TOP 50 ELECTRICAL CONTRACTORS

Resilient Revenue: EC&M's 2023 Top 50 Electrical Contractors Special Report

In the face of supply chain snarls and inflated prices, EC&M's 2023 Top 50 Electrical Contractors see combined revenue rise.

Tom Zind Sept. 22, 2023 19 min read

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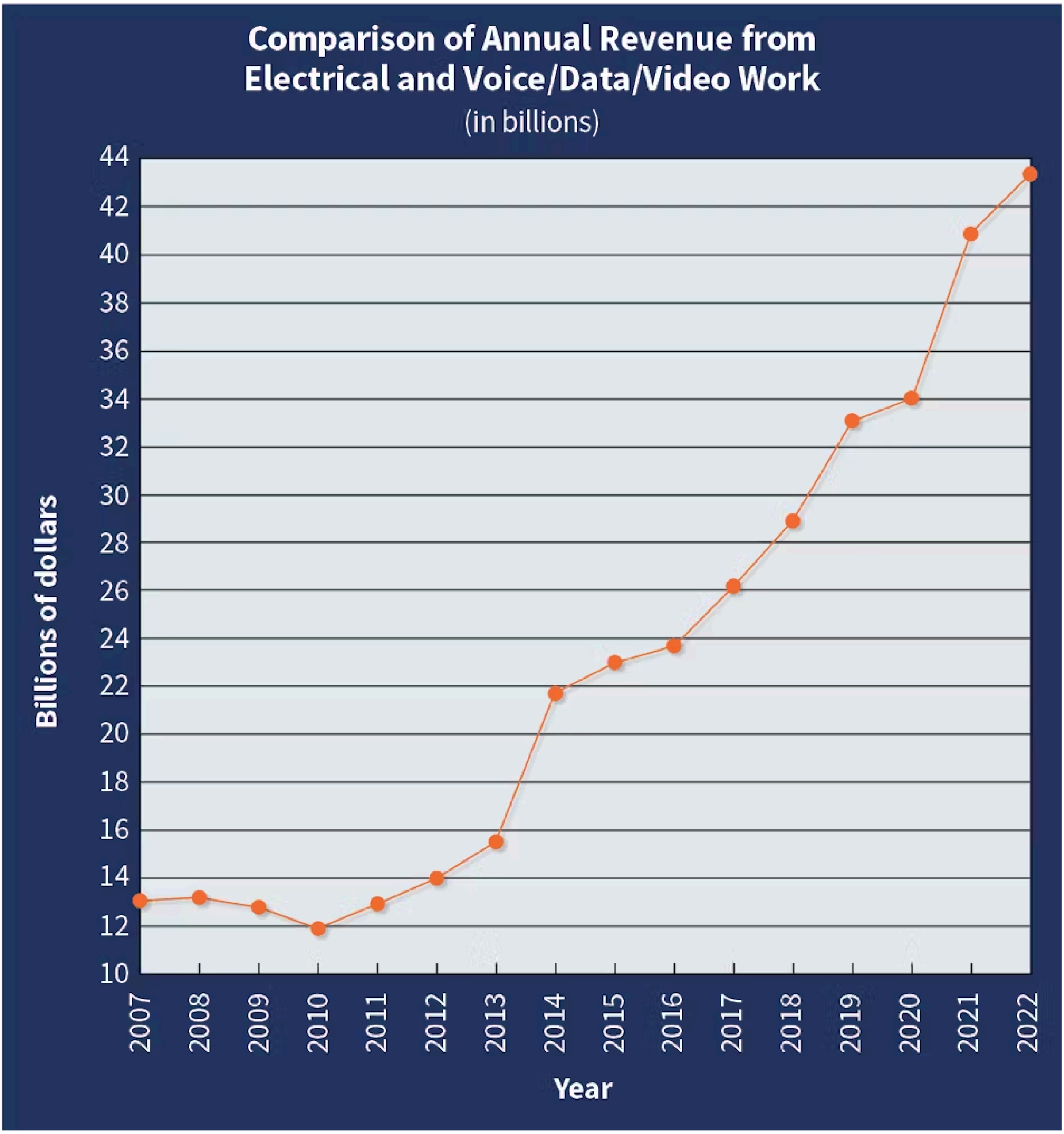
Even when times are hard, good times can often roll on. A collection of the nation's largest electrical contractors showed that's possible by registering a solid percentage revenue increase in 2023, even in the face of significant supply chain and inflation pressures that brought higher materials and labor prices, shortages, and delivery delays.

The Top 50 Electrical Contractors					
Ranking					
2023	2022	Company	Headquarters	2022 Sales	% change (2021-2022)
1	1	Quanta Services	Houston	$10,700,000,000	18.76%
2	3	MYR Group, Inc.	Thornton, Colo.	$3,010,000,000	20.45%
3	4	Rosendin Electric	San Jose, Calif.	$3,000,000,000	25.00%
4	5	MDU Construction Services Group, Inc.	Bismarck, N.D.	$2,294,778,000	31.00%
5	7	IES Holdings, Inc.	Houston	$2,060,000,000	45.28%
6	6	Cupertino Electric, Inc.	San Jose, Calif.	$2,049,000,000	26.09%
7	8	M.C. Dean	Tysons, Va.	$1,324,000,000	5.79%
8	9	ArchKey Solutions	St. Louis	$1,248,831,178	14.40%
9	10	Power Design, Inc.	St. Petersburg, Fla.	$987,000,000	17.50%
10	11	MMR Group, Inc.	Baton Rouge, La.	$967,000,000	25.91%
11	13	Faith Technologies Incorporated (FTI)	Menasha, Wis.	$783,817,575	9.23%
12	20	The Newtron Group, LLC	Baton Rouge, La.	$764,000,000	57.20%
13	14	Cache Valley Electric Co.	Logan, Utah	$763,530,000	15.28%
14	12	Helix Electric, Inc.	San Diego	$760,000,000	2.49%
15	NL	Bergelectric Corp.	Carlsbad, Calif.	$745,570,848	NA
16	16	Hunt Electric Corp.	Bloomington, Minn.	$725,000,000	22.88%
17	15	E-J Electric Installation Co.	Long Island City, N.Y.	$659,000,000	2.81%
18	NL	Aldridge Electric, Inc.	Libertyville, Ill.	$655,500,000	NA
19	17	Facility Solutions Group (FSG)	Austin, Texas	$650,000,000	19.05%
20	18	Miller Electric Co.	Jacksonville, Fla.	$642,300,000	30.02%
21	22	Motor City Electric Co.	Detroit	$572,325,730	25.92%
22	23	Wayne J. Griffin Electric, Inc.	Holliston, Mass.	$475,565,000	4.78%
23	26	Gaylor Electric	Indianapolis	$451,000,000	12.47%
24	24	Redwood Electric Group, Inc.	Santa Clara, Calif.	$450,000,000	0.00%
25	29	O'Connell Electric Co., Inc.	Victor, N.Y.	$433,927,561	24.69%
26	27	Rogers Electric	Alpharetta, Ga.	$385,000,000	-3.75%
27	28	EC Company (dba EC Electric)	Portland, Ore.	$356,849,681	1.23%
28	33	Wachter, Inc.	Lenexa, Kan.	$333,413,459	9.26%
29	32	J.F. Electric	Edwardsville, Ill.	$328,000,000	6.32%
30	42	Commonwealth Electric Company of the Midwest	Lincoln, Neb.	$308,000,000	21.72%
31	36	Inglett & Stubbs, LLC	Mableton, Ga.	$306,000,000	16.93%
32	37	Tri City Electric Company of Iowa	Davenport, Iowa	$302,090,577	16.27%
33	46	Guarantee Electrical Co.	St. Louis	$294,000,000	44.83%
34	40	Interstates, Inc.	Sioux Center, Iowa	$285,130,912	22.20%
35	NL	Alterman	San Antonio	$278,313,000	NA
36	30	Cleveland Electric Co.	Atlanta	$277,037,550	-18.34%
37	NL	The Morse Group	Freeport, Ill.	$270,400,000	NA
38	39	Encore Electric	Lakewood, Colo.	$270,000,000	12.50%
39	31	VECA Electric & Technologies	Seattle	$268,000,000	-19.03%
40	35	Fisk Electric Co.	Houston	$260,000,000	-8.45%
41	34	CEC	Irving, Texas	$248,000,000	-16.78%
42	21	Five Star Electric Corp.	Ozone Park, N.Y.	$243,336,931	-49.00%
43	50	Lake Erie Electric Companies	Westlake, Ohio	$235,000,000	23.95%
44	NL	Delta Diversified Enterprises, Inc.	Tempe, Ariz.	$230,800,000	NA
45	47	JMEG, LLC	Farmer's Branch, Texas	$230,024,000	13.54%
46	NL	Collins Electrical Company, Inc.	Stockton, Calif.	$229,709,048	NA
47	44	Sargent Electric Company	Pittsburgh	$219,545,000	6.06%
48	45	Van Ert Electric Company, Inc.	Wausau, Wis.	$200,265,239	-3.21%
49	48	Amteck, LLC	Lexington, Ky.	$186,356,814	-3.74%
50	NL	Hypower LLC	Ft Lauderdale, Fla.	$184,000,000	NA

NL-not listed. This company did not appear in last year's Top 50 listing.
NA-not available. *EC&M* did not have access to the electrical and datacom sales figure for 2022.

The contractors who make up the 2023 EC&M Top 50 by self-reported prior year electrical and voice/data/video revenues brought in $43.901 billion in revenue as a group in 2022 (see **Rankings Table**). That was up 7.4% from

$40.889 billion reported by last year's Top 50, a number that was 20% higher than the 2021 Top 50's Covid-tarnished revenues of $34.1 billion (see **Historical Trends Chart**).



Top 50 companies managed to top last year's revenue total as a collective group by more than $3 billion, despite a few of the key players from last year that declined to participate in the survey this year.

Although 16% of companies reported revenue declines in 2022 — and many alluded to supply chain headaches in EC&M's Top 50 contractor survey of business conditions and concerns — three-quarters judged last year's business climate strong (**Fig. 1**). The 2022 Top 50 business climate reading was 63% strong for the prior year; the year before — for 2020 — it stood at just 37%. A big factor in that assessment boost might have been the element of surprise: For the first time since 2019, a majority of firms said prior-year revenues exceeded expectations (**Fig. 2**).

At Cupertino Electric, Inc. (No. 6), San Jose, Calif., 2022 was a solid year in which expectations were generally met and revenues ticked higher, giving the company a two-year growth rate of 5% to 10%. President/CEO Tom Schott says the firm's heavy involvement in three core sectors provided a mixed bag of performance, but one that yielded a steady flow of work.

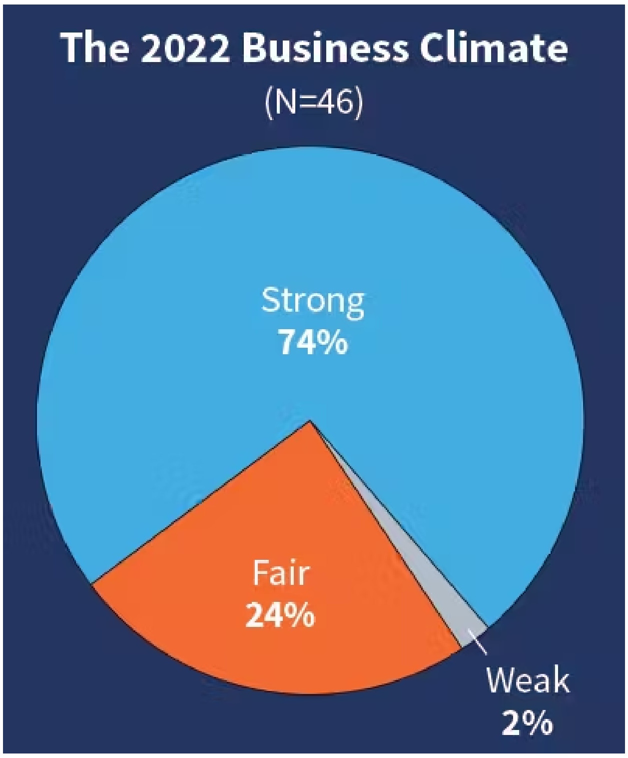


Fig. 1. Similar to last year, the majority of Top 50 respondents (74%) characterized their business climate as "strong," and the number of respondents deeming the business climate as "fair" decreased by seven percentage points.

"Continued softening in the commercial market was a problem area, but data centers and energy stayed strong as it has the past few years for us," he says. "Interest rates and inflation presented some problems that led to some general caution in the market and companies maybe not spending as much as they'd like. Cost of construction was a factor."

Reporting one of the highest Top 50 revenue growth rates for 2022, MDU Construction Services Group, Inc. (No. 4), Bismarck, N.D., enjoyed strong demand in the utility, mission critical, and high-end manufacturing segments and benefitted from a presence in centers of torrid growth.

"We continued to see pent-up demand from the Covid years come back and worked successfully through a lot of that as well as more renewables-related electrical grid work and data center projects," says Jeff Thiede, president and CEO. "And we have four companies now in Las Vegas that we've opened over time, which are giving us opportunity to build some significant projects. That market is white hot."

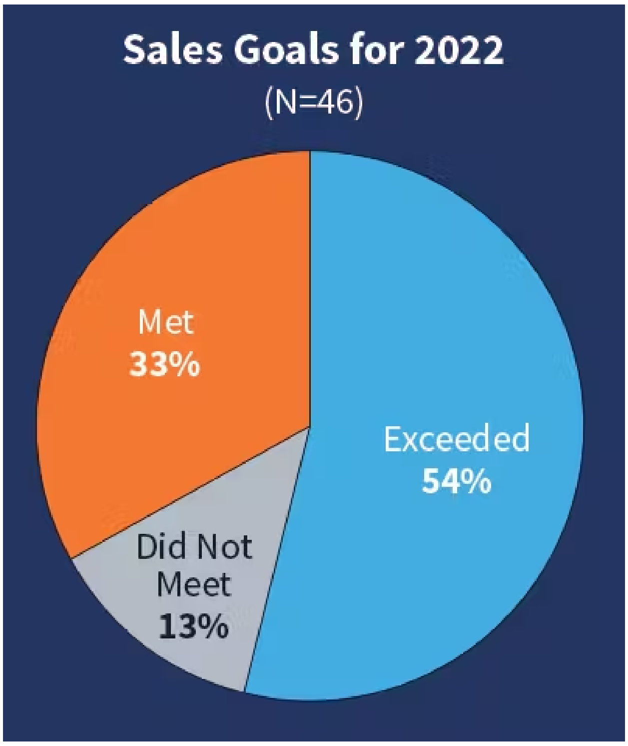


Fig. 2. The number of Top 50 companies that "exceeded" and "did not meet" revenue expectations in 2022 both rose from the previous year. Those exceeding revenue projections rose from 43% to 54% this year, and those who did not meet goals increased from 9% to 13%.

Five Star Electric Corp. (No. 42), Ozone Park, N.Y., although low bidder on many large-scale public bids, has seen reluctance of owners/agencies to move forward and award many of these projects. Rising construction and borrowing costs combined with supply chain issues and extended material/equipment lead times have presented many of these clients with financial and political headwinds, says Russ Lancey, president and CEO.

"We had a good year overall, but given the macroeconomic challenges, we endured a lot new projects being delayed, canceled, or going out for rebid."

Five Star completed work on the East Side Access (ESA) Tunnel in New York City, including fire alarm, security, communications, signal and radio systems as well as power infrastructure and lighting. ESA is one of the country's largest infrastructure projects providing LIRR riders with 40 miles of new track, a new terminal beneath Grand Central, and modernization of the busiest intersection of passenger train lines in North America.

Profit challenge

Supply chain issues also appeared to complicate the profits picture for contractors in 2022. Inflated prices on key project components that were hard to anticipate and forecast complicated the task of bidding and exposed many to margin erosion. Only about a quarter of contractors said they adjusted bids for greater profits in 2022 (**Fig. 3**), in line with last year's Top 50, but higher than the last three years. More, though, were careful to watch their bottom line given those uncertainties. Just 7% indicated their bids resulted in a general margin decline or loss; most said their margins remained steady.

Higher and more unpredictable materials and labor costs, contractors say, have made attempts to squeeze out higher profits more difficult. For many operating in 2022, the primary goal was not to take stinging hits by failing to factor in that volatility and uncertainty. Of eight factors possibly compromising a firm's ability to complete jobs on time and within budget, material delivery delays and logistics was the largely unchallenged top choice (**Fig. 4**).

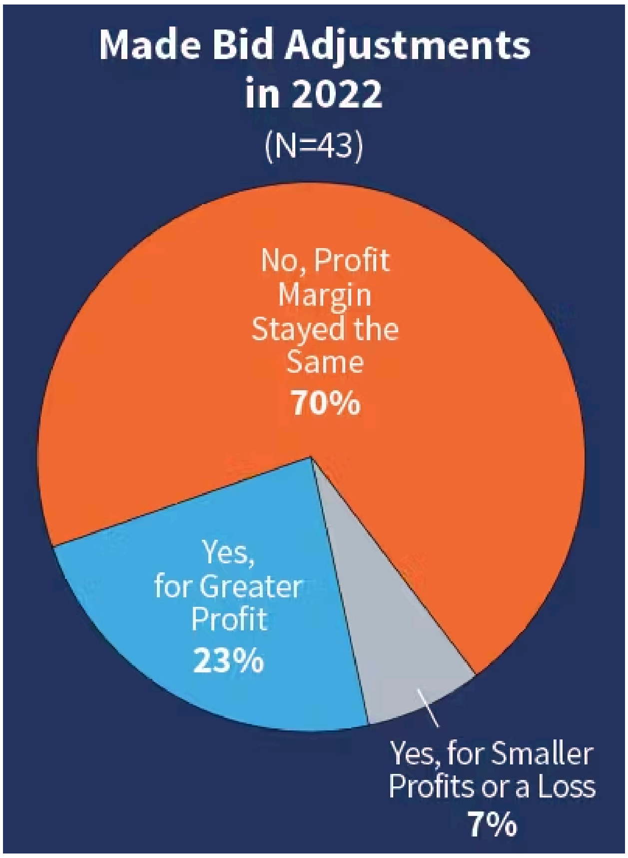


Fig. 3. This year, the number of companies indicating that they would make bid adjustments for smaller profits or a loss decreased from 17% to 7% while those expecting profits to stay the same rose from 59% to 70%.

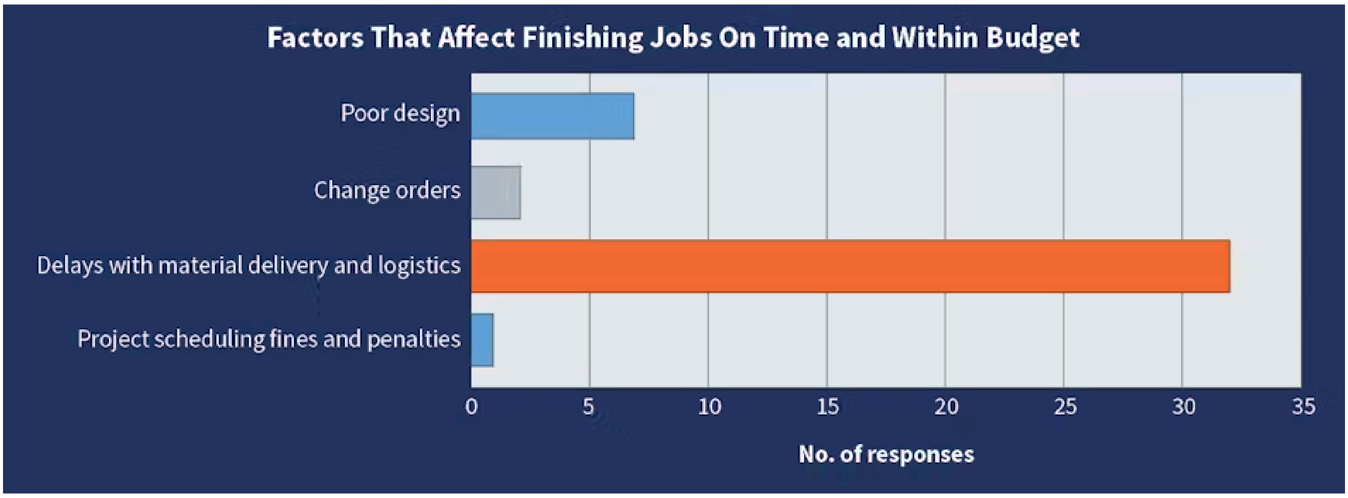


Fig. 4. Far and away, the most pressing issue on Top 50 company's minds (as it relates to their ability to get a job done on time and within budget) is overwhelmingly "delays with material delivery and logistics."

"It's hard to generalize on our approach, but our bids didn't necessarily have higher margins built in," says Rob Smith, president of Sargent Electric Co. (No. Pittsburgh. "It was more about contingencies. There was more time spent on understanding the potential impact of the cost environment — labor pressures and unit cost factors — we were operating in."

Colorado State University (CSU) Moby Arena is an iconic landmark on the CSU campus in Fort Collins, Colo. The Encore Electric Technology Solutions team partnered with general contractor, Adolfson & Peterson, for this design-build project to provide numerous technology and low-voltage elements including audiovisual engineering, selection of product solutions, and audiovisual integration and installation.

Guarantee Electrical Company (No. 33), St. Louis, had some success in margin expansion, the result of careful analysis and strict adherence to procedures, says Nick Arb, vice president of market strategies.

On the Saddle Creek Retention Treatment Basin Project in Omaha, Neb., Commonwealth's $6-million contract as a subcontractor for Hawkins Construction spanned facility headworks and above-ground improvements that included a building to house controls, grit and screening equipment, chemicals, and office space.

"We have robust internal processes that help us evaluate many factors,' he says. "Knowing our internal capacities is key, our geographic location and available workforce, our relationship with clients, and the potential profitability. It's always about mitigating risk of the unknown using all the available information to protect yourself."

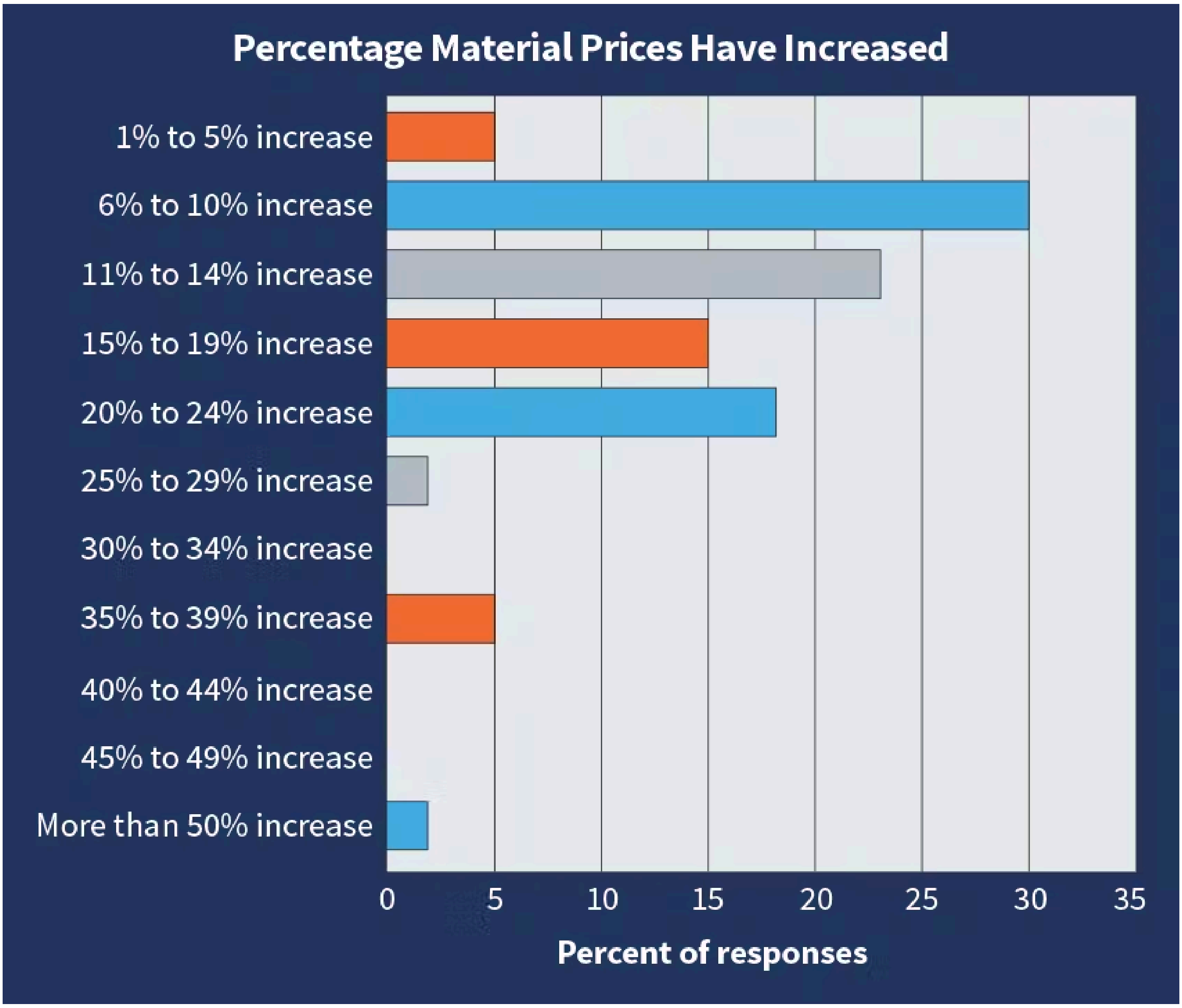


Fig. 5. Last year, the greatest number of respondents expected a 20% to 24% increase in material prices; this year more than two-thirds expected a hike between 6% and 19%.

Looking ahead to 2023 and its possible profits picture, contractors see cause for more optimism, possibly stemming in part from more supply chain certainty. After the biggest share of last year's Top 50 saw prices rising on their most volatile material (wire and cable named by the majority) between 20% and 24% in 2022, this year two-thirds (**Fig. 5**) see that material (distribution equipment selected by most, as shown in **Fig. 6**, rising between 6% and 19% in 2023. That expected moderation could partly explain why more than a third say they'll look to adjust bids for greater profits this year (**Fig. 7**).

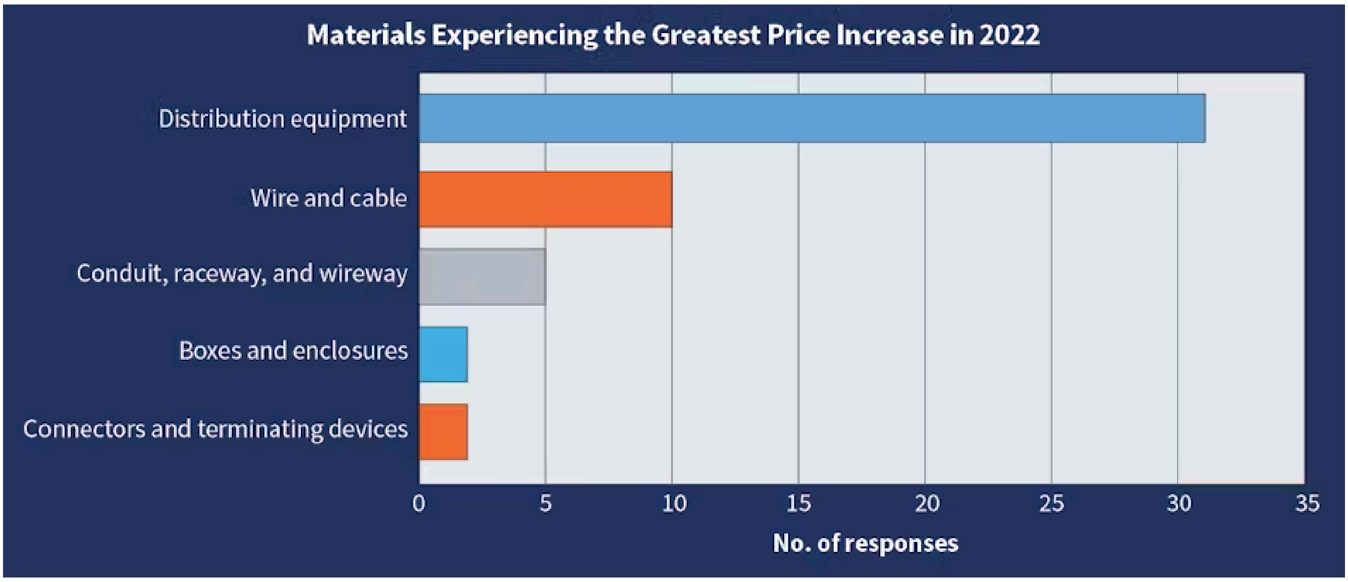


Fig. 6. Unlike last year, in which "wire and cable" ran away with the top spot as the material type experiencing the greatest increase in price, "distribution equipment" received the most votes (31) by far this year.

Willis Wiedel, CEO of Encore Electric (No. 38), Lakewood, Colo., sees evidence of supply chain stabilization and moderating prices and the prospect of a more profitable and predictable 2023. If that proves to be a mirage, though, the company still sees a path through the turmoil.

"Things feel like they're getting better compared with a year ago, with the escalation in prices having stabilized some," he says. "But we've also learned how to manage the supply chain issues better, and we have to continue to do that."

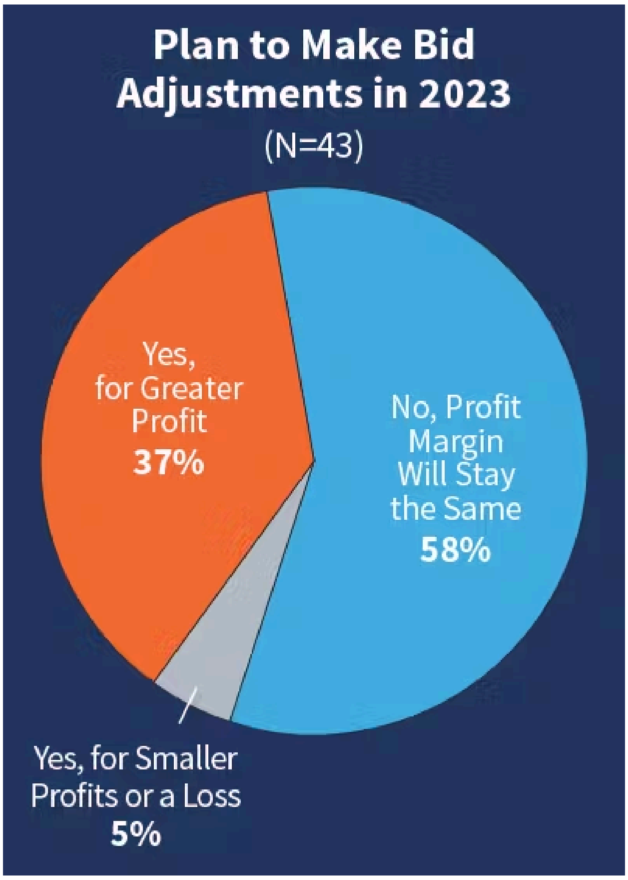


Fig. 7. The number of Top 50 companies expecting profit margins to increase stayed the exact same at 37% followed by 58% expecting margins to stay the same.

Schott also sees signs that supply chain snarls that disrupted project timelines are easing, improving prospects for smoother jobs with fewer potentially ...tly surprises.

"It's hard to not have some margin erosion when you have projects that have to pause, but we've been able to come up with some creative solutions to keep projects moving," he says. "The worse may be over on supply chain issues, but we're not completely out of the woods."

Guarantee Electrical Company, St. Louis, was selected as a design-assist partner in the construction of a new visitor center for one of the region's most treasured institutions — the 164-year-old Missouri Botanical Gardens. This multi-phased project required intense planning to refeed the entire north campus with new wiring to 4,160V switchgear without disrupting garden operations.

Backups, delays impactful

Contractors can only hope that's the case because material shortages and delivery delays apparently exacted a toll in 2022. Of possible factors exerting the greatest short-term impact on business (see **Fig. 8**), supply chain issues got the clear nod as the most problematic, followed by delayed and canceled projects. No other listed concern drew any votes, suggesting the three were somewhat intertwined and dominant in terms of impact.

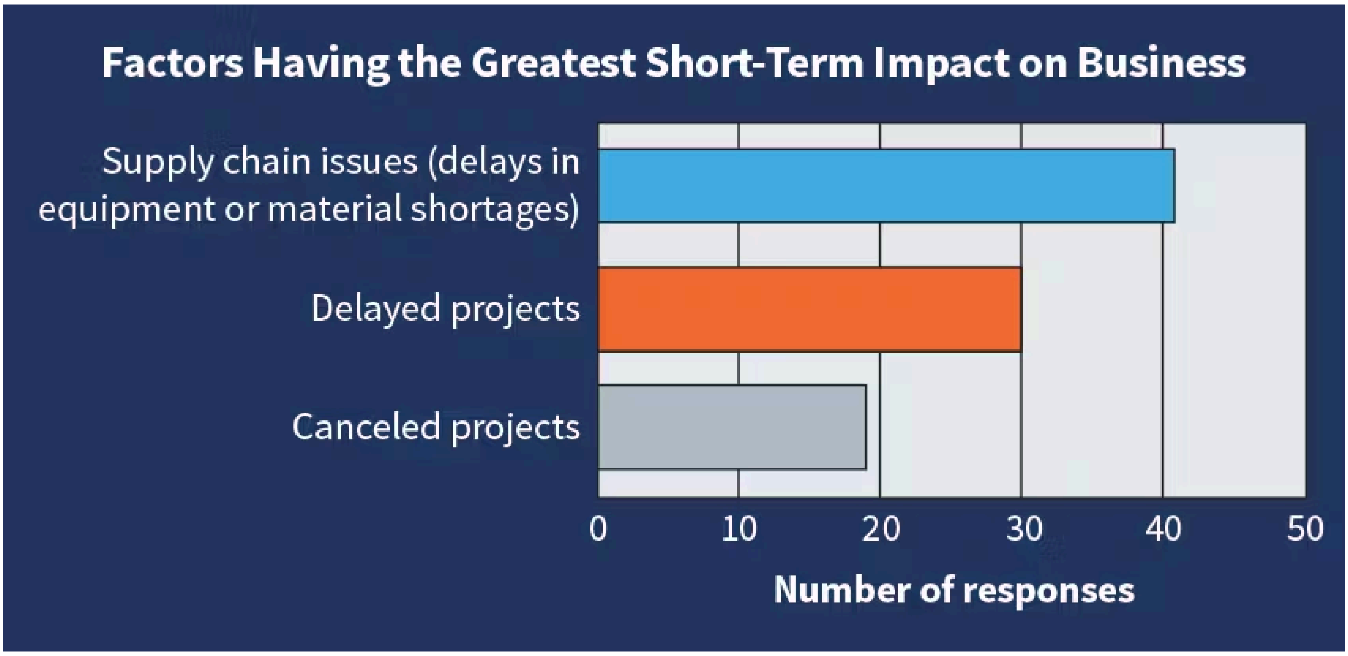


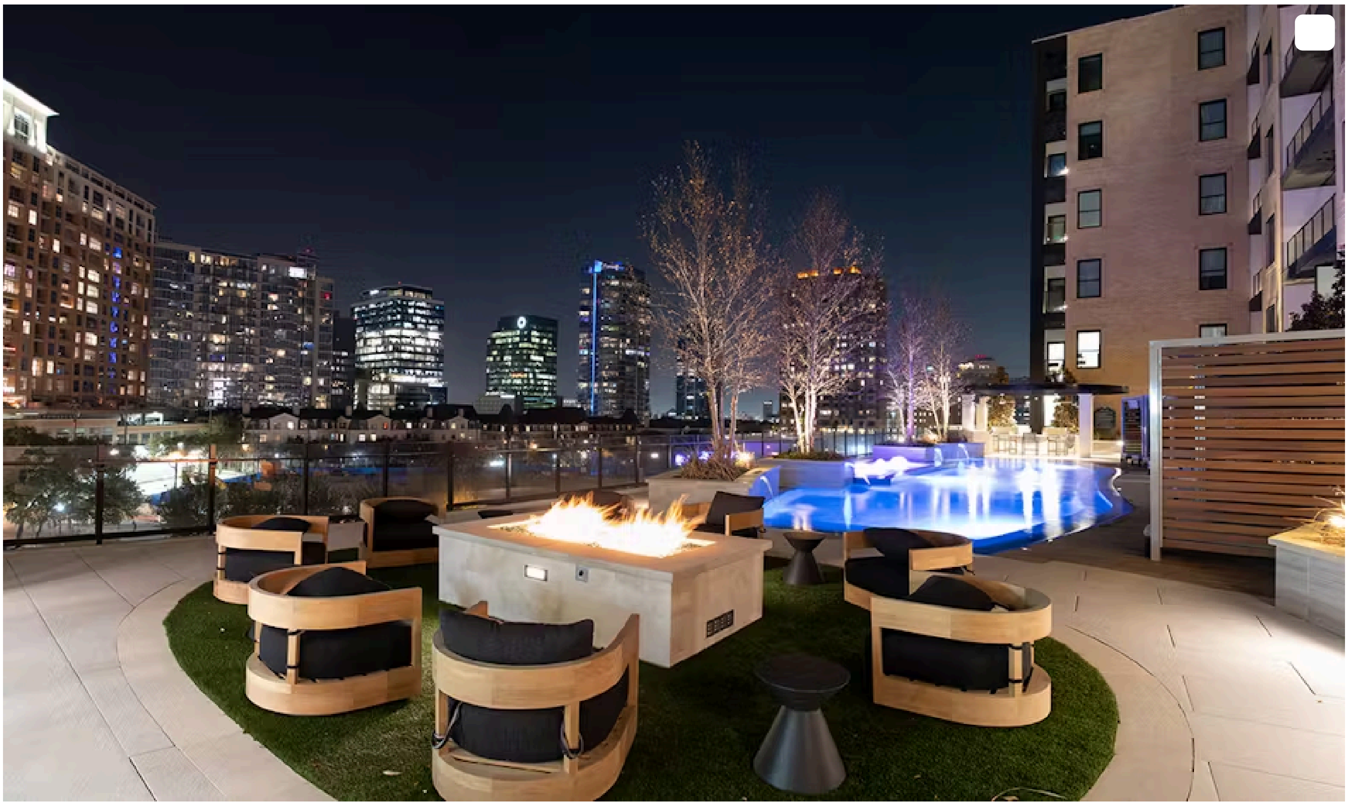
Fig. 8. Moving into the No. 1 spot identified as the factor most respondents felt had the greatest short-term impact on their companies was "supply chain issues." Although still a popular response, "delayed projects" moved down a notch into the No. 2 spot. "Canceled projects" was another popular response.

MDU, in line with its emphasis on heavily utilizing data in project planning, has studied the impact of Covid-related delays and cancellations and supply chain constraints on its operations. The conclusion is that problems in receiving materials can produce consequential ripple effects, Thiede says. While the situation has improved, the company is still contending with project delays.

Cupertino Electric, Inc., workers have been on the job since 2002 at the University of California, Berkeley Gateway Project. The 388,000-square-foot structure — a ground-up, full buildout project with a basement and five above-grade floors — will house the university's Division of Computing, Data Science and Society, and will be built to LEED Gold standards.

"The best thing we can do is leverage our purchasing power and the integrity of our purchasing practices and lean on/talk with suppliers early and often," he says. "We continue to get better at managing it."

Sargent saw projects stalled for a variety of reasons in 2022, "a lot associated with the supply chain," says Smith, but also for feasibility reassessment. They were disruptive, but the silver lining in some delays was the chance to work with clients to revisit hastily drawn up project designs.



Rosendin Electric completed this 12-story upscale apartment project (Selene Luxury Residences) in Dallas.

"We were seeing more clients waiting to commit and then scrambling to put projects together," Smith says. "With supply chain issues and longer schedules, we can sometimes convince customers to go back and get better engineering packages."

Expecting growth

Uncertainties and disruptions continue to plague contractors midway through 2023, but many are cautiously optimistic that more growth is in the cards. The share of contractors expecting their companies to exceed sales goals for 2023 ticked up slightly to 41% (**Fig. 9**), the highest reading in several years, while just 16% said goals wouldn't be met. Predictions on the magnitude of revenue increase also shifted. Twenty-two firms forecast an increase of at least 6% (**Fig. 10**), a slightly higher number than last year. All told, almost 80% expect revenue to stay the same or increase, up 10 percentage points. Just 20% expect a slide.

With the current fiscal year-end looming, Guarantee Electrical's Arb sees a big enue number coming, a result of a recent geographic expansion effort ing dividends and strong organic growth in some key sectors. Moving into

2024, though, he's factoring in the risk of an economic downturn that would bring a tapering of that growth. An early sign is data pointing to a slowdown in projects-in-design.

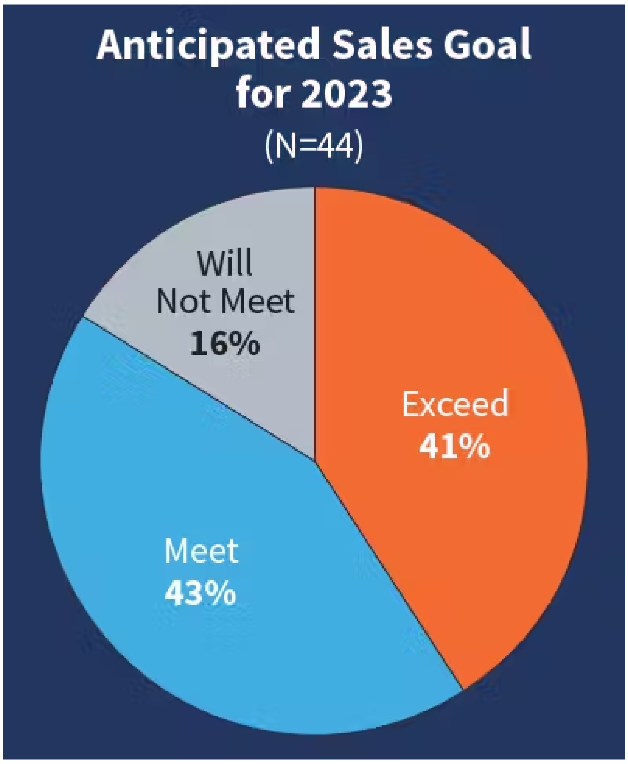


Fig. 9. When it comes to making revenue projections, responses from Top 50 companies mirrored last year's results — with the majority expecting to either meet or exceed sales goals for this year.

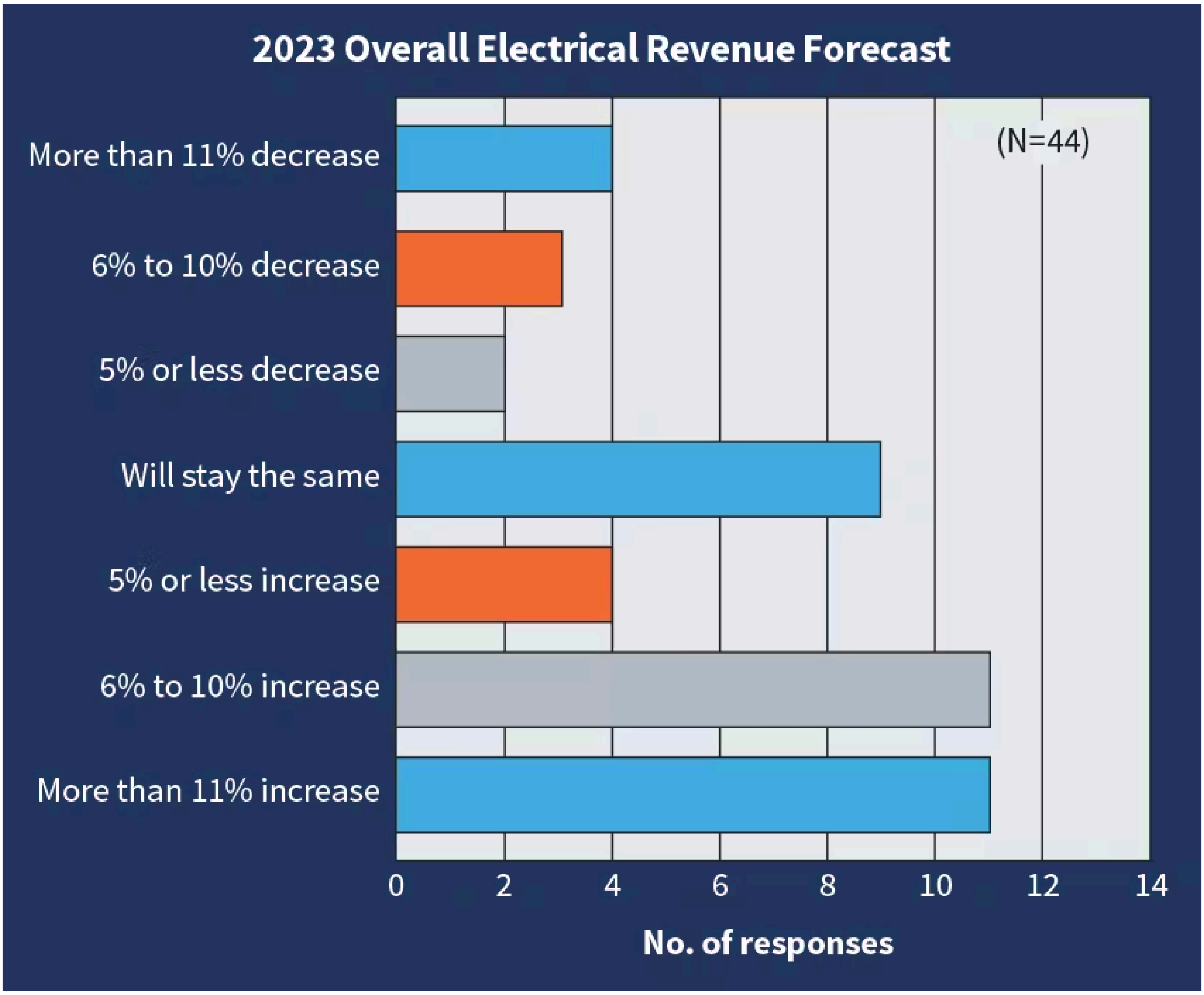
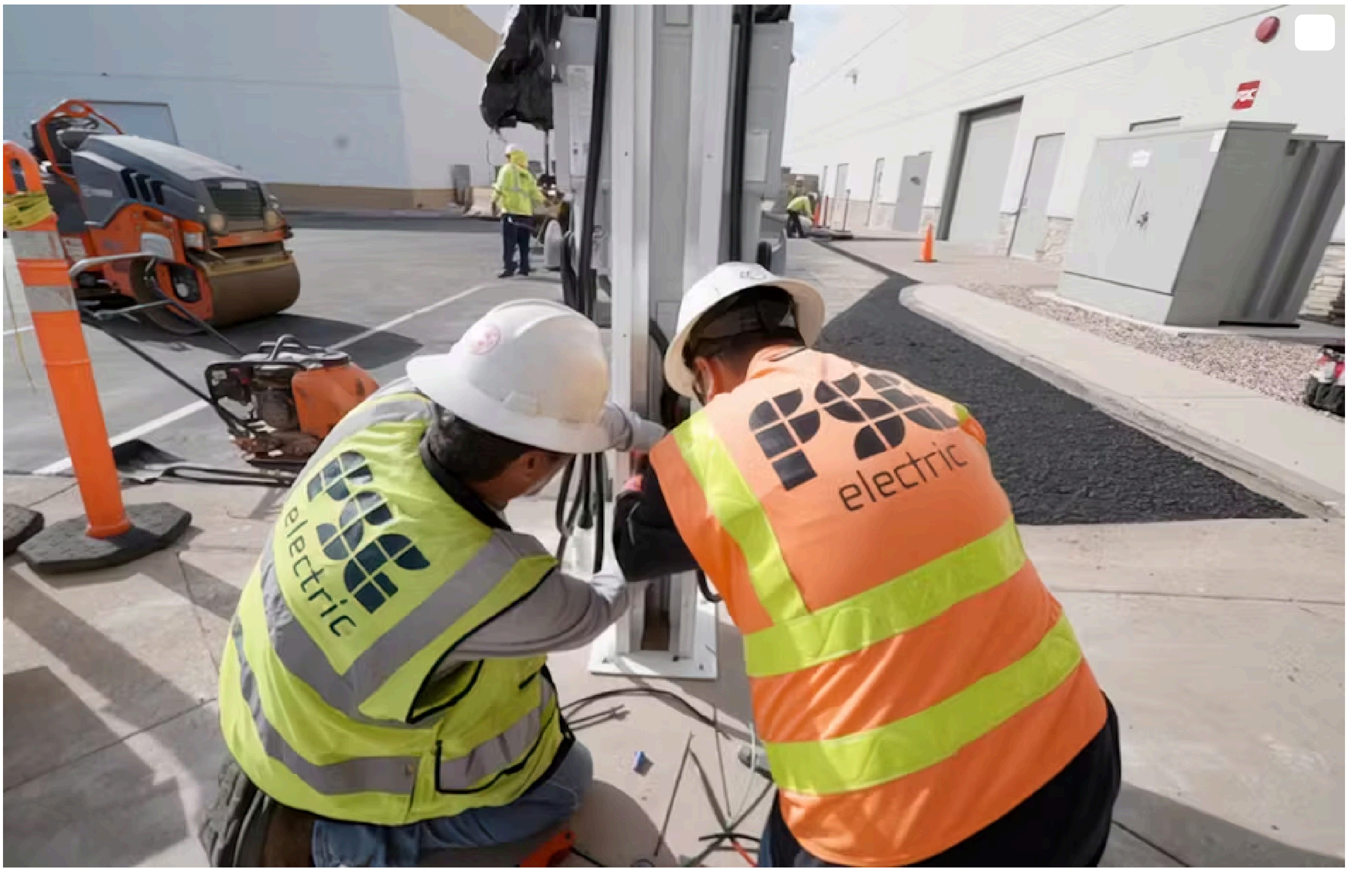


Fig 10. Last year, 70% of respondents expected their company's revenue to either stay the same or increase. This year, that number shot up to almost 80%.

"We continue to see high-quality project opportunities in various market segments, although the volume of opportunities appears to be slowing," he says. "Refining an approach to pursuing the best work available will be critical."

Helix Electric completed the Joseph Jensen Water Treatment Plant Electrical Upgrade in Granada Hills, Calif. The project scope consists of electrical reconfiguration of the power feed to the chemical feed and water treatment systems and pumps so that critical equipment is powered from two different sources; replacement of existing wash-water return pump motors; installation of new unit substations, MCCs, variable-speed drives, transfer switches, and interruptible power supplies; and replacement of existing UPCs and MCCs.

Hunt Electric Corporation (No. 16), Bloomington, Minn., is ahead of pace on 2023 revenues but is also cautious about the future, given the potential for lagged impact of higher interest rates on project commitments, says John Axelson, president and CEO. Tempering that concern, for now, is a strong continuing revenue stream from extended duration projects and established clients.



Facility Solutions Group (FSG) worked with a large automotive group to install electric vehicle charging stations at its network of 25+ dealerships in California, Arizona, and Texas. FSG's capabilities as a full-service electrical contractor and distributor allowed the project to stay on track at multiple sites across three states.

"We're lucky to be involved in some hyperscale (billion dollar-plus) projects that have driven our growth," Axelson says. "We have a handful of them, in areas like mission critical and battery manufacturing. Everyone, though, is wondering about a recession, and so we could see some downturn next year."

Pine Bend Refinery in Rosemount, Minn. supplies the majority of Minnesota's and much of the Upper Midwest's gasoline, diesel and jet fuel, as well as heating fuels, asphalt, fertilizer, and the chemical building blocks used in thousands of everyday products. Immediately adjacent and connecting directly to the refinery, Hunt Electric is constructing a 45MW solar installation that includes more than 100,000 panels across 300 acres. The project will become the largest single-site use of direct solar power in the United States upon completion and will have a peak-energy production capacity to satisfy roughly 30% of the refinery's 135MW power needs.

Working in contractors' favor looking ahead is the fact that electrical is a target-rich environment. The push for electrification and all that entails — grid renewal, electric vehicle charging infrastructure, battery production — along with a manufacturing renaissance, a growing health-care economy and a renewable energy push, puts electrical contractors at the center of the action.

Hot markets still sizzle

The market menu for contractors is expanding, but the action remains centered in a handful of areas. For the sixth consecutive year, contractors deemed data center/mission critical (**Table 1**) as the hottest market sector. [illegible]se behind again were

Hottest Market Sectors for 2022
Data Center/Mission Critical
Manufacturing
Health Care
Power
Automotive (tie)
Renewables (tie)

Table 1. For the sixth year in a row, data center/mission critical construction held its place as the top market bringing in the greatest dollar volume of projects in 2022. Manufacturing, health care, and power held

their spots. But automotive and renewables made their debut on the hot list.

manufacturing and health care. The power market surged back into the top five after being out for several years. Also continuing a trend, the slowest markets for contractors in 2022 (**Table 2**) were private office, hospitality, and retail — areas struggling to recover from the pandemic era.

Coldest Market Sectors for 2022
Private Office
Hospitality
Retail
Oil/Gas
Chemicals

Table 2. Given the lingering effects from the pandemic, it's no surprise that certain markets fared better than others. Private office overtook retail this year as the coolest market, followed by hospitality and retail. Oil/gas and chemicals made their debut on the cool list this year.

Cupertino remains highly focused on cutting-edge technology work, especially as commercial markets it has also cultivated in its Bay Area home are more uncertain. Demand for computing power continues to grow with the sudden arrival of artificial intelligence, prospects for autonomous vehicles and the continued growth of remote work, Schott says, ensuring nearly open-ended demand for data center resources. And the continued evolution of the energy market continues to open doors for leveraging knowledge of building clean energy infrastructure. Rapidly evolving, though, those markets demand contractor agility.

"Markets like data center and renewable energy are more dynamic and changing faster than we've typically seen during similar cycles," he says.

Likewise, MDU is being drawn into changes occurring in the energy markets. A transmission and distribution market specialist, the company is working on more utility transmission system upgrade work.

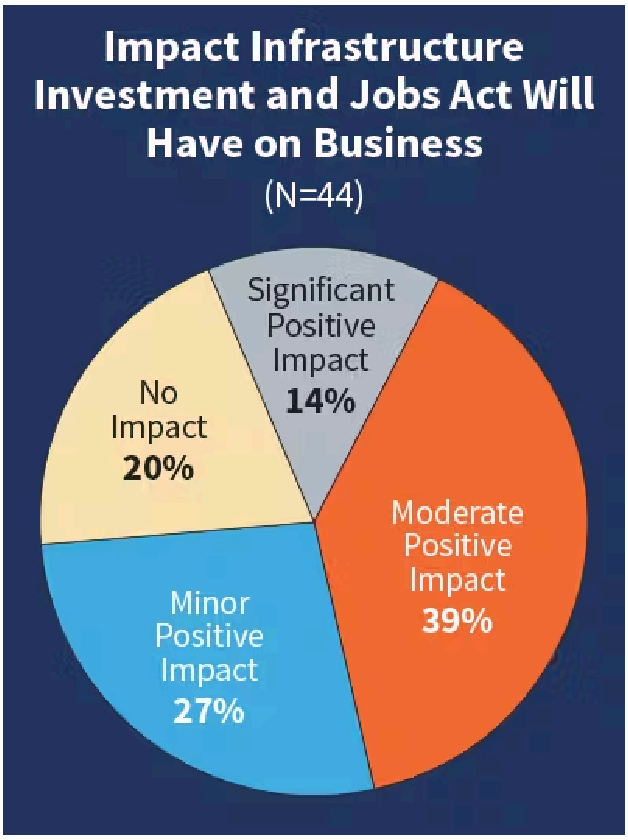


Fig. 11. The number of companies anticipating a significant impact on business from the

"There are some growing opportunities in West Coast undergrounding of ice, with PGE undertaking a big ative in the San Francisco area," Thiede says. "Transmission line reconductoring is another area where we see some emerging opportunity."

federal infrastructure legislation funding remained relatively low at 14%; however, 66% are expecting a moderate or minor impact. A fifth of respondents do not expect any impact on their business over the next five years.

Commonwealth Electric Company of the Midwest (No. 30), Lincoln, Neb., sees continued strong demand for mission critical work — new and upgrades — in its Nebraska/Iowa and Arizona/Utah operational hubs, says Neil Davidson, executive vice president. But other markets beckon.

"Health care and industrial work, clean and wastewater, manufacturing plants, continue to be strong, and there will be more infrastructure work," he says. "Some airport projects have been slow to start but should kick in soon. And we're eyeing some 5G upgrade work with some telecoms, building out their systems. And there's a large Omaha Air Force base renovation underway." The markets picture for contractors could become cloudier if economic recession fears are realized. A steadying factor could come in the form of pre-committed public infrastructure spending. Most Top 50 firms, though, see limited near-term benefit.

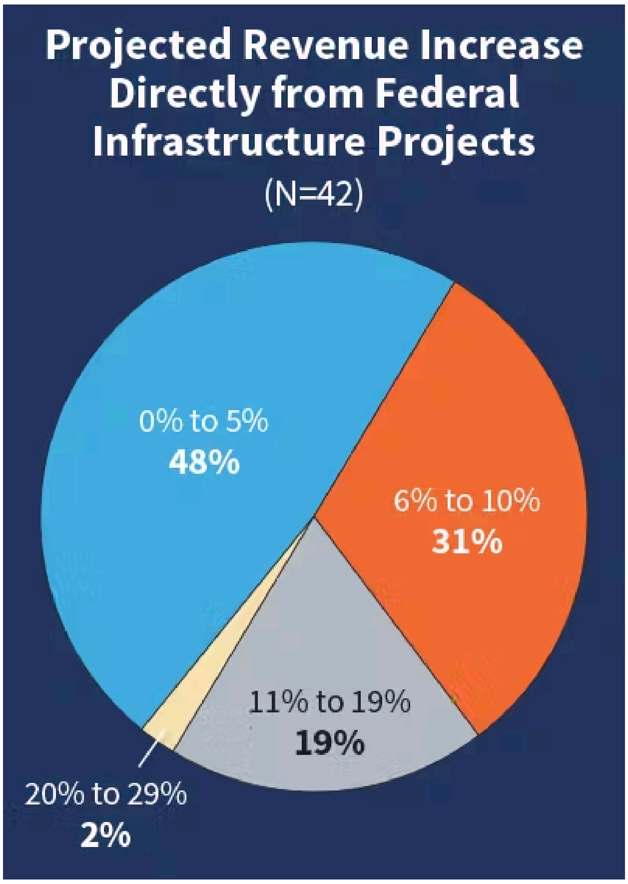


Fig. 12. Almost half of survey respondents (48%) anticipate no more than a 5% revenue increase in new project revenue tied to federal infrastructure funds. No firms expect to experience a 30% or more boost in project activity from the recent legislation.

Two-thirds see the Infrastructure Investment and Jobs Act (IIJA) having at best a moderate positive impact on their business (**Fig. 11**) in 2023. If any 2023 company revenue can be tied directly to spending under the act, roughly half say it will be miniscule, and half say it could be in the 6% to 19% ge (**Fig. 12**). Projects most likely to produce that revenue (**Fig. 13**) are tric vehicle charging infrastructure, renewable energy, and electric grid updates. Given the act's goals, EV infrastructure work may be the most accessible for the average contractor, and the survey confirms it. Most said they've handled such work recently (**Fig. 14**). But 85% say 2023 revenue tied to that work won't exceed a 5% share.

Sectors Expected to Experience Biggest Boost from Federal Infrastructure Funds

Factor	Ranking
Electric vehicle (EV) charging infrastructure	1
Renewables (solar and wind)	2
Electric grid updates	3
Roads and bridges	4 (tie)
Water/wastewater	4 (tie)
Rail, buses, airports, shipping ports	6
Broadband/telecom	7

Fig. 13. Top 50 companies identified several sectors they felt would enjoy the biggest increase in new project activity in 2023 from federal infrastructure dollars earmarked in the Infrastructure Investment and Jobs Act (IIJA). Again this year, EV charging projects topped the list, but "renewables" bumped "roads and bridges" out of the No. 2 spot.

Infrastructure work funded through the act, though, could come with some caveats for contractors. Many projects will likely require all contractors to sign on to project labor agreements (PLAs) that would subject them to rules laid out in an executive order mandating them on many federally funded infrastructure projects. Non-union contractors are balking at the PLA requirement and could be reluctant to take on infrastructure work that requires the agreements. Top 50 contractors were split on their view of PLAs, with roughly a third each (**Fig.** saying they'd be a positive, a

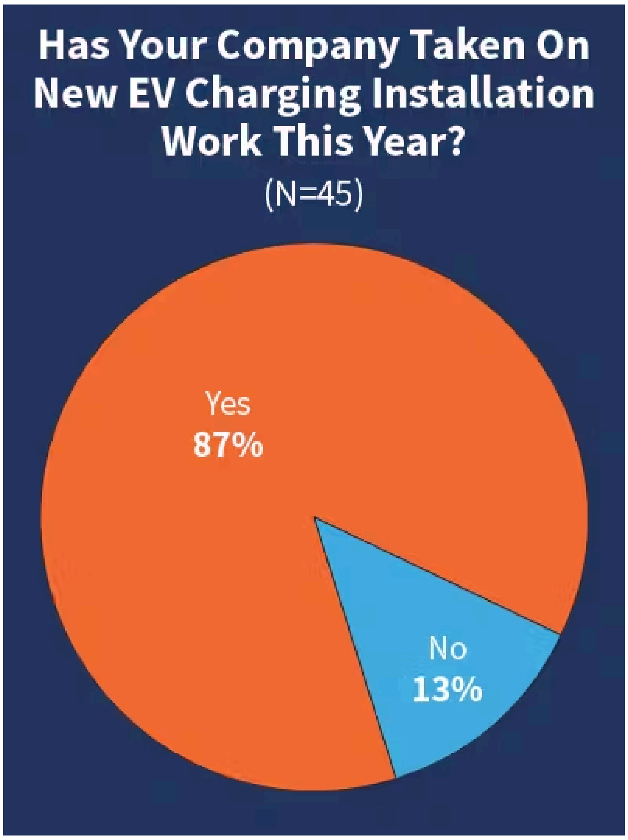


Fig. 14. The Infrastructure Investment and Jobs Act (IIJA) has set a goal that 50% of all

negative, or of no consequence for the electrical industry.

Encore's Wiedel doesn't see much immediate benefit from infrastructure upgrades, nor long-term upside because that's not a focus specialty. Some EV charging station work has come the firm's way, but only as a supplement to facility construction. Other infrastructure-like projects have filtered in, but they haven't stirred excitement.

new vehicle sales must be electric by 2030. As a result, interest in and demand for electric vehicle charging station work are amping up. When asked if their companies had taken on new EV charging installation work (residential, commercial, institutional, or industrial) in response to this goal, 87% of respondents said yes. Of those answering affirmatively, 85% do not expect an increase in new business revenue from this sector of more than 5%.

At Nucor Steel, located in Ghent, Ky., the Gaylor Electric team positioned themselves three weeks ahead of schedule by capitalizing on virtual design and manufacturing. The team crane-lifted fully fabricated electrical modules into place.

"There's a battery plant we're handling in Colorado, but I'm nervous about that industry because the technology is changing so fast," he says.

Guarantee Electrical has been handling steadily more solar and EV charging projects, possibly setting it up for more work as infrastructure money starts flowing. EV-related work, Arb says, can evolve into more than charging [illegible]ions.

"A few years ago that was just onesie-twosie type work, but now it's more of a pure play where we've done entire campuses involving dozens of charging stations and associated infrastructure," he says. "To accommodate that additional load more generation is needed as well as upgrades in switchgear and distribution."

Though cautious on 2023 revenues, Five Star Electric is seeing signs that the infrastructure spigot is opening. "A record number of new opportunities are starting to hit for us," Lancey says. "We've come out of the post pandemic slowdown and are seeing many publicly funded project opportunities on the horizon."

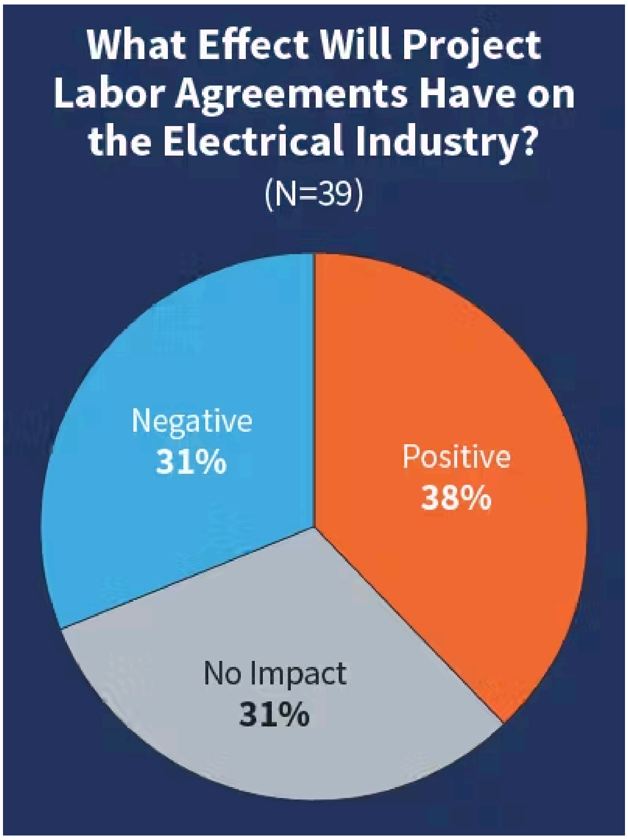


Fig. 15. When asked if PLAs would have a positive or negative impact on their company and the industry, respondents were not in agreement on President Biden's executive order requiring them on federal projects above $35 million. As of this publication, the final rules have not yet been determined.

Labor worries persist

Market opportunities seemingly abound for contractors, but the fly in the ointment may be manpower. Likely reflective of the need for more workers to handle surging demand, most said they added to their workforce in 2022 (**Fig. 16**) and expected to continue adding (**Fig. 17**) in 2023. But most agreed they were dealing with a market where worker shortages are a stubborn reality (**Fig. 18**), particularly for field labor like electricians and electrical foremen (**Fig. 19**). And half of the Top 50 again rated "difficulty finding and retaining quality employees" as the single biggest obstacle (**Fig. 20**) to company growth, far surpassing supply chain problems, economic conditions, and other factors.

"We could bid more work and build our backlog if we could consistently find the labor we need," Davidson says, noting Commonwealth Electric's greatest ...ds are journeymen and project managers. Entry-level slots are somewhat easier to fill, he says, but that entails the "long game" of hiring and training that requires a strong commitment to steadily cultivating a workforce.

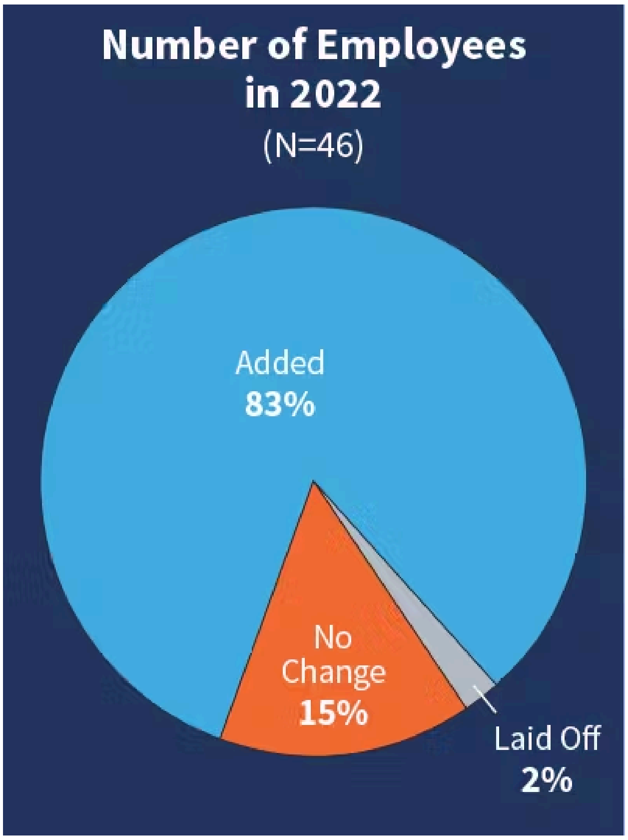


Fig. 16. Last year, there was a dramatic shift with 79% of companies adding employees as compared to 38% the previous year. This year, that number rose to 83%.

"It's a little scary that there's not the people coming into this industry that are needed," he says. "We can only hope our and the industry's efforts to attract workers will pay off."

Hunt Electric's labor challenges vary, with field workers abundant in some regions and scant in others, and slots like project managers and senior estimators a struggle to fill but modelers and BIM experts easier. One way the company is working around the field labor issue, Axelson says, is employing more prefab where union rules permit, building components off site and shipping to areas where the ed labor pool is shallower.

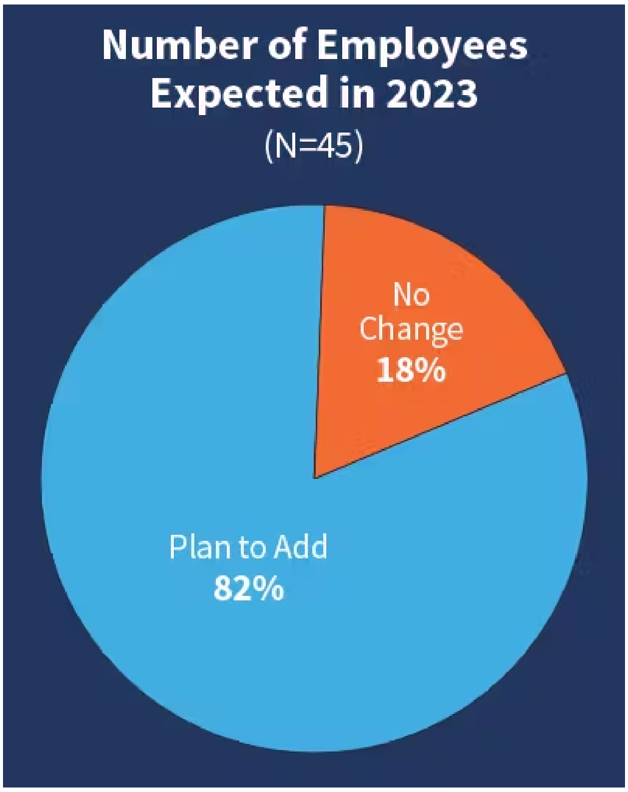


Fig. 17. Last year, only 2% of Top 50 companies expected to have to reduce headcount; this year that number dropped to 0.

The complexion of labor availability and management issues for contractors has changed in the wake of the Covid pandemic, which necessitated more remote work in some job classifications. The ability to design more jobs that require minimal in-person, in-office collaboration has opened the hiring lens for more contractors and yielded some productivity benefits. Still, contractors may be slowly moving away from remote work; most Top 50 contractors say only a fraction of their employees who had started working from home were still doing so (**Fig. 21**). Yet half say (**Fig. 22**) they're letting formerly office-bound employees continue working from home on a full- or part-time basis.

Axelson says his firm sees the remote work option, in some form, as part of the formula for recruiting and retaining employees in a challenging labor market. There are some challenges in ensuring productivity, but remote arrangements have appeal that can't be dismissed, he says.
"We started offering remote as an option before Covid, and we're continuing it," he says. "On our BIM modeling side, it's allowed us to hire more people. We have to try to understand what different generations in the workforce are looking for."

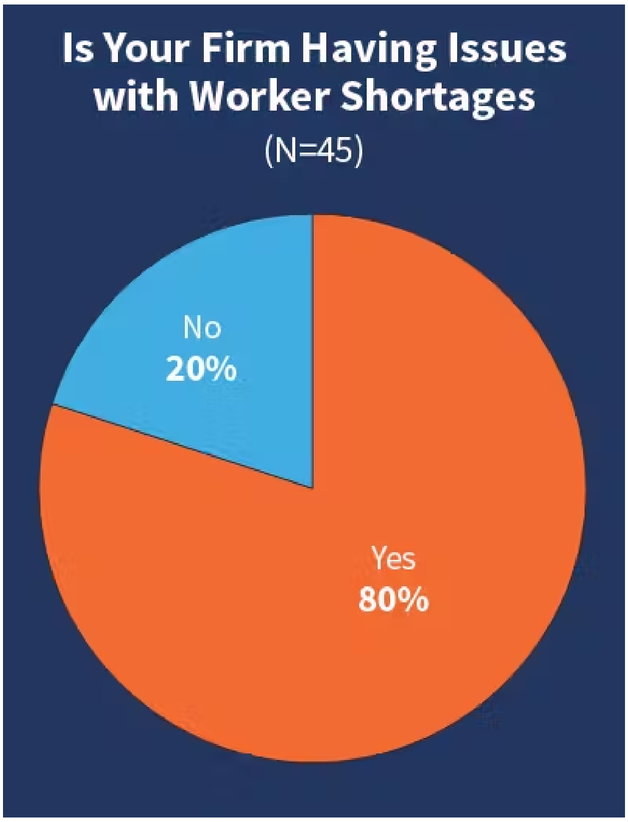


Fig. 18. Just like last year (and many years before that), the vast majority of Top 50 companies (80%) indicated they continued to experience worker shortages.

At Cupertino Electric, about a third of non-union support workers are in hybrid setups, a good compromise that puts most headquarters personnel in the office two to three days a week.

"More time in the office is probably better for our culture, but remote can help us attract and retain," Schott says.

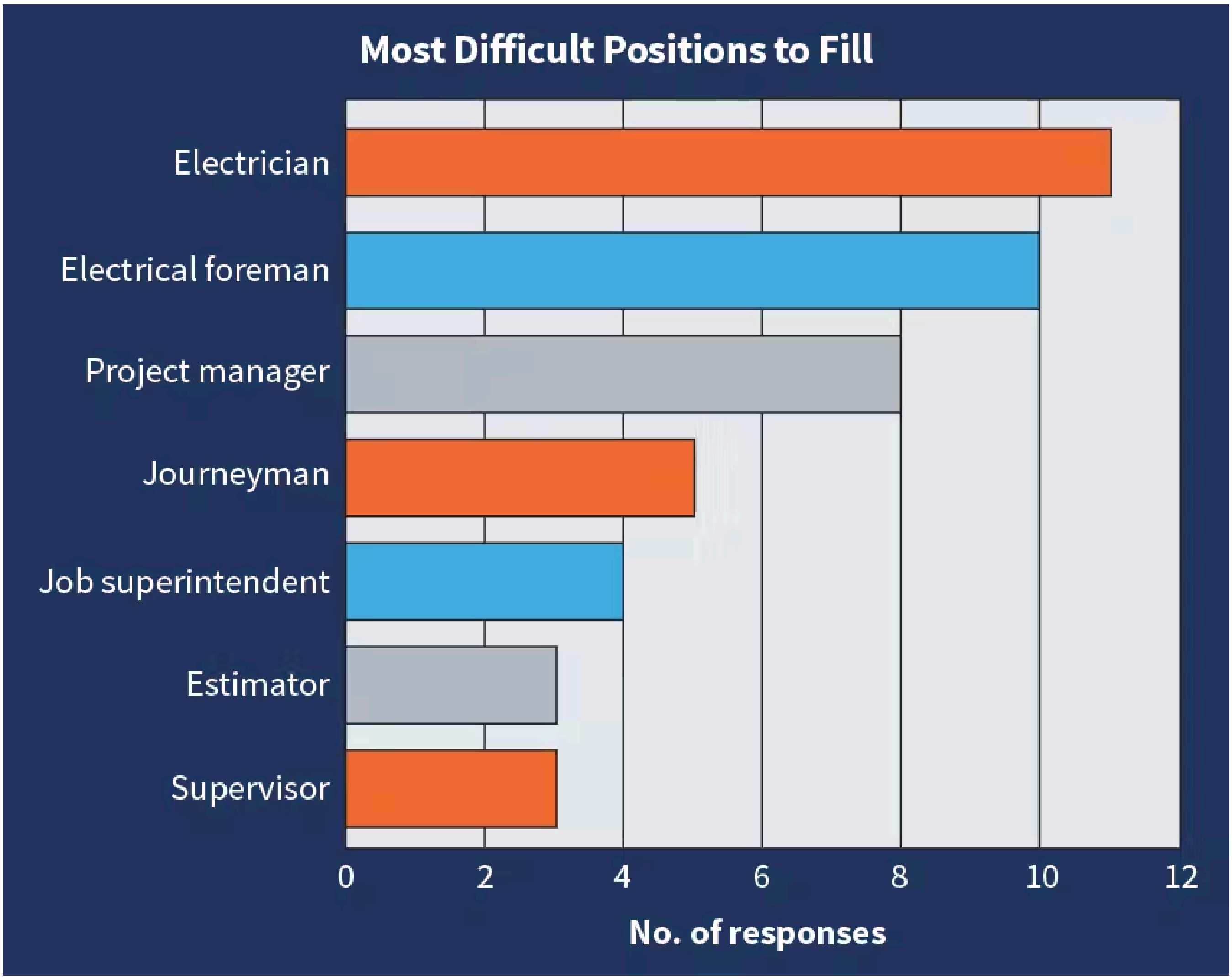


Fig. 19. "Electrician" retained the top spot for "most difficult position to fill," followed closely by "electrical foreman."

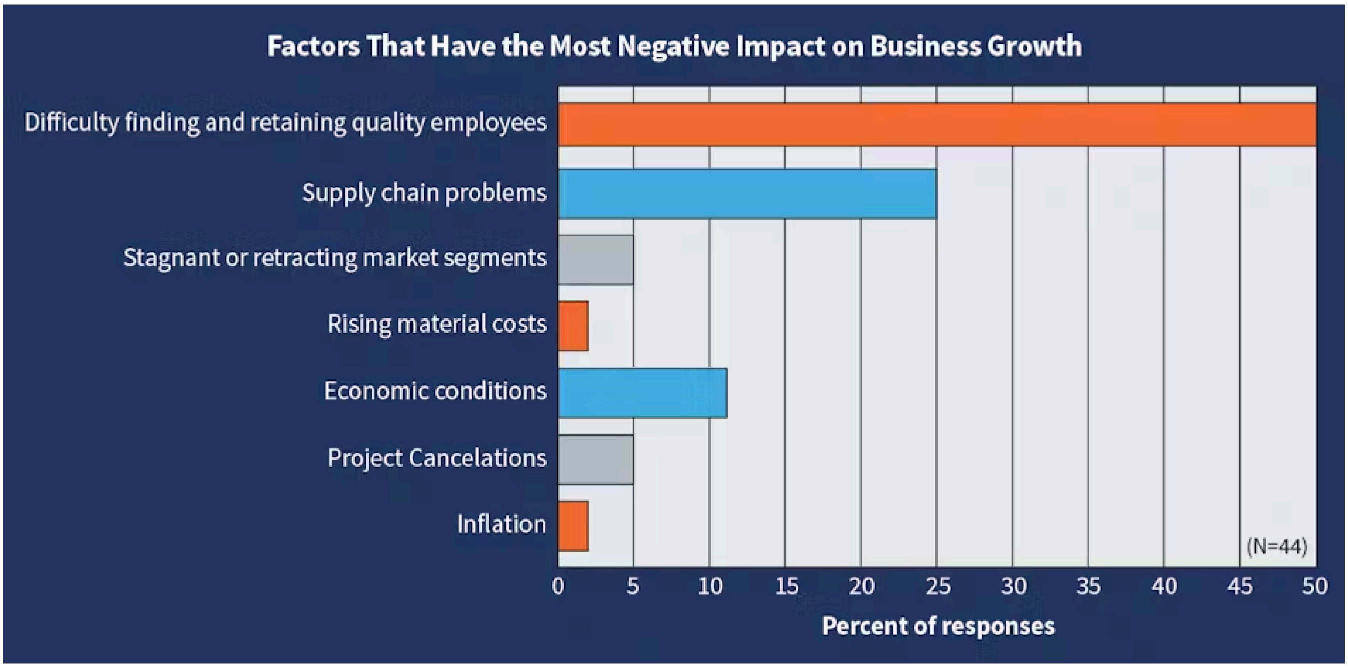


Fig. 20. "Difficulty finding and retaining quality employees" came in again this year as the most obvious concern among Top 50 companies followed by "supply chain problems" and "economic conditions." Interestingly enough, "inflation" did not rank high on respondents' list of concerns.

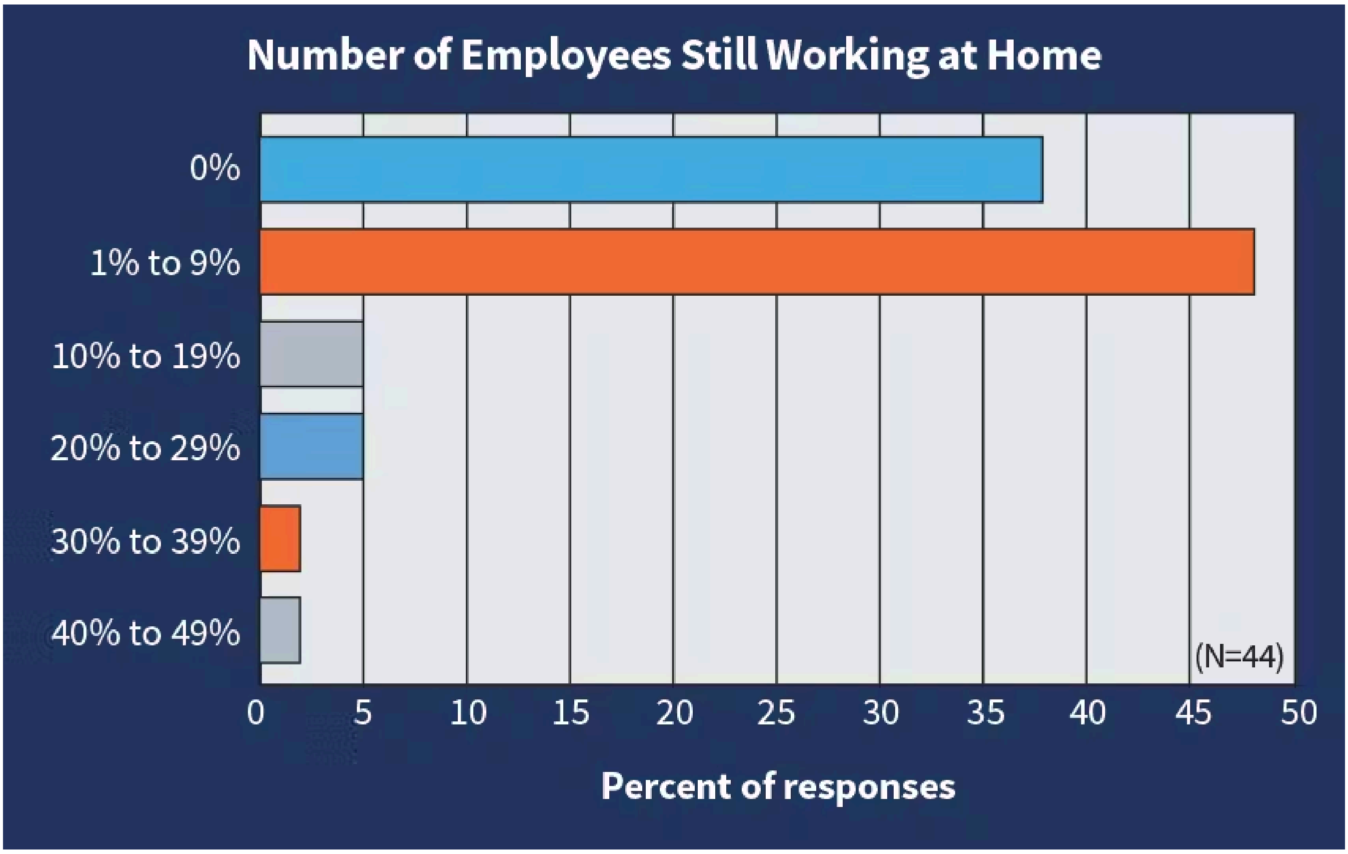
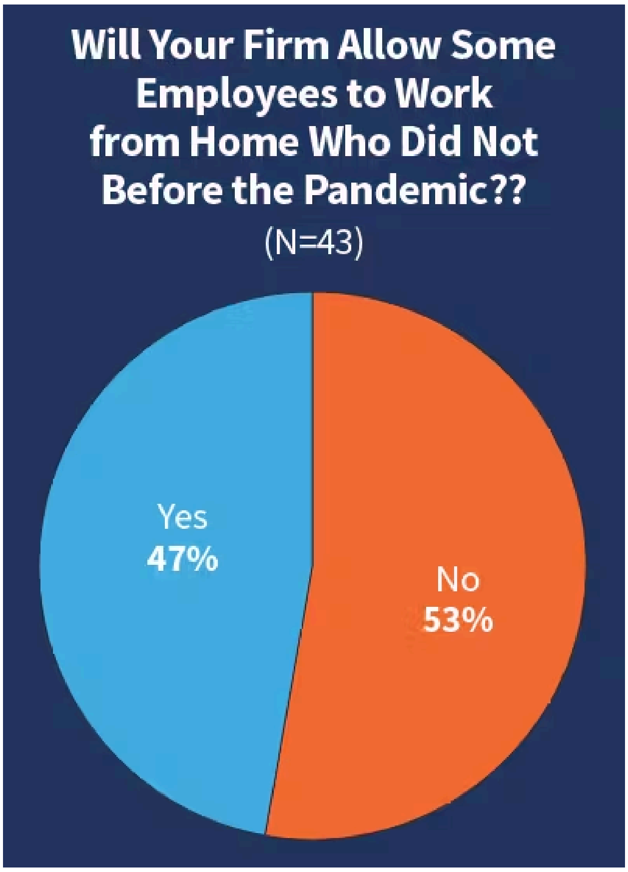


Fig. 21. At the time this survey closed (early July 2023), 86% of Top 50 respondents had 20% or less of its workforce working from home who were not previously doing so.

Integrating technology



Technology has enabled the mainstreaming of the remote work trend and continues to bleed into more operational aspects of contractors' work. Of several factors that could have long-term implications for their companies, technology — such as artificial intelligence (AI) and augmented and virtual reality (AR/VR) — as a competitive advantage (**Fig. 23**) was the clear top vote-getter. AR is slowly being adopted — a quarter say it's already in use (**Fig. 24**), mostly in pre-construction planning and training **. 25**). VR, too, is catching on; 31% they're using it (**Fig. 26**), often for training and improving collaboration (**Fig. 27**).

Guarantee Electrical continues to explore emerging technologies that could move the needle.

Fig. 22. When asked if their companies would allow employees who used to work in the office pre-pandemic to continue working from home part- or full-time going forward, the majority of Top 50 firms (53%) said no while a solid 47% answered affirmatively.

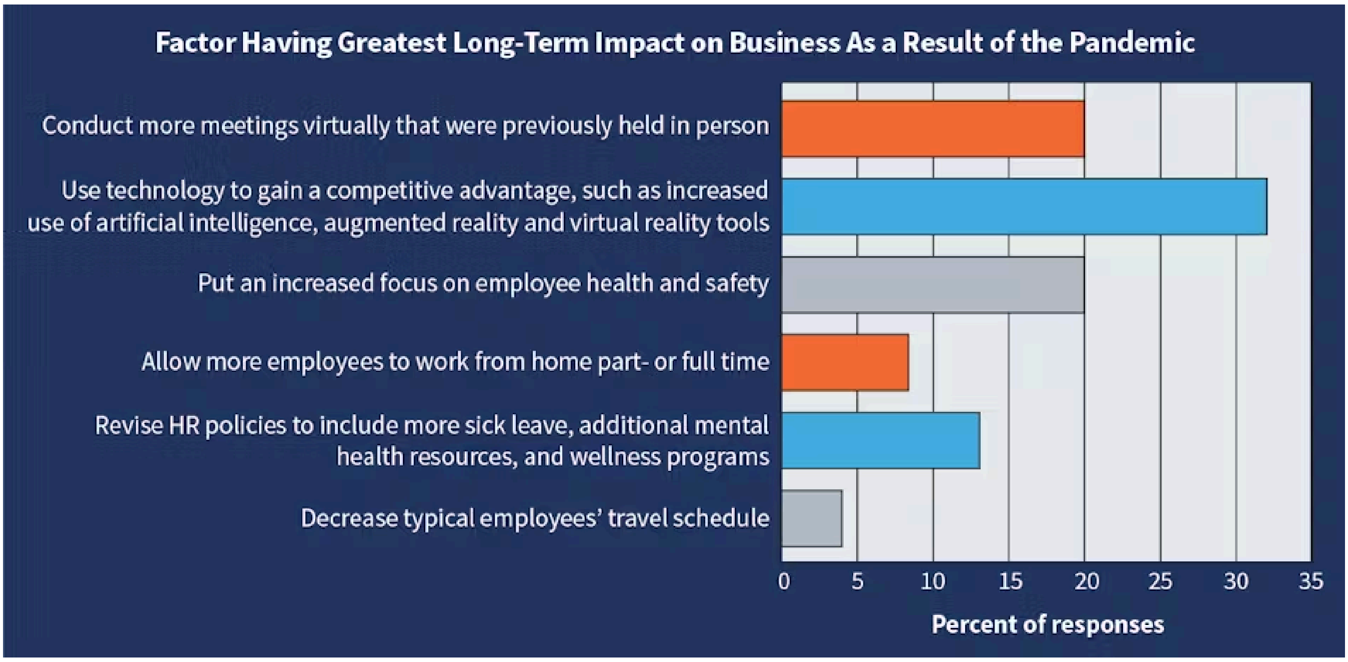
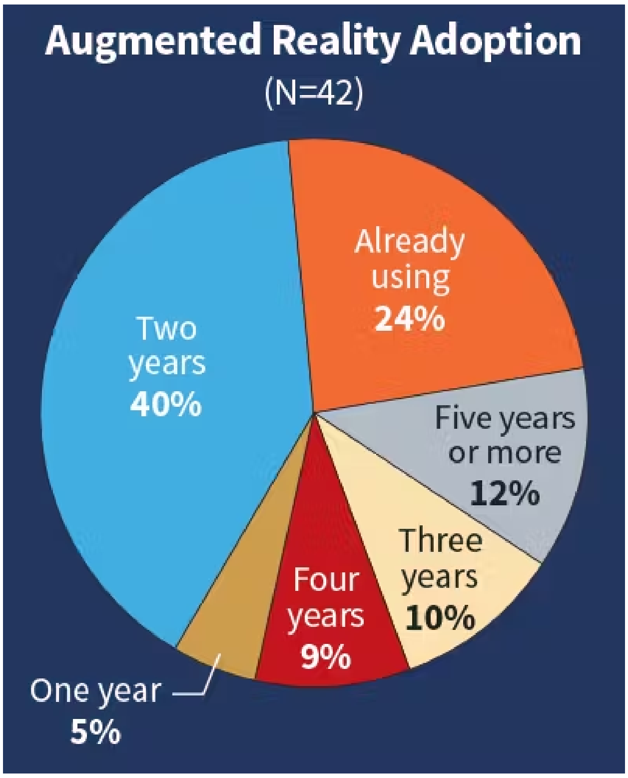


Fig. 23. Surpassing virtual meetings as the No. 1 factor respondents believe will have the greatest long-term impact on their companies going forward as a result of the pandemic, "using technology to gain a competitive advantage" garnered the most responses. This might include use of artificial intelligence, augmented reality, and virtual reality tools.

"We've done some R&D and beta testing on AR/VR, but we need to understand the practical applications," Arb says. "With AI, we're seeing more, specifically an application that would factor electrical codes and other data into a 3D model for routing conduit efficiently."

Sargent Electric's Smith says AR and VR hold some promise and are being used with some clients for BIM modeling and training. And AI could be helpful in data mining that could



improve areas like project planning and manual preparation.

"All new technology takes longer to gain widespread deployment than people anticipate," he says. "But Apple's new AR offering, VisionPro, could help make that more mainstream."

Fig. 24. The percentage of firms already using augmented reality technologies decreased this year from 46% to 24%, suggesting that many firms are already incorporating this technology as a viable component in their electrical work. However, 40% indicated it would still be two years or more before they adopted this technology.

Technology in its most basic, well-established form continues to make a difference for contractors, but it demands attention as it evolves. Of various areas contractor employees might need better training in, field apps and software was the overwhelming choice (**Fig. 28**) of the Top 50.

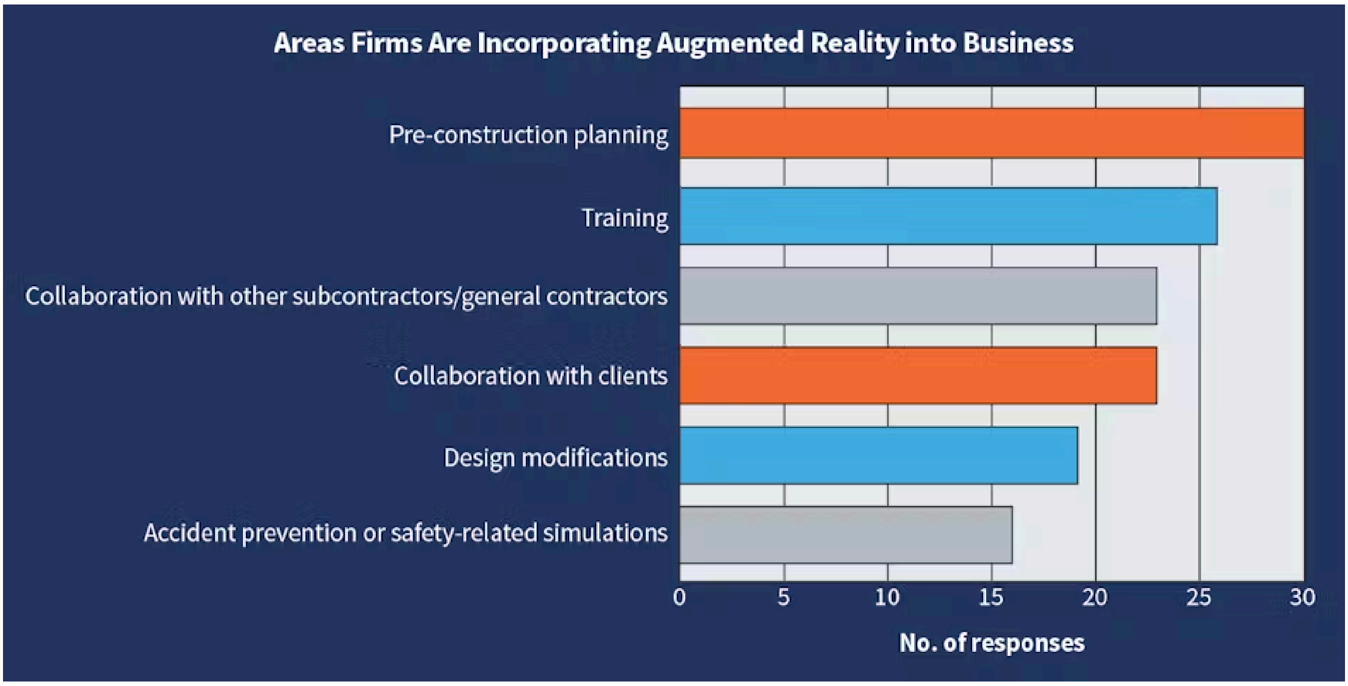


Fig. 25. These are the top six areas in which Top 50 respondents see their firms incorporating augmented reality technology into their business in the next few years. Again this year, training and collaboration seem to be the driving forces behind adoption of this technology.

That's no surprise. Mobile devices are essential in the field, and the more powerful construction software they utilize boosts all elements of productivity. Applications are far-ranging, but project, time, and labor management (**Fig. 29**) are still the digital tools employees use most frequently in the field. When utilizing mobile technology, workers are often (**Fig. 30**) checking product information: availability, pricing and specifications (of notable concern with recent supply chain issues).

Encore Electric views mobile devices as a critical conduit for getting all types of vital information to workers, most members of the "generation that does so much on mobile devices," Wiedel says. That understanding has expanded Encore's appreciation for how they can be utilized beyond relaying shop drawings and installation specifications. Information on managing mental health, substance abuse and addiction — critical issues for construction workers — can be easily relayed to employees, 70% of whom are in the field. "We're able to meet our people where they are," he says.

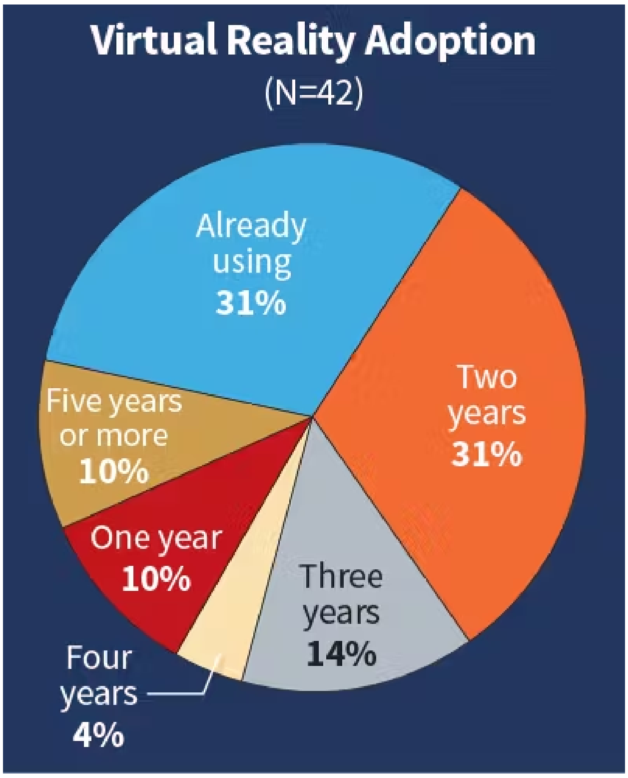


Fig. 26. Although it's taken some time to catch on, most Top 50 companies said this year that they are either already using virtual reality technology or they plan to in the next two years.

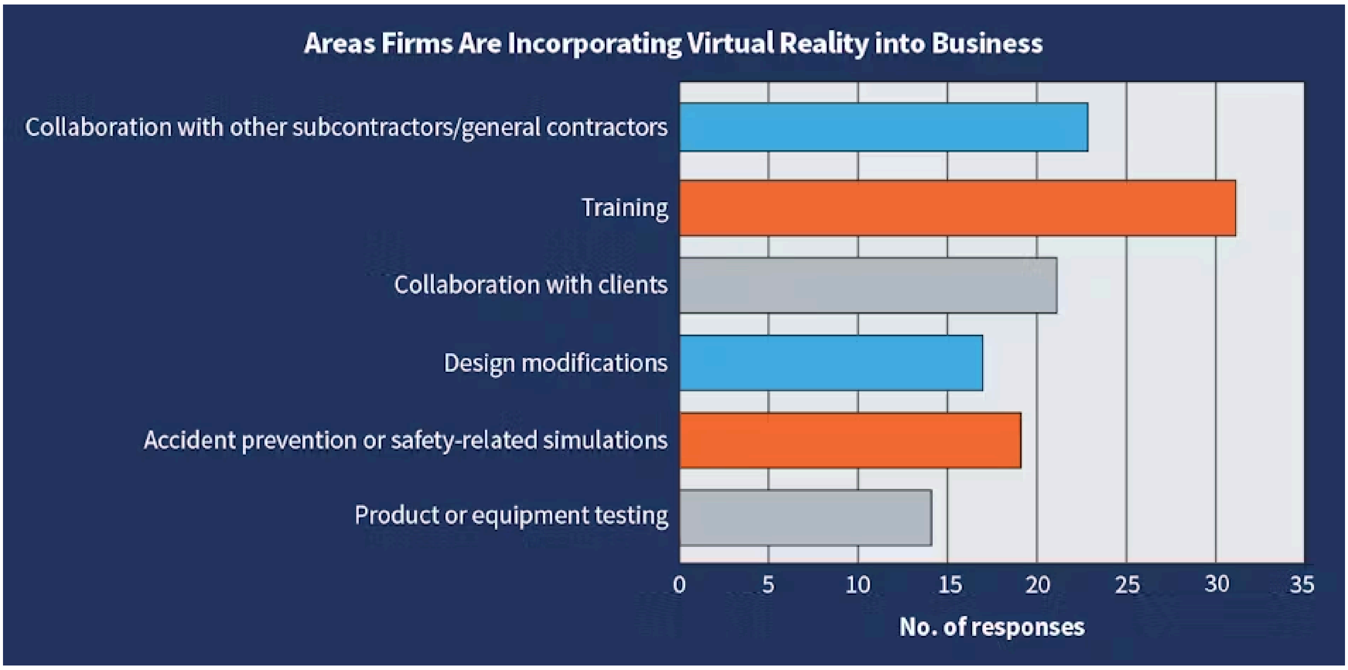


Fig. 27. These are the top six areas in which Top 50 respondents see their firms incorporating virtual reality technology into the business in the next few years. This year, responses were spread out fairly evenly across all of the categories than in year's past. Based on the results, electrical contractors seem to be using this technology for multiple tasks.

More advanced procurement and tool management software geared to electrical contractors is giving Hunt Electric more reason to embrace technology.

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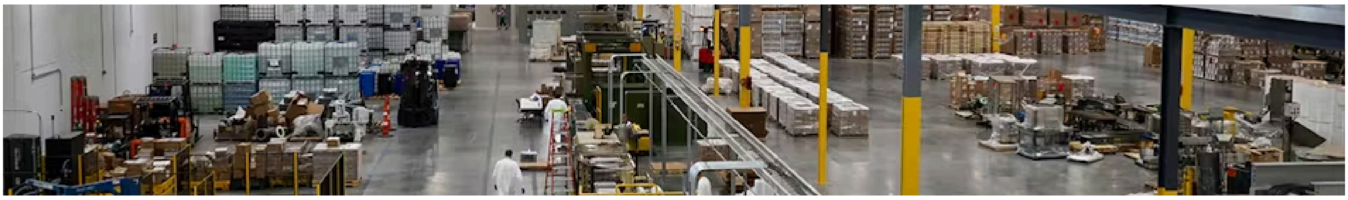

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"We're finding more and more meaningful software," Axelson says. "Early on, a lot of it was out there without knowing how it would help. Now we're finding

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