

2019 CONSTRUCTION TECHNOLOGY REPORT



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ABOUT THE REPORT



2019's ConTech Report



The Last ConTech Report of the Decade

Technology is fluid. Nearly every second, innovations in technology provide us with more information than ever before. **Our team at JBKnowledge works hard to grow the Annual Construction Technology Report alongside the lightning-speed of technology trends.**

In the 8th Annual Construction Technology Report, readers can look forward to the 'classic' figures they rely on to benchmark annually, as well as some new, never-before-seen data. The goal is to keep the report supplied with current topics impacting the industry. For this reason, past questions which have aged into tech-obscurity have been replaced with a closer look into the factors impacting the way we build today.

Our goal for the 2019 ConTech Report is to provide readers with the best resource for forecasting the trends of the new decade. Our analysts approached this year's report by taking a wholistic look at the story data tells in order to assist in more informed decision making.

Before we get started...

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- Not every participant was asked the same questions. Some questions were only available to certain trades or depended on prior answers to be visible.
- Not every graph will add up to 100%. Some questions allowed more than one answer to be selected.

- The data is courtesy of volunteers who answered The Annual Construction Technology Survey during the summer of 2019. (All data was self-reported, duplicates were discarded, and no compensation was offered.)
- You can still download prior years' reports. The Construction Technology Report goes all the way back to 2012, access them all at www.jbknowledge.com/report.

Let's geek out!



DEMOGRAPHICS

5%

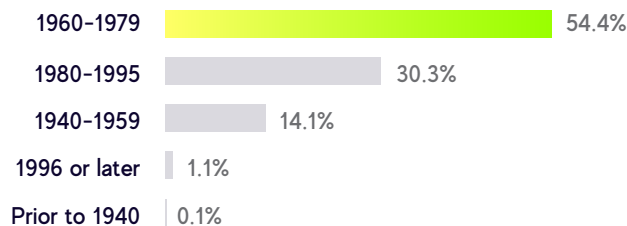
fewer Baby Boomers participated
in the Annual ConTech Survey

The Respondents

What we learned about respondents in 2019

When it comes to construction, Generation Y and Millennials continue to dominate the industry. **Survey participants born between 1960 and 1995 comprise 85% of all responses.** An interesting change from 2018's report was a 5% drop in responses from the Baby Boomers. Some American career choices don't allow for timely retirement, if any retirement at all. However, construction affords the longevity and stability to retire at the expected age.

GENERATION



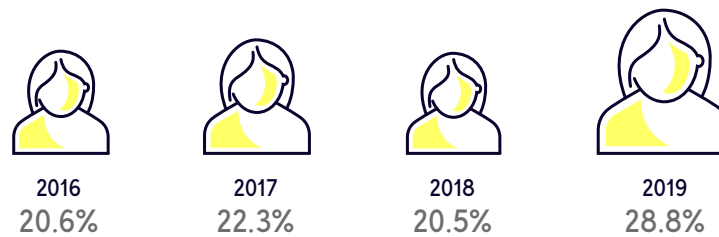
Roughly 90% of the construction industry is composed of men. Although 2019's Annual ConTech Survey respondents are overwhelmingly male, this year has set the precedent for female participation.

GENDER



Nearly 9% more women participated in 2019's ConTech Survey. This is the largest representation of women in the history of the report. One of the reasons for this increase may be accounted for by the success of the construction industry's diversity initiatives, leadership programs, and efforts to recruit women. **Although we see rising numbers of women entering AEC, the number of women in the trades still comprises under 2% of the workforce.**

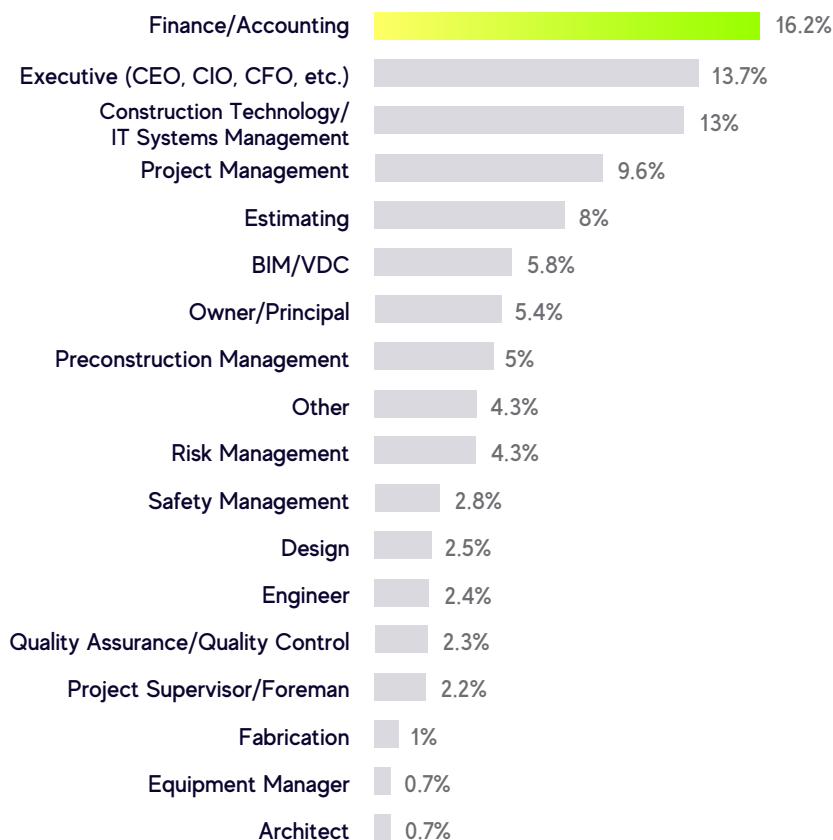
FEMALE SURVEY PARTICIPANTS



It's difficult to prove if it's the industry's push to recruit women that has caused the influx of women in AEC.

Are women entering AEC deliberately based on interest or passion, or is the uptick in female presence simply to accommodate the staffing demands of a rapidly expanding industry?

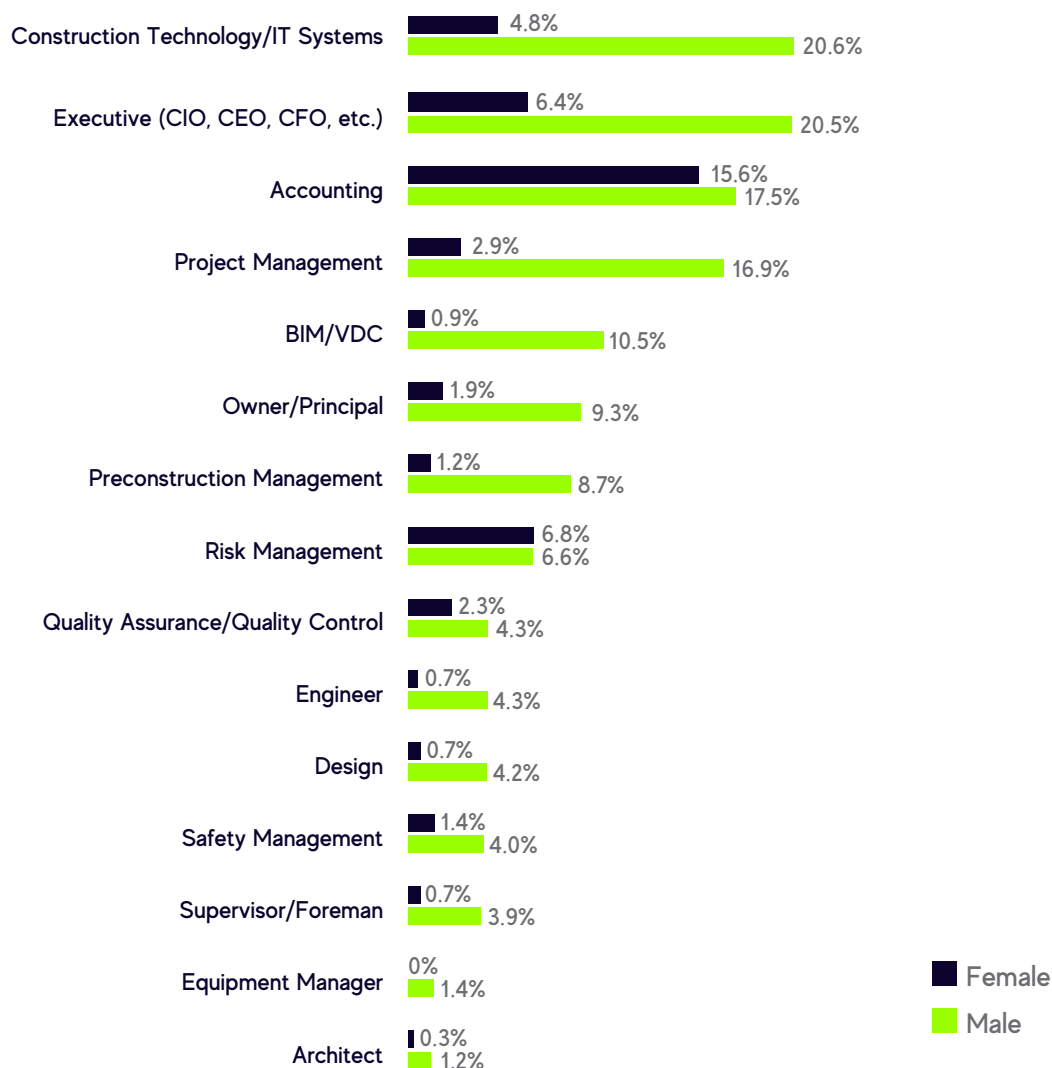
PRIMARY PROFESSIONAL ROLES



Since 2016, the top four primary roles have rotated between Finance, Executive, Estimator, and Project Manager. **This year's report saw a new contender, for the first time, Construction Technology/IT Systems Manager entered the number three most reported job title!** Construction Technologists are making their

mark on the industry. As construction companies prioritize new technology, we will continue to see a growth in job titles such as Construction Technologist or IT job titles combined with a special focus in construction technology.

POPULAR PROFESSIONAL ROLES DISTRIBUTED BY GENDER



This year, we analyzed the distribution of women in popular professional positions. Women are making their mark in Accounting, Executive, and IT roles! It's inspiring to see women as the foundation for construction companies' operations. Jobsite roles such as Equipment or Safety Manager, and Foreman, were the careers least populated by women. As more and more women enter construction, it will be exciting to see if these roles change or remain the same in the coming decade.

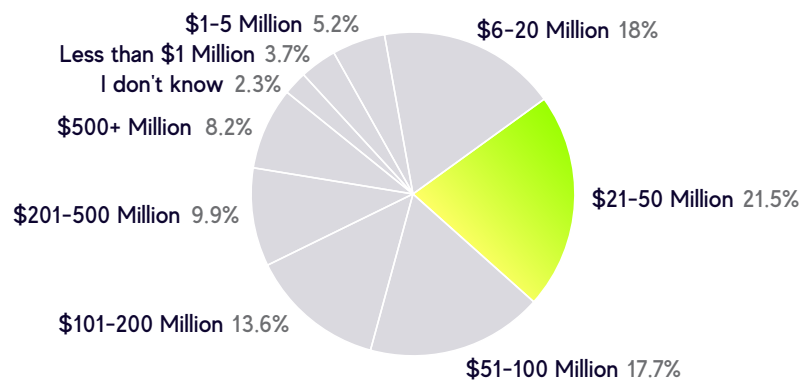


Why does diversity data matter?

When it comes to getting the job done, factors such as age and gender may seem arbitrary. **However, these demographics on gender and age help the industry make provisions if an area is underrepresented.** For example, had the report notated a persistent decrease in young people entering the construction workforce - it may be an indicator for trade apprenticeships and Construction Science or Management programs to reevaluate their recruiting practices. Demographic information may seem frivolous but couldn't be more integral to the ConTech Report.

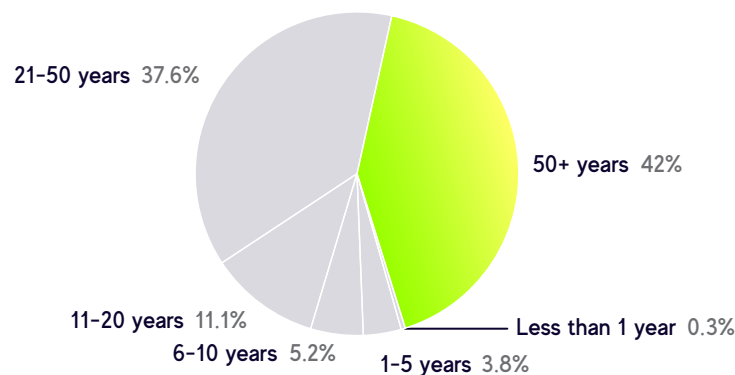
What we learned about the companies

WHAT WAS YOUR COMPANY'S ANNUAL SALES VOLUME IN 2018?

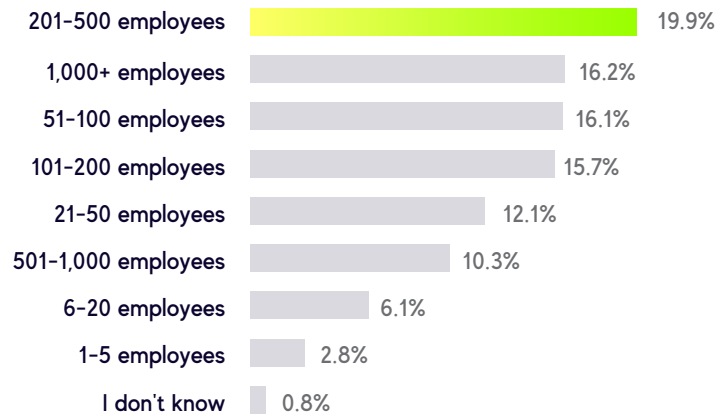


Smaller sales volumes (\$21 - \$50 Million) are holding fast to the largest number of respondents. We saw a slight decrease in companies who reported over \$500 Million and Under \$1 Million.

AGE OF COMPANY

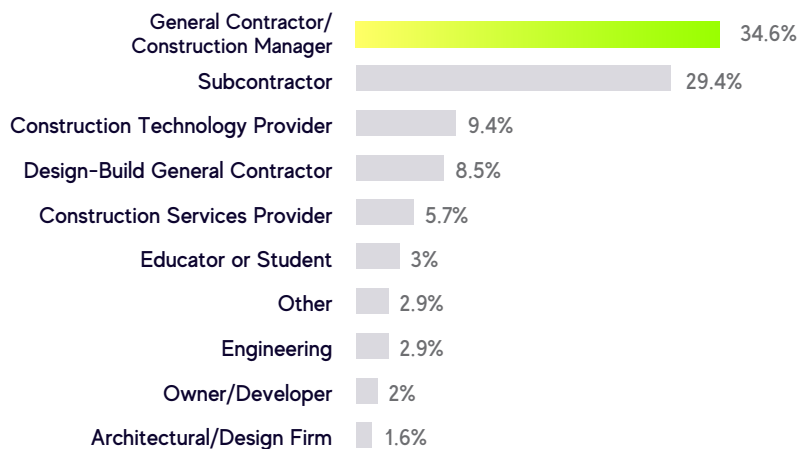


NUMBER OF EMPLOYEES

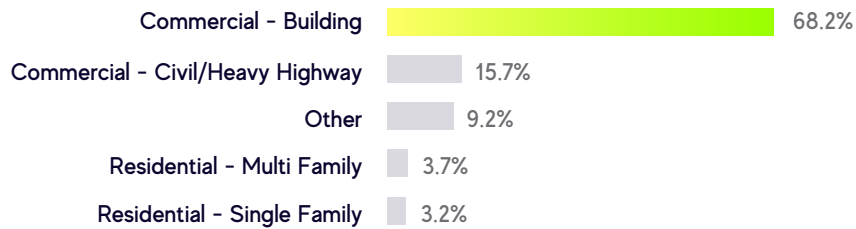


In the tradition of The ConTech Report, companies of all sizes participated. Although the size of companies vary, the majority of companies to respond were mature – 42% have over 50 years in business, and a whopping 79% with over 21 years or more in business. **It's important to recognize that companies with decades of experience are likely to have deeply engrained processes and well-established workflows.** If old processes have served them for years, they may be reluctant to change without an outside consultant or a devoted internal tech adoption or continuous improvement group.

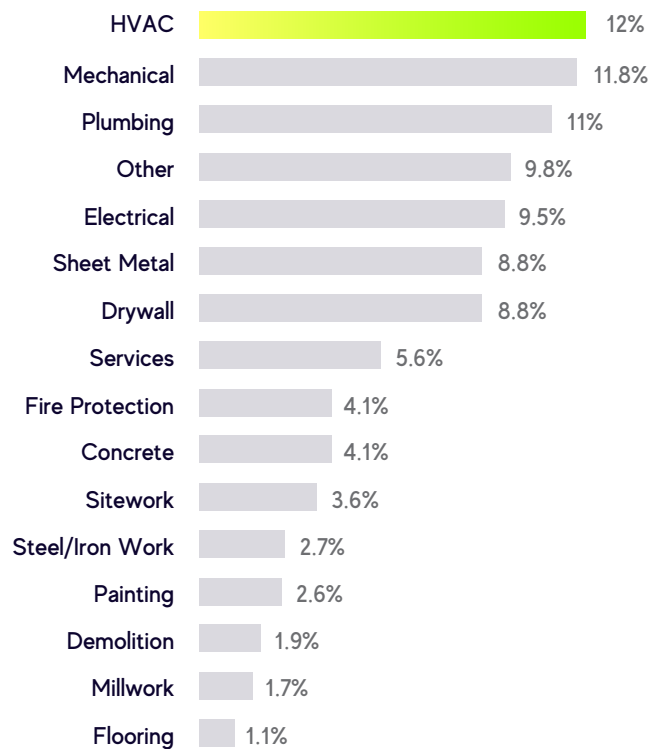
TYPE OF COMPANY



PRIMARY INDUSTRY

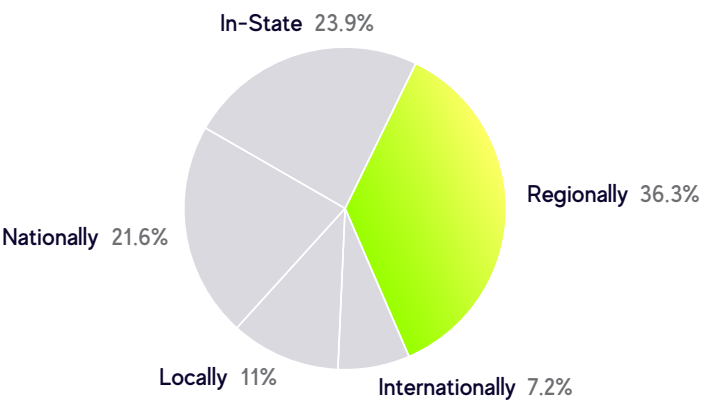


SUBCONTRACTORS PRIMARY TRADES

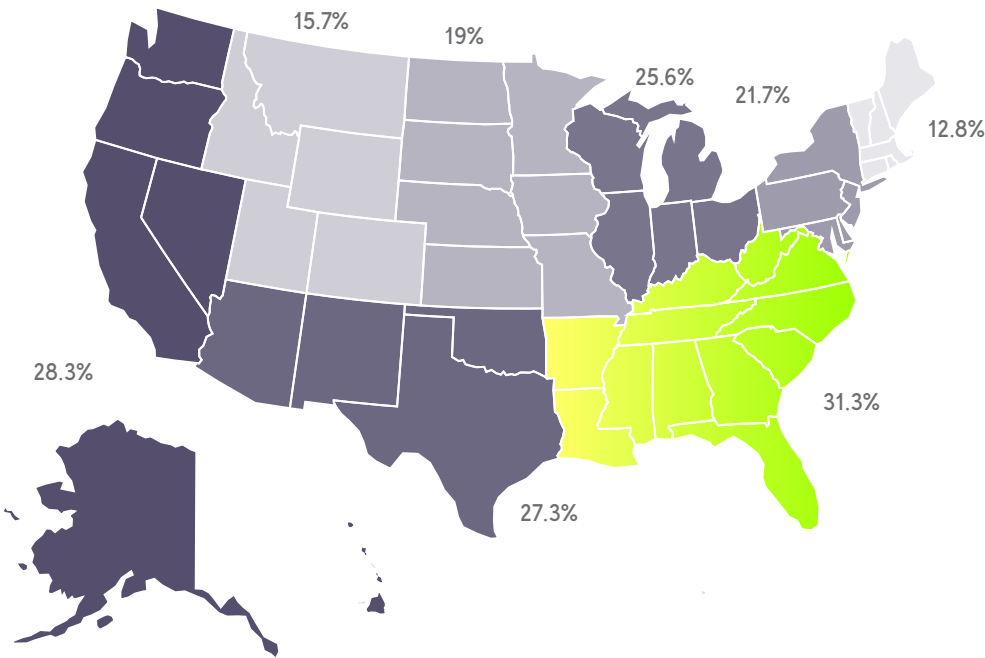


Previous years have been a close race between the General Contractors and Subcontractors. General Contractors/Construction Managers took first place this year. Subcontractor's most frequently reported trades remained the same in 2019, albeit the order has been rearranged. HVAC has held a spot among the most popular of trades for the past four years, and unsurprisingly was most reported trade of 2019. An interesting move for the trades this year was the electrical trade's drop from the most popular trade in 2018 to the fifth position this year.

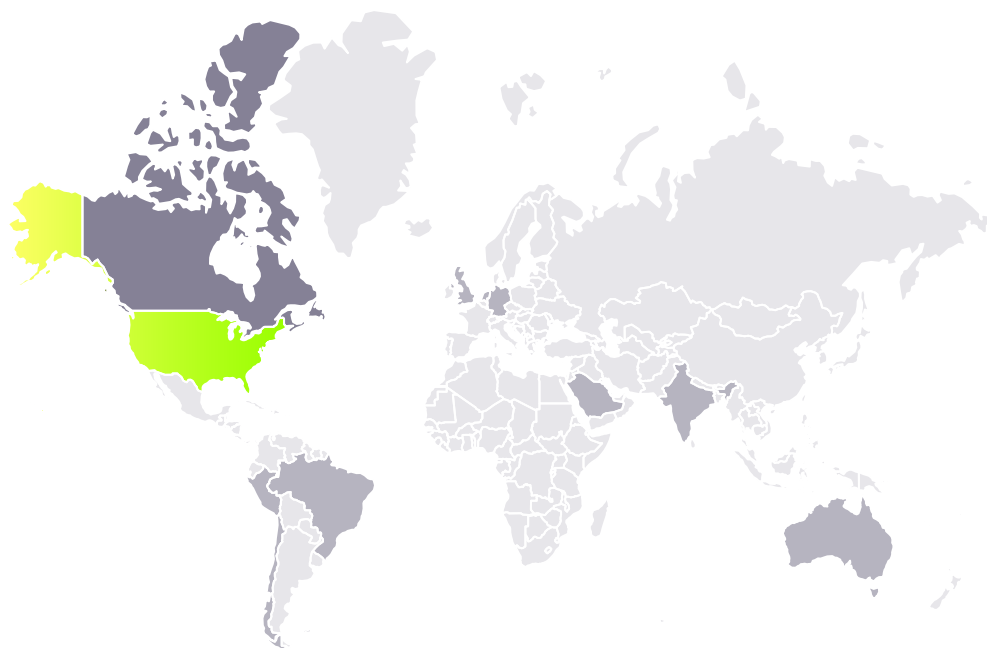
RANGE OF WORK



PRIMARY AREAS OF WORK



COUNTRY



We had respondents from all over the world this year, although the majority of respondents reported their area of work in the US, specifically in the Rocky Mountain, New England, and Far West regions.

IT STRATEGY & BUDGET

Since last year, data security
breaches decreased

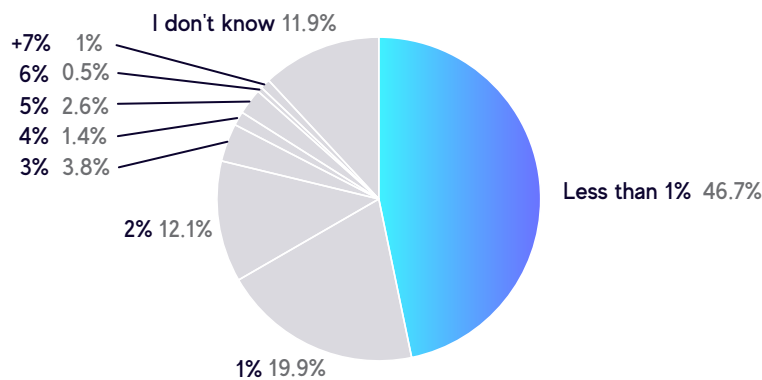
2%

Spending and Hiring for IT

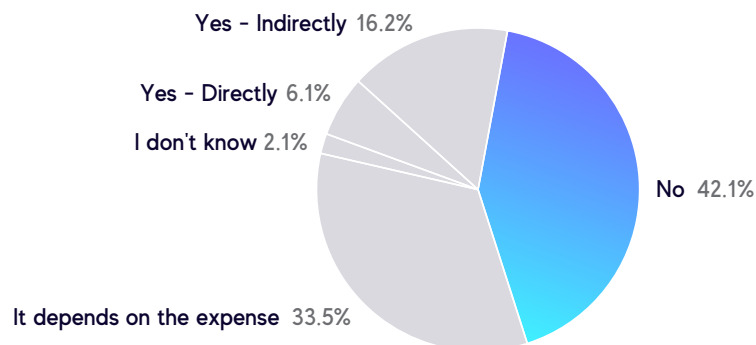
How IT Strategies & Budgets are evolving

As more tech awareness and education becomes commonplace, more Construction Technologists emerge in the industry. Have a look at 2019's insights and see whether tech adoption is happening at a tortoise or hare's pace.

PERCENTAGE OF ANNUAL SALES VOLUME SPENT ON IT
(HARDWARE, SOFTWARE, STAFF) IN 2018



DOES YOUR COMPANY BILL IT EXPENDITURES
TO YOUR PROJECTS?





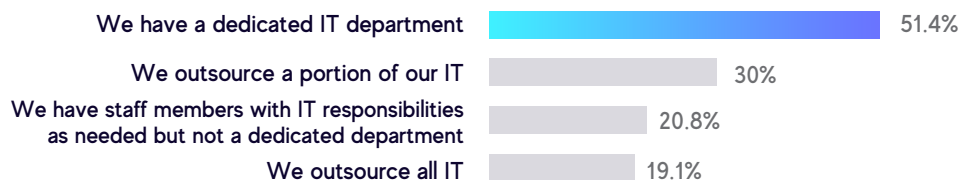
"This question presumes we've ever had a technology budgeting process."

"They ask me how much I need, I take an educated guess, and that's what I get."

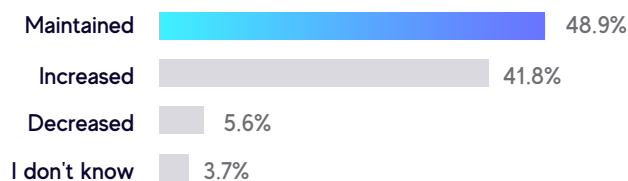
There is no surprise that Gartner's prediction of a 6% increase in IT spending remains unrealized for the construction industry. **The fact that IT spending has remained at a virtual stand-still for its third year is beginning to cause concern.** Echoing the trends in IT budgeting, billing IT to projects remains almost entirely unchanged.

Is "1% or less of the annual sales volume" the standard allotment for an IT budget? Or is three years simply not enough time to significantly impact budgeting and billing habits?

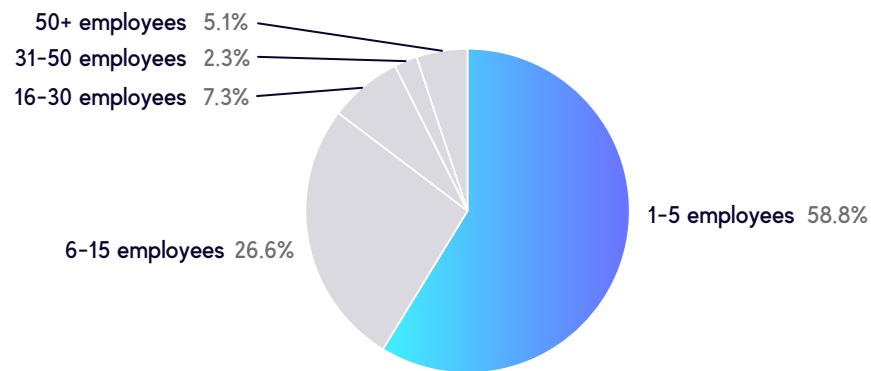
IT STRATEGY



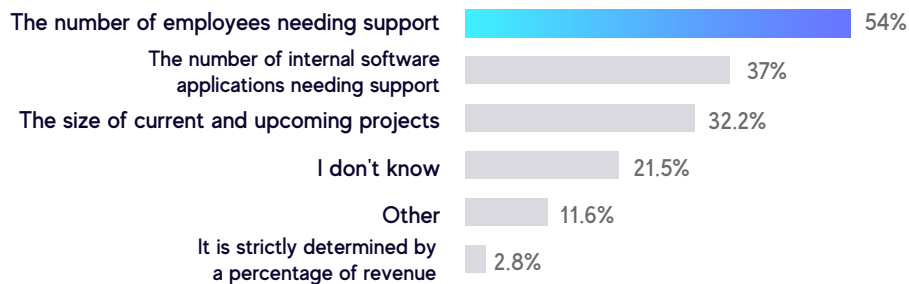
SIZE OF IT STAFF



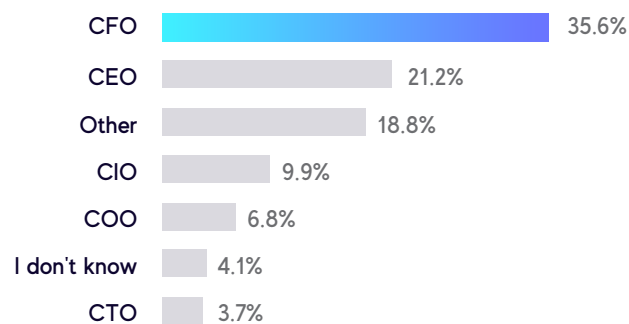
HOW MANY EMPLOYEES ARE DEDICATED TO IT?



HOW DO YOU DETERMINE THE NUMBER OF IT EMPLOYEES NEEDED?



WHO LEADS THE IT DEPARTMENT?



Outsourcing is slowly decreasing, and small, dedicated IT departments are up in 2019! The CFO remains the most often reported head of IT departments, with write-in answers including 'Construction Technologist,' or 'Chief Technology Officer.' IT department trends favor small teams, with most respondents reporting five team members or less.

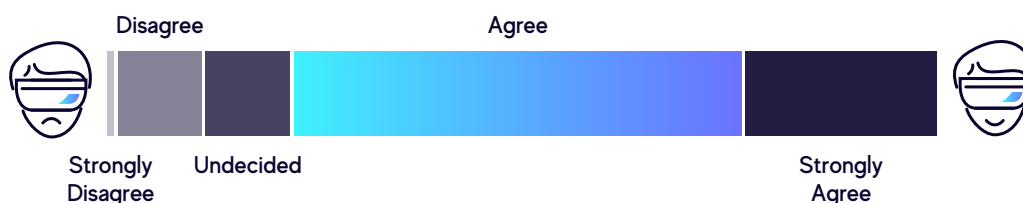


"It seems like the size of our IT Department's growth is based on whether or not one of our IT people is ready to snap."

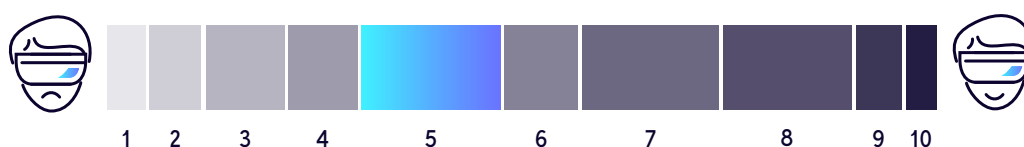
"We have not added any people in IT, but our controller is taking on increased responsibilities."

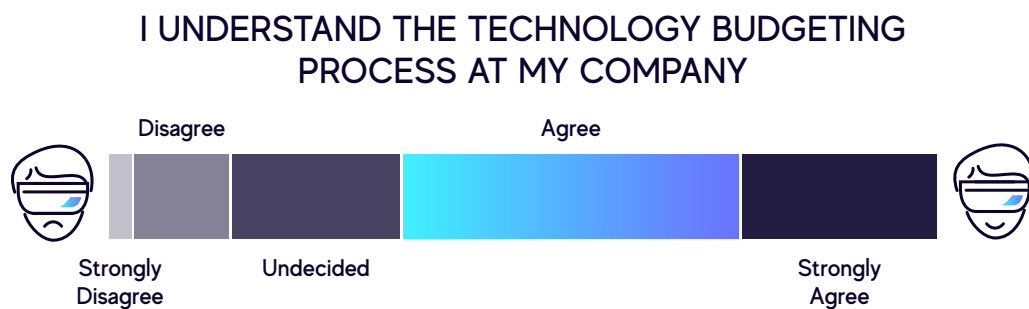
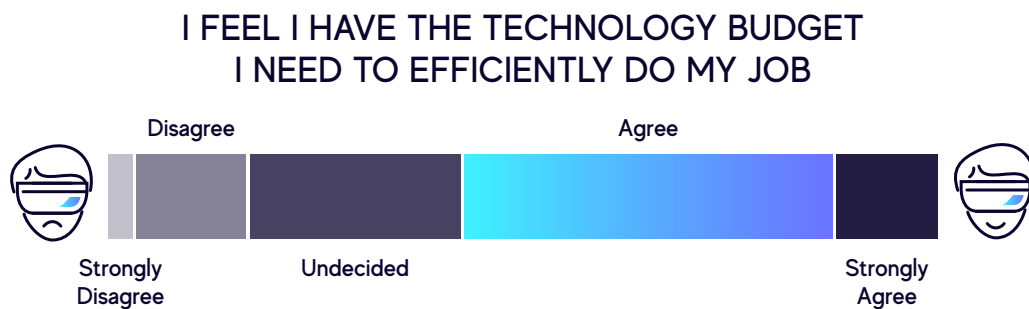
How IT resources support employees

DO YOU RECEIVE THE SUPPORT YOU NEED FROM IT?



HOW WOULD YOU RATE THE TRAINING OFFERED ON NEW TECHNOLOGY AT YOUR COMPANY?





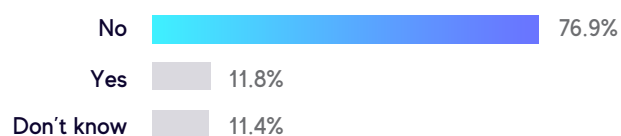
Respondents reported having adequate IT support, along with above average training, and confidence with tech. The factors listed point toward IT departments being a great asset to companies - making the consistently low IT budgets puzzling. **Most respondents reported having the budget they needed to efficiently do their jobs and understanding the technology budget process at their company.** This information is slightly conflicting as IT budgets remain low. **A reason could be that more survey respondents are decision-makers rather than the people in the field, actually using the tech.**

How Data Security is managed

METHODS FOR SECURING COMPANY DATA



HAS YOUR COMPANY HAD A DATA SECURITY BREACH IN THE LAST 12 MONTHS?



Data security measures in the construction industry are experiencing increases. **Security methods such as Employee Training and Cyber Liability Insurance Coverage have gained traction, but it's Two-Factor Authentication that's gained 13% over the past year. Data security breaches have decreased 2% since 2018.**

Of the reported data breaches (or attempts) phishing-scams topped the list. The value of Two-Factor Authentication and Cyber Liability Insurance Coverage cannot be understated. Respondents with strong security measures may not even be aware of the threats that may have been thwarted before even reaching them.



"We've had incidents that exploited frontline defense but were thwarted by deeper defenses. We call that a "breach" although there was no detrimental impact. (i.e. user gives up credentials but stopped by MFA, desktop malware or bad link but stopped.)"

"We are terrible on training personnel on new technology. We are working on it but still pretty bad."

"Training is available. Are employees given the time to take advantage of this training? That is another story."



MOBILE DEVICES & APPS

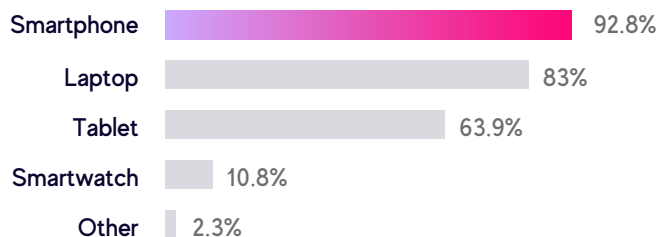
In 2019, safety apps experienced
a rise of

4%

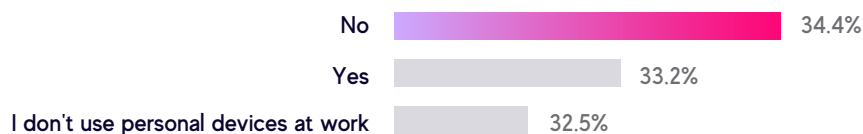
Tablets, Smartphones, and More



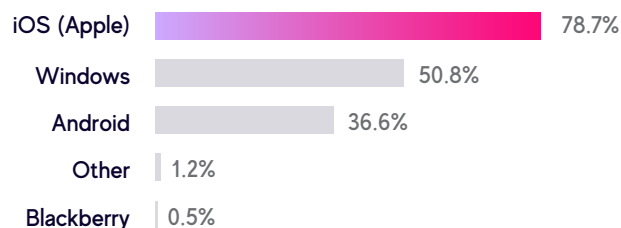
The role mobile devices play in construction



DO COMPANIES SECURE PERSONAL DEVICES AT WORK?



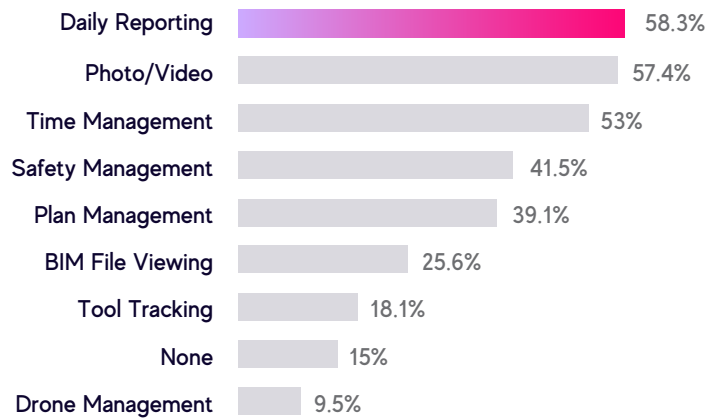
MOBILE OPERATING SYSTEM



Smartphones are still titans of mobile tech for construction. The industry is divided on whether personal devices for work purposes require additional security. **The battle between mobile operating systems continues to be dominated by iOS (Apple), while former contenders Blackberry and Android are receding from the spotlight.**

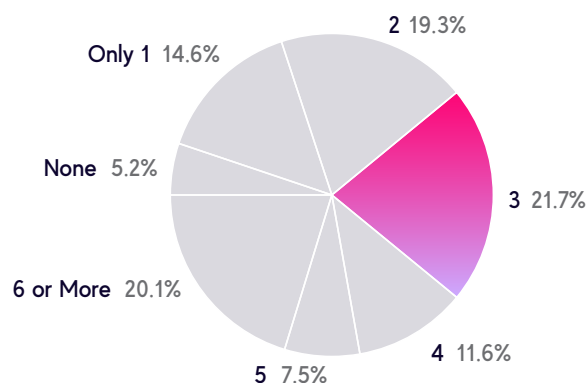
Which Mobile Apps companies are counting on

WORKFLOWS USING MOBILE APPS

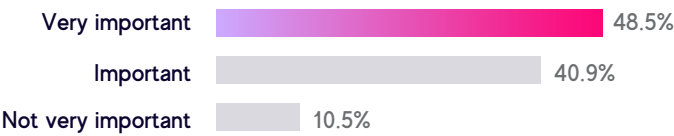


While the top workflows using mobile apps are only separated by less than 1%, safety apps in 2019 experienced a 4% rise. As smartphones continue to gain momentum, mobile apps for construction workflows are continually designed to be smarter and more convenient. Tablet use is stagnant for the second year in a row after a 10% increase in tablet use between 2016 and 2017.

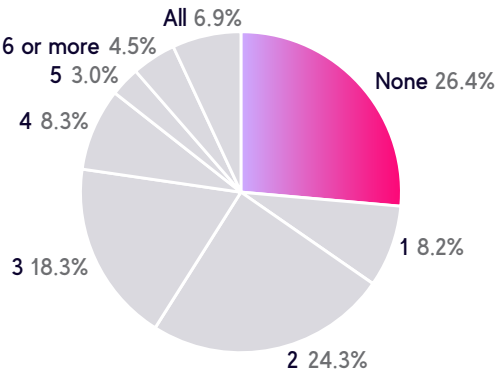
NUMBER OF CONSTRUCTION APPS USED



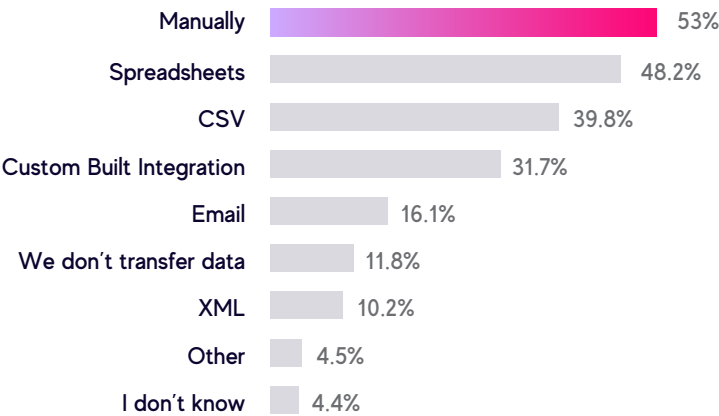
HOW IMPORTANT ARE MOBILE INTEGRATION AND CAPABILITIES WHEN MAKING SOFTWARE PURCHASING DECISIONS?




NUMBER OF APPS THAT INTEGRATE DATA



METHOD FOR TRANSFERRING BETWEEN APPS THAT DON'T INTEGRATE



The disconnect between respondents’ intentions and actions become especially evident when it comes to integration. It’s unlikely that a perfect all-in-one solution will exist in the near future, so integration is key. With this information, why isn’t this something respondents are prioritizing? **Year after year, survey responses reflect a learned-helplessness by actually increasing the number of apps used and decreasing the integration.** Hands-on education or in-house technology advocates can assist in finding solutions suited for (current or future) integrations.

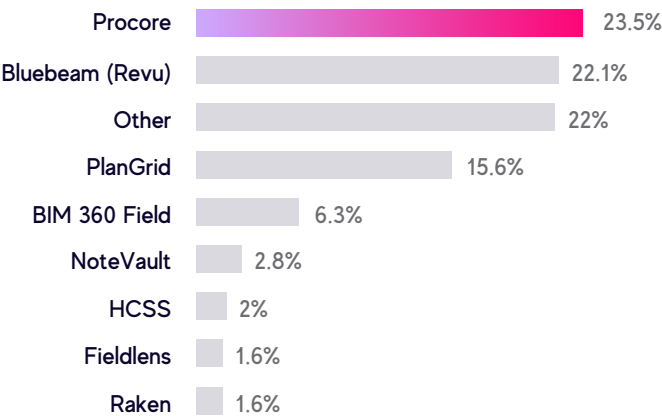


What’s App Fatigue?

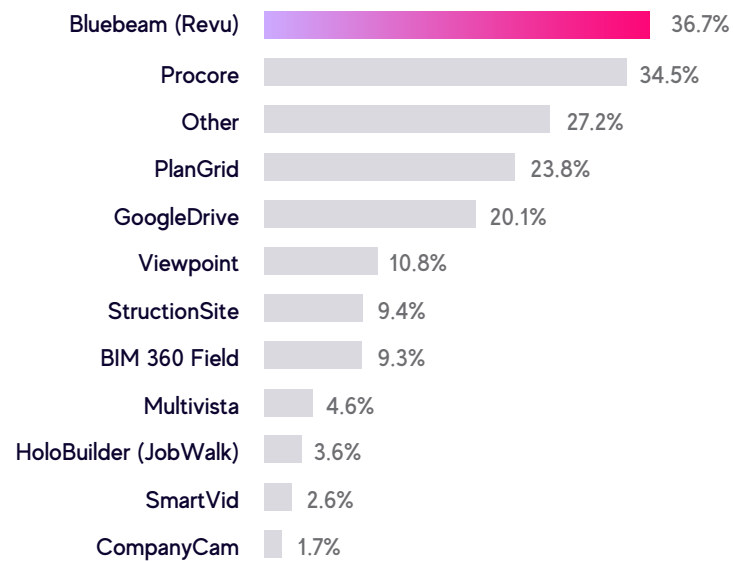
Apps dominate the usage of our smartphones and tablets. Several products and services require an app to experience their full potential, extra features, or even to operate at all. Whether it’s security concerns or feeling aggravated at the idea of having to download one more app on top of so many others – people are tired of it. As more and more apps emerge, so is reluctance to download another app!

Which mobile apps were the Most Popular in 2019

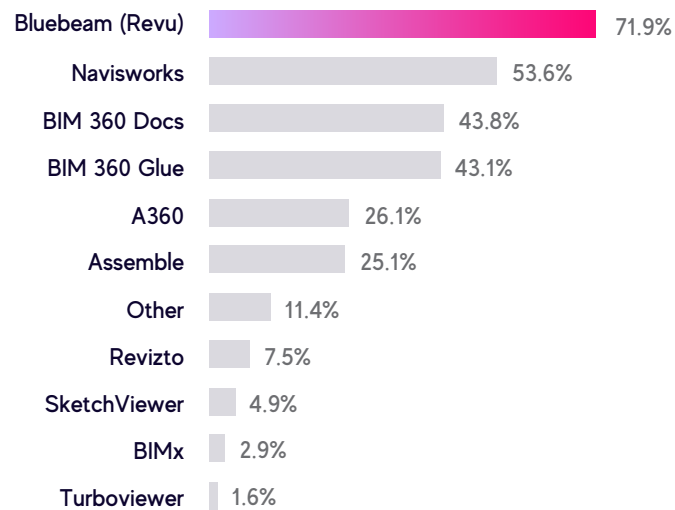
MOST POPULAR DAILY REPORT MANAGEMENT APPS



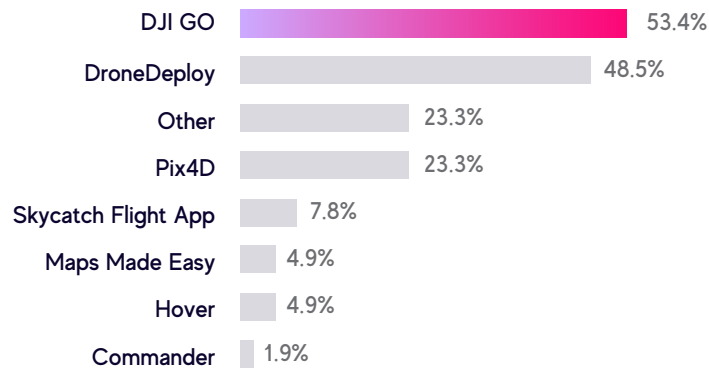
MOST POPULAR DAILY PHOTO/VIDEO MANAGEMENT APPS



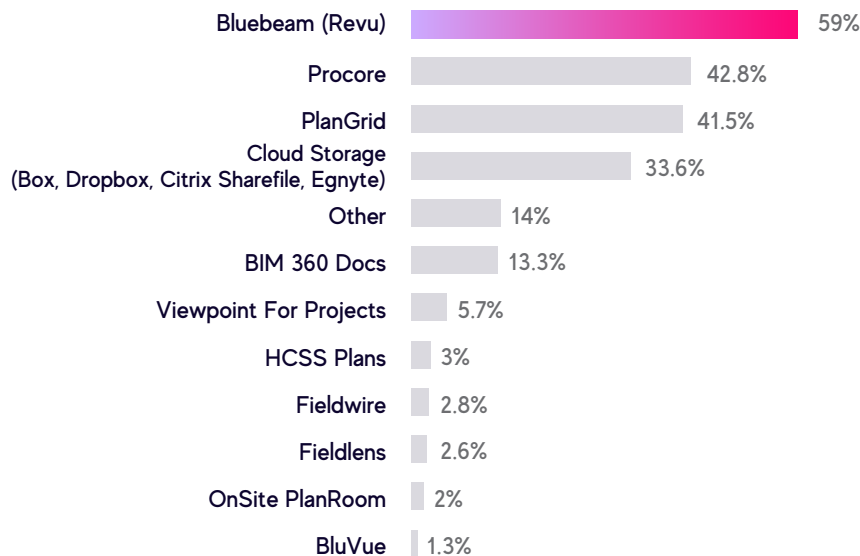
TOP MOBILE APPS TO VIEW BIM FILES



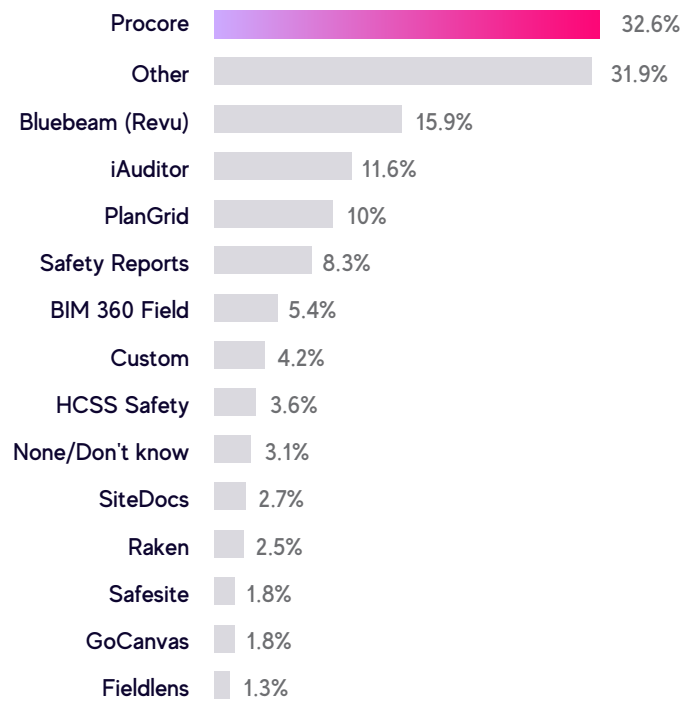
MOST POPULAR MOBILE APPS FOR DRONE CONTROL



TOP MOBILE APP USED FOR PLAN MANAGEMENT



TOP MOBILE APPS FOR SAFETY MANAGEMENT





WORKFLOW STRATEGY

Contractors dependence on
spreadsheets have decreased

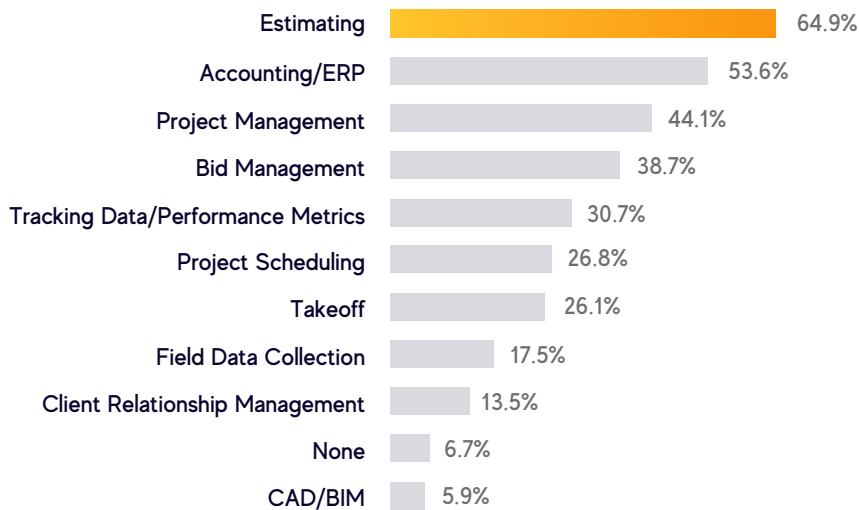
1%

Old Processes or New Technology



What workflow tools is the industry using

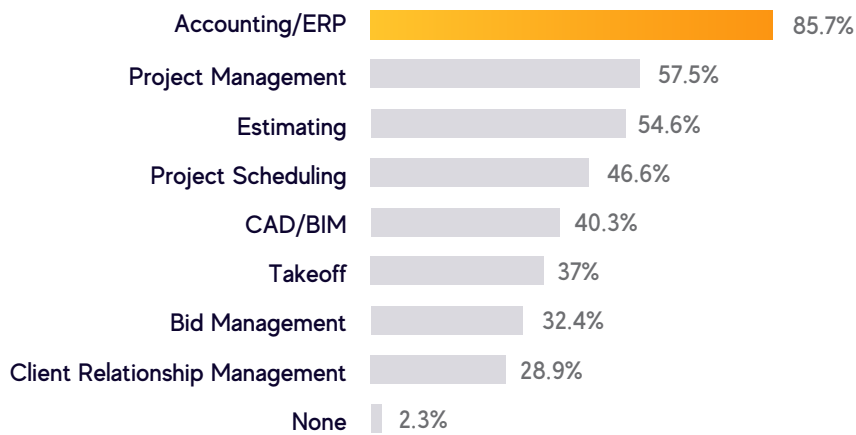
WHICH WORKFLOWS DEPEND ON A SIGNIFICANT AMOUNT OF SPREADSHEETS AT YOUR COMPANY?



The same occupations are holding onto their spreadsheets. The roles relying on spreadsheets instead of making the leap to software are very value-oriented. After years of manual entry, it's easy to understand how it could be difficult to trust software or apps to perform the same tasks with significantly less effort. The industry must continue to offer education opportunities so companies can stay current with the latest software and apps .

Companies must also cultivate a tech-savvy culture so software (and other ConTech) can be normalized and expected, rather than viewed skeptically as 'toys.'

WORKFLOWS USING DEDICATED SOFTWARE



Accounting/ERP software use is up 6%! Project Management has risen 3%, bumping Estimating out of second place for software use. **A very slow but optimistic reveal this year is the continued 1% annual decrease in reports of using 'no software.'** Integrations, education, and advocating for the saved time and ROI of investing in software solutions are key to pushing adoption forward.



SOFTWARE

2.8%

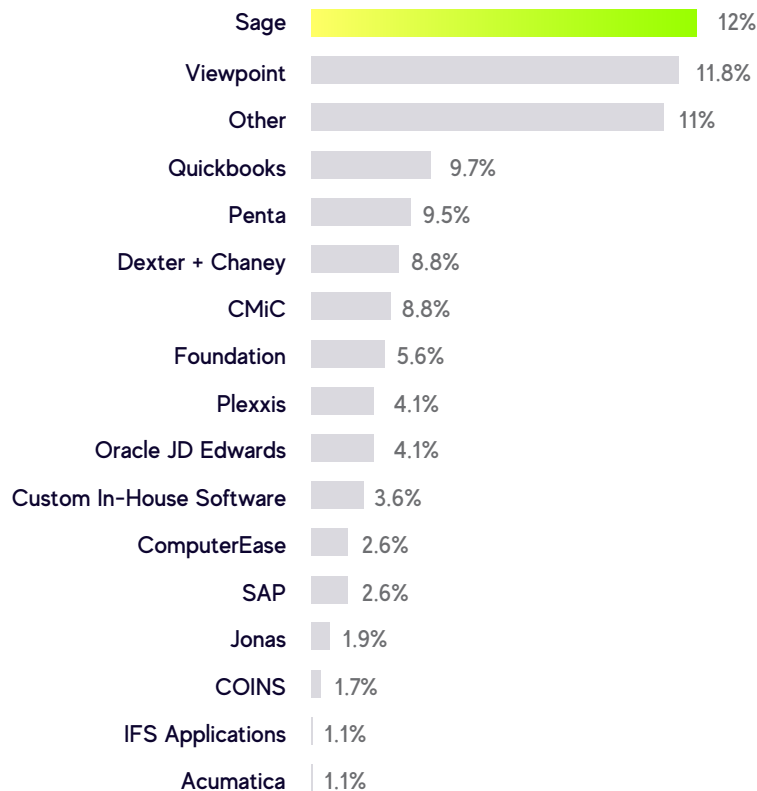
of Contractors use Custom
Software for Project Management

2019's Preferred Software

How construction depends on software

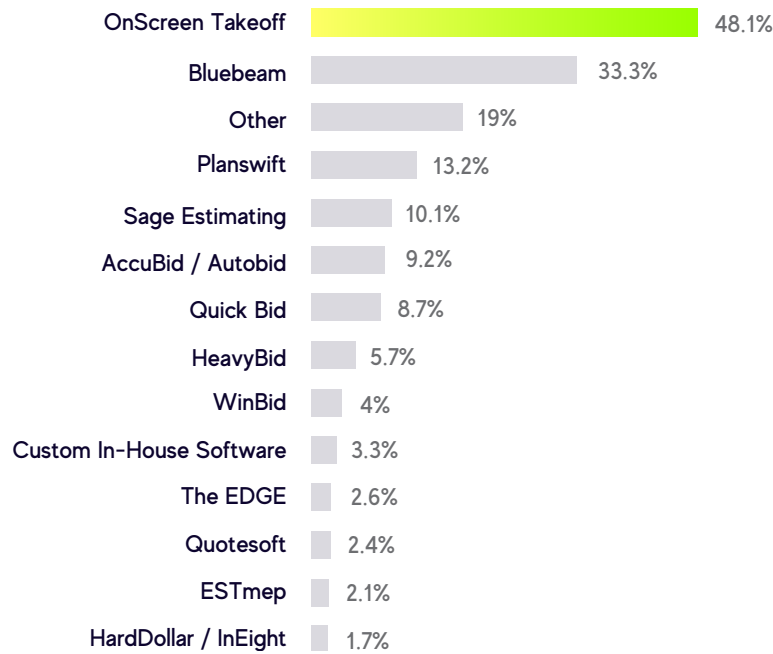
Every year, ConTech Report analysts are faced with a disconnect – the official purpose and category of a software and the category selected by respondents. As software and apps add on features, it's difficult to relegate them to only a single category or to stifle creative use cases. **In an effort to keep the categories clean - software is categorized by its primary purpose.**

TOP ACCOUNTING/ERP SOFTWARE



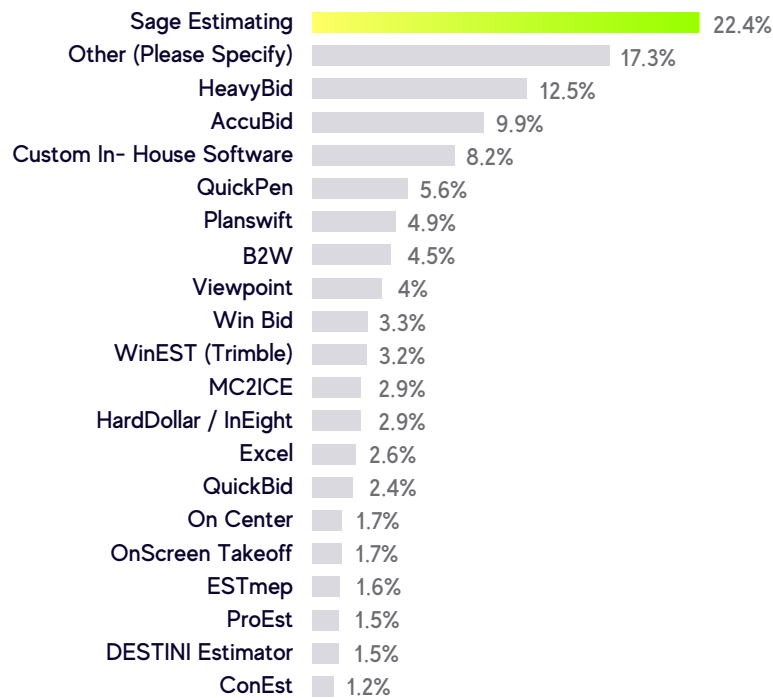
Sage and Viewpoint may have claimed the top spot for most popular software of 2019, however it's Plexxis that championed write-ins. Another software that made a showing in the accounting software is Acumatica. Quickbooks took a 2% decrease since 2018 which could mean companies are moving toward construction-specific accounting software or scaling beyond the limits of Quickbooks.

TOP TAKEOFF SOFTWARE



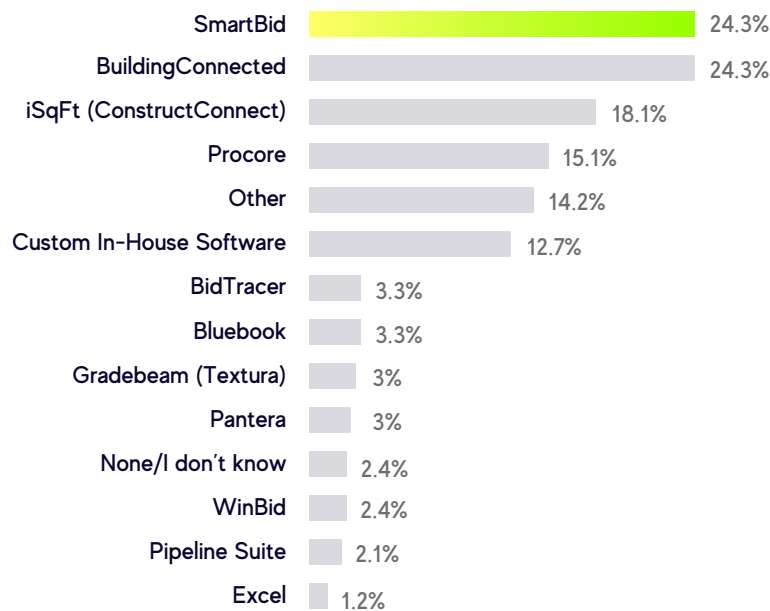
OnScreen Takeoff and Bluebeam remained the most popular software for the third year running. **Takeoff software was one of several categories impacted by a significant number of write-in answers this year. While it wasn't a top spot, WinBid by Plexxis secured 4% of the write-in vote!** A reason for so many responses outside of the provided options, could be emerging Takeoff Software hitting the market, and companies exercising their freedom to try something new on a workflow that's easier to plug and play.

TOP ESTIMATING SOFTWARE



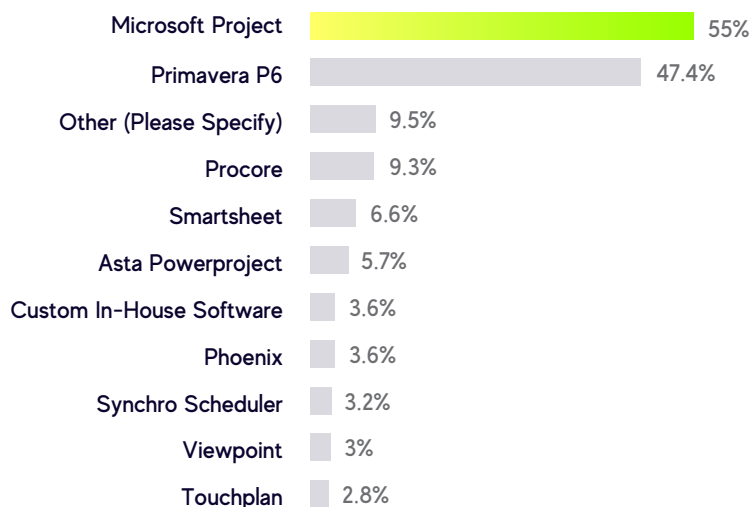
Nearly 2.6% of the 17% write-in answers were 'Excel.' This number alone illustrates how much the industry must continue to advocate for technology education within companies of every size.

TOP BID MANAGEMENT SOFTWARE



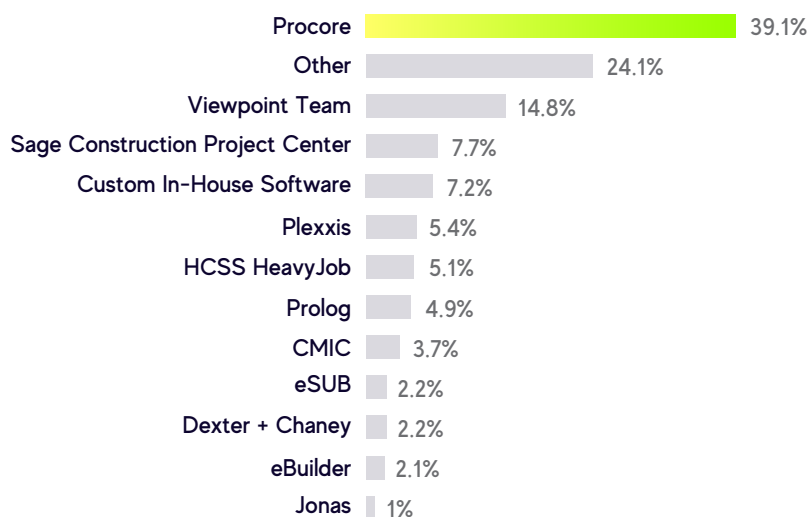
For the first time in the history of the ConTech Report, there was a tie for the most popular Bid Management software. **We were surprised to see the number of write-ins reporting they were either unsure of which software their company uses or had previously used estimating or bid management software but hadn't been impressed enough to continue.**

TOP PROJECT SCHEDULING SOFTWARE



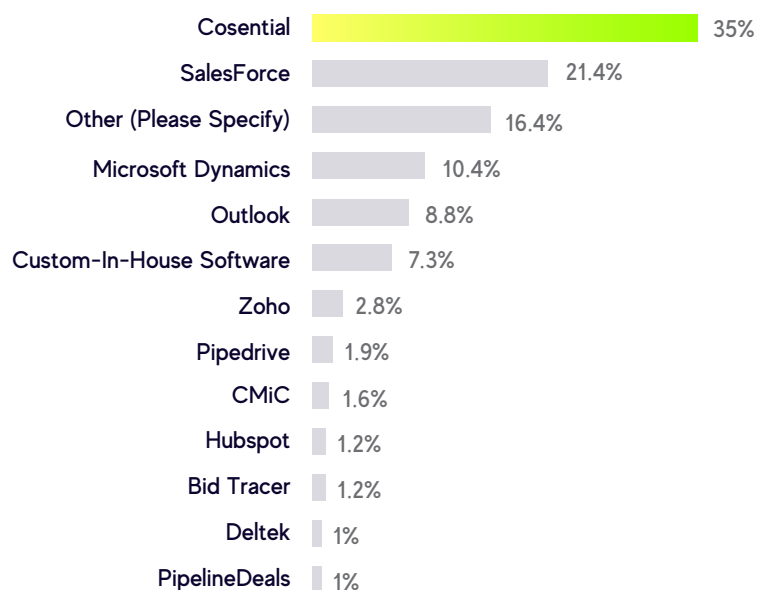
Microsoft Project made a noticeable 5% decline in usage in 2019, while Primavera P6 increased nearly 3% since 2018. We can see in the past year, companies are focusing on improving their business with construction-specific solutions, especially when related to scheduling. The trend toward construction-specific, and even trade-specific solutions will not likely slow down as companies adopt more performance-focused systems.

TOP PROJECT MANAGEMENT SOFTWARE

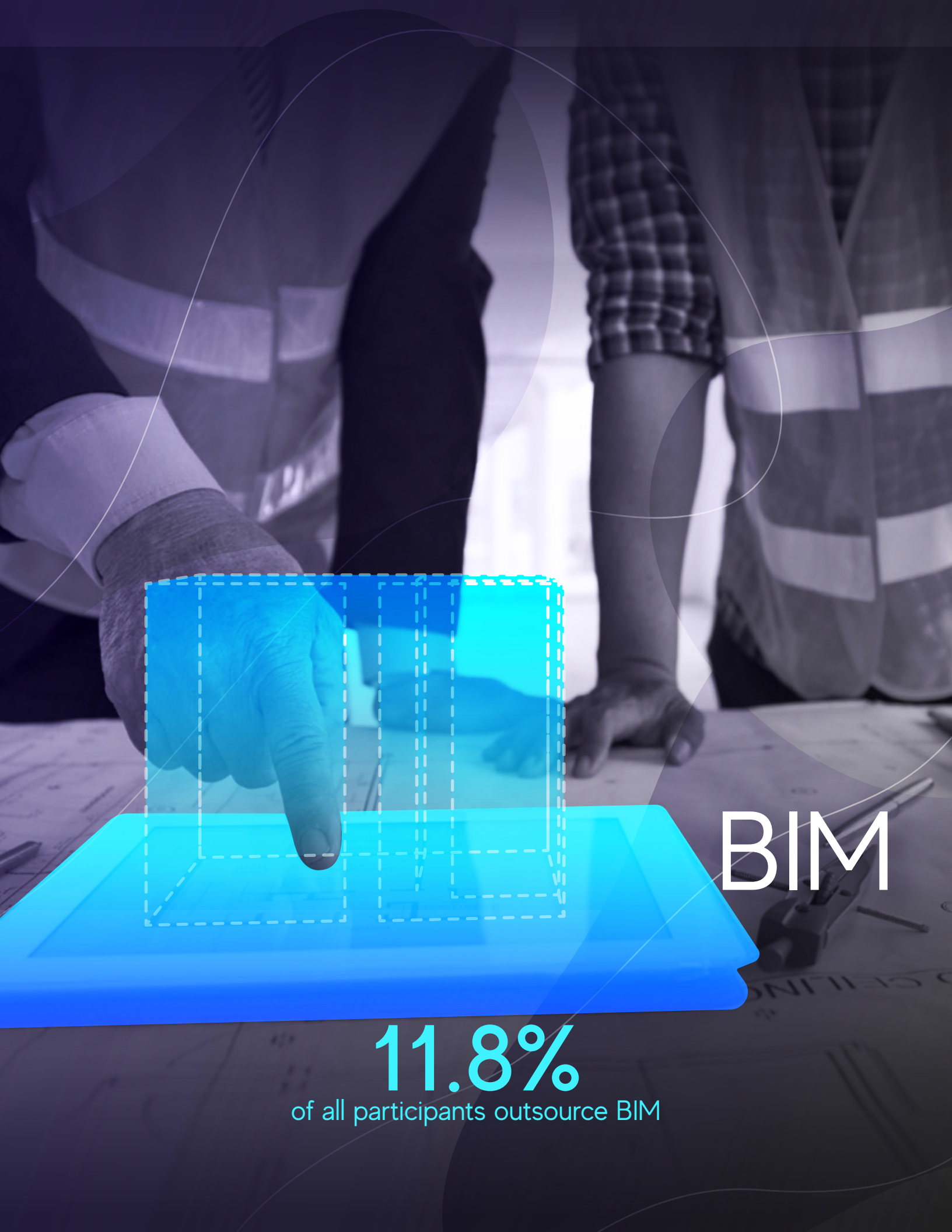


With more Project Management Software choices entering the market, more software choices were reported. It will be interesting to see which software gain popularity in the coming years. We have seen custom in-house software development and usage decrease steadily for project management workflows and purpose-built solutions take its place. Procore has grown in marketshare over the past 5 years, although 2019's steep jump may be due to an increased effort in providing solutions for subcontractors and general contractors equally.

TOP CRM SOFTWARE



For the third consecutive year, Cosential and Salesforce lead in CRM popularity. Cosential is likely to continue to lead because they are a construction-specific solution, prioritizing sale of a project rather than a product. **Hubspot and Zoho were added to the survey this year but haven't impacted the stronghold of Custom In-House software.**



BIM

11.8%

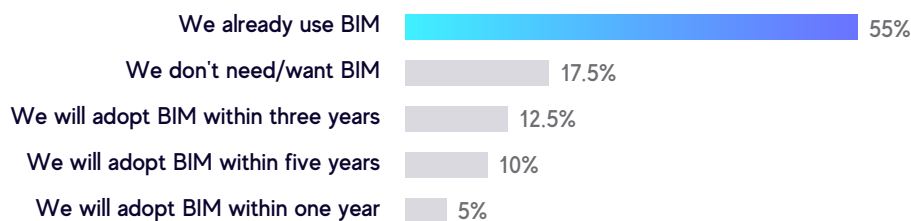
of all participants outsource BIM

BIM Adoption and Utilization

How BIM is prioritized

BIM/VDC survey results present some dissonance between respondents attitudes and the urgency facing BIM adoption.

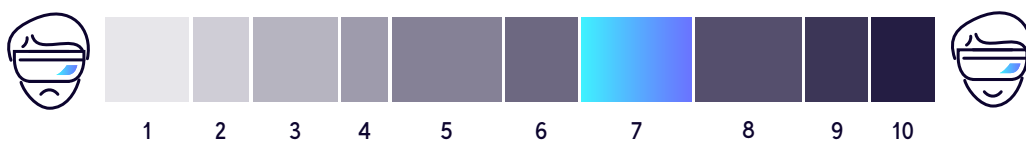
WHAT'S YOUR COMPANY'S BIM STRATEGY?



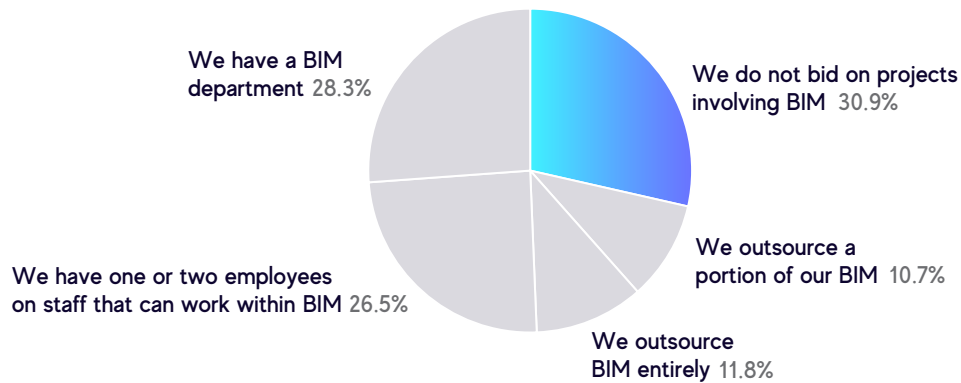
27.5% of survey respondents plan to adopt BIM within the decade, but will that be fast enough? **17.5% of respondents do not plan to adopt BIM at all.** In this case the dissonance comes in the form of legacy-thinking resisting change may lead to the inability to compete with companies who have embraced BIM earlier.

The most reported barrier to BIM adoption is listed as 'Unqualified Staff.' Taking the second most reported spot is 'Other' which is almost entirely composed of write-in answers eluding to friction among team members or management.

HOW DO YOU FEEL ABOUT YOUR COMPANY'S BIM/VDC PROCESS?



BIM STRATEGY



The ConTech Survey's answers regarding BIM have our analysts very puzzled. **While most respondents reported at least an average level of confidence in their companies BIM capabilities, only 64.30% are actually using BIM!**

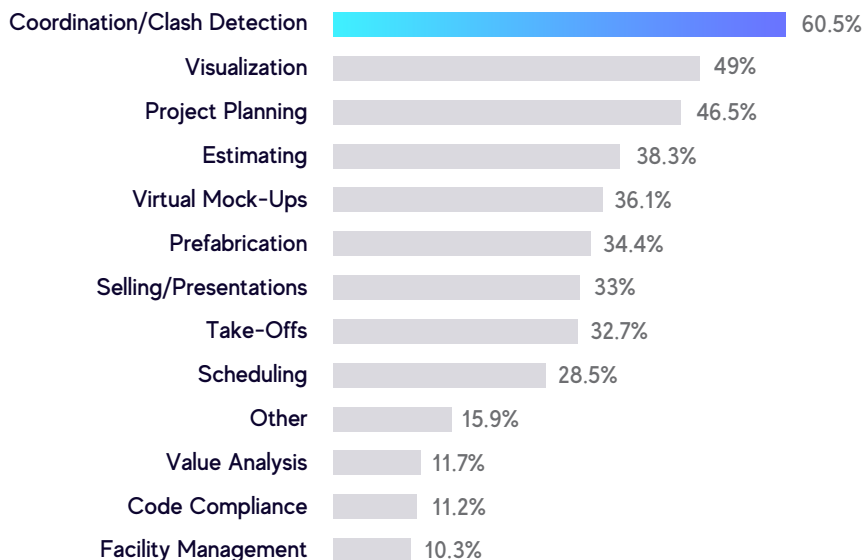
The gap between BIM-adoptors, BIM-skeptics (who are reluctant to use BIM at all) widened by 3% this year. It is important for companies to realize that very soon BIM will be the standard, not optional. Not adopting BIM could be a grievous mistake for businesses in the near future.



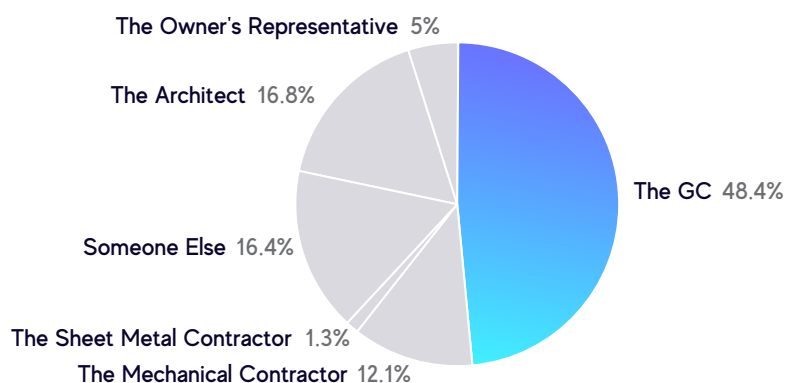
"Our BIM department is relatively new, but effective. We initially tried outsourcing to a foreign company, but that was a disaster in terms of communication breakdown and failure to perform adequately."

"As a subcontractor, we are not responsible for any BIM on our projects. We only sometimes have to contribute our "redlines" that BIM modelers may choose to add to as-built documentation."

HOW BIM IS USED

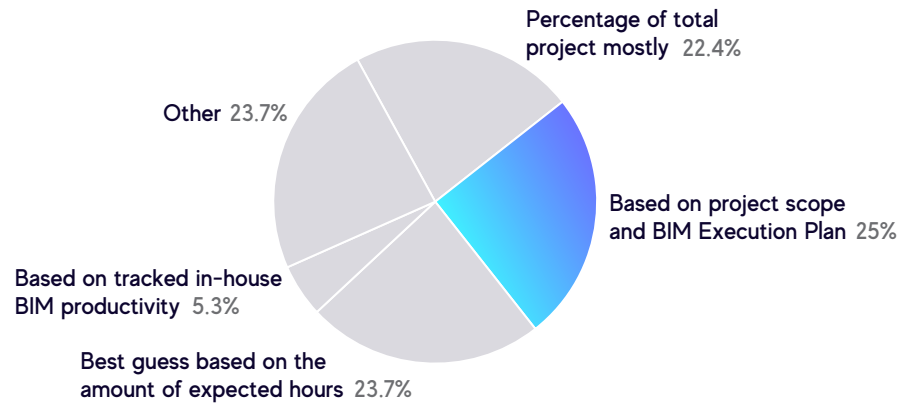


WHO TAKES THE LEAD ON BIM PROJECTS?

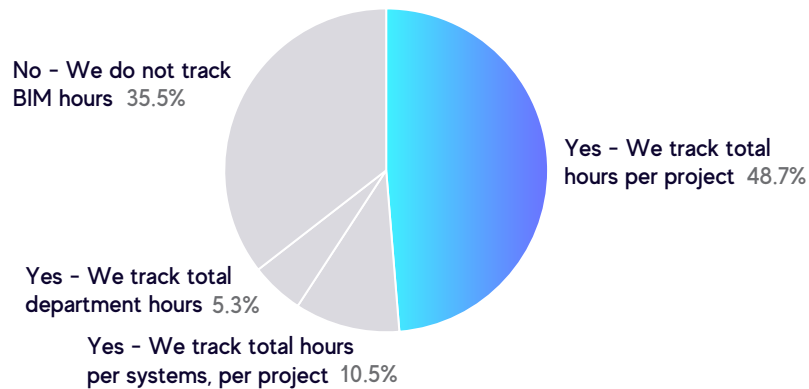


While BIM may be under-utilized, Clash Detection and Utilization were the main use cases reported. General Contractors were the most reported project leader associated with BIM.

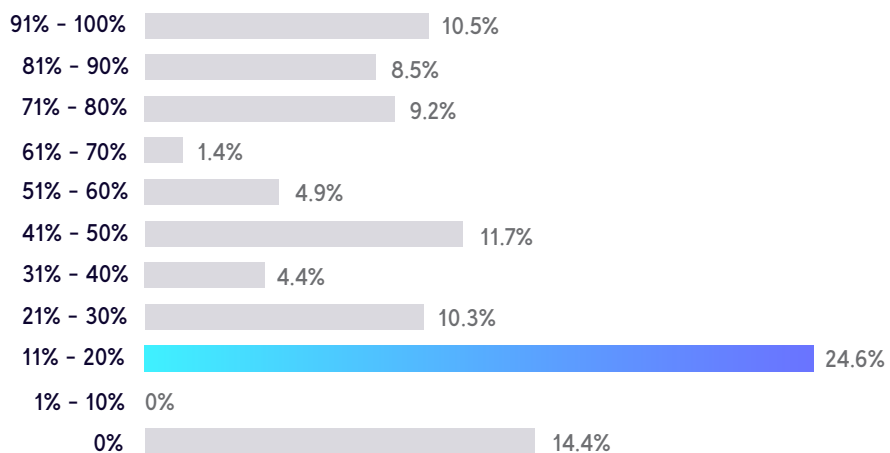
HOW DO YOU ESTIMATE BIM COST FOR EACH PROJECT?



HOW DO YOU TRACK BIM PRODUCTIVITY



WHAT PERCENTAGE OF YOUR TOTAL NUMBER OF PROJECTS USE BIM/VDC WORKFLOWS?



BIM Is Begging for Defined Processes

There is a distinct divide between those who are on-board with BIM adoption, those who are not, and those who (despite best intentions) straddle both worlds. This year's survey data saw great ideas for tracking costs, but no distinct majority choice emerged as a standard process to use for estimating BIM costs. Write-in answers, although creatively phrased, equated to using a best guess, seeing what a client is willing to pay, or passing the responsibility onto another colleague or department. Given that BIM is an established technology, we hope to see solutions to calculating BIM costs in the near future.



INNOVATION

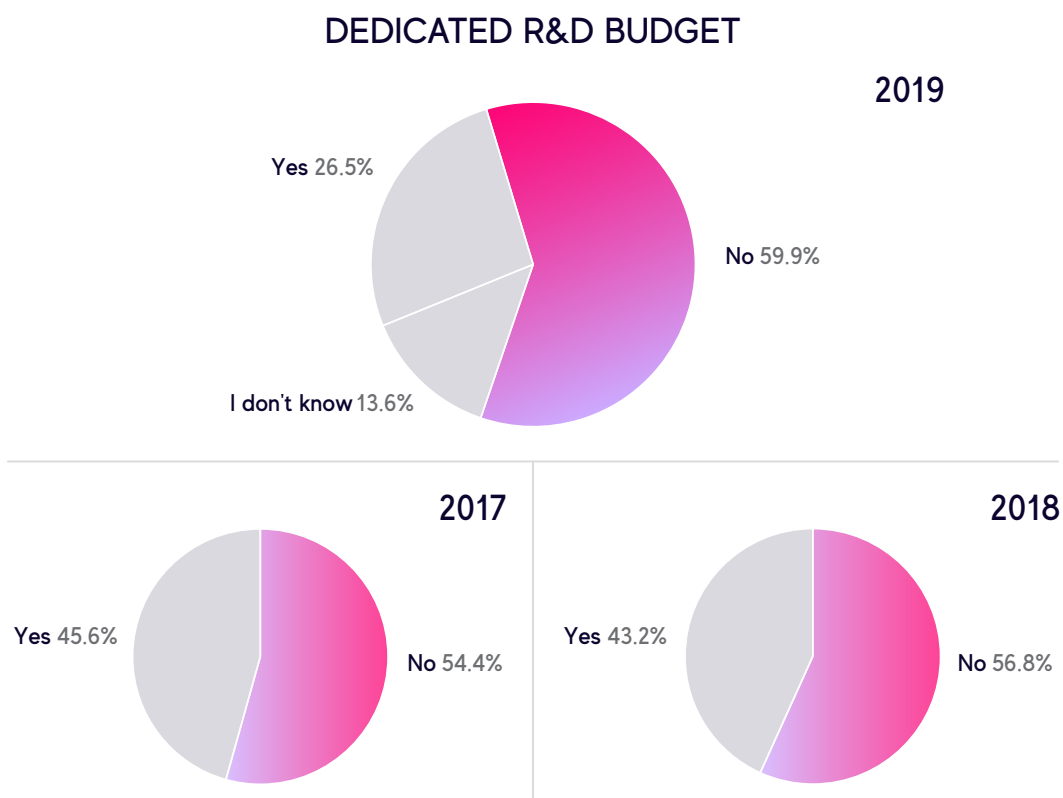
In 2019, the use of drones on
jobsites increased

5%

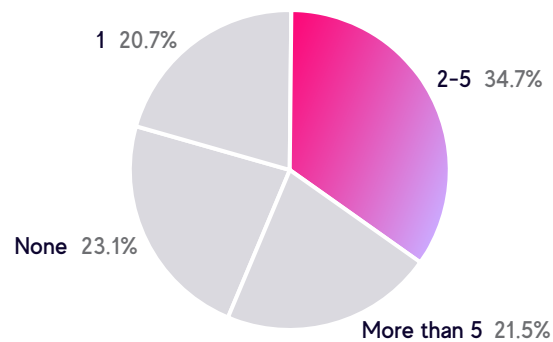
The Future is Now

What innovations are changing the industry

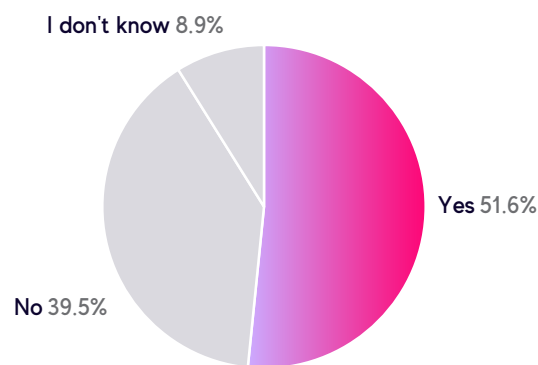
Why the regression? Since 2017, the number of respondents reporting having 'No' dedicated R&D budget has increased 3% per year. **2019's survey added the option 'I don't know,'** which may have contributed to the massive (nearly 17%) decrease in reports of having a dedicated R&D budget.



NUMBER OF DEDICATED R&D EMPLOYEES



DEFINED R&D PROCESS

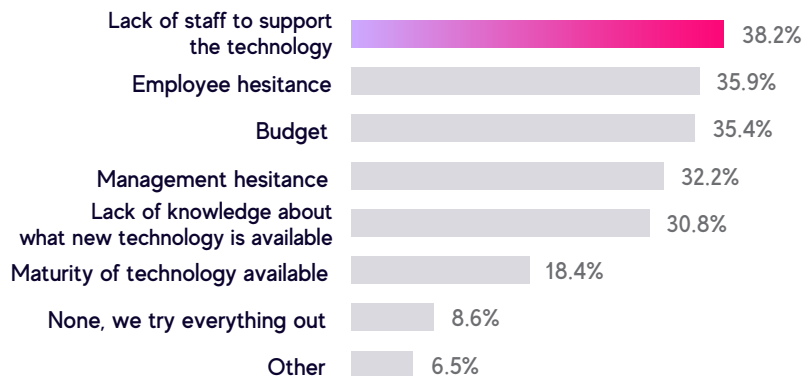


Three quarters of all respondents have at least one employee dedicated to research and development. The number of respondents reporting 'None' decreased by 6% this year. **Dedicated R&D budgets may be decreasing, however hiring (R&D departments and dedicated R&D staff) are holding position or increasing!** As R&D departments grow more integral, it's no surprise to see defined R&D processes growing in popularity.

HOW COMFORTABLE ARE YOU WITH IMPLEMENTING NEW TECHNOLOGY?

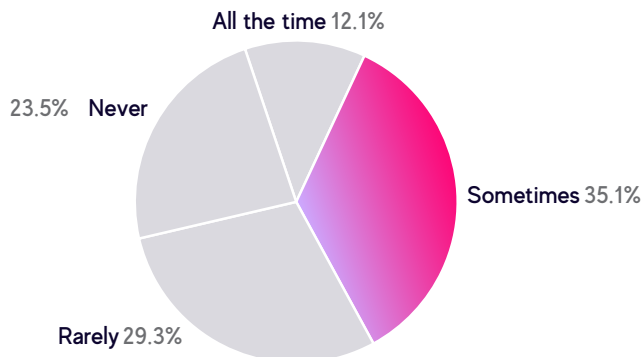


WHAT IS YOUR MOST LIMITING FACTOR TO ADOPTING NEW TECHNOLOGY?

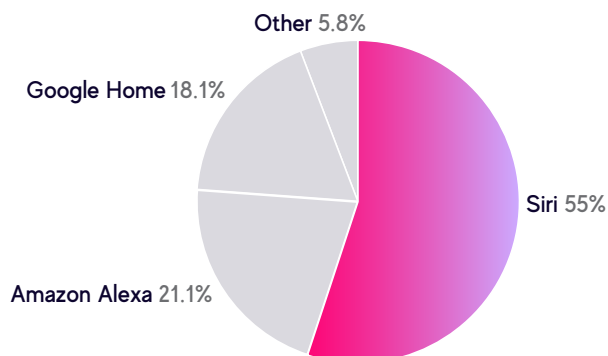


Tight budget, app fatigue, lack of training, and support – the barriers to adopting new technology have largely remained the same over the past year. Technology adoption takes time, resources and research that companies may not be prepared to invest in. Outsourcing to technology consulting firms may offer a solution.

VOICE ASSISTANCE IN USE

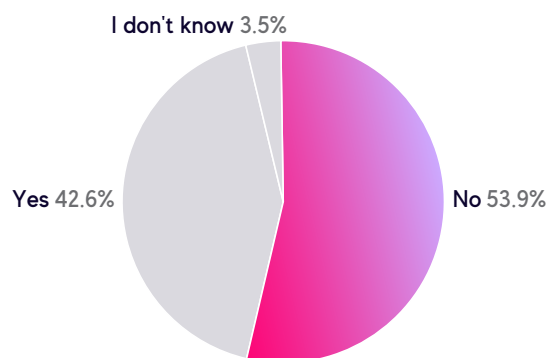


VOICE ASSISTANCE SOLUTION



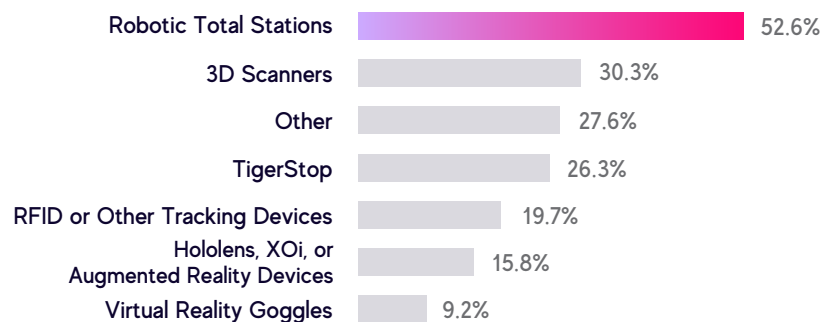
When it comes to Voice Assistance, utilization was nearly the same in 2018. Manual data entry is still the standard method of data collection for the construction industry. **The convenience of Voice Assistance hasn't caught on, despite the fact we are more likely to talk than write which could lead to more thorough documentation.** Voice assistance solutions showed a slight change. Amazon Alexa gained 3% more this year while Google Assistant (which claimed 2.4% of prior year's votes) completely dropped out of the rankings in 2019.

DOES YOUR COMPANY USE DRONES?



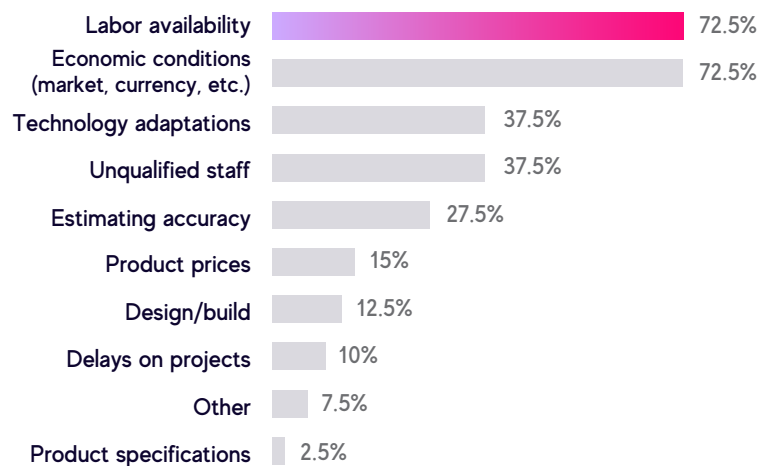
Rise of the drones! **The reported use of drones has risen 5% this year.** In addition to the construction-sphere, drones are beginning to grow in popularity at sporting events, concerts or for hobby usage which may also contribute to the rise in popularity.

HARDWARE IN USE



With the quick ROI and increased safety measures provided by Robotic Total Stations, it's an easy favorite for innovation. AI and robotics are on their way to improving the jobsite with safety, productivity and automation – without replacing human labor. **Augmented Reality and Virtual Reality continue to prove their position as 'a tool, not a toy'.** While AR devices didn't rank highly, HoloLens2 was only released this past February. It will be interesting to see if HoloLens2 has an uptick in popularity in next year's report.

WHAT FACTORS DO YOU BELIEVE WILL MOST IMPACT THE INDUSTRY IN THE NEXT 3 YEARS?



The disheartening trend of the skilled labor shortage continues to plague the construction industry. Economic conditions will always impact the industry. It's difficult to speculate whether the economic challenges in 2019 were different than the budget restrictions typical of every other year, or if this year has presented increased monetary strain.

A person wearing a white hard hat and an orange safety vest is holding a tablet. The tablet screen displays a technical diagram with various components and text. The background is a blurred industrial setting. The word "CONCLUSIONS" is overlaid in large white letters.

CONCLUSIONS

100%

of ConTech Report readers are encouraged to
'Enjoy the Ride & Geek Out'

Where We're Headed

What You Need to Know to Improve in 2020

Dear Reader,

Thank you so much for downloading and reading the 2019 Construction Technology Report by JBKnowledge. We're thrilled that you're taking the time to improve yourself and your company through better Technology, People and Process and we recognize that many of you use this report to help gauge where you are going as a company and how you're going to get there. Our team worked tirelessly this year to bring even more insight into what is going on in the construction technology space to try and help move the industry forward. I hope you enjoy the report as much as I did.

Enjoy the ride and geek out!



James M. Benham
CEO
JBKnowledge

BIM is reaching a tipping point

2019 showed an increase in companies who do not bid on BIM. The increase in reports of outsourcing BIM is a slight consolation. It cannot be stressed enough that BIM will not be optional in the very near future. Discussions of a BIM mandate have been gaining traction for the past decade, a US mandate will likely be here soon. If the mandate were to happen at the time this report is published – 31% of all survey respondents would not be prepared.

Integration is key

Companies must prioritize, and budget for, integration when choosing software and apps. Even at additional expense, technology that integrates to allow communication between workflows and departments for cross-functional teams. It would be advantageous for companies to explore incentivizing integrations to reduce stress, optimize use-of-time, save money, and increase productivity. Seamless exchange of data reduces manual entry and redundancies, making integration a crucial feature for modern construction. While a single solution stretching across every workflow hasn't been created yet – software and apps that integrate are the next best thing!

Education must continue

While high-levels of confidence in technology use and training was self-reported, why the lack of tech implementation? Is it because so many executive (CEO's, CFO's, CIO's, etc.) respondents reported their level of confidence, while the employees in the field may have different obstacles to tech adoption? The most logical step to bridging the gap is education. There's an opportunity for "targeted" education topics regarding tech, IT, and BIM.

You're in control

Don't stop here. If you have read through the entire report, you've taken the initiative to educate yourself more about the construction industry. If you completed the Annual Construction Technology Survey, you've invested time into furthering the education of our industry. (We're sorry the survey has so many questions, thanks for your diligence!) In 2020, commit to attending ConTech conferences, webinars, or listen to ConTech podcasts to keep current on products and innovations shaping the industry. Your input matters!

Thanks for reading, we'll see you next year!



SPECIAL
THANKS

Thank you all!

ConTech Is a Community

The creation of the annual Construction Technology Report hinges upon the participation of everyone involved for success. We would like to recognize the unique pieces of the industry pulling together to make our report possible.

Special Thank You

...to the construction professionals taking the time out of their lives to participate in the annual survey. Your transparency and candid sharing are what has made the report a trusted resource for the industry and media publications for nearly a decade.

...to our partners, CFMA, MCAA and NECA! Your commitment to building a more tech-savvy construction industry is admirable. We are proud to have you on board as partners for 2019!

...Texas A&M University's Department of Construction Science for your partnership and collaboration. Additional analysis by Assessment Program Coordinator, Shannon H. Degenhart; and Associate Dept. Head, Anthony Marraro; gave 2019's report a new life – distinct from similar industry reports.

...anyone who covered or shared the report. Every media publication, organization, company, blogger, or influencer who distributes or shares the survey or report – we see you! Every link, excerpt, or citation has helped the report grow over the past eight years.

- Just a quick reminder, we're happy to arrange any re-print requests, excerpts, or graphs from this report. Email kara.dalton@jbknowledge.com for all requests for graphs or content. **Reproducing or re-printing any text and/or graphics in this report without permission from JBKnowledge is a copyright violation.**

Thank You to Our 2019 Construction Technology Report Team

Editor-in-Chief

Kara Dalton-Arro, Marketing Manager, Consulting

Chief Analysts

Shannon H. Degenhart, Assessment Program Coordinator, Texas A&M Dept. of Construction Science

Anthony Marraro, Associate Dept. Head, Texas A&M Dept. of Construction Science

Design Team

Pablo Landriel, Creative Director

Miguel Vivas, Graphic Designer

Cristian Maza, Graphic Designer

Maria Jose Manzur, Graphic Designer

Dario Gutierrez, Developer

...and every other true-ConTech-believer who helped with a mountain of proof-reading.

ABOUT PARTNERS



About the Mechanical Contractors Association of America (MCAA)

The Mechanical Contractors Association of America (MCAA) serves the unique needs of approximately 2,600 firms involved in heating, air conditioning, refrigeration, plumbing, piping, and mechanical service. MCAA does this by providing their members with high-quality educational materials and programs to help them attain the highest level of managerial and technical expertise. Through their Construction Technology Initiative, MCAA has partnered with JBKnowledge to provide research, presentations and resources about the impact that technology is having on the built environment and its practices, helping contractors to leverage that information to continue to deliver the best results for owners.

MCAA includes the Mechanical Service Contractors of America, the Plumbing Contractors of America, the Manufacturer/Supplier Council, the Mechanical Contracting Education and Research Foundation and the National Certified Pipe Welding Bureau. For more information about MCAA, visit www.mcaa.org. Follow MCAA on **Facebook**, **Twitter** and **LinkedIn**.



About the Construction Financial Management Association (CFMA)

Founded in 1981, the Construction Financial Management Association (CFMA) is the only organization dedicated to providing construction financial professionals in North America with unparalleled career development and networking opportunities. Along with publishing the award-winning CFMA Building Profits, CFMA offers educational, professional, and connection programs through its 92 chapters, Annual Conference, and online learning to its more than 8,200 members. CFMA members are CFOs, controllers, and treasurers working at major commercial construction contractors in general, subspecialty trades, and heavy highway

sectors, as well as those professionals who service these industry financial professionals, such as accountants, surety agents, bankers and IT specialists. For more information about CFMA, visit www.cfma.org. Follow CFMA on [Facebook](#), [Twitter](#) and [LinkedIn](#).



About the National Electrical Contractors Association (NECA)

NECA is the voice of the \$160 billion electrical construction industry that brings power, light and communication technology to buildings and communities across the U.S. Our national office and 119 local chapters advance the industry through advocacy, education, research and standards development. A diverse group of nearly 4,000 member companies account for approximately 300 million manhours per year. Visit www.necanet.org/about for more information.



About the Texas A&M University Construction Science Department

The construction education program at Texas A&M University was established in 1946, and now enrolls approximately 1,000 undergraduate students pursuing a Bachelor of Science in Construction Science and 100 graduate students pursuing a Master of Science in Construction Management or a PhD in a myriad of areas. Both the undergraduate and graduate programs were among the first programs in the nation to obtain **American Council for Construction Education (ACCE)** accreditation. The program is serviced by approximately 42 full and part time faculty members, 20 of whom hold Ph.D. or equivalent degrees, many of which have extensive construction industry experience. The program integrates principles of architecture, technology, engineering, business and project management, in order to prepare students to effectively manage the total construction process. Specialized course work in building systems, materials and methods of construction, scheduling, cost estimating, structures, construction management, law and business/labor relations are also taught. This interdisciplinary approach provides the student with the best possible exposure to the various tools needed to become a construction industry leader.

About **JBKNOWLEDGE®**

JBKnowledge is a family of professionals building great technology since 2001. We provide technology solutions for construction and insurance around the world through our consulting services, products, podcasts, public speaking, and R&D labs. JBKnowledge is based in Bryan/College Station, TX, and serves construction clients on an international basis. Learn more at jbknowledge.com.



Whether your company needs help optimizing results from the technology you already use, or building a tech strategy from the ground up – we can help! Find out how JBKnowledge's Technology Consulting Services can help your company with a complimentary Construction Tech Health CheckUp.

[GET STARTED](#)



The ConTechCrew is the weekly podcast for keeping you up-to-date with the latest innovations in the construction industry! The ConTechCrew features the best ConTech news stories of the week, and interviews the influencers changing the way we build. Listen in and geek out on gadget, events, news, and some hilarious hot takes!

[GEEK OUT](#)



Catch The ConTechCrew and friends on tour in 2020. The ConTech Roadshow brings the construction tech conference to you! The Roadshow features local networking, a vendor showcase, and educational sessions on current ConTech topics.

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