GRASSI
ADVISORS & ACCOUNTANTS

CONDITIONS AND OUTLOOK

Construction and Architecture & Engineering
Industry Survey Results

2022

INTRODUCTION

Developed in collaboration with our regional industry association partners, Grassi's 2022 Construction and Architecture & Engineering (A&E) Survey was designed to uncover the strategies that construction companies and A&E firms are deploying to address price fluctuations and the associated cash flow challenges, rapidly changing job and labor costs, and more.

Fielded in April and early May 2022, the 20-question survey produced meaningful data to help industry leaders **benchmark their businesses, better understand the risks facing the industry today, and discover how their peers are adopting technology and operational enhancements to drive growth and innovative change.**

INDUSTRY CONDITIONS AND OUTLOOK
Executive Summary

The results of Grassi's Construction Survey last year were highly anticipated as a measure of how well the industry was reaching a turning point in the COVID-19 recovery.

In last year's survey:

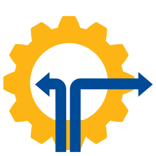
22% of respondents predicted that the industry would experience a full recovery by the end of 2021

46% more said full recovery would occur by the end of 2022

This year, Grassi expanded the survey to include A&E firms, giving us a more focused overview of the two sectors and the direction they are headed.

Overall this year, companies are relatively optimistic and feel the worst of the pandemic's financial impact is behind them. A&E firms are especially optimistic that revenue will increase in 2022.

Of course, many new and lingering challenges call for cautious optimism as the construction and A&E economies continue to lag. Addressed in the survey are the industry's responses to the most common challenges, including:



Supply chain disruption

Inflation

Cost increases

The majority of companies reported cost increases associated with office/support staff in the past 12 months. Subcontractors and A&E firms have been hit hardest, with around one in four reporting cost increases of 20% or more.

While different segments of the Construction and A&E industries have different strategies for dealing with inflation, purchasing ahead is a strategy used by all segments. General Contractors (GCs) are more likely to use purchase agreements and to work with customers to accept change orders. Subcontractors are more likely to stockpile. The top strategy for A&E firms is to address project scope creep.

The higher revenues of GCs provide several financial and operational advantages. For example, GCs have the capacity to review cost and profitability much more frequently than Subcontractors or A&E firms.

GCs are also much more likely to embrace technology - almost **90%** have invested in technology and innovations to streamline operations and improve efficiency, compared to **61% of Subcontractors** and **75% of A&E firms.**

Over half of all respondents say their firms are actively looking to invest in technology in the next 12-18 months. Interest in technology solutions is exceptionally high among A&E firms. Across all respondents, interest is highest for collaborative and project management software solutions. A&E firms reported they are more likely to invest in technology and are looking for remote working solutions.

In assessing areas of risk, respondents unsurprisingly ranked **financial, supply chain and labor** as highly significant, but concerns vary by entity. Subcontractors are more likely to identify financial and supply chains as top risks. A&E firms stand out as concerned about labor shortages and cybersecurity. And safety is more of a concern for GCs.

With increased technology comes increased digital risks. As a result, most respondents have cyber insurance coverage. Not surprisingly, GCs and A&E firms are more likely to have employee policies in place to defend against cyber threats, and GCs are more likely to have implemented cybersecurity at remote sites. Subcontractors are more likely to outsource their cybersecurity.

Remote workplaces pose their own unique risks beyond cybersecurity. While most respondents feel confident that controls are sufficient to deter fraud in the office, confidence in fraud controls in remote environments is lower.

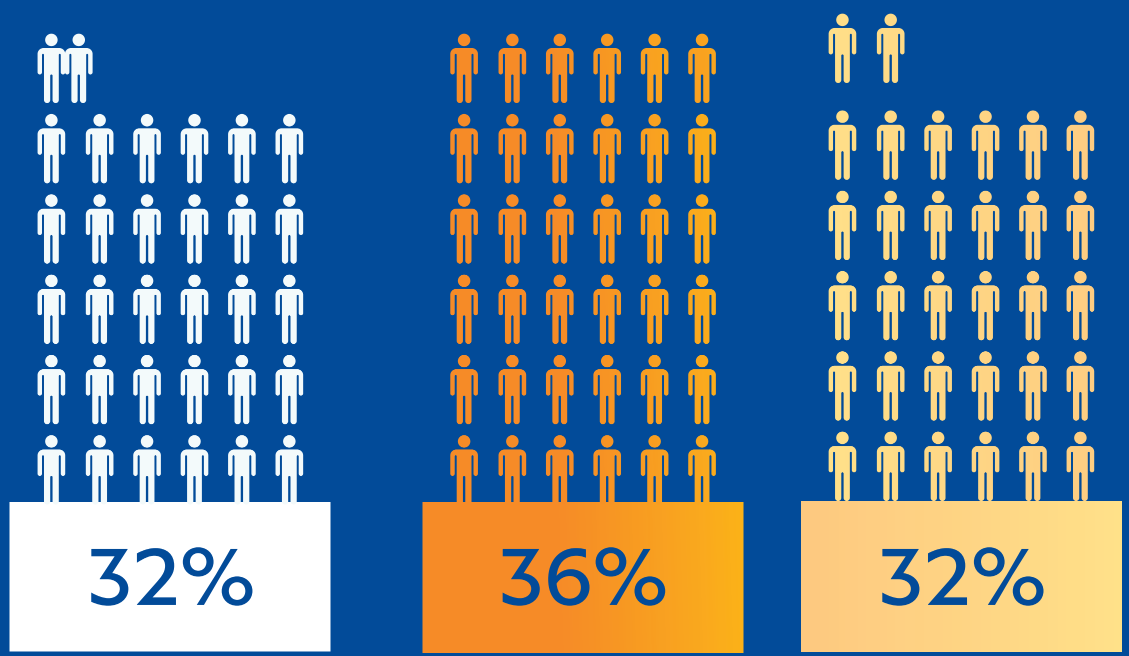
When it comes to harnessing the power of data, most companies say they are very satisfied or satisfied with the financial and operational information they receive. However, A&E firms are less satisfied than GCs and Subcontractors.

Even as optimism rises, it is clear that this is not a full return to pre-pandemic norms. Remote workplaces, new safety concerns, supply chain disruption and inflationary pressures will continue to play a significant role in the recovery strategies of construction and A&E firms. Read on to learn more about the innovative strategies of high-performing companies.

2022 CONSTRUCTION AND A&E SURVEY

Survey fielded in April and May of 2022

96 Completed Surveys

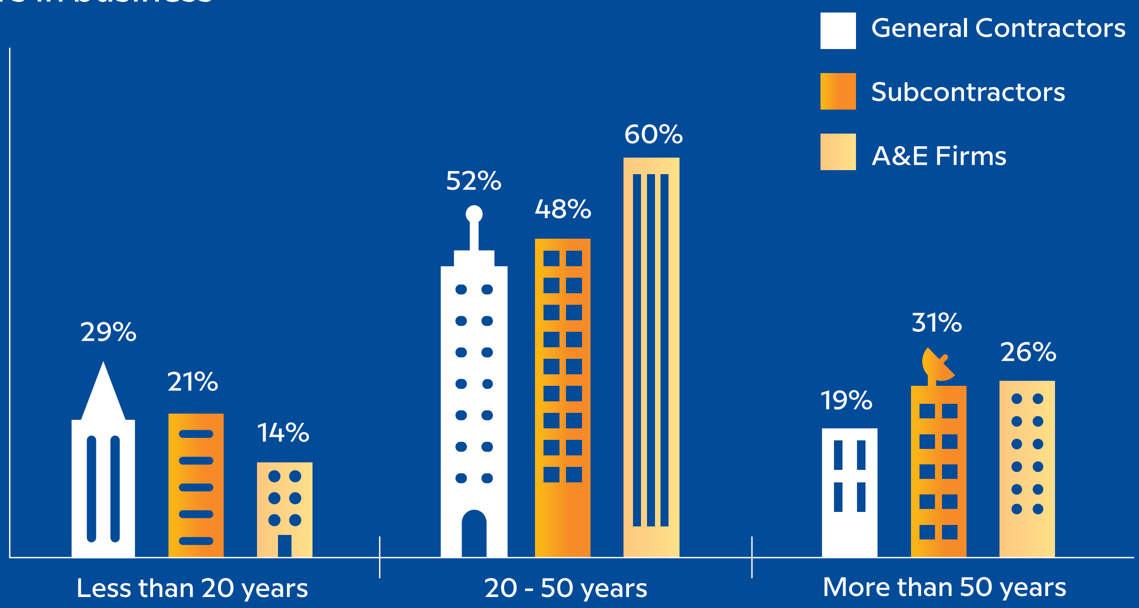


31 General Contractors
(Includes Civil/Heavy)

35 Subcontractors

30 A&E Firms

Years in business



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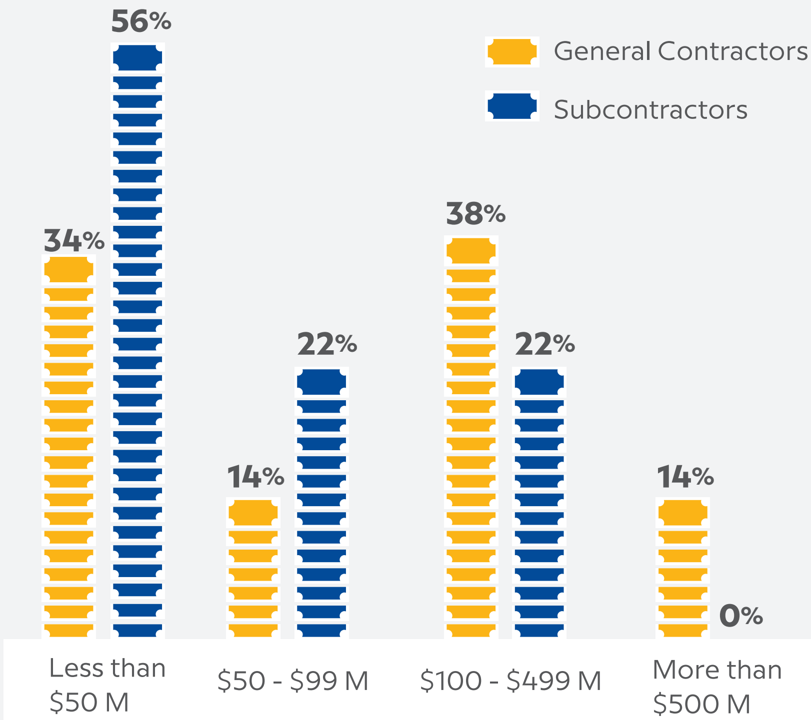
2021 REVENUES

General Contractors vs Subcontractors

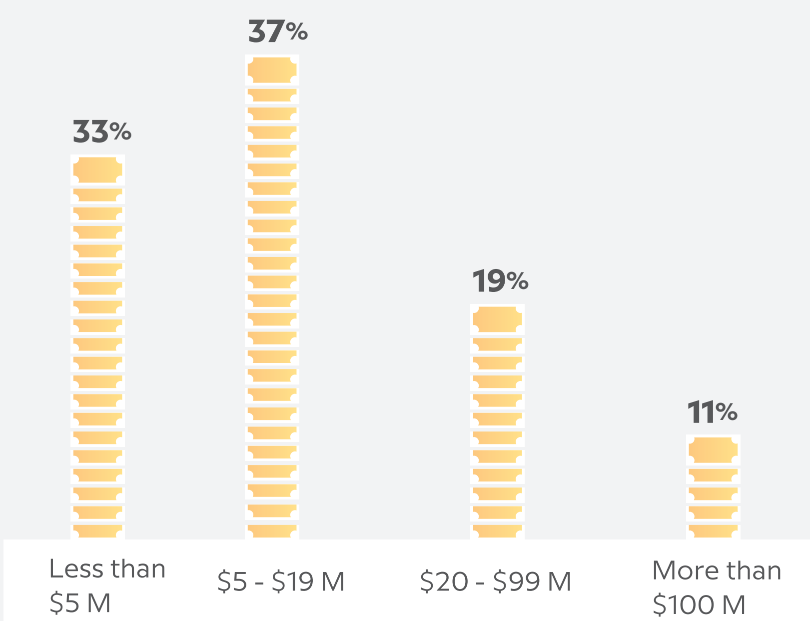


General Contractors reported higher revenues than Subcontractors and A&E firms

> $100 M

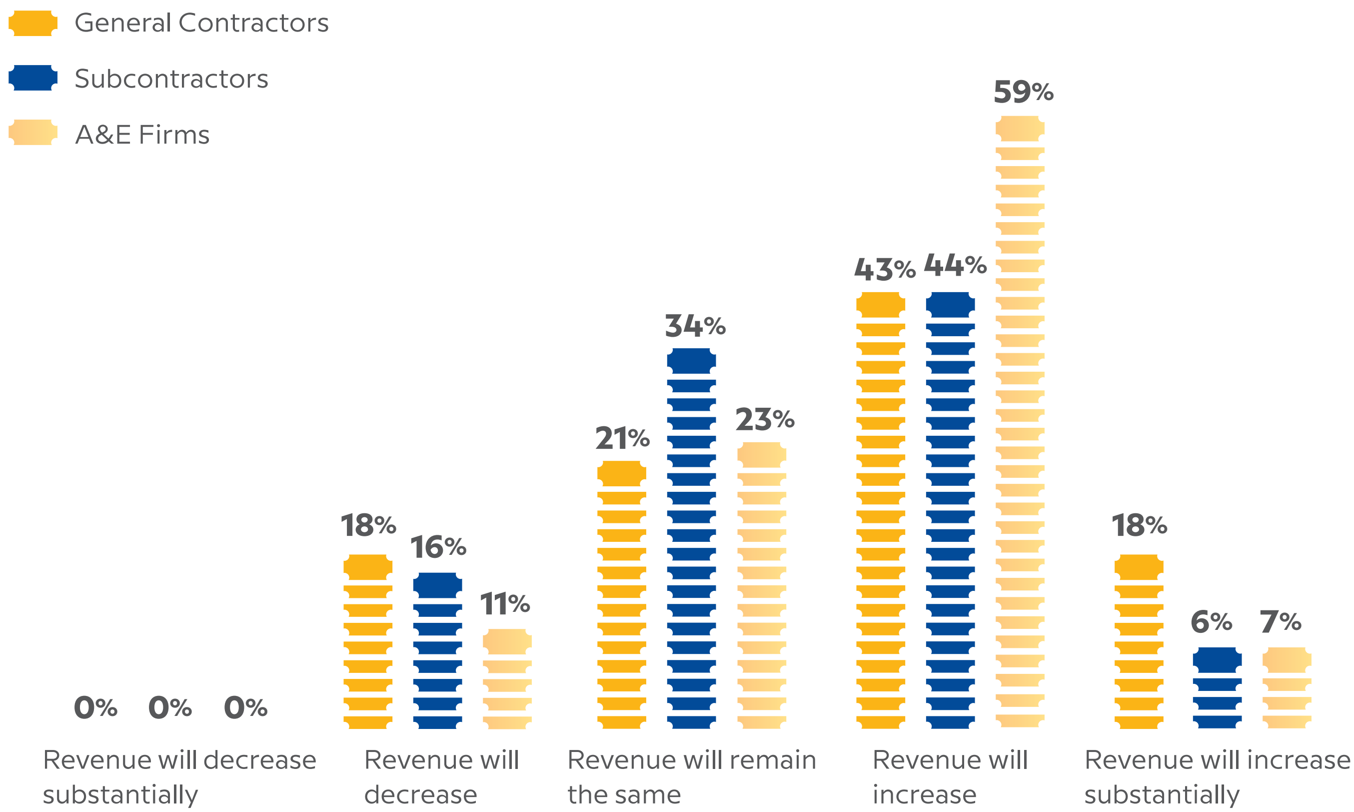
Over half (52%) of the General Contractors recognized revenues in excess of $100 million in 2021, compared to 22% of Subcontractors and 11% of A&E firms

A&E Firms



NOTE: Scales are different for General Contractors/ Subcontractors than for A&E Firms.

2022 REVENUE EXPECTATIONS



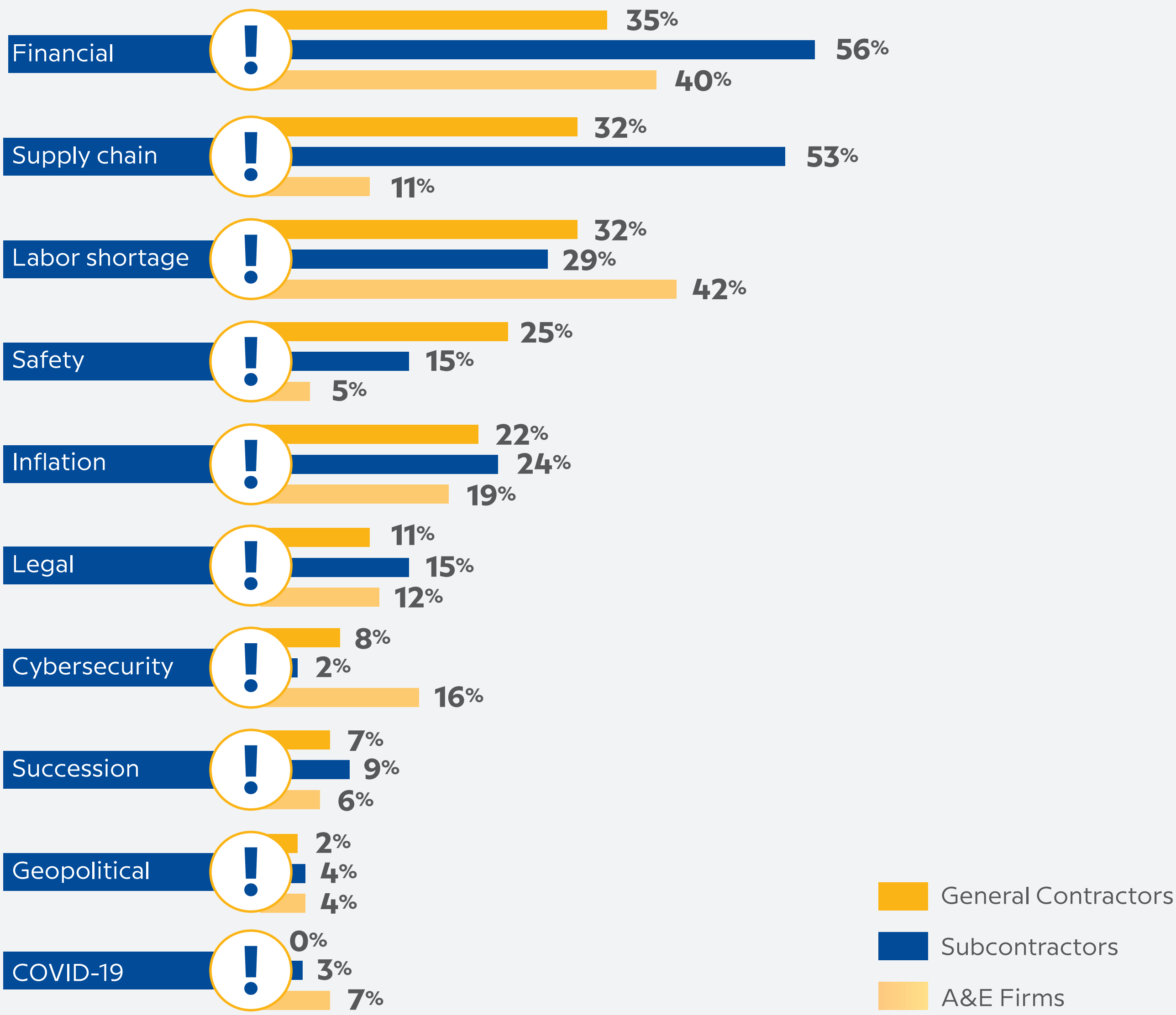
Companies believe **the worst financial impact of the past two years is behind them**

A&E firms are especially **optimistic that revenues will increase in 2022**

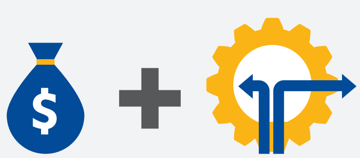
1 in 5

Almost **one in five** General Contractors believes that **revenues will increase substantially in 2022**

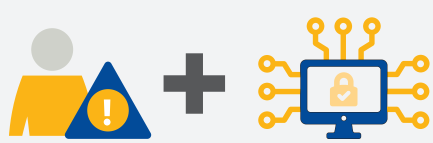
RANKING SCORE: TOP THREE RISKS



FINANCIAL RISK IS A SIGNIFICANT CONCERN FOR ALL RESPONDENTS



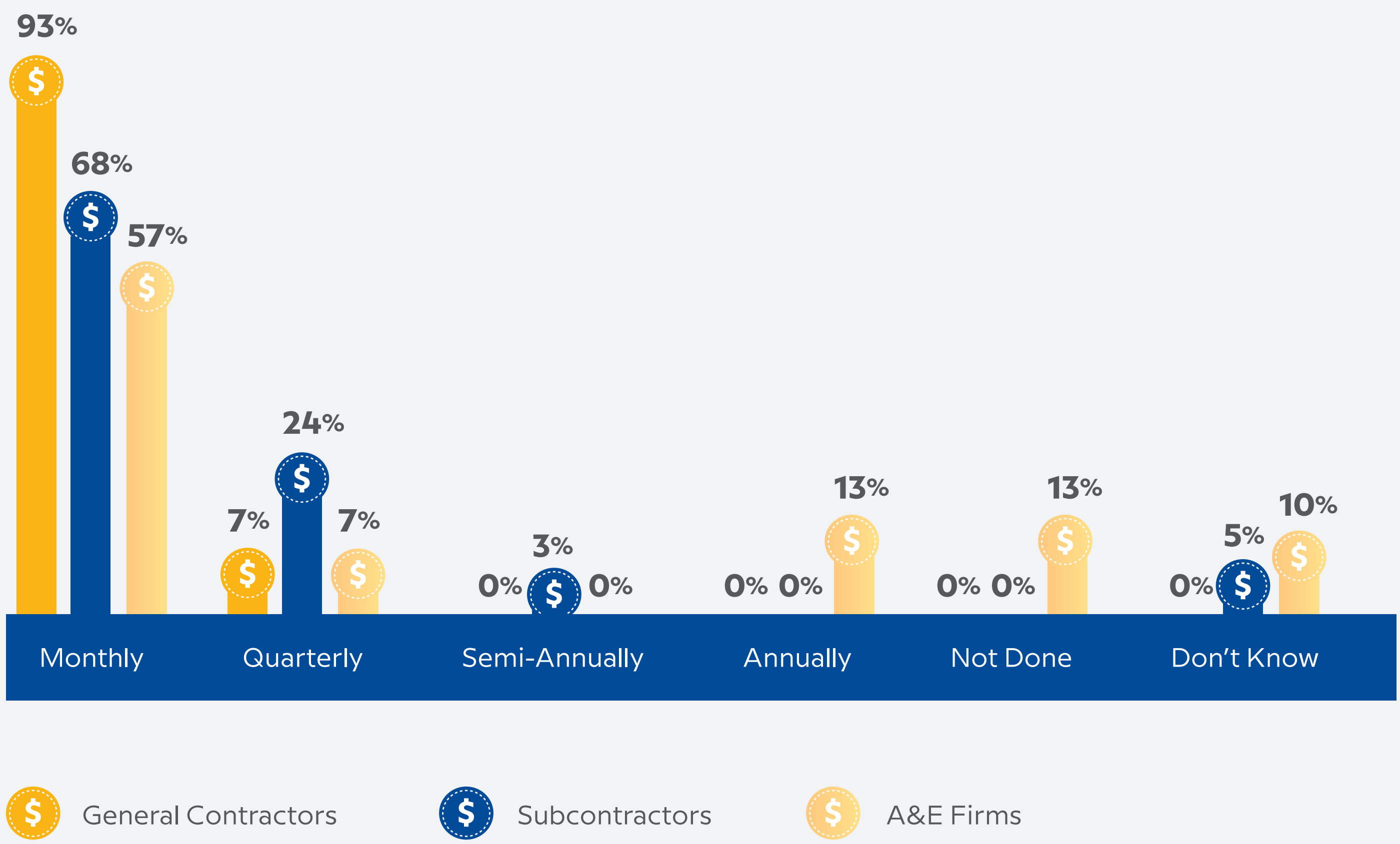
For Subcontractors, financial and supply chain risks are top-of-mind



In addition to financial risks, A&E firms are also concerned about labor shortages and inflation

Safety is more top-of-mind for General Contractors

FREQUENCY OF REVIEWS
JOB COSTING ESTIMATES AND PROFITABILITY FORECASTS



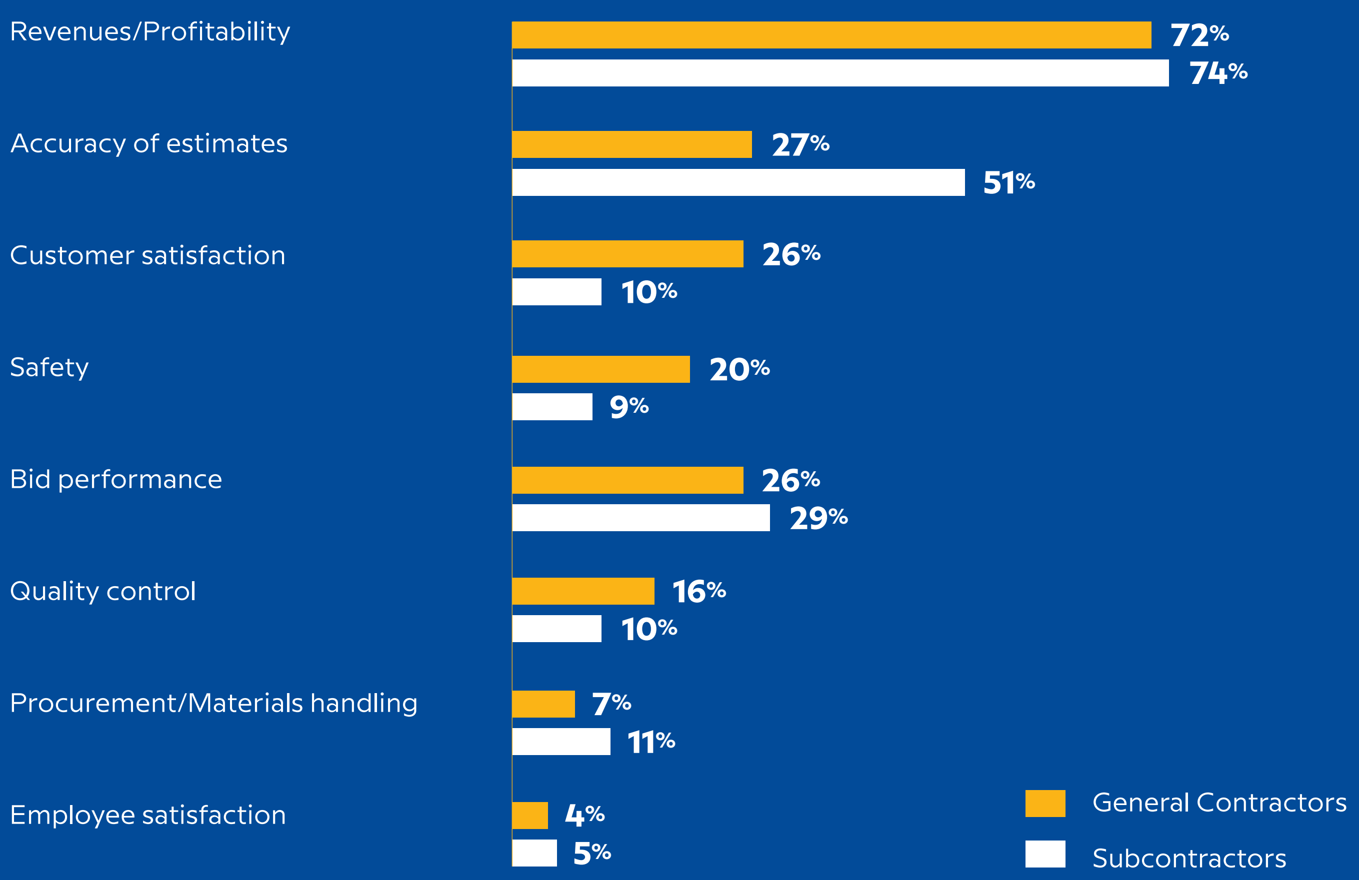
>1/2

of all firms review cost and profitability every month

General Contractors review cost and profitability much more frequently than Subcontractors and A&E firms

RANKING SCORES OF TOP THREE KPIs

General Contractors and Subcontractors

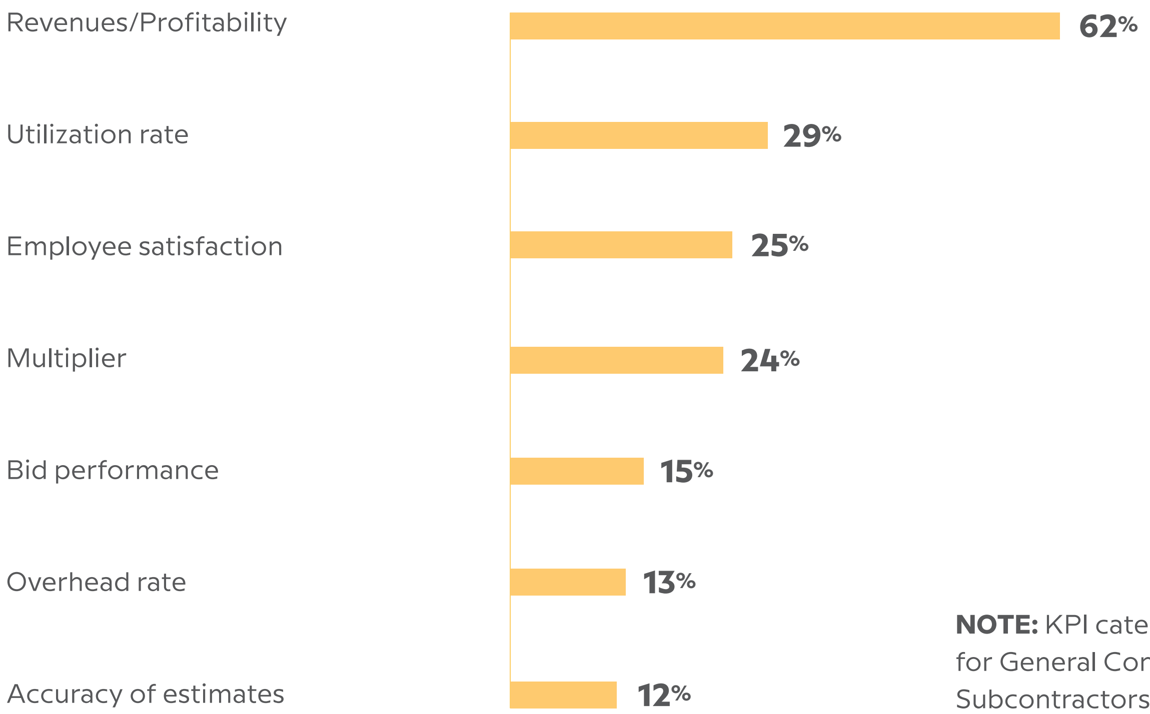


Revenues and profitability are top-of-mind KPIs for all firms

Accuracy of estimates is especially important for Subcontractors

RANKING SCORES OF TOP THREE KPIs

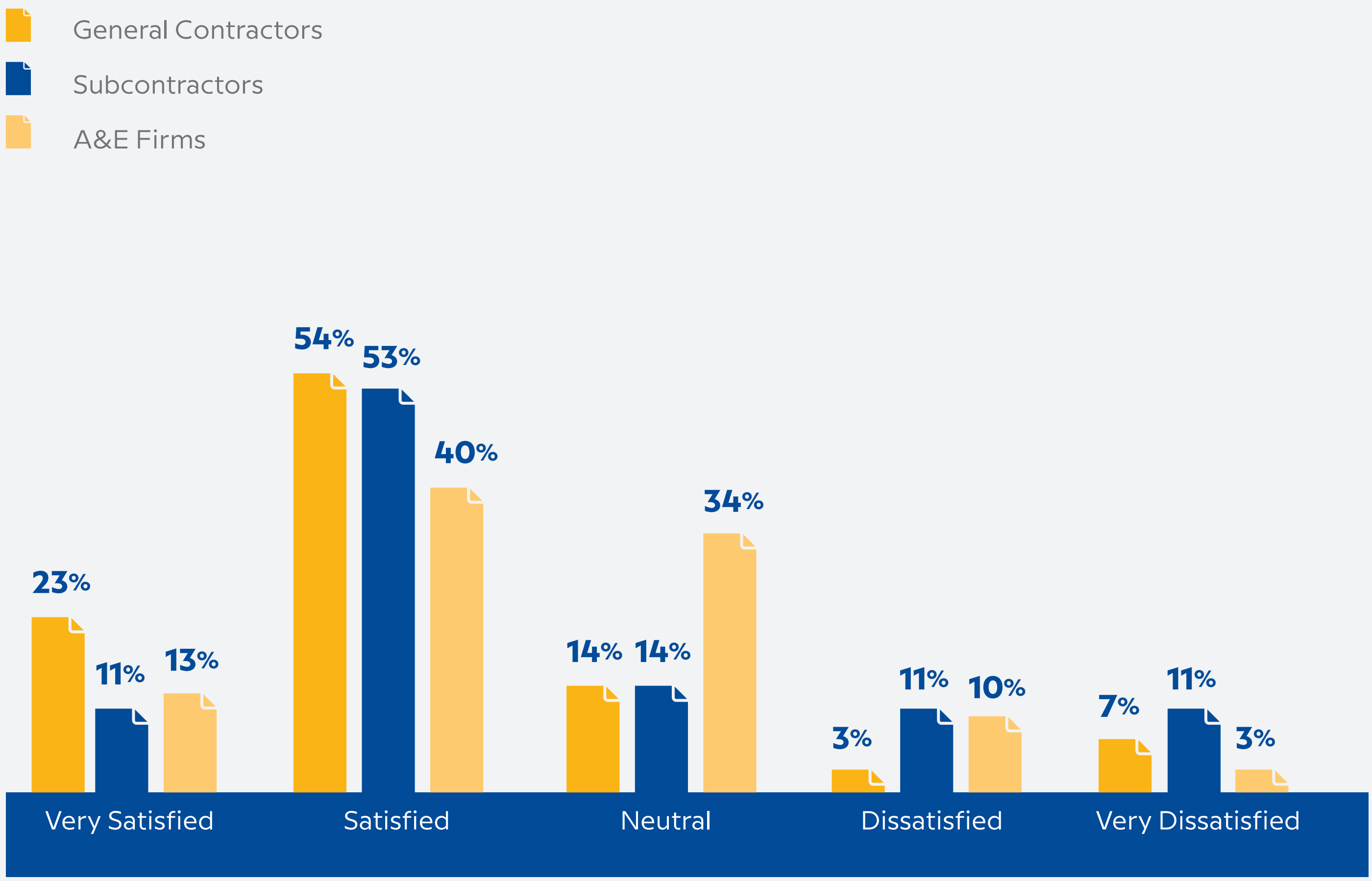
A&E Firms



NOTE: KPI categories are different for General Contractors and Subcontractors than for A&E Firms

Utilization rate, employee satisfaction, and multiplier rate are also important KPIs for A&E firms

SATISFACTION WITH FINANCIAL/ OPERATIONAL DATA

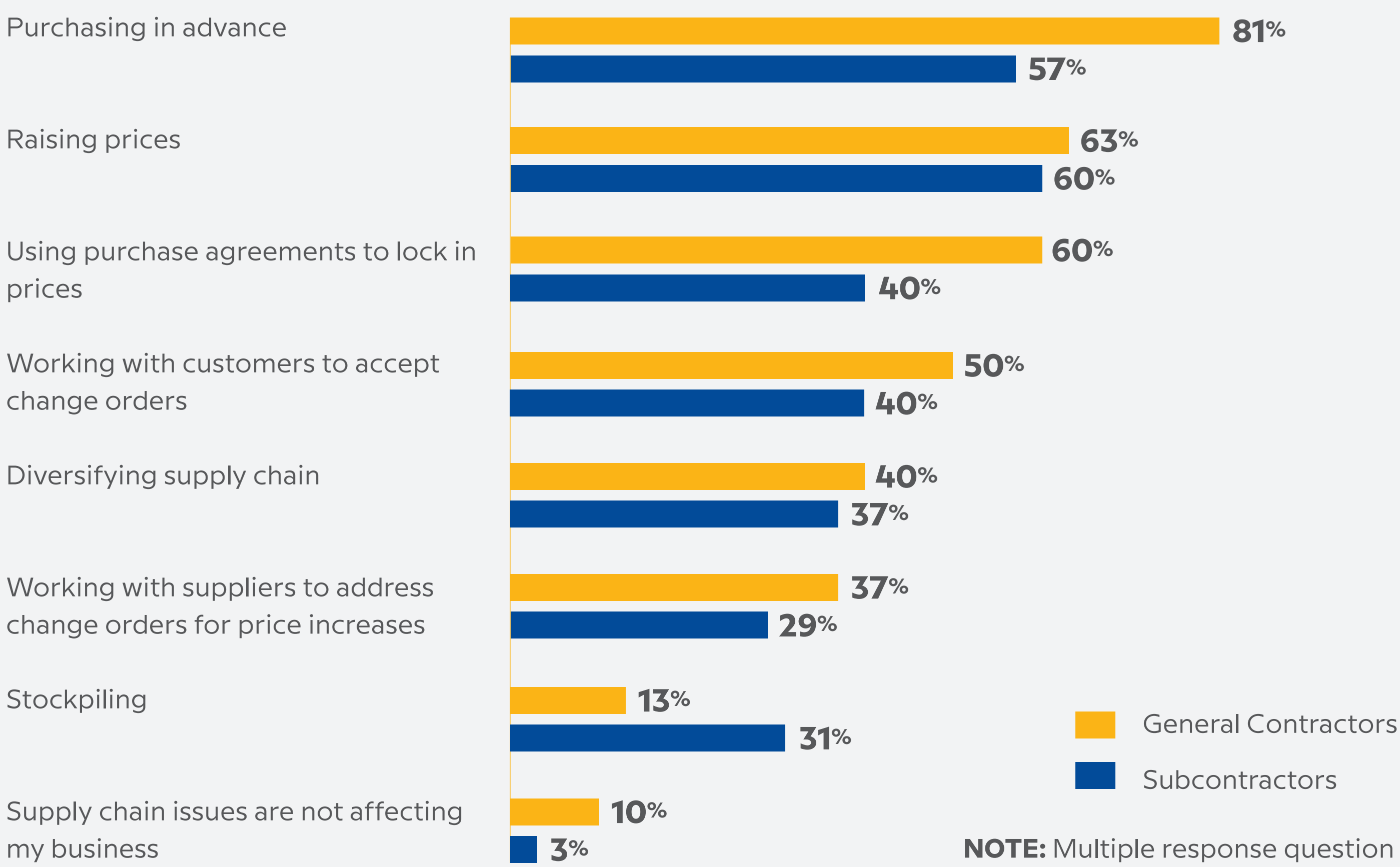


Most companies say they are either **very satisfied or satisfied with the financial and operational information they receive**

However, **A&E firms are more neutral (less satisfied)** than General Contractors and Subcontractors

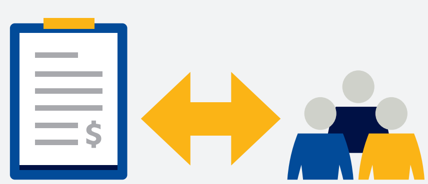
ADDRESSING SUPPLY CHAIN PRICING ISSUES

General Contractors and Subcontractors

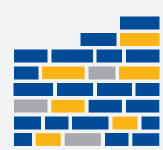


NOTE: Multiple response question

Purchasing ahead and raising prices are the most frequently used strategies for dealing with supply chain issues



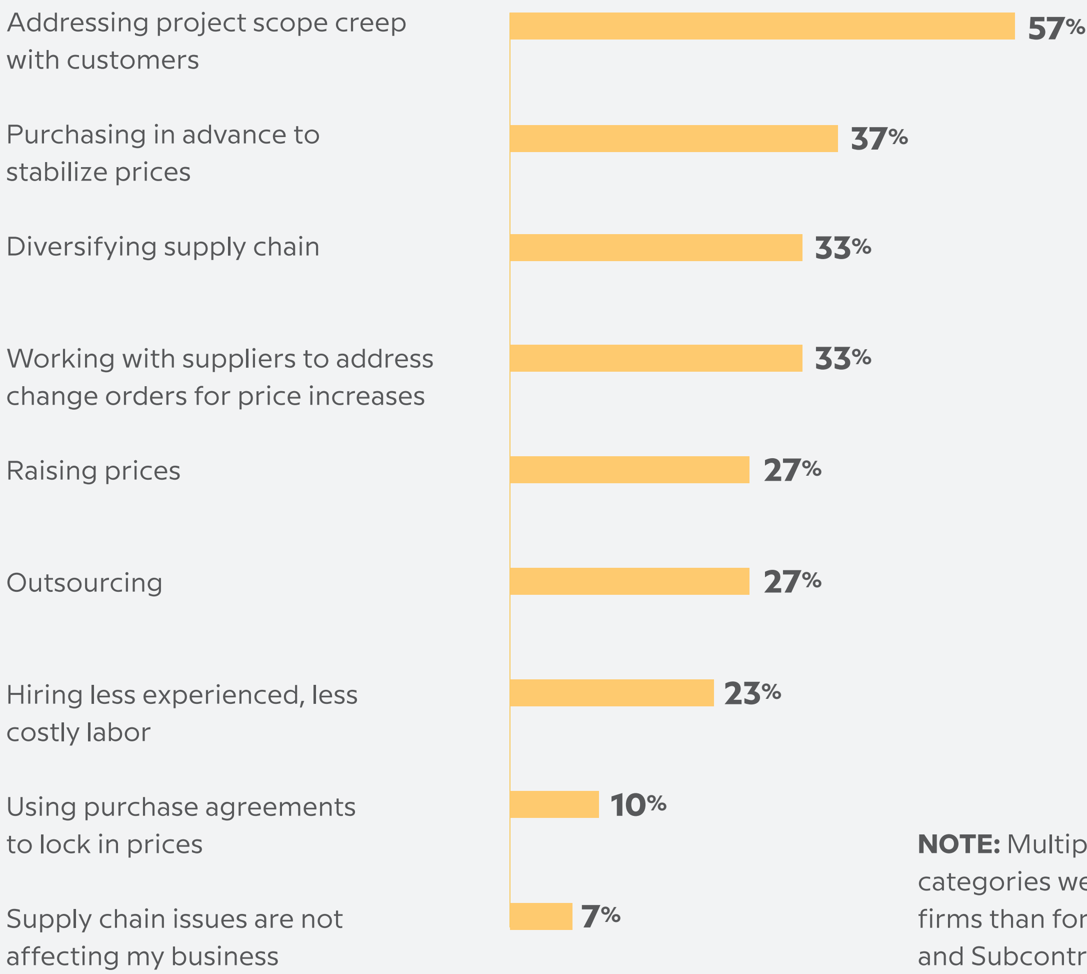
General Contractors are more likely to **stabilize prices by purchasing ahead, using purchase agreements, and working with customers to accept change orders**



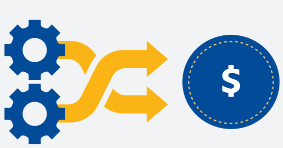
Subcontractors are more likely than General Contractors to **stockpile materials**

ADDRESSING SUPPLY CHAIN PRICING ISSUES

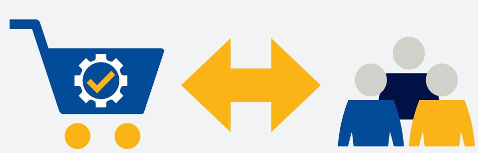
A&E Firms



NOTE: Multiple response question; categories were different for A&E firms than for General Contractors and Subcontractors

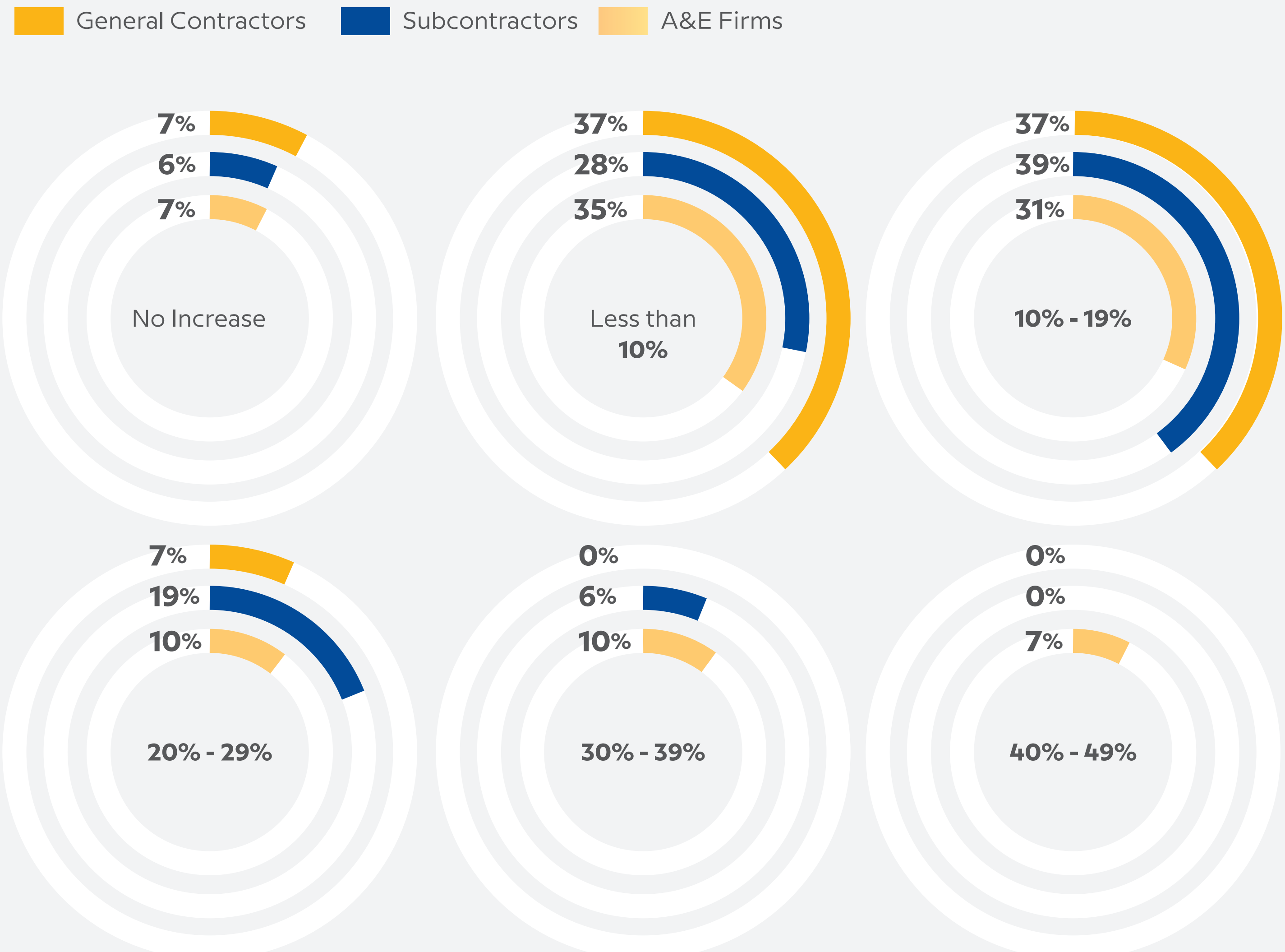


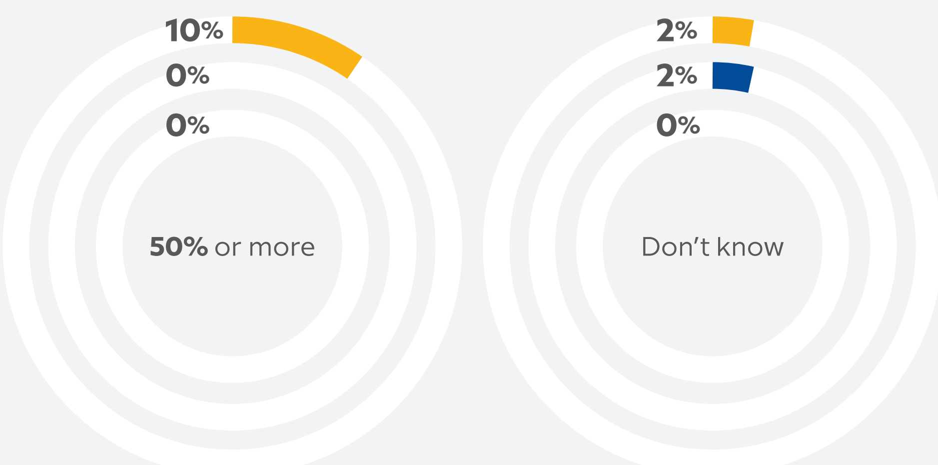
Addressing scope creep is the most frequently used strategy for stabilizing price



In addition, A&E firms are **purchasing in advance, diversifying supply chains, and working with suppliers** to address change orders

OFFICE/SUPPORT STAFF COST INCREASES IN THE PAST 12 MONTHS





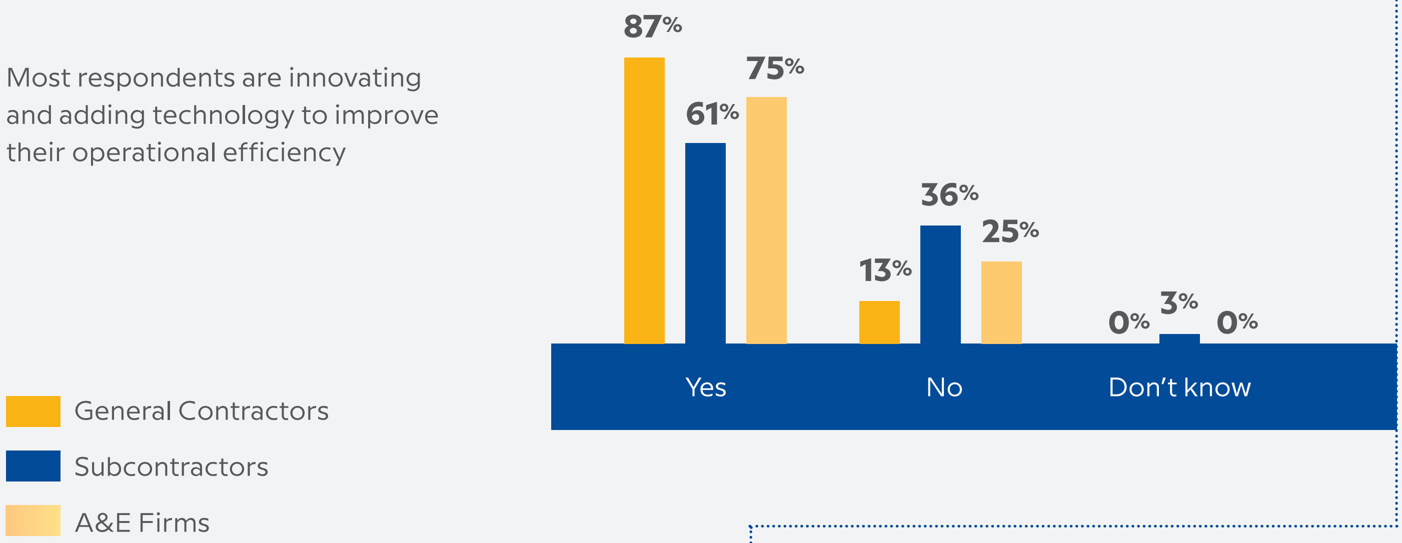
• Most of the respondents experienced office and support staff cost increases in the past 12 months. The most common range of increase was between 10% and 20%

• Subcontractors and A&E firms have been hit harder, with around one in four reporting cost increases of 20% or more

TECHNOLOGY/INNOVATIONS IMPLEMENTATION AND R&D CREDITS

Technology/Innovations implemented to streamline operations and improve efficiency

Most respondents are innovating and adding technology to improve their operational efficiency

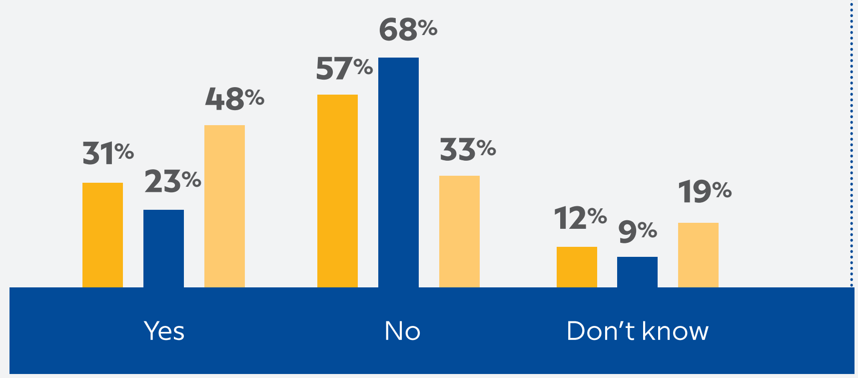


If YES

Receiving R&D credits

A&E firms are the most likely to be receiving R&D credits

Most respondents are not or do not know if their firms are receiving R&D credits



FUTURE INVESTMENTS IN TECHNOLOGY BY TYPE

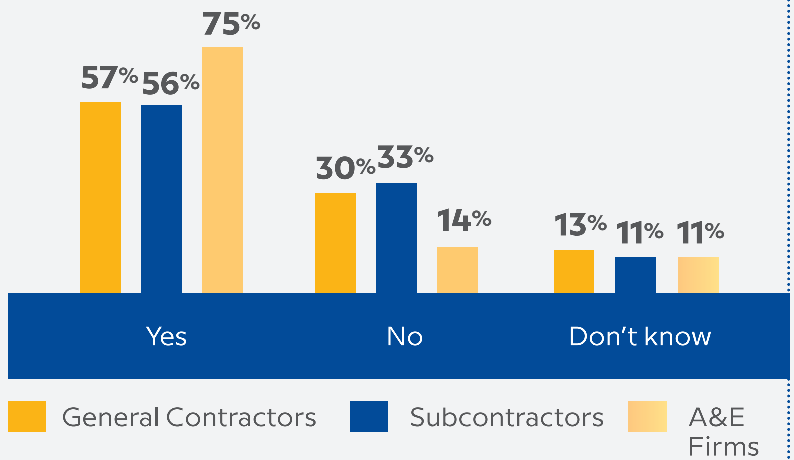
Actively looking to invest in technology, next 12-18 months

Over half of respondents say their firms are actively looking to invest in technology in the next 12-18 months

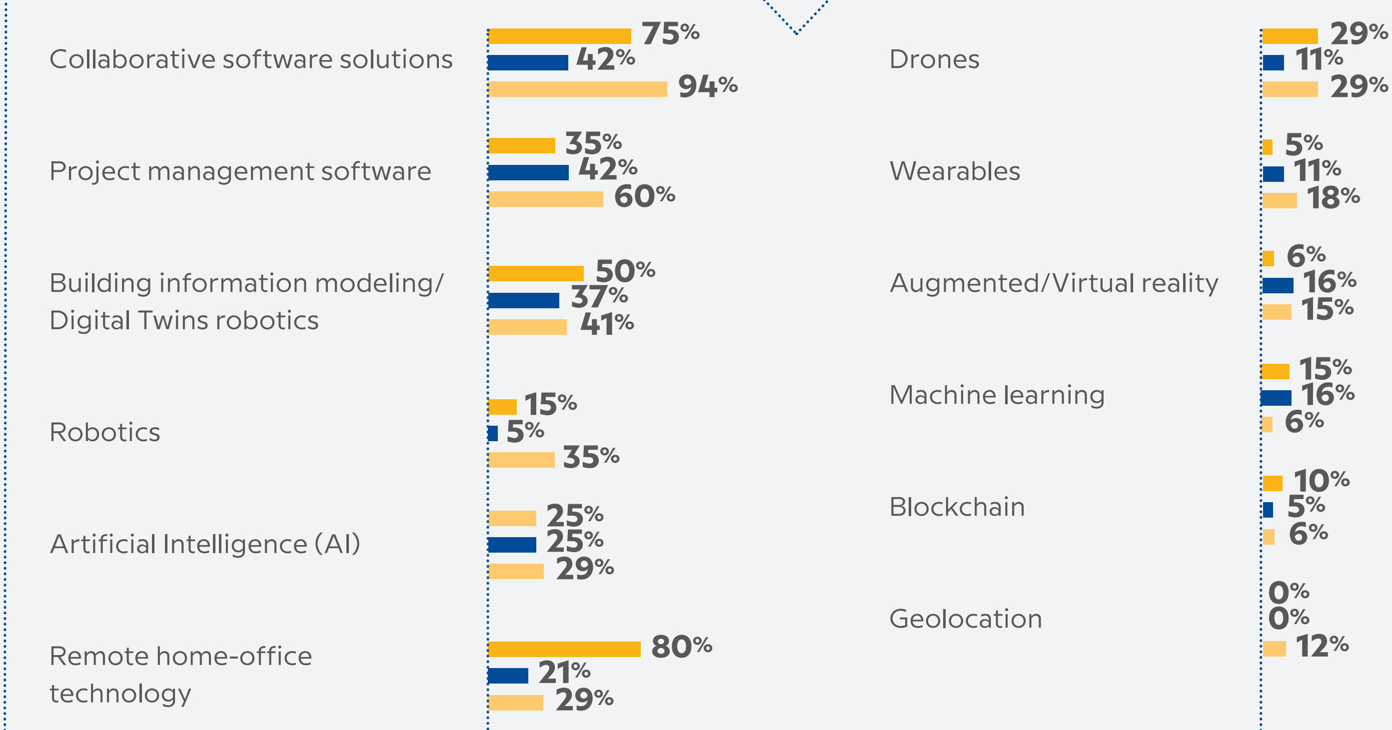
Interest in technology solutions is exceptionally high among A&E firms

Across all respondents, interest is highest for collaborative and project management software solutions

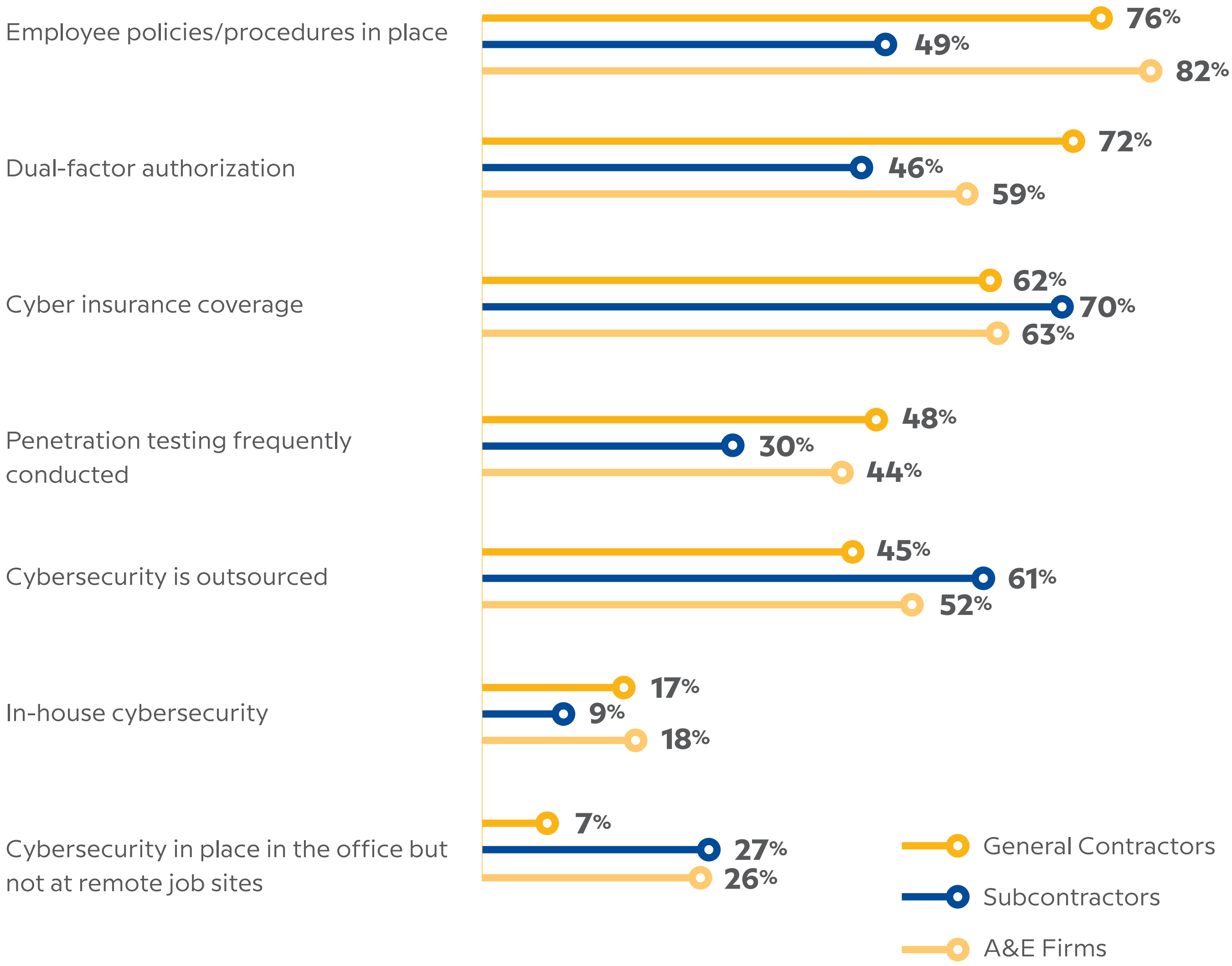
A&E firms were more likely to be actively looking to invest in remote home-office technology



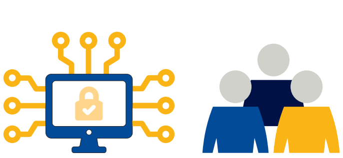
If YES



CYBERSECURITY IN THE OFFICE AND ON JOB SITES



MOST RESPONDENTS HAVE CYBER INSURANCE COVERAGE



General Contractors and A&E firms are more likely to have employee cybersecurity policies in place

Subcontractors are more likely to outsource their cybersecurity

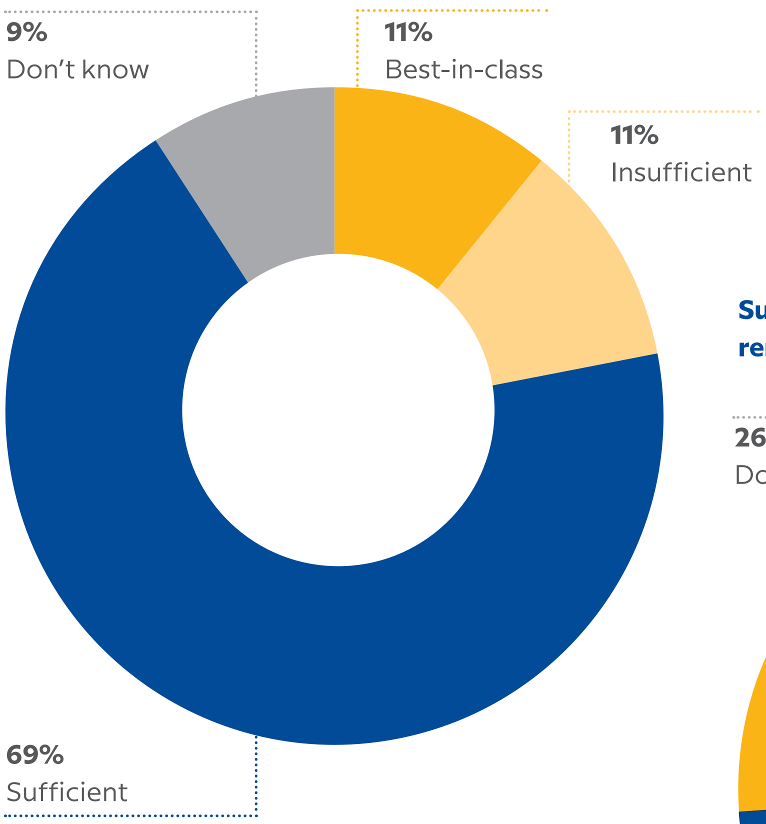
General Contractors are more likely to have implemented cybersecurity at remote sites

FRAUD PREVENTION CONTROLS

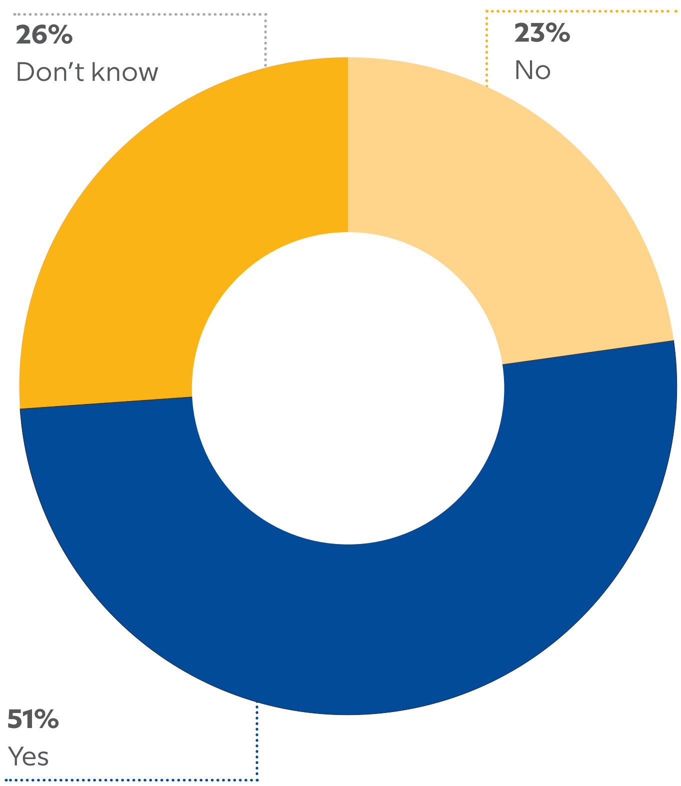
No major differences between groups, so overall percentages are presented

While most respondents feel confident that controls are sufficient to deter fraud, confidence in fraud controls in remote environments is less certain

Sufficient controls in place to deter fraud?

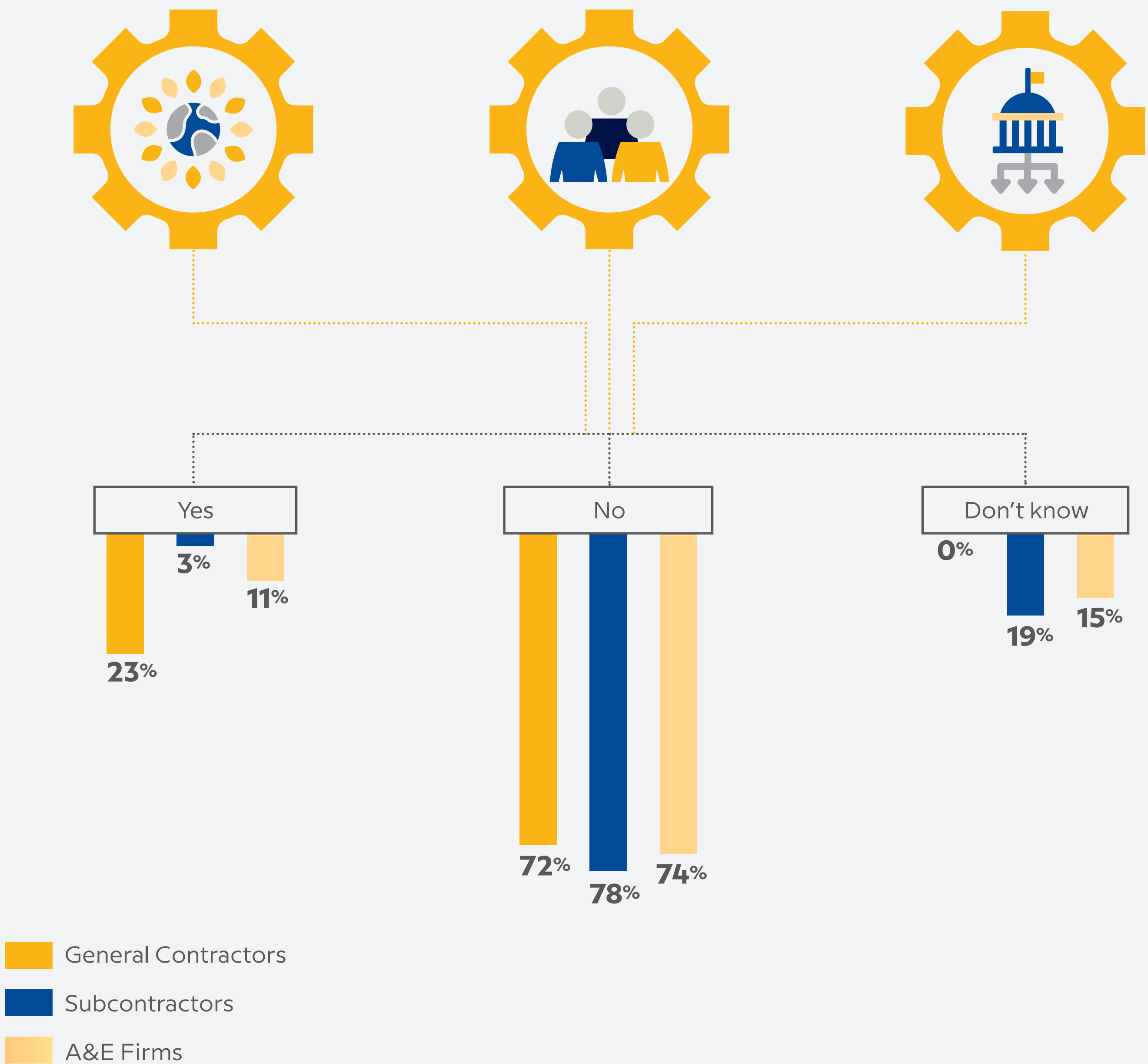


Sufficient controls to deter fraud in remote environments?



USE OF ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) DATA

Most respondents say their firms do not currently use ESG data to monitor ethical impact and sustainability



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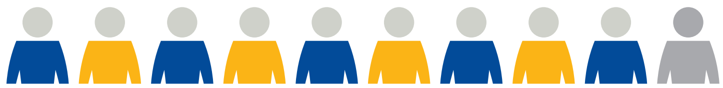
57th

largest accounting firm in the nation as ranked by *Accounting Today*

11th

largest construction accounting firm in the U.S. as ranked by *Construction Executive*

9 of 10



Construction and A&E clients recommend Grassi in our 2021 Satisfaction Survey

Nationally ranked among the top 100 U.S. accounting firms, Grassi is a leading provider of advisory, tax and accounting services to businesses and individuals. The firm's Construction and A&E practices are **recognized as one of the largest in the nation and have provided customized business solutions to these industries for more than 40 years**.

Grassi Construction and A&E advisors **guide contractors, subcontractors, architects and engineers to increased efficiencies, greater profitability and enhanced operational performance**. With offices throughout the East Coast and clients around the country, the firm has the depth of knowledge and experience to help businesses grow in any location and economic climate.

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