capital yield now. If the company holds more than $3 million in cash, the difference between a checking account and a properly structured Treasury management program can be significant on an annualized basis.
- Map sole-source supplier dependencies to financial scenarios. Understand the cost and timeline implications of losing access to any single-source supplier, and build contingency reserves accordingly.

For CFOs and Finance Leaders

- Build a dynamic, contract-level cash flow model that integrates procurement commitments, milestone payment schedules, and probability-weighted delay scenarios. Update it monthly.
- Evaluate the full capital stack. If the company is using equity to fund working capital, explore whether a properly structured credit facility or contract financing arrangement would be more efficient.
- Audit R&D tax credit eligibility. Space companies performing prototyping, testing, systems integration, and qualification activities almost certainly have qualifying activities that are not being claimed. The credit provides a dollar-for-dollar tax liability reduction.
- Diversify banking relationships and implement automated sweep programs. Do not hold more than FDIC insurance limits at any single institution. Ensure that operating capital is accessible even if a banking relationship is disrupted.
- Model government payment delay scenarios explicitly. Given the documented dynamics of continuing resolutions, shutdowns, and DOGE-driven contract reviews, stress-test the company's cash position against a 90-day and 180-day government payment delay.

For Boards and Investors

- Add treasury management performance to the standard board reporting package. Cash position, yield on idle capital, working capital metrics by contract, and worst-case cash scenario should be reviewed quarterly — not just top-level burn rate and runway.
- Evaluate whether portfolio companies have the right capital stack for their stage. A company winning its first $20 million production contracts may need venture debt or contract financing, not just additional equity. Board members with financial expertise should actively drive this conversation.

- Factor government payment risk into portfolio company valuations and runway assessments. A company with 18 months of runway under base-case assumptions may have 9 months of runway if government payments are delayed 90 days. These are not equivalent risk profiles.

Conclusion: The Financial Architecture Imperative

The space economy is projected to grow from $630 billion today to $1.8 trillion by 2035. The companies that will capture the lion's share of that growth will not simply be the ones with the best technology. They will be the ones with the financial architecture to scale — companies that understood, early, that treasury management is not a back-office function but a strategic capability as mission-critical as propulsion or avionics.

The convergence documented in this paper — exploding demand signals, deeply constrained supply chains, volatile government cash flows, and the industry-wide transition from development to manufacturing — creates both a threat and an opportunity. The threat is that technically excellent companies will fail not because their technology is wrong but because their capital architecture cannot absorb the cash flow mismatches that are inherent to this transition.

The opportunity is that companies that invest now in financial infrastructure — dynamic cash flow modeling, diversified capital stacks, cash segmentation, optimized yield on idle capital, and integrated supply chain financial risk management — will have a durable competitive advantage. When the supply chain is constrained and government payments are delayed, the company with 18 months of modeled runway is in a fundamentally different competitive position than the company with 18 months of assumed runway.

The rockets are ready. The contracts are coming. The supply chains are under strain, and the government payment system is more volatile than it has been in decades. The question is whether your capital stack is built for what comes next.

About Klear

Klear builds capital intelligence infrastructure for the space economy. We provide space founders and finance leaders with the financial tools, cash management architecture, and treasury optimization capabilities they need to navigate the transition from development to production — without losing runway to avoidable financial risk. Klear partners with Stripe Payments Company for money transmission services and account services with funds held at Fifth Third Bank, N.A., Member FDIC.

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Sources: Klear internal analysis; PwC / Aerospace Industries Association, 'Strengthening America's Space Supply Chain,' March 2026; Space Foundation, The Space Report 2025 Q2; Bureau of Economic Analysis, U.S. Space Economy Statistics

2025; Congressional Research Service, Continuing Resolutions: Overview of Components and Practices, 2025; Department of Defense Office of Inspector General audit data.