ISSUE FOUR • 2024

# ENGINEERING INC.

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AWARD-WINNING BUSINESS MAGAZINE • PUBLISHED BY AMERICAN COUNCIL OF ENGINEERING COMPANIES

## BLUEPRINT FOR PROGRESS

**Meet the engineers in Congress who draw on their industry expertise to shape policy**

**FINAL PRINT ISSUE**

The publication continues online at www.acec.org in mid 2025.

The Legal and Ethical Risks of AI

2025 Tax Policy: What's Next?

The ROI of DEI&B Efforts

MO Profile: ACEC of Connecticut

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"Having more professional engineers on Capitol Hill would bring more common sense and scientific understanding to energy and transportation bills."

**Rep. Bruce Westerman**
**Republican, Arkansas' 4th District**

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ANNUAL CONVENTION & LEGISLATIVE SUMMIT 2025

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MAY 18–21, 2025 | GRAND HYATT WASHINGTON

## FEATURES



## DEPARTMENTS




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ACEC's award-winning quarterly magazine *Engineering Inc.* provides expert analysis on all issues affecting the overall business of engineering. Other highlights include in-depth interviews with major policy makers whose decisions impact bottom lines; updates on critical advocacy issues and industry news, best practice management trends and marketplace projections, along with member firm innovations and announcements.

# Momentum at a Time of Change

As we go to print this November afternoon, we do so against a dramatically changed political backdrop. After a bruising and deeply polarizing presidential campaign, Donald Trump was elected our nation's 47th president. And while it is far too early to unpack the full freight of Decision 2024, we know that change can bring opportunity. ACEC is in the business of being prepared for whatever the political winds may bring. In a year marked by "firsts"—some good, some not—it is all but certain that the fates have for us more change in store. History does indeed love to surprise, to take its zigs and zags.

But despite a year in which political fortunes shifted overnight and the very fabric of our democracy was tested in unprecedented ways, 2024 was a momentous and successful year for ACEC and for the business of engineering. Within these pages, you will find some of those success stories—from our cover feature on engineers making a difference in the halls of Congress (*see page 14*) to dispatches from the ACEC Fall Conference in the Big Easy that saw record-shattering attendance (*see page 18*).

As our firms continue to contend with workforce shortages, more and more are ramping up their diversity, equity, inclusion, and belonging (DEI&B) programs in an effort to cast a broader net for qualified workers. Although pockets of resistance to DEI&B programs remain in some quarters, there is a compelling business case to be made for such programs (*see page 34*).

Our workforce is changing but so, too, are our firms. Whether it is the effects of emerging technologies like artificial intelligence and its legal and ethical ramifications (*see page 38*) or the growing influence of private equity (*see page 44*), the very nature of engineering is being redefined.

This issue is the last print edition of *Engineering Inc.*, ACEC's award-winning business magazine. In mid 2025, the publication will evolve into a new digital version. Members will continue to receive the latest business and industry news, along with insightful features, but the website will provide more interactive and engaging content and the ability to update the content in real time, enhancing our members' overall experience. Stay tuned for more information on this exciting transformation.

Dr. Gary W. Raba, PE
ACEC Chair

Linda Bauer Darr
ACEC President & CEO



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# ACEC RESEARCH INSTITUTE

The ACEC Research Institute provides the engineering industry with cutting edge research, trend data, and economic analysis to help firm owners make decisions and delivers thought leadership that advances engineering's essential value to society.

**The ACEC Research Institute wishes to extend its sincere appreciation to its generous contributors.**

*As of November 2024*

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# Reports: Industry Optimism Continues, Workforce Challenges Persist

The ACEC Research Institute recently released two reports: the *2024 Economic Assessment of the Engineering and Design Services Industry* and the *Engineering Business Sentiment 2024 Q4* report, both of which point to continued optimism for the industry and its firms, albeit somewhat softened compared to previous quarters.

### *2024 ECONOMIC ASSESSMENT OF THE ENGINEERING AND DESIGN SERVICES INDUSTRY*

Now in its fifth annual release, the report focuses on the key economic drivers of the engineering and design services industry. It seeks to describe, measure, and analyze the economic significance of the industry and to highlight its inextricable connection to the health of the U.S. economy. All told, the industry added $656 billion to the U.S. GDP in 2023, supported well over 5 million jobs directly or indirectly, and contributed nearly $92 billion to federal tax coffers and almost $44 billion in state and local taxes.

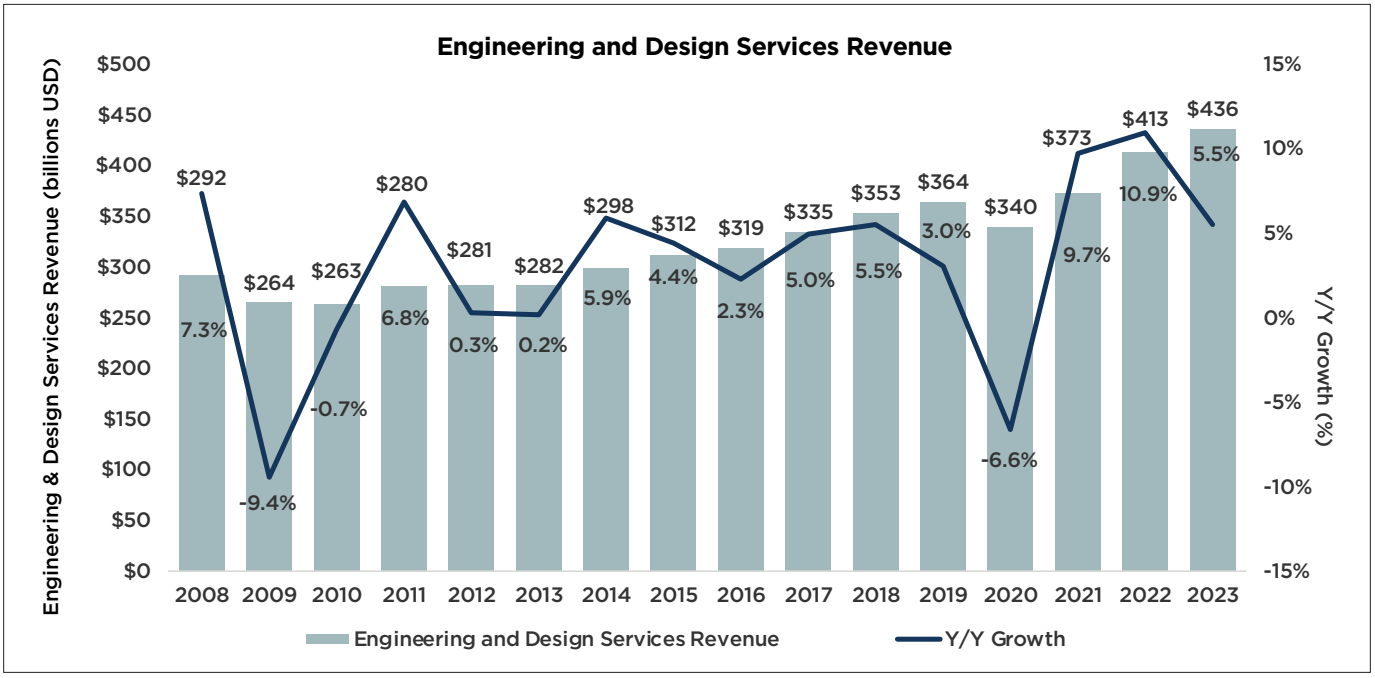
Overall, the report found that the engineering and design services industry has continued to build on its year-over-year post-COVID-19 gains, growing 5.5 percent in 2023 to $436 billion, with much of that growth driven by infrastructure projects. This marked a return to pre-pandemic growth patterns. These gains, while strong, were tempered by inflation and rising interest rates, which continue to be a headwind to the industry. As to the latter, the Federal Reserve's aggressive rate hikes in 2023 had a dampening effect on the residential construction sector. Conversely, nonresidential and nonbuilding construction, flush with government funding from the Infrastructure Investment and Jobs Act and the Inflation Reduction Act, remained on an upward trajectory.

Still, as the industry finds itself with more work than ever, it also continues to face significant workforce challenges driven by the dual effects of an aging workforce coupled with an ongoing shortage of skilled labor. Industry employment grew more than 3 percent in 2023, but worker shortages persist despite a slight decrease in job openings versus new hires.

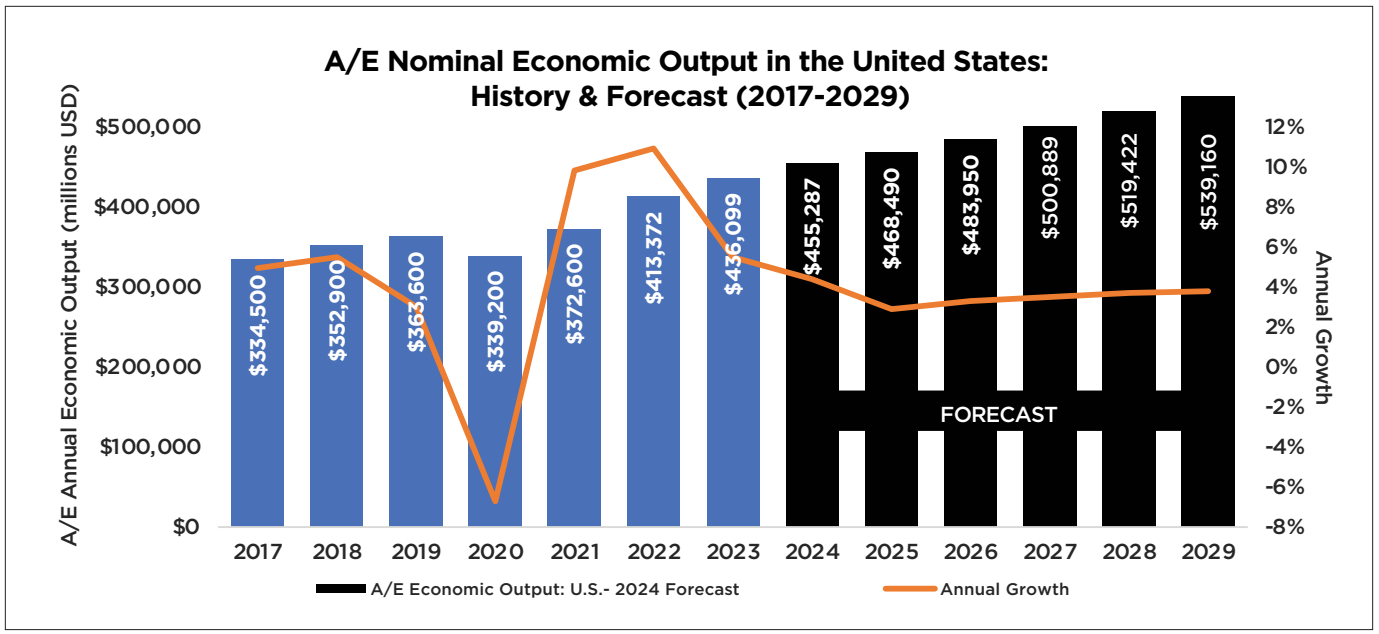
For the first time, this year's report examined the potential impact of emerging technologies on the engineering and design services industry. With artificial intelligence (AI) identified as a key trend, the authors note that this technology is rapidly gaining traction with firms. "Currently, around one-third of firms are either implementing or planning to incorporate AI into their workflows," the authors write.

### FORECAST FOR 2025–AND BEYOND

Industry revenue growth is expected to cool over the next year as the construction industry feels the impact of higher interest rates. That said, year-over-year growth at an average of 3.6 percent per year is expected to continue through 2029, with revenues anticipated to hurdle the half-trillion-dollar mark by 2027.




Sources: Quarterly Census of Employment and Wages, Rockport Analytics




Sources: Rockport Analytics, IMPLAN, Moody's Analytics, Bureau of Economic Analysis, Quarterly Census of Employment and Wages

### *ENGINEERING BUSINESS SENTIMENT 2024 Q4*

For yet another quarter, sentiment remains extremely positive for firms and for the overall industry. In this report, member firm leaders from around the country and from firms of all sizes were asked to weigh in on the current state of the industry and its direction. The survey uses a Net Rating methodology, which is calculated by subtracting the negative ratings from the positive ones. Therefore, a positive Net Rating indicates that overall sentiment is optimistic, while a negative Net Rating indicates an overall pessimistic sentiment. The higher the number, the stronger the sentiment.

The Net Rating for the industry is +83; for firms' finances, the Net Rating is +85. Optimism about the U.S. economy was nearly steady compared to Q3, declining two points for a Net Rating of +36.

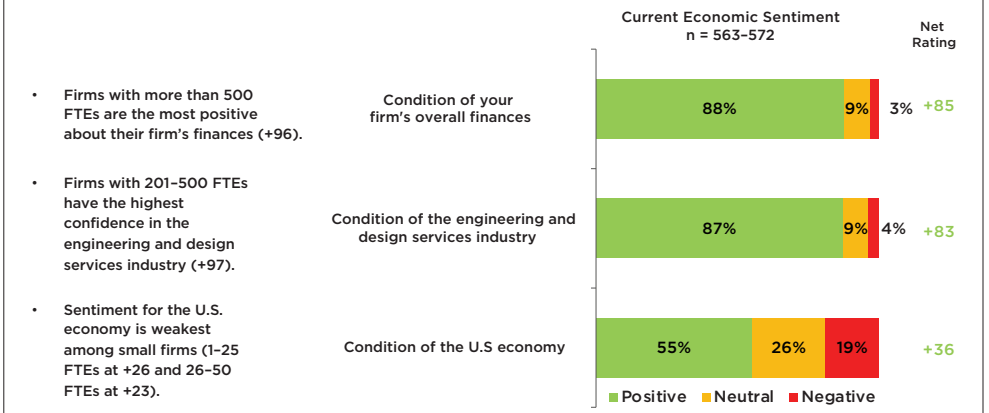
Looking ahead, respondents continue to be optimistic about the future of both the industry and their own firms, although both have declined since the last quarter. Sentiment for the future of the overall U.S. economy also declined eleven points from Q3 to +11, with general economic uncertainty, political uncertainty, and inflation/rising costs fueling this more negative sentiment.

Workforce challenges were once again a persistent theme throughout the responses, with more than half of firms (51 percent) reporting that they continue to turn down work due to labor shortages. Among firms turning down work, most (83 percent) are being more selective about the projects they are selecting, down from 88 percent in Q1. Twenty-six percent of firms also indicate they are turning down good, profitable projects. That represents a 2 percent increase from Q1.

"These reports point to another good quarter—and year—for our industry," said ACEC Research Institute Chair Mike Carragher. "That's the headline. But there are some data points that are not necessarily warning signs but rather are reminders that even our significantly countercyclical industry is not immune to external factors." ■

Both reports are available through the Institute's website. Scan the QR code.

**Current sentiment remains positive. The Net Ratings for the firm's finances (+85) and for the industry (+83) are extremely high. The Net Rating for the U.S. economy is +36.**




Source: *Engineering Business Sentiment 2024 Q4*

# ACEC Member Testifies on Tax Policy Priorities

Tom Pace (far left) testifies in front of the House Ways and Means Committee Main Street Tax Team.

Tom Pace, CFO of Thomas & Hutton and Chair of the ACEC Tax & Regulatory Affairs Committee, testified in front of the House Ways and Means Committee Main Street Tax Team on the importance of the Section 199A passthrough tax deduction to the engineering industry. The roundtable discussion was part of the Ways and Means Committee's overview of tax provisions that will be up for debate in 2025 when significant portions of the 2017 Tax Cuts and Jobs Act (TCJA) expire.

The Section 199A deduction was created as part of the TCJA at the same time as the corporate tax rate was lowered from 35 percent to 21 percent. This balanced tax treatment of all business structures is essential to ACEC because its membership is a mix of C corporations and passthrough entities, such as S corporations, partnerships, and LLCs.

Pace's statement discussed how Section 199A has given Thomas & Hutton the financial flexibility to increase salaries as a workforce retention measure. In addition, he provided the legislative history of why engineering and architecture are treated differently than other professional services that do not have full access to the deduction.

ACEC also submitted comments to the Ways and Means tax teams on all of the Council's priorities in the 2025 tax debate and is engaging with all House and Senate tax writers to ensure that the engineering industry's concerns are front and center.

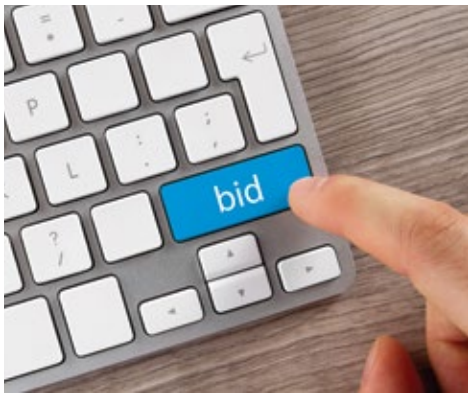


# Federal Rule Reinforces Prohibition on Reverse Auctions for Engineering Services

As a result of ACEC's advocacy efforts, a new federal rule was recently finalized that specifically prohibits the use of so-called reverse auctions for procuring architect and engineering (A/E) services.

A reverse auction is often presented as an online competition where contractors can submit multiple bids to win a contract. Often described as a "race to the bottom," the process directly conflicts with Qualifications-Based Selection laws at the federal and state levels.

The Construction Consensus Procurement Act of 2021 (P.L. 117-28, July 26, 2021) required the rulemaking clarifying a prohibition on the use of reverse auctions for procurements of A/E services that are subject to the Brooks Act (40 U.S.C. Chapter 11) by adding language to Federal Acquisition Regulation 17.803. The rule also prohibits reverse auction use for design-build contracts. The final rule was published in the *Federal Register* on July 30, 2024, and became effective on August 29, 2024. Go to **https://bit.ly/3YaLnhN** to read the final rule.

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# ACEC Seeks Feedback on DOD Cybersecurity Proposed Rule

The Department of Defense (DOD) released a proposed rule on August 15 that would inject the Cybersecurity Maturity Model Certification (CMMC) program requirements into the contracting process. CMMC aims to verify if defense contractors follow cybersecurity standards—crucial for protecting sensitive but unclassified information. Contractors should aim to understand whether they may be required to meet CMMC requirements well before the solicitation.

The proposed Defense Federal Acquisition Regulation Supplement (DFARS) rule lays out a three-year-long "phased rollout" of the CMMC requirements. "The rollout is intended to minimize both the financial impacts to the industrial base, especially small entities, and disruption to the existing DOD supply chain," it states.

ACEC has concerns about the implications for digital delivery, the impacts of flow-down processes in teaming to form the most qualified offer for Brooks Act (Qualifications-Based Selection) contracts, and the protestable grounds for a self-assessment at contract award, as well as the procedures for notifying the contracting officer within 72 hours of discovering a cybersecurity incident.

On October 15, ACEC submitted comments on the proposed DFARS rule to implement contract requirements. In October, the DOD released the final rule for the CMMC program, containing hundreds of changes to CFR Part 32. CMMC could be a foundational requirement for A/E companies looking to do business with the DOD. ACEC plans additional feedback and educational sessions prior to CMMC language appearing in DOD solicitations, as soon as early 2025. For more information on the CMMC program, visit: **https://bit.ly/40lup1p**. Please share your thoughts with the Federal Agencies & Procurement Advocacy Committee, staffed by the new ACEC Vice President for Federal & International Programs Bradley Saull at bsaull@acec.org.

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## House and Senate Pass WRDA Bills

Earlier in 2024, both the Senate and House of Representatives passed Water Resources Development Act (WRDA) bills with overwhelming bipartisan support and were working to negotiate a final bill to send to the president's desk before the end of 2024. The House bill passed by a vote of 359-13 on July 22, and the Senate followed by passing a WRDA bill unanimously in that chamber by a voice vote on August 1.

The ACEC-backed WRDA bill authorizes flood control, navigation, hurricane and storm damage reduction, and ecosystem restoration projects of the U.S. Army Corps of Engineers and is typically enacted every two years. The bills passed by both houses of Congress build on previous WRDA laws, with some differences. The Senate bill, named after the retiring Chairman of the Senate Environment & Public Works Committee, Tom Carper (D-Del.), authorizes 13 new or modified construction projects and 83 new feasibility studies. The House bill authorizes 12 projects and 161 new feasibility studies.

Both the House and Senate bills include provisions to improve the transparency of environmental reviews and improve project delivery for Army Corps projects. Specifically, the House bill requires the Army Corps to track NEPA documents through an online permitting dashboard, and the Senate bill requires timely updates to the Army Corps' "permit finder." ACEC supports improving the Army Corps' processes for permitting and project delivery, which will help reduce delays in the time it takes to complete Corps projects.

Notably, the House WRDA bill also reauthorizes the Federal Emergency Management Agency's National Dam Safety Program through 2028. ACEC supported the inclusion of this important reauthorization in the WRDA bill, which will ensure that funding remains available to reduce the risks associated with a dam failure across the country.

ACEC continues to support the enactment of WRDA laws every two years to ensure the timely authorization of Army Corps studies and projects. ACEC will continue to engage with Congress as both chambers work to get WRDA 2024 over the finish line.

## For More News

For legislative news, visit ACEC's *Last Word* blog online at www.acec.org.

# ACEC Announces Leadership for New Market Intelligence Committee

BY DIANA O'LARE

Approved in May during ACEC's Annual Convention & Legislative Summit, the new Market Intelligence Committee (MIC) aims to identify and analyze key market developments and trends affecting the engineering industry. This open committee also is charged with guiding the development of educational programming and resources for member firms operating in both public and private markets.

ACEC's Executive Committee Chair, Dr. Gary W. Raba, PE, chief growth officer at Raba Kistner, appointed Mark Borushko, principal of Western Land Consulting Group, LLC, as committee chair. Mark Baum, partner at Barry-Wehmiller Design Group Commercial Strategy, was appointed vice chair.

MIC aims to enhance the current resources offered by the market intelligence team by providing more curated and timely content on markets within the engineering industry. It will guide programming, track trends, and help firms adapt to evolving market demands. If you would like to sign up for this committee, go to: www.acec.org/member-center/get-involved/committees/join-a-committee/.

"I am excited to serve as chair for ACEC's new Market Intelligence Committee and help lead the committee to stay ahead of near- and long-term growth opportunities that lie before our industry," Borushko says. "There has never been a more exciting yet challenging time for the engineering community. Consequently, it is incumbent upon us to be a catalyst for our nation's growth and development. MIC will

# Top 5 Trends Impacting the Health Care and Life Sciences Markets

The current construction spending market for health care is worth $68 billion, up 3 percent from 2023, according to FMI. An aging population, growing mental health concerns, the increase in artificial intelligence capabilities, and rising obesity rates will drive demand for additional medicines, services, and facilities including hospitals, outpatient facilities, and medical office buildings. Here are the top five trends impacting the market today.

1. **The surge in mental illnesses demands more facilities:** One in 5 American adults (approximately 57.8 million) experienced mental illness in 2021, according to the National Alliance on Mental Illness. In 2023, 50 percent of adults ages 18 to 34 reported experiencing mental illness, the highest rate among the population, according to the American Psychological Association. Diagnoses of anxiety and depression increased by 25 percent during the first year of the COVID-19 pandemic, the World Health Organization reports. This led investors to begin acquiring behavioral health properties at a rapid pace, with investments worth $3 billion in the last 10 years, according to Colliers. This directly resulted in increased investment in three in-demand facility types: outpatient, inpatient, and residential.

**Mark Borushko**

**Mark Baum**

constantly look forward to better understand what lies ahead in all aspects of our ever-changing economy so we can best serve the needs of our clients."

Baum adds, "I look forward to the opportunity to collaborate with MIC to continue to advance and build upon the Market Intelligence and Industry Insights developed by the team. There has never been a better time to be an engineer, architect, or construction manager in the United States. The domestic landscape for engineering and construction services is ripe with opportunity, and MIC can provide focused insight to firms interested in harvesting that abundance."

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**The Market Intel column in *Engineering Inc.*** focuses on the markets listed above, and information and insights on economic data relevant to the industry.

***Diana O'Lare**, CPSM, is ACEC's director of market intelligence. She can be reached at **dolare@acec.org.***

2. **There has been a notable shift from inpatient to outpatient care**: The Urgent Care Association reports the number of urgent care centers (UCCs) grew 66 percent from 2016 to 2023. Outpatient volumes are expected to rise 26 percent over the next decade, according to the American Hospital Association. Demographics, consumer preference, and advancing technologies are driving demand for outpatient facilities. Medical outpatient buildings can include UCCs, labs, surgery centers, and mental health clinics.

3. **M&A activity is on the rise**: In 2022, there were 53 announced hospital mergers and acquisitions; in 2023 there were 65, according to a Kaufman Hall report. As interest rates begin to decline, telehealth demand continues to soar, and AI changes the health care landscape, new investors are expected to enter the market, creating the potential for further M&A activity that would allow health systems access to more capital and the potential to acquire innovative startups, expand market share, address labor shortages, and diversify services offerings.

4. **Weight loss drug advancements are impacting biomanufacturing real estate**: Drugs that were initially created to help manage patients' blood sugar levels and lower the risk of cardiovascular problems associated with diabetes have become a growing weight loss trend. Prescriptions for these drugs increased by 355 percent from Q1 2020 to Q3 2022, according to Trilliant Health. This has led to increased investment interest in additional outpatient facilities that are required for diagnostic testing and follow-up appointments, as well as cold storage units to store the drugs until use.

5. **More funding is needed for decarbonizing labs**: Laboratories in the life-sciences sector require more complex infrastructure than traditional office buildings, including greater load capacity, higher floor-to-ceiling heights, and heavy-duty HVACs. These labs consume five to 10 times more energy per square foot than office buildings do, according to the EPA, and that requires substantial design from mechanical, electrical, and plumbing engineers. The Inflation Reduction Act contributes $64 billion in funding to sustainability and renewable energy updates, which could aid aging buildings within the sector on their path to reduce carbon emissions.

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# Gateway to Innovation

## Engineering and Public Works Roadshow events highlight innovative projects and successful partnerships while celebrating engineering's essential impact on society


**ACEC Executive Committee Vice Chair Elizabeth Stolfus addresses the crowd at the Roadshow stop in Colorado.**

### CLEAR CREEK CANYON GATEWAY SEGMENT, GOLDEN, COLO., AUGUST 29

Clear Creek Canyon Gateway Segment in Golden, Colo., was chosen as a Roadshow stop for its creative engineering, which transformed challenging terrain into a beautiful, accessible benefit to the community. The project accounted for environmental considerations, including protecting federally endangered species and natural resources.

Rep. Brittany Pettersen (D-Colo.) praised the engineering and public works efforts that brought the project to fruition. "The attention to detail and care that went into this project—whether it was for shady spaces or new drinking fountains—is what makes it so special to our community," Pettersen said.

"Engineering makes our communities safer, more accessible, and more sustainable for future generations," said ACEC Executive Committee Vice Chair Elizabeth Stolfus. "Clear Creek Canyon's new gateway segment is an example of how we can protect our environment while making it possible for everyone to enjoy it."

"Today is an excellent example of advocacy—telling our story," added American Public Works Association (APWA) Technical Director Laura Kroeger, executive director of the Mile High Flood District. "If you want to make a difference and advance the quality of life for all, a career in public works or engineering is a wonderful option. Engineering and public works are valuable to society, as we are seeing today with the project we are celebrating."

"The Clear Creek Canyon Park Gateway Segment is an example of engineering projects that we hope will inspire students and young professionals to join the next generation of engineers," said Sarah Klarich, government outreach chair of the Denver Branch of American Society of Civil Engineers (ASCE). "The innovative construction techniques, focus on environmental responsibility, and ensuring this trail is accessible to everyone are part of what makes this project so special."

The event included remarks from Pettersen and Jefferson County Commissioner Lesley Dahlkemper, with executives from ACEC, APWA, and ASCE participating.

Muller Engineering Company received a Grand Award for this project at ACEC's 2023 Engineering Excellence Awards Gala. ■

For more information on the Engineering and Public Works Roadshow and to learn about upcoming events, go to **www.infrastructureroadshow.org**.

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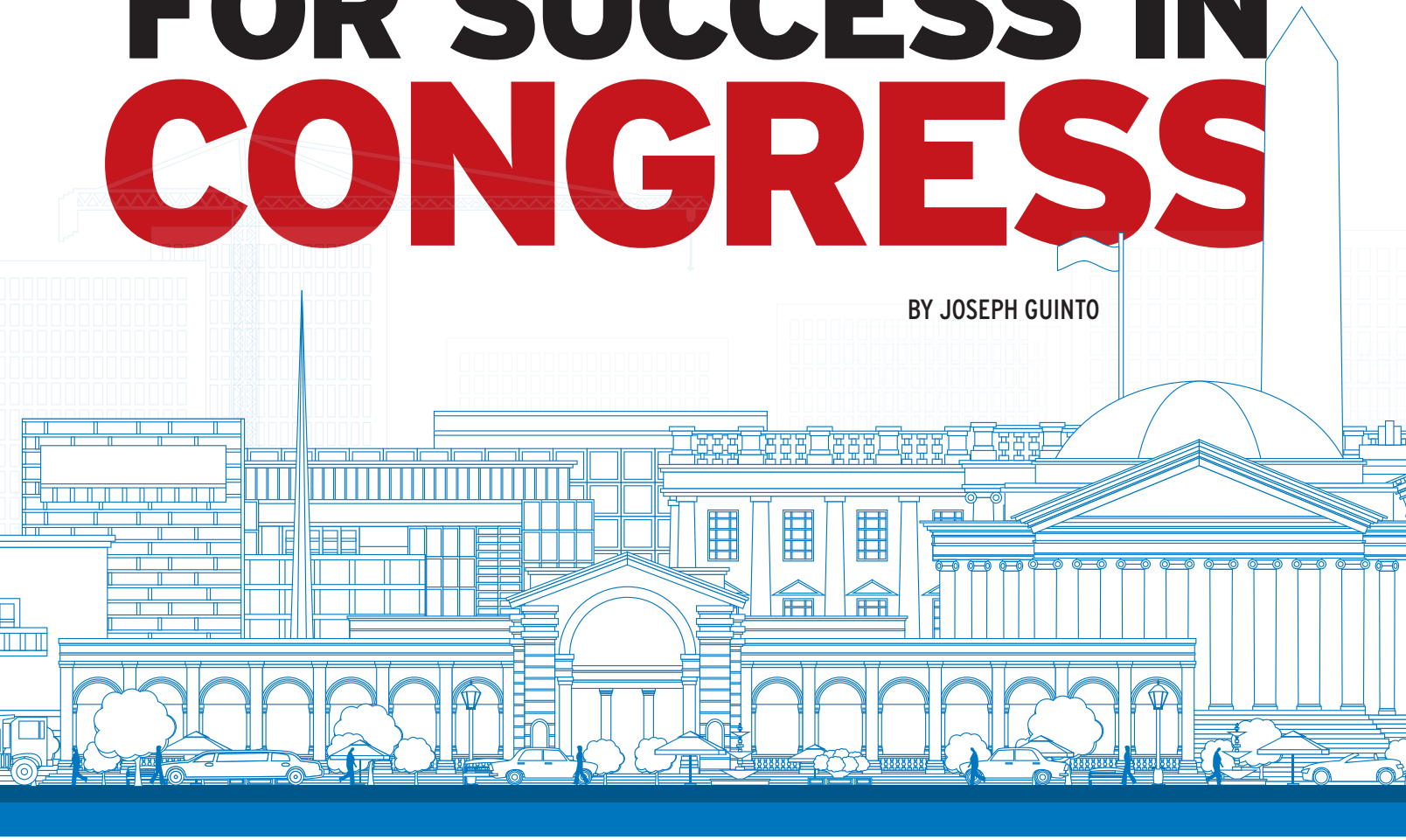
# BLUEPRINT FOR SUCCESS IN CONGRESS

BY JOSEPH GUINTO



**Engineers are on the rise** in Congress. Two decades ago, there were only four engineers walking the halls of the Capitol as elected officials. Today there are nine.

That still may seem like a small number given that there are 535 elected members of the House of Representatives and the Senate. But consider this: While engineers comprise just 0.5 percent of the total U.S. population, they make up 1.7 percent of Congress, according to the U.S. Bureau of Labor Statistics. Still, to hear from some of the engineers now serving in Congress, the nation might be better off if it elected even more from the profession.

"That might allow us to see emerging issues coming sooner, such as the influence of artificial intelligence, cybersecurity, and biotech," says Rep. Chrissy Houlahan, (D-Pa).

Rep. Bruce Westerman, (R-Ark.), adds, "Having more professional engineers on Capitol Hill would bring more common sense and scientific understanding to energy and transportation bills."

It makes sense. The work of an engineer is often highly complex. Multiple variables—from the strength of materials to environmental factors—may have to be considered on any given project. So, too, do the needs of different stakeholders.

Governing is similarly complex work. Lawmakers must carefully craft legislation, ensuring that it will be effective and will

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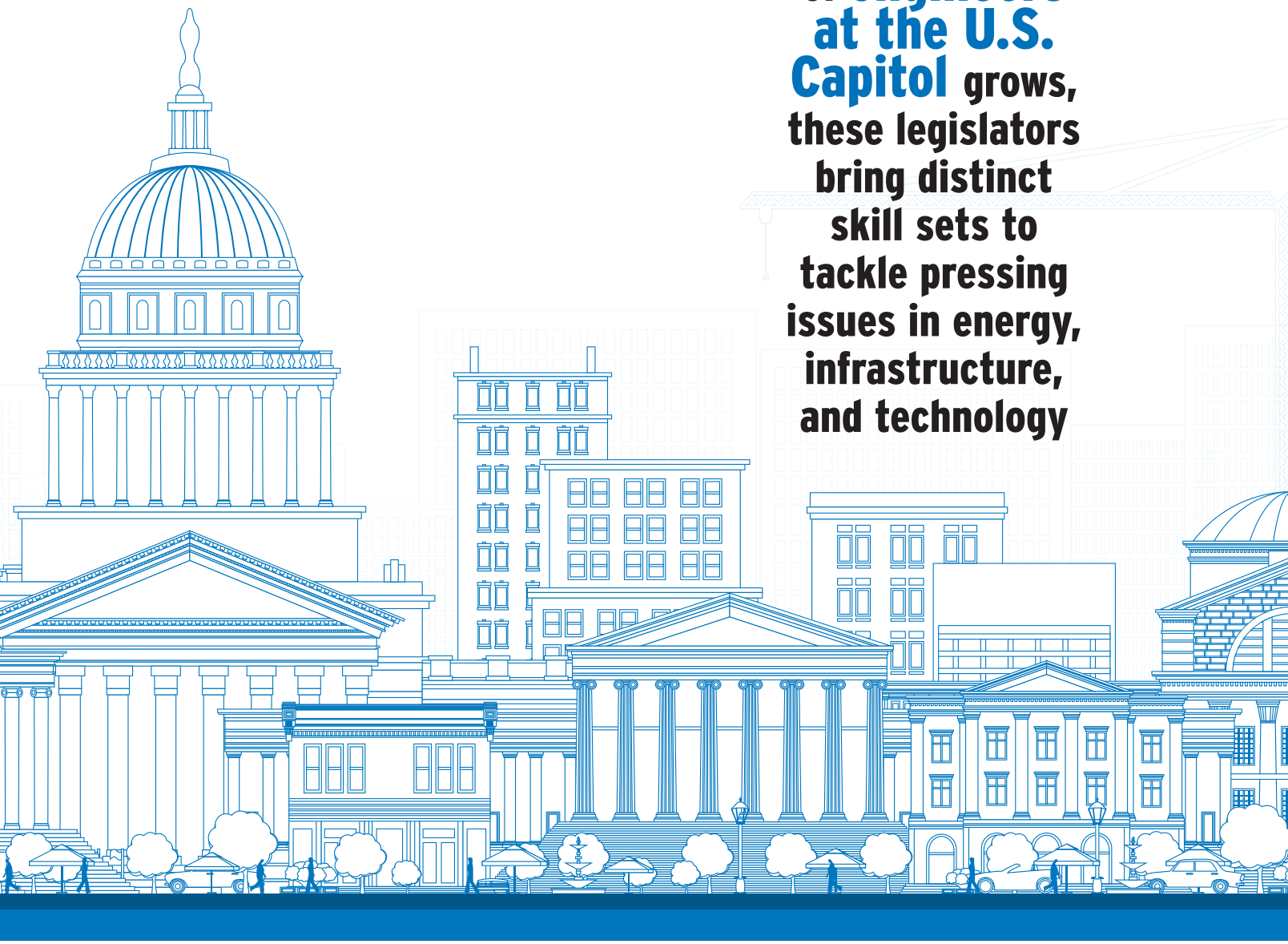


**As the number of engineers at the U.S. Capitol grows, these legislators bring distinct skill sets to tackle pressing issues in energy, infrastructure, and technology**

have a positive impact on the electorate—all while trying to build a consensus with fellow lawmakers, including those who may sit across the aisle.

Legislators with engineering backgrounds often look at practical, rather than simply philosophical, ways to address issues, says Rep. Ron Estes (R-Kan.) "What you learn with the engineering approach is logical problem-solving using facts."

Engineers also bring special expertise to STEM issues, making them especially well suited to work on legislation and policies related to U.S. infrastructure, as well as energy and the environment. They also may be better prepared to address the workforce shortage of engineers. Demand for engineering skills will jump 13 percent by 2031, according to an analysis by the Boston Consulting Group, meaning the United States will need about 400,000 new engineers every year. And yet, Boston Consulting says there's an "alarming possibility that nearly 1 in 3 engineering roles will remain unfilled each year through at least 2030."

## THE ROAD FROM ENGINEERING TO LAWMAKING

The job of a politician can be a topsy-turvy one. On some days, you're sticking a shiny silver shovel into the dirt to break ground on a new manufacturing facility, which Westerman did in East Camden, Arkansas, in February 2023. The next day you might be presenting a Silver Star to a Vietnam War veteran, which Hou-

lahan did at Pennsylvania's Valley Forge Military Academy and College back in March. And then the next day you could be sitting in a committee meeting, pushing through the adoption of your own bipartisan legislation that aims to ensure proper staffing levels at nursing homes, which Estes did in May.

But for all the ways the work can differ, the engineers in Congress have one thing in common: an early attraction to math and science, which led them to careers in engineering.

"Throughout high school, two of my favorite subjects were math and science," Estes says. "I always had an interest in both, so engineering felt like a natural fit when I was looking at colleges to attend."

Westerman echoes this sentiment, saying, "Science, math, and agriculture were the areas in high school that piqued my interest the most, along with projects that involved building and repairing."

"Having more professional engineers on Capitol Hill would bring more common sense and scientific understanding to energy and transportation bills."

**REP. BRUCE WESTERMAN**
**REPUBLICAN, ARKANSAS' 4th DISTRICT**

"What you learn with the engineering approach is logical problem-solving using facts."

**U.S. REP. RON ESTES**
**REPUBLICAN, KANSAS' 4th DISTRICT**

Houlahan came to engineering with a similar interest in math and science that was encouraged by her parents. She became an engineer in part because astronaut Sally Ride inspired her. "I really wanted to be an astronaut when I was young, and an Air Force ROTC scholarship allowed me to afford to dream big," Houlahan says.

### THE RIGHT SKILLS FOR LEGISLATING

The journey from engineering to Congress may seem unconventional, but for these lawmakers, their technical background was the foundation for a political career. Each followed a different path to Washington, but their engineering training equipped them with problem-solving skills that now guide their legislative work.

Westerman, for example, worked as an engineer and forester at Mid-South prior to the start of a local political career in Arkansas that led him to a successful congressional campaign in 2014. Westerman says, "Engineers solve problems by properly defining the problem, coming up with a plan to solve the problem, executing the plan, and convincing others that it's the right answer." He has found that approach to be "tried and true both in engineering and in politics."

## GETTING MORE ENGINEERS ON THE PATH TO POLITICS

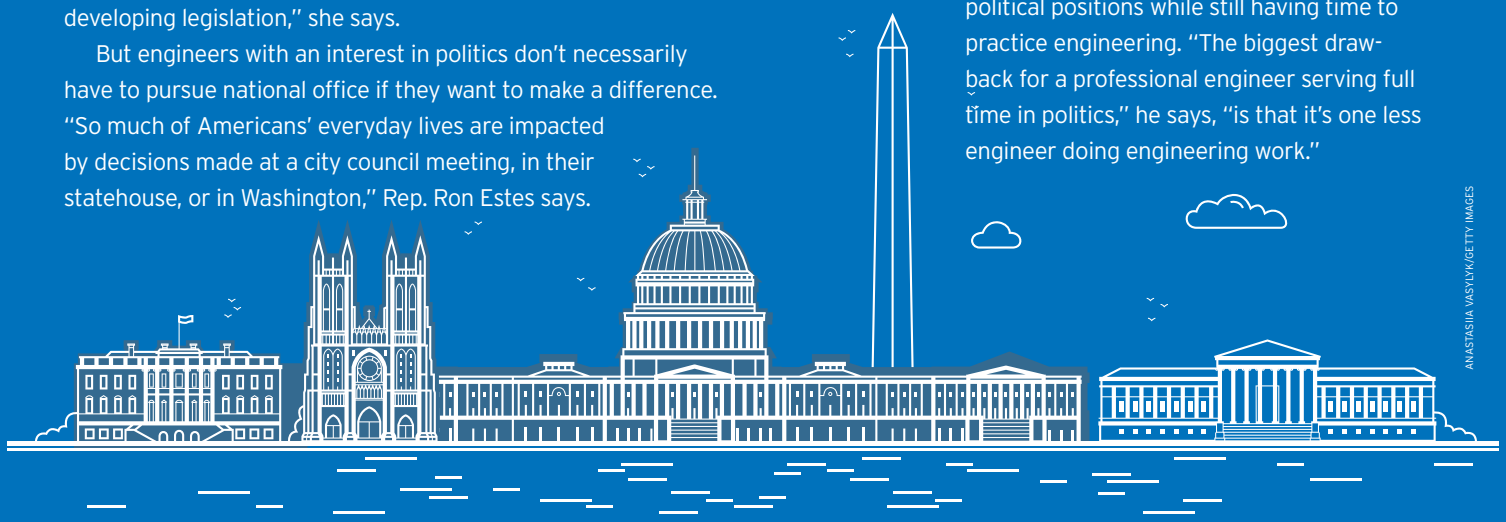
### 'Go for it!'

That's the advice of Rep. Chrissy Houlahan, encouraging engineers to run for Congress.

Engineers, she believes, may be more prepared for the work than they realize. "Many of the practical problem-solving skills I learned as an engineer transfer to this job in more ways than developing legislation," she says.

But engineers with an interest in politics don't necessarily have to pursue national office if they want to make a difference. "So much of Americans' everyday lives are impacted by decisions made at a city council meeting, in their statehouse, or in Washington," Rep. Ron Estes says.

Rep. Bruce Westerman urges more engineers to get involved at the local and state levels. That's the path that led him to Congress. His first political role came while serving on a school board. That, in turn, inspired him to run for, and get elected to, Arkansas' General Assembly in 2010, after which he ran for Congress. He says that engineers can serve in many state and local political positions while still having time to practice engineering. "The biggest drawback for a professional engineer serving full time in politics," he says, "is that it's one less engineer doing engineering work."



ANASTASIIA VASYLYK/GETTY IMAGES

Estes leveraged his bachelor of science in civil engineering and MBA degrees to land consulting and management jobs with firms like Procter & Gamble and Bombardier Learjet. He was first elected to Congress in 2017 after serving as treasurer of Kansas' Sedgwick County and Kansas state treasurer. His foundation in engineering has shaped how he approaches policymaking.

"Logical problem-solving techniques are applicable to a variety of issues, whether you're looking at good tax policy, affordable health care, or how to grow the economy and be successful as a country," Estes says. "That might not fit into what one might think of as an engineer, but the building blocks of engineering are relevant to addressing the many types of issues our country faces."

Houlahan also says engineering-style problem-solving factors into her approach to policymaking. Prior to being first elected to Congress in 2018, she received an engineering degree from Stanford and served in the Air Force, working on air and space defense technologies. She later was chief operating officer for sportswear company AND1 and taught science at a high school in Philadelphia, working with the Teach for America program.

These days, Houlahan says, many of the bills she works on are driven by data and systems—just like her engineering projects were. She cites her work as the co-chair and co-founder of the House bipartisan Paid Family Leave Working Group as one example. That group was developed to address the lack of a comprehensive paid leave policy. "Our working group is centered on data analysis and has an eye on effective and efficient implementation," Houlahan says.

She introduced a bill in 2021 (and reintroduced it in 2023) called the STEM Restart Act that would provide funding to support midcareer internships, known as "returnships," for workers who either want to come back to or transition into STEM jobs. "Given my own experience," Houlahan says, "I know how crucial investing in the STEM pipeline is—not only in, first, creating talent but in retaining that talent as well."

Still, Houlahan would like to see more engineering talent working alongside her in the halls of Congress. While she says the Capitol does have "great champions" for industries that rely heavily on engineers, such as energy and transportation, she adds that "having more professional engineers or STEM professionals in Congress would allow for a more effective body and perhaps better implementation-focused policymaking."

"Given my own experience, I know how crucial investing in the STEM pipeline is—not only in, first, creating talent but in retaining that talent as well."

**U.S. REP. CHRISSY HOULAHAN**
**DEMOCRAT, PENNSYLVANIA'S 6th DISTRICT**

## MAKE A DIFFERENCE: HOW TO ADVOCATE EFFECTIVELY

It's time to do something more constructive than engaging with vitriolic posts on social media. "Every American has a constitutional right to advocate for their beliefs or to petition government," Rep. Bruce Westerman says. But, he adds, "Complaining to our friends and neighbors is different than making your requests known to your elected officials and properly advocating effectively for changes to be made."

That advocacy can take simple forms, such as a phone call or email to elected representatives. It can also involve regular attendance at public forums. Or it can be slightly more complex, such as joining a professional association and volunteering to work occasionally on its behalf with elected officials, perhaps even meeting with those officials in Washington.

One other thing to consider is positive feedback. For engineers looking to get more involved with their elected officials, Rep. Chrissy Houlahan suggests one easy way to do so is to "let an elected representative know when you think they are doing something right." She adds, "We could stand a positive reinforcement loop every once in a while!"

There does seem to be plenty of room for more engineers on the Hill, where the leading profession in both chambers is still lawyer: 51 percent of those in the Senate have law degrees or have practiced law, as have 30 percent of the members of the House. Another 18 percent of all Congressional representatives have worked in education.

Westerman would also like to see more engineers getting involved. "You will be surprised at how much you can bring to the table as a professional engineer serving in a world where political scientists and lawyers seem more at home," he says.

More engineers on the Hill could have one other benefit, as Westerman sees it. It could lead to Congress adopting "the engineering code of ethics, which calls to weigh in on subjects where you have expertise and to listen when you don't." If Congress took that route, he says, "the meetings would be much shorter and more productive." ■

***Joseph Guinto*** *was a White House correspondent for* Investor's Business Daily *and has written for* Politico, The Atlantic, Texas Monthly, *and the* Washingtonian. *He lives in Washington, D.C.*

## 2024 FALL CONFERENCE:

# ACEC IN THE BIG EASY

Conference attendees enjoy meeting exhibitors during the Welcome Reception.

## ENGINEERING PROFESSIONALS GATHERED IN NEW ORLEANS TO CONNECT, LEARN, AND LOOK AHEAD

More than 1,000 members attended ACEC's Fall Conference in New Orleans in October. The four-day event was packed with business education sessions and networking opportunities, and it featured leading-edge keynote speakers.

Two former members of Congress, John Katko (R-N.Y.) and Cheri Bustos (D-Ill.), offered their perspectives on the presidential election. At the time, they believed it would be a close race.


During the Board Meeting, Linda Bauer Darr presents an award to ACEC Colorado Executive Director Heidi Gordon for the Clear Creek Canyon Gateway Segment Engineering and Public Works Roadshow event in Golden, Colorado, which promoted the essentiality of engineering.

In her Board of Directors report, ACEC President and CEO Linda Bauer Darr recognized the ACEC Louisiana team for their hugely successful Engineering and Public Works Roadshow event, held at the Gulf Intracoastal Waterway West Closure Complex in the New Orleans metropolitan area the day before the conference. She noted the topicality of the project, which serves as a barrier to help protect low-lying areas around New Orleans from the impacts of catastrophic weather events. Pointing to the horrific scenes that have dominated airwaves in the aftermath of Hurricanes Helene and Milton, Darr stated that the engineering industry will play a critical role in rebuilding those ravaged communities and creating solutions that will save lives and property in the future.

"That's what our industry does," she said. "Roadshow events like the one yesterday enable us to tell that story, to tell your story."

More Conference highlights follow.


ACEC President and CEO Linda Bauer Darr delivers her State of the Council and the engineering industry report at the Board of Directors Meeting.

Former members of Congress Cheri Bustos and John Katko discuss Election 2024 with ACEC Chair Dr. Gary W. Raba and ACEC Executive Vice President Steve Hall.


**(Far left) Attendees cheer on the racers at the 5th Annual Pinewood Rally, emceed by ACEC Vice President of Political Affairs Dave Bender. (Left) Adam Jones, NAECE president and ACEC-SC executive director, takes top prize at this year's Pinewood Rally.**

## RESEARCH INSTITUTE RELEASES ECONOMIC ASSESSMENT REPORT FINDINGS

The ACEC Research Institute unveiled the findings of its *2024 Economic Assessment of the Engineering and Design Services Industry*. Now in its fifth year, this report—and its accompanying forecast—is produced to highlight the outsized role the engineering industry plays in the overall U.S. economy.

The industry added $656 billion to the U.S. GDP in 2023, supported well over 5 million jobs directly or indirectly, and contributed nearly $92 billion to federal tax coffers and almost $44 billion in state and local taxes.

The event was moderated by Institute Chair Mike Carragher. Senior Research Consultant Joe Bates and Jon Gray with Rockport Analytics unveiled the results, which pointed to continued steady growth for the industry. The engineering and design services industry has continued to build on its year-over-year post-COVID-19 gains, growing 5.5 percent in 2023 to $436 billion, with much of that growth driven by infrastructure projects. The forecast points to an average annual growth of 3.6 percent per year through 2029 *(see page 6 for more information)*.

**Research Institute Chair Mike Carragher, Rockport Analytics Principal Jon Gray, and Senior Research Consultant Joe Bates unveil the results of the 5th annual economic assessment and industry forecast.**

## A BRILLIANT FUTURE WRITTEN IN THE STARS

Astrophysicist and former Space Science Education Lead Dr. Hakeem Oluseyi greeted the roomful of engineering professionals with, "Good morning, fellow nerds," setting the stage for an address that was equal parts inspirational and hilarious. He began with a metaphor about quantum physics, namely that initial conditions don't define outcome. It's widely accepted social science that economic and educational factors surrounding children determine their future prospects. But, Oluseyi declared, it's not necessarily so. Demography doesn't always have to be destiny.

The internationally renowned scientist then began his life story. Raised in deep poverty, Oluseyi moved every year for a decade, each time to one of the most economically ravaged parts of the Deep South. By the time he landed in rural Mississippi, two sets of circumstances had converged. The first was that Oluseyi had become more deeply involved in his father's "business," about which he joked that his late parent would be "happy to know is now legal in 35 states."

The second was that he "fell in love with nature." Oluseyi joked that he was "born a nerd" and that his love of books began at an early age.

Oluseyi continued to lead a double life—relaxing after a day spent packaging drugs by reading the entire collection of World Book encyclopedias. When he reached the letter "E," that's when life began to change. "I ran into this dude," Oluseyi said, pointing to a photo on the screen. That "dude" was Albert Einstein, whose work inspired the 10-year-old Oluseyi to "master relativity."

**World-renowned physicist Dr. Hakeem Oluseyi shares his inspirational story of his difficult childhood and dream to pursue a career in science.**

From that moment, a new trajectory was created, helped along by what he called "hustle, hope, and help." The first in his family to graduate high school, Oluseyi found himself at Tougaloo College in Jackson, Mississippi. Homeless for his first two summers, he began working as a research assistant at the University of Georgia in Athens. Recognizing his brilliance, a series of mentors steered Oluseyi toward graduate school. The kid from the worst high school in the poorest part of the poorest state in America was accepted to Stanford University.

## AI PIONEER: THE FUTURE IS NOW

For more than a decade, Didem Ün Ates has been at the forefront of the creation of generative AI. At the same time, she has been one of the industry's most forceful and passionate voices in favor of the technology being used and applied responsibly.

Ün Ates began her presentation with an overview of AI: what it is, how it came about, and how it continues to evolve.

But artificial generative AI is a whole other ballgame, as

algorithms become more intelligent and begin to mimic more closely human cognitive and creative abilities. On the question of when—not *whether*, but *when*—generative AI will surpass humans, Ün Ates said, "We used to say around 2040. I think it's closer—more like a couple of years. That's why there's no way to go back."

She said the most important takeaway for attendees is to prepare their workforces to navigate this changed AI-driven landscape. It's a nearly universal oversight among businesses, she said. "Very few [companies] are doing something with talent, which to me is very scary."

By 2030, it is expected that 30 percent of hours worked will be automated. The future will belong to those who learn to leverage AI, and who take advantage of that extra time to reskill and upskill.

"Blocking employees from AI is not a strategy for survival. Look at talent transformation," she said, "And start with yourself."

**AI Chief Executive Didem Ün Ates sits down with ACEC Technology Committee Chair Raj Arora to continue a discussion on the impact of generative AI on the engineering industry.**

## ACEC CONGRATULATES OUR 2024 AWARD RECIPIENTS

### 2024 DISTINGUISHED SERVICE AWARDS

- **Lisa Brothers,** Nitsch Engineering, Boston
- **Lauren Evans,** Pinyon Engineering, Lakewood, Colorado

### 2024 NEW COLLEGE OF FELLOWS INDUCTEES

- **Ed D. Alizadeh,** UES, St. Louis
- **Doug R. Alvine,** Alvine Engineering, Omaha, Nebraska
- **Terry Atkins,** Lamp Rynearson, Inc., Omaha, Nebraska
- **Eric Burke,** Moffatt & Nichol, Richmond, Virginia
- **Robert Burkholder,** Clark Nexsen, Virginia Beach, Virginia
- **Matt Crafton,** Crafton Tull, Rogers, Arkansas
- **Shahin Hekmat,** Chen Moore and Associates, Fort Lauderdale, Florida
- **John Kissinger,** GRAEF, Milwaukee
- **Daniel Larson,** AET, Inc., St. Paul, Minnesota
- **Daniel Meckes,** Crawford, Murphy & Tilly, Inc., St. Louis
- **Jeffrey D. Meiter,** Valued Engineering, Inc., Upland, California
- **Jeffrey S. Mulliken,** Carolina Transportation Engineers & Associates, PC, Easley, South Carolina
- **James K. O'Connor,** JMT, Mt. Pleasant, South Carolina
- **Karlene Thomas,** Pinyon Environmental Inc., Lakewood, Colorado

### 2024 COMMUNITY SERVICE AWARD

- **Michael P. Senger,** HEAPY Engineering, Inc., Dayton, Ohio

### 2024 COALITIONS AWARD

- **Dave Mykins,** Lynch Mykins Structural Engineers (DMW Engineering, PLLC), Raleigh, North Carolina

### 2024 ACEC YOUNG PROFESSIONAL OF THE YEAR AWARDS

- **Sarah Carroll,** Creighton Manning, a GAI Company, Syracuse, New York
- **Alison Love,** STV, Boston
- **Samantha Miller,** CHA Consulting, Inc., Syracuse, New York
- **Melissa Pennington,** Halff, Tallahassee, Florida
- **Tevis Holzer (Named Young Professional of the Year),** Banner Associates, Brookings, South Dakota

### 2024 QBS AWARD WINNERS

- **City of San Diego**
- **Lester Fukuda,** Kaula AE LLC (Retired), Honolulu
- **John Dugan,** Haley & Aldrich (Retired), Hartford, Connecticut

### 2024 ACEC RESEARCH INSTITUTE SCHOLARSHIP WINNERS

Scan the following QR code to see the complete list of 2024 scholarship recipients, who embody academic excellence and represent engineering's future leaders.

### ACEC/PAC FALL CONFERENCE SWEEPSTAKES WINNERS

The $10,000 sweepstakes winner is **Sri Chakravarthy**, Kimley-Horn, Los Angeles. The winner of $7,500 is **Dylan Douglas**, JT Engineering, Hobart, Wisconsin. The following individuals won $5,000: **Michael Bougher**, Stantec, Mechanicsburg, Pennsylvania; **David Rancman**, H2R Corp., Pinellas Park, Florida; and **Sandy Brodahl**, HWA GeoSciences, Inc., Bothell, Washington.

The following individuals were winners of $2,500: **Helena Murvosh**, CA Group, Las Vegas; **Gregory DeSart**, Geotechnical and Environmental Services (GES), Las Vegas; and **Lora Rinaldi**, HVEA, Chestnut Ridge, New York.

Ten members were winners of $1,000: **Joshua Grenzsund**, DOWL, Redmond, Washington; **Michael Garrison**, BGE, Inc., Frisco, Texas; **John Paul Cunningham**, HDR, White Plains, New York; **Bryan Bross**, Klingner & Associates, Burlington, Iowa; **Andrew Haines**, Jacobs, Phoenix; **Whitney Stevens**, Black & Veatch, Riverview, Florida; **Monica Silver**, Cobb, Fendley & Associates, Houston; **Matthew Richards**, Strand Associates, Madison, Wisconsin; **Ralph Guida**, GUIDA, Irvine, California; and **JW Hunter**, Chen Moore and Associates, Fort Lauderdale, Florida.

## LIFE LESSONS WITH SEBASTIAN TERRY

The sudden death of Sebastian Terry's closest childhood friend at the age of 25 created a grief so profound that he looked for something—anything—that would help ease his pain. From that grief came a list of 100 things Terry wanted to do before he died: the ultimate bucket list. This movement changed his life and has changed countless other lives as well.

Sebastian Terry offers life lessons to attendees on unlocking limitless possibilities in your personal life and in business.

Terry realized that while his late friend had lived a life full of purpose and absent of regret, he could not say the same of his own life. Within this list were 100 tasks and experiences—some deeply personal, some silly—that he decided were, for him, the building blocks of a purposeful existence. In so doing, he also created a movement driven by purpose, connection, expression, and agency. In giving voice to our dreams, he said, we make them real. But what is most important is remembering that we don't have to wait.

## JAMES LAWRENCE: FIND YOUR PASSION

The financial collapse of 2008 cost American households an estimated $16 trillion in wealth; one-quarter of U.S. households lost at least 75 percent of their net worth. James Lawrence, the record smashing extreme endurance athlete, delivered a presentation on how losing it all as a mortgage broker led him to a new path that was completely different—and far more rewarding—than anything he'd done before.

Raised in Calgary, Alberta, Lawrence's first foray into pursuing records was in his 20s during the Calgary Stampede. This was a time when he was trying to figure out his life and took on the challenge of sitting on a Ferris wheel throughout the entire 10-day stampede. Lawrence watched others attempt the challenge but leave because "They weren't comfortable having conversations with themselves." That was a revelation: that mental toughness matters and that it's a muscle that can be built like any other.

Lawrence won the contest—but learned that he'd been fired from his job.

Extreme endurance athlete James Lawrence shares the importance of mental toughness and facing our fears to experience growth.

Lawrence would go on to begin intensive training to break records and raise money for causes important to him. One challenge was to climb Mt. Kilimanjaro, the highest mountain in Africa. At a base camp, he met a group of veterans and mentioned how badly his legs were hurting. It was only after he said it that he realized one of the veterans was missing a leg. From that moment, he decided to keep a smile on his face until he reached the summit.

Lawrence's lesson—in sport and in life—is to get out of both our comfort zones and our own heads. "Say 'yes' to things that are uncomfortable. Find your passion. Don't wait for it to find you." ■

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# THE TAX POLICY IMPERATIVE

BY BOB VIOLINO

POGONICI/GETTY IMAGES

**With critical tax provisions scheduled to expire after 2025, ACEC is fighting for a favorable outcome for engineering firms.**

At the end of 2025, the entire individual tax title of the 2017 Tax Cuts and Jobs Act (TCJA) will expire. That means that—unless Congress acts—all individual tax rates will go up, the Section 199A 20 percent passthrough tax deduction will disappear, and research and development (R&D) amortization will continue to be a requirement. In addition, the corporate tax rate will also likely be part of the 2025 tax debate.

What does it all mean for engineering firms? Clearly, there is a lot at stake.

The 2017 tax law was a boon to the industry—with ACEC and its grassroots lobbying efforts fighting hard to make it happen, says Steve Hall, executive vice president of ACEC. Of course, the winner of the presidential election and a new makeup of the U.S. House and Senate will no doubt influence tax policy debate in the coming months. The consequences of those discussions will be huge for the engineering industry—and ACEC is prepared to redouble its efforts.

"With the law back on the table in Congress next year, it is critical that we protect these gains and also fix more recent issues, with restoring the deductibility of R&D expenses at the top of the list," Hall says. "The stakes couldn't be higher. If Congress fails to do the right thing, firms will see their taxes increase at a time when they need to invest more in their workforce and in emerging technologies."

## TAX POLICY IMPACT ON ENGINEERING

The TCJA delivered myriad benefits for engineering firms. It includes Section 199A, which provides passthrough entities (such as S corporations, partnerships, and sole proprietorships) with an up to 20 percent deduction from taxable business income. This brings their tax burden more in line with C corporations, says Tom Pace, CFO at engineering firm Thomas & Hutton and chair of the ACEC Tax & Regulatory Affairs Committee.

"Without the deduction, individual taxpayers that own the passthrough entities would be paying higher tax rates than corporations, which simply isn't fair," Pace says. "Entrepreneurship is the backbone of the American economy, and smaller, individually owned companies are the majority of the ACEC membership. Tax policies should be more equitable and balanced for corporations and passthrough entities."

If the tax provisions expire, businesses, capital investment, and international competitiveness could encounter significant risks, says Dr. Gary W. Raba, PE, ACEC chair and chief growth officer at engineering and consulting firm Raba Kistner.

"Given the current scenario of high national debt, escalating deficits, and increased interest rates, Congress is understandably focused on fiscal responsibility in their decisions regarding the extension of these expiring changes," Raba says. "ACEC's position is that Congress must avoid economically counterproductive approaches to fiscal responsibility, such as raising taxes on business investment or trade."

The expiration of the TCJA will also have a domino effect that could impact engineering firms. The outcome "will have far-reaching impacts on all taxpayers, regardless of industry, structure, or income," says Jennifer Nelson, CPA, managing director of the Tax Group at Stambaugh Ness, a professional services firm with a strategic focus on architecture, engineering, and other sectors. "As we approach this impending cliff, several key changes and potential impacts are particularly relevant for engineering firms."

For the most part, the engineering firms represented are not publicly traded, Nelson says. "These are employee-owned and family-owned businesses," she says. "To provide context, the U.S. Census Bureau indicates that 85 percent of engineering firms have fewer than 20 employees. The sunset of the TCJA has the potential to harm these businesses, or at the very least, stall employment, job creation, and innovation."

When the TCJA was introduced, one of its major changes was the reduction of the corporate tax rate from 35 percent to 21 percent, Nelson says. "While this rate change is considered permanent, there are proposals suggesting it could increase again," she says. "If the corporate tax rate reverts to a higher level, engineering firms taxed as C corporations could face increased tax burdens, reducing profitability and limiting funds available for reinvestment."

"ACEC's position is that Congress must avoid economically counterproductive approaches to fiscal responsibility, such as raising taxes on business investment or trade."

**DR. GARY W. RABA, PE**
**ACEC CHAIR**
**CHIEF GROWTH OFFICER**
**RABA KISTNER**

This would, in turn, affect overall business growth.

The prospect of the TCJA going away is even more concerning with other tax issues mounting across the industry. Engineering firms "have already seen significant increases in their federal income tax payments due to dramatic increases in taxable income resulting from decreased bonus depreciation and research and experimentation (R&E) capitalization," says Lynn Mucenski-Keck, principal and national lead, federal tax policy at Withum, a professional services firm. "However, the sunsetting of Section 199A and the 20 percent passthrough deduction, coupled with adjustments to individual federal income tax brackets and the top individual tax rate increasing, will cause many engineering companies to significantly adjust their business operations."

"The stakes couldn't be higher. If Congress fails to do the right thing, firms will see their taxes increase at a time when they need to invest more in their workforce and in emerging technologies."

**STEVE HALL**
**EXECUTIVE VICE PRESIDENT**
**ACEC**

Those adjustments could include potential employee restructuring and the postponement of investments in critical equipment and growth plans.

Most engineering firms "were shocked to see the dramatic increase in their taxable income and, ultimately, tax cash payments due to R&E capitalization," Mucenski-Keck says. "This has already limited growth and investment and has been highlighted as a significant challenge when engineering firms are trying to transition employees to owners."

## RENEWED FOCUS FOR ACEC LOBBYING EFFORTS

With so much on the line, ACEC has been actively lobbying Congress to protect the business tax relief in the TCJA.

"We've stayed engaged in working with Congress on tax issues almost from the day the 2017 bill was signed into law, particularly as it relates to the change in policy on R&D and our efforts to make the Section 199A 20 percent deduction permanent," Hall says.

Continuing to educate Congress and the public on the impact of these policies is how ACEC will make the biggest impact for the industry, Pace says. "Many people are unaware of the impact already being felt by these policies, and corrective action needs to be taken now," he says.

ACEC leaders are fully dedicated to advocacy efforts surrounding multiple variations of tax reform, Nelson says. "Between lobbying heavily with Congress to implement tax reform, advertising campaigns surrounding the R&D amortization requirement, and involving members of the organization, they are a leading voice in the fight for fair taxation of engineering firms across the country," she says.

A prime example of the advocacy efforts is ACEC's role on the steering committee of the Main Street Employers Coalition, Nelson says. The coalition is comprised of national trade groups representing businesses owned by individuals and families.

"This group is working with the House Ways and Means Committee to pass a Section 199A permanence bill," Nelson says. "Various roundtables with the public are being held throughout the country, and ACEC is inserting members into the meetings with legislators."

ACEC is eager to stimulate sweeping changes well before the TCJA expires, Nelson says. "Nevertheless, tax law changes take time and bipartisan agreement," she says.

ACEC is looking at multiple key tax policy issues. One is balanced tax treatment of engineering firms of all business types.

"Without a doubt, balanced tax treatment is necessary," Nelson says. "The upcoming disparity between the corporate tax rate of 21 percent and the restoration of pre-TCJA individual rates, coupled with the loss of the Section 199A deduction, illustrates the massive disadvantage most passthrough engineering companies will face in terms of the overwhelmingly huge income tax rate differential."

"[The outcome] will have far-reaching impacts on all taxpayers, regardless of industry, structure, or income. As we approach this impending cliff, several key changes and potential impacts are particularly relevant for engineering firms."

**JENNIFER NELSON, CPA**
**MANAGING DIRECTOR, TAX GROUP**
**STAMBAUGH NESS**

ACEC is actively advocating for a level playing field between the two entities, Nelson says. "Without this, growth and ownership transition will most certainly be stifled," she says.

Another area of focus is the need to repeal the R&D amortization requirement.

"For the past two years, the R&D amortization issue has been affecting engineer-

POGONICI/GETTY IMAGES

ing companies of all sizes, especially smaller firms," Pace says. "Delaying the deduction of R&D expenses in the period they are incurred over a five-year period increases the firm's taxable income and therefore their tax liability. This is creating pressure on many firms' cash flow, because not only have the expenses been paid for, but taxes are also being paid on those expenses."

Over the five-year amortization schedule, there is a cumulative effect of the increased tax liability without the accompanying cash flow to pay the taxes due, Pace says. "Some smaller firms have taken out loans to pay their tax liabilities while others are contemplating shutting their businesses down," he says.

"The sunsetting of Section 199A and the 20 percent passthrough deduction, coupled with adjustments to individual federal income tax brackets and the top individual tax rate increasing, will cause many engineering companies to significantly adjust their business operations."

**LYNN MUCENSKI-KECK**
**PRINCIPAL AND NATIONAL LEAD**
**WITHUM**

The R&D amortization requirement also discourages U.S. companies from investing in innovation and magnifies the competitive disadvantage against other countries that provide more incentives for R&D.

"Engineering is by nature an innovation industry, and the tax code has traditionally incentivized that innovation by making R&D expenses deductible the year they occur," Hall says. "Starting in the 2022 tax year the rule changed, requiring firms to amortize those expenses over five years. Now firms are being penalized for the innovation our economy so desperately needs."

ACEC is also working on ensuring the preservation of employee stock ownership plans (ESOPs), which help promote employee ownership and involvement, Nelson says. "They receive favorable tax treatment to do so. Preserving this favorable tax treatment helps ESOP engineering firms retain talent, enhance productivity, and ensure a stable ownership structure. Any changes reducing the benefits of ESOPs could undermine these advantages."

Finally, the Council is pushing for an extension and expansion of Section 127 of the Internal Revenue Code that allows employers to provide tax-free educational assistance to employees. Among other things, this enables companies to help employees repay student loans and cover other educational expenses.

"Extending and expanding this provision would help engineering firms attract and retain skilled employees by offering valuable educational benefits," Nelson says. "It also aids in reducing employees' financial burdens, contributing to a more motivated and educated workforce."

It's imperative to resolve the tax policy uncertainty. Depending on what happens, firms could be facing a reduced cash flow, which impedes them from investing in their future, Pace says. That in turn would negatively impact the country's future.

"With an aging American infrastructure, why would we penalize innovation when other countries incentivize it?" Pace says. "How can American engineering companies make investments in technology, investments in our workforce, and continue to be the industry leader if we are being held down by our tax policies?" ■

***Bob Violino** is a business and technology writer based in Massapequa Park, New York.*

"Delaying the deduction of R&D expenses in the period they are incurred over a five-year period increases the firm's taxable income and therefore their tax liability. This is creating pressure on many firms' cash flow, because not only have the expenses been paid for, but taxes are also being paid on those expenses."

**TOM PACE**
**CHAIR**
**ACEC TAX & REGULATORY AFFAIRS COMMITTEE**
**CFO, THOMAS & HUTTON**


# ACEC MEMBERS' CONTRIBUTIONS TO THE INTERNATIONAL FEDERATION OF CONSULTING ENGINEERS EXPANDS THE INFLUENCE OF THE ENGINEERING PROFESSION WORLDWIDE

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BY STEVE HENDERSHOT

An association can deliver big benefits to its members, helping to standardize practices, elevate professionals' careers, and push a profession forward. Now imagine the power of an association of associations.

The International Federation of Consulting Engineers (FIDIC) is a global group representing more than 1 million engineering professionals. Based in Geneva, Switzerland, the acronym FIDIC comes from the French version of the name, Fédération Internationale des Ingénieurs Conseils.

FIDIC's members consist primarily of organizations such as ACEC that represent consulting engineers within their countries. ACEC is among the largest of FIDIC's 93 member associations, and its leadership is closely tied to the international group: Many of the past ACEC board members have served in FIDIC leadership positions, including a couple who were elected president, and a current FIDIC board member, Manish Kothari, was a past ACEC chair.

ACEC's informal engagement with FIDIC dates back to the international organization's founding in 1913, when the United States participated in FIDIC's initial meeting. Still, FIDIC's official membership was exclusively European until 1959, when ACEC joined, along with national organizations from Australia, Canada, and South Africa.

To be a member association, a national organization must be the largest such group representing consulting engineers in its country. But FIDIC also offers additional paths to membership for people and firms located in countries without a participating national association.

The group's work includes hosting the annual Global Infrastructure Conference, bringing together representatives of the engineering, construction, and infrastructure sectors to discuss critical issues facing the industry worldwide. The conference's location alternates between Geneva and other host cities: The 2023 conference took place in Singapore, for example, while Geneva hosted the event this year. Through the gathering, as well as FIDIC's broader efforts to influence global policy and standards, the organization works to "further the influence of engineering on society, and increasingly on the planet itself," says Catherine Karakatsanis, FIDIC's current president and chair and the COO of Morrison Hershfield, a North American multidisciplinary firm acquired by Stantec earlier this year.

## A VOICE FOR ENGINEERS

Over the past decade, as FIDIC has taken on a more visible role in ensuring that engineers influence global strategy on issues such as sustainability and resilient infrastructure, ACEC members have helped lead the charge. One example is the Global Leadership Forum (GLF), a group of 100 senior infrastructure leaders from around the world who gather annually to discuss the role of engineers in issues ranging from artificial intelligence (AI) to decarbonization.

It's a high-powered group with ambitious goals. Year by year, its leaders are gaining confidence in their ability to make a difference.

"This is a group that has the skills to save the planet, and we're irresponsible if we don't use them," says Robin Greenleaf, a member of FIDIC's GLF Advisory Board and a past ACEC chair. "Nobody's afraid to say it. We're past that point, and it's time to actually put the skills to use," says Greenleaf, who is also an executive vice president of architectural relations and strategic partnerships at IMEG.

The leaders assembled within the GLF provide FIDIC with insights to advise members who turn to the organization for infrastructure policy guidance. In addition to Greenleaf, the GLF Advisory Board includes leaders from United States-based companies CDM Smith and Stantec.

Assembling this cadre of global engineering leaders is helping to galvanize the industry and "has been critical to garnering the support required to progress the higher-level issues," says Tony Barry, who preceded Karakatsanis as FIDIC president and is a senior consultant at Aurecon in Melbourne, Australia.

The GLF also opened the channel for another emerging ACEC contribution to FIDIC: insights from the ACEC Research Institute, which aims to anticipate long-term industry challenges and use research to point the way forward.

In 2023, the ACEC Research Institute gathered dozens of engineering industry leaders in Washington, D.C., for a two-day scenario-planning exercise led by Kathy Pearson, a faculty member at the University of Pennsylvania's Wharton School of Business. During the workshop, Pearson and the attendees identified the global trends and business forces most likely to affect the engineering industry over the next decade, with the goal of uncovering potential research projects that could better equip firms to plan for long-term success.

At the 2024 GLF Summit that took place in Geneva in April, Mike Carragher, chair of the ACEC Research Institute and chair and CEO of VHB, presented preliminary results from the 2023 workshop. Carragher outlined different scenarios based on factors such as the pace of AI adoption and climate change, along with the capabilities that a consulting engineering firm would need to thrive in each scenario.

The presentation was a hit. Karakatsanis praised the team's work, and executives from leading firms around the world approached Carragher about opportunities for collaboration.

"There was a lot of interest," Carragher says. "No one around the world in these different consulting engineering societies had seen such large-scale and audacious industry research."

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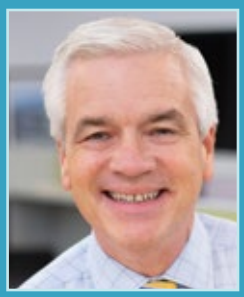
**ROBIN GREENLEAF**
**MEMBER, FIDIC'S GLF ADVISORY BOARD**
**PAST CHAIR, ACEC**
**EXECUTIVE VICE PRESIDENT OF ARCHITECTURAL RELATIONS AND STRATEGIC PARTNERSHIPS, IMEG**



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**MIKE CARRAGHER**
**CHAIR, ACEC RESEARCH INSTITUTE**
**CEO, VHB**

"Capacity building is a major issue in developing countries and emerging economies. Those firms want to learn rapidly how to do more and more work themselves, rather than having to piggyback with large international firms."

**BILL HOWARD**
**PAST PRESIDENT, FIDIC**
**PAST CHAIR, ACEC**
**RETIRED EXECUTIVE, CDM SMITH**

## SETTING GLOBAL STANDARDS

FIDIC's bread and butter is developing and advancing policy and practice recommendations that set high and consistent standards for engineering initiatives around the world, including cross-border projects and those incorporating contributions from firms representing different countries, cultures, and regulatory regimes. Among its most valued offerings is FIDIC Contracts, which serves as an international standard for the agreements that underpin infrastructure projects.

The value for ACEC member firms is reduced risk on cross-border projects—especially when combined with FIDIC insights into regional practices. FIDIC also offers contract adjudication in cases where disputes arise.

"Unless you've actually worked overseas, what North Americans take for granted as a normal business climate can be quite different," says John Gamble, president and CEO of ACEC Canada, the country's leading trade group for consulting engineering firms. (The Canadian group shares an acronym with ACEC and collaborates with ACEC as a member of FIDIC but is a wholly separate organization.)

FIDIC Contracts enable firms from developed and emerging economies to work together, offering "a chance to lift all boats," Gamble says. "It creates a more robust, and frankly safer, international business climate where our firms can go and explore practicing internationally with more confidence—because the tools are there, the resources are there, and the networks are there."

Similarly, FIDIC Credentialing offers several certification programs that engineering professionals can use to demonstrate that they meet international standards with regards to industry best practices. FIDIC offers credentials for contract managers, consulting engineers, trainers, consulting professionals, procurement specialists, and adjudicators. Chinese firms were the most enthusiastic supporters of FIDIC Credentialing, particularly the FIDIC Certified Consulting Engineers, which the Chinese State Council approved a pilot program for and is now being used internationally.

"Capacity building is a major issue in developing countries and emerging economies," says Bill Howard, a past ACEC chair, past FIDIC president, and retired senior executive at CDM Smith. "Those firms want to learn rapidly how to do more and more work themselves, rather than having to piggyback with large international firms." A roster of professionals with internationally recognized credentials, Howard says, can smooth the way forward.

FIDIC's contracts have facilitated multinational engineering projects for half a century. They're now finding an audience beyond engineering firms as multilateral development banks—international financial partners that coordinate investment in countries with emerging economies—adopt FIDIC standards. Both the World Bank and the International Fund for Agricultural Development are in the middle of five-year agreements to use FIDIC contracts.

FIDIC is also pushing for stronger, more consistent industry standards related to integrity management, ethics, and

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fraud prevention. One result of its efforts is a series of online webinars produced in conjunction with EY. The education series is spearheaded by Richard Stump, chair of FIDIC's Integrity Management Committee and vice president of multidisciplinary A/E firm RS&H. (FIDIC North America is a partnership that includes ACEC as well as peer groups from Canada and Mexico.)

"Working internationally is fraught with risks, including a lot of corruption, and FIDIC promotes very high ethics and integrity," says Gregs Thomopulos, past ACEC chair, past FIDIC president, and chairman emeritus at Stanley Consultants in Muscatine, Iowa.

FIDIC is also working to promote the adoption of Qualifications-Based Selection on global projects, rather than cost-based methods of evaluation, which would likely be a boon for experienced and sophisticated companies. Those efforts are making headway in regions that include Asia and Africa, Thomopulos says.

## BUILDING A WORLDWIDE NETWORK

For many FIDIC members, the most visible and useful of the organization's contributions is its Global Infrastructure Conference, which provides both an opportunity to learn about global engineering trends and best practices and a networking opportunity for engineers whose firms do business internationally.

A big value is the networking, knowledge sharing, and advocating for good business practices at the global level. Kothari says the professional connections he made through engagement at conferences or work on committees eventually led to longstanding business partnerships between companies.

"If you talk to 10 people who have attended a FIDIC conference, I'm pretty sure all 10 will say they have benefited from that sort of networking and collaboration," says Kothari, president and CEO of Rockville, Maryland-based Sheladia Associates. Conference-goers "benefit from knowledge-sharing, but it also impacts the bottom line in terms of teaming together."

And the value of relationships formed at FIDIC conferences or through serving on FIDIC committees isn't strictly business. Greenleaf doesn't do much international business but still values her FIDIC involvement because GLF is "the place where I found the most like-minded people who knew that we needed to do big things to make a difference," she says.

Similarly, Kothari says he finds participating in an international community to be useful because of the perspective and benefit it provides. "FIDIC showed me the value of engaging in the profession," he says. "There are a lot of us in similar circumstances, and there's so much to be learned by sharing. It helps us navigate our challenges and perhaps find better solutions." ■

***Steve Hendershot*** *has contributed to* Crain's Chicago Business, Chicago *magazine, and Chicago's NPR affiliate, WBEZ, and is host of the Project Management Institute's* Projectified *podcast. He lives in Chicago.*

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**PAST CHAIR, ACEC**
**PAST PRESIDENT, FIDIC**
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**STANLEY CONSULTANTS**

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**MANISH KOTHARI**
**PAST CHAIR, ACEC**
**PRESIDENT AND CEO**
**SHELADIA ASSOCIATES**

Stamford Media Village by DeStefano & Chamberlain.

## ACEC of Connecticut:

# THRIVING THROUGH CHANGE

**AFTER THE LOSS OF A DYNAMIC LEADER, THE MEMBER ORGANIZATION LOOKED TO ITS EMERGING LEADERS COMMITTEE TO HELP IT RETOOL AND REPRIORITIZE**

BY STACEY FREED

It can be tough for an organization to adjust and prosper when a long-term leader retires. But ACEC of Connecticut (ACEC-CT) has found its footing by tapping its deep well of talent.

In 2016, the Member Organization's executive director retired after 28 years in the position. "We volunteer members had to keep the lights on and do everything to run the organization. We were struggling to retool," says Rob Yirigian, now ACEC-CT's national director.

Those remaining on the Board of Directors recognized that ACEC-CT had been operating as an extension of its former executive director. They decided they needed to reprioritize the Member Organization's focus and looked to those on the Emerging Leaders Committee for help. "We leaned on them to run the organization," Yirigian says. "We threw them into the deep end of the pool, and it couldn't have worked out better."

**Relocation of I-91 NB Interchange 29 and widening of I-91 NB and Route 5/15 NB to I-84 EB by CHA.**

## A NEW GENERATION STEPS IN

The Emerging Leaders Committee attracts member firms' employees who are on the leadership track. "It's a way to get them involved in committees so they can grow in their company and ACEC-CT, and help grow the profession at large," explains Tricia Dinneen Priebe, co-executive director of ACEC-CT. The group meets monthly, hosts social events and speakers, and has representatives who attend board meetings.

When the Emerging Leaders Committee was initiated in late 2016, Steven Drechsler, now ACEC-CT's president, was chosen to chair the program along with Jake Argiro. There were about 10 to 15 initial members. They started by identifying gaps and concerns they saw in the organization.

"We intended it to be bidirectional," Drechsler says. "The board would get support and the resources to do the work we needed to do, and the Emerging Leaders would get mentoring, networking, and all the great things that come along with ACEC."

Creating this committee was a smart strategy to not only get the work done but also to elevate those new to the field, engage them, and fill the leadership pipeline. Because the Member Organization is highly focused on the business aspects of engineering, many leaders hold senior ranks. "This can be intimidating for younger engineers," Drechsler says. "The Emerging Leaders group is more accessible."

The group provides a bridge to the next level in the organization, Priebe says. In fact, four executive committee members—Drechsler, Argiro, Mike Oliver, and Kevin Hussain—and three other committee chairs have participated in the Emerging Leaders Committee.

## UPPING THE ANTE ON ADVOCACY

In 2018, after two years of working independently, the Member Organization hired an outside executive director, Priebe, along with her business partner, Lisa Winkler, of Innovate & Organize, an association management company. They were brought on board for their more than two decades of experience in lobbying, issues management, and strategic coordination. That same year, the Member Organization also hired a lobbying firm to strengthen its advocacy efforts.

"Our new executive director team and new lobbying firm work well together," Yirigian says, and with their knowledge and connections they've been successful at linking the Member Organization with elected officials. "Our objective was to become the go-to organization when elected officials strategize their approach to challenges and opportunities in the built environment. We wanted legislators to ask, 'What do the engineers think?' and we've achieved that."

Vernon Water Pollution Control Facility Upgrade Project by Tighe & Bond.

Priebe also credits the efforts of members. "As executive directors, we are the continuity and institutional knowledge, but we like the ACEC-CT members to be the face of the organization."

At the state and national levels, ACEC-CT is making its voice heard. Yirigian says it was the first Member Organization to host a PAC check-drop event for members of its congressional delegation at the ACEC residence in Washington, D.C., in 2024. And in 2023, ACEC-CT's PAC fundraising efforts, particularly with its popular golf outing, reached 253.21 percent of its goal, Priebe reports.

At the State Capitol, the organization is following through on its lobbying efforts with Qualifications-Based Selection (QBS). "We have QBS with federal funds run through the Department of Transportation, but when it comes to municipalities, it's not a requirement," Drechsler says. "We're educating the municipalities on the benefits of QBS to save them money and give them a better product, but there are 169 municipalities all operating independently. It's a challenge."

During the Member Organization's last run at this in the 2024 legislative session, QBS legislation faced too much opposition and never made it out of committee, Drechsler says. But ACEC-CT's Government Affairs and QBS committees have created explanatory infographics and met with the Connecticut Conference of Municipalities and its board. They're planning more meetings for the 2025 legislative session.

Another legislative priority is ensuring the solvency of the state transportation fund (STF). While there is funding for transportation items from the Biden Administration's Infrastructure Investment and Jobs Act (IIJA), "we want to ensure that beyond that there's funding in place," Drechsler says. As an example, he points out that neighboring states have toll roads and Connecticut does not, and despite efforts by the previous and current governors, "there hasn't been public support for tolling in Connecticut." While ACEC-CT is not focused on tolling as the only potential solution, long-term solvency of the STF is a priority.

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>
> **TRICIA DINNEEN PRIEBE**
> **CO-EXECUTIVE DIRECTOR**
> **ACEC-CT**

## ACEC OF CONNECTICUT AT A GLANCE

Supporting the business and professional needs of engineers in Connecticut, ACEC-CT comprises 66 firms employing more than 2,000 employees. Under the leadership of President Steven Drechsler, National Director Rob Yirigian, and Co-Executive Directors Tricia Dinneen Priebe and Lisa Winkler, the Member Organization has 12 active committees that tackle issues at the state and federal levels of government to foster innovation and advocate for the engineering profession.

The Member Organization continues to lobby and testify each year during the legislative session, and also hosts an annual legislative reception at the State Capitol near the end of the session. Its most significant focus is on sustainable funding. As Yirigian puts it, "If we don't do something, our state transportation funds will run out in just a few years."

### GROWTH FOR THE FUTURE

Ultimately, the state of Connecticut should receive more than $6 billion in IIJA funds for infrastructure projects. As in most other states, the passage of the IIJA created many opportunities for member firms, but they're struggling to identify staff to deliver services. "In the short term, we need experienced talent to maintain project delivery schedules. For the long term, we need better outreach to young people to get them interested in the profession," Yirigian says.

He acknowledges that even if they succeed at cultivating interest, it will take years for today's students to become full-fledged engineers. "It doesn't solve today's workforce capacity challenge," he says. "Congress is calling us now. Unfortunately, no one has the magic answer."

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**NATIONAL DIRECTOR**
**ACEC-CT**

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**STEVEN DRECHSLER**
**PRESIDENT**
**ACEC-CT**

Yirigian says ACEC-CT has also been advocating in Washington for changes to H-1B visa rules but "unfortunately, this issue is being conflated with the border crisis, and the current political climate is adversely impacting Congress' willingness to act on our proposals. The result is that we're sending some very qualified people back to their home countries when their visas expire—an additional burden during a time when finding qualified labor can be difficult."

Visa policies may or may not change after the 2024 presidential election, but the Member Organization is creating a workforce development committee to address this issue, Drechsler says.

For now, the Member Organization offers three scholarships each spring, and Priebe reports that this year they received 24 applications, the most ever, from graduating high schoolers and college students. ACEC-CT awarded three $2,500 scholarships in 2024.

### BUILDING STRONG RELATIONSHIPS

While ACEC-CT works toward growing the state market for new engineers, the organization is also looking to grow its own membership. Many of its current members are in transportation. Now it's trying to strengthen its numbers by reaching out to civil engineers in other sectors, such as those in the vertical market, like buildings, schools, and apartments, and environmental engineers. To show value to these groups of engineers, the Member Organization is working to replicate its strong DOT collaboration with the state's Department of Energy & Environmental Protection. "If we can create strong relationships and broaden some of our programming, we can attract new members to make ACEC-CT a stronger Member Organization, to be able to do more for the industry," Drechsler says. ■

***Stacey Freed*** *is a writer based in Pittsford, New York, who has contributed to* The New York Times, AARP.org, Professional Builder, *and* USA Today.

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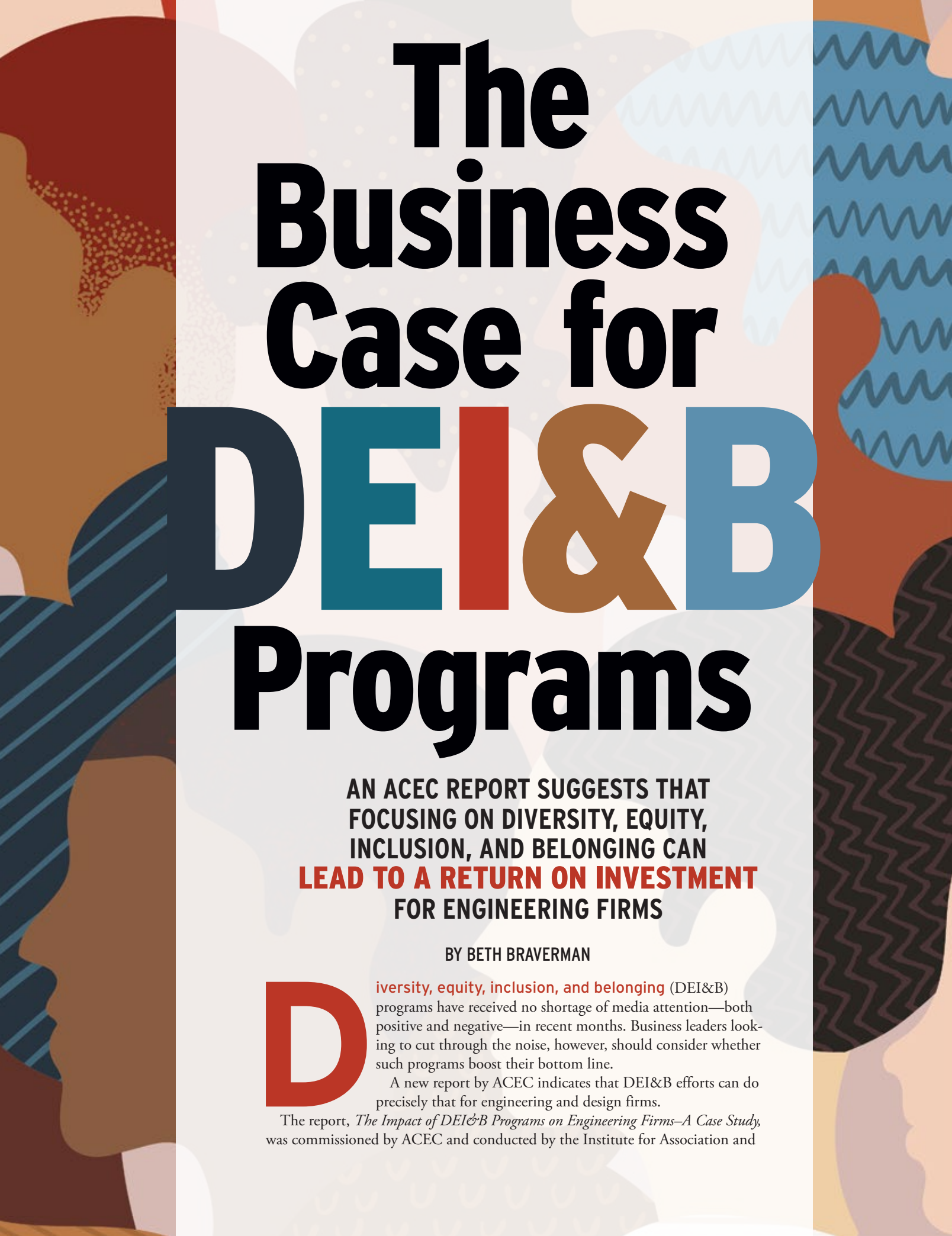

# The Business Case for DEI&B Programs

## AN ACEC REPORT SUGGESTS THAT FOCUSING ON DIVERSITY, EQUITY, INCLUSION, AND BELONGING CAN LEAD TO A RETURN ON INVESTMENT FOR ENGINEERING FIRMS

BY BETH BRAVERMAN

Diversity, equity, inclusion, and belonging (DEI&B) programs have received no shortage of media attention—both positive and negative—in recent months. Business leaders looking to cut through the noise, however, should consider whether such programs boost their bottom line.

A new report by ACEC indicates that DEI&B efforts can do precisely that for engineering and design firms.

The report, *The Impact of DEI&B Programs on Engineering Firms–A Case Study,* was commissioned by ACEC and conducted by the Institute for Association and

"On all of those metrics, there was a pretty good correlation between higher diversity scores and having improved financial performance. It all comes back to making the business case for firms that don't believe in DEI&B or think it's just a social movement."

**JOE BATES**
**PRESIDENT**
**INSTITUTE FOR ASSOCIATION AND NONPROFIT RESEARCH**

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Nonprofit Research (IFANR). The preliminary findings highlight the experiences of 13 firms across the United States that have been using ACEC's Diversity Roadmap benchmarking tool. And they represent a strong step toward quantifying more broadly the financial impact of DEI&B programs on engineering and design services firms, says Joe Bates, president of IFANR and the report's lead researcher.

"There is a lot of research indicating that DEI&B does impact financial success, but there wasn't any specifically targeted to our community," says Lisa Brothers, PE, president and CEO of Nitsch Engineering and leader of ACEC's Business Case for DEI&B subgroup. "So these industry-specific case studies really qualitatively—but not quantitatively yet—suggest that there's a correlation between DEI&B and financial success and point to the need for broader research."

## THE IMPACT OF FOLLOWING A ROADMAP

ACEC developed the Diversity Roadmap as an industry-specific tool to help firms assess their DEI&B maturity.

"Participants can use the Diversity Roadmap tool to see where they stand as far as their goals, and it gives them an action plan to continue to make progress toward their DEI&B goals," Brothers says. "I feel strongly that the tool can help firms develop greater intentionality around their DEI&B goals, and this research looks at the impact of following that Roadmap."

Bates says that ACEC decided to start with a case study to determine whether enough evidence of a financial impact exists to merit further study to measure that impact.

The research found that organizations that were further along the Diversity Roadmap achieve better financial metrics, including net service revenue and gross service revenue, as well as earnings before interest, taxes, depreciation, and amortization, than those just starting their journey.

"On all of those metrics, there was a pretty good correlation between higher diversity scores and having improved financial performance," Bates says. "It all comes back to making the business case for firms that don't believe in DEI&B or think it's just a social movement."

The report also found that those further along on the Diversity Roadmap realized other benefits, including increased talent retention and lower turnover, more productive employees, stronger problem-solving capabilities due to diverse perspectives, and earning a competitive edge in winning clients that prefer companies with strong DEI&B commitments. Nonfinancial benefits included fostering a more welcoming culture and a purpose-driven company and a focus on continuous improvement.

Future research could compare firms with DEI&B programs to those that have no DEI&B programming.

"It's really hard to tie an ROI to DEI&B programs," Brothers says. "That's part of why we did this case study. This is just the tip of the iceberg, though. We need a bigger, more robust quantitative study."

## GROWING INTEREST

During the past 10 years, some of the study's participating firms began to develop an awareness for diversity in hiring practices. But for many of these firms, transformational events in 2020 provided a true catalyst to focus on DEI&B. The deep social, political, and economic impacts of the COVID-19 pandemic, plus the continuing social and racial justice movements in the United States, have made dedication to DEI&B an imperative in society as a whole—and in business.

Other participating firms' DEI&B focus resulted from the hiring of a CEO or president who was particularly dedicated to DEI&B, feedback from staff on a lack of diversity, and the general cultural shift toward greater equity and inclusion in the U.S.

Participating firms had goals such as fostering a workplace culture of inclusiveness, collaboration, and community and increasing diversity in recruitment, hiring, and retention. Midsize and larger firms had additional goals, such as increasing the recruitment of women and other historically underrepresented groups, evaluating equity in their promotion policies, and implementing anti-bias learning opportunities. The largest firms were also interested in strengthening community outreach.

Most firms, but especially small and midsize organizations, have no financial metrics tied directly to DEI&B programs and rely instead on anecdotal observations about improvements in workplace culture.

## HEADWINDS TO PROGRESS

The case studies also highlighted some of the challenges that firms faced while implementing their programs.

"The larger firms, which, by their nature, have more diverse opinions and people of all political spectrums, did have to handle resistance from certain employees," Bates says. "There was this anti-woke backlash among certain employees."

Such backlash has grown louder over the past year, amid a divisive political climate and a chorus of critics who believe companies are overemphasizing DEI&B programming. Brothers says this will likely reinforce a divide: Firms interested in DEI&B will continue to lean into it (as long as the law allows), and those that aren't interested will keep ignoring it as the external pressure to implement such programs subsides.

## STARTING AT THE TOP

One of the driving factors in an organization's DEI&B success is executive buy-in, Brothers adds.

"If the people at the top care about it, that will trickle down," she says. "They will make sure that it's essential to all pieces of the organization, and it will become a fundamental business strategy."

Brothers adds that she has seen the impact of DEI&B firsthand at her firm.

"Why wouldn't you want to have a company where everyone feels like they can show up authentically and do their job and be equally rewarded for their job performance?" she says. "Isn't that what we all want?"

Bates says that while the initiatives varied among the firms, they all stressed that they do not have hiring quotas and are evaluating individuals based on their abilities, while also trying to ensure that they are building a diverse workplace. The path to achieving that goal might include hosting diversity-focused webinars, supporting diversity-focused employee resource groups, and engaging with local schools to help underrepresented students recognize a potential avenue to an engineering career.

"The most important takeaway from this research is that we did find a connection between financial performance and increased diversity scores from the Diversity Roadmap," Bates says. "There is a business case here. It's not just firms saying they want to do what's right morally or socially." ■

***Beth Braverman*** *is a business writer based in New York. She has worked for* Money *magazine and* The Fiscal Times *and has written for* Newsweek, *CNN Business, and CNBC.*

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**LISA BROTHERS, PE**
**PRESIDENT AND CEO**
**NITSCH ENGINEERING**
**LEADER**
**ACEC'S BUSINESS CASE FOR DEI&B SUBGROUP**

# AI RISKS GET REAL

BY SAMUEL GREENGARD

SANKAI/GETTY IMAGES

## As the engineering industry adopts artificial intelligence at a rapid pace, firms must give urgent attention to its ethical and legal ramifications

Engineering has always been hands-on. Whether blueprints and project designs have originated from drafting tables or computers running sophisticated CAD or BIM software, humans have been at the controls.

Now, artificial intelligence (AI) is flipping the script. Over the last few years, AI has appeared in tools, applications, and processes that touch nearly every aspect of engineering. These systems—including generative AI models that can chat, write content, summarize complex documents, and automate processes—increasingly take humans out of the driver's seat.

"AI is exploding onto the scene. It is redefining the fundamental way architects and engineers work," says Mark Blankenship, director of risk management at Willis Towers Watson and a member of ACEC's Risk Management Committee. "There are enormous benefits associated with the technology, and it is something that firms in the A/E/C space cannot ignore. But it's also critical to address the ethical and legal risks related to AI."

To be sure, as AI moves into the mainstream of engineering, firms must adjust and adapt. There's a need for policy updates, new technology controls, employee training, and various other guardrails that allow a firm to tap into the power of the technology while mitigating the risks that AI introduces.

"Firms should have checks and balances in place, especially since AI is changing so rapidly," says Lillian Minix, marketing communications manager at Timmons Group, a full-service engineering firm headquartered in Richmond, Virginia. "Things can go astray without the right understanding of what AI does and doesn't do well."

### A LACK OF CONTROLS

Engineering firms have steadily adopted AI over the last several years. It has helped improve processes, automate tasks, and put data to work in new and innovative ways. Yet, the introduction of generative AI—built on large language models (LLMs) that write text and generate images—has changed everything. Suddenly, AI can do things that previously only humans could.

Firms are now using AI to generate designs; write proposals; establish interactive knowledge bases; and analyze project costs, timelines, and performance. Blankenship says he found about 100 software applications in the A/E/C space that offer AI features when he conducted a web search a year ago. Recently, the number topped 1,100. And while public models like ChatGPT, Gemini, and Copilot have garnered the bulk of attention, some firms are also developing proprietary generative AI models using their own data and designs. This makes it possible to tailor results to the specific needs of the firm.

"A firm should focus on transparency and disclose the use of AI to clients."

**MARK BLANKENSHIP**
**DIRECTOR OF RISK MANAGEMENT**
**WILLIS TOWERS WATSON**
**MEMBER, ACEC'S RISK MANAGEMENT COMMITTEE**

"Firms should have checks and balances in place, especially since AI is changing so rapidly. Things can go astray without the right understanding of what AI does and doesn't do well."

**LILLIAN MINIX**
**MARKETING COMMUNICATIONS MANAGER**
**TIMMONS GROUP**

Moving faster and innovating better are central to AI. Yet, caveats exist. Certain types of AI are often called "black boxes" because scientists and software developers don't always fully understand how models learn, how these models arrive at conclusions, and whether the information that models produce is accurate and outside the boundaries of copyright infringement. Data scientists train AI models on huge volumes of publicly available data, which can lead LLMs to repurpose words, documents, designs, and concepts in curious and sometimes problematic ways.

"Ownership of data is a huge concern," observes Susan Turrieta, a principal at Walter P Moore and Associates and a member of ACEC's Technology Committee. "Things can get fuzzy if you are inserting client text, images, and other content into a model—or

## 8 WAYS TO KEEP AI IN CHECK

The ACEC Risk Management Subcommittee on Artificial Intelligence released guidelines in July to assist design professionals in using AI in a responsible, professional, and ethical way. These recommendations do not constitute a standard of care, but rather serve as inspiration to firms that are crafting their own AI policies and practices. Here's a summary of eight of those tips.

**1**
**Establish an AI ethics framework.** Develop clear guidelines on AI use, including data privacy, bias, transparency, and accountability.

**2**
**Focus on risk assessment.** Identify potential risks associated with AI applications and pinpoint mitigation strategies.

**3**
**Conduct regular audits and reviews.** Have periodic evaluations of AI systems to ensure compliance with policies and ethical standards.

**4**
**Keep an eye on data quality.** Use robust data governance practices to promote data accuracy, security, and privacy. Plug in diverse data sets, bias detection tools, and model evaluation methods to reduce bias.

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pulling content from a large public model. Unless you actively label the data (a human adding context or identifying specific objects or concepts) before it goes into an AI system, it's impossible to know where it will go or when, where, or how it will show up."

It's more than an abstract problem. Litigation surrounding copyright ownership is escalating. For example, *The New York Times* sued Microsoft and OpenAI, alleging they used articles from the newspaper to train AI models. As a result, Copilot and ChatGPT mimic writing styles, copy language patterns, and serve up false attributions. This undermines its fundamental business model, the *Times* argues. "This case has implications that extend across industries and businesses," Blankenship says.

## THE ETHICAL TIGHTROPE

There's also the fact that on an ethical level, some clients aren't comfortable receiving machine-generated content for proposals, designs or renderings, and other materials. Recently, Blankenship encountered a case in which a company that was soliciting an RFP for a project received two nearly identical proposals from different engineering firms. "Only five words were different in the two proposals…You don't want to receive a call with someone saying, 'We need to talk.' You don't want to be viewed as a company that lacks creativity and innovation," he says.

The potential ethical and legal concerns don't stop there. Generative AI models produce so-called hallucinations—invented facts and information—that can directly lead to legal issues. Training biases can result in underperforming systems that discriminate when hiring or fuel bad business decisions. There's also the risk of data leakage, particularly in proprietary systems. When data scientists train generative AI models on large datasets, sensitive information—including payroll records and intellectual property—can get swept into them. Later, unauthorized staff might view the data or gain access to the model or its training data.

The takeaway? "Unchecked mistakes in AI output can cause delays and compromise the structural integrity of a project," says Brent C.J. Britton, a partner at the law firm of Bochner, PLLC. "They can lead to lost money, lawsuits, and reputational damage that undermines the value of the firm."

## SETTING GUARDRAILS

It's essential for firms to devise a strategic framework to oversee the use of AI. Most importantly, human oversight is critical, says Nick Decker, engineering segment lead for software firm Egnyte. "It's the responsibility of engineers and the innovation group to push the boundary and move fast," he says. "It's the responsibility of a governance team to ensure that a firm is minimizing risk but not blocking innovation. There's a balancing act that needs to play out—with executive guidance."

Strong policy controls are vital. "You have to understand how your organization uses AI tools," says Catherine Bragg, senior vice president and deputy general counsel at global engineering

"AI offers enormous opportunities and, in order to remain competitive, firms must make it part of their business."

**CATHERINE BRAGG**
**SENIOR VICE PRESIDENT AND DEPUTY GENERAL COUNSEL**
**TRC COMPANIES, INC.**
**MEMBER, ACEC'S RISK MANAGEMENT COMMITTEE**

**5**

**Elevate explainable AI.**
Aim for AI models that deliver clear explanations for decisions. This enhances transparency and builds trust.

**6**

**Maintain strong security.**
Build in technology controls and employee access controls to prevent unauthorized users from gaining access to AI models and systems.

**7**

**Keep humans in charge.**
Maintain human oversight in critical AI applications to avoid unintended results. Define clear roles and responsibilities for AI development, deployment, and management.

**8**

**Establish an accountability framework.**
Create mechanisms for identifying and rectifying AI-related issues and problems.

For a more complete list of recommendations, visit: www.acec.org/resource/guidelines-on-the-use-of-ai-by-design-professional-firms/

and consulting firm TRC Companies, Inc., and a member of ACEC's Risk Management Committee.

It's important to define roles and establish clear policies about how, when, and where AI can be used. "You also have to constantly review things to make sure your policy is up to date," Bragg says.

According to Britton, firms can take several steps to minimize risks. The process starts with thorough testing and validation. Any AI system should be rigorously tested before deployment, and all output should be proofread and fact-checked before it is used internally or externally. Firms might allow employees to use generative AI as a tool to help write emails, documents, and other materials, but the text should never be copied and pasted without a review. "No one should be allowed to rely on raw AI output," he says.

Reporting issues and concerns with AI is essential, Britton says. It's wise to establish clear internal communication channels, seek feedback, and listen to employees when they report AI risks.

As firms look to build their own generative AI systems, it's vital to plug in high-quality training data and ensure that the model is trained correctly. This includes using high-quality and unbiased datasets and adhering to best practice data science methods to build the model. "In this day and age—when even basic facts are in dispute—finding unbiased training data may be the most difficult part of using AI productively," Britton says.

At Timmons Group, the importance of responsible AI—using the technology ethically and for beneficial purposes—takes center stage. "It can enhance creativity, speed processes, and lead to improved results when we use it conscientiously," Minix says.

As a result, the firm emphasizes the value of using AI and makes tools available to teams, yet it also focuses on plugging human judgment into any interaction with AI technologies. "As humans, we own the cognizance of our relationships with AI. No one is responsible for AI's outcomes other than the people who are guiding its solutions," she says.

"Ownership of data is a huge concern. Things can get fuzzy if you are inserting client text, images, and other content into a model—or pulling content from a large public model."

**SUSAN TURRIETA**
**PRINCIPAL**
**WALTER P MOORE AND ASSOCIATES**
**MEMBER, ACEC'S TECHNOLOGY COMMITTEE**

The ACEC Risk Management Subcommittee on Artificial Intelligence released detailed guidelines in July involving the use of AI at engineering firms (*see sidebar on previous two pages*). Among other things, the committee suggests a thorough review of AI policies at the board level, assigning oversight and responsibility among senior staff, developing an authorized use policy, and identifying use cases that could result in disciplinary action and termination. "A firm should focus on transparency and disclose the use of AI to clients," says Blankenship, a co-chair for the subcommittee.

"Nobody is going to build the guardrails for you. It's critical to devote time and resources to getting AI right," he says.

## AI TAKES SHAPE

For some engineering firms, the accumulated risks and dangers of AI may seem like a reason to apply the brakes and take a wait-and-see attitude. But Bragg says AI is here to stay, and embracing the technology can enhance workers' creativity and productivity. "AI offers enormous opportunities and, in order to remain competitive, firms must make it part of their business."

Engineers and others must also understand that AI doesn't represent an existential risk to their jobs—at least not for the foreseeable future. "A bigger threat for workers is falling behind and failing to keep up with the skill level required for today's engineering firm," Bragg says.

The goal should be to help employees maximize their understanding of AI and use it in new and productive ways, she says. "The idea is to solve complex problems and advance the engineering field." ■

***Samuel Greengard*** *is a technology and business writer based in West Linn, Oregon. He has contributed to* Entrepreneur, Information Week *and* Wired.

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# PRIVATE EQUITY'S POWER PLAY

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# AS INVESTORS FLOOD THE ENGINEERING SECTOR, VALUATIONS RISE AND FIRMS BECOME MORE STRATEGIC AND BUSINESS-ORIENTED—BUT NOT WITHOUT POTENTIAL RISKS

BY BETH BRAVERMAN

**Amid a booming industry,** engineering firms—like many professional services companies—have still faced growing succession challenges and increased consolidation over the past decade. At the same time, private equity (PE) investment has grown significantly, creating additional options for firm ownership and capitalization, while also impacting valuations and merger and acquisition strategies.

PE's interest in the industry reflects many factors, including a recognition of the government's Infrastructure Investment and Jobs Act, which has brought billions of dollars to fund projects across the United States.

"Nothing gets the attention of investors like a multiyear, multibillion-dollar spending program by the federal government, because you can plan and execute long-term strategy around it," says Nick Belitz, principal of advisory services at Morrissey Goodale.

PE firms also see engineering businesses as an opportunity for them to diversify their portfolios.

"PE firms are looking for alternative investments," says Brendon Cussio, principal of mergers and acquisitions advisory and the sell-side practice at Morrissey Goodale. "Historically, they like businesses with physical, tangible assets. With professional services, the assets are the people. It's a different model, but they've found it to be successful, assuming the proper alignment of incentives."

U.S. acquisitions made by PE firms have increased from 12 percent in 2016 to 39 percent in 2023, according to Morrissey Goodale. Over that period, the percentage of *Engineering News-Record* Top 100 firms backed by PE shot up fivefold, from 4 percent to 22 percent.

"Nothing gets the attention of investors like a multiyear, multibillion-dollar spending program by the federal government."

**NICK BELITZ**
**PRINCIPAL**
**MORRISSEY GOODALE**

# GROWING WITHOUT PRIVATE EQUITY

As an alternative to private equity (PE), DeSimone Consulting Engineering has been focused on organic growth and mergers and acquisitions. It has added five businesses in the past four years, with another deal closing this month and three others in the works, primarily funding those acquisitions with free cash flow.

Atwell has taken a similar approach, says CEO Brian Wenzel, growing organically from a $29 million company in 2010 to a projected $480 million company with more than 1,800 employees. Much of that growth has been through acquisitions funded via debt or cash flow put back into the business. The firm has found that some acquisition targets are interested in a deal because Atwell *isn't* PE.

"We can talk very holistically about the approach to the organization in a way that doesn't make people feel like they're getting on a roller coaster," Wenzel says. "The strategy helps potential acquisitions understand our stability and their opportunities for growth. Atwell is a place where our acquired firms and new employees can learn, grow, and build a career that they're passionate about—while contributing to the direction of the larger organization."

That approach can also appeal to senior leaders within those organizations, including those who aren't interested in becoming owners.

"We have shown them a path to continue to financial success with a focus on personal satisfaction, professional development, and financial reward. Our team members can do very well without necessarily having an equity interest in the company," says Atwell President Matthew C. Bissett.

"Atwell is a place where our acquired firms and new employees can learn, grow, and build a career that they're passionate about—while contributing to the direction of the larger organization."

**BRIAN WENZEL**
**CEO**
**ATWELL**

"We wanted anyone owning shares to be able to sell shares not only at the end of their career at retirement but whenever they needed liquidity, such as when their kids went to college or to buy a new house."

**DARIN ANDERSON**
**CHAIRMAN AND CEO**
**SALAS O'BRIEN**

## RISING VALUATIONS

That increased investment has driven up valuations throughout the industry, says Ernesto Aguilar, CEO of PE-backed Ardurra, which has experienced rapid growth via acquisition in recent years.

"Part of the increase in valuations is because there was a big gap between private valuations and publicly traded companies," Aguilar says. "Right now, when a deal comes up from a broker, they get 30 or 40 offers. If a big company comes up, they're getting massive offers. It's a sellers' market. They get 15 to 25 offers."

To avoid bidding wars, Aguilar says his company prefers to do its own sourcing for potential deals.

Supporters of PE-backed engineering firms believe that such financing can solve the succession challenges that have arisen as the next generation of engineers faces more economic hurdles and different priorities than their older peers, making them less able or less interested in purchasing their companies. Plus, there simply aren't enough young engineers to replace all of the retiring baby boomer owners.

"With professional services, the assets are the people. It's a different model, but [private equity firms] have found it to be successful, assuming the proper alignment of incentives."

**BRENDON CUSSIO**
**PRINCIPAL**
**MORRISSEY GOODALE**

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"Ownership transition is something that has become challenging to do internally," Cussio says. "Fewer minority owners have an appetite to borrow significant capital to buy out an exiting shareholder and take on the business risk. In general, the PE philosophy of holding an investment for a relatively short period of time and realizing a significant return on their invested capital in a similar period is also attractive to owners who are rolling equity as a part of a transaction with a PE partner. Additionally, access to growth capital helps firms grow faster than they can on their own."

For example, a firm with a PE investment can immediately expand to new geographies, add new services, or hire more people, even in a tight labor market.

## PROFESSIONALIZING THE BUSINESS

Proponents stress that PE firms can help professionalize engineering businesses, which are often run by teams with strong engineering backgrounds but less experience in finance or operations.

At Ardurra, Aguilar says that the company's PE backer, Littlejohn & Co., has helped its back office keep up with the company's rapid growth. For example, the PE firm has assisted with project management to integrate multiple enterprise resource planning platforms and helped recruit a new CFO and COO.

"One of the reasons we picked Littlejohn was that they understand it's a people business, and we have to keep our people," Aguilar says.

Darin Anderson, chairman and CEO at Salas O'Brien, says his firm has had a great experience since taking PE capital. The company first accepted a small investment from Caltius Structured Capital in 2020, and then a larger investment in January of this year from Blackstone. The firm remains supermajority employee-owned.

Anderson says that for more than a decade before the investment, Salas O'Brien had been averaging a 90 percent return on investment on its shares but saw the additional capital as an opportunity to continue growing while also taking some chips off the table for employee owners.

"We wanted anyone owning shares to be able to sell shares not only at the end of their career at retirement but whenever they needed liquidity, such as when their kids went to college or to buy a new house," Anderson says. "More importantly, Blackstone, as a world-leading asset manager, has been able to put us in contact with like-minded organizations to help us grow our business further."

## POTENTIAL DRAWBACKS

Like engineering companies, all PE firms are different, and some partnerships don't pan out as well as others. If a PE firm doesn't have a lot of experience in the engineering industry and doesn't understand how critical the human capital element is to success, that could create challenges for a firm concerned about finding the right partner, Cussio says.

And sometimes the introduction of PE can be a culture shock for a traditional engineering firm. Firms accepting PE capital should have PE representatives sitting on their board and asking difficult questions.

"Part of the increase in valuations is because there was a big gap between private valuations and publicly traded companies."

**ERNESTO AGUILAR**
**CEO**
**ARDURRA**

"It can be uncomfortable because there are new voices asking new questions about the business in board meetings," Belitz says. "And that dynamic can be problematic for leaders who aren't used to it. It can be a good thing in the long run, but it changes the way that people think about and run their businesses."

Given the potential drawbacks, not everyone feels that PE is the best path for most engineering firms.

"I believe that privately held firms, over the course of the next several years, will enjoy a significant advantage in the marketplace," says Stephen DeSimone, chairman and CEO of DeSimone Consulting Engineering. "At the end of the day, this is still a relationship business, and, as a consultant, I think it's difficult to answer to anyone other than our client."

## ENGINEERING'S EVOLVING FUTURE

No matter which direction engineering firms take, it's clear that the trend toward consolidation shows no signs of slowing and the nature of the business will continue to evolve.

"The competitive landscape has changed for engineers, likely forever," Belitz says. "Because now your competitors aren't the mom-and-pops or even the big firm down the road—your competitors are increasingly a larger, likely national firm that has professional money managers behind it that are thinking about strategically growing the business every day." ■

***Beth Braverman*** *is a business writer based in New York. She has worked for* Money magazine *and* The Fiscal Times *and has written for* Newsweek, *CNN Business, and CNBC.*

"I believe that privately held firms, over the course of the next several years, will enjoy a significant advantage in the marketplace."

**STEPHEN DESIMONE**
**CHAIRMAN AND CEO**
**DESIMONE CONSULTING ENGINEERING**

# Industry M&A Fulfilling High Expectations

BY NICK BELITZ

High expectations are often hard to realize. The pace of deal-making by A/E firm buyers and sellers in the first six months of 2024, however, has the industry on track to meet Morrissey Goodale's forecast of a near-record 450 mergers and acquisitions for the year, which would trail only 2022's record volume of 485 transactions.

Despite the Federal Reserve Board keeping interest rates higher for longer than expected in the first half of 2024, Morrissey Goodale tracked 243 deals involving U.S. design and environmental firms, matching the total for the first six months of 2023 and second only to 2022's high-water mark of 268 first-half deals. M&A activity continues to be propelled by a surge in federal funding that has spurred public and private investments in infrastructure, an increasing emphasis on technology integration and environmental compliance, private equity firms pursuing aggressive acquisition strategies, and investors seeking growth-oriented opportunities.

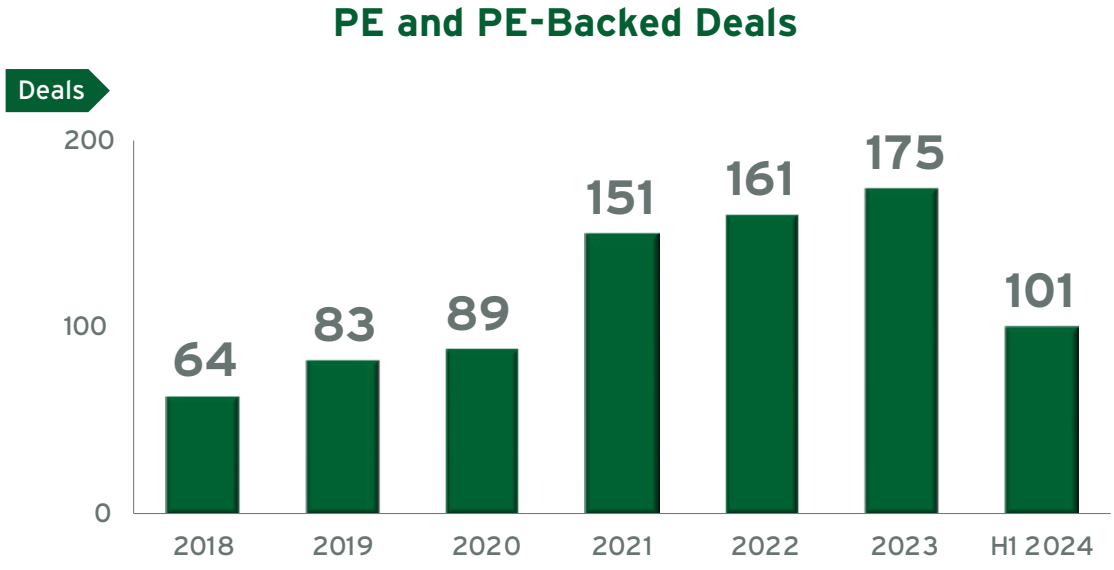
The first half of 2024 also saw an uptick in the number of high-value transactions, with 11 deals exceeding $100 million, up from eight during the same time frame in 2023. The growth in deal sizes contributed to total revenues acquired, climbing by 9 percent in the first six months of the year, reaching $4.4 billion.

A/E and environmental firms that serve the water and wastewater market continue to be in the greatest demand, thanks to the urgent need to modernize aging infrastructure and comply with increasingly stringent environmental regulations, coupled with a $50 billion infusion of federal funds from the Infrastructure Investment and Jobs Act. Firms working in the transportation and energy markets are also in high demand, while interest is lower for firms working in the commercial, retail, and hospitality markets, which are struggling with increased debt burdens due to interest-rate hikes and shifting consumer behavior resulting from inflation.

Many buyers in search of new geographic markets are following the lead of winter-weary snowbirds and buying properties in the Sun Belt. California, which boasts the country's largest state economy, led all states in the first half, with 26 acquisition announcements. That was followed closely by Texas, with 25 deal announcements, and Florida, with 24 acquisition announcements. Collectively, those three states accounted for nearly one-third (30 percent) of all U.S. deals in the first half of 2024.

ACEC member firms that have been aggressive in their acquisition strategies showed no sign of retreating in the first six months of 2024. **Atwell** (Southfield, Michigan) outpaced all buyers in the first half of the year with six acquisitions. **LJA Engineering** (Houston) and **IMEG** (Rock Island, Illinois) followed close behind with five acquisitions each. Other member firms that made multiple acquisitions in June and July included **Fuss & O'Neill** (Manchester, Conn.), **Bowman Consulting Group** (Reston, Va.), **Salas O'Brien** (Irvine, Calif.), and **Terracon** (Olathe, Kan.).

Private equity (PE) firms remain extremely active in the marketplace. The number of private equity and private equity-backed deals have increased for seven consecutive years, rising more than sixfold from 28 in 2016 to 175 in 2023. With 101



transactions by private equity and private equity-backed firms in the first half of 2024—which included 13 platform investments and 88 add-on acquisitions—private equity's stake in the A/E industry is poised for another year of growth.

Morrissey Goodale also tracked the exit of nine private equity firms from their industry investments in the first half of 2024, matching the total number of exits announced throughout all of 2023. This increase highlights the urgency for private equity firms to realize returns on their investments, particularly as the timeline to monetize aging assets nears. The growing inventory of aging private equity-owned assets that require monetization is expected to drive heightened activity in the coming year. As these firms seek to capitalize on favorable market conditions and avoid potential devaluation, we foresee a strong pipeline of exit transactions.

Morrissey Goodale anticipates the M&A landscape to remain very active in the second half of the year despite renewed concerns about the strength of the U.S. economy and unpredictability surrounding the presidential election. Favorable economic conditions, coupled with ongoing strategic initiatives across the sector, are expected to maintain the pace of deal-making, positioning the A/E industry for continued growth and transformation for the balance of 2024 and beyond.

Following is a list of recent transactions, with ACEC members highlighted in **bold**.

## AUGUST 2024

Civil and environmental engineering firm **Fuss & O'Neill** (Manchester, Conn.) (*Engineering News-Record* #296) acquired Bayside Engineering (Woburn, Mass.), a firm that offers traffic, transportation, survey, construction, and bridge engineering services.

Lighting design studio Illuminating Concepts (Farmington Hills, Mich.) joined industry leader and one of Morrissey Goodale's Nine Movers and Shakers to Watch in 2024, **IMEG Corp.** (Rock Island, Ill.) (*ENR* #52).

## JULY 2024

**McDonough Engineering** (Houston), a civil engineering firm offering design and construction management services for commercial land and site development, municipal, transportation, industrial, and governmental projects, joined industry leader **LJA Engineering** (Houston) (*ENR* #67).

Industry leader and innovator **Foth** (De Pere, Wis.) (*ENR* #120), a science, engineering, and technology services firm, acquired coastal expert Olsen Associates (Jacksonville, Fla.), a firm with experience in coastal modeling, beach and inlet management, sediment transport, environmental permitting, and coastal resiliency.

Seneca Fire Engineering (Marietta, Ga.), a fire protection engineering firm specializing in fire engineering forensics, executed a letter of intent to join multidisciplinary engineering firm **Coffman Engineers** (Seattle) (*ENR* #157).

Fast-growing industry leader and one of Morrissey Goodale's Nine Movers and Shakers to Watch in 2024 and the recipient of the 2024 Most Proficient and Prolific Acquirer Award, **Bowman Consulting Group** (Reston, Va.) (*ENR* #78) acquired Element Engineering (Lakewood, Colo.), a civil, water, and wastewater engineering firm.

Employee-owned company **Weston & Sampson** (Reading, Mass.) (*ENR* #142) acquired **MBD Consulting Engineers** (Southern Pines, N.C.), a civil engineering firm with a focus on water and wastewater treatment, serving the public and private sectors.

Civil, structural engineering, geospatial, safety, and environmental firm **LJB** (Miamisburg, Ohio) (*ENR* #350) acquired Grantham & Associates (Garland, Texas), a civil engineering and surveying firm with experience in water and wastewater, transportation, and trail design.

**Bowman Consulting Group** (Reston, Va.) (*ENR* #78) also acquired FCS Group (Redmond, Wash.), a financial, economic, and management services firm focused on public sector entities including utilities, state and local governments, regional agencies, and public safety organizations.

Industry leader **Benesch** (Chicago) (*ENR* #104) acquired Big Muddy Workshop (Omaha, Neb.), a landscape architecture, master planning, and green infrastructure services firm serving communities, public agencies, institutions, and nonprofit environmental groups.

Ehvert Mission Critical (Dallas), a firm specializing in the design, construction, and operation of mission-critical facilities, joined facilities planning and design firm and another of Morrissey Goodale's Nine Movers and Shakers to Watch in 2024, **Salas O'Brien** (Irvine, Calif.) (*ENR* #39).

Employee-owned industry leader **Terracon** (Olathe, Kan.) (*ENR* #18) acquired Harbor Environmental (Little Rock, Ark.), a multidisciplinary firm that provides engineering, compliance, and sustainability services.

Civil engineering, surveying, and planning firm **Interstate Engineering** (Jamestown, N.D.) acquired Landteam (Alexandria, Minn.), a firm focused on environmental work, private development, construction surveys, and municipal engineering.

*ENR*'s #29 ranked global design firm **GHD** (Sydney, Australia), acquired RIM Architects (Anchorage, Alaska) and its subsidiary companies. RIM is an architecture firm serving the entertainment, hospitality, health care, and government facilities sectors. ■

**To view the most up-to-date and "live" versions of the M&A heat maps, and to see who are the buyers and sellers in each state, go to www.morrisseygoodale.com.**

**Nick Belitz** is a principal with Morrissey Goodale LLC, a management consulting firm that specializes in the A/E and environmental industry and provides strategic business planning, merger and acquisition, valuation, ownership transition, executive coaching, and leadership development services. He can be reached at **nbelitz@morrisseygoodale.com**.

# On the Move

Bismarck, N.D.-based **KLJ Engineering LLC** announced that **Kurt Zmich,** current COO and acting CEO, has formally been named president and CEO. Zmich joined KLJ in 2022 with multiple years of executive leadership experience in the A/E/C industry. He is based in the company's St. Louis Park office.

**Leah Stanton** has been appointed COO of Reading, Mass.-based **Weston & Sampson.** A specialist in municipal drinking water infrastructure, her interest in construction and buildings helped her to evolve into a professional engineer specializing in water plants. She recently finished a three-year term on the board of directors.

Reston, Va.-based **Bowman Consulting Group** has appointed **Andy Raichle** to executive vice president of marine engineering and climate resiliency. Raichle will support Bowman's ports and harbor group, expanding the company's reach into offshore wind and coastal protection markets.

N.Y.C.-based **WSP** announced the following appointments: **Jeffrey Gonneville** has joined the firm as senior vice president and transit and rail director of enterprise strategy. He most recently served as deputy general manager and interim general manager for the Massachusetts Bay Transportation Authority. **Christopher Dorang** has been named a senior vice president and maritime national technical director at the firm. Dorang, based in Houston, oversees quality execution of maritime projects across the U.S., bringing nearly 30 years of maritime experience to his new role. He previously served as a senior project manager and senior technologist for Jacobs. **Patty Rubstello** has joined the firm as national transportation strategic advisor. Rubstello will provide leadership and strategic direction to project teams working to identify, develop, and deliver multimodal and tolling initiatives for clients nationwide. Rubstello most recently served the Washington State Department of Transportation as assistant secretary of Washington State Ferries.

**Matt Stone** has been named the technical leader of the global highways program at Omaha, Neb.-based **HDR**. Stone has nearly three decades of highway planning and design experience and will lead over 1,000 highway professionals across North America, the U.K., the Middle East, and Australia. Stone has served multiple terms as ACEC Alaska's national director and is based in the Anchorage, Alaska, office.

**Christi Driver** has joined Portland, Maine-based **Woodard & Curran** as national business development leader for the public sector. She will partner with the firm's technical practices and business units. She previously held senior leadership roles at Trilon Water and Black & Veatch.

**David Thornhill** has joined **Morrissey Goodale** as vice president, based in the firm's New York City office. Thornhill brings a wealth of A/E industry experience from his previous roles, including CFO and COO at AKF Group, where he facilitated the firm's sale to WSP; CFO at Edwards and Kelcey, where he managed the firm's sale to Jacobs; and finance director at Parsons Brinckerhoff.


Kurt Zmich


Leah Stanton


Andy Raichle


Jeffrey Gonneville


Christopher Dorang


Patty Rubstello


Matt Stone


Christi Driver


David Thornhill

# Welcome New Member Firms

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**Jett Civil Engineering**
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**ACEC California**
**EXP Global**
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**Kittelson & Associates, Inc.**
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**Stillwater Sciences**
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**ACEC Colorado**
**Sargent & Lundy, LLC**
Englewood

**ACEC-FL**
**Advanced Structural Solutions, LLC**
Fort Lauderdale
**Coastal Engineering Associates, Inc.**
Brooksville
**Wey Engineering PLLC**
Tampa

**ACEC Illinois**
**Tower Engineering Group, LLC**
Chicago

**ACEC Indiana**
**Clinchfield Consulting Group, Inc.**
Greenfield
**KBSO Consulting LLC**
Carmel

**ACEC-KY**
**GAI Consultants, Inc.**
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**Crocker Design Group, LLC**
Hingham
**LandTech Consultants**
Westford

**ACEC/NC**
**Chen Moore and Associates, Inc.**
Cary
**Subsurface Construction Company LLC**
Raleigh
**V3 Companies, Ltd.**
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**ACEC New York**
**Facility Strategies Group, PLLC**
New York City
**TRC Companies Inc.**
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**EGSci Consulting Inc.**
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**ACEC Virginia**
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**InfraMap Corp.**
Glen Allen
**Weston & Sampson Engineers, Inc.**
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**For further information on national affiliate members, go to: https://bit.ly/ACEC-Natl-Affiliate-Members or contact Erin Wander at 440-281-0464 or ewander@acec.org.**



## JANUARY 2025

**16** Navigating a Change in Ownership: Ownership Transition Through Acquisition (online series)

**28 - March 25** Project Management 101 (online course)

## FEBRUARY

**6** Navigating a Change in Ownership: Private Equity—A Case Study (online series)

**18-27** Managing Small Projects (online course)

**23-24** Small Firm Workshop 2025, Phoenix

**25-26** Coalitions Winter Meeting 2025, Phoenix

## MARCH

**4-6** Business of Design Consulting, Fort Worth, Texas

To sign up for ACEC education courses, go to **www.acec.org/education**.

## Statement of Ownership, Management, and Circulation

*Engineering Inc.* (USPS 0007395) is published (quarterly) four times a year by the American Council of Engineering Companies. The mailing address of the publication is 1400 L Street, N.W., Suite 400, Washington, D.C. 20005. The mailing address of the publisher is 1400 L Street, N.W., Washington, D.C. 20005-3592. The publisher is the American Council of Engineering Companies, the executive editor is Andrea Keeney, and the co-managing editors are Elizabeth Glennon and Matthew Wright. The owner of the publication is the American Council of Engineering Companies. There were 11,207 copies of *Engineering Inc.* published for Issue Two-2024; the average for the preceding 12 months was 11,075. The paid/requested outside county mail subscriptions for Issue Two-2024 were 10,684; the average for the preceding 12 months was 10,612. The other classes mailed through USPS for Issue Two-2024 were 45; the average for the preceding 12 months was 108. Total distribution for Issue Two-2024 was 10,866; the average for the preceding 12 months was 10,792. Copies of *Engineering Inc.* that were not distributed during Issue Two-2024 (office use, leftovers) was 341 and the average number of copies not distributed during the preceding 12 months (office use, leftovers) was 283. The percent paid/requested circulation for Issue Two-2024 was 98 percent. The average percent paid/requested circulation for the preceding 12 months was 98 percent.

ACEC COALITIONS

# Investing in the Future: Scholarships Empower Tomorrow's Engineering Leaders

As a seasoned engineer, you understand the challenges that come with pursuing an engineering career. The rigorous academics, relentless problem-solving, and rising cost of education can often deter talented students from realizing their full potential. ACEC, through its Coalitions and in partnership with the ACEC Research Institute, has created scholarships designed to ensure that the next generation of engineers is well supported on their journey.

Some ACEC Coalitions—the Small Firm Coalition, the Coalition of American Structural Engineers (CASE), and the Coalition of Professional Surveyors (COPS)—offer scholarships and are empowering students who will one day become the leaders of our industry. These scholarships are not just financial aid; they are an investment in the future of engineering, and your support can make all the difference.

## WHY YOUR SUPPORT MATTERS

- **Small Firm Coalition Scholarship**: Supports aspiring **civil engineers** dedicated to designing and maintaining the infrastructure that keeps our communities thriving.
- **CASE Scholarship**: Helps students passionate about **structural engineering** tackle the challenges of urbanization, sustainability, and resilience.
- **COPS True North Scholarship**: Supports future **land surveyors**, the experts driving land development and infrastructure projects across the nation.

## WHY YOU SHOULD DONATE

- **Build the next generation of leaders:** Your donation ensures that bright, ambitious students have the resources they need to pursue their engineering dreams.
- **Strengthen your profession:** By supporting these scholarships, you help secure the future of civil, structural, and survey engineering, ensuring the industry continues to thrive.
- **Leave a legacy:** Now is your chance to give back to the profession that has shaped your career by mentoring and empowering the next generation of engineers.

## HOW YOU CAN HELP

With a quick scan of the QR code below, you can make a direct, lasting impact on a student's future. Every donation, large or small, supports a talented young scholar on their path to becoming an engineer.

- **Empower the future of engineering** by investing in the education of aspiring professionals.
- **Help us bridge the gap** between potential and opportunity for students across the nation.

Join us in shaping the future. Donate today and help ensure that the next generation of engineers is prepared to lead, innovate, and create the world of tomorrow.

To allocate to a specific Coalition's scholarship fund, use the pull-down menu under "Use this donation for" to select which fund you are contributing to.

To learn more about ACEC Coalition scholarships, visit: **https://bit.ly/3YmcOEa**. ■

**Find the Right Coalition for Your Firm**

Scan the code to learn more about our distinct coalition groups organized by practice area or firm size.

# EMPLOYEE BENEFITS MATTER.

ACEC RETIREMENT TRUST

More than **400** ACEC member firms trust us for a customized plan design, using vetted providers, with low fees, and access to institutional-grade funds.

*Plus*, every participant gets complimentary CFP services and exceptional fiduciary support.

## 22,000+ Strong: Our Plan Participants Tell the Story

**$124,661**
Average Participant Account Balance

**81%**
Average Participation Rate

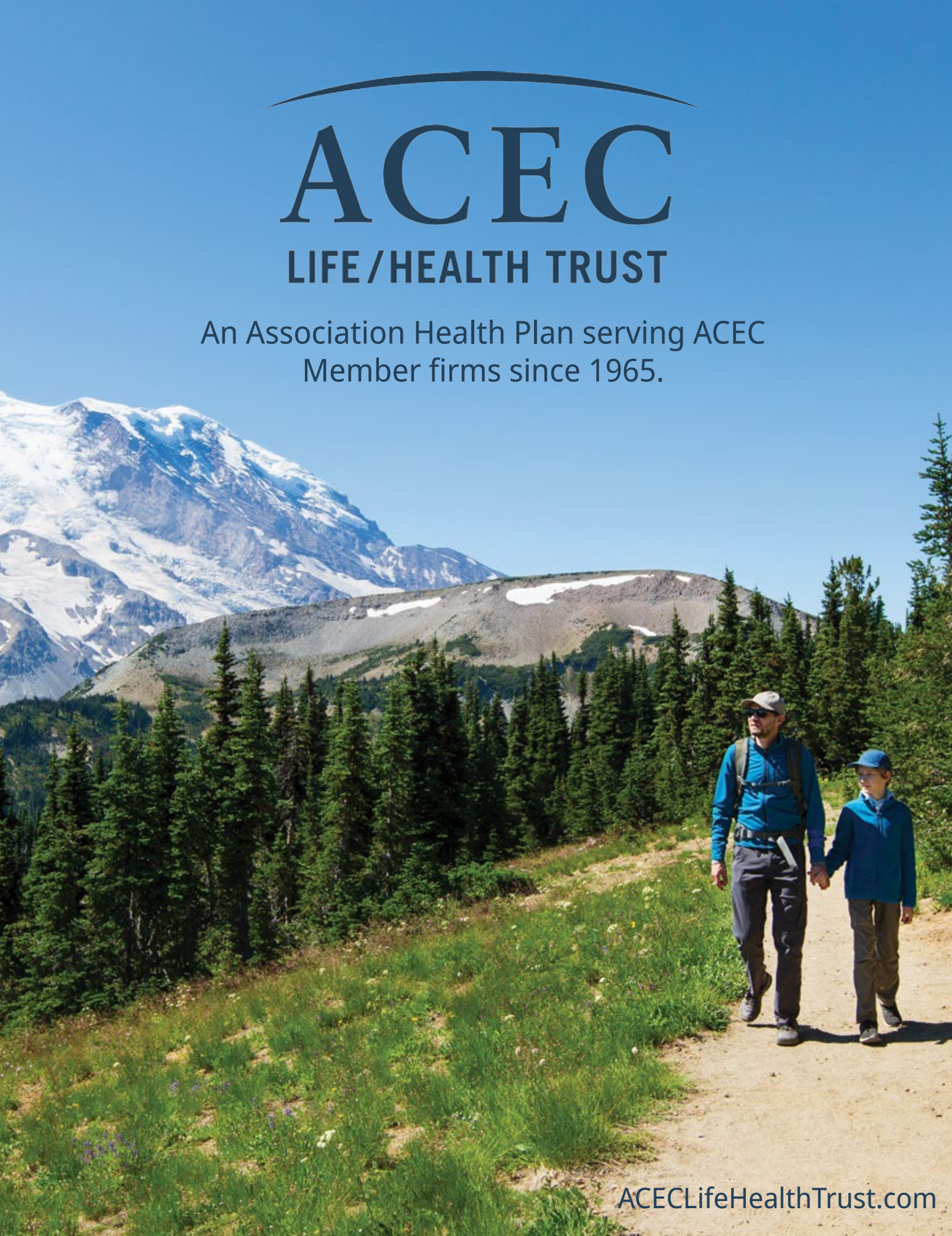
**9%**
Average Participant Contribution Rate

**23.4%**
Participants Contributing Over 10% of Their Salary

**12.7%**
Participants with Account Balances Over $250,000

## So, how does your firm's retirement plan stack up?

Visit **acecrt.com** for a complimentary plan comparison and discover the difference.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