

JANUARY/FEBRUARY 2015

# ENGINEERING INC.

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

>> **Analyzing  
Capitol Hill's  
Will to Act in  
2015**

>> **Rebounding  
Engineering  
Markets**

>> **Women  
Engineering  
Leaders Blaze  
New Paths**

## THE BUSINESS CASE FOR DIVERSITY

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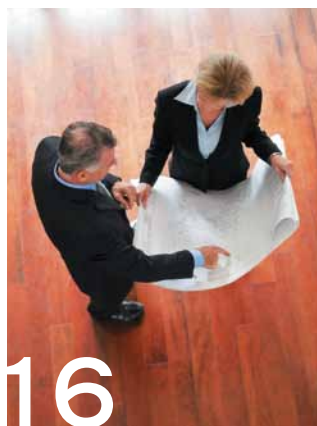
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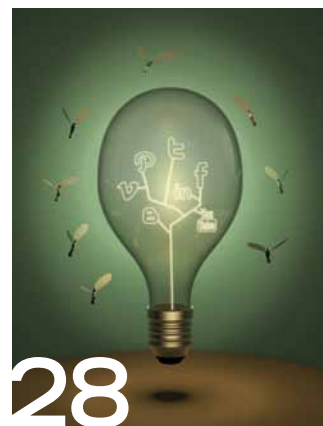
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# From ACEC to You

## Diversity as a Winning Business Strategy

It is axiomatic that business requires the best talent available in order to be successful. It is also a fact that our nation today is over one-third non-white (growing to 50 percent by 2040) and roughly half female, and these groups are under-represented in the business world. While the reasons for this are many, not taking full advantage of such a vast talent pool can significantly limit our prospects.

This month's cover feature explores changing demographics and their impact on business. Member Firms are incorporating diversity in their business strategies in order to recruit the best possible talent and improve their bottom line. (See page 12.) A companion article addresses unique challenges faced by women in our industry and how they have navigated a pathway to success. (See page 16.)

With the 2014 mid-term elections now in the rear-view mirror, ACEC is looking forward to working with the new Congress to advance the industry's legislative agenda, especially in the areas of energy and infrastructure. Long-standing Council relationships with House Transportation & Infrastructure Committee Chairman Bill Shuster (R-Pa.) and the new chair of the Environment and Public Works Committee, Sen. Jim Inhofe (R-Okla.), should strengthen our legislative prospects. The Annual Legislative Outlook (see page 6) addresses what lies ahead.

This issue also presents growth projections for 2015 and beyond in several primary engineering markets. (See page 10.)

We wish you all the best in the New Year.



Richard C. Wells  
ACEC Chairman



David A. Raymond  
ACEC President & CEO



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## Congress Approves Defense Bill; Includes ACEC-Backed Reforms on Design-Build

**T**he House and Senate in December passed the F.Y. 2015 National Defense Authorization Act (NDAA), which includes ACEC-backed improvements to design-build and limits on the use of reverse auctions in military construction projects.

Specifically, ACEC worked with stakeholders to secure language to limit to five the number of shortlisted firms in military construction design-build competitions. The Council advocated for this change as the cost of second phase competitions has grown significantly, in addition to the number of finalists in that round. Capping the number of finalists allows for the most qualified teams and engineers to compete and the federal government to attract the best teams.

NDAA also included language to limit reverse auctions in design-build competitions for military construction projects.

Overall, the bill authorizes \$5.091 billion in military construction, \$1.19 billion in family housing, and \$270 million to continue implementing previously authorized base closings. It also restores \$818 million in previous cuts to base budget readiness accounts in facilities maintenance contracts and contracts for other services.

## ACEC Helps Secure Infrastructure Wins on State Referenda

**V**oters in Maryland and Wisconsin adopted constitutional amendments to safeguard transportation investment by prohibiting transfers from their state transportation trust funds to other programs in the state general funds. ACEC Minuteman Fund grants supported both successful campaigns.

In Texas, voters approved a ballot proposition to transfer up to half of the oil and gas production taxes from the state's rainy day fund to the state highway fund. The amendment is projected to generate up to \$1.2 billion per year to fund road construction and maintenance.

Other local sales tax and bond initiatives to fund transportation were approved in California, Georgia and Washington.

In a setback, Massachusetts voters chose to repeal a 2013 law that automatically indexed motor fuels taxes to inflation.

## ACEC/Idaho Achieves High Court Victory; Minuteman Fund Grant to ACEC/New York

**I**n a major victory for the engineering industry, the Idaho Supreme Court has ruled that an engineer's lien rights commence at the start of professional services, not when the engineer arrives at the site or when something is built.

The decision in *Stanley Consultants, Inc. v. Integrated Financial Associates, Inc.* helps to protect the priority of engi-

neers' liens against subsequent liens filed by mortgage companies and other financial institutions. ACEC provided a Minuteman Fund grant to ACEC/Idaho for an amicus brief in this case.

Stanley Consultants Vice President and General Counsel Henry Marquard said the case pit the interest of the banking and finance industry clearly against the interest of the engineering profession. "The court

ruling affirmed that the Idaho legislature meant to protect engineers and others doing pre-construction, pre-financing work by awarding them lien priority," Marquard said.

In a separate action, ACEC awarded a Minuteman Fund grant to ACEC/New York to support its campaign to win additional state infrastructure funding, primarily for roads, bridges, and transit.

## Congress Clears \$1 Trillion Omnibus Appropriations Bill for 2015

**P**rior to adjournment in December, Congress approved a massive spending bill to fund federal programs for F.Y. 2015. The legislation boosts funding in a number of critical infrastructure programs, a top ACEC priority.

The measure maintains surface transportation spending under MAP-21 for F.Y. 2015, with \$41 billion going to highways and \$10.9 billion for trans-

portation programs, including \$2.12 billion for capital investment grants, an increase of \$177 million. The bill provides \$3.35 billion for airport improvement grants and \$2.6 billion for FAA facilities and equipment, consistent with current funding levels. Amtrak is funded at \$1.39 billion, including \$1.14 billion for capital grants, an increase of \$90 million. No funding is provided for high-speed passenger rail. TIGER

multimodal grants are funded at \$500 million, a decrease of \$100 million below 2014.

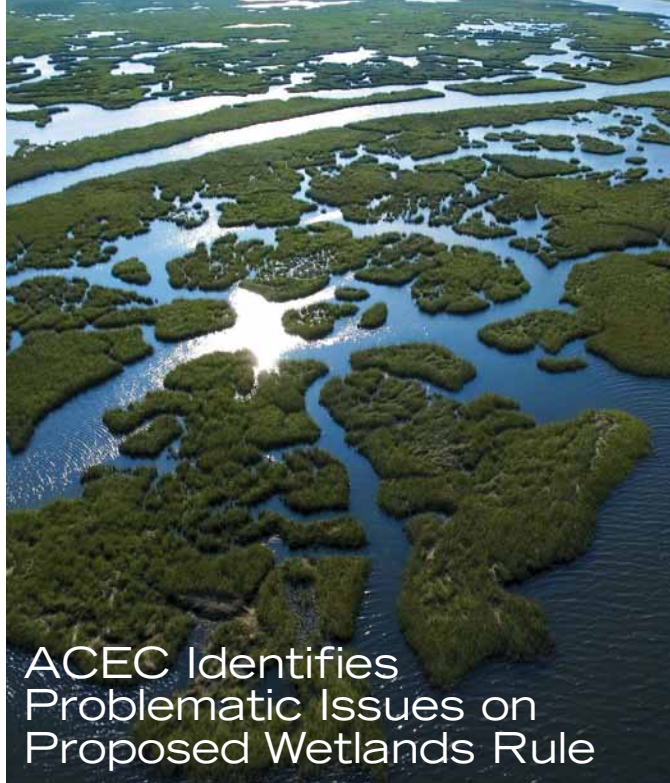
For water projects, the bill provides \$2.35 billion for the Clean Water and Safe Drinking Water State Revolving Fund (SRF) programs, which is \$31 million below the 2014 enacted levels. The Army Corps of Engineers Civil Works program is funded at \$5.48 billion, \$20 million above current funding.

Hazardous waste clean-up

under the Department of Energy's Environmental Management program is funded at \$5.76 billion, roughly \$40 million less than the 2014 enacted level.

The package provides \$6.6 billion for military and support construction, which is a decrease of \$3.3 billion from the 2014 enacted level. VA construction is funded at \$562 million, \$220 million above the 2014 enacted level.





## ACEC Identifies Problematic Issues on Proposed Wetlands Rule

**A**CEC submitted comments in November to the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers citing concerns about the expansion of federal jurisdiction over domestic waters—including wetlands—in the proposed “Waters of the United States” regulation.

Based on input from members, ACEC asked for clarifications of new designations to describe covered waters and questioned the new definitions of floodplains and tributaries. ACEC also raised concerns about whether ditches and wastewater treatment ponds would be subject to regulation under the proposed rule.

The Council called for “a uniform policy and consistency” in the regulations governing wetlands and urged the agencies to do more to engage stakeholders in this effort.

Some in Congress have criticized the EPA over the proposed rule, and efforts may be undertaken in early 2015 to prevent the agency from moving forward.

## New Keystone XL Pipeline Bill an Early Priority in 2015

**I**n November, the U.S. Senate narrowly rejected an ACEC-backed bill that would have approved construction of the Keystone XL pipeline. The 59-41 vote was just shy of the 60 votes needed to pass the bill. The House approved the measure with bipartisan support.

In a letter to senators prior to the vote, ACEC President Dave Raymond said that “passage was long overdue,” State Department and environmental clearances had been achieved, the “nation should continue to embrace a wide range of energy sources,” and building the pipeline would be part of our “national energy diversification.”

House and Senate leaders have pledged to bring the measure back up for a vote in the next Congress in early 2015, when it is expected to pass. The White House has indicated that the President may veto the bill.

### ISSUES ON THE MOVE

Keystone XL Pipeline

Comprehensive Tax Reform

Waters of the U.S. Rule

### WHAT'S NEXT

Congress expected to vote in early 2015

Action possible in first half of 2015

Action to prevent EPA ruling expected in 2015

## Congress Poised to Approve Tax Extenders, Looks Ahead to Tax Reform

**C**ongress took up legislation in December to provide a one-year extension of tax provisions that expired at the end of 2013. The tax benefits will be in effect for 2014 (retroactive to January 1).

The legislation includes extensions of provisions of interest to ACEC Member Firms, such as the R&D tax credit, bonus depreciation for purchases of new equipment by firms of all sizes, parity for employer-provided transit benefits, increased small business expensing limits and the wind energy tax credit.

Finalizing the tax extenders legislation clears the way for Congress to consider comprehensive tax reform.

Congressional leaders and the president have indicated interest in simplifying the federal tax code but have not been able to agree on certain broad parameters. Differences remain over whether to lower only corporate tax rates or to also lower individual tax rates, which apply to the taxes paid by pass-through businesses, such as S corporations and partnerships. Additionally, the leaders have not agreed on whether tax reform should be revenue-neutral or increase the overall tax burden.

Conventional wisdom suggests that the window for complex legislation such as tax reform will begin to close as the presidential election cycle accelerates.



### For More News

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LEGISLATIVE  
SCORECARD:

# Industry Flash points That Will Test Washington's Will to Act in 2015

By Alan Joch

Sequestration,  
transportation  
funding and  
tax reform are  
among the  
pivotal Capitol  
Hill issues that  
**will directly  
impact U.S.  
engineering  
firms this  
coming year**





**T**he midterm elections reshuffled the political deck in Washington, with Republicans wresting control of both the House and Senate. The stark shift in political power symbolizes a public mandate for change. But with the Democrats still in control of the White House and Republicans failing to secure a veto-proof majority in the Senate, industry activists are left to decide how that political turnover can translate into near-term legislative progress for Member Firms.

If nothing else, the midterm elections could lead to progress on some gridlocked issues, such as infrastructure and energy. But the chasm between consensus and legislation voted into law is often vast, and some very clear challenges remain.

### **Flashpoint #1: The Federal Budget and Sequestration**

Engineers will get an early indicator of whether 2015 will bring fruitful change or more political frustration when discussions about the federal budget and related matters begin early next year. First up: likely debates about increasing the federal debt limit, the F.Y. 2016 federal budget and sequestration.

Engineering and construction industry executives will watch closely for clues about whether a long-term budget agreement can be reached for the next fiscal year. "The big fear for us is that Congress just passes another continuing resolution, which doesn't give people any ability to prioritize spending," says Jeffrey Shoaf, senior executive director of government affairs for the Associated General Contractors of America (AGC) in Washington, D.C. "A continuing resolution won't allow new projects to get started."

Sequestration is also on the radar again. Another sequester would impose automatic spending caps outlined in the Budget Control Act of 2011.

"Speaking as a lobbyist for an engineering firm that derives most of its work from the federal government, the best-case scenario is a deal that rolls back sequestration as soon as possible," says Sean McGraw, senior director of government relations and market development at Weston Solutions in West Chester, Pa. "Uncertainty is the biggest impediment our industry faces, and the longer Congress and the administration debate budget issues, the longer our clients will be in limbo."

Budget uncertainties have already prompted several federal agencies to delay or postpone projects until planners have a clear picture of funding for the coming fiscal year. "If they see discussion moving forward, agencies will be more likely to let work go

out onto the street," McGraw says. "If they see a logjam on the horizon, they're more likely to hold onto that work or not send it out until the last minute, which isn't good for any of us."

### **Flashpoint #2: Reauthorization of MAP-21**

Among the most important questions is whether to continue or grow highway, transit and safety programs under the Moving Ahead for Progress in the 21st Century Act (MAP-21). A key piece of legislation supporting surface transportation projects, MAP-21 streamlined and prioritized project development and provided two years of funding that helped state and local agencies plan large-scale road and bridge initiatives. But Congress' recent extension of the program only runs through May, leaving engineering firms and their clients to wonder if additional money will be made available for future projects.

Industry analysts see the reauthorization of MAP-21 as a significant boost for highway and transit system initiatives at the federal, state and local levels. A long-term bill would provide more certainty for project planners, but timing will be tight.

"There are only five months after the New Year to get a bill through both the House and Senate and then signed into law," says Ed Mortimer, director of government relations for AECOM Technology Corp., headquartered in Los Angeles. "That's not impossible, but it is a heavy lift. The good news is there's overwhelming bipartisan support to keep this program going."

Sen. Jim Inhofe (R-Okla.), the incoming chairman of the Senate Environment and Public Works Committee, is optimistic that the transportation funding issue will soon be addressed. "In July, Congress showed

its strong bipartisan support for fixing our nation's crumbling roads and bridges when we passed a patch to keep transportation projects going until a new Congress could consider a long-term solution," Inhofe says. "Come January, I look forward to working with my colleagues on writing a fiscally responsible, bipartisan transportation bill that builds upon past reform measures in MAP-21."

Proponents of transportation funding face another challenge: The Congressional Budget Office estimates that the Highway Trust Fund, the road construction program funded by fuel taxes, will require an additional \$100 billion in revenue to stay solvent at current spending levels over the next six years.

To keep that program intact, several legislators have suggested reaching beyond the federal gas tax, which hasn't increased since 1993. ACEC has called on Congress to consider a wide array of options to address the challenge, including increasing and indexing the current user fees, switching to a sales tax on fuel, mileage-based fees, freight charges, tolling, bonding and other financing mechanisms, and tax code changes.

"There's enough ideas about new sources of revenue; the real question is whether there'll be leadership to decide which ones to support and rally around," says Steven Palmer, vice president of Van Scoyoc Associates, a government affairs practice in Washington, D.C.

In addition to finding new sources of revenue, Palmer is working with ACEC to strengthen the role of engineering firms in public transportation projects. "We're educating Congress about the benefits from the innovation that the private sector can bring to the transportation world, and lawmakers are listening," says Palmer.

### **Flashpoint #3: FAA Reauthorization**

As of the New Year, funding for the Federal Aviation Administration (FAA) extends through September. The Obama administration and other stakeholders have urged congressional leaders to renew and consider expanding FAA funding for air traffic improvements and airport development, which could stimulate another important market for engineers.

To do that, Congress must decide whether to hike aviation fuel taxes or passenger facility charges, the fees collected by airports to help finance runway, terminal, and parking facility

projects. ACEC and others will advocate for an increase in these charges to support new development.

“FAA reauthorization will be one of the committee’s highest priorities next year, and the Aviation Subcommittee has already begun laying the groundwork for a bill that helps provide the necessary investment in our aviation system and ensures the United States remains a global leader in this critical industry,” said Congressman Frank LoBiondo (R-N.J.), chairman of the House Aviation Subcommittee.

Rep. Bill Shuster (R-Pa.), chairman of the House Transportation and Infrastructure Committee, is pushing for wide-ranging reauthorization that would address next-generation air traffic control operations, an issue that has delayed reauthorization legislation in the past.

“The good news is most people in Congress want to get this bill done,” says Mortimer. “I think it’s going to be a priority, and since funding will last a full nine months into 2015, there will be time to move it through the legislative process. I’m optimistic that we can get a long-term bill completed.”

#### Flashpoint #4: Tax Reform

Although there is interest in tax reform in both parties and the administration, some worry that an agreement, even if it happens this year, won’t be comprehensive enough to give C corporations and engineering firms that operate as pass-through entities, such as S corporations, LLCs and partnerships, the relief they need.

“Our concern is that corporate tax reform will be addressed separately from individual tax reform, which doesn’t help owners of companies in our industry who pay taxes at the individual level,” explains Shoaf.

Also up for debate: incentives for repatriating corporate revenues held in overseas accounts. Some in Congress and the Obama administration have proposed using revenue from tax reform, including repatriated earnings, to pay for needed infrastructure investments.

These sticking points could push tax reform discussions beyond 2015.



“Both parties recognize the need for tax reform, so there is interest in accomplishing it. But it will take time,” Mortimer says. “We haven’t had a big tax reform deal since 1986, and that one took two to three years to be finalized. I don’t see comprehensive tax reform happening early in 2015, but I do see some incremental progress.”

#### Flashpoint #5: A Comprehensive Energy Bill

Industry groups consider ongoing energy development essential to the U.S. economy. It’s also an important market for engineers.

“The engineering industry is seeing a boost from the increase in oil and gas production in the U.S., such as in North Dakota,” says McGraw. “Many engineering firms are seeing a lot of work as a result of this activity.”

Prospects for a comprehensive energy bill are clouded by the decline in oil and gas prices that began in 2014, which could stall new drilling and reduce urgency for legislative action in the near term. “Falling prices are good for consumers, but they don’t help people who are arguing that we need comprehensive energy reform,” explains McGraw. “That may simply not be on the forefront of people’s minds.”

Other key energy issues could be addressed soon, including the fate of construction of the Keystone XL oil pipeline. The Senate in November narrowly voted down the bill that would have approved construction of the pipeline. House and Senate leaders pledged to bring the measure back up for a vote early in 2015, when it is expected to pass. The White House has indicated, however, that the president may veto the bill.

Mortimer points to several bills passed by the House and recent Republican wins in the Senate as evidence that passage of pipeline legislation could happen soon, maybe as early as this year and possibly in lieu of a comprehensive energy bill.

Another energy issue that could be addressed early in the new Congress: the development of the Yucca Mountain nuclear waste repository, which stalled under the former Senate leadership.

#### Flashpoint #6: Long-Term Export-Import Bank Reauthorization

For engineering firms that do business globally, the Export-Import Bank (Ex-Im) provides valuable financing support to aid competition with well-funded European and Asian companies.

But in an era of increased budget scrutiny at home, some lawmakers are reexamining whether the government should provide loans and loan guarantees to businesses that do business globally. The House introduced a continuing resolution in September that extended funding for the Ex-Im through June 30. Many industry stakeholders, including ACEC, are calling for long-term reauthorization.

“Ex-Im is an important partner with a key role in supporting the development of global infrastructure projects,” says Paul Weida, vice president of government affairs at Black & Veatch Corp., Overland Park, Kan. “In addition to its record of supporting U.S. job growth, the bank helps maintain a level playing field for U.S. companies in competition with sovereign-backed, international firms.”

But some expect roadblocks to passage of long-term reauthorization. “I’d put the chances at 50-50 for getting something long-term passed this year,” says Mortimer. However, he doesn’t expect Ex-Im to go away. “I feel like we’ll at least see an extension that will continue the program through the year.”

Another possibility: Funding for the bank could potentially be rolled into other legislation. “There are many must-pass pieces of legislation that are due to be addressed by the end of June,” says Palmer. “If the speaker of the House or the Senate majority leader decides not to fight the reauthorization fight, he could make it a less controversial item in a much bigger package.”

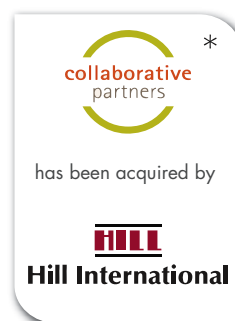
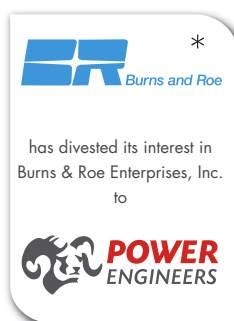
#### Long-Term Implications

Progress in these various political arenas will have ripple effects beyond the engineering industry. “Voters are going to hold their lawmakers accountable for how much they’re able to accomplish in the next two years,” Mortimer says. “If we just see more name-calling and partisan barbs, there will be even more frustration that could impact the 2016 election.” ■

*Alan Joch is a business and technology writer based in Francetown, N.H.*



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# 2015 Forecast: Oil and Gas Surge Slows; Office Buildings, Manufacturing Markets Rebound

**T**he nearly exponential growth in domestic natural gas and oil production—which has breathed life into an otherwise drab economic recovery over the past few years—will slow in 2015. The glut of natural gas and oil in global markets pushed down oil prices by 35 percent in the second half of 2014 to around \$65 a barrel in early December.

While lower energy prices will likely boost the national economy, they will also make increasingly unaffordable unconventional extraction methods—such as hydraulic fracturing and horizontal drilling.

“Oil and gas are embedded in several sectors,” says Lee Smither, managing director of FMI. “Some of it is in power, some in manufacturing, land development, transportation—you have to look at all of these together to get a sense of how big a driver energy is for engineering.”

While those sectors are forecast to grow in 2015, because of project backlogs, a long-term dip in oil prices could slow an engineering market already burdened by near stagnate public markets.

## Escape Velocity

Technically, the U.S. economy has been expanding since 2009, but recovery from the 2008 financial crisis has been historically weak.

“We have growth without acceleration,” says Kleinfelder President and CEO William Siegel. “I just don’t see the 4, 5, 6 percent GDP growth rates coming back any time soon.”

Neither do the economists. A cross-section of economic forecasts puts U.S. GDP growth at between 3.0 and 3.25 percent in 2015 and between 2.5 and 3.0 percent in 2016 and 2017.

“We haven’t yet hit escape velocity to get out of the spot we’re in,” Smither says, adding, “I think we’re close.”

## Pipelines, Rail

Moving oil and natural gas from recently discovered fields to refineries and to market represents both a challenge and an opportunity, because many of these sources are in areas not served by existing pipelines. Thousands of miles of pipeline have been approved and those projects will begin in the next few years.

Recent reports suggest energy companies are reconsidering tens of billions in infrastructure—including pipelines—in the wake of the oil price drop.

Railroads have been spending nearly \$16 billion per year for the past several years to upgrade infrastructure to ship oil and natural gas in the absence of a robust pipeline infrastructure.

Continued rail development will provide substantial opportunities for engineering firms over the next several years.

## Growing Markets

Domestic manufacturing will capitalize on affordable oil and gas, both as a fuel and as a raw material. Analysts expect the sector to continue to expand, averaging more than 7 percent growth from 2015 to 2018. Construction spending in the sector was up 23 percent in November compared with a year ago. In addition, manufacturing employment is at its lowest level since 2008.

The office building market, which has not fared well in recent years, is also having a resurgence and is forecast to grow at better than 5 percent annually through 2018. “Vacancy rates are the lowest they’ve been in years and we’re

seeing a lot of high-rises being built—and not just in New York City, but in Kansas City and Minneapolis and even in Atlanta,” Smither says.

The lodging market has been the most volatile segment over the past six years. After shrinking by nearly 75 percent from 2007 to 2009, the segment grew by almost 70 percent from 2012 to 2014. Projections have the lodging segment growing at 8 percent annually over the next four years.

## Public Funding

Highway and street construction is forecast to average about 2.5 percent annual growth through 2018, and the water and wastewater markets will grow by only 3 percent annually. In both cases, the problem is limited funding.

“For highways it’s all about federal funding, which hasn’t been forthcoming in recent years, and I don’t have a lot of optimism looking forward,” says Smither.

In the water and wastewater markets, the low levels of funding are primarily at the local level. “Local tax bases have still not recovered to pre-recession levels,” he says.

The education market, expected to average only 3 percent growth in coming years, is struggling to adjust to the expansion of online learning.

The healthcare segment will continue to show moderate growth of 4 percent in 2015 and only 5 percent in 2016.

*Gerry Donohue is ACEC’s senior communications writer. He can be reached at [gdonohue@acec.org](mailto:gdonohue@acec.org).*

## EBI Survey: Private Markets Show Strength, Backlogs Increase

2015 will be a good year, particularly for private client markets, according to ACEC’s Engineering Business Index (EBI), which charts the health of the engineering industry through survey responses from hundreds of firm leaders.

In the third-quarter survey, conducted in October, firm CEOs produced a solidly positive composite score of 68.8. Any score above 50 indicates expansion.

More than six in 10 (61.7 percent) respondents expect to see improvement in the Land Development market in 2015, 56.1 percent in Power and Energy, and 53.1 percent in the Buildings and Commercial sector.

Firm backlogs have grown—65 percent reported higher backlogs compared with the same time last year—and 49.3 percent expect their backlogs to increase further in 2015.

Public market expectations are lagging. Only 43.8 percent of respondents believe that the Water and Wastewater segment will improve in 2015, and only 39.7 percent expect the transportation market to grow.

To view the full EBI report, go to [www.acec.org](http://www.acec.org) and click on the “Engineering Business Index” link.



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# The BUSINESS CASE for DIVERSITY

By Samuel Greengard

Not just an honorable objective—  
but produces bottom-line benefits

**D**iversity is often framed within the context of hiring more women and minorities—a noble cause that benefits individuals and society. But there's a side of the equation that too often escapes business leaders: A diverse workforce better equips a business to deal with today's global, highly connected and complex business environment.

"The idea of what diversity is and why it is important has changed," says Shirley Davis, president and CEO of SDS Global Enterprises, a consulting firm that focuses on preparing firms for the 21st-century workforce. "The focus is no longer on the narrow idea of hiring women and people of color. It's about reflecting broader thinking based on our backgrounds, beliefs, preferences and behaviors."

The new diverse workforce spans gender, age, ethnicity, sexual orientation, disability

and more. "Firms should pay attention to diversity because it brings differences of opinion and more importantly, experiences, which leads to innovation," says Nadine Vogel, president and founder of Springboard Consulting.

At the intersection of good intentions and good business practices lies the arduous task of understanding what diversity means for a firm, how to hire and retain candidates with the skills and mind-sets required for the modern era, and how to put employees

on a career path that empowers them to make progressively larger contributions to the firm's book of business. While there's no template for success for workplace diversity, consultants, human resources directors and other experts say firms need to develop a strategy for getting the most out of a richer, increasingly vast and widely experienced talent pool.

## Defining Diversity

A starting point for any discussion about diversity is to understand what the term means. In a corporate context, it traditionally revolves around molding a workforce to better reflect the demographics of society. The concept encompasses everything from the positions people hold and the responsibilities they possess to the pay they receive.

Make no mistake; the composition of society is undergoing significant change. In 1980, only 20 percent of the U.S. population was non-white. By 2010, the figure had jumped to 33 percent, and by 2040 it's predicted that half of the population will be





made up of groups now considered “minorities,” according to DiversityInc.

“Unfortunately, for a number of reasons, some professions—and the engineering field is one of them—are extraordinarily lacking in diversity,” says John Doehring, president of business consulting firm J. Doehring & Co.

According to a 2012 National Science Foundation report, women and minorities are significantly “underrepresented” in the science and engineering fields. White women comprise only about 25 percent of these fields, minority women represent about 10 percent, and minority men comprise about 15 percent. Further complicating matters: Only about 18 percent of U.S. college graduates with science, technology, engineering and mathematics (STEM) degrees are women, meaning that firms are competing for a relatively small pool of candidates.

**10%**  
of science  
and  
engineering  
jobs are held  
by minority  
women.

Source: National Science  
Foundation

and different thinking. At the heart of the problem: It’s challenging for an organization with mostly white, male Baby Boomers to understand a client such as a tech firm that trends toward Millennials and women. What’s more, in this hypothetical example, the engineering firm may not be technically conversant with collaboration and social media tools that the client uses.

“There’s the potential for a huge disconnect,” Doehring says. “When people understand each other and connect more fully, there’s a higher likelihood that they will form a stronger and more lasting relationship. When people connect on a personal level, it leads to a richer and better experience personally, professionally and for the business.”

Phyllis Elikai, vice president and chief people officer at Raleigh, North Carolina-

based McKim & Creed, a 350-person engineering firm with offices in five states, agrees. “As our clients become more diverse, we recognize the need to become more diverse. It allows us to develop a deeper understanding of client needs.”

#### **Navigating Change, Achieving Results**

It can take years to meet internal criteria for diversity. Highly qualified applicants, particularly those representing diversity goals, don’t simply materialize.

But good intentions and efforts aren’t likely to achieve results without the right internal policies and procedures. This includes developing a strategy, implementing a plan, generating a diversity scorecard and, perhaps, making changes to the way managers are compensated.

The good news? According to a 2014 study conducted by the Society for Human Resource Management (SHRM), 64 percent of companies overall are implementing diversity initiatives. Moreover, 57 percent of HR professionals indicate that recruiting strategies are designed to help increase diversity across the organization, and 38 percent say retention strategies are designed to help retain a diverse workforce.

Many ACEC Member Firms are embracing workplace diversity, helping to shape a workforce that’s more suited to the needs of the global economy. At McKim & Creed, Elikai has spent the last several years exploring what effective workforce diversity means. “We require people who have technical knowledge, but they must be able to relate to others and understand that we’re in a relationship-oriented business. They have to have a deeper understanding of needs and requirements,” she says.



**“When students see a woman or person of color speaking to them, they begin to believe that it is a viable option and something they can pursue.”**

SHIRLEY DAVIS  
SDS GLOBAL ENTERPRISES

says Peggy Freeby, vice president and human resources manager of the 525-person, Grand Prairie-based environmental and wastewater firm. “We strive to build an organization that mirrors society—and is inclusive of thoughts, desires and opinions from people of all ages, races and groups. It’s important to be exposed to thinking from different generations and different backgrounds.”



**“As our clients become more diverse, we recognize the need to become more diverse. It allows us to develop a deeper understanding of client needs.”**

PHYLLIS ELIKAI  
MCKIM & CREED

The company is an Equal Opportunity Employer (EOE) and works with professional organizations such as the Society of Women Engineers (SWE), the Society of Hispanic Professional Engineers (SHPE) and the National Society for Black Engineers (NSBE). It actively recruits at minority colleges, and it has established programs to train staff about the importance of diversity in hiring. Elikai says those efforts are paying off. “We are more cognizant of diversity issues, and the composition of the firm is changing.”

At Freese and Nichols, Inc., in Texas, a well-rounded, well-represented workforce is at the very pinnacle of success. “Diversity is tightly linked to excellence,”

#### **Putting a Plan Into Action**

The way Davis sees it, there’s no easy recipe or quick fix for achieving diversity in the workplace. But there are certain steps that companies can take to move the needle in the right direction. The first is establishing programs that encourage students—particularly women and minorities—to pursue STEM careers. If these efforts are to take root, they need to begin when children are young and impressionable, typically in primary school.

Similarly, it’s important for firms to forge partnerships with vocational schools and



universities. This work could translate into funding scholarships, providing tuition assistance to promising students, establishing apprenticeships and participating in programs such as engineering fairs and competitions. Not only do these types of relationships provide valuable insights into the thinking of younger generations, they also alert staff to smart and talented students worth keeping an eye on down the road.

The idea is to keep the brightest students engaged and working toward a career in the field. "Too often, students drop out of engineering programs and other disciplines because they think they are going to fail and they don't have the necessary backing," Davis says, adding that when a female or minority student sees "a woman or person of color speaking to them, they begin to believe that engineering is a viable career option and something they can pursue."

Freese and Nichols appointed an internal liaison to work with university deans and professors and with community-based organizations to provide career development for women and minorities. The firm's engineers visit area schools and speak with

students and encourage them to pursue a STEM degree and enter the profession. "It is extremely important to have partnerships in place," Davis explains.

It's also critical to build a website that promotes diversity—and provides hooks and channels for attracting diverse talent. This means including diverse visuals, linking to professional organizations that represent specific groups, and building in functionality that allows the disabled and others to submit job applications. "It is important to provide reasonable accommodations. Having a website that features diverse visuals and speaks to diversity policies is different than actually celebrating National Disability Employment Awareness Month in October or Hispanic Heritage Month," Vogel says.

In the end, Doehring believes that executives must think differently about their organizations in the modern age. Moving forward, those that embrace a mind-set based on diversity are more likely to thrive rather than merely survive.

"The days of flat, hierarchical thinking and narrow approaches are coming to a close," he says. "Today, in order to suc-

## Promoting STEM—Science, Technology, Engineering and Mathematics

Engineering firms that seek to promote staff diversity and develop future staff talent should consider these resources:

**STEM Connector** provides comprehensive news, information and resources for connecting to STEM programs. [www.stemconnector.org](http://www.stemconnector.org)

**STEM Education Coalition** works to raise awareness for STEM education in Congress and across the business community. [www.stemedcoalition.org](http://www.stemedcoalition.org)

**Pathways to Science** offers a database of 1,530 programs focused on STEM education. [pathwaystoscience.org/Programs.asp](http://pathwaystoscience.org/Programs.asp)

ceed, an organization requires a diversity of perspectives, opinions and ideas. This is possible only when your workforce reflects and mirrors the larger culture." ■

*Samuel Greengard is a technology writer based in West Linn, Ore.*

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CL

Women engineering

**40%**

of women who  
earn degrees  
in engineering  
leave or never  
enter the  
field.

Source: Project On Women  
Engineers' Retention (POWER)





OSING

By George Lorenzo

# THE GENDER GAP

firm leaders say gender equality is getting better, but research points to a **landscape still needing improvement**

**J**ill Wells Heath is part of a small but growing demographic—women who have advanced to managerial positions in highly competitive science, technology, engineering and mathematics (STEM) fields. As president and CEO of Mulkey Engineers & Consultants, she oversees 135 employees. Four of the eight highest-level executives at Mulkey are women, including the company's Founder and Chairman of the Board Barbara Mulkey.

On her desk, Heath keeps a yellowed slip of paper bearing a quote by Calvin Coolidge that reads: "Nothing in this world can take the place of persistence. Talent will not: nothing is more common than unsuccessful men with talent. Genius will not: unrewarded genius is almost a proverb. Education will not: the world is full of educated derelicts. Persistence and determination alone are omnipotent."

"It's something I have definitely lived by," Heath says of the quote. >>

PHOTO/GETTY IMAGES



Jill Wells Heath  
President and CEO  
Mulkey Engineers  
& Consultants

## The Gender Gap

While Heath's story and those of other women in leadership roles at U.S. engineering firms are inspiring, recent research indicates such successes are still more the exception than the rule.

Nearly 40 percent of women who earn degrees in engineering ultimately leave or never enter the field, according to a 2009–2012 National Science Foundation-funded study called Project On Women Engineers' Retention (POWER). That startling figure underscores the historically steep and famously stubborn gender gap that confronts the engineering industry.

Why do so many women leave or never enter the field? The POWER study revealed a variety of reasons, including unfavorable working conditions, a desire to spend more time with family, an unsupportive and inflexible workplace culture, a loss of interest and/or a move to different industries where their analytical and math skills were well received.



Linda Moen  
President and  
Principal Owner  
EFK Moen, LLC

"What our research is saying is that it is the environment," says Nadya Fouad, a psychology professor at the University of Wisconsin-Milwaukee and co-principal investigator of the POWER study. "All the narratives are

fix the women, make them learn how to ask or do this and do that, but the point is to really pay attention to the environment. We are arguing that we need to move away from asking how to fix women to how to fix the environment."

According to the study, one in five women who left engineering did so because they felt stuck in an unsupportive corporate climate. But that sentiment varies widely depending on whom you talk to.

"I've had lots of support," notes Linda Moen, president and principal owner of EFK Moen, LLC, a 30-person civil engineering firm that specializes in transportation engineering and design. "I understand that I'm usually the only one or one of the few women in the group, but that has never been a problem for me. So I'm not sure why people think there are obstacles."

Others say gender barriers that previously existed in the industry have started to fall away.

"Things are much better for women today," says Kim Lobdell, president of KL Engineering, a transportation engineering firm with 49 employees, eight of whom are women. "When I graduated in 1979, it was more of an environment in which women did not work. [Some executives] did not know how to react to having a woman as a peer or colleague because they were not used to that kind of environment."

"Is it equal at this point and time?" Lobdell asks. "Probably not, but it has gotten better, at least in all the situations that I have been in."

But that perception doesn't necessarily sync with the reality. Fouad says her research reveals a culture of male dominance nearly unchanged in more than three decades.

"We did not see any differences," Fouad says, when comparing cohorts of women who graduated in the 1980s, for instance, to those who graduated in the 1990s or 2000s. The graduates represented in the POWER study represented more than 30 years of engineering education: 9 percent of respondents graduated prior to 1984; 10 percent graduated between 1984 and 1989; 7 percent graduated between 1990 and 1994; 11

percent graduated between 1995 and 1999; 14 percent graduated between 2000 and 2004; and 12 percent graduated after 2005.

Many of the trends revealed in Fouad's research echo across other industries.

In 2013, McKinsey & Company surveyed more than 1,400 managers from a range of companies and found that corporate culture plays a critical role in gender diversity and fairness at high levels of corporate management. Its report, *Women Matter 2013*, recommended that companies provide more support for women's ambitions as well as increased awareness and understanding among male management of the unique barriers encountered by female employees.

The report was more than just another social call to action. Research also found that companies that supported and promoted women leaders "tend to achieve higher organizational and financial performance." Yet more evidence of the business case for gender diversity and equality at the nation's engineering firms.

## Diversity Directives

As firms pivot to meet the needs of a global economy, many corporate leaders have resolved to make gender equality and diversity a priority.

"We don't do anything without thinking about diversity," says Jacqueline Hinman, chairman and CEO of CH2M HILL, a *Fortune 500* engineering firm with 26,000 employees worldwide. "When we take on a project or serve a client or community, we try as best as we can to match, look like and understand the needs of the population we are serving. It is the way of doing business now, and it wasn't even thought about 30 years ago."

Hinman is part of a prestigious club. She is one of just 26 women who is a CEO of a *Fortune 500* company. But that could change. "I would say that 30 years ago being a woman in the engineering field was odd; people were surprised. People are not sur-



Kim Lobdell  
President  
KL Engineering



prised anymore,” she says.

Some attribute the relatively low number of female executives in engineering to a tendency among women to opt out or leave the field before achieving high levels of success.

In its October 2014 report, *High Potentials in Tech-Intensive Industries: The Gender Divide in Business Roles*, Catalyst, an international nonprofit that supports economic opportunities for women, said that there is a “leaky pipeline” in the STEM workforce. The study found that a majority of women MBA grads (53 percent) leave the field after their first STEM job, compared with just 31 percent of men.

Women in tech-intensive industries also tend to begin their careers at lower levels than men, despite having the same education credentials. According to Catalyst, 55 percent of women start at entry-level positions in the tech industry compared with just 39 percent of men.

The report identified three primary barriers confronting women who want to advance in STEM careers: lack of role models, feeling like an outsider and unclear evaluation criteria.



Terri Zink  
Senior Vice President  
Parsons Brinckerhoff

#### Support Is Key

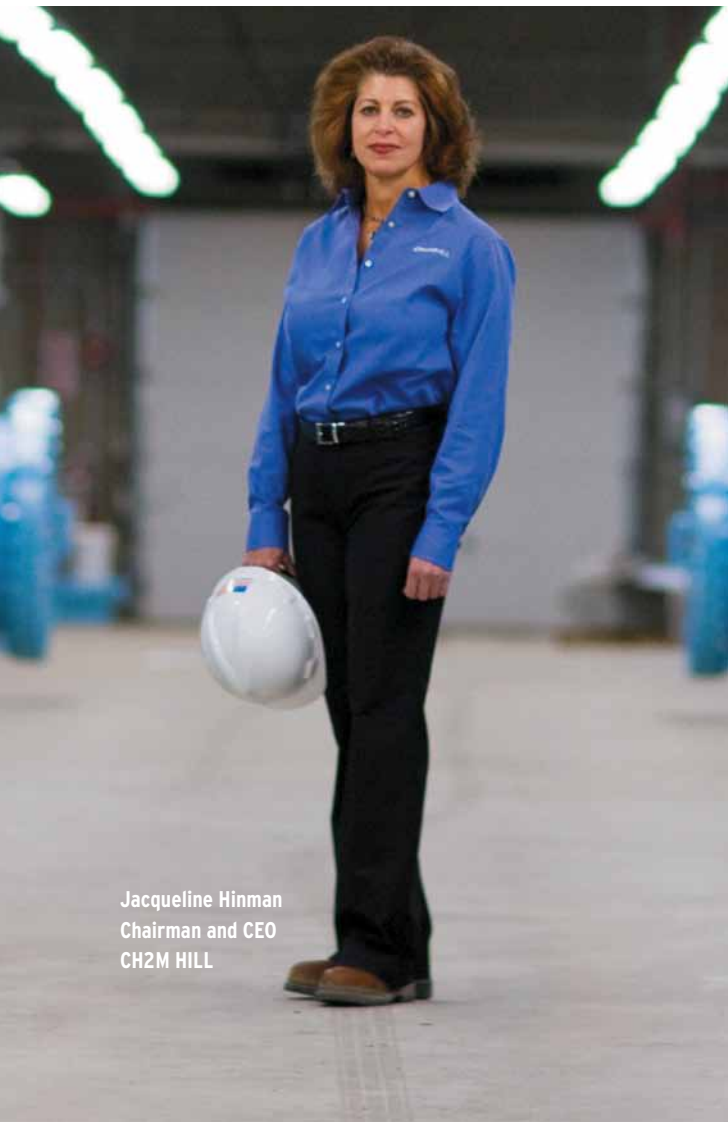
“A big issue [30 years ago when she was fresh out of college] was discrimination,” says Terri Zink, west regional business manager and senior vice president at Parsons Brinckerhoff, an engineering consulting firm with 31,500 employees worldwide. “It was not something I was used to, having gone through five years of engineering school. I got used to being one of the guys, but then out in the real world I realized that people were not ready for women to be in engineering roles.”

That culture forced Zink to leave engineering at different points in her career. “I have been in both the public and private sectors and in those rare instances where I felt I did not have support, I left the organizations,” she says plainly.

What brought her back? Zink says having mentors was key.

“I have always had a mentor or champion to encourage me,” she says. “It was often a direct supervisor who said things like ‘you are good at this; you can do this’ and really challenged me. So I learned a lot, which is critical for anyone trying to move up in an organization. You have to be a top performer. I worked hard, and I have had people who really supported me, and I think that is critical.” ■

*George Lorenzo is a freelance writer based in Williamsville, N.Y.*



Jacqueline Hinman  
Chairman and CEO  
CH2M HILL

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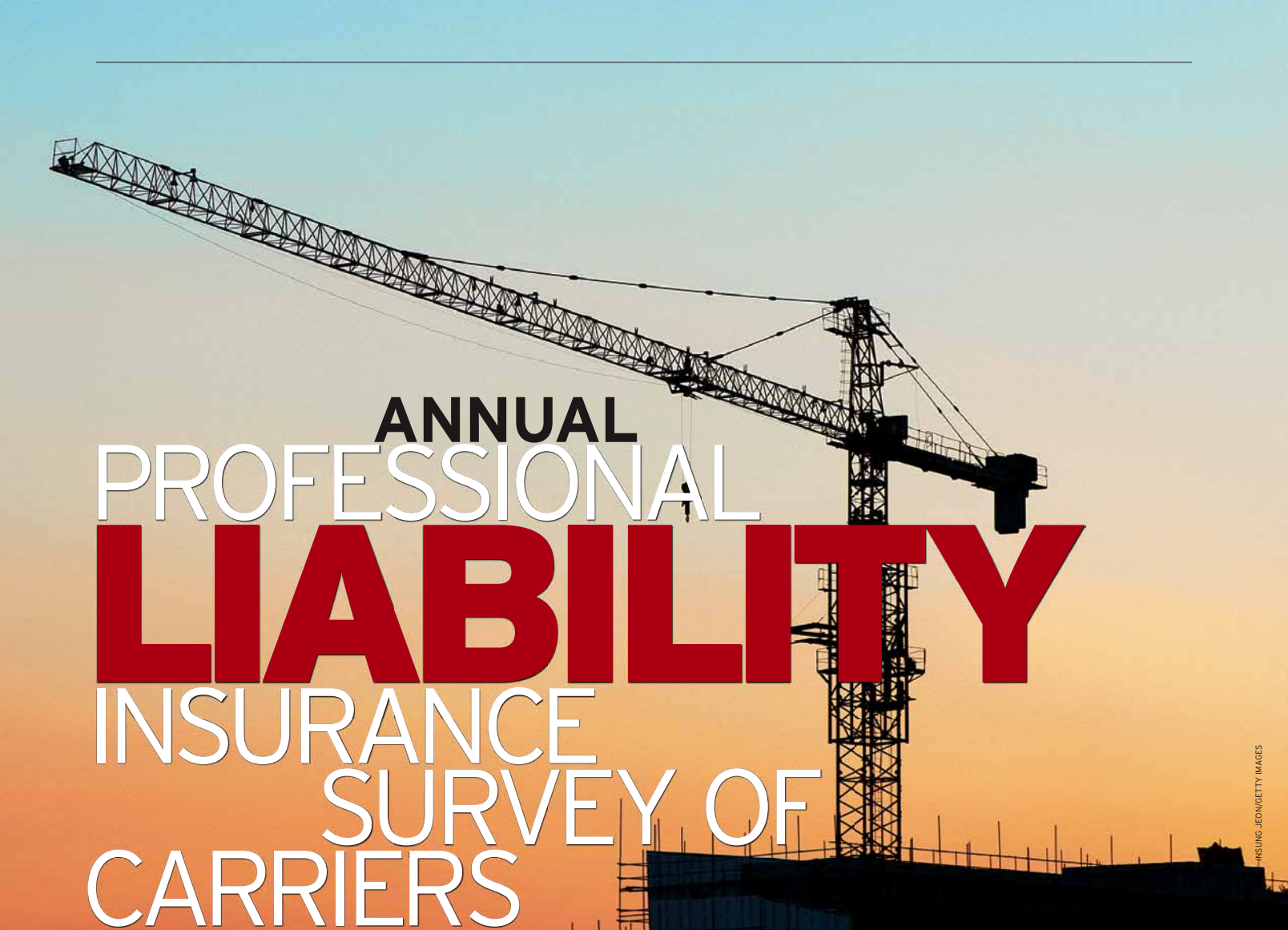
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A large construction crane is silhouetted against a bright orange and yellow sunset sky. The crane's long jib extends from the left side of the frame towards the right. Below the crane, the dark silhouette of a building under construction is visible.

# ANNUAL PROFESSIONAL **LIABILITY** INSURANCE SURVEY OF CARRIERS

## Market Stability Keeping Prices Low

By Maureen Conley

**A**fter years of uncertainty, insurance carriers who responded to the 2014 ACEC/NSPE/AIA/AIA Trust Professional Liability Insurance Survey of Carriers indicate that the market for coverage has stabilized. The softer market has prompted more carriers to consider offering coverage to U.S. engineering firms. With 50 to 60 carriers currently competing to sell PLI services to design professional firms, John Farrar, vice president at Clark Dietz Engineers and a member of the ACEC Risk Management Committee, says firms looking to acquire PLI insurance or switch to another insurance provider can expect attractive rates. >>

"A lot of money is out there looking for a place to go," explains James Messmore, senior vice president at Hanson Professional Services, vice chair of the committee.

A fresh influx of capital makes it a safe bet that new insurance providers will enter the marketplace, says Mike Cosgrove, CEO of Professional Concepts Insurance Agency and the current president of the Professional Liability Agents Network (PLAN).

## 12% to 30% Percentage of claims filed with carriers that were driven by poor communication.

Source: 2014 ACEC/NSPE/AIA/AIA Trust Professional Liability Insurance Survey of Carriers

This year's survey, led on behalf of ACEC by Farrar, Messmore and Tim Corbett, founder and president of SmartRisk, features results from 18 insurance carriers, including interviews with 12 carriers that serve an estimated 93 percent of ACEC Member Firms.

### Going for Growth

Of the 18 carriers surveyed in this year's survey, 16 expressed a desire to increase market share. Jeff Todd, president of Insurance Management Consultants, Inc., and a/e ProNet, a network of insurance brokers that serves engineering firms, says a desire for expansion among PLI carriers means design firms stand a good chance of securing insurance even if they have prior claims.

That doesn't necessarily mean that PLI carriers will hand insurance out to any firm that applies. Most carriers still ask a lot of questions. But, as Jeff Connelly, program manager for Marsh, the broker for ACEC's Business Insurance Trust, points out, it's because the carrier is "trying to find ways to say yes rather than no."

The PLI market is stable in part because of competing forces and aggressive pricing, particularly from new entrants, says Robert Rogers, global head of A/E PLI for AIG. But it's also a result of experienced carriers correcting for years of underpricing.

Many carriers have been in the market long enough to know whether certain PLI programs are making money, says Kevin Collins, senior vice president at CNA/Victor O. Schinnerer. As the economy continues to gain steam, Collins says increased risk exposure will lead to premium increases. Certain firms might also experience increases if they exhibit a poor claims history or are involved in structural and geotechnical engineering; wastewater treatment; or condos and other residential design projects. In the end, he says, the individual characteristics of each firm determine the rate.

### Claims Are Stable—For Now

Most carriers are closing the book on PLI claims that sprang from the financial collapse of 2008. "Most everything is resolved," says Collins, and while owners alleged huge damages during that time period, "the actual losses were all in line with historical averages."

However, some firms, such as Travelers, "did see a spike in severity in 2008 to 2009," says Managing Director John Rapp.

Claims frequency has been consistent over the past 10 years, at roughly one claim per five firms, says Collins. However, it's worth noting



**"The level of skill is not always there in the construction industry to take those designs and build accordingly."**

AL RABASCA  
XL GROUP

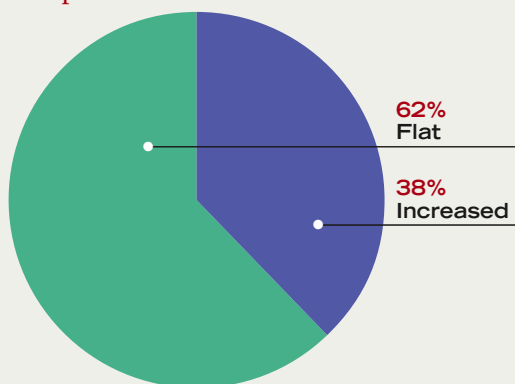
that over the previous 12 to 18 months, owners and general contractors made more claims against designers. "Three-quarters of claims reported were made by a person in contract with the engineer," Collins says.

Geography and the types of work that firms do also play a role in claims.

Firms working in Texas, Florida and California, for example, tend to be at higher risk because of the history of claims brought in those states. The Pacific Northwest has seen a recent increase in claims, particularly bodily injury, says Farrar.

When it comes to types of projects, condominiums are among the most risky ventures for design firms because a problem that affects one unit often affects them all, says Corbett. Carriers expect even more condo claims as the housing market drives apartments to convert into condos.

### How Have Rates Increased (or Decreased) Compared With the Previous Year?



Source: 2014 ACEC/NSPE/AIA/AIA Trust Professional Liability Insurance Survey of Carriers (13 of 18 firms responding)



Large infrastructure projects, primarily because of their size, are another area of risk, says Jim Schwartz, U.S. A&E focus leader for Beazley. If a firm is engaged in a multibillion-dollar project, something as simple as a 5 percent cost overrun can approach \$1 billion.

Al Rabasca, director of industry relations for XL Group, agrees. At XL, he says, claims for civil engineering infrastructure projects represent 25 percent of engineers' fees and just 1 percent of total





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## **PLAN AGENCIES BY TERRITORY**

### **UNITED STATES**

AL	Crow Friedman Group, A Risk Strategies Company
AK	USI Northwest/Kibble & Prentice
AZ	Stuckey Insurance
AR	BancorpSouth Insurance Services
CA	Dealey, Renton & Associates
CA, San Diego Area	Cavignac & Associates Insurance Brokers
CO	USI Colorado
CT	Camilleri & Clarke/Smith Brothers
DE	KT&D, Inc.
FL	Suncoast Insurance Associates/USI Florida
GA	Crow Friedman Group, A Risk Strategies Company
HI	Finance Insurance, Ltd.
ID	The Hartwell Corporation
IL North	Holmes Murphy & Associates
	(PCIA) Professional Concepts Insurance Agency
IL Central	Holmes Murphy & Associates
IL South	The Crane Agency
IN	Old National Insurance
IA	Holmes Murphy & Associates
KS	Holmes Murphy & Associates
KY	The Underwriters Group, Inc.
LA	Alexander & Sanders Insurance Agency
ME	Clark Insurance
MD/DC/Northern VA	CBIZ
MA	Poole Professional Ltd.
MI	(PCIA) Professional Concepts Insurance Agency
MN	H. Robert Anderson & Associates
MS	HUB International Gulf South
MO	The Crane Agency
MT	The Hartwell Corporation
NE	The Harry A. Koch Company
NV	American Insurance & Investment
NH	Poole Professional Ltd.
NJ North	Singer Nelson Charlmers, A Risk Strategies Company
NJ South	Wortley/Poole Professional Ltd.
NM	R. J. Dean & Associates
NY North	Poole Professional – NY Inc.
NY South	Singer Nelson Charlmers, A Risk Strategies Company
NC	BB&T Insurance Services
ND	TRJ Professional Group
OH	Oswald Companies
OK	McLaughlin Brunson Insurance Agency
OR	USI Northwest/Kibble & Prentice
PA East	Wortley/Poole Professional Ltd.
PA West	Oswald Companies
RI	Camilleri & Clarke/Smith Brothers
SC	BB&T Insurance Services
SD	TRJ Professional Group
TN	Crow Friedman Group, A Risk Strategies Company
TX North	McLaughlin Brunson Insurance Agency
TX South	USI Southwest
UT	American Insurance & Investment
	Benchmark Insurance
VT	Poole Professional Ltd.
VA	BB&T Insurance Services
WA	USI Northwest/Kibble & Prentice
WV	Oswald Companies
WI	Holmes Murphy & Associates
WY	USI Colorado
PUERTO RICO	Fulcro Insurance

### **CANADA**

AB	Quadrant Insurance Services
BC	Metrix Professional Insurance Brokers
MB	Oldfield Kirby Esau, Inc.
NB	HUB International Atlantic
NL	HUB International Atlantic
NT	Quadrant Insurance Services
NS	HUB International Atlantic
ON	Pro-Form Sinclair Professional
PE	HUB International Atlantic
QC	Claude Barry RC Professionnelle
SK	Quadrant Insurance Services
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## Characteristics in the Premium Determination Process

(1 is the highest level of influence; 8 is the lowest)

	ACE USA	AIG/Lexington Insurance Company	Aspen Insurance	AXIS Insurance	Beazley	Berkley Design Professional Underwriters	Catlin Insurance Company	Euclid Managers - Euclid A/E	HCC Specialty	Hudson Insurance Group	Liberty Insurance Underwriters	Maribel/Exanston/Altera	Navigator's Management Company, Inc.	RLI	Travelers Insurance	XL Group
Location of firm	5	8	7	5	6	5	6	6	7	4	8	7	1	5	4	7
Location of projects	6	7	8	8	5	8	7	7	5	4	7	8	1	7	8	8
Type of practice	3	4	2	2	2	4	1	2	3	2	3	2	1	1	3	2
Type of projects	2	5	4	7	4	2	2	4	4	2	4	4	1	3	5	3
Annual billings	4	1	1	1	1	1	3	1	1	1	1	1	1	2	1	1
Claims history	1	2	3	3	3	3	4	3	2	2	2	3	1	4	2	4
Firm experience	7	3	5	6	7	6	5	5	6	6	6	5	1	6	7	6
Other	*	*	6	4	8	7	8	*	*	*	5	6	1	*	6	5

\*Did not answer

Source: 2014 ACEC/NSPE/AIA/AIA Trust Professional Liability Insurance Survey of Carriers

claims across the agency, yet these projects account for 28 percent of XL's total claims dollars, largely due to the severity of those claims.

Another area of potential risk can be found within the engineering firms themselves, says Corbett. Many firms slimmed down during the recession, and the resultant lack of internal experience and expertise could result in an increase in claims.

That increase in exposure makes it more important than ever for firms to reduce risk where they can, says Homer Sandridge, underwriting director for Travelers. Steps might include better internal quality controls, more in-depth peer review, stronger contracts and better client communication.

In fact, communication remains the leading non-technical cause of project errors, says Rabasca. Texts and emails can be sent without enough thought and clarity. These transmissions create a virtual paper trail and carry the same weight as written communications.

New software programs and other design tools have also been found to result in claims, Schwartz added. For example, Beazley has reported claims that arose over errors replicated "throughout an entire building" that would have been

caught if the design had been drawn by hand.

Network security and privacy liability are two additional risks to consider. While most policies cover these issues to a point, Farrar says, there are instances where a stand-alone policy is required.

Mitigating risk is important. But what happens when the risk isn't evident until a claim arises?

Chris McQueen, director of Catlin Design Professionals, describes a recent claim filed against a project to develop a retail parking lot. The scope of services included a provision for the installation of bumpers along the front row of parking spaces. When it came time to install the bumpers, the client opted against the installation. When a woman was later permanently disabled in the parking lot, the design firm, not the client, was deemed liable for the injury.



**"It's extremely important to develop a relationship with your carrier, just like developing relationships with your clients. You need them to stand behind you."**

JEFF CONNELLY  
MARSH

### What's Trending Now?

PLI carriers are keeping an eye on several trends in the marketplace. For instance, Farrar sees too many design firms enter into uninsurable contracts with unrealistic policy limits. Contracts, for example, with dangerous "Duty to Defend" language expose firms to unnecessary risk, he says.



## 15% to 25%

Percentage of claims filed with carriers that were related to multi-family residential or condominium projects.

Source: 2014 ACEC/NSPE/AIA/AIA Trust Professional Liability Insurance Survey of Carriers





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Cosgrove advises shopping around for PLI every three years, noting the market is “typically not going to change in 12 months” as long as economic conditions remain steady. It is not usually a good idea to chase the lowest premium year after year, says Connelly, who adds, “It’s extremely important to develop a relationship with your carrier, just like developing relationships with your clients. You need them to stand behind you.”

### Popular Projects

Some carriers report an increase in design-build projects. Farrar says these projects account for 10 percent to 20 percent of projects for small to medium-sized A/E firms and 30 percent to 40 percent of projects for the larger design firms. Claims on design-build are less frequent but tend to be more severe.

Rogers says he worries about the prospect of cost caps on design-build projects. “When that gets exceeded, for whatever reason, there is often an allegation that the designers are at least partially at fault,” he says.

The number of Public Private Partnerships (P3s), while still small, is growing, says Farrar, who adds that P3s “may become a common delivery system for constructing large infrastructure projects.”

Todd says he sees design firms starting to offer services “outside the traditional A/E box,” such as starting construction companies or launching Building Information Management studios. Innovations are important for fueling growth, but Todd urges firms to “call your broker and discuss it” before embarking down a new path. ■

*Maureen Conley is a business and technology writer based outside Washington, D.C.*

Rabasca says he sees too many clients asking designers for notarized “meets and exceeds” statements—evidence they may be looking to insurance as a funding mechanism down the road.

Some carriers have voiced concerns about prime consultants taking on too much “vicarious liability”—that is, agreeing to essentially cover subconsultants that don’t have PLI or have reached or exceeded their policy limit.

Going forward, “the construction industry is facing substantial challenges, such as the difficulty finding skilled workers like project managers, estimators and in-house engineers,” says Rabasca. Even with a good design, “the level of skill is not always there in the construction industry to take those designs and build accordingly,” he says. Designers are also having a harder time attracting young talent. The lack of skilled professionals, coupled with rising construction prices, could have an impact on the PLI market in the months and years ahead.

### Services Offered

When choosing an insurance carrier, price is always important. But other considerations, such as risk management resources and professional education, can be more valuable in the long run, says Farrar.

Across the board, insurance brokers say risk management services top the reasons they advise clients to change carriers. Webinars are popular and not all carriers offer them. Cosgrove says PLAN visits client offices to provide training about how to better control budgets and manage schedules, contracts and claims. Some carriers provide premium credits for continuing education programs.

Another reason for firms to consider changing PLI carriers is to take advantage of special policy features,

such as specific endorsements that broaden the coverage and make it more attractive, says Todd.

If your firm does decide to make a change, it’s important to work quickly to establish communication with a new carrier’s risk management and claims teams, explains Sandridge. “Firms need to learn the resources of their new carrier—who to call—and establish a rapport prior to the first problem surfacing,” he says.



**“Be sure to document what you’re going to change in your firm so the situation does not come up again.”**

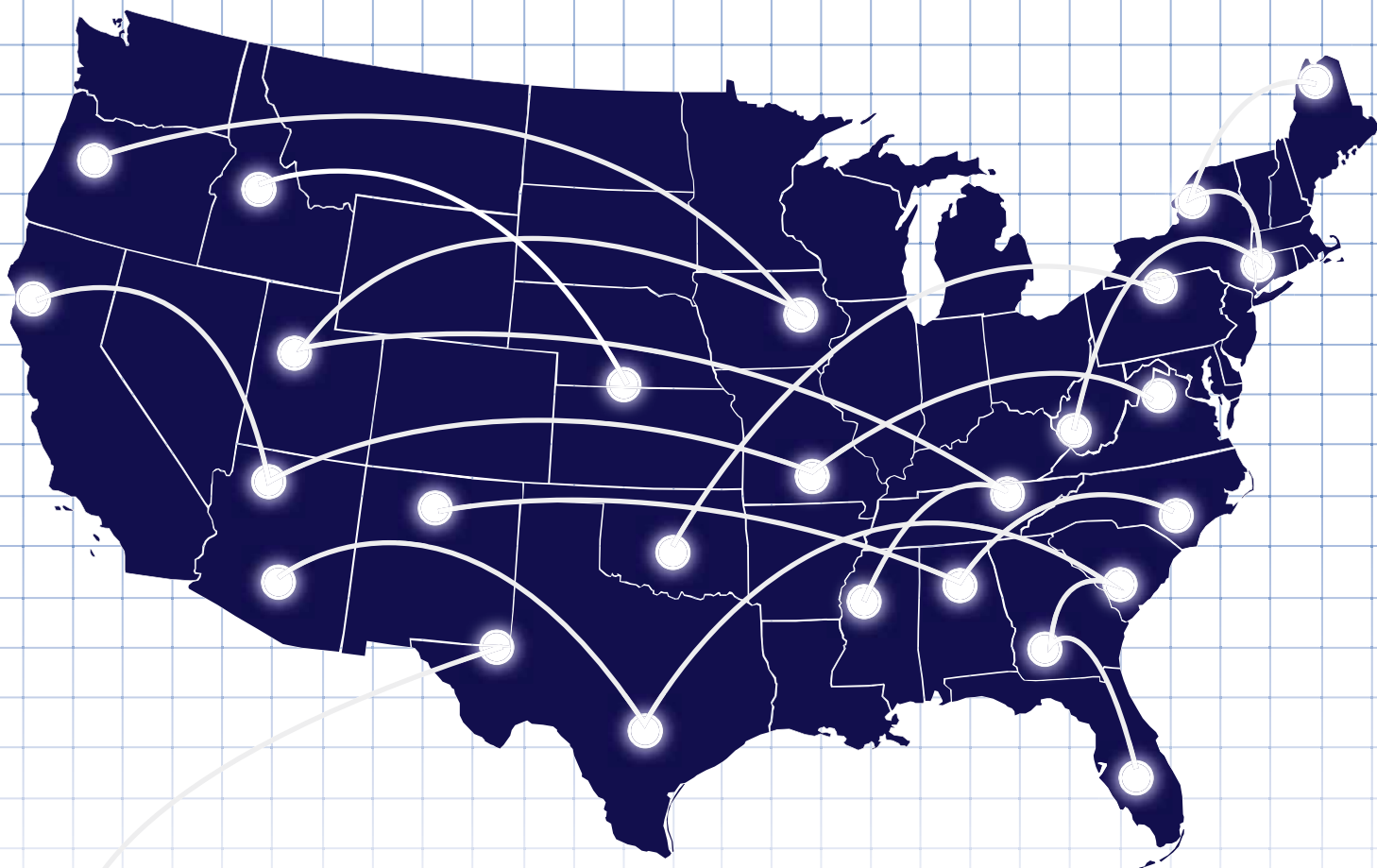
JEFF TODD  
INSURANCE MANAGEMENT  
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**“A lot of money is out there looking for a place to go.”**

JAMES MESSMORE  
HANSON PROFESSIONAL  
SERVICES





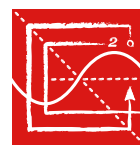
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# Made to Market

By Bob Violino

Innovative marketing communication tools help engineering firms **amplify their advantage** with potential clients

**M**arketing is changing faster than ever. With the advent of the “digital enterprise,” engineering firms play an increasingly prominent role in the customer journey, from shopping for potential project suitors to that all-important contract pitch. Today, the most successful firms are leveraging technology to engage clients in new and different ways.

At the heart of these evolving marketing efforts is the integration of custom software designed to support effective services delivery, improve efficiencies and maximize profits.

“There is little substitute, in the end, for a face-to-face relationship in engineering services, but there are now more channels than ever to start these relationships and to track their development,” says Hermione Crease, who heads the marketing department at Business of Software, which produces corporate events and resources to teach business representatives the value of using effective software applications.

## Tools of the Trade

It’s not just that firms are using software to coordinate marketing efforts—that’s been happening in different ways for years—it’s that new and different features are making many of these resources more effective.

“Social media, inbound marketing, analytics and other digital resources give a rich new range of tools to differentiate yourself from the competition,” Crease says.

Given how competitive the market is today, engineering and design firms can use all the resources they can get.

“Engineering firms must stay visible to current and prospective clients, because

they are no longer the only firm referred,” says Wendy Nemitz, founding principal of Ingenuity Marketing Group, which consults with engineering and other firms on growth, branding, websites, content and other strategies to support firm reputation, recruitment and succession.

“Prospects receive two or three referrals and then will qualify their short list by searching for the firm online and comparing those firms side by side,” Nemitz says. “To get beyond commoditized pricing and proposal purgatory, firms need to demonstrate online as well as in person that they are the go-to firm/specialist for the client’s industry, thereby shortening the sales cycle.”

Marketers own the firm’s reputation in the eyes of prospects and customers from that first online impression to post-project communications, Nemitz says. “They need to develop competitive messaging that focuses on how the firm is different from the competition and why they deliver those services better than anyone else. This must shine through online as well as in their face-to-face networking and client work.”

Marketing software helps marketers plan, create and track specific campaigns, Nemitz adds. “It’s very easy, for example, to get





overwhelmed trying to manage multiple social media channels without a calendar of planned posts and a tool like HootSuite,” she says. “Other tools like MailChimp or Constant Contact can automate and track marketing communications and customer responses. The ability to show reports to partners helps the marketing staff prove the value of those communications, too.”

It also helps that software vendors are creating “better software specifically for marketers, including marketing automation software,” Nemitz says. “This allows savvy marketers to easily create email campaigns and distribute newsletters, promote website landing pages with expert content, capture visitor email addresses and more.”

Firms can choose from a variety of software to help maximize their marketing efforts, such as Intuit’s QuickBase, Microsoft Dynamics and Epicor’s ERP.

### Always On

New software is helping to support a 24/7 culture of always-on Internet marketing. “These tools allow marketers to generate and nurture leads and maximize client relationships even when everyone is very busy with client work,” Nemitz says. But she cautions: “The software alone doesn’t create results. You must have a very strategic, niche-focused marketing plan before you ever consider investing in these tools.”

Customer relationship management (CRM) applications, automated marketing, search engine optimization (SEO), social media and analytics can be combined into very powerful growth engines, “if you measure the right things and really understand who your customers are and why they buy,” Crease says.

### Content Is King

There’s a lot of discussion in the design industry about inbound or content marketing, Crease says.

“Content marketing is becoming a very crowded space and needs to be executed with real precision and great understanding of your customers to be successful,”

Crease says. “Simply chucking out a white paper that is a variant of what your closest competitor is saying and hoping some people will sign up for it is no longer enough.”

Firms are making strong efforts to get up to speed on social media, particularly LinkedIn, and other online marketing platforms.

“Some of the smartest operators in this space, the SaaS [software-as-a-service] businesses, combine serious investment in SEO, adwords and inbound marketing with a huge focus on nurturing leads using a combination of automated responses and CRM that trigger human interventions,” Crease says. “I think there’s a lot that engineering firms can learn from them.”

Different digital tools have different strengths, although many can be used for a number of stages in the marketing effort, Crease notes. Social media, for example, can help get attention from new customers but also strengthen relationships with existing clients.

### In the Cloud

The cloud is having a significant impact on marketing, as it is with virtually every aspect of business today. The use of cloud-based marketing analytics tools can give firms the business intelligence and marketing return on investment they need to create more effective campaigns.

“Marketing analytics allows you to start to identify patterns in how people are responding to your communications and services online,” Crease says.

Tools such as Hubspot, an online inbound marketing platform, and Marketo, digital marketing software, are increasingly popular, Crease says. They combine the abilities of a good CRM to segment your customer



**“Engineering firms must definitely stay visible to current and prospective clients, because they are no longer the only firm referred.”**

WENDY NEMITZ  
INGENUITY MARKETING  
GROUP

base with rapid feedback and ability to experiment on platforms like social media, email and your website. “This helps you construct a more robust model of what your customers do before they buy from you, and what you can do with marketing tools to help them along that road.”

The growth of mobile technology is also having an impact on marketing efforts.

“A Forbes survey of 511 senior-level execs found that upon first learning of an offering, 70 percent of executives use a mobile device to look up product or service information about it,” Nemitz says. “And 25 percent said they made a purchase for their business from a mobile device in the last six months, including purchases over \$100,000.”

Marketers are busy like everyone else, and often travel to multiple offices, Nemitz says. “Having access to marketing stats, analytics, social media information and more on your mobile device makes you agile and able to respond in real time,” she says.

But accessing marketing tools on mobile devices “is only important if your marketing team is frequently mobile,” such as when a firm is conducting a lot of events, Crease says. “Generally, these tools are creating a lot of data, and trying to work with them on mobile devices is frustrating. On the other hand, they certainly need to be able to work with data from mobile devices.”

Regardless of the technology platform, firms must understand their customers and prospects for marketing programs to be successful, experts say.

“One of the key elements to a great marketing strategy is to know your prospective clients’ buying cycle; know what stages they go through and what questions and concerns they have at each stage,” Nemitz says. “Firms need to interview their best clients and perform market research to clarify their market position. With that information, then innovative software can help marketers create the right content and get it in front of key audiences efficiently.” ■



**“Simply chucking out a white paper that is a variant of what your closest competitor is saying and hoping some people will sign up for it is no longer enough.”**

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*Bob Violino is a business and technology writer based in Massapequa Park, N.Y.*



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# 2014 FALL CONFERENCE



## Spotlight on Promising Markets

**ACEC Chairman Dick Wells** told the Board of Directors that results from a soon-to-be-completed national study on contracting out

“should help us put to rest the contention that government is cheaper than the private sector.”





ACEC President and CEO Dave Raymond addresses the Board of Directors on Council operations.

“I was really impressed with the range of topics covering key areas of our business,” said James Ledet of T. Baker Smith in Houma, La. ■ “This is my fifth consecutive year attending the Fall Conference, and I continue to find the meetings extremely beneficial,” said Jason Matson of Kimley-Horn in West Palm Beach, Fla.

## Industry CEOs Optimistic In 2015 Market Forecast

Kleinfelder President and CEO William Siegel said sectors that will do well in 2015 include warehouses, transportation with funding sources, and chemical manufacturing, while some will lag, such as retail, office buildings, and on the public side, “anything that requires political consensus.”

Dewberry CEO Donald Stone said his firm’s land development business is thriving—not due to the resurgent residential market, but rather to the oil and gas industry’s need to site pipelines and production facilities.

Jon Carlson, CEO of Braun Intertec, characterized his markets in the Upper Midwest as booming. “The trickle-down economics of energy development are resulting in huge investments in infrastructure, housing, and on-shoring of manufacturing, including fertilizer plants and steel production,” he said.

## Charlie Cook Praises ACEC/PAC In Election Forecast

Charlie Cook, editor and publisher of *The Cook Political Report*, briefed Conference attendees on the forthcoming midterm elections and took time out to recognize ACEC/PAC as “a formidable advantage for the industry in helping lawmakers become more effective when trying to accomplish things on your behalf.”

Cook detailed numerous challenges both parties faced in the midterm elections in November, but projected significant gains for Republicans, a prediction that proved true. Cook emphasized however that whichever party took control, the challenge of achieving compromises on major issues, including tax reform and the budget, would remain difficult.

“ACEC/PAC is a formidable advantage for the industry in helping lawmakers become more effective when trying to accomplish things on your behalf.”



Charlie Cook  
*Cook Political Report*



(From left to right) Jon Carlson, CEO of Braun Intertec; Donald Stone, CEO of Dewberry; and William Siegel, CEO of Kleinfelder, participate in the Engineering Markets Forecast Panel.





(From left to right) Steve Bakken of Larson Engineering, Tony Bartolomeo of Pennoni Associates, Kendall King of Freese and Nichols, and Leo Golden of Enbridge, Inc., address energy markets.

## Energy Sector Opportunities

Federal Energy Regulatory Commission (FERC) Commissioner Tony Clark emphasized the need for oil and gas pipeline and production facilities, as many of the new oil and natural gas fields are in areas not well-served by the existing pipeline network.

"We're going to require a lot more pipelines," he said. "In the past three years, FERC has received more than 30 petitions to develop more than 15,000 miles of pipeline."

As part of the "Opportunities in Booming Energy Markets" panel, Steve Bakken of Larson Engineering said, "We need everything in North Dakota. Our state has been the fastest-growing economy for each of the past four years, but we're missing the

infrastructure. It doesn't matter what your firm works on. We need you."

For the Marcellus Shale region, Pennoni Associates President and CEO Tony Bartolomeo reported that production has increased by 1 trillion cubic feet per year since 2011. "Philadelphia is looking to become an energy hub," he said, to capitalize on the stark pricing differential between natural gas in the Mid-Atlantic (\$3/MBTU) and Japan (\$17/MBTU).

Kendall King of Freese and Nichols said the combination of hydraulic fracking and horizontal drilling has opened up vast new sources and created plenty of work for engineering firms, even if they are not experts in



"We're going to require a lot more pipelines," said FERC Commissioner Tony Clark.

oil and gas. "Understand, though, ... they move at breakneck pace, are cost-conscious, and have indefinite scopes of service."

Leo Golden, vice president of major projects for Enbridge Pipelines, said his firm plans to invest \$27 billion in its North American pipeline network over the next three years. "We're going to spend \$1 billion on engineering services during that period," he said.

## Gov. Abercrombie, Rep. Gabbard Highlight Need for Congressional Bipartisanship

Hawaii Gov. Neil Abercrombie and Rep. Tulsi Gabbard delivered impassioned calls for bipartisanship and increased infrastructure funding.

Gabbard and Illinois Rep. Aaron Schock recently formed the "Future Caucus" to foster bipartisanship on critical policy issues among younger members of Congress. Gabbard also said short-term

transportation funding bills have been "Band-Aid responses to a major problem" and that passing a long-term bill is a "core congressional responsibility."

Abercrombie praised ACEC as "critical to achieving legislative gains" on infrastructure and other important issues.

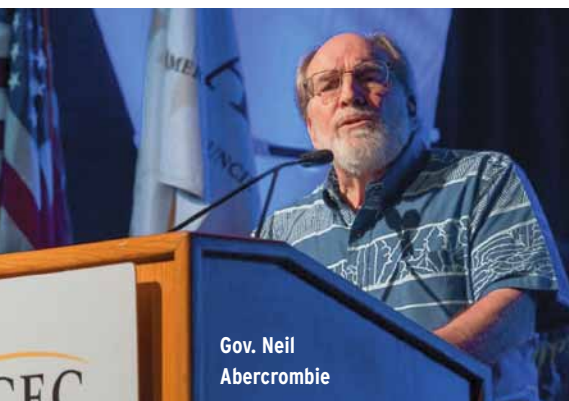
## ACEC/PAC Sets Fundraising Record

ACEC/PAC raised more than \$210,000 at the ACEC Fall Conference—a new Conference record.

**Lawrence Fox** of OBEC Consulting Engineers in Eugene, Ore., won the PAC Sweepstakes \$10,000 Grand Prize; **Robert Israel** of EJM Engineering in Chicago won the \$5,000 second prize; and **Rick Moore** of City Point Partners in Boston won the \$2,500 third prize.

The \$1,000 prize winners were **Anthony Barnett** of Engineering Associates in Thermopolis, Wyo.; **Lisa Brothers** of Nitsch Engineering in Boston; **Mary Hall** of GZA GeoEnvironmental in Boston; **Philip Houser** of Farnsworth

Conference speaker Rep. Tulsi Gabbard (below) co-founded "Future Caucus" to foster bipartisanship among younger members of Congress.



Gov. Neil Abercrombie





Group in Bloomington, Ill.; **Ko Ishikura** of Green International in Westford, Mass.; **Andrea Ryon** of Michael Baker in Alexandria, Va.; and **David Winter** of Hart Crowser in Seattle.

**Lenny Reidling** of Guida Surveying in Irvine, Calif., won a painting created by General Sessions speaker Erik Wahl, and **Vicki LaRose** of Civil Design in St. Louis, Mo., won the \$250 second prize.

#### College of Fellows Inducts 14 New Members

ACEC welcomed 14 new members into the College of Fellows: **Roger Lee Ball** of Rick Engineering Company, Inc., in San Diego; **Ron Bottorff** of JEO Consulting Group, Inc., in Lincoln, Neb.; **Steve Commander** of Volkert, Inc., in Mobile, Ala.; **David Diestelkamp** of Jacobs Engineering



ACEC/Pennsylvania Executive Vice President **Eric Madden** (above) leads a session on recent state-led transportation funding initiatives.

Group, Inc., in St. Louis, Mo.; **William Green** of RBF Consulting, a Company of Michael Baker Intl., in Temecula, Calif.; **Mark Hamouz** of Alfred Benesch & Company in Denver; **John Katahira** of The Limtiaco Consulting Group, Inc., in Honolulu; **James Ledet** of T. Baker Smith in Thibodaux, La.; **Janice Marsters** of Kennedy/Jenks Consultants in Honolulu; **Blake Murillo** of Psomas in Los Angeles; **Glenn Rehberger** of CH2M HILL in Newport News, Va.; **Robert Refvem** of Felsburg Holt & Ullevig in Centennial, Colo.; **Robert Salaber** of Salaber Associates, Inc., in Dixon, Calif.; and **Stanley Sugden** of Ruekert & Mielke, Inc., in Waukesha, Wis.



After amazing a Fall Conference audience by creating an oil painting of U2's Bono in minutes, artist and business strategist **Erik Wahl** (left) presents the painting as a gift to **Larry Hargrove** (right) of Life Cycle Engineering, Inc.

#### Outstanding Contributors to Industry, Community Honored

ACEC recognized five Member Firm employees with the 2014 Young Professional of the Year award for making significant contributions to the industry despite being relatively early in their careers. The five winners were: **Christian Roche** of Langan Engineering & Environmental Services in Lawrenceville, N.J.; **Claudia Correa** of Langan Engineering & Environmental Services in Elmwood Park, N.J.; **Dan Phipps** of Kennedy/Jenks Consultants in Lakewood, Colo.; **Joseph Timothy Lum Yee** of HDR Engineering in Honolulu; and **Joseph Flaxbeard** of Lamp, Rynearson & Associates in Omaha, Neb. Flaxbeard was also chosen by National Engineers Week to represent ACEC in its annual "New Faces of Engineering" promotion.

The College of Fellows honored the 2014 ACEC Scholarship Winners. **Nicholas True** was awarded the \$10,000 ACEC Scholar of the Year Scholarship; **Jamieson Matthews** was awarded the \$7,500 Kennedy/Jenks Consultants Scholarship; **Elise Takebayashi** was awarded the \$5,000

ACEC Life/Health Trust Scholarship; **Cody Porter** was awarded the \$5,000 ACEC Business Insurance Trust Scholarship; **Michael Dube** and **Jared Rogers** were each awarded the \$2,500 Small Firm Council Scholarship; and **Adam Morel** and **James Yokoyama** were both awarded the \$1,500 Council of American Structural Engineers (CASE) Scholarship.

Three members received 2014 Community Service Awards, which recognize those who make an extraordinary impact on the quality of life in their communities: **Lowell Christy** of Christy/Cobb in Birmingham, Ala.; **Karen Griffin** of Olsson Associates in Lincoln, Neb.; and **Carol Walczyk** of Hatch Mott MacDonald in Iselin, N.J.

The ACEC Coalitions Steering Committee presented the 2014 Coalitions Distinguished Service Award to **Chris Poland** of Chris D. Poland Consulting Engineer in Canyon Lake, Calif.

**Blake Murillo** of Psomas in Los Angeles received the 2014 Chairmen Emeritus Award for his "tireless advocacy for the practice of engineering during his 37-year career." ■

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- Capitol Hill Visits
- ACEC/PAC Sweepstakes and Congressional Fundraiser



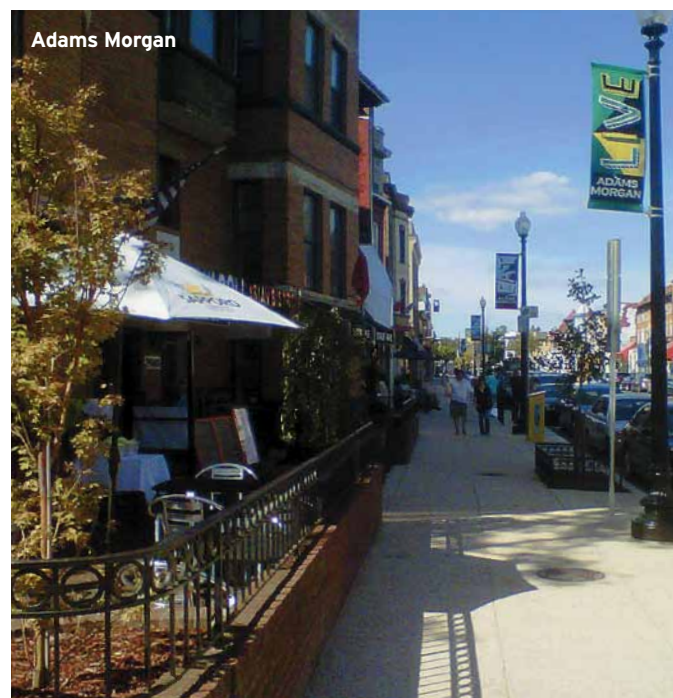
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Across the street from the Marriott Wardman Park Hotel

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ACEC's room rate for single or double occupancy is \$309 plus 14.5 percent tax. Room reservations must be received by **Friday, March 20**. After this date, rooms may not be available or not available at this rate. Rooms are available until the cutoff date or until rooms in the ACEC room block are gone, whichever occurs first.

To make your hotel reservation online, go to: [resweb.passkey.com/go/ACEC2015](http://resweb.passkey.com/go/ACEC2015). You may also call toll free 800-228-9290 and reference "ACEC Annual Convention."

**For more information or to register online, go to [www.acec.org](http://www.acec.org).**

Woodley Park



RANDY SANTOS



## Don't Be Part of the 40 Percent: Write a Detailed Scope of Services

Among the small firms that reported professional liability insurance claims over the last year, 40 percent identified contract language, including scope of services, as a cause of the claim.

Those findings come from ACEC's 2014 Professional Liability Insurance (PLI) Survey of Member Firms. A smaller percentage of large firms also indicated that contract language contributed to insurance claims.

Whether your firm is large or small, it is important to ensure the scope of services within any contract contains sufficient detail. A well-written scope of services significantly diminishes the chance of a contract-related professional liability claim.

The four elements of a typical agreement are: scope of services, terms and conditions, time schedule and compensation. In a client-drafted agreement, it can be difficult to make changes to the terms and conditions. The time schedule and compensation are based on the scope of services. The design professional should take control of and write the scope of services, because the designer has a better understanding of the scope than the client, and he or she knows how to tailor services to meet the client's needs.

An initial discussion with the client regarding the client's needs and expectations should serve as the basis for the scope. A checklist of all the firm's potential services is a good tool to use in the client meeting. Another tool to consider is a matrix of the firm's services. In addition to the services, the matrix can include columns designating the services to be performed by the firm, services to be performed for additional compensation, services provided by the client and services not provided by the client.

There may also be circumstances when it is desirable to indicate when certain services are excluded. If the firm does not have the expertise or if it deems that performing certain services would carry an unreasonable amount of risk, it should indicate that those services are excluded. By indicating what services are included, available for additional compensation, provided by the client and excluded, the design professional greatly reduces the chances for any misunderstandings regarding responsibility for performing the services, and whether those services are included in the agreed-upon compensation.

The description of the scope of services should be detailed and well defined, using plain language. Avoid jargon that is not easily understood. Remember, if a dispute goes to a court of law, non-technical people will sit on the jury that determines whether the client exceeded the scope of services.

Avoid also the use of broad language and words such as "all," "complete" and "any." Examples of this include: "the design professional will provide **all** necessary services"; "the construction documents will be **complete**"; and "the design professional will provide **any** required services." However, broad language may be appropriate when describing information provided by the client. Examples of this include: "the client will provide **all** available

information on the existing structure"; "the client's list of project requirements is **complete**"; and "**any** requests by the client for the design professional to evaluate any contractor-requested substitutions will be done so as an additional service for additional compensation."

The design professional may **assist** the client in obtaining regulatory permits and approvals. However, the designer should not agree to **obtain** them. If the design professional agrees to **obtain** a regulatory permit or approval and the agency does not grant it through no fault of the design professional, he or she will find themselves in default of their contract.

The scope of services should also include a detailed description of the project, including the size and location. If the project is on only a portion of the client's site, the portion of the property included in the project should be described in detail. It is also valuable to include any assumptions that were made when the scope of services was developed. That way, if at a later date there are significant changes to the project, the design professional has established a basis to ask for additional compensation and time to complete the project.

Once the scope of services is clearly defined, do not neutralize its power by going beyond it. Too many examples of design professionals "just trying to help" end badly, especially when the scope is exceeded without the design professional receiving any additional compensation for providing additional services and taking additional risks.

Unmet client expectations are the genesis of many lawsuits against design professionals. By following these steps, design professionals can minimize the chances of finding themselves at the center of a lawsuit due to contract language with a poorly written scope of services.

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**40%**  
of small firms  
identified contract  
language, including  
scope of services,  
as a cause of  
professional  
liability insurance  
claims.

Source: ACEC 2014  
Professional Liability  
Insurance Survey of  
Member Firms

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## Strategies for Effective Risk Management

Risk management is core to any A/E project. From contract language and provisions to job-site safety and environmental issues to code and regulatory compliance, there are numerous liability challenges facing design and construction projects. There are, however, proven risk management techniques that can help minimize a design professional's risks.

A combined effort by ACEC's Council of Electrical and Mechanical Engineers (CAMEE) and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recently produced *Fundamentals of Risk Management*, a half-day course covering key risk management and insurance issues regarding accessibility and energy efficiency, as well as job-site safety and its respective roles and responsibilities.

The course, which will be held Jan. 25, 2015, in Chicago, will examine preferred contract language to address codes and regulations and will feature a lively discussion on contract issues, as well as rules and regulations governing the A/E practice. Participants will analyze and discuss issues related to difficult contract language, as well as risk management strategies that address possible uninsured or uninsurable requirements.

For more details on the upcoming course, visit [www.ashrae.org/education--certification/2015-chicago-winter-conference-courses/half-day-short-courses/fundamentals-of-risk-management-code-64](http://www.ashrae.org/education--certification/2015-chicago-winter-conference-courses/half-day-short-courses/fundamentals-of-risk-management-code-64).

### Mysteries of the FAR Revealed: Using the AASHTO Audit Guide

ACEC and the National Highway Institute (NHI) have teamed up to provide comprehensive coursework—tailored specifically to include participation from both state DOTs and engineering firms—to help members understand the proper uses of the FAR-based auditing and procurement procedures.

Developed by leaders of the *AASHTO Audit Guide Task Force*, the two-course program will be held Jan. 26–29 in Austin, Texas, and offers detailed instruction on government contracting for A/E services and the administration and oversight of contract costs.

- **Course 1:** *Development of A/E Consultant Indirect Cost Rates*
- **Course 2:** *Auditing and Oversight of A/E Consultant Indirect Cost Rates*

Participants will understand how to:

- Apply a uniform interpretation and consistent application of FAR in A/E contracting
- Increase compliance with federal rules and regulations governing A/E contract audits

- Improve quality of indirect cost rate audits
- Prepare an analysis of reasonable compensation
- Use the National Compensation Matrix
- Save time and resources preparing and reviewing FAR-compliant indirect cost rate audits

To download the agenda and registration information, go to [programs.acec.org/aashto-tx](http://programs.acec.org/aashto-tx).

### Effective Teaming for Government Work

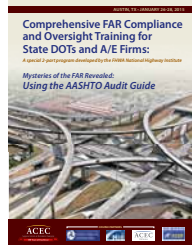
Firms reviewing government solicitations often use the “We can do that” approach to selecting targets to pursue. They read the small-business subcontracting requirements and begin patching a team together. But the most important question that firms should ask when selecting a target to pursue is: “How can we distinguish ourselves as the *best* team to do the work?”

This requires more than simple teaming to satisfy government-mandated subcontracting goals. It requires assembling a solid team based on roles and qualifications that will set the team apart from its competitors. An advantage is having pre-established relationships with a variety of potential teaming partners—including small firms—and structuring the team for excellence on the work required by the solicitation. Small firms should bring specific and logical capabilities to the team—which can include local knowledge, specialized discipline(s) and/or client experience. A welcome plus is one or more successful experiences working together.

ACEC's annual Teaming Fair, held each spring as part of the ACEC Annual Convention in Washington, D.C., is an effective way to “discover” new potential team members and add proposal strength.

Some firms have likened the Teaming Fair to “speed dating,” where large and small firms can meet based on identified needs of the latter and focused capabilities of the former. As relationships form, they can be further nurtured through other ACEC events. Other opportunities for addressing common client issues are offered through a number of ACEC committees.

For more information on the upcoming ACEC Teaming Fair, visit [www.acec.org/conferences/annual-conference](http://www.acec.org/conferences/annual-conference).



ACEC's Business Resources and Education Department provides comprehensive and accessible business management education for engineering company principals and their staffs. Visit ACEC's online educational events calendar at [www.acec.org/calendar/index.cfm](http://www.acec.org/calendar/index.cfm) or bookstore at [www.acec.org/bookstore](http://www.acec.org/bookstore), or call 202-347-7474, ext. 324, for further information.





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With nearly 100,000 employees — including architects, engineers, designers, planners, scientists and management and construction services professionals — serving clients in more than 150 countries around the world following the acquisition of URS, AECOM is a premier, fully integrated infrastructure and support services firm.

We believe that achieving the full potential of people and societies depends on safe and supportive environments. AECOM is proud of its work to provide clean drinking water and safe sanitation systems for communities around the globe.

AECOM is working closely with the U.S. Agency for International Development in Asia to improve sustainable potable water delivery. The Environmental Cooperation-Asia Program has provided access to water and sanitation for more than 95,000 people.

# Members in the News

## On The Move

**John T. Lucey Jr.** was named president and CEO of Raleigh, N.C.-based **McKim & Creed, Inc.** He succeeds **Michael W. Creed**, who will continue to serve as chairman.

**Ryan McLean** has been appointed the new CEO of **Psomas**, succeeding Blake Murillo, who will continue as chairman of the board. McLean formerly served as the firm's chief development officer and, prior to that, as corporate director of survey and mapping.

**Michael Brown** was appointed president of **Burns & McDonnell International**. Brown will lead the firm's international business development efforts. He is based in the firm's world headquarters in Kansas City, Mo.

**Kleinfelder** appointed **Daniel L. Harpstead** as the firm's new CTO. He is based in the Exton, Pa., office and will oversee the firm's global network of technical resources across the company's 71 offices in the U.S., Australia and Canada.

**ARCADIS** appointed **Erik Blokhuis** CEO of its Continental European operations. Blokhuis joined ARCADIS in 1992 as a project manager. He is based in the Amersfoort office in the Netherlands.

Pasadena, Calif.-based **Parsons** promoted **Richard McFarland** to senior vice president of government relations, where he will focus on federal programs, with an emphasis on national security. He is based in Washington, D.C. **Garold B. Adams** was appointed president of Parsons MEA (Middle East Africa). He will be based in the regional headquarters in Abu Dhabi.

**John Boulé** joined **Dewberry** as senior vice president and manager of the firm's New York City office, where he will focus on growing Dewberry's business development efforts, with a specific emphasis on post-Superstorm Sandy rebuilding and resilience initiatives in the Northeast.

**Bechtel** appointed **Toby Seay** president of its new infrastructure global business unit, which will be headquartered in London. **Peter Dawson** will become Bechtel's

CFO and head of corporate services. Dawson succeeds **Mike Adams**, who will lead new strategic projects. **Craig Albert** will lead Bechtel's new nuclear, security and environmental unit.

**Reda Bakeer** joined Oakbrook Terrace, Ill.-based **Professional Service Industries, Inc.**, as senior vice president of its South Louisiana offices in New Orleans, Baton Rouge and Mandeville. He is based in the firm's Jefferson, La., office.

**Daniel H. Nall** joined the New York City office of **Syska Hennessy Group, Inc.**, as vice president and regional director of high-performance buildings.

**Rear Adm. Mark Handley**, Civil Engineer Corps, United States Navy (retired), joined **AECOM** as a vice president leading U.S. federal energy programs. He will be based in AECOM's Norfolk, Va., office.

**Patrick Natale**, former ASCE executive director, will join Iselin, N.J.-based **Hatch Mott MacDonald** as vice president of business strategies.



John Lucey



Ryan McLean



Michael Brown



Daniel Harpstead



Erik Blokhuis



Richard McFarland



Garold Adams



John Boulé



Toby Seay



Daniel Nall



Rear Adm. Mark  
Handley



Patrick Natale



## Welcome New Member Firms

### ACEC/Arizona

Allwyn  
Environmental,  
Phoenix

### ACEC/California

Aliquot Associates,  
Inc., Walnut Creek  
Kier & Wright  
Civil Engineers &  
Surveyors, Inc.,  
Livermore

### ACEC/Colorado

Michael W. West &  
Associates, Inc.,  
Englewood

### ACEC/Georgia

Engineering  
Management  
Associates,  
Lawrenceville  
Scanlon Engineering  
Services, Inc., Griffin  
Sykes Consulting,  
Inc., Atlanta  
Triple Point  
Engineering, Inc.,  
Macon

### ACEC/Indiana

First Group  
Engineering, Inc.,  
Indianapolis

### ACEC/Louisiana

Bonton Associates,  
LLC, Baton Rouge  
Kramer Engineering,  
Inc., Baton Rouge  
SEMS, Inc.,  
Baton Rouge

### ACEC/Metro

Washington  
SZ PM Consultants,  
Inc., Oakton, Va.

### ACEC/Michigan

Value Engineering,  
East Lansing

### ACEC/Minnesota

Westwood  
Professional Services,  
Inc., Eden Prairie

### ACEC/Mississippi

ASSET Company,  
PLLC dba ASSET  
Engineering, Canton  
Stephens Mechanical  
Engineering, LLC,  
Biloxi

### ACEC/New Jersey

Spence Engineering,  
Saddle River

### ACEC/New York

GRANT Engineering,  
New York City

### ACEC/North Carolina

Utility Technology  
Engineers-  
Consultants,  
Asheboro  
Energy Land &  
Infrastructure (ELI),  
Cary

### ACEC/North Dakota

Sambatek, Inc.,  
Mandan

### ACEC/Ohio

Briggs Creative  
Services, LLC, Mason  
Pro Geotech, Inc.,  
Broadview Heights

### ACEC/Tennessee

Marion  
Environmental, Inc.,  
Chattanooga

### ACEC/Texas

Jones-Heroy &  
Associates, Inc.,  
Pflugerville  
Sowells Construction  
Management &  
Inspection, LLC,  
Houston  
Spiars Engineering,  
Inc., Plano

### ACEC/Vermont

The Johnson  
Company, Montpelier

### ACEC/Washington

SE Charlton  
Structural Consulting,  
Bellevue

## Engineering Inc. App Now Available

ACEC's award-winning magazine, *Engineering Inc.*, is now available on the Apple Newsstand, on Google Play (for Android) and on the Amazon App Store for Kindle. The app is FREE! Members can now read the latest issue of *Engineering Inc.* on their smartphone, tablet or other mobile device. The app includes back issues of *Engineering Inc.* to 2011 and the same functionality of the digital version of the magazine. In addition, members can now share magazine content from within the app via email, Twitter and Facebook.

To download the app, go to [www.acec.org](http://www.acec.org) and click on one of the app icons below, depending on your device. If you have any questions, email *Engineering Inc.* Staff Editor Andrea Keeney at [appsupport@acec.org](mailto:appsupport@acec.org).



## FIND YOUR NEXT ENGINEER on ACEC's Job Board ...

Since the ACEC Job Board's inception in August of 2005, over **2,923 member firms** have posted job openings and more than **27,000 job seekers** have posted resumes. Find your next new hire at:

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Where today's engineering job  
seekers go to find their next jobs.

## JANUARY

- 6** Early Speed Wins More Work: How to Gain and Keep the Lead in the Race for Work (webinar)
- 7** Sharpen Your Communication Skills! (webinar)
- 13** Developing Superstar Project Managers (webinar)
- 14** Ethical Decision-Making for PEs: Today's Standards and Benefits (webinar)
- 15** Ownership Transition 2.0 (webinar)
- 26-27** Mysteries of the FAR Revealed: Using the AASHTO Audit Guide: Course One, Austin, Texas
- 28** Simple Revenue Boosters to Start Now (webinar)
- 28-29** Mysteries of the FAR Revealed: Using the AASHTO Audit Guide: Course Two, Austin, Texas

## FEBRUARY

- 3** Ten Keys to Business Continuity Planning (webinar)
- 5** So What if You Stamp or Sign It? The Meaning of Using Your Professional Seal (webinar)
- 17** Organizing with Outlook 2010 for Busy People (webinar)
- 18** Negotiating Better Engineering Contracts (webinar)
- 20-21** 2015 Small Firm Council Winter Seminar—Sharpen Your Competitive Edge, Nashville, Tenn.
- 24** Strategic Leadership and Management: How the Best Lead to Achieve Sustainable Growth and Profitability (webinar)
- 25** Creating a Social Media Policy (webinar)

To sign up for ACEC online seminars, go to [www.acec.org/education](http://www.acec.org/education).

Additional information on all ACEC activities is available at [www.acec.org](http://www.acec.org).

## 2014 Recap: Mega Deals, Mega Big-Firm Growth

Last year was a remarkable year for industry mergers and acquisitions. The number of deals and the scale of deal-making among some of the industry's largest players was astounding.

WSP Global acquired 13,500-person Parsons Brinckerhoff. Conestoga-Rovers & Associates merged with GHD Group to create a nearly 9,000-person firm. ARCADIS struck several large deals, including the acquisitions of 1,000-person Callison and 4,600-person Hyder Consulting. AMEC agreed to acquire 14,000-person Foster Wheeler. The list goes on and on.

Perhaps the biggest shift to the industry landscape was driven by AECOM. The global engineering design firm acquired URS, creating a firm with more than 95,000 employees in 150 countries worldwide.

Growth among the industry's largest firms has been staggering. In 2004 the combined design revenues of the Top 20 ENR design firms was \$22 billion. In 2013 those same combined revenues reached nearly \$53 bil-

lion. The industry has grown as a whole, particularly as the U.S. economy climbed out of the recession, but the largest firms continue to gain market share through deal-making.

A number of factors appear to be driving mega-consolidation. With a bull market prevailing and share prices rising, many of the publicly traded firms saw 2014 as an ideal time to make plays for future growth. CEOs pursued ambitious growth plans, launching into new markets and betting on growth for the years ahead. Access to capital at attractive borrowing rates has helped facilitate large deals, with credit markets more closely resembling the boom years leading up to the financial crisis than the recession that followed. The large-scale deal-making is a reflection of broader optimism for the industry as a whole, with firms eyeing opportunities to capitalize on continued positive economic growth.

It remains to be seen how 2014's major consolidation will impact the competitive environment, but firms will need to be nimble to navigate the evolving

marketplace. As clients look for more integrated project solutions, they'll need to adapt.

As profit margins continue to be squeezed in the design industry, many firms will aim to get bigger and add volume, while others may look to get more specialized. Regardless of the shifting dynamics of the industry, the rapid pace of deal-making is likely to continue, as long as the broader economy continues to improve.

### Recent ACEC Deal-Makers November

ACEC Member **Alfred Benesch & Company** (Chicago) merged with **Site Solutions, Inc.** (Charlotte, N.C.).

**American Engineering** (Charlotte, N.C.) acquired ACEC Member **Engineering Services, Inc.** (Virginia Beach).

ACEC Member **GEI Consultants** (Woburn, Mass.) acquired **H2A Environmental** (Keller, Texas).

ACEC Member **Neel-Schaffer** (Jackson, Miss.) joined forces with ACEC Member **Almon Associates** (Tuscaloosa, Ala.).

ACEC Member **WSP** (Montreal, Canada) acquired **ccrd** (Houston).

ACEC Member **Pennoni Associates** (Philadelphia) acquired ACEC Member **Envirosors**, (Winter Haven, Fla.).

ACEC Member **EnSafe** (Memphis, Tenn.) acquired **EnviroSense** (Londonderry, N.H.).

### October

**The Burns Group** (Philadelphia) acquired ACEC Member **Orth-Rodgers & Associates, Inc. (ORA)** (Newtown Square, Pa.).

**Rubeling & Associates**

(Towson, Md.) merged with ACEC Member **Johnson, Mirmiran & Thompson (JMT)** (Sparks, Md.). JMT also announced that the engineering design and bridge inspection divisions of ACEC Member **Barr & Prevost** (Columbus, Ohio) joined the firm.

ACEC Members **Jacobs Associates** (San Francisco) and **McMillen** (Boise, Idaho).

ACEC Member **Huff & Huff** (Oak Brook, Ill.) joined ACEC Member **GZA GeoEnvironmental** (Norwood, Mass.).

**Kane and Johnson Architects** (Rochester, Minn.) merged with ACEC Member **Widseth Smith Nolting** (Crookston, Minn.).

To view the most up-to-date and "live" versions of the M&A heat maps accompanying this article and see who are the buyers and sellers in each state, go to [www.morrisseygoodale.com](http://www.morrisseygoodale.com).

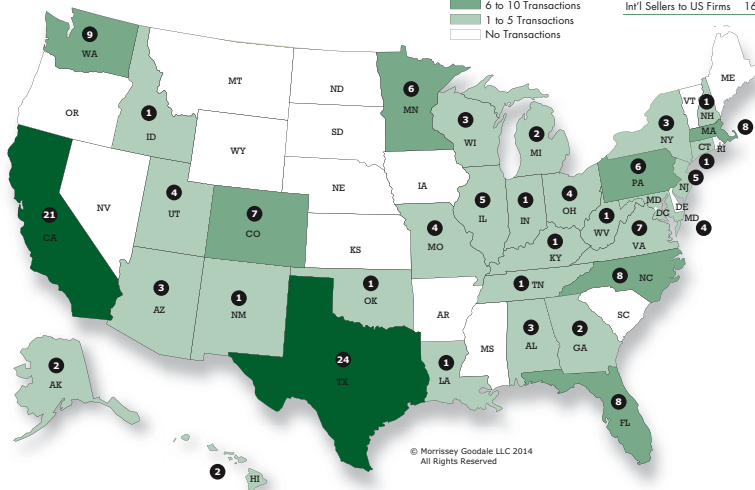
### 2014 REPORTED M&A ACTIVITY Firm Sales by State through December 1, 2014

States by Total Activity:

- 21 or more Transactions
- 16 to 20 Transactions
- 11 to 15 Transactions
- 6 to 10 Transactions
- 1 to 5 Transactions
- No Transactions

US vs Int'l Sellers:

Total US Sellers	184
Total Int'l Sellers	103
US Sellers to Int'l Firms	24
Int'l Sellers to US Firms	16



Watch the M&A Takeaway video that accompanies this article, presented by Mick Morrissey, at [www.morrisseygoodale.com/ACECMergers/JanFeb2015](http://www.morrisseygoodale.com/ACECMergers/JanFeb2015).



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²Renewal rate based on average year-over-year ACEC Life/Health Trust persistency metrics.

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