



State of the ramp

**Key production readiness findings
from AIA's and PwC's survey
of aerospace and defense executives**

July 2026



Executive summary



The Aerospace Industries Association (AIA) and PwC

anonymously surveyed senior executives across defense, commercial aviation, and space, including primes, sub-tier suppliers, and services/MRO providers.

The aerospace and defense industry faces a defining challenge in scaling production to meet rapidly rising demand. This demand is being driven by a convergence of factors, including military modernization programs, the need to replenish inventories depleted by global conflicts, and a growing recognition that the United States and its allies must strengthen industrial capacity to deter and, if necessary, sustain long-term competition with near-peer adversaries.

Proposed defense budgets would provide an injection of hundreds of billions of dollars to ramp the defense industrial base (DIB) for what's billed as a new "Arsenal of Freedom." These dynamics are also playing out against a backdrop of commercial aircraft fleet aging, backlogs stretching 10+ years, and massive space economy growth—with all these factors converging on the same supply base. The swell in demand and funding is a strong start, but achieving the necessary scale on the supply side will likely require targeted interventions. To start, steady and stable demand signals are needed to enable effective capital investment. Beyond demand signals alone, broad swaths of the industrial base may need to be redesigned and expanded for this herculean task.

To gauge industry readiness, the Aerospace Industries Association (AIA) and PwC anonymously surveyed senior executives across defense, commercial aviation, and space, including primes, sub-tier suppliers, and services/maintenance, repair, and overhaul (MRO) providers. Key findings offer a look at what it will take—and what is even feasible within the necessary timeframe—to ramp up efforts across capacity, forecasting, supply chain, capital, and execution discipline to meet that demand. Together they offer industry leaders, capital allocators, and policymakers a candid, data-grounded snapshot of where the base stands today and a foundation for harder conversations to come.



1. Confidence in ramp readiness—and perhaps also the demand signal—falls off at 2x, though defense is signaling ambition for even higher volumes.



The breakpoint

suggests that the industry's demand signal is rising faster than the industrial base designed to support it.

The survey indicates an inflection point in reported ramp readiness.

- At 1.25x current demand, 85% of all A&D respondents say they can deliver within 18 months. At 2x, that figure falls to 47%.
- At 3x, some 33% say they don't yet see a path to deliver on any timeline. That figure grows to 42% by 4x.
- At an aggregate level, the steepest decline in ramp readiness occurs between 1.25x and 2x, suggesting that the issue isn't incremental growth but the shift from stretch to surge capacity. This is the threshold to pressure-test and plan for.
- The defense sub-sector reports a greater ability to meet both stretch and surge capacity requirements compared to the commercial aviation sector.

The breakpoint suggests that the industry's demand signal is rising faster than the industrial base designed to support it. Defense funding, commercial aircraft backlogs, and space demand are all putting pressure on an industrial base that's still working through supplier fragility and over-concentration, labor shortages, inflationary input costs, and uneven access to capital.

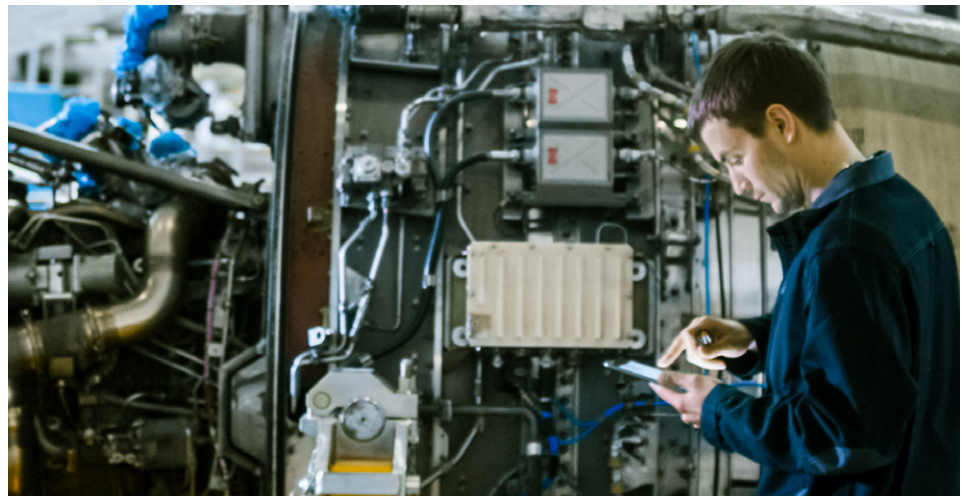
Steady state reliability at the new ramp pace may be difficult to achieve since failure to ramp is felt throughout the supply chain, not just within original equipment manufacturers (OEMs) and primes.

The survey data shows that at 2x current volumes, more than half of OEM/prime respondents already require longer than 18 months to scale, and the constraint grows further down the value chain. Raw materials providers, for instance, report zero capacity to scale beyond 2x within any predictable timeline. Integrators, OEMs, and program offices looking to ready the ramp should consider stress-testing ramp assumptions against the 2x+ threshold, as both a planning scenario and a gating factor. Any program assuming 2x or greater production growth

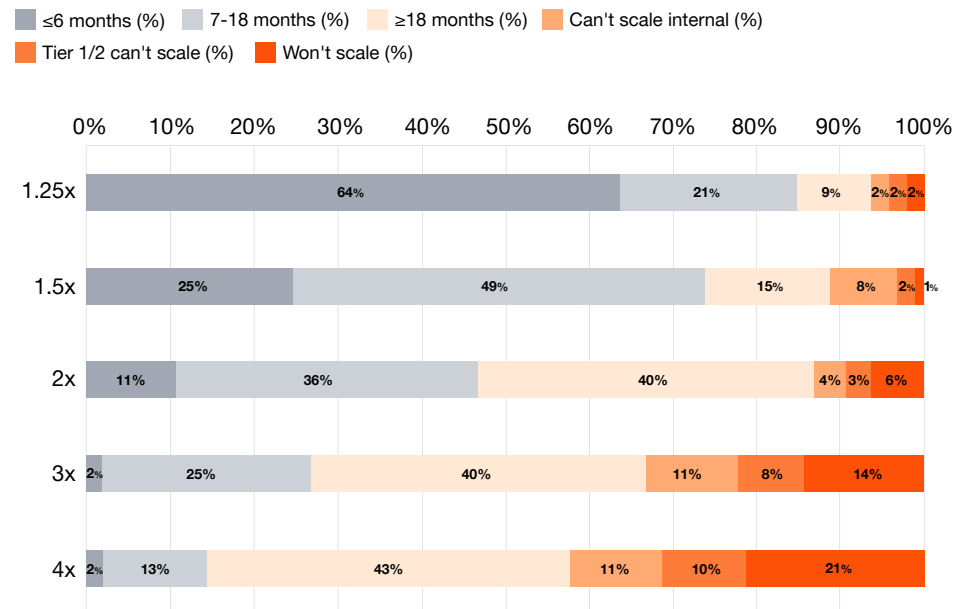
within 18 months should verify sub-tier capacity early, rather than assume the supply base can absorb the increase.

The survey also shows that the ramp readiness pattern differs materially by end market.

- The commercial aviation end market confidence drops off faster at 2x+ (50-point drop to 31%). By 3x, roughly half (49%) don't yet see a path at all. It is worth noting, however, that the size and scope of this market also means that even a 1.25x rate flow-down from aircraft OEMs would represent considerable market activity. These responses also point to a more immediate internal capacity constraint, in which the ramp may be limited by facilities, labor, and tooling on existing final assembly lines versus supplier throughput and material availability as acutely as for their more defense-oriented counterparts.
- In contrast, the defense industry shows a more robust ramp profile. Not only is the 1.25x to 2x drop-off in confidence less pronounced (92% to 87% drop in ability to scale) than commercial aviation (100% to 81% drop), but defense also reports higher confidence to deliver on 3x demand scenarios, with 74% able to meet demand on a reasonable timeline as compared to 50% of commercial aviation respondents. This suggests that defense companies are more likely to stretch timelines rather than rule out the ramp entirely. These extended timelines make sense considering that many of the programs requiring 2x+ ramps—e.g., missiles and munitions, unmanned aerial systems (UAS)/Counter UAS, fighter aircraft, ships—are complex, supplier intensive, and dependent on budget durability, appropriations timing, and program of record decisions—making long-term, strategic capacity planning more difficult. Despite these challenges, the results largely confirm the sheer magnitude of the ramp being contemplated in defense markets.



Capacity scaling capability



Survey question: How long do you estimate it will take to scale to the following production levels (Timeline & Scale of Ramp), assuming funding availability?

Across the industry, the break at 2x marks the point demand starts outrunning the industrial base as-built. That turns the pivot from “stretch” to “surge” into the real test of whether the industry can ramp, and how fast.



2. Forecast accuracy “bullwhips” downstream.



Demand distorts downstream

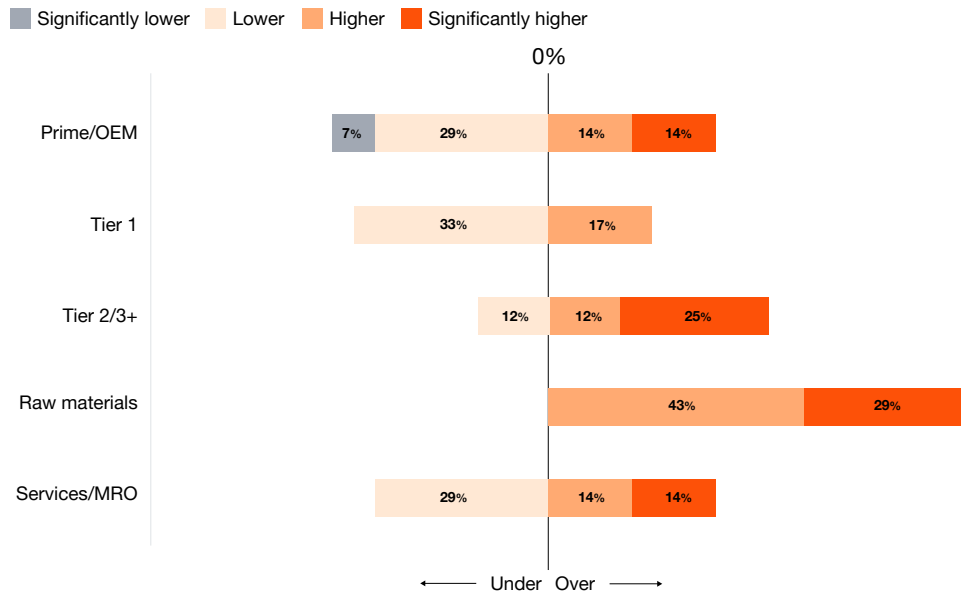
as each tier hedges risk.

A “bullwhip” effect—where the demand signal distorts from underestimated to overestimated—comes through clearly in the forecast attainment survey data, underscoring that demand uncertainty compounds as it moves down the value chain. Primes report being surprised by actual demand exceeding their plan, with 36% saying forecasts came in lower or significantly lower than actuals. Each downstream tier then hedges the forecast passed on to suppliers to buffer the volatility. By the time the demand signal reaches deeper sub-tiers and raw materials, 72% report demand forecasts higher or significantly higher than actuals, which represents the cumulative padding effect of those hedges.

Services/MRO has a more prime-like profile (29% under, 28% over) likely driven by customer mix (e.g., airlines, lessors, government end users) with varying levels of predictive capabilities to inform accurate forecasts.



Forecast attainment by value chain



Survey question: How would you rate your historical demand forecast attainment?

While sub-tier suppliers may seem hesitant to invest in capacity to achieve ramp forecast, reluctance to invest ahead of historically inflated forecasts may well be rational behavior. These suppliers are not refusing to invest because they lack ambition. Instead, they're likely discounting forecasts they believe may already include upstream buffers. Furthermore, smaller suppliers may not be comfortable underwriting capacity investments for volumes that don't always materialize, especially when the downside business risk can be existential. Closing this gap requires a level of end-to-end cohesion and cross-tier visibility that only 39% report having across their supply chain.



3. Direct cost pressure is anticipated on labor and material inputs.



Cost pressure and ramp readiness are increasingly connected.

If the most inflationary categories are also the inputs required to scale output, companies cannot treat input cost management as a procurement issue alone.

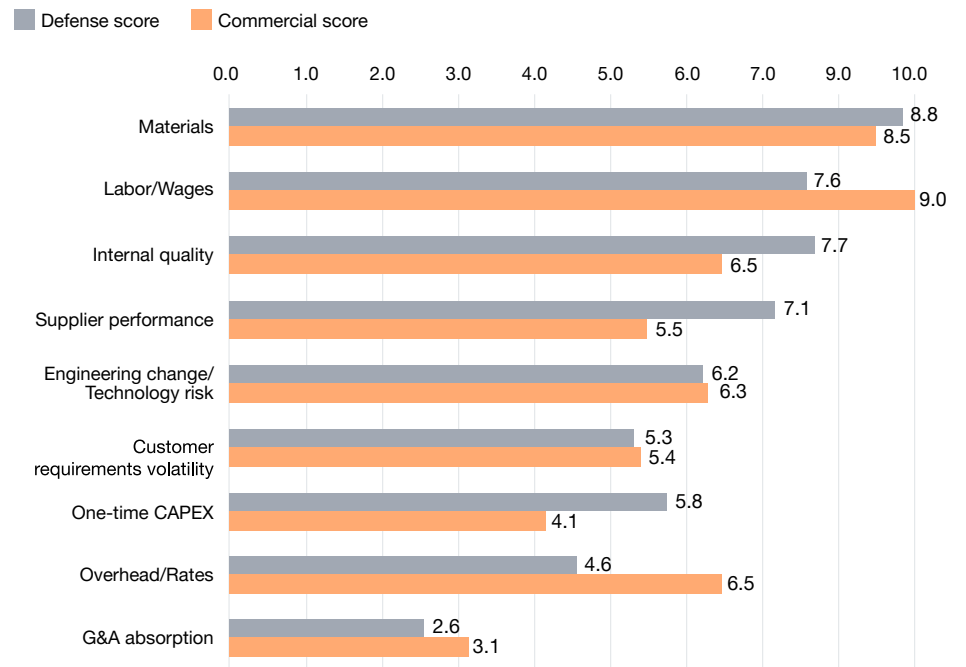
The ramp is already showing up in the cost structure, and the pressure is concentrated in labor and materials. Defense respondents rank materials as their top current pressure, followed by labor and wages. Commercial aviation shows the reverse, with labor and wages ranking first and materials following closely behind. In either case, the market may be able to anticipate pressure on gross margins as volumes scale.

Commercial aviation's cost pressure is more tied to the people required to restore and expand production rates, including skilled labor, technicians, and line capacity. Defense faces similar labor pressure, but the stronger materials signal suggests a deeper exposure to scarce inputs, specialized components, and supplier execution. Supplier performance also ranks higher for defense than for commercial aviation, pointing to a supply base where cost and reliability are more volatile at higher ramp levels.

Inflation risk categories also appear concentrated across the industry. Specialty metals (titanium, nickel, aluminum, other aerospace alloys) stand out as the dominant forward concern, with 77% of respondents ranking them among the top three expected inflation drivers over the next three years. Specialty fasteners follow at 45%, while forgings and castings and semiconductors rank third and fourth respectively. These are pace-setting base inputs (labor, materials, specialty metals, fasteners, forgings, chips) that sit in the path of production growth.

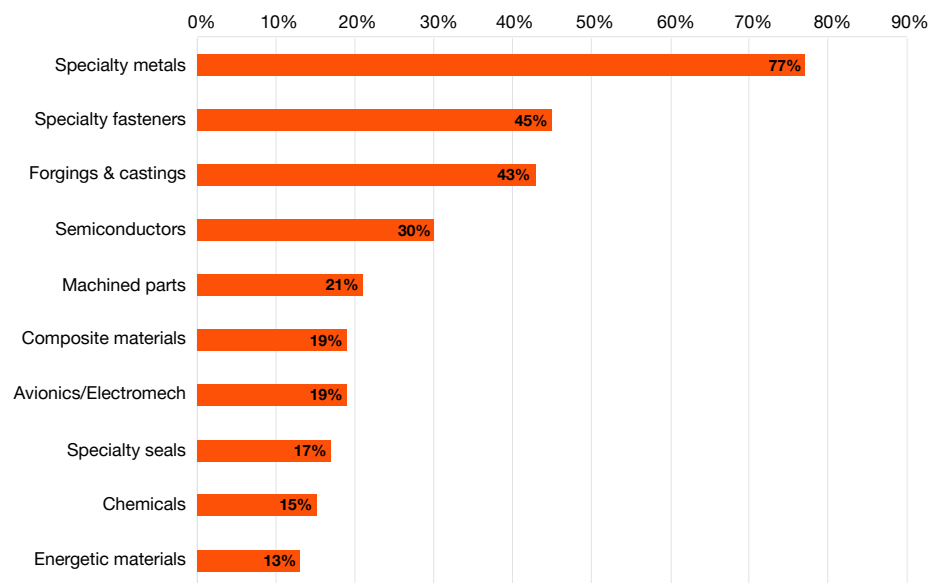
Cost pressure and ramp readiness are increasingly connected. If the most inflationary categories are also the inputs required to scale output, companies cannot treat input cost management as a procurement issue alone. Labor availability, specialty materials, and supplier performance will help shape how quickly the industry can move from demand signal to finished product and at what profit margins.

Current cost pressure by end market



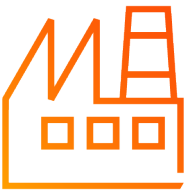
Survey question: What factors are driving the most cost pressure today on your programs?
Please rank from most pressure to least.

Forward inflation drivers



Survey question: What categories do you see having the most cost increase over the next three years? Please rank from most inflationary to least.

4. Supply chain and labor constraints are specific and concentrated.



Skilled trades and a fragile supply base

**throttle
production
directly.**

The survey identifies a focused set of external and internal bottlenecks affecting the industry's ability to ramp.

Externally, the supply chain's highest risk areas are sole-source/single point-of-failure suppliers (60%), with long lead times (58%) and supplier performance (51%) close behind. Each constraint requires a different intervention.

- Sole-source exposure should have dual sourcing or selective vertical integration.
- Long lead times require improved integrated planning, earlier demand visibility, and capital deployed at the pace-setting nodes.
- Supplier performance calls for operational support, tighter accountability, and faster onboarding of qualified alternatives.

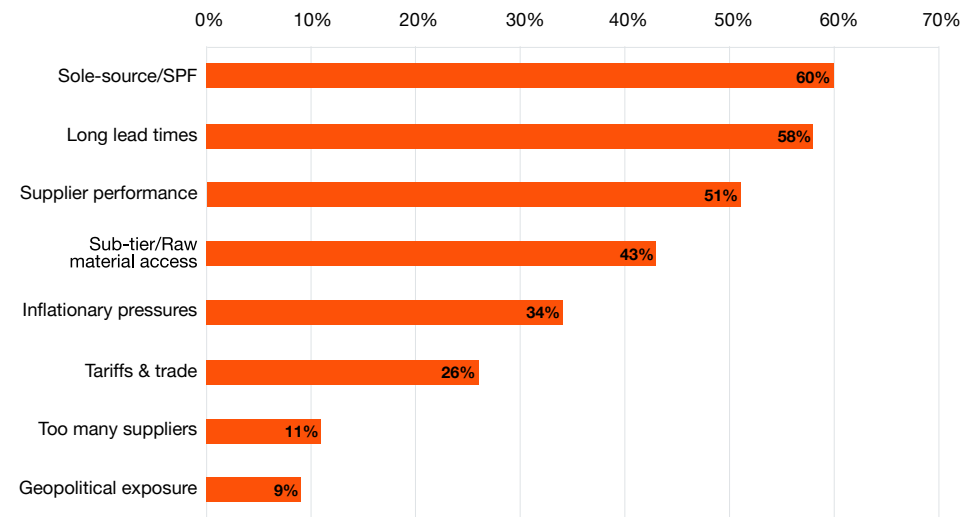
The combination of sole-source exposure and long lead times is the more strategic warning signal. When primes or sub-tiers depend on pace-setting niche suppliers, capacity cannot be solved through expediting alone—because everyone will be expediting and competing for prioritization on the same production lines. It requires structural change in the supply base.

The internal labor picture is just as concentrated. Labor is most constrained within skilled trades (74%) and trailed by engineers (64%) and line technicians and operators (57%). Quality technicians and inspectors (32%) and cleared labor/TS-SCI personnel (23%) follow. This reflects a predominantly production-floor constraint, not a headquarters one. The skills most needed in increasing output are the same skills required to make and qualify parts, operate equipment, sustain quality, and keep lines moving.

The internal and external constraints that stood out in our survey are independent but reinforcing. Building capacity at supply chain pinch points (sole-source, specialty materials) requires precisely the workforce categories the industry says it can't find (skilled trades, line operators, manufacturing engineers).

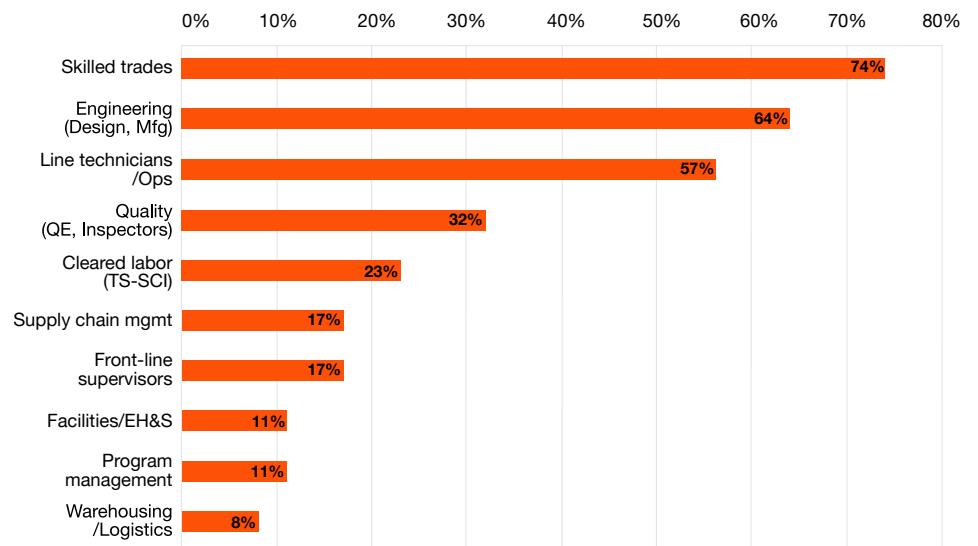
An intervention path at this intersection should fund innovation and technology that yield designs which are easier to make and automation that alleviates labor gaps. Furthermore, a reevaluation of direct workforce compensation structures (for example, equity awards and delivery-based incentives) could make sense to both attract skilled technicians as well as incentivize growth and throughput.

Supply chain risks



Survey question: Which supply chain factors present the greatest concerns to your operations? Please rank from greatest risk to least.

Internal labor constraints



Survey question: What types of labor are most constraining your ability to ramp? Please rank from most constraining to least.

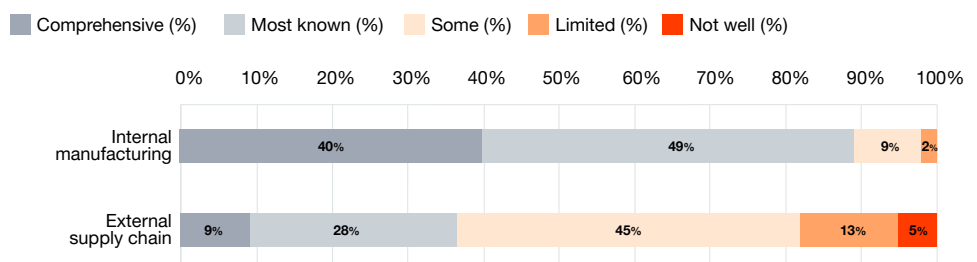
5. Companies should analyze their full value chain, not just internal capacity.



Visibility drops off at the factory gate:

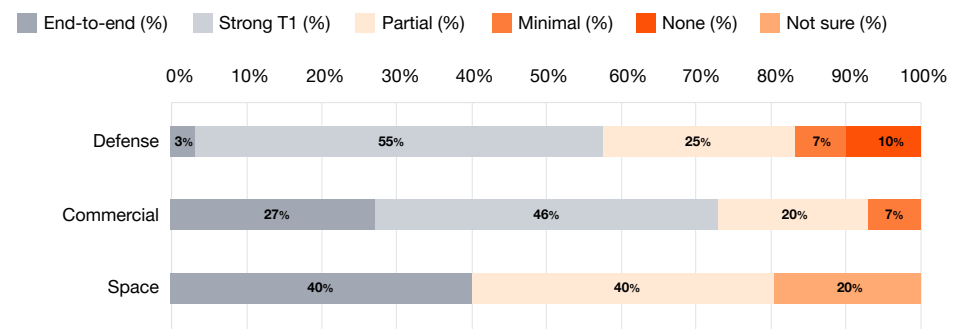
70% model internal capacity, only 26% map end-to-end.

Capacity understanding – internal vs. external



Survey question: How confident are you in your organization's understanding of production bottlenecks to ramping production?

Supplier visibility by end market



Survey question: How would you assess your organization's visibility across Tier 1 and Tier 2 suppliers?

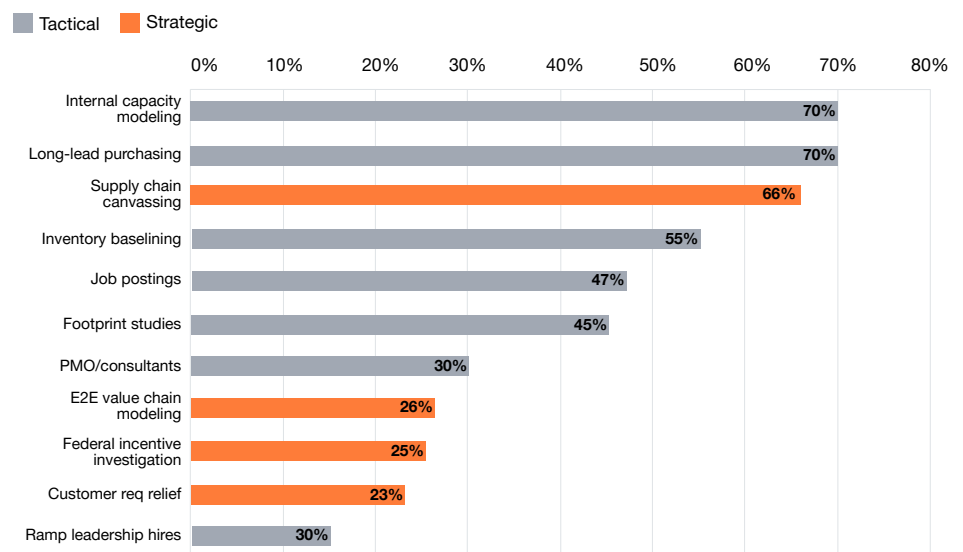
Ramp readiness depends on knowing where capacity exists, where it breaks, and where constraints loom outside a company's direct control. The survey shows a wide gap between internal and external visibility of these constraints. While 89% of respondents report "comprehensive" or "most known" visibility into their own internal manufacturing, only 37% report the same for their external supply chain. Companies have a much clearer view inside their own four walls than across the value chain that ultimately determines whether the ramp can be delivered, so new capacity risks running ahead of the material supply needed to feed it.

The visibility gap is uneven by end market, too. 73% of commercial aviation respondents report “end-to-end” or “strong Tier 1” visibility into their supply base, versus 58% of defense respondents. A majority of defense respondents report limited visibility at Tier 2+, which is especially important since many defense constraints sit deeper in the supply base. Defense companies report knowing less about their suppliers, and the least visible parts of the chain may be most likely to determine the pace of the ramp.

The readiness activity data tells the same story. The work “inside the four walls” of each tier is largely happening (internal capacity modeling, procurement planning, plant operations improvements), but reaching beyond into the supply chain is lagging.

- End-to-end value chain modeling: 70% of respondents have completed internal manufacturing capacity modeling, while only 26% have completed end-to-end value chain modeling.
- Creative funding vehicles: Only 25% have investigated federal incentives.
- Customer/supplier coordination: Only 23% have deployed efforts around customer requirements-relief opportunities.

Readiness activities completed



Survey question: What Readiness & Planning activities have been completed in the last 12 months in anticipation of production ramp? Select all that apply.

6. The near-term supply chain playbook favors tactical de-risking and diversification; structural moves are the emerging frontier.

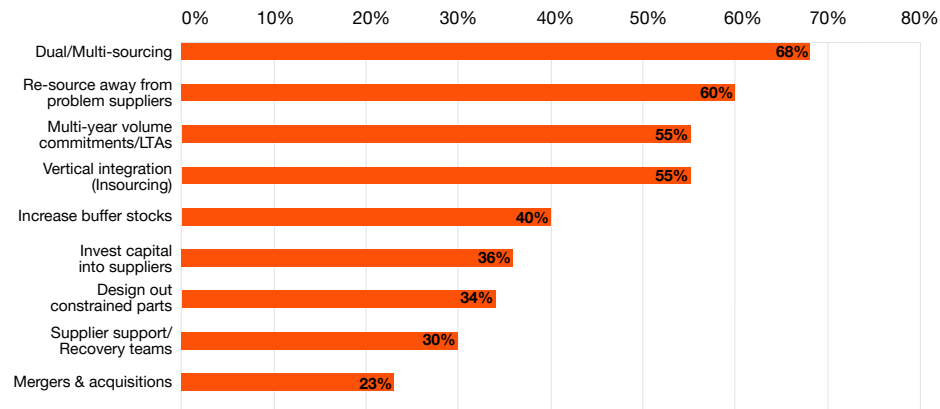


The common thread

shows respondents still predominantly favoring tactical supply chain actions over strategic plays.

When asked about supply base levers to ramp production over the next two years, respondents point first to moves that reduce risk without committing large new capital. Dual- and multi-sourcing leads at 68%, followed by re-sourcing away from underperforming suppliers at 60%, with multi-year volume commitments/long-term agreements (LTAs) and vertical integration tied at 55%. The common thread across the most popular levers is tactical de-risking of the supply base, including widening the supplier pool, exiting weak suppliers, and locking volume, rather than funding suppliers directly.

Supply base levers planned over the next 24 months



Survey question: What levers are you planning to employ in your supply base to ramp production? Select all that apply.

Capital- and engineering-intensive projects, which also tend to take longer to develop, are the more nascent, emerging options. Increasing buffer stocks (40%) is a moderate hedge, and investing capital directly into suppliers (36%), designing out supply-constrained parts (34%), embedding support or recovery teams at supplier sites (30%), and M&A (23%) follow. These moves cost more up front, take longer, and depend on durable demand confidence, conditions the rest of the survey shows are uneven across the industry.

For now, companies appear to prefer reshaping their supply bases with the fastest levers first—with the heavier, slower, capital-intensive options an emerging frontier and mostly reserved for business cases with the most demand certainty. Whether that proves sufficient will depend on how quickly capital and demand durability catch up to diversification already under way. It also remains to be seen whether more capital-forward outliers will under- or out-perform more cautious peers.



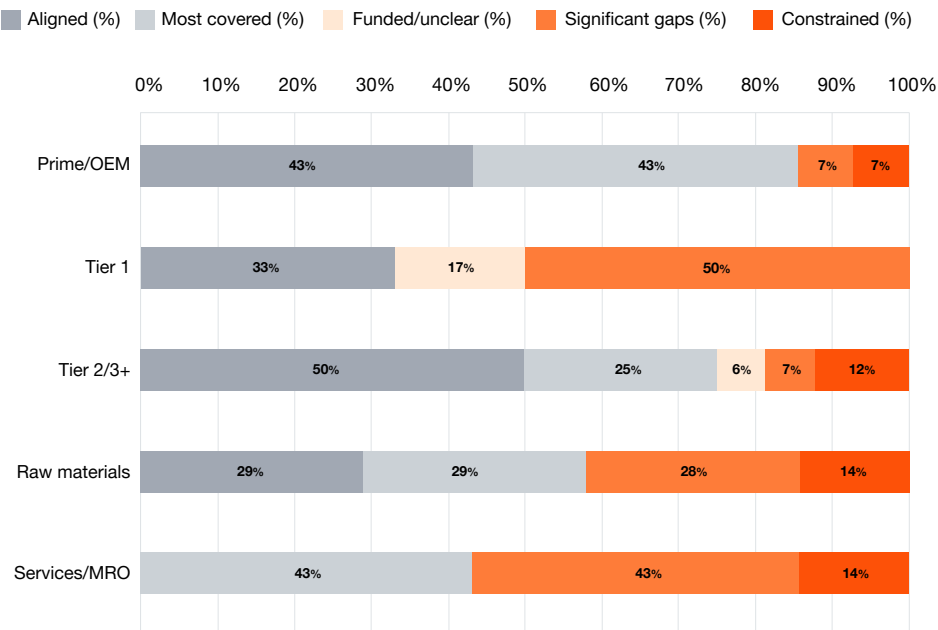
7. Capital is not evenly available across the value chain.



86%
of primes are
sufficiently funded
but confidence in capital
availability thins fast
downstream.

Capital availability is the strongest where capacity constraints may be weakest. Prime/OEM respondents report high confidence in their ability to fund the ramp, with 86% saying they’re either “aligned to needs” or “most covered” on capital. But that confidence doesn’t extend evenly across the value chain. Tier 1 drops availability in capital to 50% funded or covered. Tier 2/3+ respondents report 19% with significant gaps or constraints, while raw materials (42%) and services/MRO (57%) report larger bottlenecks.

Capital availability by value chain



Survey question: How would you describe capital availability to-date to support your ramp priorities/needs?

The aggregate result can be misleading. The companies with the strongest capital position are not always the ones where the next unit of capacity should be created. Production readiness is only as strong as the most constrained node in the chain. A prime can have capital available for its own facilities, workforce, and tooling, yet still face delays if a specialty materials provider, machining supplier, or MRO partner lacks the funding to expand capacity, carry inventory, qualify new equipment, or hire ahead of demand. Prime confidence and supplier hesitation coexist because they reflect a value chain where capital abundance sits near the top, and capacity and capital risk lingers further downstream.

Leaders can dive deep, communicate, and cooperate (where appropriate) with sub-tier suppliers to determine where capital gaps intersect with pace-setting constraints and be ready to make strategic decisions or investments throughout the value chain. The right intervention may be a longer-term commitment, supplier financing, customer-backed working capital, direct investment, strategic partnership, or selective vertical integration. Without a link between capital and constraint, the industry risks funding the parts of the system that are already capable while leaving the tightest bottlenecks undercapitalized. These results show that opportunity exists in extending OEM/prime funding certainty and federal vehicle accessibility downstream.



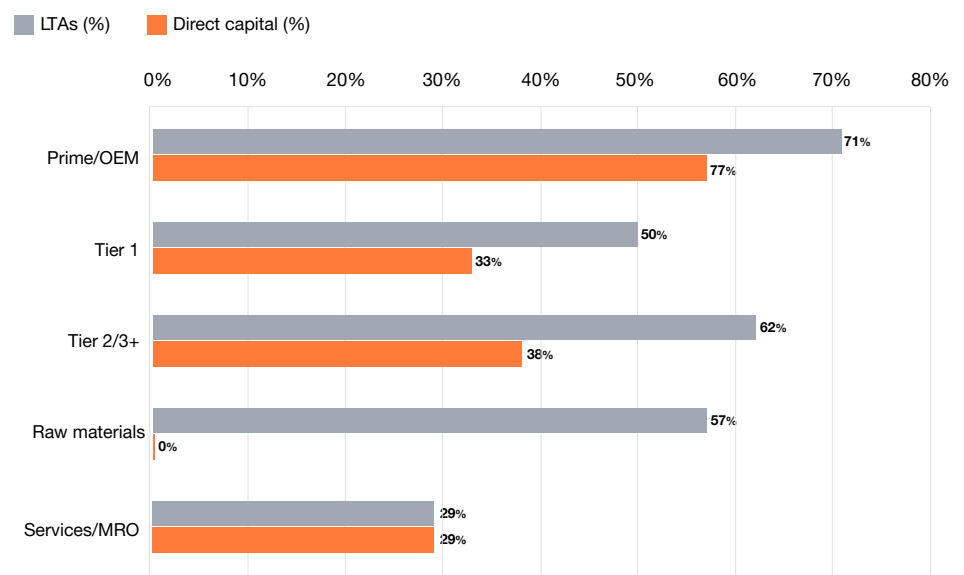
8. Suppliers need capital, not just paper commits. Some are investing directly, but strategies vary.



The parts of the supply base that often need the most support

are still more likely to receive demand signals than underwritable commitments.

Paper commitments vs. direct supplier capital, by value chain.



Survey question: What levers are you planning to employ in your supply base to ramp production? Select all that apply.

LTAs and volume commitments remain the most common supply base lever, but the survey suggests they may not be enough to unlock the capacity the ramp requires. Suppliers need capital, not just paper commits, to achieve ramp. Some 55% of survey respondents plan to use multi-year LTAs or volume commitments, while only 36% plan to invest capital directly into suppliers. Suppliers are being asked to expand capacity, hire labor, carry inventory, and invest in equipment, but many are still being offered commitments that do not fully reduce their financial risk.

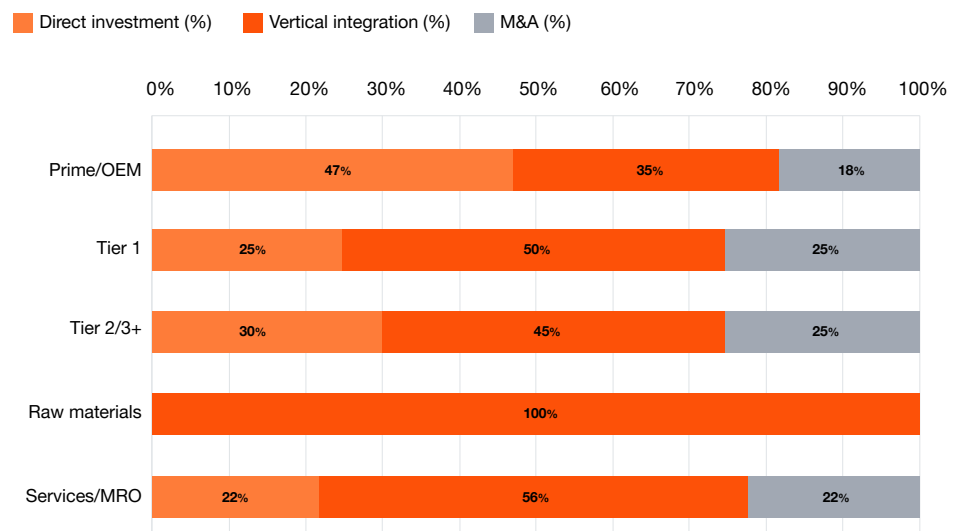
The disconnect is most visible in the constrained parts of the value chain. Of raw materials respondents, 57% report plans to use LTAs or volume commitments, but none plan direct capital investment. Among Tier 2/3+ respondents, 62% report plans to use LTAs compared with only 38% planning any direct capital investment. Tier 1 respondents show a similar pattern, with 50% planning LTAs and 33% planning direct capital investment. From a value chain perspective, the parts of the supply base that often need the most support are still more likely to receive demand signals than balance sheet support.

That distinction helps explain supplier hesitation to take more risk. A long-term agreement can improve confidence, but it doesn't always fund the next furnace, machine tool, qualified operator, or raw material position. Furthermore, as one respondent noted, volatility in material and vendor pricing makes LTAs difficult to put in place. When input costs are unstable and funding is unclear, suppliers may avoid future commitments unless they are backed by capital, price adjustment mechanisms, or shared investment in the constrained node.

The broader pattern suggests that companies are beginning to move beyond paper commitments. When we combine responses for direct supplier investment, vertical integration, and M&A (overall combination of direct capital deployment levers), planned activity rises to between 50% and 86% across value chain positions. But the composition varies drastically. Raw materials respondents, for example, show no direct investment or M&A activity, but 71% report vertical integration as a planned lever—representing a move upstream into higher value add activity. This and other examples from the survey highlight that companies are not only trying to capitalize the existing supply base, some are also making moves to restructure it.

Direct investment, vertical integration, and M&A all point to the same underlying concern. The current supplier network may not be able to absorb the ramp without a different model for ownership, control, resource allocation, and risk sharing. LTAs may remain an important starting point, but they're not a substitute for funded capacity. The next phase of ramp readiness may require leaders to decide where commitments are enough, where capital should follow, and where structural change in the supply base is unavoidable.

Capital deployment mix, by value chain



Survey question: What levers are you planning to employ in your supply base to ramp production? Select all that apply.

9. Federal industrial base capital isn't reaching the most constrained segments.



Sub-tier respondents report limited use of federal funding vehicles

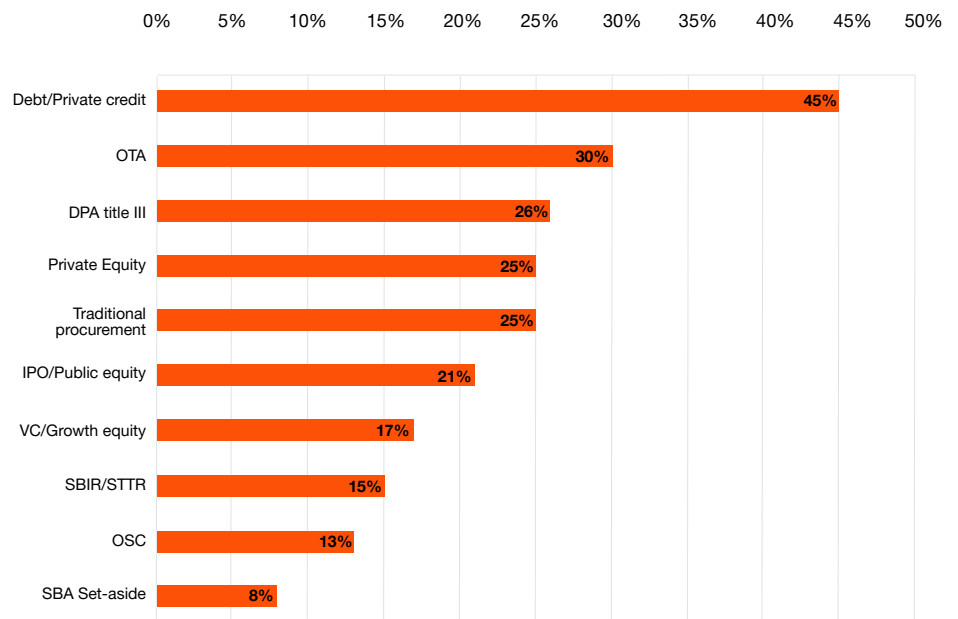
relative to private capital sources.

The survey points to a disconnect between where capital support flows and where capital constraints are most acute. Private debt (45%), including private credit, debt, and loans, dominates as the most popular funding source. Other private funding sources like private equity (25%) and venture capital (17%) show marginal adoption as well. Meanwhile, federal funding vehicles trail in the adoption curve.

- The Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) programs, the Office of Strategic Capital (OSC), and the Small Business Administration (SBA) can help strengthen the defense industrial base, but respondents report limited use of these tools relative to private capital sources.
- The federal industrial base instruments specifically designed to direct capital into the defense industrial base; SBIR/STTR (15%), OSC (13%), SBA set-aside (8%), dwell largely at the bottom of the distribution.



External funding adoption



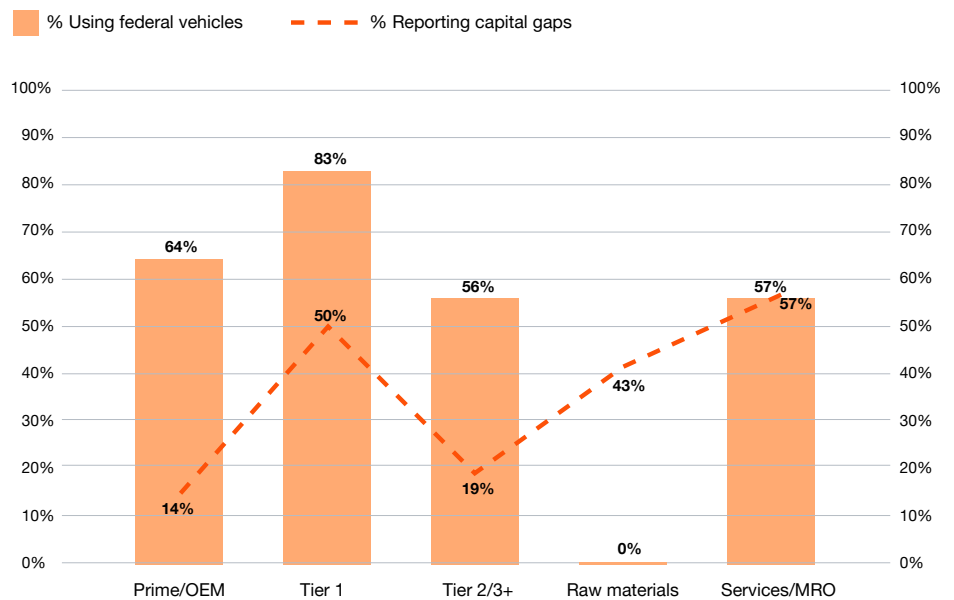
Survey question: To what degree have you taken advantage of these external funding sources? Select all that apply.

The value chain cut sharpens the diagnosis. Federal industrial base sources are not yet reaching the constrained segments at sufficient scale.

- Raw materials respondents report 43% with capital gaps or constraints, yet no adoption of federal industrial base capital sources.
- Tier 2/3+ suppliers report only marginal adoption of federal funding vehicles relative to their Tier 1 and OEM/Prime upstream counterparts—with DPA Title III funding adoption dropping from 57% to 19%, SBIR/STTR dropping from 43% to 13%, and OSC dropping from an already low 14% to 13% from Tier 1 to Tier 2/3+ respondents respectively.

These parts of the value chain need serious capital to create incremental capacity, and private capital may be least likely to move quickly without strong demand visibility, customer backing, or risk sharing. This financing imbalance may require public funding to close the gap.

Federal adoption vs. capital gaps



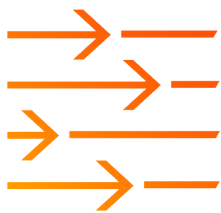
Survey questions: To what degree have you taken advantage of these external funding sources? (federal vehicles) and How would you describe capital availability to-date to support your ramp priorities/needs? (reporting gaps)

Capital programs only help if constrained suppliers can identify them, qualify for them, apply without excessive burden, and convert awards into usable capacity. For smaller suppliers, raw materials providers, and specialized service providers, barriers may be less about the existence of funding and more about access, timing, administrative complexity, and confidence that demand will likely persist after the initial award.

The value chain needs clearer pathways to federal funding, application support for smaller suppliers, customer-backed matching capital, faster approval timelines, and mechanisms that tie capital directly to pace-setting constraints. Without those bridges, federal dollars may continue to miss the companies most likely to limit the ramp.

Primes and Tier 1 suppliers are often better positioned to identify the constrained nodes, but constrained suppliers may not have the resources or visibility to pursue funding on their own. Closing that gap may require a more coordinated model with primes, suppliers, and government cooperating around resolving specific bottlenecks that determine ramp success.

10. The supply base is redirecting innovation budgets to fund their ramp as mass-producibility becomes increasingly differentiating.

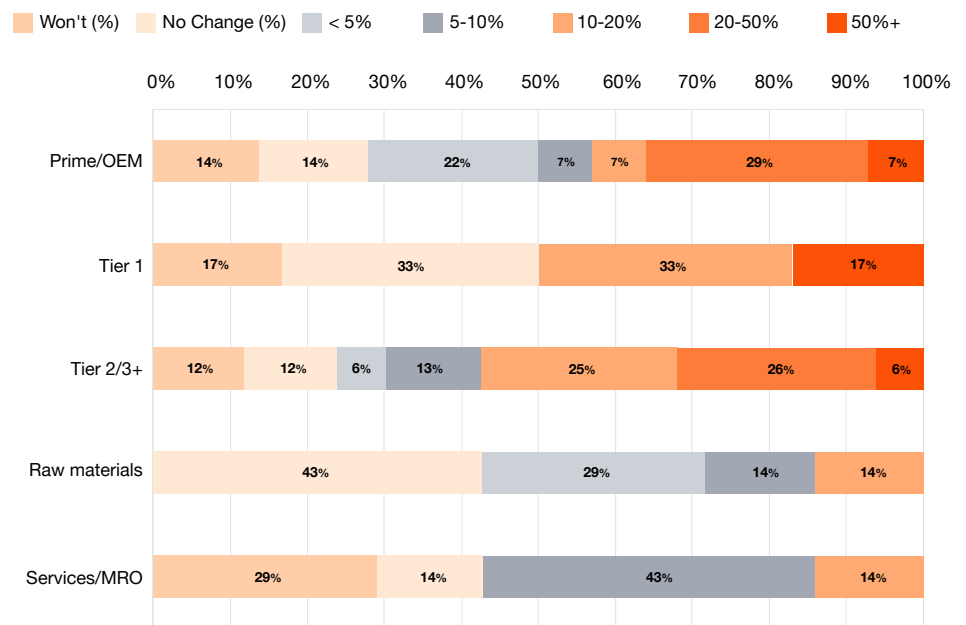


Manufacturability has become a differentiator and R&D budgets are following it there.

Whether this signals risk of strategic debt in new product introduction or a redefinition of product innovation in A&D remains to be seen.

The ramp is beginning to compete directly with the industry's innovation agenda. Across the value chain, respondents report redirecting portions of historical internal research and development (IRAD) spending toward ramp execution, with Tier 2/3+ suppliers showing the most pronounced shift. Of Tier 2/3+ respondents, 57% plan to redirect 10% or more of historical IRAD toward ramp, and 32% plan to redirect between 20% and 50%+. That level of redirection suggests that many suppliers are funding today's production needs by drawing from the investment budgets that would normally support tomorrow's new product introduction (NPI) roadmap.

IRAD redirection toward ramp



Survey question: Relative to historical IRAD spend, how much more IRAD do you anticipate spending to fund your effort to ramp production?

Prime/OEM respondents are more divided—43% plan to redirect 10% or more of IRAD toward ramp, while another 28% are redirecting nothing or do not use IRAD in this way. Raw materials respondents report no IRAD redirection, likely because IRAD is not a meaningful budget category for many companies in that part of the market.

The tradeoff can be read in two ways. The pessimistic view is that the supply base is taking on strategic debt. By shifting IRAD toward ramp execution, companies may be deferring new product development, next-generation capabilities, and the engineering work needed to support future platforms. In that case, the current ramp could weaken the industry's ability to respond to new emergent threats or disruptive technologies.

The more constructive view is that the definition of innovation is changing. As production scale becomes a strategic constraint, IRAD may be shifting from traditional capability development toward design for manufacturability, flexible automation, digital engineering, and general mass producibility. These are no longer secondary considerations, but instead mission-critical capabilities that determine whether a product can move swiftly enough from prototype to production to meet ever more dynamic customer needs.

If the redirected spend creates more producible designs, more flexible lines, and faster qualification pathways, it may strengthen differentiation and long-term competitiveness. If it only funds short-term execution gaps, the industry risks solving today's ramp by underinvesting in tomorrow's capabilities.



11. Redesigning the ramp for rapid demand requires the people, processes, and tools to execute.



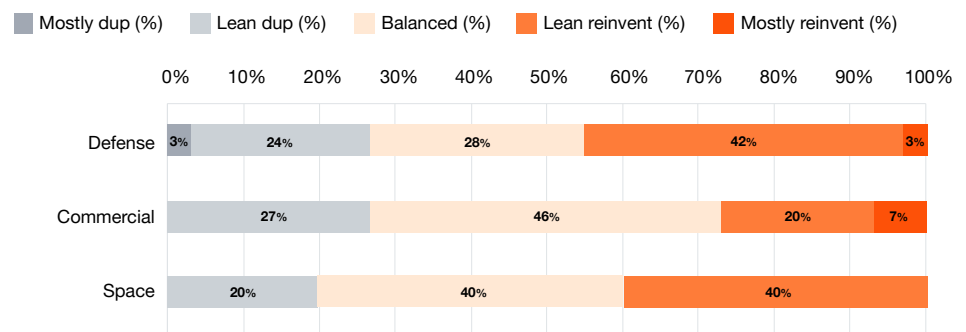
Companies that move fastest will end up with more than just capacity.

They will be better positioned to build products and operating systems that are designed to scale.

Industry leaders increasingly see ramp readiness as not just an execution challenge but a design hurdle. That includes how products are engineered, processes are built, and how quickly the enterprise can move from demand signal to repeatable output, and at what profit margins. Rather than simply duplicating today's processes at higher volume, many are considering whether the ramp requires a different operating model altogether. An enterprise capable of rapid demand response requires designing for ramps from the outset, as well as the people, processes, and tools to execute.

The industrial base is signaling that its response to the ramp isn't just going to be "more of the same." Some 45% of defense respondents lean toward reinventing existing processes for ramp rather than duplicating them. Commercial aviation is more balanced (46% balanced hybrid approach), but 27% are focused mostly on reinvention. Where demand growth is incremental or where systems are already operating efficiently, scaling the current system may be enough. Where demand growth is discontinuous (lumpy, net new, spiked to a significantly higher go-forward state), the current system may need to be redesigned.

Duplication vs. reinvention of processes, by end market



Survey question: As you contemplate your ramp imperative, do you envision more 'Duplication' of existing processes or 'Reinvention' of those processes?

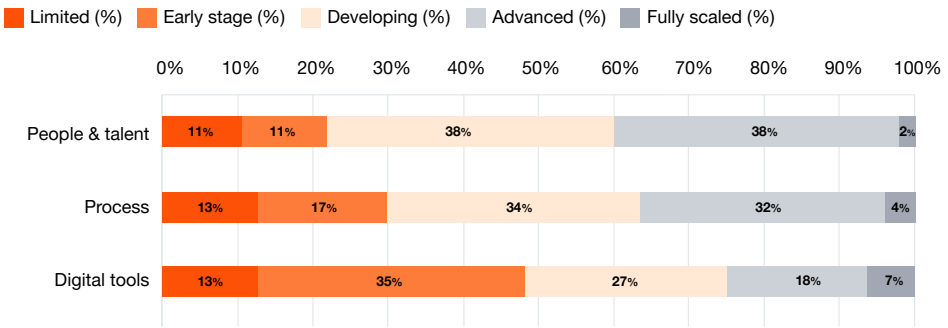


The ramp needs a revamp.

Scaling from stretch to surge demand will require stronger demand signals, better visibility, targeted capital, and ramp-ready products and production systems.

The limiting factor is often execution maturity. Digital tools shows the most room for improvement, with 48% reporting early stage or worse. Process maturity is also a constraint, while confidence in people and talent remains most mature of the three categories. In practice, the industry may know what a more scalable model requires but is still building the systems, workflows, and talent depth to operate at the next ramp increment.

Capability maturity



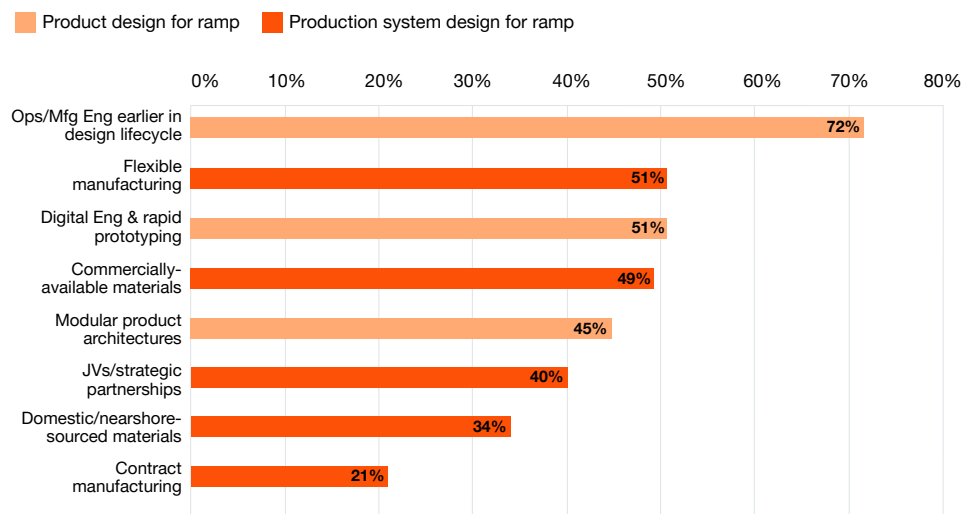
Survey question: How well-equipped is your Program Management function today to manage cost & schedule in higher-volume environments?

The NPI data points to where companies are starting to respond. Here 72% of respondents are pulling operations and manufacturing engineering earlier into the design life cycle, while 51% are both investing in flexible manufacturing and digital engineering/rapid prototyping. Together, those moves form the foundation of “design for ramp” with products that are not only technically capable but easier to build, qualify, modify, and scale.



Executives may consider backing NPI focus areas with investments in people and talent, process, and tools early enough to affect the current ramp. Earlier operations involvement, flexible manufacturing, and digital engineering can reduce late-stage production friction, but only if they are embedded before design decisions lock in cost and complexity. Companies that move fastest will end up with more than just capacity—they will be better positioned to build products and operating systems that are designed to scale.

NPI considerations



Survey question: What considerations are being given to production scalability for future NPI/next-generation products & programs?





About the survey

The Aerospace Industries Association (AIA) and PwC anonymously surveyed senior executives across defense, commercial aviation, and space, including primes, sub-tier suppliers, and services/MRO providers in May 2026 about scaling production to meet demand and gauge industry readiness.