

WHITE PAPER

The Defense Industrial Base Is Not Maxed Out. It Is Misconfigured for Ramp

April 2026

By Thomas Peddicord, Charlie Davis, Justin Rodriguez, Pilar Landon, Dakota Santana-Grace, and Charlotte Kiang

Idea in Brief

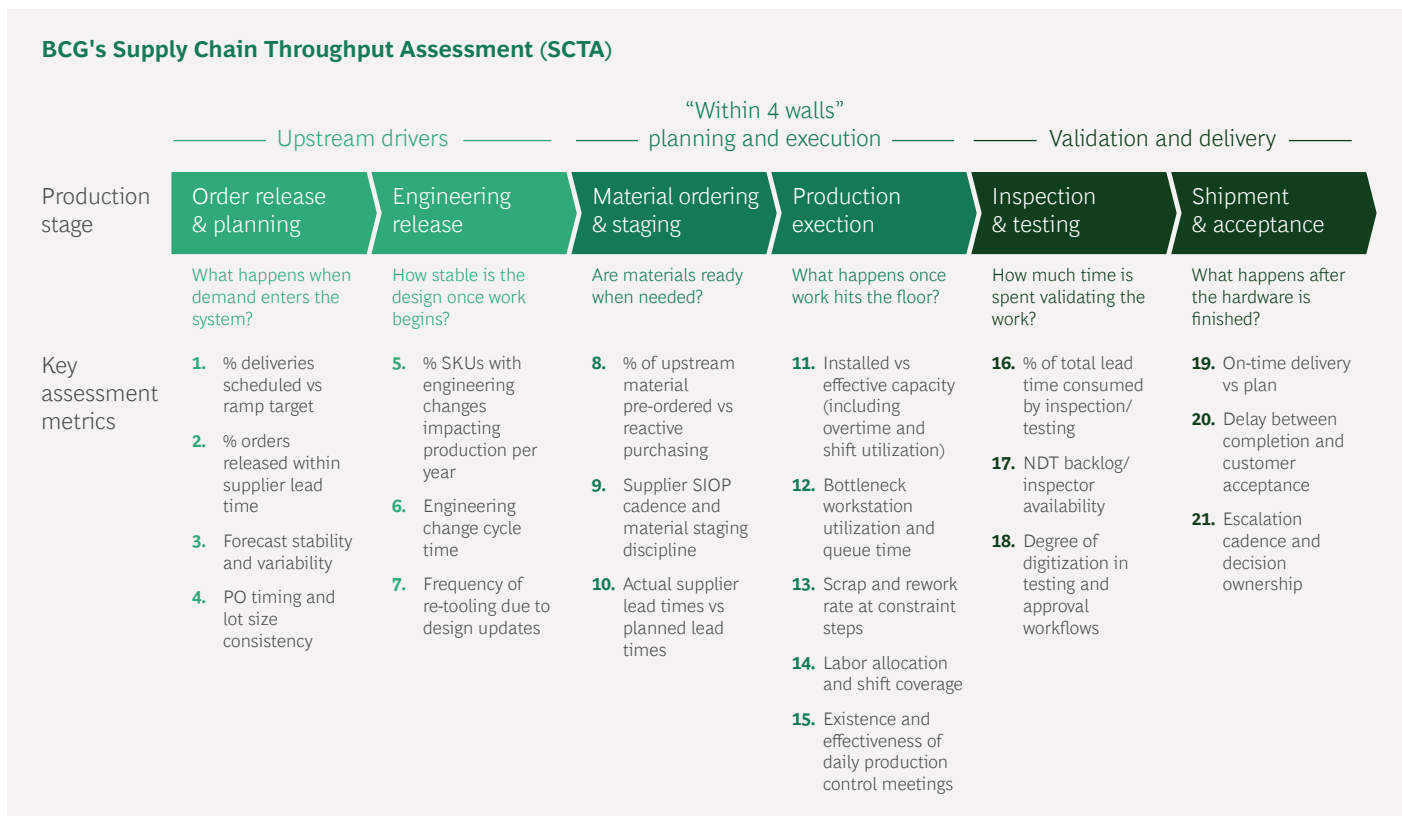
The US defense industrial base is being asked to scale at a pace not seen in decades—across air, sea, and missile defense simultaneously. As production demand rises across multiple programs, the supply base is struggling to keep pace: build rates are slipping, lead times are extending, and even substantial funding increases are not consistently translating into delivered capability.

Most leaders point to supplier capacity as the primary constraint – but that diagnosis is incomplete. BCG’s work over the past several years shows that the majority of underperformance stems from structural issues: how primes and government contract, signal demand, and manage change – not from hard capacity limits or operational maturity. Supplier performance is influenced by far more than what happens inside their own facilities. Upstream materials, prime coordination, government interactions, and delivery requirements frequently have a greater impact on production outcomes than any single supplier’s internal operations.

At its core, the challenge is not a lack of capacity, but a mismatch between the scale of demand and the economic conditions under which suppliers are asked to respond. Suppliers will only invest in labor, inventory, and capital when demand signals are credible, incentives are aligned, and returns justify the risk. Today, those conditions are often inconsistent – resulting in a system where funding increases do not reliably translate into production output.

EXHIBIT 1

BCG’s Supply Chain Throughput Assessment (SCTA) outlines potential production ramp constraints from order release to part acceptance



This has direct implications for how the system must respond. Meeting Department of War production goals will not come from pushing suppliers harder – or simply adding more funding into the system. It will require changing how that funding is deployed: redesigning incentives and demand to give suppliers the confidence to invest in labor, inventory, and capital ahead of need.

For government stakeholders, this means moving beyond funding levels to funding structure, ensuring dollars translate into credible, durable demand. For primes, it means aligning incentives with sub-tier suppliers through multi-year visibility, stabilized schedules, and supplier readiness investments. Suppliers, in turn, can build resilient, investable businesses—diversifying demand, strengthening balance sheets, and preparing to scale—to capture the upside of the ramp.

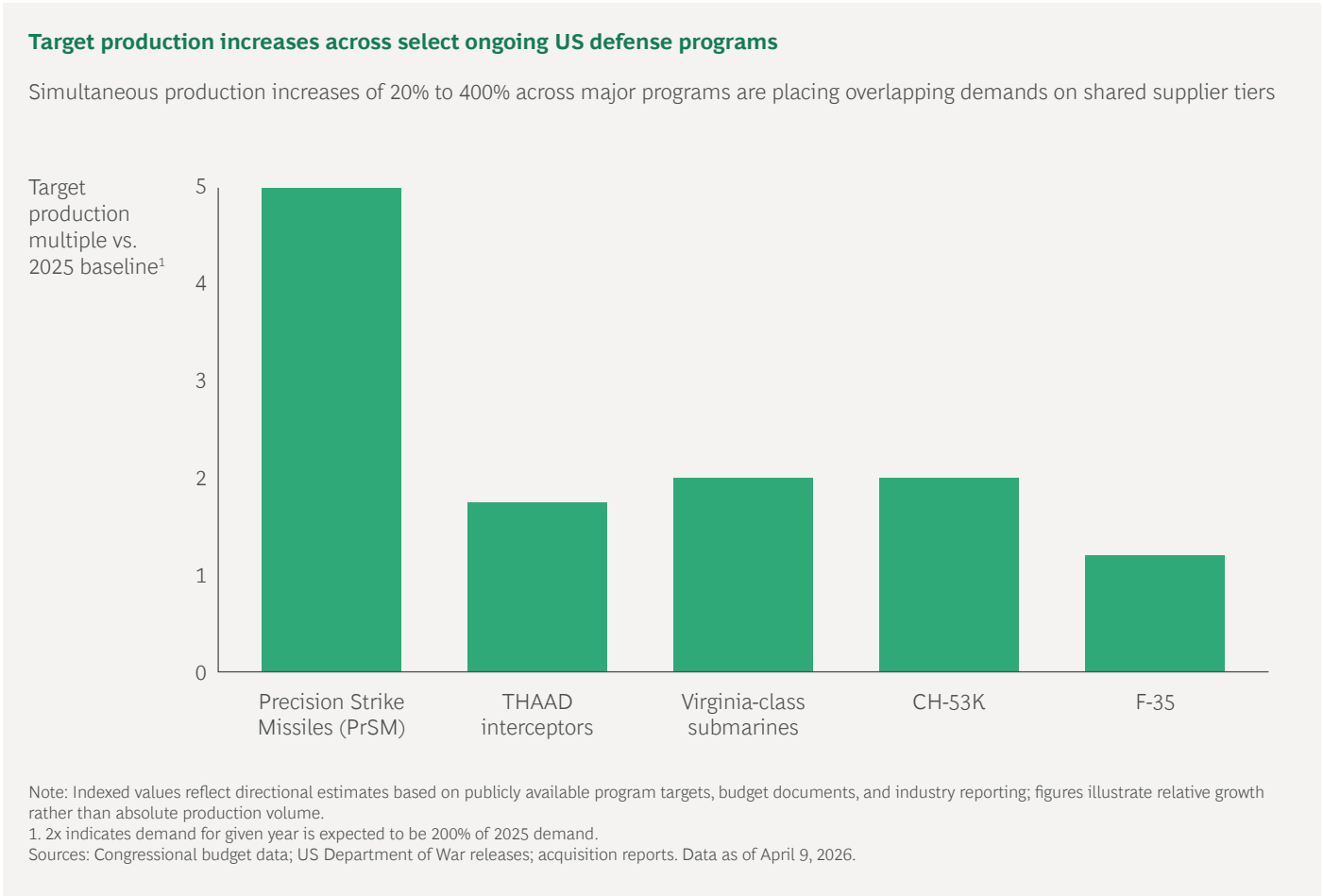
Those who act on this shift now – government stakeholders, primes, and suppliers alike – will secure target build rates in the next 2-3 years. Those who do not will continue to see funding outpace production, leaving significant value on the table for taxpayers and industry.

The Generational Ramp

The United States is entering a defense production surge with few modern parallels. The closest historical analogue is World War II, when output was centrally coordinated, designs were locked, and materials were allocated across the economy to maximize throughput. Today’s system is far more fragmented and market-based – but the scale of ambition is once again national.

This surge is not a single, isolated ramp; it is multiple, overlapping ramps across air, sea, and missile domains. The Navy aims to more than double Virginia-class submarine production, while missile programs such as THAAD and the Precision Strike Missile also target multi-fold increases. Aircraft programs, including the F-35 and CH-53K, continue to sustain elevated rates even as new platforms, such as the B-21 and autonomous naval systems, come online. The convergence of these surges intensifies pressure on suppliers at every tier.

EXHIBIT 2:
Publicly announced production ramps for ongoing US defense programs as of April 2026



Primes face the challenge of managing these interdependent ramps while coordinating complex schedules, communicating demand to sub-tier suppliers, and navigating frequent engineering changes. Despite these pressures, the U.S. defense supply base has repeatedly demonstrated the ability to scale output, adapt to complex specifications, and deliver critical components under high-stakes conditions.

Upstream materials and specialized components can emerge as temporary bottlenecks, but these are symptoms rather than root causes. The system was never designed to scale at this pace or across so many programs concurrently. Persistent underperformance is rarely due to capacity limits alone; gaps in incentives, demand signaling, and structural relationships across primes, sub-tiers, and government all contribute to delays and inefficiencies. Understanding this context is critical to unlocking the latent power of the industrial base.

The “Big Four” Barriers

BCG’s recent fieldwork – grounded in on-site visits to more than 50 suppliers – shows that roughly 70% of supplier underperformance lies outside the suppliers’ direct control. Internal operations account for only a minority of challenges; most stem from upstream materials, prime coordination, government interactions, and delivery requirements.

In this environment, behaviors that might appear suboptimal are often rational responses to uncertainty. Without firm commitments or clear visibility into future demand, suppliers manage risk by:

- **Deferring inventory purchases that would reduce lead times**
- **Hesitating to add shifts that depend on sustained volume**
- **Delaying capital investments that require years to pay back**

These patterns are symptoms, not root causes. Unlocking the latent capacity of the defense industrial base requires addressing the systemic factors that drive them – misaligned demand signals, unstable production systems, design volatility, and inconsistent economic incentives.

BCG’s analysis identifies four systemic root causes that create economic and operational barriers to scaling:

- 1 Demand signals do not flow consistently.** Suppliers often rely on formal forecasts or informal cues from primes to anticipate demand – but both primes and government programs can contribute to ambiguity. Even when primes could anticipate program expansions or sustained production needs, inconsistent purchasing and limited visibility reduce the confidence suppliers need to invest ahead of demand. At its core, this reflects a breakdown in how demand is translated into coordinated, forward-looking production plans across the system. Recent history reinforces this dynamic: suppliers have invested to support anticipated ramps – such as munitions surges following Ukraine or expected increases in major platform production – only to face delayed orders, shifting procurement profiles, or program restructurings that leave inventory, labor, and tooling underutilized.
- 2 Just-in-time (JIT) practices strain an unstable system.** JIT is not inherently flawed, but many primes lack a stable production system capable of tuning throughput up or down to meet requirements. Inconsistent ordering drives unstable release patterns, inefficient lot sizes, and delayed material procurement. Suppliers cannot batch production or plan capacity effectively against such volatility. In practice, suppliers often face clustered or stop-start order releases – such as large end-of-quarter purchase orders followed by periods of inactivity – which disrupt production sequencing and force inefficient expediting or idle capacity.
- 3 Design instability disrupts scale and timely ordering.** Frequent engineering changes – driven by primes or government requirements – ripple through the supply base, resetting tooling, inspection protocols, and inventory strategies. Programs with high configuration variability demonstrate how complexity can prevent the system from benefiting from learning curves or economies of scale. Late-issued purchase orders often reflect drawings and specifications finalized only at the last minute. Public reporting has highlighted this challenge: for example, concurrency and late design changes in the F-35 program have required suppliers to rework parts and adjust production processes, while U.S. Navy shipbuilding programs have experienced design revisions that ripple through sub-tier suppliers, delaying orders and disrupting material planning.
- 4 Supplier economics are poorly understood and treated uniformly.** A founder-led machine shop, a private equity-backed casting house, and a diversified public supplier may all appear identical on a dashboard, but their behaviors are shaped by fundamentally different constraints: access to capital, customer concentration, margin structure, and competing demand. Treating suppliers as interchangeable leads to predictable misalignment and missed opportunities to unlock capacity through tailored interventions. These dynamics are particularly visible in upstream tiers of the supply chain. For example, castings and forgings businesses – often capital-intensive and capacity-constrained – face long investment lead times and volatile demand signals. Delays at this stage routinely cascade into mechanical and fluid assemblies that depend on them, in some cases extending downstream lead times by a year or more.

Winning Through Economics

Meeting the scale required by overlapping production ramps will require multiple interventions across the system. Deploying throughput or quality teams, optimizing labor, and improving operational performance can deliver meaningful gains – often driving 20–50% improvements, and in some cases significantly more without major capital investment. These efforts are critical and often the fastest way to unlock near-term capacity. However, even sustained operational improvements alone are unlikely to close the gap between current capabilities and the 2–3x output increases required across multiple programs. Achieving that scale will also require new capacity: additional labor, extra shifts, and, in many cases, new equipment or automation. Suppliers will only make those investments if the incentives are credible and aligned.

Success depends on government, primes, and suppliers acting together, each activating the levers only they can control. Addressing these barriers does not require four independent fixes, but a coordinated shift in how demand is planned, communicated, and incentivized across the system. Four critical actions can help realign the system and unlock capacity, each targeting a different structural constraint:

- 1 Signal demand clearly and align orders to target rates (Government & Primes).** Suppliers are unlikely to invest against intermittent or reactive order flows. Too often, orders reflect current executable rates rather than future production targets—reinforcing a cycle where limited capacity today constrains investment for tomorrow. At its core, this is a planning problem: demand is not consistently translated into coordinated, forward-looking production plans across government, primes, and suppliers. While it is reasonable for government stakeholders to question whether suppliers can deliver at higher rates, breaking this cycle requires greater transparency into supplier production systems and bottlenecks – giving confidence that additional demand will translate into measurable output. By ordering to the target rate and using inventory strategically to bridge internal gaps, government programs and primes provide the visibility suppliers need to batch production, plan capacity, and scale efficiently. Clear, credible demand signals reduce uncertainty – and unlock investment.
- 2 Pursue multi-year agreements and credible commitments to enable investment (Government & Primes).** The supply base cannot scale labor, inventory, or capital without confidence that future demand will materialize. Multi-year agreements—typically five to seven years for labor and inventory scaling, and seven to ten years or more for automation and dedicated capacity—provide that certainty. Where program horizons are shorter than investment payback periods, co-investments or financial instruments such as low-cost loans can bridge the gap and align incentives, giving suppliers the ability to plan ahead and take calculated risks.
- 3 Stabilize designs and reduce disruption to production (Primes).** Not every engineering change justifies the operational cost it imposes. In constrained environments, configuration stability and manufacturability are competitive advantages. By standardizing designs and limiting unnecessary revisions, primes enable suppliers to realize learning curves, achieve scale benefits, build inventory efficiently, and plan capacity predictably. Approaches such as Modular Open Systems Architectures (MOSA) can support this balance – allowing targeted upgrades at the subsystem level without requiring frequent redesign of the full platform. Reducing design instability ensures that suppliers can invest in processes and equipment with confidence that they will remain relevant.
- 4 Apply incentives and support based on supplier economics (Primes & Suppliers).** Suppliers are not interchangeable, and their behavior is shaped by capital access, customer concentration, margin structures, and competing demand. Scaling effectively requires primes and suppliers to act on this understanding: some suppliers respond to long-term agreements, others to improved cash flow, premium pricing for prioritized capacity, or upstream procurement support. In the most constrained categories, unlocking capacity may also require co-investment or structural partnerships. Suppliers themselves should strengthen financial resilience, diversify their customer base where possible, and plan capacity expansions against credible, aligned signals – supported by contract structures and funding mechanisms from government and primes that improve cash flow visibility, reduce risk, and enable long-term investment.

The timeline to act is limited. Scaling labor, qualifying new capacity, and deploying advanced manufacturing equipment are multi-year efforts. By the time shortages become visible in production schedules, the window for structural solutions has already narrowed – leaving only costly, short-term measures such as expediting, overtime, or escalation.

The defense industrial base has the underlying capacity to meet this moment—but only if it is enabled to do so. Unlocking that capacity will require government, primes, and suppliers to move beyond incremental fixes and fundamentally realign how demand is planned, communicated, and incentivized. Those who act now will define the next phase of defense production – translating funding into output and capturing value for both taxpayers and industry. Those who do not will continue to see ambition outpace execution.

About the Authors



Thomas Peddicord

Managing Director and Senior Partner | Washington, D.C.
peddicord.thomas@bcgfed.com



Charlie Davis

Managing Director and Partner | Seattle
davis.charlie@bcgfed.com



Justin Rodriguez

Managing Director and Partner | Boston
rodriguez.justin@bcgfed.com



Pilar Landon

Managing Director and Partner | Chicago
pilar.landon@bcgfed.com



Dakota Santana-Grace

Managing Director and Partner | Boston
santanagrace.dakota@bcg.com



Charlotte Kiang

Principal | Seattle
kiang.charlotte@bcgfed.com

For Further Contact

If you would like to discuss this report,
please contact the authors.



Boston Consulting Group partners with leaders in business and society to tackle their most important challenges and capture their greatest opportunities. BCG was the pioneer in business strategy when it was founded in 1963. Today, we work closely with clients to embrace a transformational approach aimed at benefiting all stakeholders—empowering organizations to grow, build sustainable competitive advantage, and drive positive societal impact.

Our diverse, global teams bring deep industry and functional expertise and a range of perspectives that question the status quo and spark change. BCG delivers solutions through leading-edge management consulting, technology and design, and corporate and digital ventures. We work in a uniquely collaborative model across the firm and throughout all levels of the client organization, fueled by the goal of helping our clients thrive and enabling them to make the world a better place.

For information or permission to reprint, please contact BCG at permissions@bcg.com. To find the latest BCG content and register to receive e-alerts on this topic or others, please visit [bcg.com](https://www.bcg.com). Follow Boston Consulting Group on [LinkedIn](#), [Facebook](#), and [X \(formerly Twitter\)](#).