



# Managing and Mitigating **RISK** in Today's Construction Environment

The 2016 AGC/FMI Industry Survey

AGC of America  
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA  
Quality People. Quality Projects.





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## Executive Summary

**T**he construction industry has bounced back from the Great Recession and is currently one of the best-performing sectors within the U.S. economy. Though contractors have strong backlogs and plenty of work, many are still struggling to find qualified workers, according to Ken Simonson, AGC's chief economist. Such ripple effects of the recession—during which 1.5 million workers left the construction workforce—continue to impact the construction industry as project costs continue to rise, skilled labor shortages persist, competition is fierce, and owners place increasing pressure on contractors.

It is within this new world that AGC's Surety Bonding and Risk Management Forum—in collaboration with FMI—ventured out to survey contractors' perceptions of risk and learn how risk is being managed in today's business environment. Study findings are based on 83 responses from best-in-class companies that are active in AGC's forum. The companies that participated in this study collectively generate approximately \$50 billion in industry revenue each year.

Our study sheds light on big-picture industry trends and reveals the following five key findings:

- Today's construction risk environment is drastically different than it was five years ago.
- Skilled craft labor shortages, contract language and subcontractor default are top risks in today's construction industry.
- Construction firms are managing risk differently today.
- Risk management effectiveness varies.
- Mitigating and managing risk has become a strategic priority.

These insights point toward a critical transition in the industry's thinking around risk management and show how today's contractors require a more systematic approach to the entire range of risks that they face—whether those risks are insurable or not.

We also provide a conceptual framework for a best-in-class risk management program based on FMI's in-depth research and collaboration with industry stakeholders over multiple years.

Put simply, no company can afford to have the same business model as it did five years ago. By rebuilding, retooling and refitting, firms are readying themselves to play the game on an entirely new field.

As we dig deeper into the study findings—and as the industry continues to evolve—AGC's Surety Bonding and Risk Management Forum and FMI will keep you abreast of progress, while supporting the development of successful strategies and business models for today's uncertain business environment.



## Key Findings

“ One of the easiest ways to create a corporate culture around risk management is by making it everyone’s job. That means moving from an ‘It’s the department’s role’ mentality to one that says, ‘We share a job, and that’s to create a risk-aware culture.’ ”

–Alex Munoz, Vice President of Safety and Risk Management at Messer Construction Co.

The following key findings shed light on contractors' perceptions<sup>1</sup> and experience in managing and mitigating risk in today's business environment. These results identify big-picture risk issues that will require further investigation over time. All information is based on 83 responses from best-in-class companies that are active in AGC's Surety Bonding and Risk Management Forum. The companies that participated in this study collectively generate approximately \$50 billion in industry revenue each year (see survey demographics for more details).

### **Finding 1. Today's Construction Risk Environment Is Different Compared to Five Years Ago.**

Hit hard by the Great Recession, the construction industry has struggled to bounce back to pre-recession levels. Good, bad or indifferent, all contractors are now operating in a new post-recession landscape, characterized by tighter margins with less room for error. The days of high margins and favorable contractual language are gone. Owner requirements are more stringent, the competition is tougher, and companies are facing acute skilled labor shortages. As a result, businesses are running

fast and hard and increasing their risk exposure while still dealing with thin margins. It's the perfect storm that can ultimately lead to company failure and bankruptcy (see FMI's industry study on "Why Large Contractors Fail – A Fresh Perspective").

Still, we can cautiously point to a number of positive trends that are taking place. For example, the industry didn't witness nearly as many surety losses or large contractor failures as expected during the downturn—a sign that contractors, sureties and banks are more conservative in their underwriting approaches. Contractors are exercising more self-discipline, and both sureties and banks are resisting the temptation to let contractors overextend themselves. Recent experience also indicates that the industry is getting more sophisticated: Leaders are better-educated, think more strategically and, thus, are apt to run their organizations more effectively. However, with the risk of contractor default higher in a recovering economy compared to other economic phases, the industry needs to keep a close eye on the potential for an increase in default claims going forward.

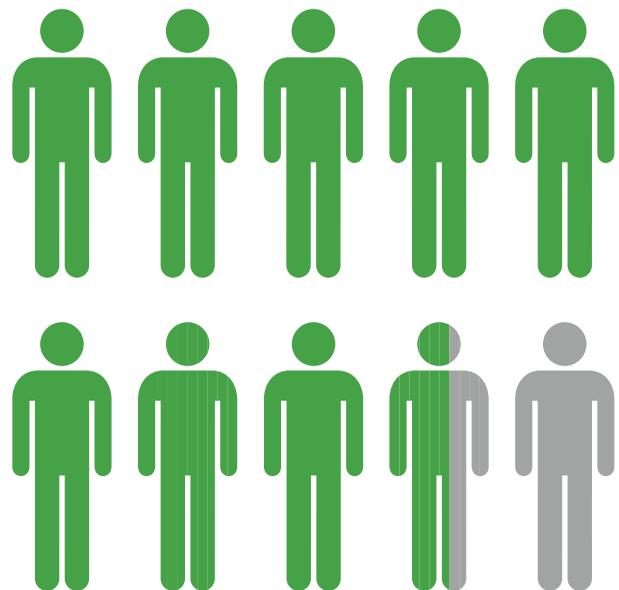
Working with hundreds of engineering and construction firms, FMI has witnessed heightened risk awareness among business leaders who have seen big changes in construction risk over the past few years. This was also confirmed in our study in which 86% of respondents stated that today's risk environment is different compared to five years ago (Exhibit 1).

As one survey participant stated, "Projects have become incredibly more complex. The workforce has aged considerably, and there are fewer people doing more work. All of this is resulting in riskier propositions and projects."

<sup>1</sup> Contractors in this study include general contractors, construction managers and specialty contractors.

EXHIBIT 1

IS TODAY'S CONSTRUCTION ENVIRONMENT DIFFERENT COMPARED TO FIVE YEARS AGO?



86% Yes

14% No

Source: 2016 AGC/FMI Risk Survey

**Finding 2. Skilled Craft Labor Shortage, Contract Language and Subcontractor Default Are Top Risks in Today's Construction Industry.**

The top-three risks ranked by our study participants include (Exhibit 2):

- Skilled craft labor shortage
- Contract language/insurance terms
- Subcontractor default

**Skilled craft labor shortage**

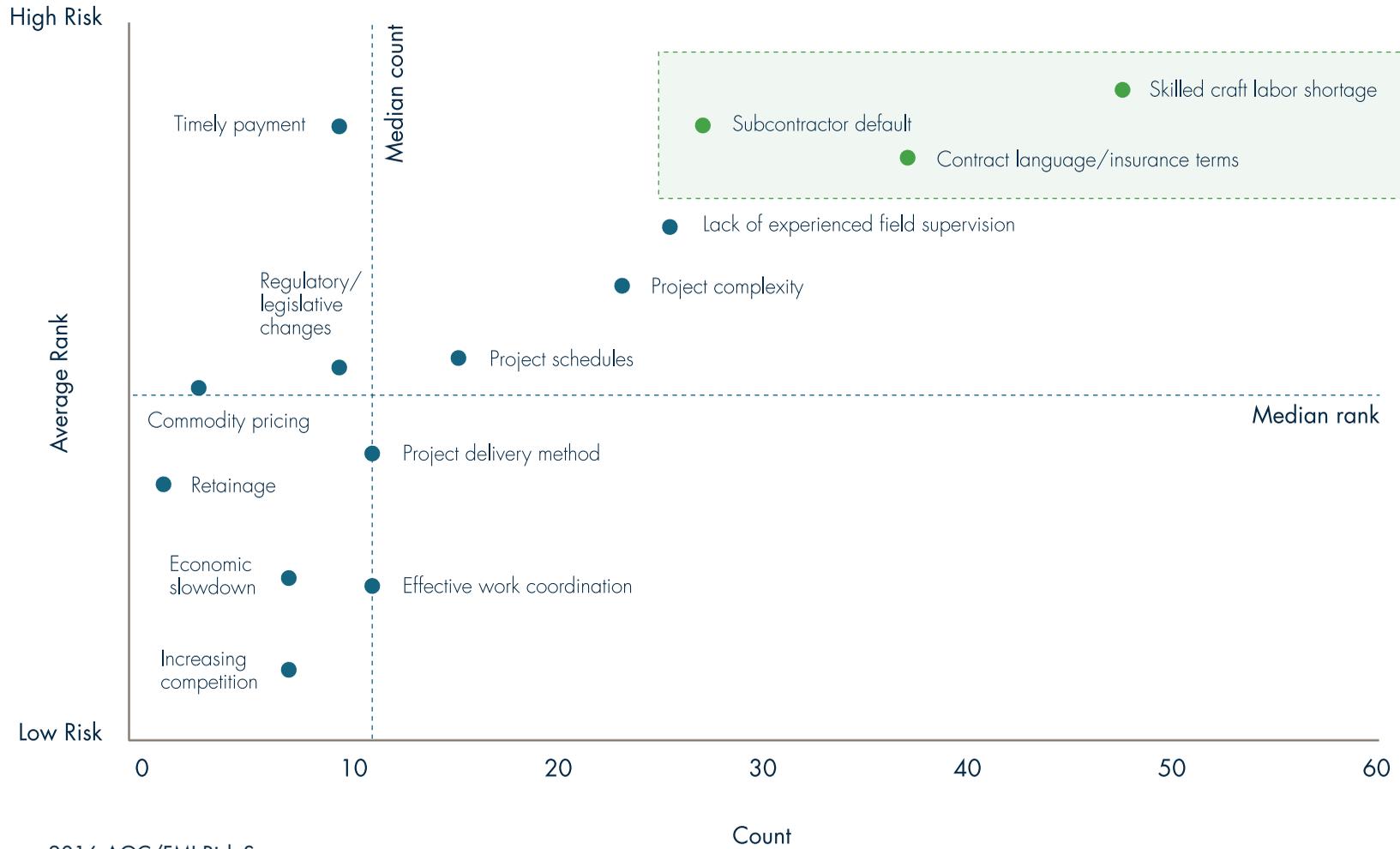
This is not a new industry topic, but the situation has elevated to crisis mode today. Total construction employment has rebounded to just over 6.5 million<sup>2</sup> workers, which is still a far cry from its peak of 8 million workers in 2006. With the total number of employed construction workers at almost 20% below the 2006 peak, the industry is struggling to find qualified labor, particularly at the specialty trade level.

Compounding these dynamics, baby boomers are reaching retirement age at a rate of 10,000

<sup>2</sup> Bureau of Labor Statistics. Employment statistics for May 2016.

EXHIBIT 2

TOP RISKS TODAY INCLUDE SKILLED LABOR SHORTAGE, CONTRACT LANGUAGE/INSURANCE TERMS AND SUBCONTRACTOR DEFAULT



Source: 2016 AGC/FMI Risk Survey

per day, and a younger and more inexperienced (millennial) workforce is moving into the industry. Furthermore, contractors are winning more work in today's recovering environment, which in turn is placing increased stress on their working capital. In other words, they're trying to do more with less. That kind of pressure on working capital—coupled with craft labor shortages, fluctuating market dynamics and a dramatic loss of industry knowledge and leadership—creates a recipe for a potential disaster. It is within this environment that contractors of all types face a higher risk of failure.

As one survey participant confirmed, “Contractors are stretched to their limits due to current labor shortages combined with increased project opportunities.”

### **Contract language/insurance terms**

Many study participants indicated that owners are putting more pressure on project costs and schedules while modifying contract terms to place greater risk on all contractor levels (CMs, GCs and specialty trade contractors). As a result, contractors are having to identify and assess risk more carefully and understand how that risk is allocated among all project stake-

holders. In short, the risk environment is becoming evermore complex, increasing the importance of risk management programs for today's construction firms. Our study findings also indicate that many contractors lack solid methods for understanding the appropriate risk transfer and processes to manage that risk effectively. We will continue to monitor this subject and conduct more in-depth research as the industry evolves in these areas in the coming years.

Dan Whiteman, vice chairman at Coastal Construction, stated, “Today we spend a tremendous amount of time analyzing project risk for clauses that we've never had to worry about in the past since they were either the owner's or architect's responsibility.”

In addition, survey participants perceive a shift in design risk and responsibilities from the architects and engineers to the contractors. In one of FMI's recent industry studies focused on electrical contractors nationwide, one participant stated, “Design drawings have gone from 90% complete five years ago to 50% complete in today's business environment. Incomplete designs have become the contractor's responsibility. As such, subcontractors

have to plan for incomplete designs and provide greater engineering.”

### **Subcontractor default**

According to recent industry research, the average number of months of contractor backlogs (for all types of contractors) increased 33% between 2009 and 2015. Study participants indicated that subcontractors in particular are struggling to execute on their existing workloads and are often undercapitalized and unable to bond, which poses a significant risk for all project stakeholders.

Mike Bond, head of surety for Zurich North America, states in a recent FMI Quarterly article, “What's striking about this trend is that many subcontractors have not adjusted their business models to the new margins and are carrying too much overhead to maintain their operations. Juggling tighter cash flows and labor pools in this ‘new normal’ is pushing even large subcontractors out of business. This, in turn, creates heightened risk for general contractors and their clients.”

It is counterintuitive, and somewhat ironic, that contractors who managed to survive when the market was at its absolute lowest are now

“Contractors don’t starve to death; they die from gluttony. They get too much work, too fast, with inadequate resources, and then they get into financial trouble and run out of cash.”

—Hugh Rice, Senior Chairman of FMI Capital Advisors

“Subcontractor default is definitely on the increase. Subcontractor default is also getting more expensive when they do default.”

—Survey Participant

failing, in the midst of the recovery. Hugh Rice, senior chairman of FMI Capital Advisors, sums it up well: “Contractors don’t starve to death; they die from gluttony. They get too much work, too fast, with inadequate resources, and then they get into financial trouble and run out of cash.”

Other top risks listed in our study include increased project complexity and a lack of experienced field personnel, both of which are a reflection of how today’s construction industry is dramatically changing. In fact, surveys conducted at FMI’s Project Manager Academy over the last year show that the majority of young project field leaders are overworked and not receiving adequate support or skills training. These are disturbing trends in a job market where skilled labor is hard to find and even more difficult to retain. It is even more troubling, considering that field leaders are often responsible for managing thousands of dollars on a daily basis and carrying the future livelihood of their peers and clients on their shoulders.

Traditional insurance tools and risk management approaches are becoming inadequate in light of these industry trends and new “people”

risks. Consequently, progressive construction firms are starting to reinvent their risk management practices by evolving their business models into intentional and formalized programs at the enterprise level, rather than piecemeal or reactive on an individual basis.

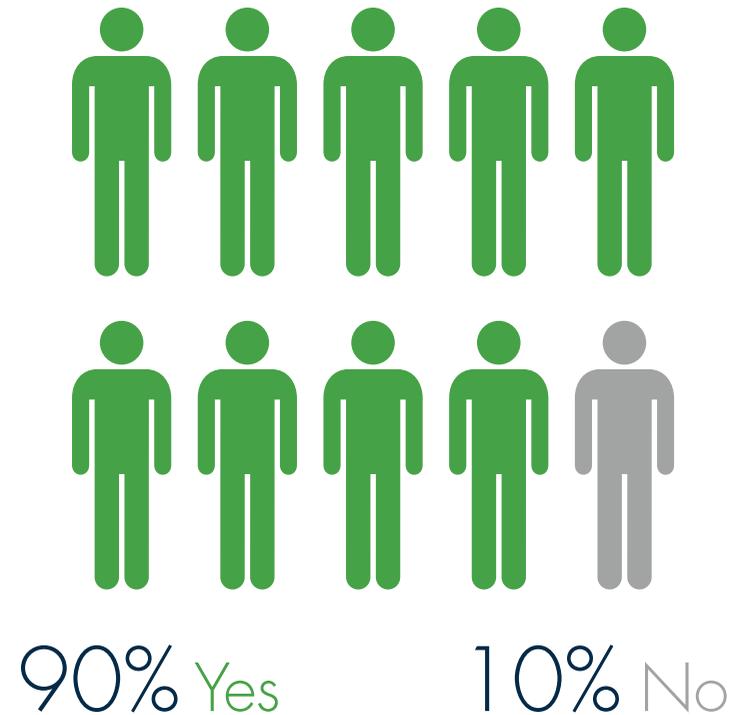
The following section provides more insight into how construction firms are managing risk in today’s increasingly complex and evolving business environment.

**Finding 3. Construction Firms Are Managing Risk Differently Today.**

The overwhelming majority (90%) of survey respondents stated that they're managing risk differently today compared to five years ago (Exhibit 3). Of those who are managing risk differently, 82% are implementing new risk management tools and strategies, and 55% are providing risk management-specific training. Almost 40% of these respondents are also creating positions for new risk management personnel and leveraging broker relationships more effectively (Exhibit 4).

EXHIBIT 3

ARE YOU MANAGING RISK DIFFERENTLY TODAY COMPARED TO FIVE YEARS AGO?



Source: 2016 AGC/FMI Risk Survey

EXHIBIT 4

HOW IS YOUR ORGANIZATION MANAGING RISK DIFFERENTLY TODAY?



Source: 2016 AGC/FMI Risk Survey

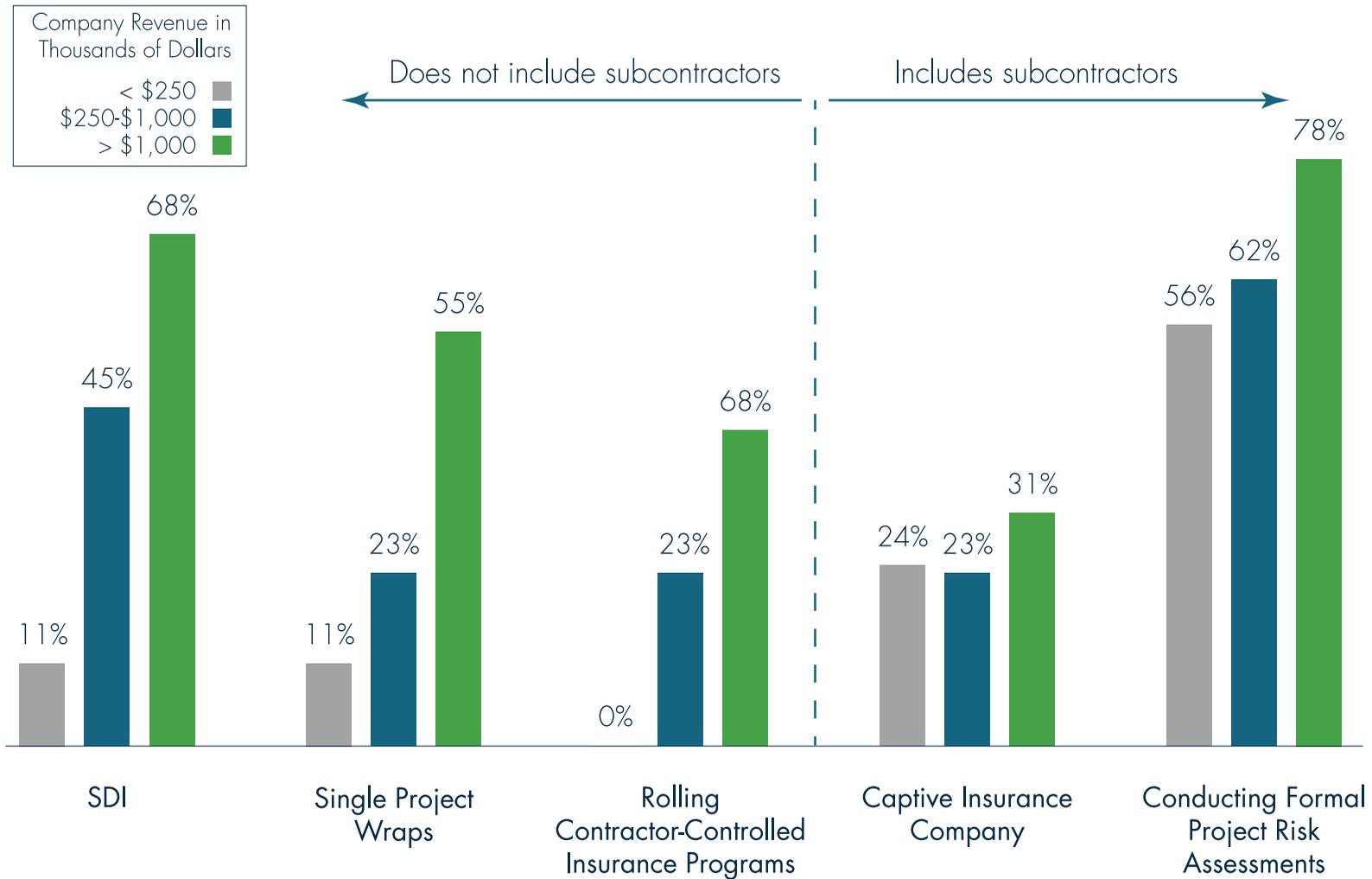
Whiteman explained, “We have done two major things within our organization: We now have a full-time risk manager who reviews every contract strictly from a risk perspective, evaluating every single clause. Our risk manager also hired a financial analyst who assesses every subcontractor’s situation, including finances, how the subcontractor is going to staff the project, and how many projects he or she has underway (overall and with us). This detailed analysis has dramatically reduced our subcontractor defaults over the last five years. In addition, we have a full-time insurance manager who proactively works with both claimants and the insurance companies to evaluate and resolve claims rather than have them linger for extended periods of time, which seems to have been the industry pattern.”

Exhibit 5 identifies some of the tools that survey participants are using (shown for three company-size categories). The two most popular methods and tools include conducting formal project risk assessments and utilizing Subcontractor Default Insurance (SDI)—a strategic response to the top risks ranked earlier by contractors.

EXHIBIT 5

COMPANIES ARE MANAGING RISK DIFFERENTLY TODAY

Risk management tool used by company revenue size



Source: 2016 AGC/FMI Risk Survey

While these tools only represent a subset of available risk management methods, FMI has witnessed a growing interest in formal risk management programs at the enterprise level over the past few years. An enterprise approach to risk involves the collective identification, assessment and management of risks that a business faces. This occurs not just on a local level or within its business sector, but on a global level in areas that may not correlate directly to the business. This global perspective can help leaders identify risk areas more clearly and serve as an important precursor to strategic planning.

Dallis Christensen, CFO at Layton Construction, explained, “Everyone in the company is now included in our risk management practice. Our superintendents are more involved with both quality and safety issues; project managers might be looking at subcontractor or owner contract clauses more closely; and our estimators review our subcontractors’ pre-qualifications and financial strength in much more detail.”

#### **Finding 4. Effectiveness of Risk Management Varies.**

Although 90% of study participants indicated a shift in their risk management approach, results are mixed. Exhibit 6 shows that only 17% of respondents perceive their risk assessment process as effective. Almost 50% of survey respondents think their risk assessment process still requires improvement, and 35% consider it ineffective.

One survey participant explained this dilemma as follows: “The availability of tools to monitor risk has improved greatly, but we lag as an industry to see marked improvement in our results. Therefore, we have to become more efficient at transitioning from knowledge of how to manage our risk to implementation that actually does manage the risk.”

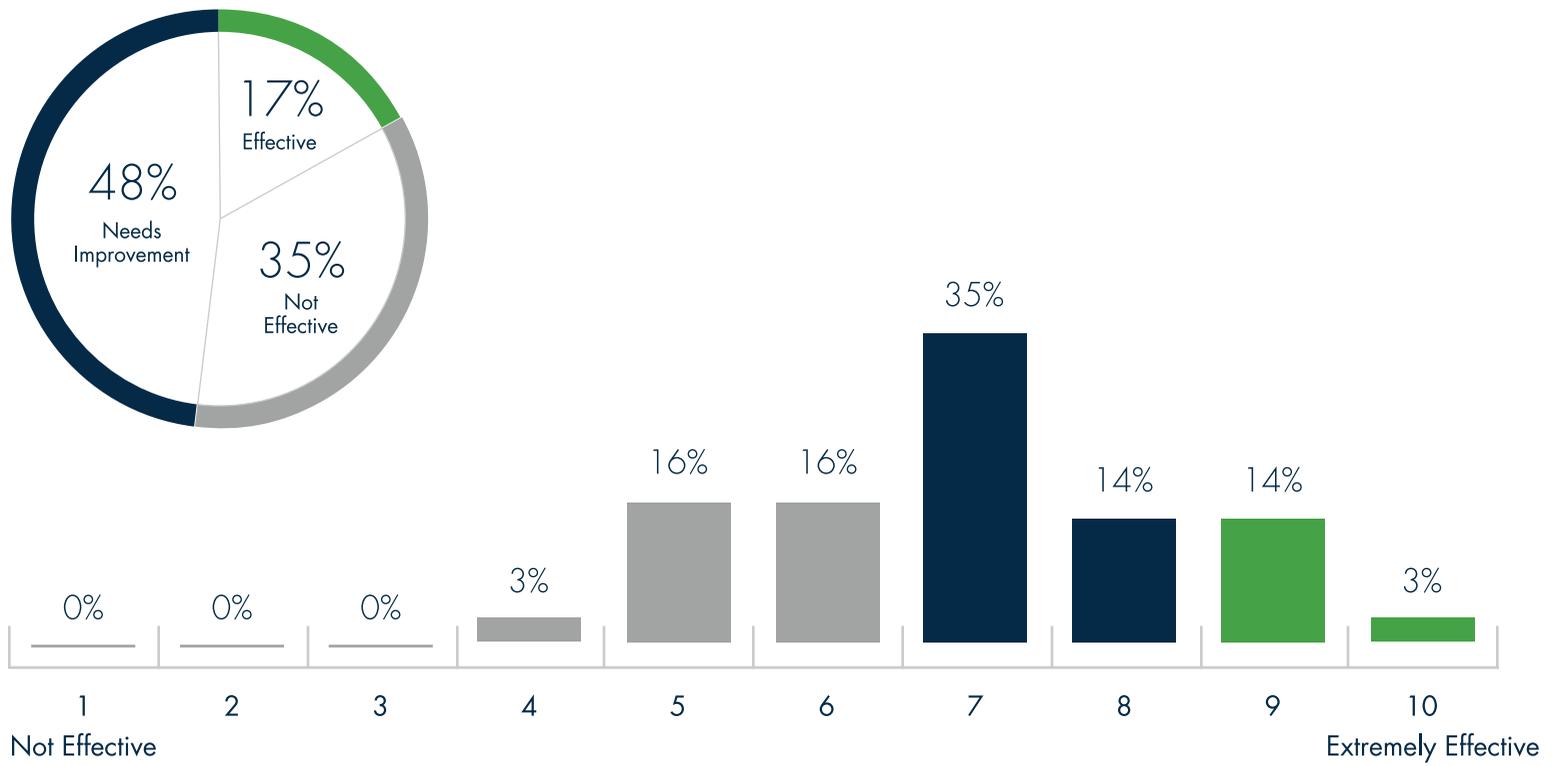
Another reason for these effectiveness patterns could be the dire “human capital” risk the construction industry currently faces: acute skilled craft labor shortages, lack of experienced field supervision, young and inexperienced millennials entering the workforce, coupled with retiring company executives. All of these dynamics involve new aspects of

human capital risk that call for a fresh strategic approach to risk management.

As FMI observes, “When you have an increasing backlog without the trained manpower to execute the job, your risk profile can become unsustainable.”

Exhibit 7 shows usage of various risk management tools and associated effectiveness of those tools for all survey respondents. Interestingly, respondents perceive almost all these tools to be equally effective (between 6.23 and 6.72), though some tools are clearly more utilized than others.

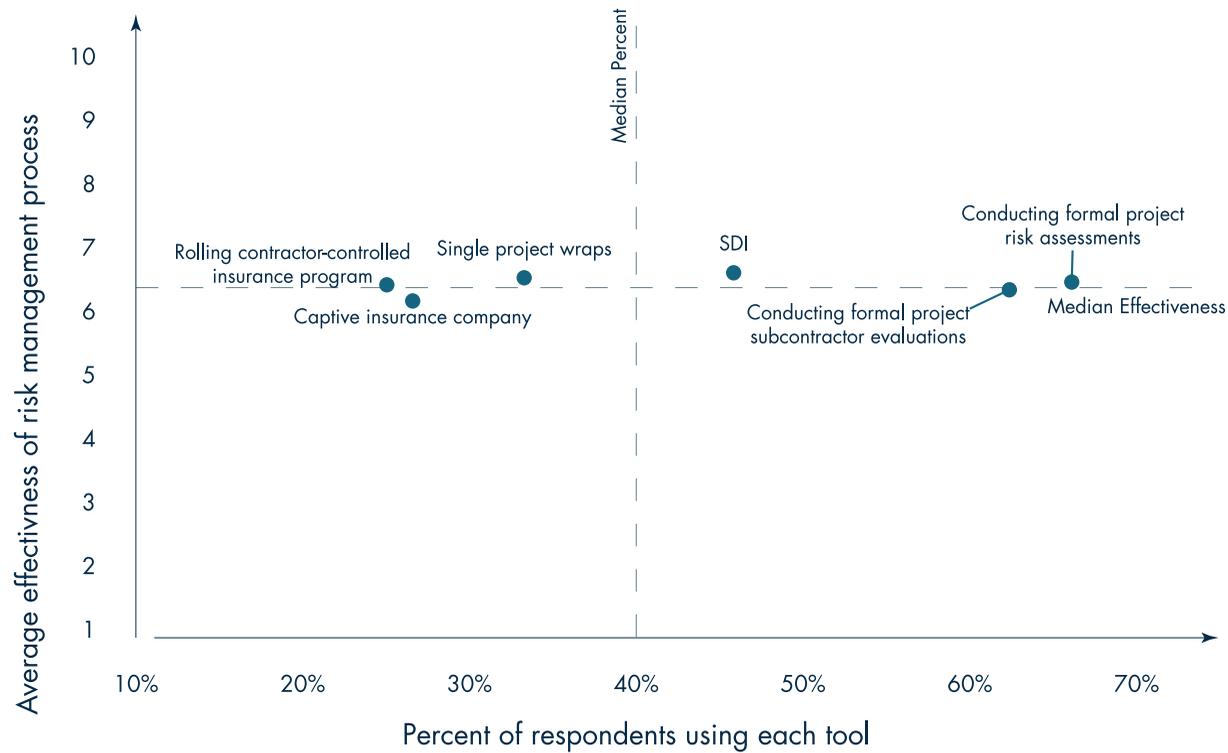
**EXHIBIT 6** HOW EFFECTIVE IS YOUR CURRENT RISK ASSESSMENT PROCESS?



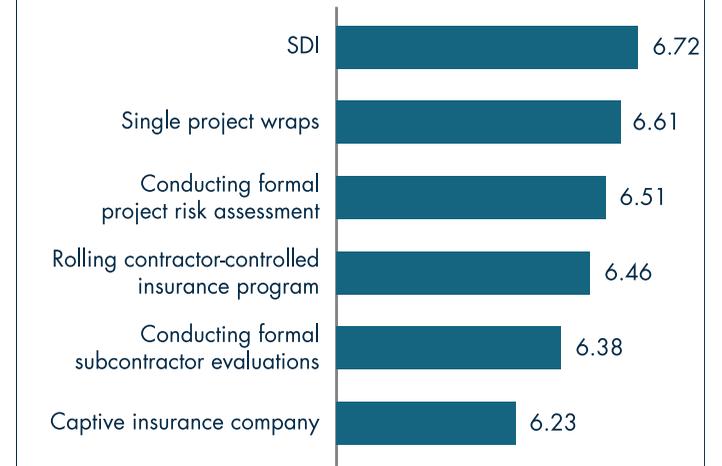
Source: 2016 AGC/FMI Risk Survey

**EXHIBIT 7**

**USAGE OF TOOLS AND EFFECTIVENESS OF THE RISK MANAGEMENT PROCESS**



**EFFECTIVENESS OF RISK ASSESSMENT PROCESS ACROSS TOOLS USED**



Source: 2016 AGC/FMI Risk Survey

**Finding 5. Mitigating and Managing Risk Has Become a Strategic Priority.**

Almost 70% of survey respondents indicated that they have a formalized risk management department and a dedicated risk manager (Exhibits 8 and 9, respectively).

As you might expect, companies with dedicated risk managers rated the effectiveness of their risk assessment process higher compared to those without a dedicated risk manager (Exhibit 10). Even more telling, those companies where risk managers reside in an executive position rated their risk assessment effectiveness the highest compared to those companies where risk managers were a step removed from the C-suite.

**EXHIBIT 8** DO YOU HAVE A FORMALIZED RISK MANAGEMENT DEPARTMENT?

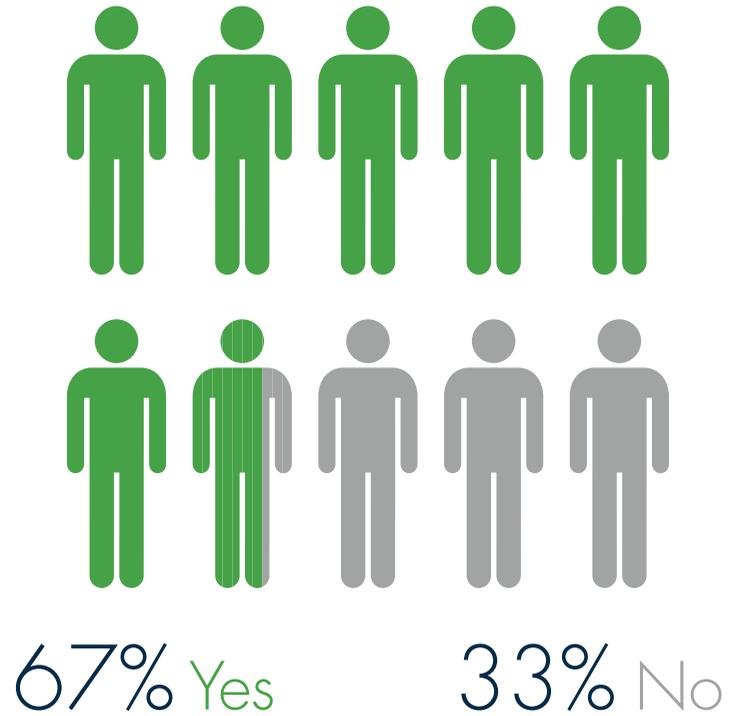


69% Yes

31% No

Source: 2016 AGC/FMI Risk Survey

EXHIBIT 9 DO YOU HAVE A DEDICATED RISK MANAGER?



Source: 2016 AGC/FMI Risk Survey

EXHIBIT 10 WHERE DOES THE RISK MANAGER POSITION RESIDE, AND HOW EFFECTIVE IS YOUR RISK ASSESSMENT PROCESS?



Source: 2016 AGC/FMI Risk Survey



## The Nine Elements of a Best-In-Class Risk Management Program

“ If you’re in the business of contracting, you’re really in the business of risk management. We’ve been awakened to new processes and procedures that allow risk management to become a key focus of our business. Today, our business is much more predictable, and clients hire us due to our capability of taking out the risk and uncertainty in complex projects. ”

—Ken Ames, Corporate Risk Manager at Layton Construction

In today's construction business environment, successful risk management takes more than just a good insurance program and a process for handling claims. While both of these elements are essential—and historically adequate—times have changed. Construction is a more complex business, and risk management has matured exponentially. Today's contractors need a more systematic approach to the entire range of risks that they face—whether those risks are insurable or not.

Like safety, risk management requires constant communication, education and efforts to build awareness and provide value to both employees and clients. To meet this challenge, many more firms are taking this enterprisewide approach to risk management with two overarching objectives: offense and defense. Here's the difference between the two:

- **Offensively**, risk management aims to increase the value of the business by formalizing risk tolerance, potentially increasing profit margins and stabilizing earnings.
- **Defensively**, risk management protects the business by guarding the balance sheet, profits and legacy of an organization.

Firms that want to do a better job of managing risk should consider combining both offense and defense. Digging down to deeper levels of understanding, FMI has identified nine elements that can be included in a formal risk management strategy. By incorporating one or more of these elements and then taking a more

holistic approach to risk management that goes beyond just insurance or safety programs, firms can begin to realize the positive impacts of their efforts.

Here are the nine key elements, organized into three primary categories:



Source: Model developed by FMI. Concept is based on in-depth industry research.



## Strategic Elements

**Enterprise Risk Management** — The traditional approach to risk management was typically a matter of buying insurance and filing claims, often by department or business unit. An enterprise approach to risk, on the other hand, involves the collective identification, assessment and management of risks that a business faces. This occurs not only on a local level or within its business sector, but also on a global level in areas that may not correlate directly to the business. This global perspective can help leaders identify risk areas more clearly and serve as an important precursor to strategic planning.

**Risk Management Partners** — As in any business, the right partners are vital to a firm's success. In the construction industry, those partners include financial advisors, lawyers,

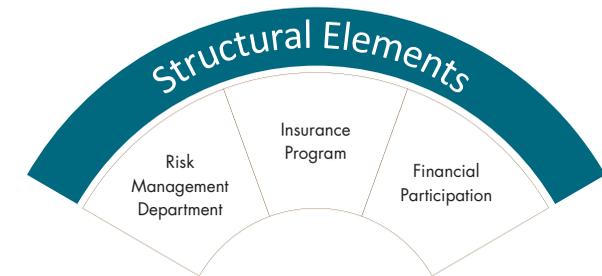
insurance and surety representatives and government entities, to name a few—all of which play a key role in the construction industry and who can serve as strategic partners to help contractors navigate an ever-changing marketplace.

For many contractors, including the most sophisticated, industry peers are also among their key partners. Insurance, surety, legal and other professionals can help a contractor devise a risk management strategy, but few have the practical experience to help a contractor implement it.

For the help they need to solve the day-to-day problems that can also too easily frustrate any strategy, contractors need to identify opportunities to interact with their peers. One well-recognized leader in the effort to provide such opportunities is the Associated General Contractors of America. Its Surety Bonding and Risk Management Forum has been particularly successful in creating an environment in which contractors can comfortably share both their successes and their failures.

**Leveraging Risk Management** — As the industry has evolved, contractors have had to shift

how they view risk management. Today, best-in-class firms are able to protect themselves better, increase the value of their organizations and identify new ways to improve profit margins. At its essence, company leaders are starting to accept and manage appropriate risks that have the potential to add value to their businesses. This is a far cry from the past, when contractors had a fairly consistent knee-jerk reaction to risk, either refusing to accept it in the contract and/or immediately passing it on to others (i.e., subcontractors and suppliers).



## Structural Elements

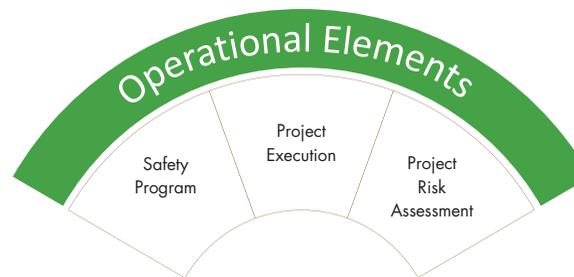
**Financial Participation** — The majority of today's construction leaders lack a full understanding of their company's risk tolerance. In other words, they may be exposing their businesses to more potential economic loss than they can tolerate, either reputationally or fi-

nancially. On the flip side, some companies have risk management functions that are benefiting others more than they should (e.g., owners, insurance carriers, competitors, etc.). This so-called financial over- or under-participation can make or break a firm and represents a critical step in balancing risk versus protecting the balance sheet.

**Risk Management Department** — Leading contractors have a formalized risk management department embedded in their organizations, led by a professional (usually full-time) risk manager with a defined role and specialized responsibilities. This role should not be relegated to an outside broker, de facto safety manager or someone else in the organization. Risk managers contribute significantly to the overall management of a construction business and should have a seat at the executive table, embedding risk management into the corporate strategy.

**Insurance Program** — The role of insurance is simply to allow companies to “rent” the insurance company’s balance sheet when risks and the potential losses exceed an organization’s risk tolerance. Understanding that need for protection, companies must ensure that

the suite of insurance products sufficiently protects their balance sheet and earnings stream—should something undesirable occur. The key is to have an insurance program that appropriately matches the risks of the company’s specific business and exposures.



### Operational Elements

**Project Risk Assessment** — Leading contractors have a systematic and consistent process to evaluate and analyze potential project risks prior to pursuing a project award. This process involves a team of internal experts with specialized experience who review key areas of project risk (i.e., contract terms, constructability, financing, partners, location, logistical issues, equipment needs, etc.). Armed with a clear understanding of their enterprise risk tolerance as well as a strong project risk as-

essment, contractors are better-equipped to incorporate appropriate contingencies and margins on specific projects, which ultimately results in more accurate job costing.

**Safety Program** — All contractors have safety programs in place these days, but the leading organizations have created a culture of safety throughout their organizations and up and down their value chains. Leading organizations also aggressively track and manage claims—focusing on the process and the costs, including robust return-to-work programs—and understand that safe jobs tend to be profitable jobs. A strong safety program has not only the “right” components but also the appropriate measurements and metrics in place to monitor performance and accountability.

**Project Execution** — Whether acting as a subcontractor or a general contractor, there is an inherent and obvious risk in executing a project. When a contractor’s operations involve subcontractors and vendors, that contractor still has both financial and reputational risks on the line—yet someone else is doing the work. With this dynamic in mind, it’s easy to understand why subcontractor management is a key focus for leading firms.

## Steps to Success

The idea of managing risk as an “offensive” strategy is not a new concept. Best-in-class companies understand the value of a formalized and intentional risk management program and long ago embraced the idea of strategic risk management. Whether in reaction to tight markets with demanding and impatient stakeholders or with the foresight to see the advantage of this type of planning, the industry is evolving its view of risk management. As the industry continues to change, and as executives spend increased time considering risk, this model of best-in-class risk management can serve as a blueprint for success.





## Looking Ahead

We are at an inflection point, and today's contractors need a more systematic approach to the entire range of risks that they face—whether those risks are insurable or not.

**F**or years, contractors have tackled risk by relying on insurance programs and handling claims. Today that is no longer enough. Our study findings show that the current construction risk environment is vastly different compared to just five years ago. Owners are putting more pressure on project costs and schedules while modifying contract terms to place greater risk on all contractor levels. At the same time, contractors are winning more work and staffing projects with less skilled labor and fewer experienced field supervisors. Combined, all of these factors are adding unprecedented risk to field productivity, work quality, safety and working capital.

Furthermore, our study findings indicate that while the majority of contractors are managing risk differently by implementing new risk management tools, strategies and training programs, the results of those efforts are mixed. In fact, almost 50% of our study participants think their risk assessment process still needs improvement. There are several ways of interpreting these findings, and we certainly do not have all the answers at this point in time. But one thing is certain: We are at an inflection point, and today's contractors need a more systematic approach to the entire range of risks

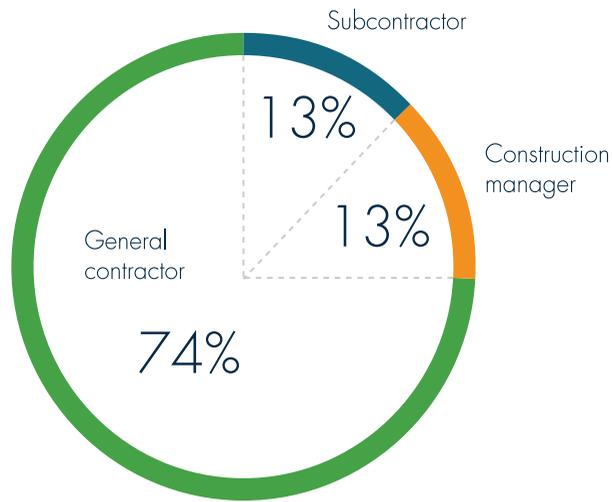
that they face—whether those risks are insurable or not.

The bottom line is that no company can afford to operate as it did five years ago. To survive, firms will need to rebuild, retool and refit in anticipation of a new playing field. Looking ahead, AGC's Surety Bonding and Risk Management Forum—in collaboration with FMI—hopes to delve deeper into some of the study findings. As the industry evolves its view of risk management, we will continue to promote a constructive dialogue among industry stakeholders and provide insights into this critical business area on a regular basis.



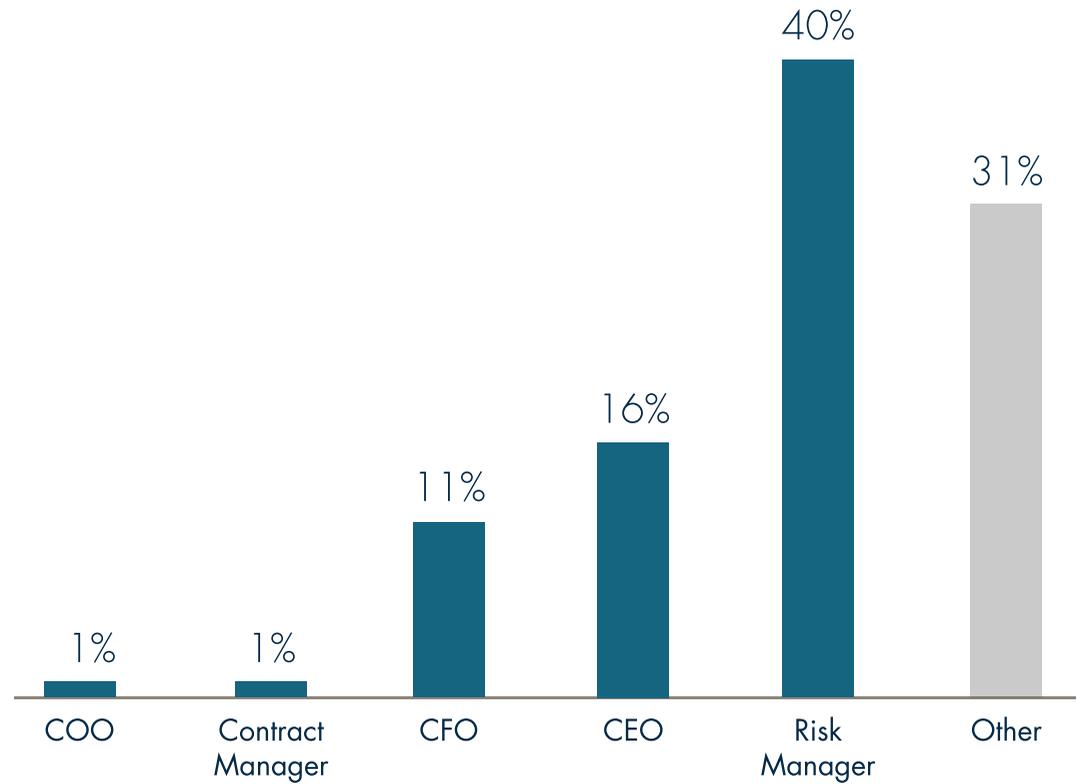
## Survey Demographics

### WHICH BEST DESCRIBES YOUR ORGANIZATION?



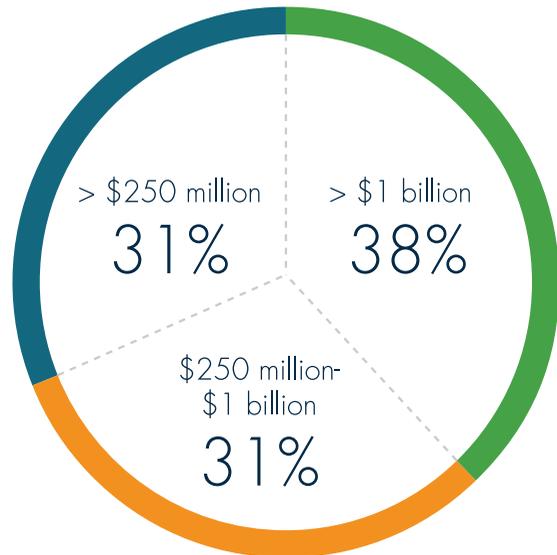
Source: 2016 AGC/FMI Risk Survey

### WHICH BEST DESCRIBES YOUR TITLE?



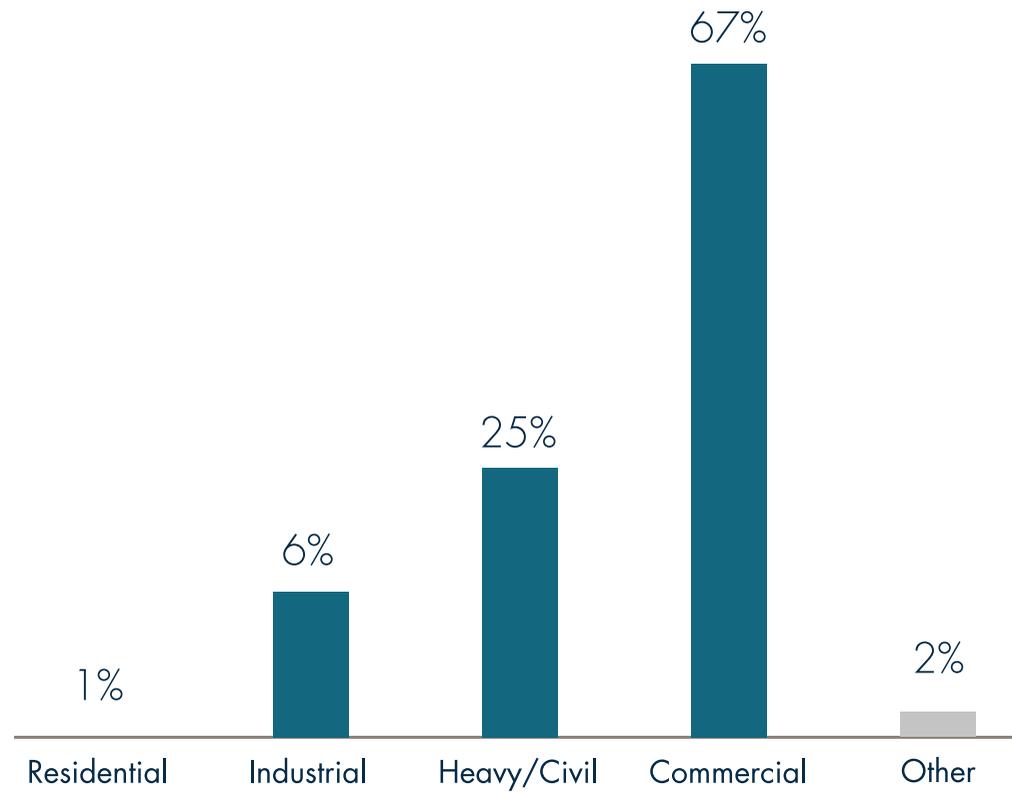
Source: 2016 AGC/FMI Risk Survey

## WHAT IS YOUR ORGANIZATION'S ANNUAL REVENUE?



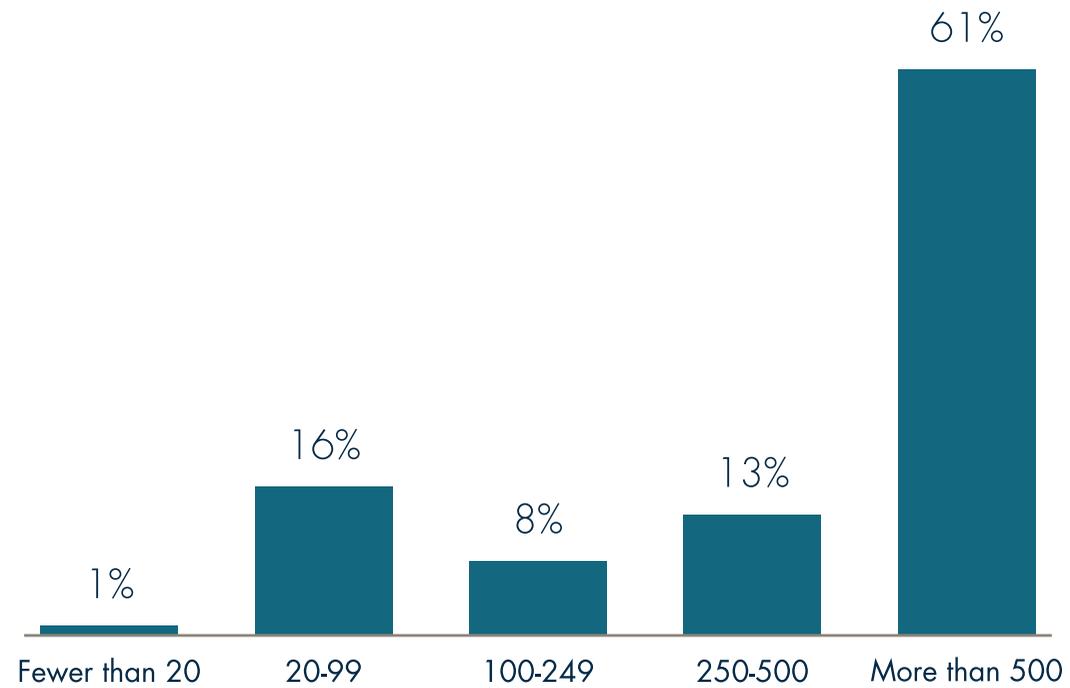
Source: 2016 AGC/FMI Risk Survey

## WHICH OF THE FOLLOWING CONSTRUCTION SEGMENTS REPRESENTS THE MAJORITY OF YOUR BUSINESS?



Source: 2016 AGC/FMI Risk Survey

HOW MANY FULL-TIME EMPLOYEES ARE CURRENTLY EMPLOYED AT YOUR FIRM?



Source: 2016 AGC/FMI Risk Survey

## About AGC

**The Associated General Contractors of America** has a long and unique record of service to the construction industry, bringing the association to the point where it represents more than 26,000 firms in 92 chapters throughout the United States. Among these firms are approximately 6,000 general contractors and construction managers, approximately 9,000 specialty contractors and more than 11,000 material suppliers and service providers. The association's members rarely construct single family homes, but with that one exception, they construct everything necessary to sustain and advance the nation. The association is particularly proud of its Forum on Surety Bonding and Construction Risk Management and that body's successful effort to improve communication among the construction, surety and insurance industries and broadly to advance the cause of construction risk management.

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## About FMI

For over 60 years, FMI has been the leading **management consulting and investment banking** firm dedicated exclusively to **engineering and construction, infrastructure and the built environment**.

FMI serves all sectors of the industry as a trusted advisor. More than six decades of context, connections and insights lead to transformational outcomes for our clients and the industry.

### Sector Expertise

- A/E and Environmental
- General Contractors/CM
- Heavy Civil
- Industrial
- Specialty Trades
- Utility T&D
- Clean Tech and Energy Services
- Construction Materials
- Building Products
- Oil and Gas
- Private Equity
- Owners

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