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Building a Robust Workforce
and Attracting the Next
Generation of Energy
Project Professionals



It is not easy to find a workforce with the skills for a complex energy project. Fields such as liquified natural gas (LNG) export, hydrogen, ammonia, midstream, petrochemicals, refining and sustainable aviation fuels require workers with deep knowledge and relevant experience.

Such skills are particularly sought after by the engineering, procurement and construction (EPC) contractors tasked with developing or upgrading plants, carrying out turnarounds and implementing new technologies.

While EPC-specific data is hard to come by, the consulting firm Deloitte predicts the U.S. energy and chemicals industry workforce will need to expand more than 4% by 2033, with 1.2 million workers potentially needing upskilling.¹

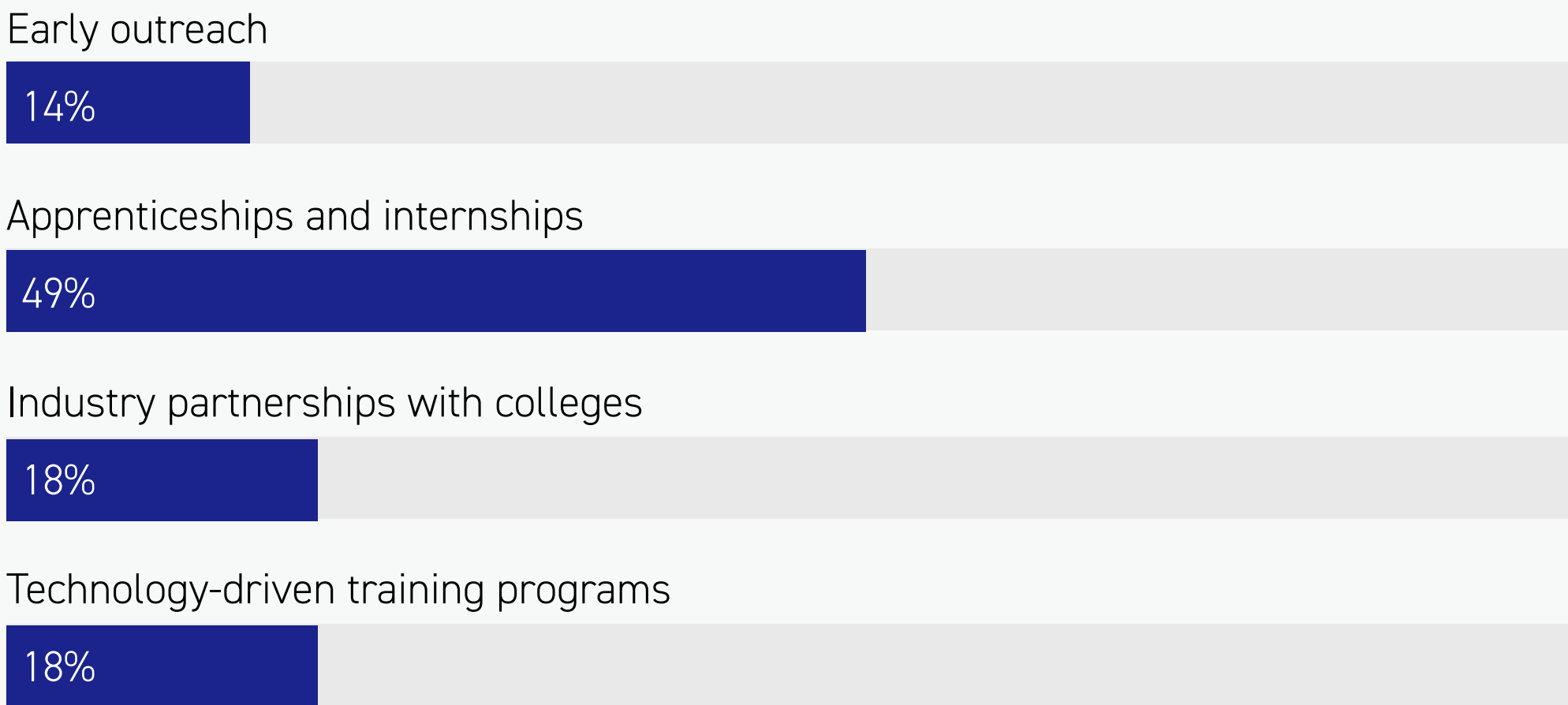
How EPCs might deal with this situation was the subject of two cross-industry workforce roundtables hosted in June by the Energy Projects Conference and Expo. This paper summarizes the discussions.

¹ Deloitte press release, May 28, 2025: Deloitte: U.S. Energy & Chemicals Industry Charts Growth Path--Workforce to Grow 4.1% by 2033, Industry Embraces AI, 1.2 Million Workers Need Upskilling. Available at <https://www.prnewswire.com/news-releases/deloitte-us-energy--chemicals-industry-charts-growth-pathworkforce-to-grow-4-1-by-2033--industry-embraces-ai-1-2-million-workers-need-upskilling-302466392.html>.



Attracting Professionals

Which strategy do you think has the greatest impact on attracting young talent to the energy sector?



Source: EPC Show 2025 Workforce Roundtable audience polling

Issues including worker development and upskilling, reskilling and retraining the talent pipeline are a major concern for U.S. energy EPCs, with 'workforce' emerging as the biggest industry issue among experts surveyed at the Houston-based EPC Expo held in June 2025.

The energy sector faces a generational challenge as it struggles to recruit new workers at the same rate as old hands retire. Plus, there is growing danger that new recruits might lack the skills the industry needs.

"For the last 20 years or so, public trust in higher education has eroded," said Reggie J. Poché, Assistant Vice Chancellor at Nunez Community College in Chalmette, Louisiana, during one of the EPC Expo sessions.

"Families don't see college being worth it in many instances these days, because of the high cost of achieving a degree," he said.

In response, the State of Louisiana is aiming to improve workforce development by ensuring 60% of the working-age population—so anyone

aged 25 to 64—has a post-secondary educational credential by 2030.

"Industry has collaborated with us by helping us identify those short-term credentials that industry values, and helping us identify credentials that didn't exist previously," Poché said.

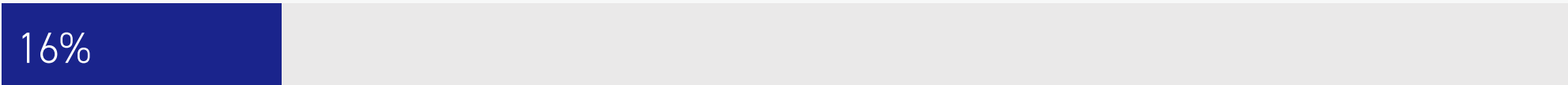
Nunez Community College, he added, has worked with Arlington, Virginia-based Venture Global on customizing the training offered within the college's 32-year-old process technology course so it is more relevant to LNG export operations.

"I think that's how industry and higher ed need to work together, by developing programs that are short-term, cost-effective for the learner, and give them a lot of bang for their buck," said Poché.

Like Louisiana, the State of Texas is aiming to equip 60% of its adults with some form of post-high school certificate by 2030.

In your opinion, what will be the toughest workforce challenge facing the energy sector in the next decade?

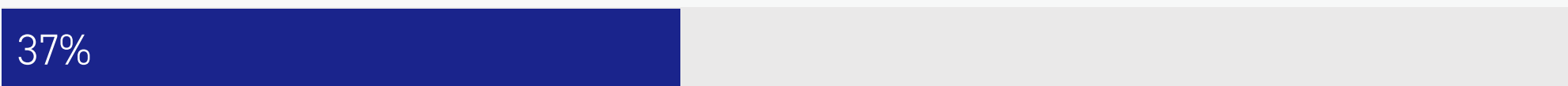
Rapid technological change



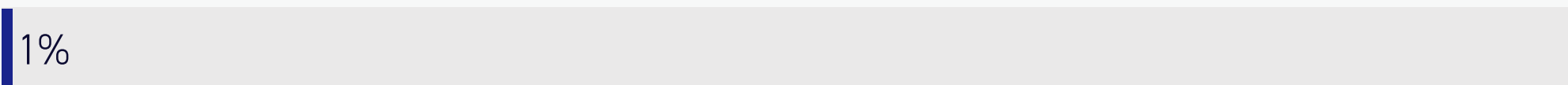
Aging workforce and retirements



Attracting and retaining young talent



Ensuring equitable access to training



Source: EPC Show 2025 Workforce Roundtable audience polling

“We want to have 60% of our adults have that kind of credential in order to provide the educated workforce to employers,” said Daniel Wong, President and CEO at Tolunay Wong Engineers, Inc, on behalf of the Texas Higher Education Coordinating Board.

The board is hoping to encourage the delivery of industry skills by linking college funding to certificates that can be shown to improve student earnings.

“We call it outcome-based analysis—to make sure the student will continue to upgrade skills so they can be a more productive member of society,” said Wong.

The state is also aiming to have at least 10 or 12 tier one or elite universities, up from three today, and is spending \$3.9 billion on funding for research, Wong said. “We are working very hard to move Texas ahead in higher education,” he commented.

While states such as Texas and Louisiana look to improve the provision of competency-based training, Tempe, Arizona-based ABLEMKR is addressing another part of the skills challenge:

locating the right workers for the job once a project gets underway.

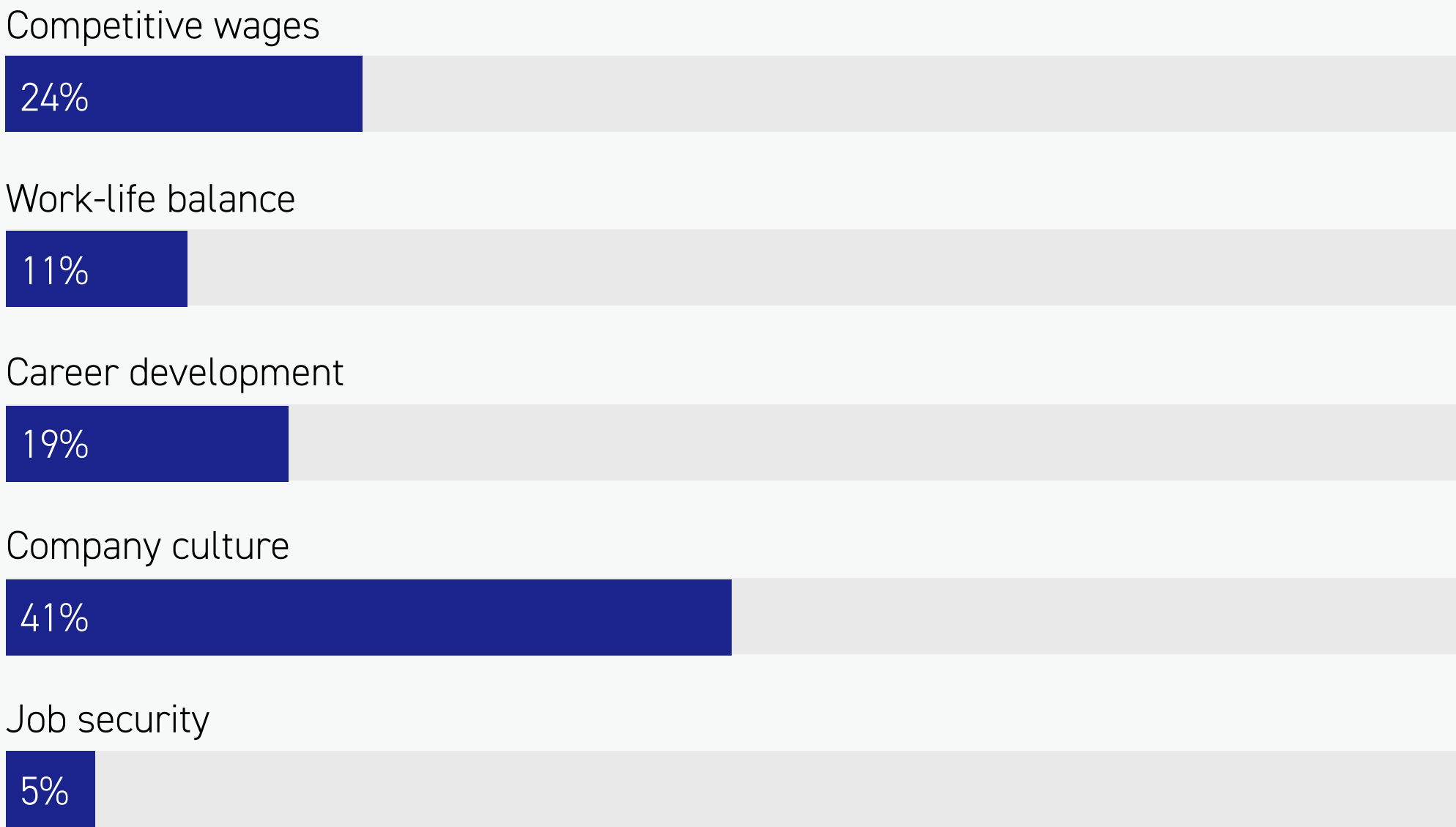
“Companies have a really hard time going from six workers on site to 100 in six weeks,” said Patrick Wallain, ABLEMKR’s President and CEO.

ABLEMKR is tackling this problem with automation and artificial intelligence (AI). “Instead of filling out, manually, 50 job posts, we are using AI and automation techniques to drag and scrape what companies need and push it out to a publisher network,” Wallain said.

The technology “has really increased who we can find and how quickly we can find them,” he said. “The future of recruitment, the future of project-based staffing, I think, lies there.”

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What factor is most important to you when choosing to join or stay with an employer in the energy sector?



Source: EPC Show 2025 Workforce Roundtable audience polling

Energy companies are also adopting a more focused approach to recruitment, said Leonelle Thompson, Manager of Legal Business Operations at Williams, which handles around a third of the natural gas used in the U.S.

“When we redesigned our op-tech internship program, we started to partner with technical schools and have our operations employees be advocates instead of sending my team from the corporate office,” Thompson said.

The interns on the program now do their internships locally to where they live and are kept on as part-timers until they finish school, receiving pay and benefits such as sick leave.

“They’re building up a little bit of commitment to the company and once they finish their degrees we convert them to full time, so there’s no break in service,” said Thompson. “Before, we would just post and pray someone will apply.”

Alongside apprenticeships, Williams has begun offering scholarships and working with high schools to help students understand the energy

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industry and what it can offer in terms of careers.

“Our next-step program is eighth to twelfth grade, so even earlier,” said Williams, “just to introduce them to the idea of what our industry is.”

The hope is that such initiatives might dispell some of the preconceptions that could put young people off considering EPC jobs. Nowadays, “You’re not necessarily working on a dirty site,” said Poché of Nunez Community College.

“Sometimes you’re working in a really sophisticated control room, and that’s attractive for some of our students.”

Building the Workforce

While training and attracting the right workforce is key, it is not the full story. Retention is also an issue for the energy industry, and “it’s not always the dollars and the per diem that are important,” said Chris Blike, President of the recruitment firm Kodiak Labor Solutions.

“We deal with 35 to 40 different clients around the country, mostly in the industrial crafts, and it really comes down to what are the add-ons from the employees perspective. What are you doing on site? How’s the project owner treating those folks? How’s your onboarding?”

EPC workforce retention is complicated by the fact that project volumes—and job openings—are not constant over time.

“You train people two to three years before you need them, at which point, typically, you’re not doing any work. The workers we need now, we needed to train two-three years ago,” said Brendon Davis, Regional Workforce Services Manager for North America at Bechtel.

To secure a talent pipeline, Bechtel has focused on a limited range of job classifications, such as electricians, pipe fitters, structural Iron workers, riggers, scaffolders and insulators, for which there are established industry shortages.

The company then developed training programs for these classifications so there is a skills pool it can call upon whenever it needs to, irrespective of market conditions.

“What our crews get is a full-time apprentice who’s done practical training and is work-ready, but not necessarily as skilled as they can be,” Davis said. “That’s about as good as we can get if we’re not executing work somewhere else at the same time.”

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Which of the following do you believe is the biggest consequence of ineffective talent management?

High turnover

52%

Low morale -

7%

Reduced productivity

24%

Loss of knowledge

16%

Source: EPC Show 2025 Workforce Roundtable audience polling

Lisa Williams, Dow Chemical's Senior Director of Operations, Talent Strategy and Employee Experience, said a failure to adequately manage talent can result in low worker retention, decreased productivity, high recruitment costs, poor reputation and a lack of innovation.

And specifically in the energy industry, "The negative implications expand to safety risks, regulatory non-compliance, operational inefficiencies and supply chain disruptions," she added.

Human Resources (HR) teams must grapple with a third layer of complexity relating to new generations, which creates issues in areas such as work-life balance, knowledge transfer, adaptation to technology, communication, engagement and motivation, Williams said.

"When you think about training your workforce, you have to think about it in all of those layers," she said.

"And there has to be someone in your organization, not necessarily HR, who

understands those dynamics and understands your business strategy, so you can pick the two things in each of those layers that your education and training program will focus on."

Generational differences can have a significant bearing on remuneration and engagement strategies, according to Brad Morrison, Senior Vice President for BASF Corporation's Freeport site in Southeast Texas.

"The industry has seen a shift in workforce culture. At one time, employees were always looking for overtime opportunities because that was a great way to increase their income. The younger generation is placing a larger emphasis on balance and time spent away from work," he said.

"The challenge is not only attracting talent, but figuring out how to manage work-life balance expectations with the job demands. Industry loses a lot of good people because of this challenge, particularly in the first 12 months. It's something we will have to figure out to be competitive."

At Bechtel, said Davis, "What makes certain people tick, we found, is dictated by a large part of where they are in their career and also the environment that they've grown up in."

Workers at the end of their careers are naturally interested in 401(k) workplace retirement plans, he said, but so are those starting out. Meanwhile, those in the middle of their careers tended to focus more on paid time off.

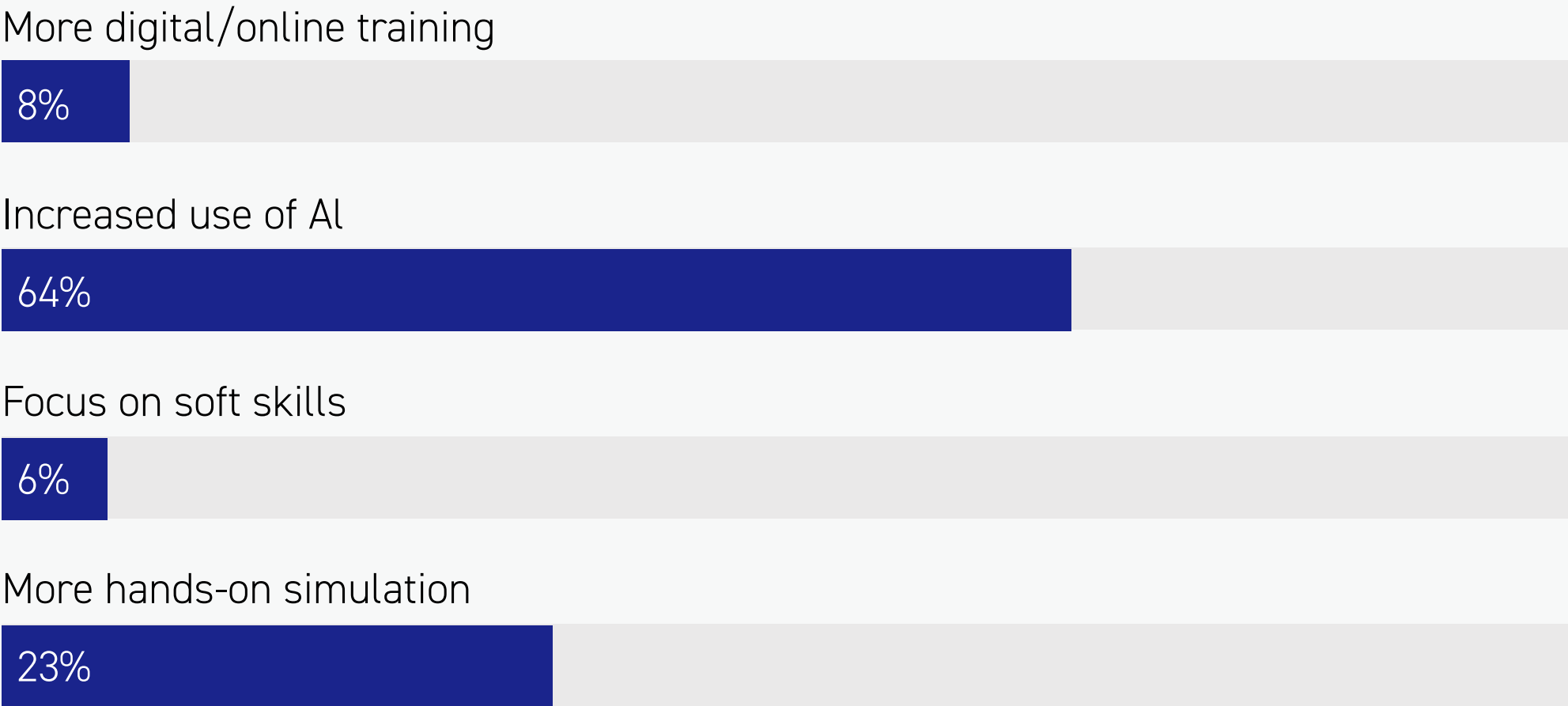
Reaching these cohorts also requires a differentiated approach, Davis said. "The younger generation aren't going to jobs boards, industrial newspapers, classifieds or anything like that. They're looking at social media."

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You go from having a workforce that's looking for overtime all the time... to a younger generation [that] seems completely uninterested in that part of it."



What do you think will be the most significant change in training and development over the next 2-3 years?



Source: EPC Show 2025 Workforce Roundtable audience polling

Yet even social media use is nuanced, with older users preferring platforms such as Facebook while younger workers gravitate towards TikTok and Instagram. To recruit the right people at Bechtel, “We really had to tailor our marketing activities to the audiences we want,” said Davis.

“We know where the bulk of our workforce are, but we know there’s not enough of them. That’s where we need to dip into new areas, and we need to dip into what we know resonates with the people we want to attract into our industry, not the people we know we don’t have enough of.”

A final point on retention of younger workers, said BASF’s Morrison, is “building really cool things. The younger generation really does want to change the world. So if you’re doing emission-reduction projects, people get excited about the mission and how they can help.”

Davis said Bechtel had also taken this to heart. “We need to be showing the great things that we are doing,” he said.

Around a year and a half ago, Davis said, Bechtel upped the frequency of Facebook posts linked to its projects.

And “over the last 18 months, we’ve probably had 75,000 new registrations to come and work for Bechtel, in the midst of a 40-50,000 worker shortage across the Gulf Coast,” said Davis.

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Outlook and Conclusions

Any U.S. energy skill gap analysis is likely to highlight a need for workforce development to increase the industry's talent pipeline, highlighting why EPC firms should prioritize upskilling, reskilling and retraining along with areas such as competency-based training.

Traditional workforce development routes such as apprenticeships and vocational training may no longer be enough to satisfy the need for skilled workers, which is leading to closer collaboration between industry and higher education bodies.

At the same time, EPC employers are having to adapt their recruitment and retention strategies to a new generation of workers that has novel expectations of work and a taste for digital rather than physical engagement channels.

Furthermore, said Chris Blike of Kodiak Labor Solutions, "The industry has an issue of having a bad reputation. We've gotten involved with a lot of our clients in helping to almost co-brand and market the industry."

It all adds up to an outlook where the need to share knowledge and best practice is paramount. The Energy Projects Conference and Expo will be leading this effort with a 2026 agenda that includes more exclusive intelligence on recruitment and retention.

To find out more, visit www.epcshow.com.



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