

MCAA OF FAB

2025

PULSE OF FABRICATION



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Executive Summary

The live polling results from ***The Pulse of Fabrication*** at the 2025 MCAA Fabrication Conference give a clear snapshot of how mechanical and plumbing contractors are building, scaling, and managing their fabrication operations today. The audience represented a wide range of company sizes, with a strong concentration in mid-sized and large firms, and the roles represented were primarily supervisors, department managers, and senior leaders. This provided a mix of operational and strategic viewpoints.

Almost every indicator in the polling points toward growth. Most contractors described their companies as growing, and a large majority reported that their fabrication shops expanded over the last year. That expansion wasn't theoretical — respondents reported investments in building additions, new production machinery, upgraded material-handling systems, and increased automation. The open-ended responses reinforced this theme, showing shops adding weld booths, cranes, positioners, automated cutting systems, robotics, paperless workflows, and in some cases entirely new facilities.

On the technology side, most respondents said their shop technology meets current needs, but the tools in use show a fragmented landscape. Contractors continue to rely on a blend of Excel, PDFs, Bluebeam, paper-based processes, homegrown tools, and dedicated fabrication platforms such as Stratus, MSUITE, and Trimble. This mix explains why digital bottlenecks were still a recurring topic in the discussion: shops are advancing, but not with consistent or unified systems, and sometimes at a different pace than the field.

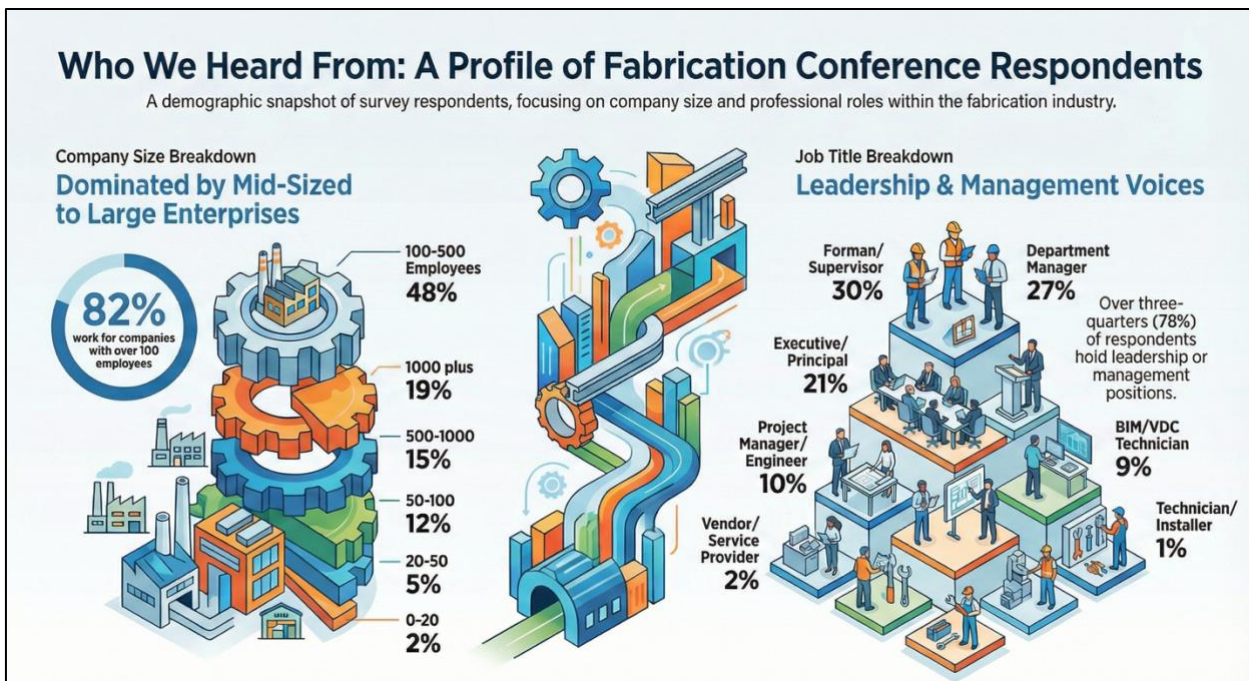
Taken together, the polling results show an industry that is expanding capacity and modernizing its fabrication operations while still working through uneven digital integration. Growth is strong, investments are steady, and contractors are pushing their shops toward more production-driven processes. The details that follow in this report break down the demographics, growth profile, shop investments, technology stack, and comments contractors shared about how their shops are changing.

Audience Profile

Respondents to the MCAA Fabrication Conference live poll came from a wide range of company sizes, providing a cross-sectional view of the mechanical contracting industry. A substantial portion of participants represented large firms, with the most common company size being those with over 1,000 employees. This indicates strong engagement from national or multi-regional contractors with extensive fabrication capabilities. Mid-sized firms were also well-represented, particularly companies with 100–500 and 500–1,000 employees. This blend suggests that the survey results reflect the practices and challenges faced by both enterprise-level operations and those with a significant but more regionally focused presence.

Smaller companies—those with under 100 employees—were less prevalent among respondents. While not absent, they accounted for a relatively small share of the total, which may reflect either lower attendance from small firms or the possibility that smaller operations are still scaling up their fabrication programs and thus are less involved in the types of initiatives discussed at the conference. The participation skew toward larger companies also suggests that the trends observed—like investments in automation and facility expansion—may be more feasible at scale, with small firms facing different constraints.

In terms of job titles, the largest share of respondents were frontline leaders such as foremen and supervisors. This group brings firsthand insight into how fabrication shops are run day-to-day, making their responses especially valuable for understanding labor dynamics, equipment usage, and operational bottlenecks. Close behind were department managers, who often oversee fabrication operations or specific technical areas. Together,



these roles represent a strong operational viewpoint that is grounded in both the practical and strategic realities of shop management.

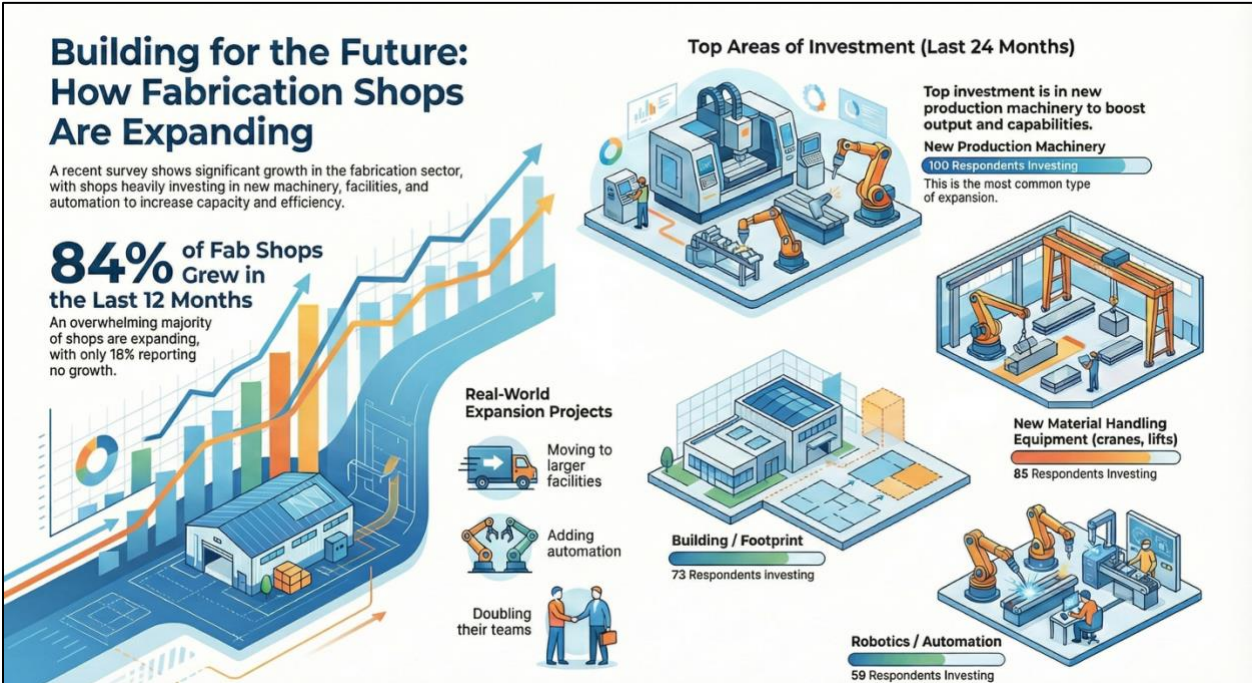
Senior leadership was also well-represented, with nearly one in five respondents identifying as executives or principals. Their perspective adds context to investment decisions, long-term growth strategies, and technology adoption at the organizational level. Meanwhile, project managers and BIM/VDC technicians rounded out the respondent pool, reflecting the collaborative nature of modern prefabrication work that spans planning, coordination, and digital modeling. This spread of roles shows that the survey captured input across the spectrum of decision-making and execution, from high-level strategy to daily production.

Expansion of Fabrication Operations

Expansion is nearly universal among the contractors surveyed: **almost 90% reported expanding their fabrication operations in the past 24 months**, and **more than 80% said their shop output increased over the last year**. These are not marginal adjustments—respondents overwhelmingly described meaningful investments in equipment, material-handling systems, and physical space. The data points to an industry where expansion isn't optional; it's the norm.

Most of this growth is concentrated in three areas: **new fabrication machinery, new cranes and material-handling equipment**, and **shop layout or footprint expansion**. Roughly three-quarters of respondents purchased new production machinery, and nearly two-thirds added cranes, lifts, or conveyors to reduce bottlenecks. Over half reported expanding or reconfiguring their physical shop space, signaling that fabrication programs are increasing in scale, not just efficiency. These investments reflect a clear push to increase throughput and handle larger volumes of prefabricated work.

Company size shapes the *scope* of expansion, but not whether expansion happens. Larger firms (500+ employees) are adding equipment and space simultaneously, often across multiple categories. Mid-sized contractors (100–500 employees) are expanding at a steady pace, usually by upgrading machinery or reorganizing existing shop areas. Smaller firms are growing too, though their changes tend to be targeted—adding a new machine, upgrading a work cell, or improving internal flow. Across all sizes, expansion is widespread and intentional.



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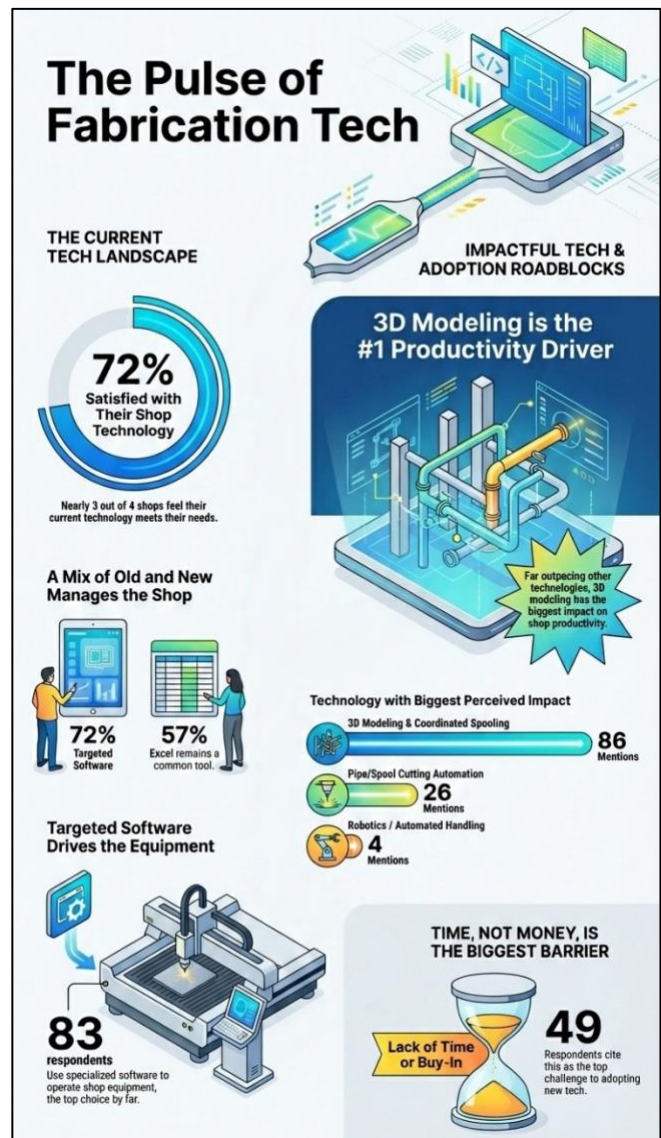
These upgrades ripple beyond the fabrication floor. More capacity means **more spools, more modeling, and more coordination**, placing a heavier demand on VDC teams. It also means **earlier decisions, tighter sequencing, and clearer information flow**, which directly affects project managers and field supervision. As fabrication operations scale up, so does the need for project teams to generate, release, and manage information with greater discipline. The expansion is physical, but the operational lift is shared across the whole organization.

Technology in the Fab Shop: Meeting the Need

Seventy-two percent of respondents said the technology they're using today meets the needs of their fabrication shop. That's a strong majority, but not an overwhelming one, and it sets a realistic baseline: contractors are generally satisfied, but more than a quarter still feel gaps in capability, support, or integration. In a sector that's scaling fast, that 28% represents meaningful friction.

Among those who *are* satisfied, one driver stands out clearly. **Coordinated 3D modeling and spooling is the single most impactful technology in fabrication today.** It earned far more responses than any other tool in the survey. Shops rely on accurate, clash-free models to generate clean cut lists, reduce rework, and support higher prebuild volume. When contractors say their tech “meets their needs,” they are mostly talking about the reliability and throughput gains that come from BIM-driven workflows. The model is feeding the shop better, faster, and with fewer surprises—and the shop performs better as a result.

Behind modeling, the next most significant productivity boost comes from **task-focused automation**, especially CNC pipe cutters, automated saws, and similar equipment. These tools don't transform the entire workflow the way modeling does, but they make a direct, measurable dent in labor hours. Respondents consistently pointed to cutting automation as the first place they saw real efficiencies after upgrading their digital workflows. Once the



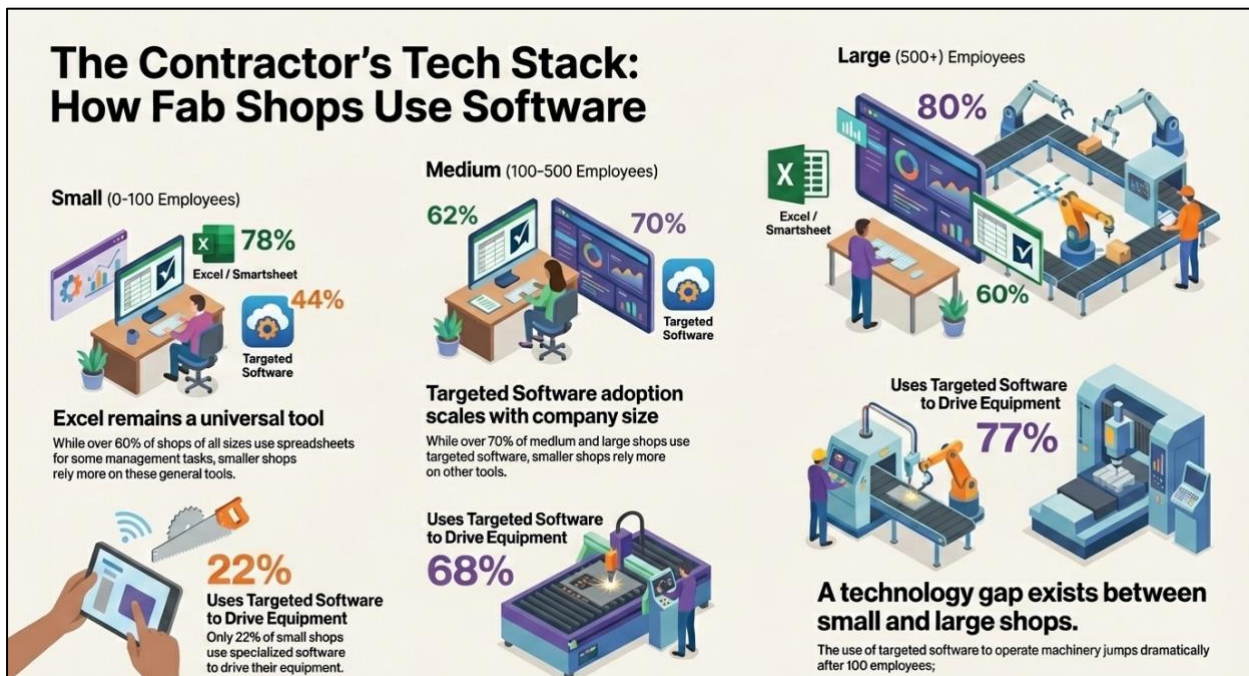
model produces clean, predictable spools, automated cutting is what turns that clarity into speed.

Other technologies—ERP system integrations, barcode and QR code tracking, and early robotics—appear in the data, but in much smaller numbers. Contractors are experimenting, not fully relying on them yet. Their limited impact today helps explain why **28% of respondents still feel their tech stack does not fully meet shop needs**. The core tools are strong, but the surrounding ecosystem isn't uniformly mature. For now, the technologies that truly move the needle are the ones that improve information quality before fabrication begins and increase throughput on the shop floor once work is released.

Software Usage and the Influence of Company Size

The survey shows that software usage in fabrication shops is broad, but the level of structure varies widely. Almost every respondent uses some form of digital tools, yet the depth of adoption ranges from simple spreadsheets to full-featured fabrication management platforms. The industry is clearly digital, but not uniformly integrated. Many contractors are still operating with a mix of systems—fabrication software, internal tools, and file-based workflows—reflecting both the complexity of fabrication work and the different stages companies are at in their digital evolution.

What's most notable is that no single platform dominates across all respondents. Instead, contractors pull together combinations of tools to meet their needs. Larger shops rely more on dedicated systems to manage workflow and production. Smaller shops operate with flexible, lightweight tools that match their volume and staffing. This spread makes



sense for an industry where fabrication ranges from small-scale pipe runs to massive multi-trade assemblies.

Company size is the strongest predictor of software maturity. The largest contractors—those with 500 or more employees—are the heaviest users of dedicated fabrication management platforms, with adoption rates between 68% and 84%. These firms require integrated workflows and dependable information flow to support high output and multiple production lines. Mid-sized firms (100–500 employees) show similarly strong adoption, with roughly 73% using dedicated platforms. Their fabrication load is high enough that spreadsheets and improvised systems no longer scale.

Below 100 employees, the pattern shifts. Smaller firms are far more likely to rely on spreadsheets, PDFs/Bluebeam, or mixed toolsets. They still use digital tools, but they structure their workflow around simpler, lower-cost systems that match their production volume. Dedicated platforms appear in this group, but far less frequently.

Across all company sizes, Bluebeam and PDF-based workflows remain common, even among firms using dedicated fabrication software. These tools fill practical gaps—quick markups, clarifications, or updates that don't require updating a full production system. Their usage is not a sign of lagging adoption but rather a reflection of how visual and communication-heavy fabrication work remains. They function as a flexible layer that supports the more structured software beneath it, especially in fast-moving shops where rapid clarification is part of daily operations.

Equipment: Automation Driving the Next Leap in Production

Contractors overwhelmingly identified **equipment upgrades—especially automated cutting and profiling tools—as the biggest technology opportunity in the next 12–18 months**. These machines directly address the core production bottlenecks most shops face: manual layout, slow cutting cycles, and inconsistent cut quality. The strong repetition of Norvarc, pipe-cutting systems, and CNC profilers shows that shops are prioritizing tools that increase throughput immediately and reduce reliance on specialized labor. As fabrication volume continues to rise, these automated systems act as multipliers—standardizing cuts, improving repeatability, and preparing material faster for weld stations and assembly. The wide range of responses within this category reinforces a shared theme: **mechanical contractors see the fastest ROI at the front end of the fabrication workflow**.

Solutions contractors named:

- Norvarc (Highest mentioned)
- Pipe cutting (Second highest)

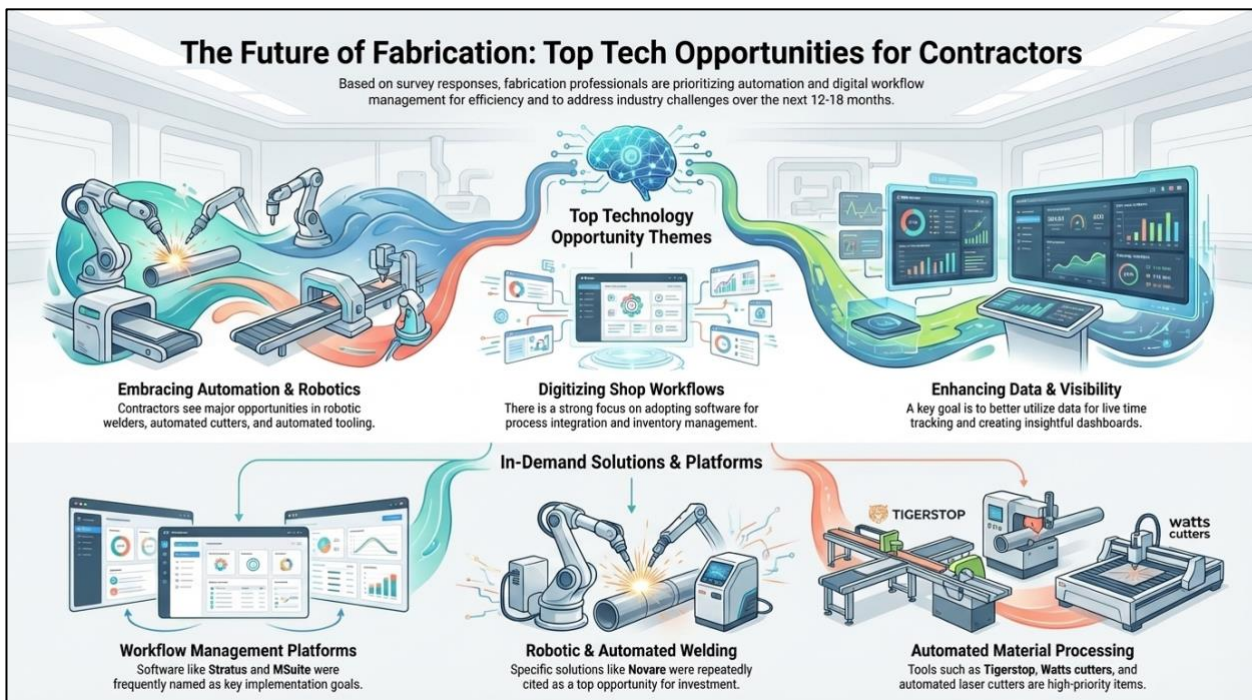
- Laser cutters
- Robot plasma
- TigerStop

Top Technology Opportunities for Contractors

Contractors see the next 12–18 months as a period of rapid modernization inside the fabrication shop, with the biggest opportunities centered on automation, tighter digital integration, and improved operational visibility. The strongest theme in the data is the push toward automated cutting and profiling equipment—tools such as CNC pipe profilers, laser cutters, and robotic plasma systems that speed up production and reduce manual layout. Alongside equipment, shops are prioritizing software integrations and workflow automations that eliminate handoffs and create cleaner data flow from VDC to the shop floor. Many contractors are also adopting or evaluating targeted fabrication platforms such as Stratus and MSUITE to manage spooling, track production, and drive equipment. As fabrication output grows, contractors are turning toward better material inventory tools and dashboarding solutions to manage pace and gain real-time visibility. Together, these responses show an industry focused on increasing throughput, reducing friction, and building more predictable, data-driven fabrication operations.

Software: Integration and Automation to Reduce Friction

Many respondents focused not on new software, but on making existing systems connect more cleanly. Integration and workflow automation were repeatedly cited, indicating that shops want to eliminate manual handoffs that slow production. This category reveals a



shift in mindset—from digitizing individual tasks to digitizing the entire workflow. Contractors are recognizing that better coordination between VDC, purchasing, inventory, and the shop floor often unlocks more value than adding another standalone platform. This reflects a broader industry trend: as fabrication scales, information flow becomes as important as equipment flow.

Targeted Software Platforms: Purpose-Built Tools Take Center Stage

A significant portion of contractors are investing in or evaluating dedicated fabrication management platforms, especially Stratus (Highest mentioned) and MSUITE. These systems sit at the core of modern prefabrication operations—managing spools, driving equipment, tracking production, and feeding updates to VDC and project teams. The inclusion of Trimble, Pipe Server, and multiple mentions of “new software” suggests that many contractors are either migrating systems or formalizing their digital backbone. As shops expand capacity, these platforms become essential for maintaining predictability, managing status updates, and coordinating workloads across teams.

Inventory Tools: Increasing Visibility as Production Scales

Several responses highlighted improvements in material inventory management, signaling that contractors are beginning to strengthen the logistical side of fabrication. As shops take on more assemblies—and as automation accelerates cutting and preparation - material flow must become more predictable. Better inventory systems help prevent shortages, reduce downtime, and ensure that automated equipment always has what it needs. This emerging focus suggests that contractors are treating material management with the same seriousness as production management, recognizing that inventory is the foundation for consistent output. No specific software designed to manage inventory was mentioned in the responses.

Workflow & Dashboarding: Real-Time Visibility and Better Shop Control

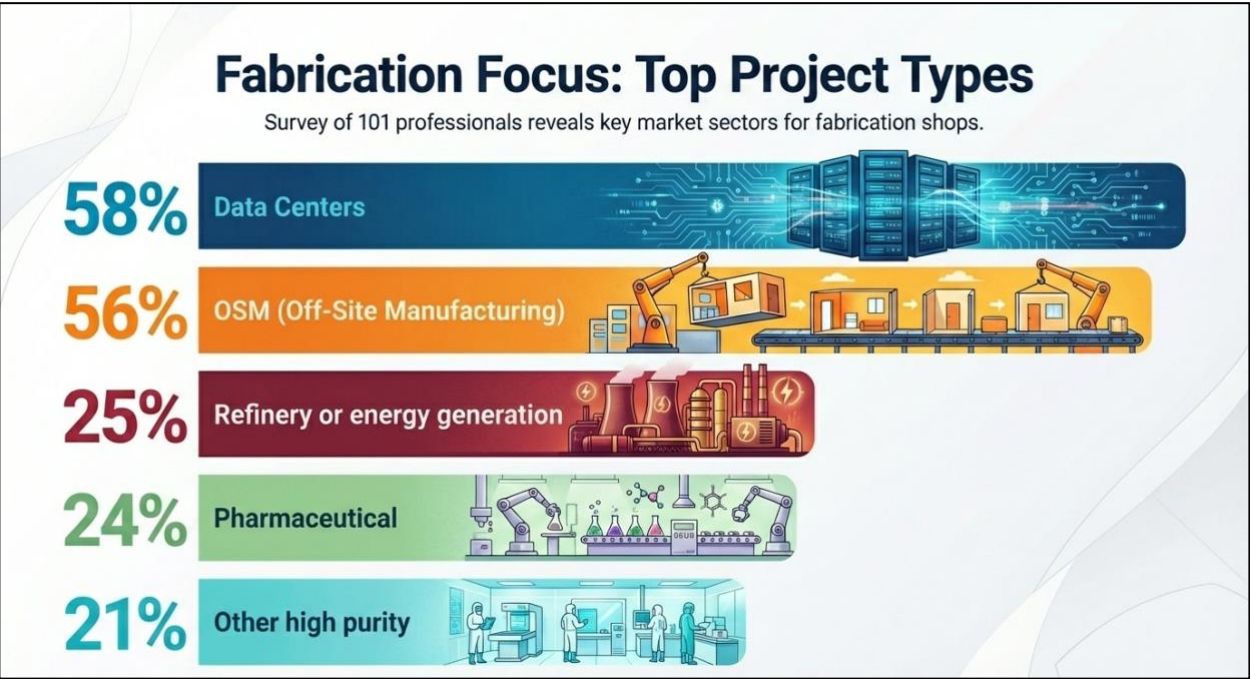
The final category centers on workflow tracking, dashboarding, and metrics, reflecting contractors’ desire for better insight into what is happening in the shop at any given moment. Shops are producing more work than ever, and visibility—what’s done, what’s stuck, what needs clarification—has become essential to maintaining that pace. These tools don’t replace fabrication software; they enhance it by giving managers and teams the information they need to make decisions quickly. The emphasis on workflow improvements shows that contractors want clarity, transparency, and continuous feedback, especially as fabrication becomes a bigger portion of total project delivery.

Specialty Fabrication

The responses show a fabrication community heavily engaged in high-complexity, high-value project types. Five categories dominate the dataset: Data Centers, Off-Site Manufacturing (OSM), Pharmaceutical work, Refinery/Energy generation projects, and High-Purity systems. These are markets where mechanical contractors rely heavily on controlled shop environments, precise tolerances, and predictable workflows—making them natural fits for strong fabrication programs.

Data Centers: The Most Common Work Type

Data center construction is the single most frequently listed category. Contractors across all company sizes - from 50 to 100 employees to 1,000+ - reported active involvement in this market. The consistency of these responses reflects national trends: rapid AI-driven demand is pushing hyperscale and colocation developers to accelerate projects, which in turn drives fabrication-heavy scopes such as chilled water, condenser water, skidded pump packages, and modular assemblies. Participation from BIM/VDC managers, project managers, and fabrication supervisors also shows that data center work permeates both design coordination and shop output.



OSM (Off-Site Manufacturing): Strong Participation Across Sizes

OSM is the second most frequent work type. Contractors listed it at almost the same rate as data centers, spanning every company-size bracket. This suggests that more contractors are transitioning from traditional prefabrication into structured off-site manufacturing workflows - producing full assemblies, modules, racks, and packaged systems. Many respondents list OSM alongside data centers or pharmaceutical work, which tracks with industry movement toward modularized mechanical rooms and repeatable system designs. The prevalence of OSM indicates that contractors see multi-trade, manufactured assemblies as a core growth direction.

Refinery and Power Generation: Deep Industrial Engagement

Refinery and energy-generation projects appear throughout the dataset, especially among contractors with 500–1,000 and 1,000+ employees. These scopes demand heavier wall pipe, high-temperature materials, and stringent QA/QC - all well-suited to fabrication shops that have invested in welding, testing, and handling infrastructure. Several respondents list refinery work alongside data centers or OSM, showing the versatility of these shops across both manufacturing and heavy industrial sectors.

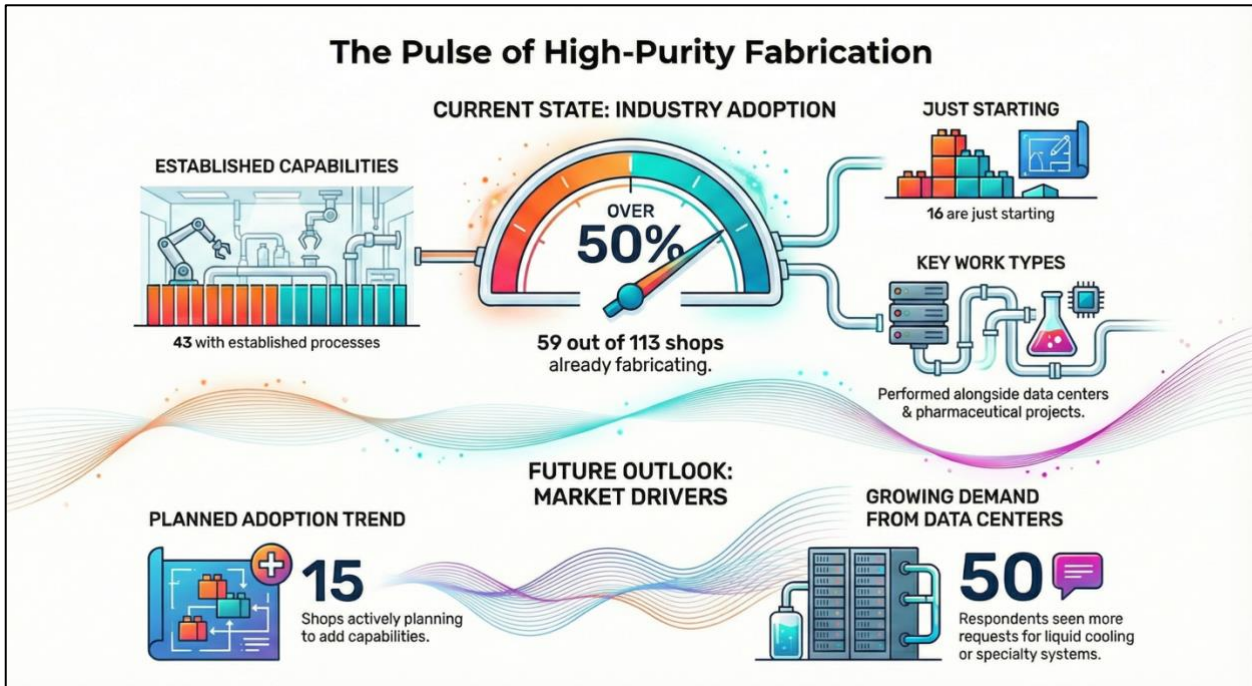
Pharmaceutical Projects: High-Precision and Controlled Environments

Pharmaceutical fabrication appears frequently and often in combination with high-purity responses. These projects require extreme cleanliness, repetitive QA documentation, orbital welding, and validated systems - all of which depend on controlled shop environments and skilled welders. Responses came from a range of titles, including executives, project managers, and department managers, signaling that pharma work is operationally demanding and organizationally visible.

High-Purity Fabrication: A Marker of Advanced Capability

Contractors performing high-purity work - Aquatherm fusion, orbital welds, stainless systems - are operating at the highest end of fabrication complexity. These responses often appeared alongside pharma, OSM, or data center projects, indicating that companies performing high-purity work tend to be involved in multiple advanced markets. High-purity capability is a strong indicator of a contractor with a mature fabrication program, skilled labor, and specialized equipment.

When asked about the types of High-purity work they were performing, about half of the group were involved at all. Across the dataset, established high-purity capability appears frequently, especially among larger firms and BIM/VDC roles. Many of these contractors overlap with markets like data centers, pharmaceutical manufacturing, and industrial energy - sectors where high-purity fabrication is common.



A meaningful number also selected “just starting,” indicating that high-purity is an area of active investment. This suggests a broader industry movement toward:

- cleaner systems
- more welding automation
- higher documentation standards
- growth in the pharma/semiconductor market demand

Those just starting high-purity fabrication indicate that many contractors see it as an emerging opportunity. Those performing it or just starting to appear most often in mid-sized companies (100-500 employees), where the shop has strong core capabilities but is still building out the specialized procedures, weld qualifications, and QA/QC requirements needed for high-purity sectors.

Overall, high-purity fabrication serves as a marker of organizational maturity. Companies with established capabilities tend to be engaged in higher-specification markets such as pharmaceutical manufacturing, semiconductor facilities, and food-grade process piping—sectors that rely heavily on precision welding and controlled shop environments. This is expanding to data centers where the emergence of liquid-cooled chip sets requires specialty fabrication.

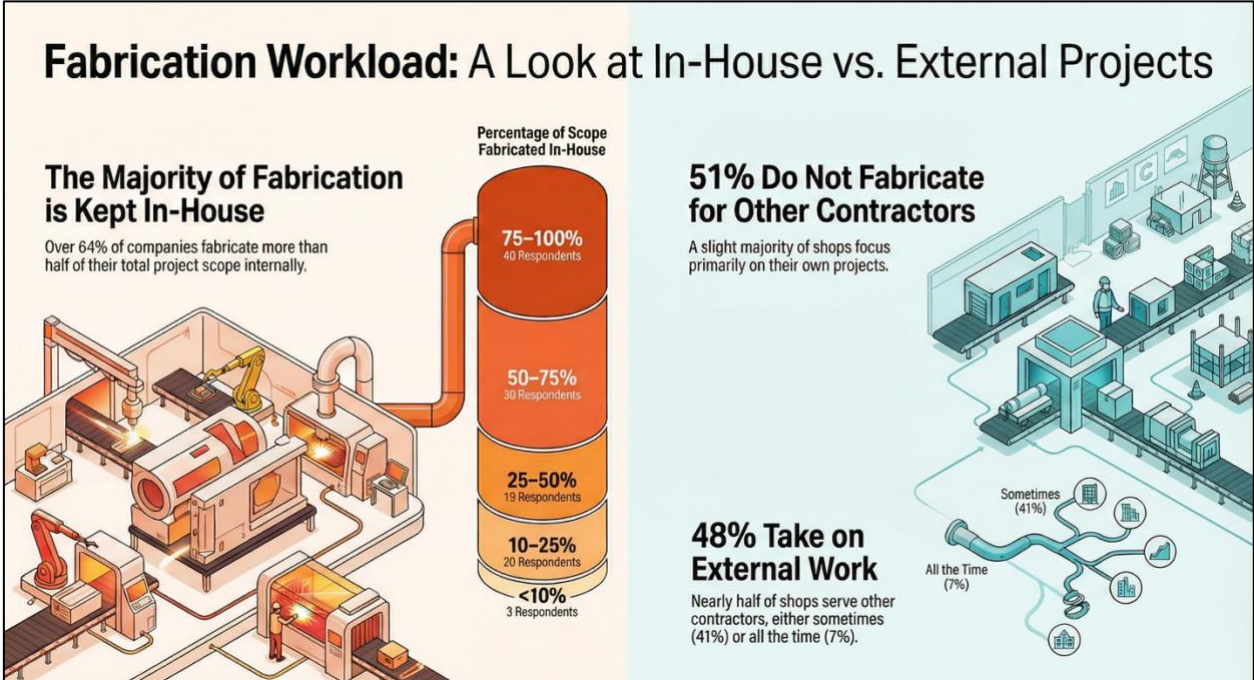
Fabrication Output, External Work

The survey results provide a detailed picture of how mechanical and plumbing contractors are operating their fabrication programs today. The data reflects a group of contractors who are not just using fabrication as a supplement to field labor but relying on it as a central delivery method. Across company sizes, job roles, and experience levels, the responses reveal mature fabrication operations, selective external fabrication relationships, and a steady expansion into high-purity and specialized fabrication markets.

Most Contractors Fabricate the Majority of Their Project Scope

The clearest insight from the data is the consistently high percentage of work being fabricated in-house. The two dominant response ranges - 50–75% and 75–100% - appear across nearly every demographic group in the survey. These ranges include large enterprises, mid-sized regional contractors, and even smaller shops with 50–100 employees. Only a small fraction of respondents fall below 25% fabrication, and almost none fall below 10%.

This indicates that fabrication is not being used experimentally or in limited pockets. Instead, it has become the standard operating model for most contractors represented in this poll. The majority of respondents are fabricating complex assemblies, welded spools, skids, racks, and mechanical systems before sending them to the jobsite. This level of fabrication aligns with national shifts toward improved schedule control, reduced field labor requirements, and predictable, repeatable production environments.



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Contractors in the 1000+ employee category are most likely to report 75-100% fabrication, but even firms with 100-500 employees commonly report the same range. This suggests that high fabrication output is achievable across a wide range of shop sizes, driven by workflow discipline, digital coordination, and investments in shop capacity.

Fabrication for Other Contractors: Supplemental, Not Core

A significant portion of respondents indicate that they fabricate for other contractors, but the dominant response is “Yes – Sometimes.” This response appears consistently across every company-size bracket and job title. It reflects a market where contractors are willing to support partners or fill temporary capacity gaps, but do not orient their shops around commercial fabrication as a primary revenue stream.

The second-most common response is “No – Not Really.” Many contractors maintain a high level of shop utilization through their own backlog and are cautious about external commitments that could affect internal production schedules. These respondents treat external fabrication as a low-frequency activity.

Very few respondents selected “Yes – All the time.” Those who did typically operate very large shops or occupy specialty niches, such as multi-trade OSM, specialty welding, or advanced manufacturing support, where outside fabrication is a natural extension of their capability.

Together, these patterns show that while the industry’s fabrication capacity is broad, contractors prioritize their own work before taking on external customers.

Schedule, Overtime and Burnout

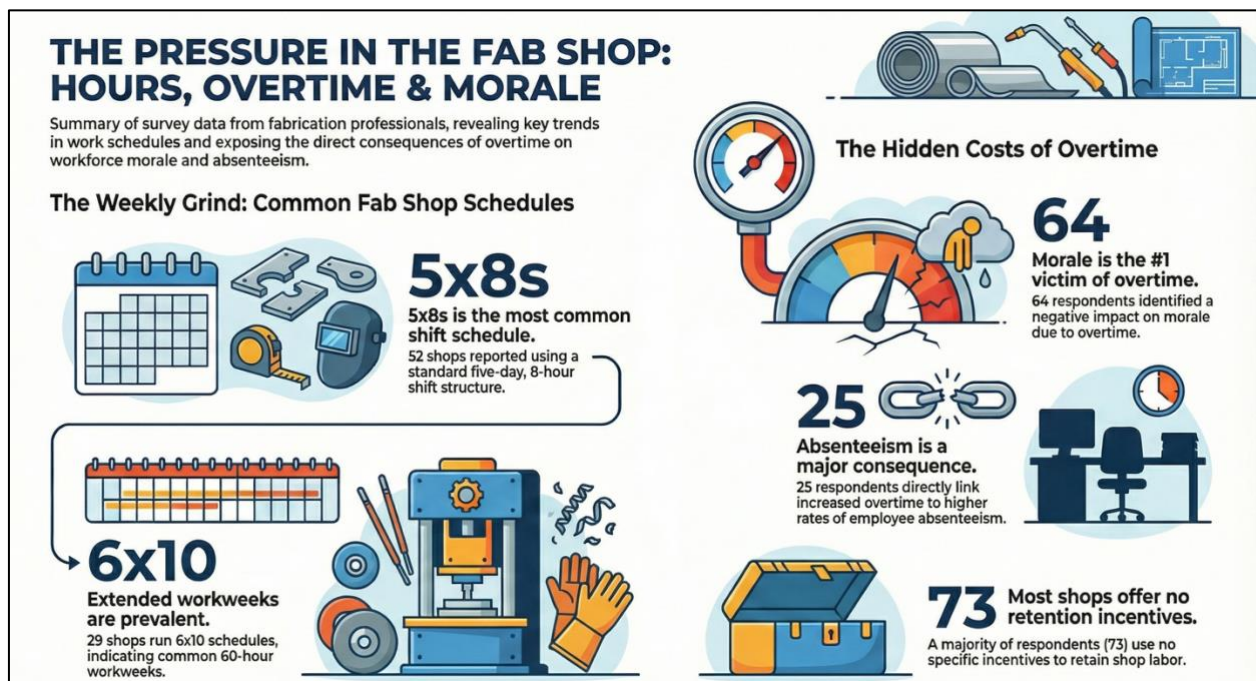
The survey provides a detailed look at how fabrication shops across the country manage their work schedules, motivate and retain labor, and address the operational pressures created by overtime. The responses show a consistent pattern: fabrication output is strong, schedules are structured around predictable weekly blocks, and most contractors face the same upstream bottlenecks - planning, communication, and last-minute design or field changes.

Across these areas, the data highlights how fabrication teams are navigating increasing workloads while maintaining productivity, attendance, and crew stability.

Shift Schedules: 5x8 Dominates, 6x10 Is Common, 4x10 Shows Operational Promise

The most common fabrication shop schedule is **5x8s**, used by shops of every size from small contractors to the largest firms in the survey. This schedule remains the baseline for most fabrication teams, likely due to its predictability, ease of staffing, and compatibility with typical project rhythms.

The second most common schedule is **6x10s**, especially among firms with 500-1000 or 1000+ employees. These longer-hour schedules appear to be a response to high workloads and aggressive project timelines. They are most frequently used by shops reporting planning or communication bottlenecks, suggesting that extended shifts are one-way contractors compensate for upstream inefficiencies.



4×10s appear less frequently, but the dataset points to a meaningful pattern: fabrication shops running 4×10s recorded the lowest levels of absenteeism among all shift types. While the sample size is smaller than 5×8 or 6×10 schedules, the consistency of low absenteeism across the 4×10 responses suggests this is a schedule worth examining more closely. Contractors adopting 4×10 patterns tend to be mid-sized firms with relatively stable staffing and moderate overtime expectations.

A small number of responses included **7×10s** or “**Other**” schedules, usually in very large shops or those with unique project demands. Although not documented in the data, the in-person response indicates that those that chose other were all working some combination of overtime schedules. The largest in person response being 7-12s.

Use of Incentives: Most Shops Use None

Across the survey, the most common response to incentive usage was “**None.**” The majority of contractors do not use structured incentive programs to retain fabrication labor.

Among those who do, four incentive types appear:

- **Higher base pay**
- **Daily attendance bonuses**
- **Overtime guarantees**
- **Retention bonuses**

These incentives occur more frequently in larger firms (500-1000 and 1000+) and in shops running extended-hour schedules. Smaller firms (20-50 and 50-100 employees) rarely report using incentives. The pattern suggests most contractors rely on stable schedules and consistent workloads rather than monetary incentives to maintain shop staffing.

Approaches to Addressing Burnout

Survey responses show that contractors use a range of strategies to manage burnout and reduce the strain created by extended overtime in fabrication shops. These approaches fall into four primary categories.

1. Structured Time-Off Adjustments

The most common response involved modifying schedules to give workers more recovery time. Contractors reported offering longer weekends around holidays, rotating Sundays off, and providing optional or discretionary days away from the shop. These adjustments represent the most actively used and broadly applied efforts to manage fatigue.

2. Pay Adjustments

Some contractors rely on financial incentives to maintain engagement during heavy workload periods. These include higher base pay, daily attendance bonuses, overtime guarantees, and retention bonuses. These measures are used more frequently in larger shops with sustained production demands.

3. Adjusted Workflows

A smaller group of respondents addressed burnout through operational improvements. Examples include leveling production loads across the week, improving planning steps,



and reorganizing shop priorities to reduce peak production pressure. While less common, these workflow adjustments focus on addressing root causes rather than symptoms.

4. Limited or No Strategy

A notable portion of contractors reported having no formal approach to burnout. These organizations continue operating under existing schedules and workloads while evaluating how to respond to the stresses created by overtime. This indicates that burnout management remains an emerging area for many firms.

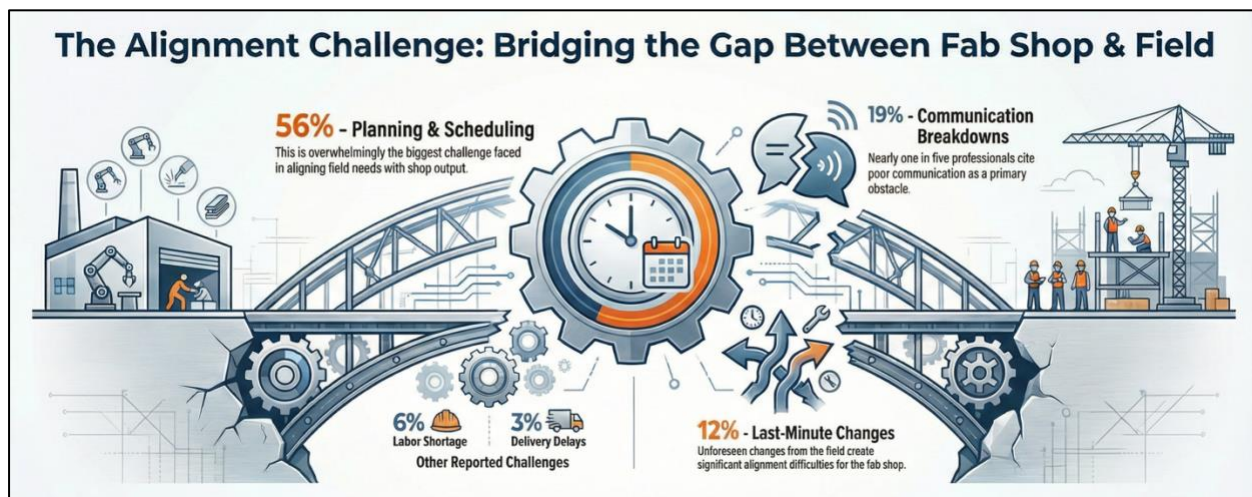
Challenges Aligning Shop Output With Field Needs

The survey data shows clear patterns in the operational friction between fabrication shops and field crews. While contractors differ in size, market, and workflow maturity, their challenges are strikingly consistent across the industry.

Planning and scheduling are the most frequently cited obstacles. Respondents from nearly every shop size and shift structure reported difficulty keeping fabrication output aligned with field expectations when schedules shift, priorities change, or information arrives later than planned. Shops often find themselves reacting to updated timelines rather than operating on a stable production sequence.

Communication breakdowns appear most often in mid-sized organizations and shops running mixed or non-standard shift schedules. These issues occur between coordination teams, project management, and the shop floor, creating uncertainty around when assemblies are needed, how they should be sequenced, and which work should be expedited.

Last-minute changes—usually driven by evolving design information or sudden field requests—remain a recurring issue, especially in larger firms operating on accelerated



project schedules. These late adjustments disrupt fabrication flow and contribute directly to inefficiencies.

A smaller but notable group of contractors report **labor shortages**, particularly large shops with high ongoing production demands. These shortages create bottlenecks even when information flow is strong.

Finally, some respondents cited **delivery delays**, which tend to stem from logistics rather than shop or coordination processes. While less common, these delays affect the shop's ability to align output with installation schedules.

Overall, the data indicates that fabrication shops struggle most when project information is delayed, revised without adequate notice, or out of sync with project pacing. These issues reinforce the importance of predictable planning, stable communication channels, and early visibility into field needs to maintain an efficient fabrication workflow.

Overall Conclusions

The data collected through live polling at the 2025 Fabrication Conference reflects an industry in the middle of rapid operational growth, increasing technical sophistication, and evolving workforce expectations. Across company sizes and market segments, contractors share many of the same challenges and opportunities, revealing a fabrication landscape that is expanding in capacity, maturing in process, and becoming more central to project delivery.

Fabrication output is increasing at an exceptional pace. Nearly every contractor surveyed reported growth in their fabrication operations within the past year, and most have invested in new machinery, material-handling systems, or expanded shop footprints. This growth is not incremental; it represents meaningful upgrades aimed at increasing throughput, reducing reliance on field labor, and supporting more predictable production workflows. As fabrication becomes a larger share of total project scope, the shop is shifting from a supporting function to a primary delivery engine.

Technology adoption is following a similar trajectory. Contractors overwhelmingly credit coordinated 3D modeling and spooling as the most impactful technology in their shops, with pipe-cutting and other automation tools further accelerating production efficiency. The strongest adopters of dedicated fabrication platforms tend to be mid-sized and large firms, while smaller contractors continue to rely on spreadsheets and PDF or Bluebeam driven workflows. Even so, the push toward integrated data flow - between VDC, project management, inventory, and production - is becoming a defining characteristic of maturing fabrication programs.

The work contractors perform is increasingly specialized. Data centers and off-site manufacturing dominate the work mix, with significant activity in pharmaceutical, refinery/energy, and high-purity systems. Shops engaged in these sectors typically maintain higher output, tighter production controls, and stronger digital workflows. These markets reward precision, documentation, and repeatability—traits aligned with robust fabrication programs.

The workforce picture shows both strengths and pressure points. Contractors fabricate a strikingly high percentage of their own work, with most respondents reporting 50–75% or 75–100% of total project scope produced in-house. Fabricating for other contractors occurs, but it is not a core strategy for most firms. At the same time, overtime remains a major factor in shop operations. Morale and absenteeism rise with extended hours, and although few contractors use formal incentives, many try to offset burnout with targeted time-off strategies. Notably, 4×10 schedules saw the lowest absenteeism in the dataset—an insight that may merit further exploration as shops evaluate staffing stability.

Operational alignment remains the biggest barrier to efficiency. Contractors consistently identified planning and scheduling gaps as their primary challenge in synchronizing fabrication with field needs. Communication breakdowns and late changes compound the issue, creating reactive conditions that strain shop workflows. These upstream issues often drive overtime, reduce predictability, and widen the gap between planned and actual production.

Taken together, the findings point to a fabrication ecosystem that is expanding, modernizing, and becoming essential to delivery strategy. Shops are scaling both technologically and operationally, but the next phase of growth will depend on stronger alignment across project teams, better information flow, and intentional workforce planning. As demand for complex assemblies and off-site manufacturing continues to rise—especially in data centers, high-purity facilities, and industrial projects - contractors that invest in integrated workflows, balanced schedules, and strategic capacity planning will be best positioned to lead the industry forward.

Source Material

This report is based on data collected during the **Pulse of Fabrication** live polling session at the **MCAA 2025 Fabrication Conference**. The findings reflect real-time responses from participating contractors across a broad range of company sizes, roles, and fabrication capabilities.

For access to the complete set of original, unedited responses, [click here](#).