AGC of America
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2019 Construction Outlook Survey Results
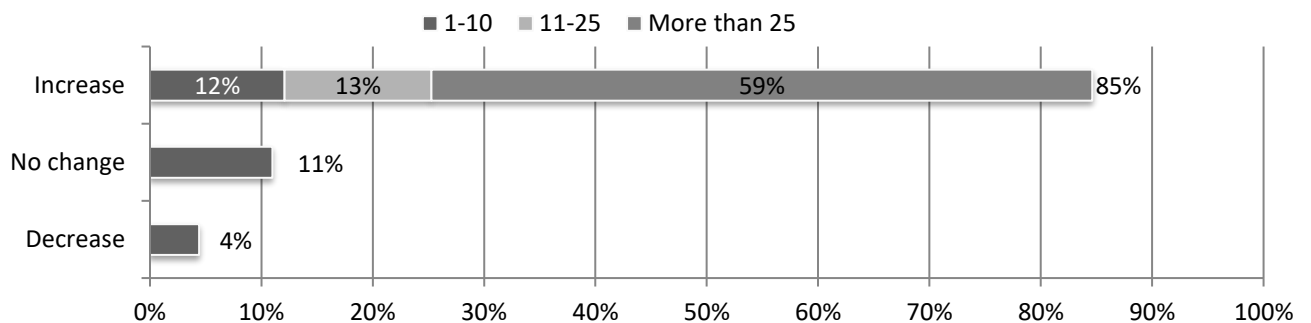# Over $500 Million in Revenue Results

Total Responses: 114. Responses varied for some questions. Percentages are based on responses to each question and may not sum to 100 due to rounding.

1. Compared to 2018, do you expect the available dollar volume of projects you compete for in 2019 to be (answer for all market areas in which your business operates):
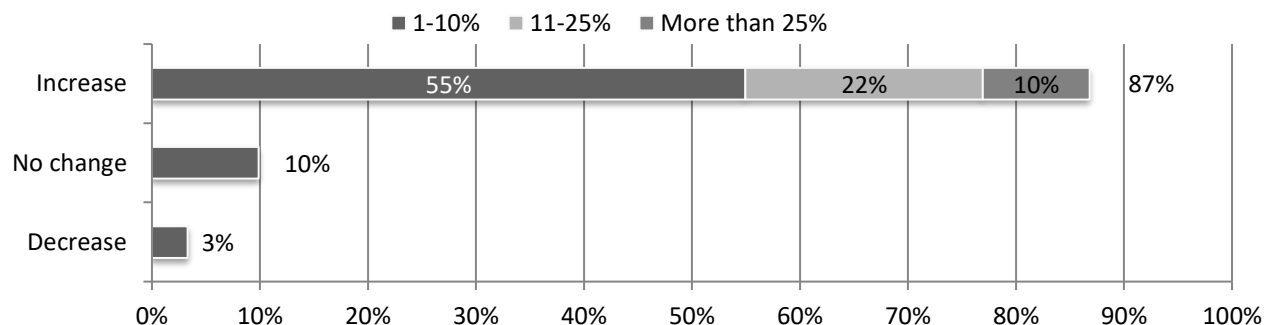
Market	Higher	Lower	Same	Net*
Highway	45%	5%	50%	40%
Hospital	49%	9%	43%	40%
Transportation (e.g., transit, rail, airport)	45%	7%	48%	38%
Water/Sewer	43%	13%	45%	30%
Public Building	38%	8%	55%	30%
K-12 School	39%	12%	49%	27%
Power	40%	17%	43%	23%
Higher Education	34%	13%	54%	21%
Manufacturing	35%	16%	49%	18%
Federal (e.g., VA, GSA, USACE, NAVFAC)	30%	13%	57%	17%
Private Office	28%	14%	58%	14%
Retail, Warehouse, Lodging	27%	15%	58%	13%
Multifamily Residential	18%	25%	56%	-7%
Other	56%	6%	39%	50%

*Net equals difference between number of "Higher" and "Lower" responses as percent of total.

2. What <u>numerical</u> change do you expect in your headcount in 2019?

Legend: ■ 1-10 ■ 11-25 ■ More than 25

Increase	12% / 13% / 59% — 85%
No change	11%
Decrease	4%

3. What <u>percentage</u> change do you expect in your headcount in 2019?

Legend: ■ 1-10% ■ 11-25% ■ More than 25%

Increase	55% / 22% / 10% — 87%
No change	10%
Decrease	3%

4. How would you describe your current situation in filling salaried and hourly craft positions?

Response	Percentage
We are having a hard time filling some or all positions	84%
We are having no difficulty filling any positions	13%
We have no openings for positions	2%
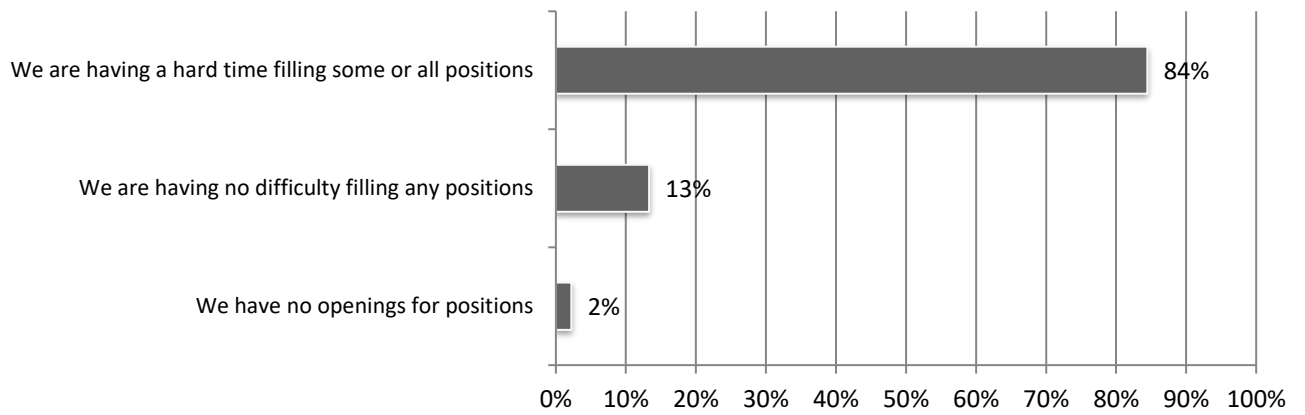
5. Do you expect any changes in the availability of hourly craft or salaried personnel over the coming 12 months?

Response	Percentage
It will continue to be hard to hire	50%
It will become harder to hire	24%
No change	22%
It will become easier to hire	2%
It will continue to be easy to hire	1%
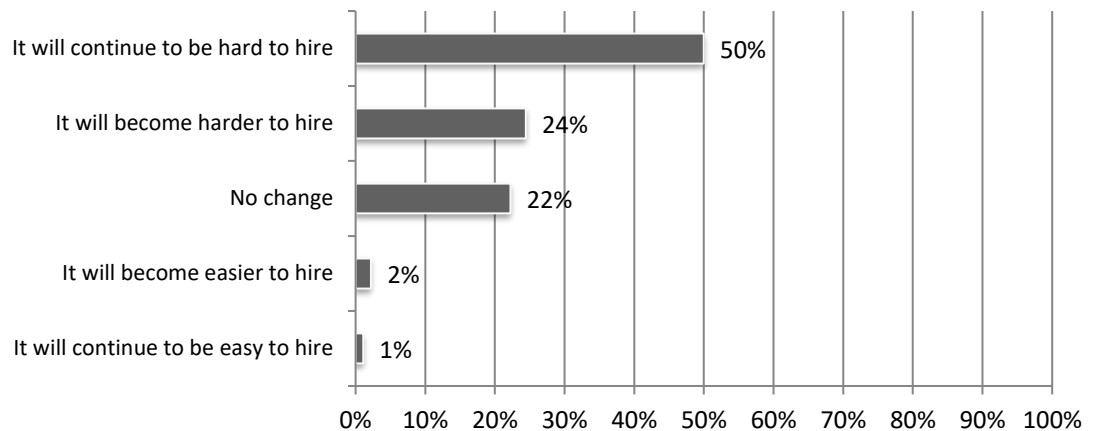
6. Did your firm increase pay or benefits for salaried or hourly craft personnel in 2018 because of difficulty filling positions? (mark all that apply)

Response	Percentage
Yes, our firm increased base pay rates	43%
Yes, our firm provided incentives/bonuses	24%
Yes, our firm increased our portion of benefit contributions and/or improved employee benefits	17%
No, but we are considering increases in pay and/or benefits in the near future	6%
No, and we are not considering increases in pay and/or benefits	7%
Don't know	11%
We did not seek to fill any positions	2%

7. If your firm is experiencing staffing challenges, how would you describe the impact on your projects? (mark all that apply)

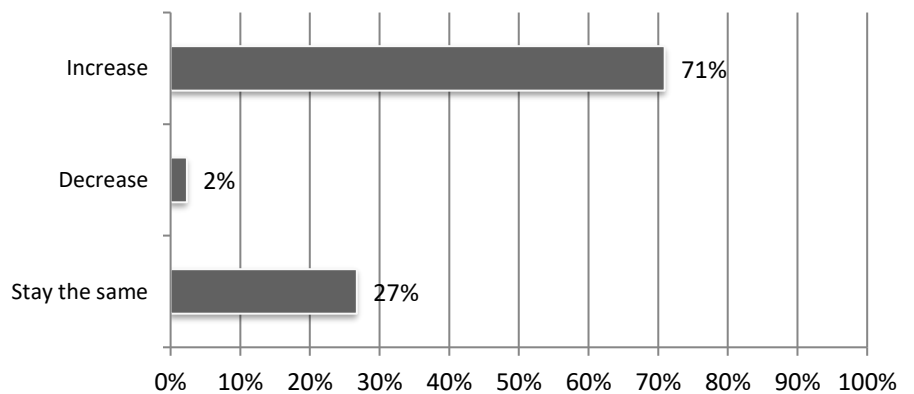| Response	Percentage
Costs have been higher than we anticipated	40%
Projects have taken longer than we anticipated	29%
We have put higher prices into our bids or contracts	40%
We have put longer completion times into our bids or contracts	8%
No impact/Stay the same	20%
Completion times or costs have been lower than we anticipated	5%
Don't know	9%
Other	7%
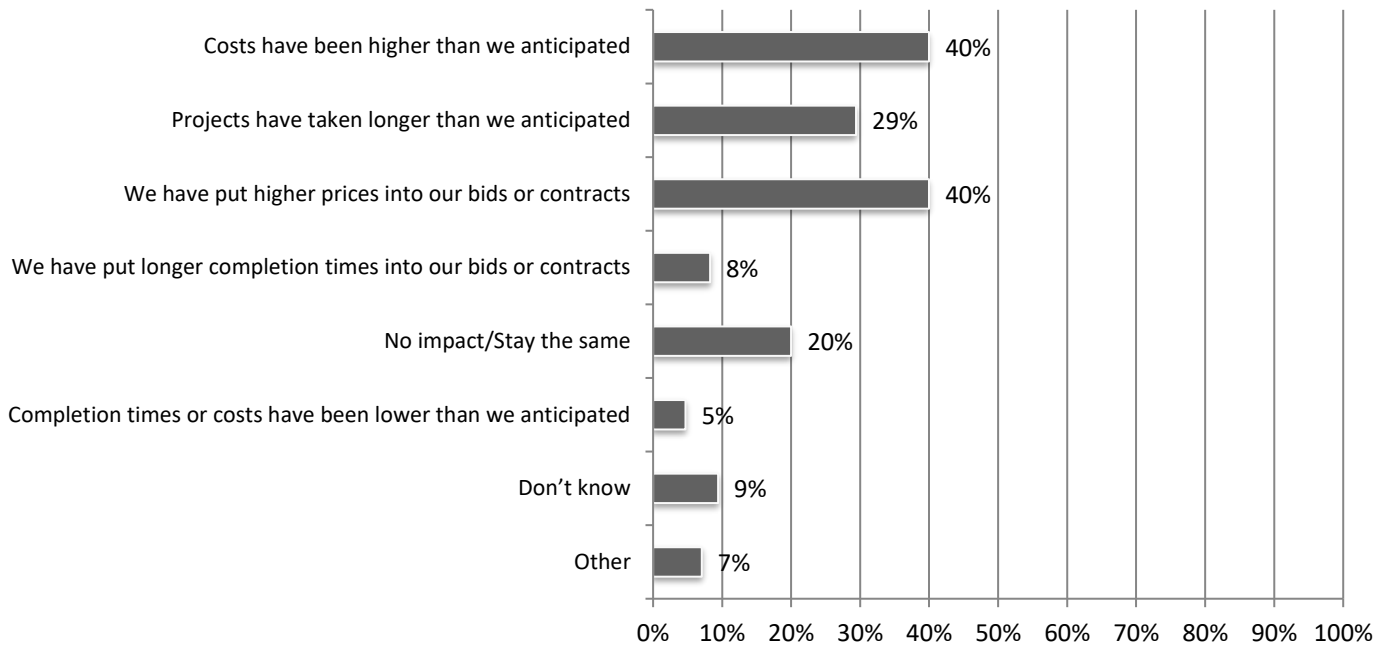
8. Has your firm adopted or increased use of the following to replace workers or skills? (mark all that apply)

Response	Percentage
Methods to reduce onsite worktime (e.g., lean construction, virtual construction such as BIM, offsite fabrication)	46%
Labor-saving equipment (e.g., drones, robots, 3-D printers, laser-or GPS-guided equipment)	32%
Added specialists (e.g., architects, BIM or lean construction personnel, drone or other equipment operators, data or IT personnel)	38%
No changes	21%
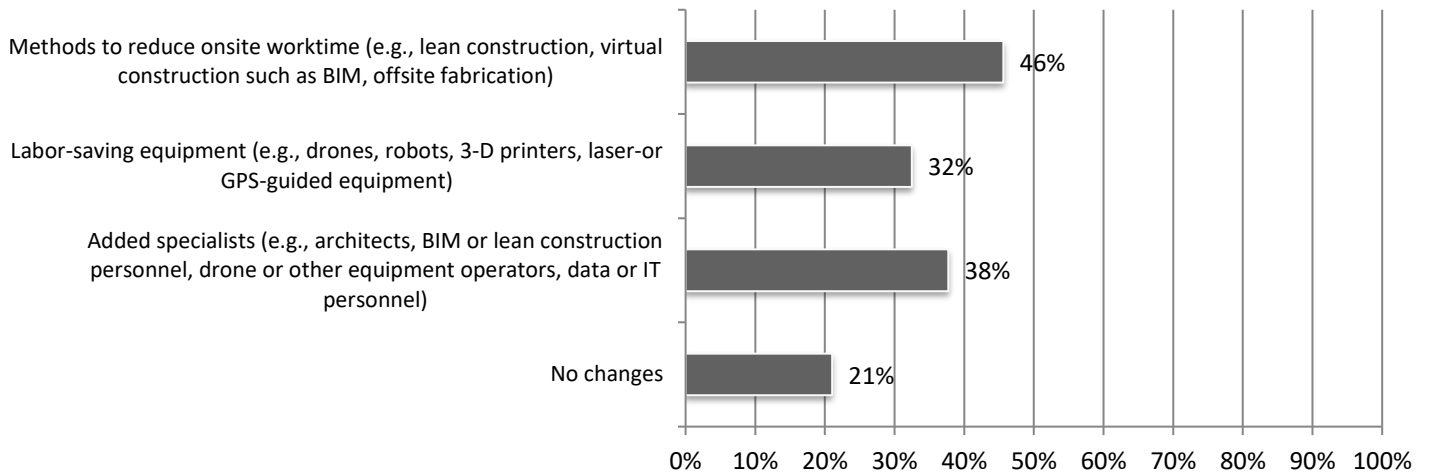
9. Compared to 2018, how will your firm's 2019 investment in training and development change?

Response	Percentage
Increase	71%
Decrease	2%
Stay the same	27%

10. Which of the following issues is the biggest concern to your firm?

Issue	Percentage
Worker shortages	25%
Increased competition for projects	17%
Growth in federal regulations	12%
Safety	12%
Rising subcontractor costs	9%
Internal company process inefficiencies	7%
Not enough private sector work	6%
Lack of public non-infrastructure work	6%
Relations with external process inefficiencies (such as collaboration with owners, subs and/or vendors)	5%
Rising direct labor costs (pay, benefits, employer taxes)	5%
Lack of infrastructure investments	4%
Growth in state and local regulations	4%
Worker quality	3%
Subcontractor defaults	2%
Rising indirect labor costs (recruitment, training)	2%
Rising materials costs	0%

11. What challenges, if any, do you see regarding the safety and health of your firm's workers? (mark all that apply)

| Challenge	Percentage
Inexperienced skilled labor/workforce shortage	40%
Poor subcontractor safety and health performance	26%
Lack of cooperation from government agencies or regulators	8%
Low quality of available safety and health training	7%
Other	3%

12. What change do you expect in 2019 in the number of your firm's projects that involve Building Information Modeling (BIM)?

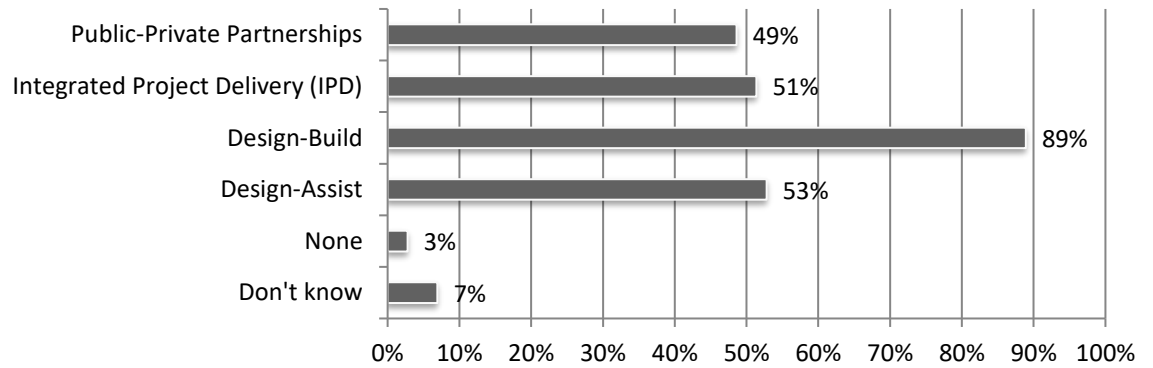Legend: ■ 11-50% ■ more than 50%

Response	Value
Increase	40% + 5% = 45%
Stay the same (+/-10%)	38%
Decrease	0%
We don't expect to use BIM on any projects in 2019	5%
Don't know	11%
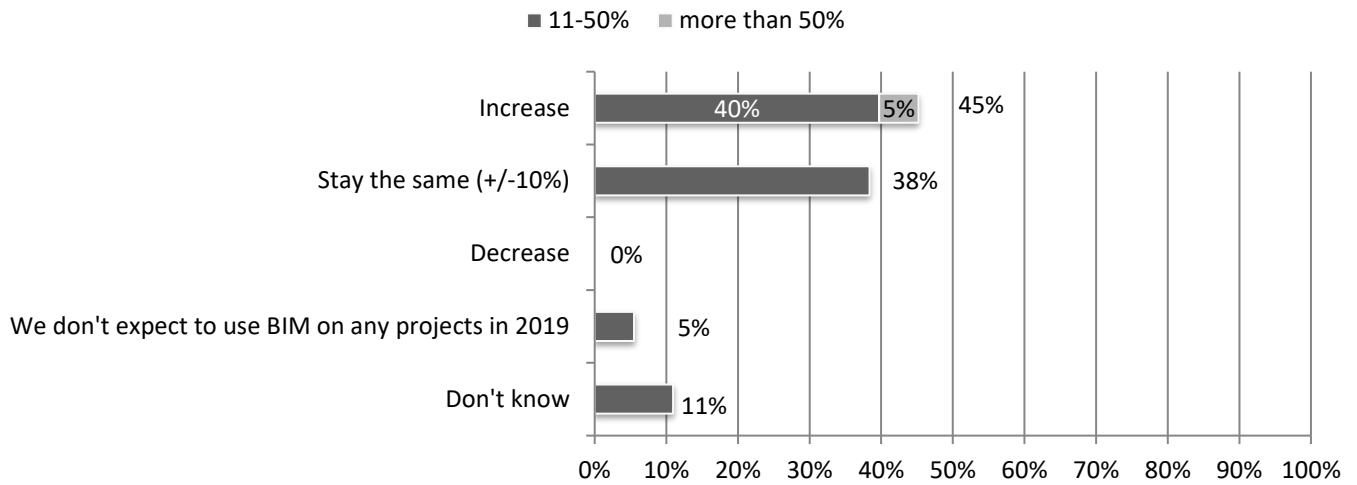
13. What is your firm using BIM for? (mark all that apply)

Response	Value
Visually communicate project scope to clients	42%
Constructability input into the design process	42%
Clash detection	38%
Design of 3D model	36%
3D model-based takeoff for cost estimating	35%
Scheduling and workforce planning	32%
Safety (identify safety issues, safety by design, safety training, etc.)	21%
We do not use BIM	8%
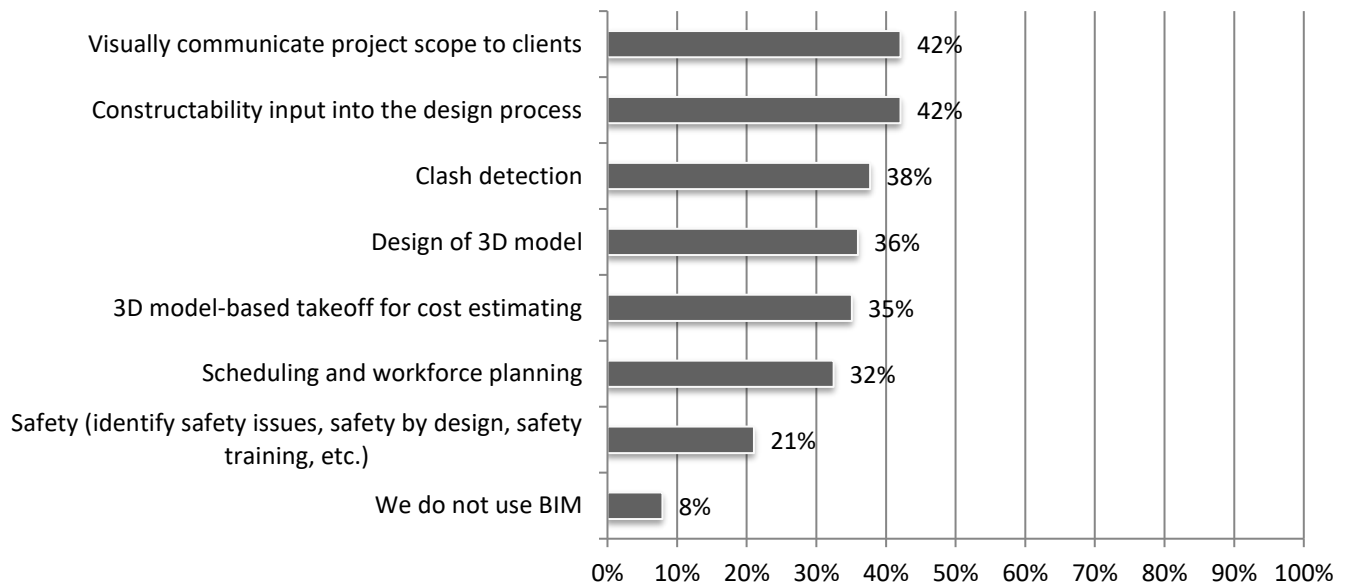
14. Does your firm utilize lean construction principles on its projects and/or in its operation?

Response	Value
Yes	72%
No	17%
Don't know	11%
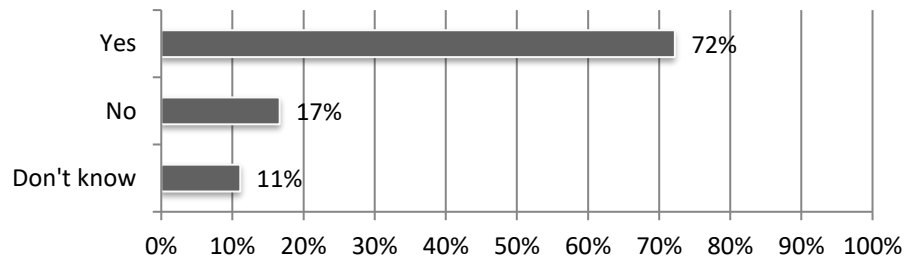
15. Does your firm use any of the following collaborative project delivery methods? (mark all that apply)

Method	Percentage
Public-Private Partnerships	49%
Integrated Project Delivery (IPD)	51%
Design-Build	89%
Design-Assist	53%
None	3%
Don't know	7%

16. Does your firm use any of the following to collaborate with project partners? (mark all that apply)

Method	Percentage
File-sharing sites such as Dropbox	50%
Online project collaboration software	48%
BIM	45%
Home-grown project web site	18%
None	1%
Don't know	4%
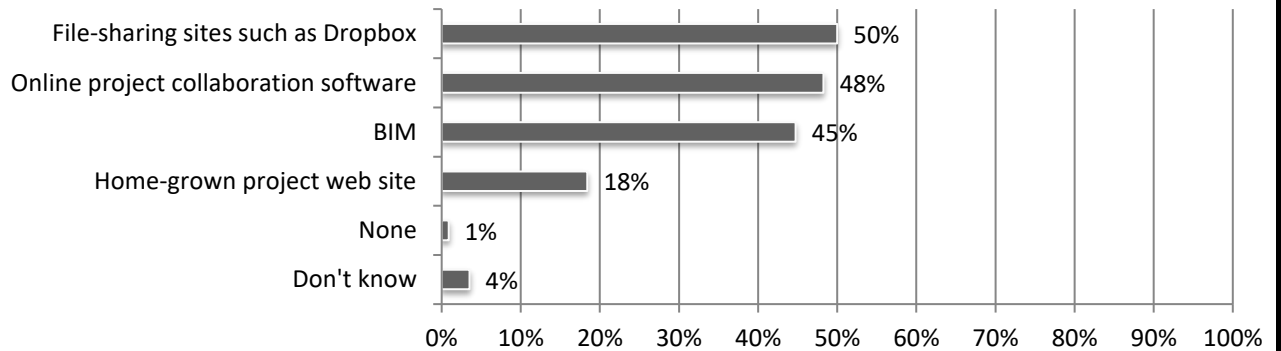
17. What business or IT functions does your firm outsource or plan to outsource to a technology provider? (mark all that apply)

Function	Currently outsource	Plan to outsource
Voice over IP (phone service over the internet)	18%	1%
Backup and disaster recovery	15%	3%
Lien waiver processing	4%	1%
Payroll	4%	0%
Network management	4%	0%
Prequalification	4%	1%
Desktop (light maintenance)	3%	1%
Subcontractor insurance processing	3%	0%
Accounts receivable payment automation	2%	2%
Inventory	2%	0%
Accounts payable automation	1%	3%
Other business or IT functions	7%	1%
Our firm doesn't currently outsource or plan to outsource any business or IT functions	10%	2%

18. Approximately what percent of your firm's gross annual revenue is spent on IT?

Category	Percent
Less than 1%	15%
1 to 1.9%	22%
2 to 2.9%	6%
3% or more	11%
Don't know	46%
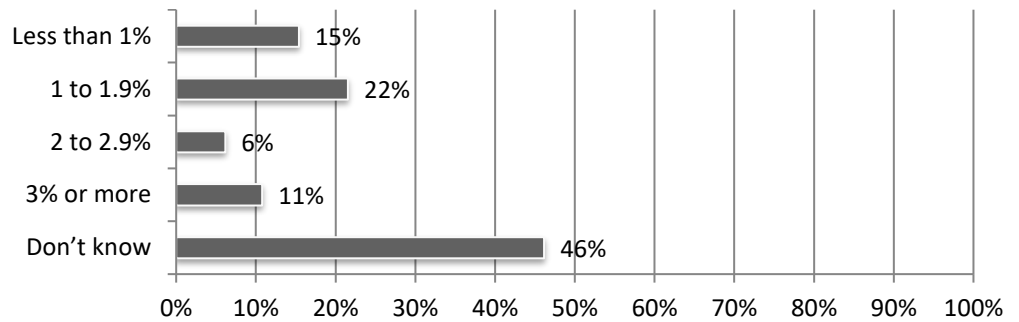
19. Compared to 2018, how will your firm's 2019 investment in IT change?

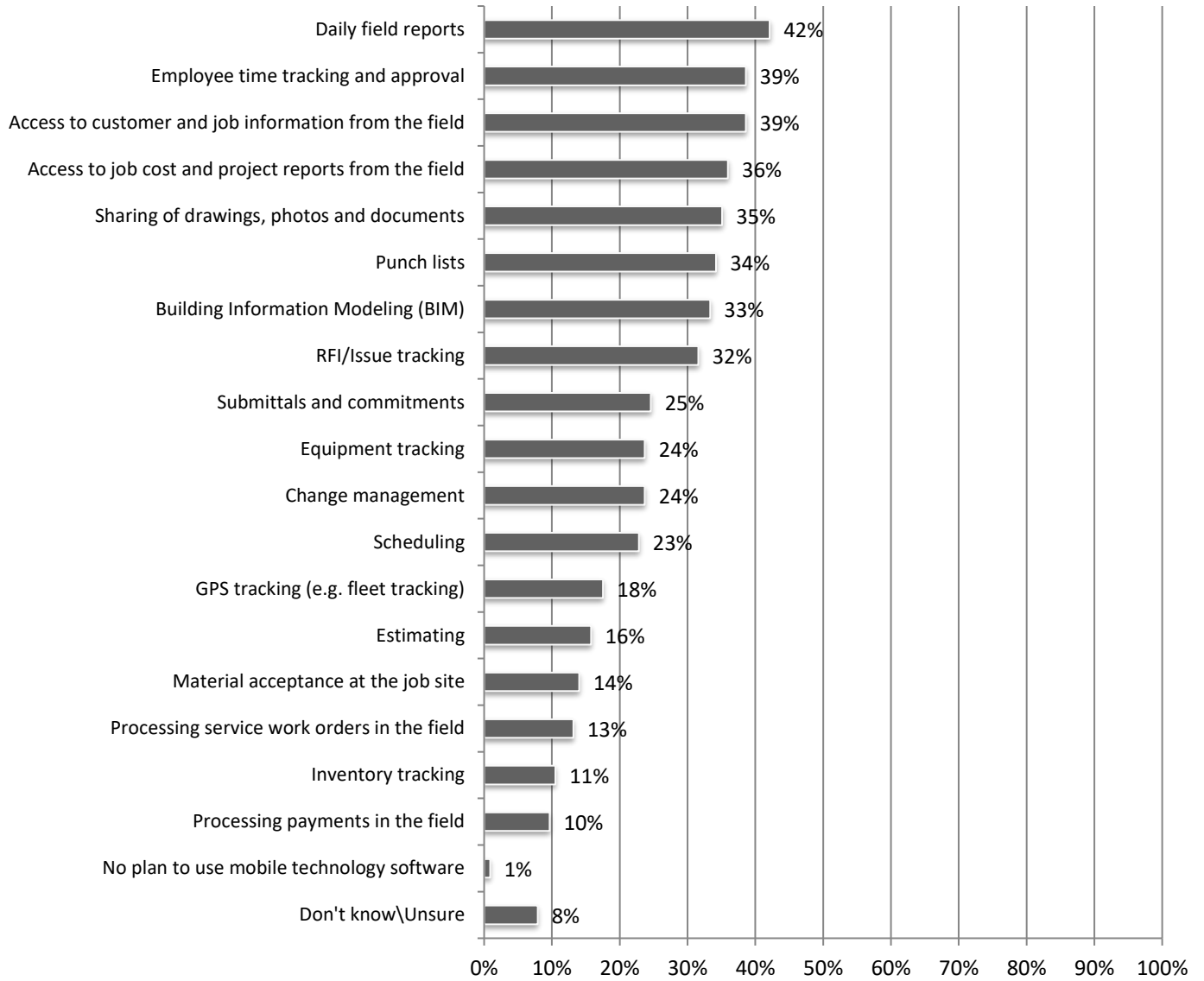| Category	Percent
Increase	50%
Decrease	5%
Stay the same	21%
Don't know	24%
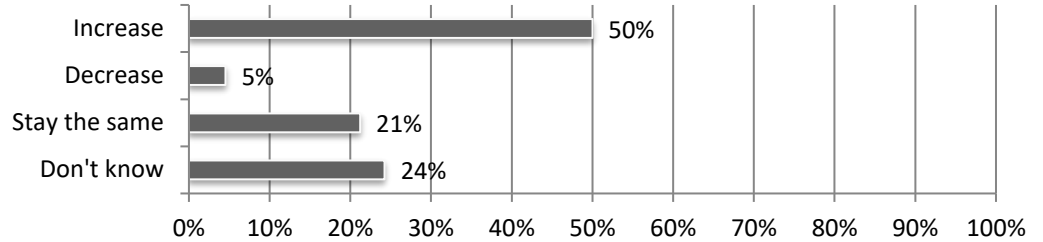
20. Compared to 2018, how will your firm's 2019 investment in the following technologies change? (mark all that apply)

Technologies	Increase	Stay the same	Decrease	Unsure
Building Information Modeling (BIM)	52%	33%	0%	15%
Estimating software	33%	52%	0%	15%
Human resources (HR) software	33%	48%	2%	18%
Document management software	31%	52%	3%	15%
Client relationship management (CRM) software	30%	50%	2%	18%
Accounting software	27%	52%	2%	19%
Payroll software	27%	53%	2%	18%
Project management software	27%	58%	0%	15%
Project collaboration software	26%	53%	0%	21%
Scheduling software	20%	65%	2%	13%
Fleet tracking/management software	14%	62%	3%	21%
Prequalification software	5%	69%	2%	24%
Subcontractor bid management/ITB software	5%	68%	2%	25%
Service management software	3%	64%	2%	31%
Other	0%	40%	0%	60%

21. How comfortable is your firm with moving its data to the cloud?

Category	Percent
Very comfortable	44%
Moderately comfortable	45%
Not comfortable	3%
No opinion	8%
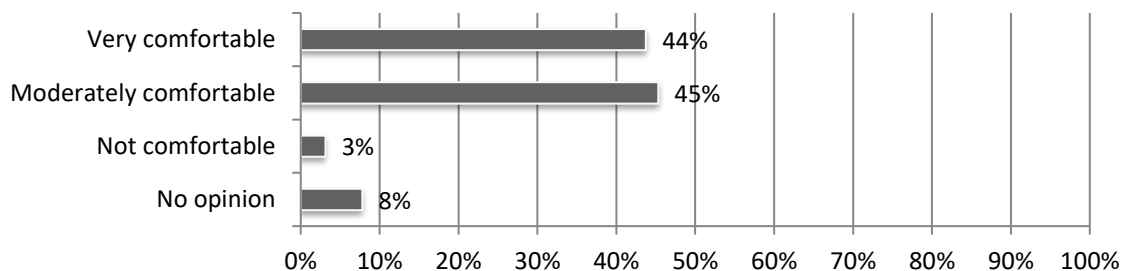
22. How does your firm plan to use mobile software technology? (mark all that apply)

Category	%
Daily field reports	42%
Employee time tracking and approval	39%
Access to customer and job information from the field	39%
Access to job cost and project reports from the field	36%
Sharing of drawings, photos and documents	35%
Punch lists	34%
Building Information Modeling (BIM)	33%
RFI/Issue tracking	32%
Submittals and commitments	25%
Equipment tracking	24%
Change management	24%
Scheduling	23%
GPS tracking (e.g. fleet tracking)	18%
Estimating	16%
Material acceptance at the job site	14%
Processing service work orders in the field	13%
Inventory tracking	11%
Processing payments in the field	10%
No plan to use mobile technology software	1%
Don't know\Unsure	8%

23. Which of the following cloud service models does your firm currently use or plan to use? (mark all that apply)

Category	Currently use	Plan to use
Cloud hosting: we outsource our servers and networking components to a cloud service provider's data center	23%	2%
Hybrid cloud: our software and data is on a private network but can be securely accessed with a web browser	26%	4%
SaaS: we use software-as-a-service (SaaS) applications that are fully cloud-based	18%	3%

= Currently use   ■ Plan to use
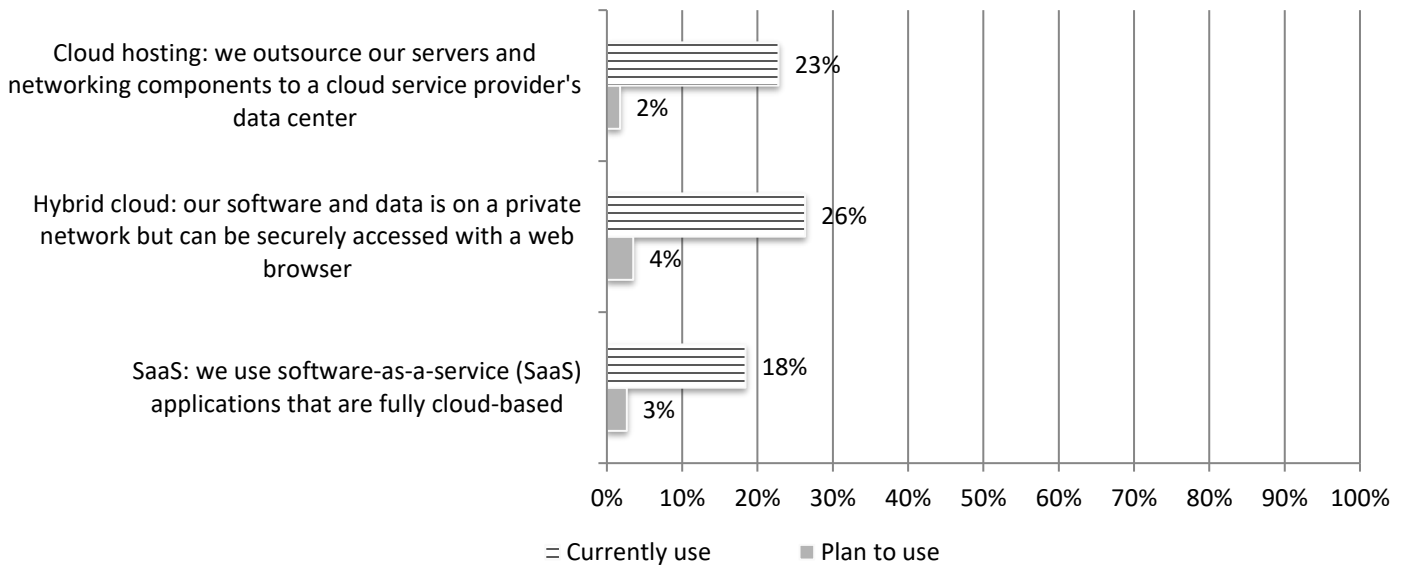
24. Does your firm currently have a mobile security plan in place?

Response	Percentage
Yes	67%
No	11%
Don't know	22%
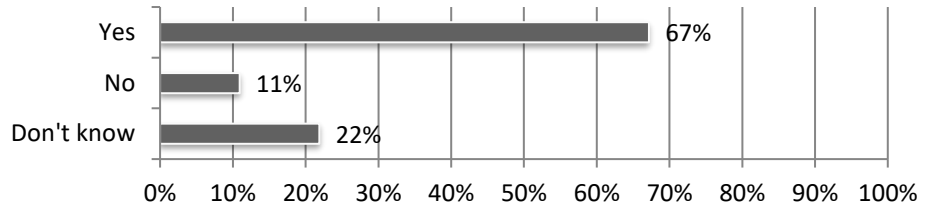
25. Does your firm currently have a formal IT plan that support your business objectives?

Response	Percentage
Yes	80%
No	3%
Not yet, but plan to in 2019	8%
Don't know	9%
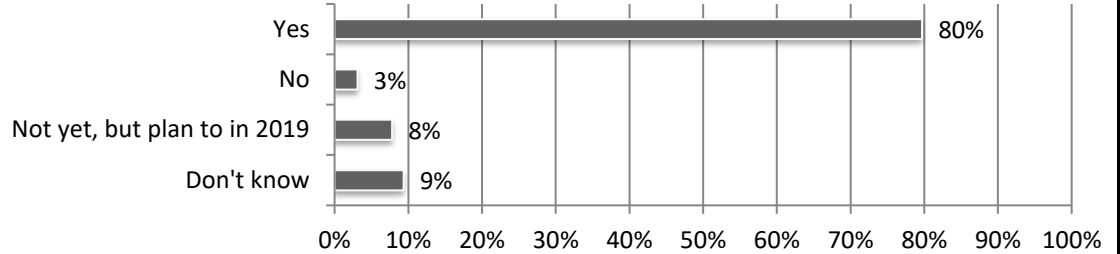
26. What are your firm's biggest IT challenges? (mark all that apply)

Challenge	Percentage
Keeping company data secure from hackers	26%
Connectivity to remote job sites	26%
Integration between software used inside of our company	22%
Time needed to implement and train on new technology	21%
Communication between field and office	18%
Integration with software used by project partners outside our company	15%
Outdated company software and systems	14%
Keeping software current	14%
Employee resistance to technology	13%
Keeping hardware current	11%
Management resistance to technology	7%
Don't know	10%
None	0%

27. What best describes your firm:

Category	Percentage
General contractor/construction manager	84%
Specialty or sub-contractor	6%
Supplier/service provider	5%
Architect/engineer/designer	4%
Other	1%
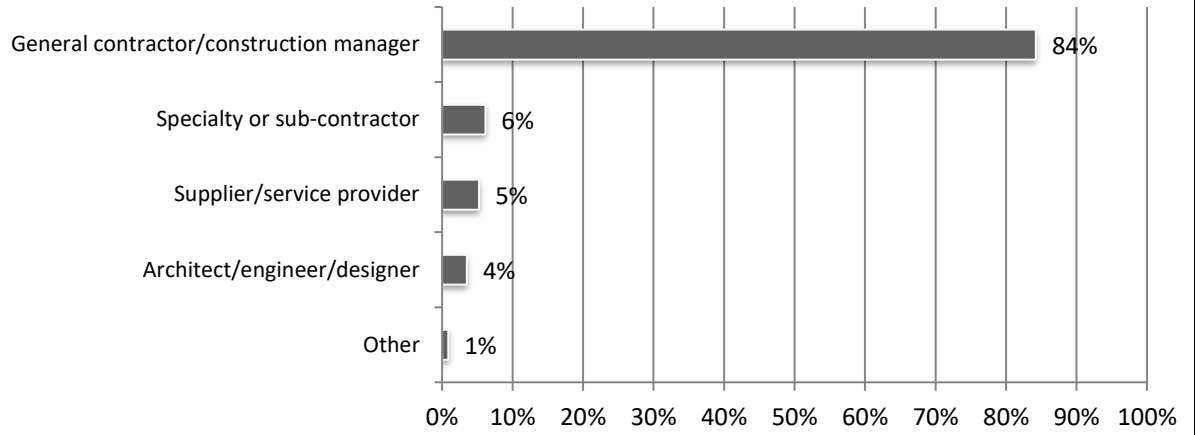
28. When you self-perform construction work, do you operate as a union contractor or an open-shop contractor?

Category	Percentage
We always operate as a union contractor	23%
We primarily operate as a union contractor but not always	22%
We primarily operate as an open-shop contractor but not always	18%
We always operate as an open-shop contractor	28%
We do not self-perform or directly hire craft personnel	10%
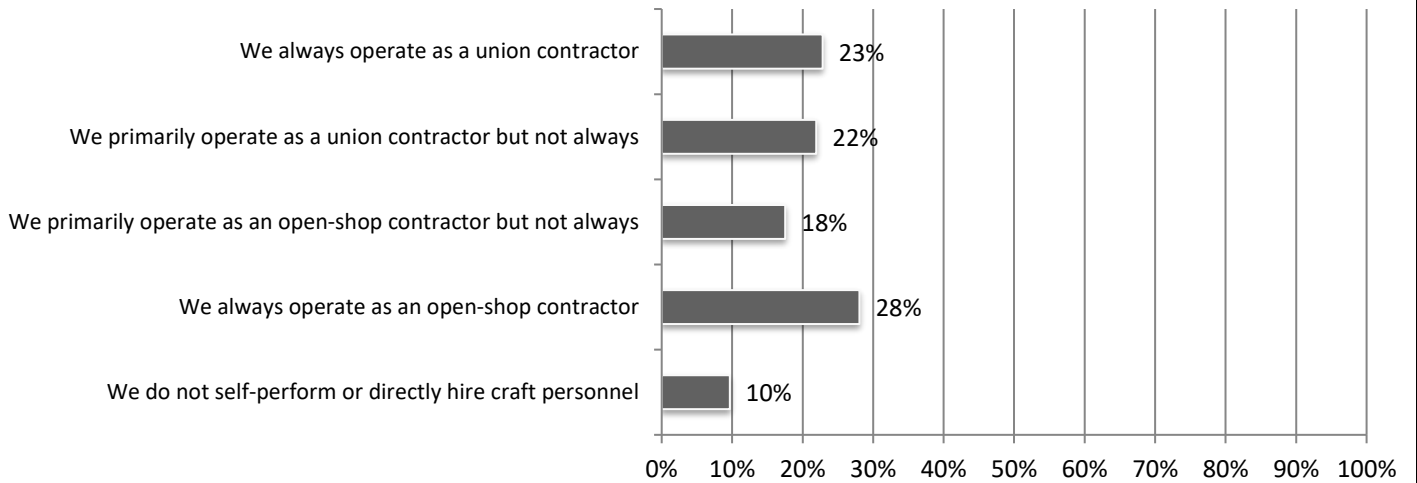
29. Estimate the total dollar amount of work your firm performed in 2018.

Category	Percentage
$50 million or less	0%
$50.1 million-$500 million	0%
Over $500 million	100%
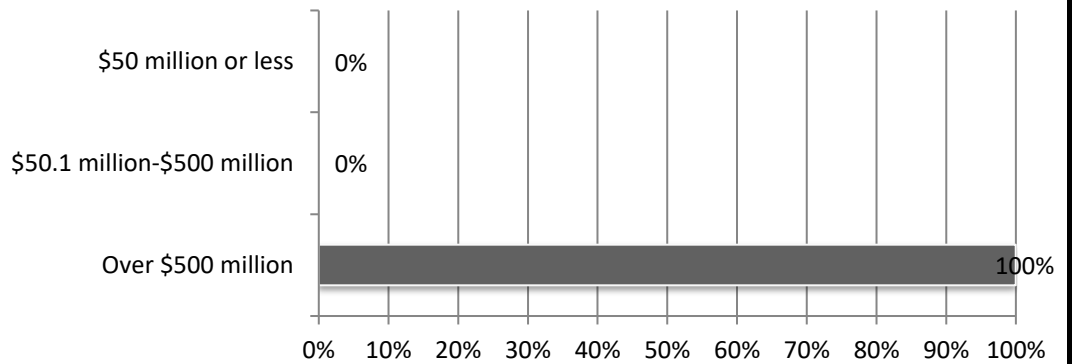
30. How many total employees does your firm employ at all of its locations?

Category	Percentage
1-19	2%
20-99	3%
100-499	16%
500 or more	80%