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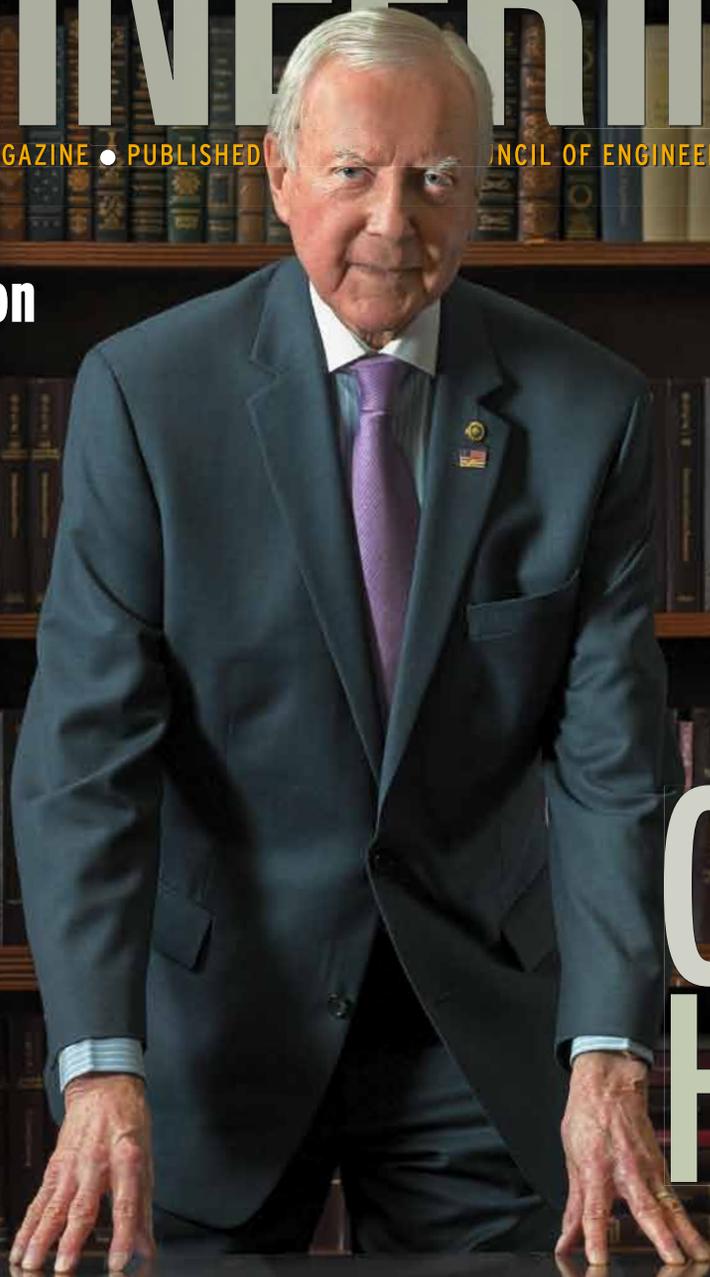
AWARD-WINNING BUSINESS MAGAZINE • PUBLISHED BY THE AMERICAN COUNCIL OF ENGINEERING COMPANIES

» **Combating
Commoditization**

» **Engineers in
State & Local
Government**

» **Black & Veatch
Rebuilding
Homes and Lives**

» **Keys to Success
In Asia-Pacific
Market**



SENATOR
**ORRIN
HATCH**
TAKES ON
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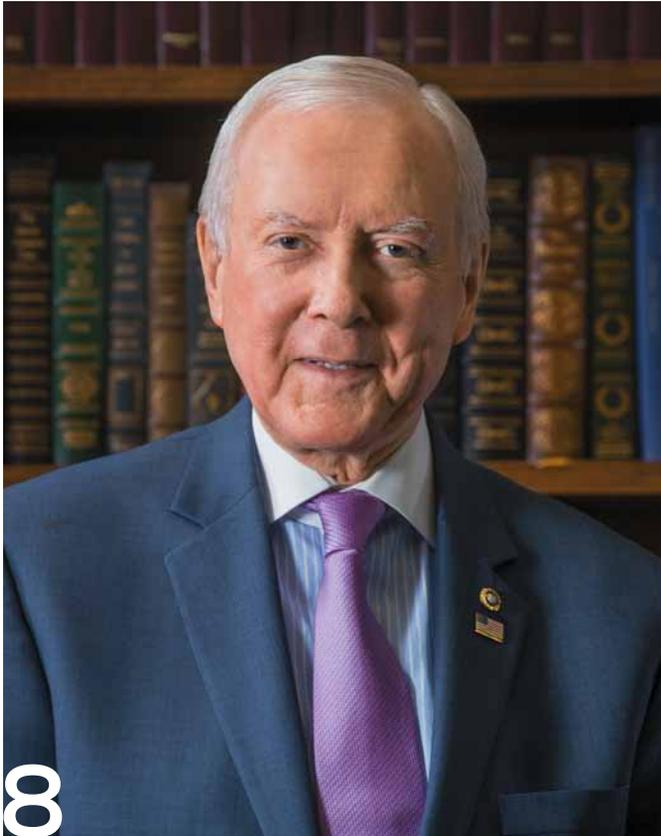
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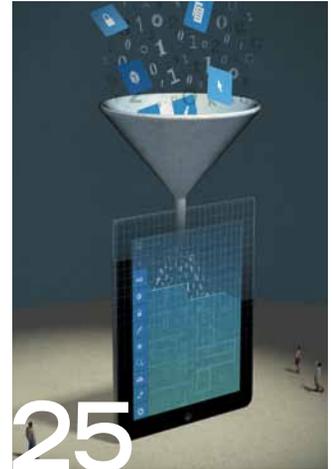
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From ACEC to You

Stemming the Tide Of Commoditization

The pernicious effects of commoditization are felt in virtually all professions these days, but perhaps nowhere more acutely than in engineering. According to ACEC's *Engineering Business Index* (EBI), members consider commoditization a critical threat to their firms' success, surpassed only by public funding constraints and an adverse economy.

The trend toward commoditization, which continues unabated, is driven by a complex array of factors. How you can help your firm overcome those factors and protect your bottom line is the subject of our feature article. (See page 18.)

Tax policy also has a major impact on ACEC members, and our cover interview with Senate Finance Committee Chairman Orrin Hatch (R-Utah) reveals the challenges ahead in comprehensive tax reform. (See page 8.)

In addition, this issue highlights how ACEC/PAC Champions from coast to coast applied creative strategies to help ACEC/PAC smash fundraising records in 2014, with sights now set on the Council's \$1 million goal. (See page 39.)

A new regular feature looks at how member firms are excelling as corporate citizens in their communities. The first firm to be profiled in this series, Black & Veatch, has developed a successful housing program that benefits the urban areas in which the firm operates. (See page 30.) Finally, this issue includes a fascinating profile of engineers who serve in public office. (See page 12.)



Richard C. Wells
ACEC Chairman



David A. Raymond
ACEC President & CEO



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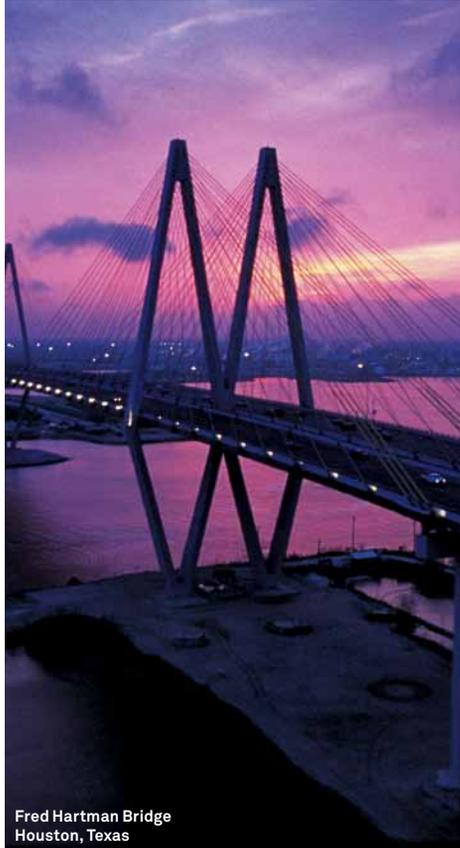
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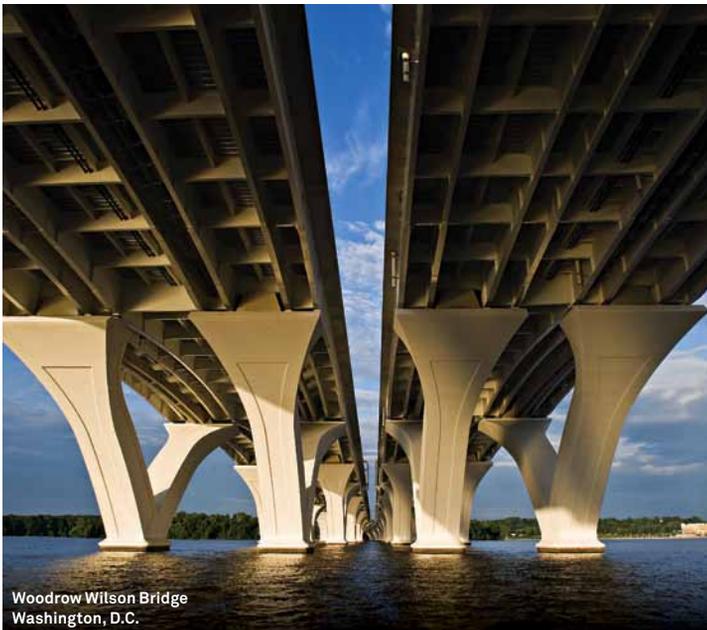
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Woodrow Wilson Bridge
Washington, D.C.

With nearly 100,000 employees serving clients in more than 150 countries around the world, AECOM is a premier, fully integrated infrastructure and support services firm. Our people are united by a shared commitment to create, enhance and sustain the world's built, natural and social environments.

With revenue of almost \$20 billion, AECOM is a leader in all of the key markets it serves, including transportation, facilities, environmental, energy, oil and gas, water and government. AECOM has provided engineering services on some of the world's longest and most innovative bridges.

Entry Strategy for the Asia-Pacific Market

More than half of the world's population lives in Asia—a percentage that is forecast to increase. Asian GDP is expected to grow by 5.6 percent in 2015, and seven of the 10 fastest-growing economies are in Asia.

But the Asia-Pacific market is a study in contrasts. It includes two first-world economies, Australia and Japan, and a host of third-world economies. It is home to two huge fast-growing economies—China and India, which are expected to generate 25 percent of global GDP by 2019—and to the four smallest economies, including Tuvalu, which has an annual GDP of less than \$40 million.

Many of these markets welcome foreign firms, while others, for all intents and purposes, are closed to foreigners.

Even the larger markets—China, India, Japan and South Korea—can be inhospitable to Western firms, due either to formal regulations or informal hurdles.

“Western firms doing business in Asia have run into difficulties dealing with the different markets and cultures,” says CH2M HILL Asia Pacific Managing Director Steve Nye. “But because of the global tilt towards Asia, with its rapidly growing economies and emerging middle class, it's where a lot of firms want to be.”

Market Challenges

“You have to be in multiple sectors in a lot of these markets because they aren't big

enough to sustain a focused presence,” says Marshall Davert, MWH government and infrastructure president for the Americas and Asia Pacific.

Kleinfelder President and CEO Bill Siegel tells of working on projects on a half-dozen Pacific islands for a client. “It wasn't just a logistical challenge,” he says, “but we had to register as a corporate entity on each one.”

Registering can be a challenge. For example, in Brunei, which *Forbes* magazine ranks as the fifth-richest country in the world, half of the board members of a registered company must be Brunei residents.

“The importance of understanding the culture can't be overstated,” says Davert.

Several firm leaders caution that certain legal and ethical issues can put a company afoul of the Foreign Corrupt Practices Act. “When it comes to ethics and compliance, you have to be vigilant and protect yourself,” Nye says.

Strategic Entry

Given the unique character of many of these countries, firm leaders say acquisition is the only viable entry strategy.

“Parachuting a guy into a market and growing the business organically is a nonstarter,” says

Davert. “You're not going to just show up and compete successfully.”

MWH's acquisition of the English firm Watson Hawksley in 1990 brought with it a network of established offices in numerous British Commonwealth countries, including Australia and Hong Kong, as well as a Taiwan office, which acts as a springboard into the Chinese market.

CH2M HILL gained its broad Asian presence by acquiring the U.K. firm Halcrow four years ago. “Halcrow has supplied about 50 percent of our Asia Pacific staff,” says Nye. “That includes all the people in Hong Kong, half the people in Australia and a good number in Malaysia.”

HDR Managing Director of Australian Operations David Bell says, “We entered [Australia] carefully and cautiously, did our homework and then acquired three good organizations.”

Kleinfelder's Siegel also pursued business in Australia. “We followed where our existing clients are spending money and contracting for services, and where we see long-term economic growth. Australia was an obvious choice, so we opened an office there, studied the market and then acquired a couple of firms.”

“One of the challenges is determining if you're going into a new market for a single assignment or to set up camp. What is your strategy for the long term? One project doesn't make a business,” says Steve Nye of CH2M HILL.

Operating Down Under

Australia has been a first port of call for many U.S. firms heading to Asia. They have established a presence in its friendly confines, built up staff and knowledge and then expanded into other markets.

“It's reasonable for U.S. companies to be successful in Australia and New Zealand,” says Davert. “It's a relatively large market, and the rule of law and contracting procedures are similar.”

For most of the past decade, Australia's market has been strong, as it has provided the coal to power the Chinese economic engine. But as Chinese growth rates have slowed, the Australian economy has fallen off.

“Probably 50 percent of those revenues have dried up in the past few years,” says HDR's Bell, “but we expect Australia to re-emerge in 2016.”





country are, and do you have the policies, processes and leadership to operate in these geographies,” he says. “Sometimes the opportunities can be good, but your ability to win them and deliver them profitably may not be as good as you think.”

In Brunei, for example, receivables can often stretch to more than 300 days.

“There’s business to be done there,” says Nye, “but you have to be able to fund your operation in the meantime.”

China and India

Despite their size and potential, neither China nor India is high on the target lists for American firms.

On one hand, China is embarking on some of the largest engineering projects in history, including a series of huge hydroelectric dams on the Yarlung Tsangpo River and the South-North Water Transfer Project, which is estimated to cost close to \$40 billion. On the other hand, the Chinese market can be xenophobic and brutally price-competitive, and foreign firms must navigate a seemingly endless maze of bureaucratic rules.

“China has been a hard place for us to do business,” says Davert. “We had 1,000 people in China; now we’re down to about 100. To truly compete in China and India, you need to have a critical mass of 4,000 to 5,000 people, and you need to operate in multiple markets.”

Nye concurs: “History tells us that very few Western firms have done particularly well in China, and those that do well focus on multinationals. An American company building a manufacturing facility in China will bring a U.S. engineering firm with them because they have a level of comfort about the quality of work they will get.”

The Indian market can be equally difficult for Western firms to penetrate. The market is extremely price-sensitive—Western firms have difficulty competing against low-cost local service providers. In addition, project funding can be uncertain, and schedules can stretch out interminably due to permitting and environmental delays.

MWH is one of the few American firms with offices in India, employing about 100 people. However, its primary presence is its Pune Resources Center, where a staff of 400 designers works on projects for the firm’s offices in other countries.

Gerry Donohue is ACEC’s senior communications writer. He can be reached at gdonohue@acec.org.

Filling the void, says Nye, will be infrastructure investment. “Spending on urban transportation infrastructure on the east coast [of Australia] will be in the tens, if not hundreds, of billions of dollars.”

Kleinfelder’s Siegel is also optimistic: “We feel there’s a lot of room for growth in Australia.”

Most big projects in Australia—and in many Asian countries—use design-build for contracting and public-private partnerships (P3s) for financing. Australia has introduced a unique twist to P3s called “Alliancing,” in which the government entity is an active member of the project team and actually shares in the profits and losses.

Many Asian countries, with their growing middle classes

and surging economies, are investing in infrastructure at a much faster pace than the United States, and they like to contract with American firms because of their stability and quality. CH2M HILL’s Nye warns, however, that it isn’t enough to just follow the money.

“One of the challenges is determining if you’re going into a new market for a single assignment or to set up camp,” says Nye. “What is your strategy for the long term? One project doesn’t make a business.”

Sometimes, he adds, the biggest-spending countries may not be the best destinations.

“It’s more important to know how the money will be spent, what the rules in the

Tax Reform Momentum Builds

President Obama and several congressional leaders continue to express interest in simplifying the federal tax code, though significant differences remain.

Treasury officials are focused on lowering the top corporate tax rate, which at 35 percent is the highest among developed nations. The chairmen of the House and Senate tax-writing committees also want to lower tax rates paid by pass-through businesses, such as S corporations and partnerships. ACEC continues to advocate for comprehensive tax reform that treats all business structures equally.

There is also disagreement over whether tax reform should be revenue-neutral or increase the overall tax burden. The administration and many in Congress agree that tax reform could present an opportunity to divert needed revenues into the Highway Trust Fund.

The window for complex legislation such as tax reform will begin to close as the presidential election cycle accelerates. However, the tax-writing committees are expected to continue working toward tax reform even if a bill won't be up for a vote until after the 2016 election. ACEC continues to engage with congressional leaders to ensure that the engineering industry's tax policy priorities are considered.

Senate Finance Committee Chairman Orrin Hatch (R-Utah) offers his vision for comprehensive tax reform beginning on page 8.



ANDREW HARBEE/GETTY IMAGES

Congress Eyes Highway Trust Fund Fix, Long-Term Transportation Reauthorization

Leaders in the House and Senate are working to identify a way to shore up the depleted Highway Trust Fund and advance a long-term reauthorization of federal highway, transit and safety programs. The current short-term extension expires May 31.

ACEC joined with other stakeholders in securing the signatures of 285 members of Congress to a letter urging House Speaker John Boehner (R-Ohio) and Minority Leader Nancy Pelosi (D-Calif.) to make passage of a long-term transportation bill a top priority. "We are united in our conviction that now is the time to end the cycle of short-term extensions that kick the can down the road by doing the work needed to pass a multi-year surface transportation bill," the bipartisan group wrote. "To make this happen, we support efforts to develop a long-term sustainable revenue source for our nation's transportation network as soon as possible. Otherwise, we will not be able to enact a transportation bill that truly meets our nation's economic and infrastructure needs."

The Senate Environment and Public Works Committee is expected to unveil its reauthorization legislation in the coming weeks. In a recent hearing, Chairman Jim Inhofe (R-Okla.) said passage of a long-term, fiscally responsible bill is the committee's foremost priority. "The conservative position is to pass a bill instead of short-term extensions," which cost taxpayers more money because of project deferrals and delays, he said. The bill will likely be similar to the six-year bill unanimously approved by the committee in 2014.

The most significant challenge facing Congress is how to fund the program and bridge the \$15 billion annual gap between current funding levels and revenues into the Highway Trust Fund. Several Senate Republicans have expressed openness to increasing federal gas and diesel taxes as one potential option, in part because the price of oil has dropped significantly over the past year. House leaders have been less supportive and point to other tax code changes, including repatriation of overseas corporate earnings, as a path forward to supplementing the Trust Fund.

Sens. Barbara Boxer (D-Calif.) and Rand Paul (R-Ky.) have introduced legislation to provide a one-time tax holiday on repatriated earnings, cutting the rate from 35 percent to 6.5 percent and depositing the revenues into the Highway Trust Fund. Reps. John Delaney (D-Md.) and Richard Hanna (R-N.Y.) have introduced the *Infrastructure 2.0 Act*, which establishes a mandatory 8.75 percent tax rate for existing overseas earnings. According to the sponsors, it could produce enough revenue to fill the gap in the Highway Trust Fund for six years and capitalize a new \$50 billion American Infrastructure Fund to finance transportation, water, energy, communications and educational facility projects. President Obama has supported a similar approach in his 2016 budget proposal. Recent comments by congressional leaders suggest that some form of repatriation is under serious consideration as a way to shore up the Highway Trust Fund, though some members prefer that repatriation be handled in the context of corporate tax reform.

Introduced legislation creating a one-time tax holiday on repatriated earnings as revenue for Highway Trust Fund.



Sen. Barbara Boxer (D-Calif.)



Sen. Rand Paul (R-Ky.)

Introduced Infrastructure 2.0 Act to boost Highway Trust Fund.



Rep. John Delaney (D-Md.)



Rep. Richard Hanna (R-N.Y.)



FAA Proposes Rules for Drone Use; ACEC Developing Industry Input

The Federal Aviation Administration (FAA) has released a set of proposed rules for regulating commercial use of small unmanned aircraft systems (UAS).

Under the rules, unmanned aircraft must weigh less than 55 pounds and be operated only during daylight hours at a maximum height of 500 feet above ground level. The regulations would prohibit automated flights and require UAS to remain within sight of the operator at all times.

The rules would allow, but not require, an operator to work with a visual observer who would maintain constant visual contact with the aircraft. The operator would still need to be able to see the UAS with unaided vision (except for glasses). UAS operation would be restricted around airport flight paths and locations that pose a threat to other aircraft, people or property.

UAS operators would be required to pass a written test on aviation rules and aeronautical knowledge to be certified. No further pilot rating would be required.

ACEC will be submitting feedback to the FAA on the proposed rule. Contact Matt Reiffer at mreiffer@acec.org with questions or comments.

The Council also continues to participate on an FAA Rulemaking Task Force on larger UAS operated beyond the visual line of sight. The task force is identifying potential industry applications, including facility inspections, surveying and mapping, along with near- and long-term operational barriers and risks.

The small UAS rule is expected to take up to two years to be finalized.

ISSUES ON THE MOVE

WHAT'S NEXT

MAP-21 Reauthorization

Action needed by May

Tax Reform

House, Senate committee action possible in the spring

Senator Hatch Introduces ACEC-Backed H-1B Visa Reform Legislation

A bipartisan group of senators led by Senate Finance Committee Chairman Orrin Hatch (R-Utah) introduced the *Immigration Innovation Act of 2015*, legislation that would update the H-1B visa system to make it easier to attract and keep top-tier engineering talent in this country. ACEC sent Senator Hatch a letter of support.

The legislation would increase the cap on H-1B visas from 65,000 to 115,000, with

the possibility of raising it as high as 195,000, depending on economic conditions. The bill would also remove the limit on H-1B visas for advanced STEM degree holders, recapture unused green cards and allow spouses of H-1B visa holders to work.

ACEC has long supported reforming the H-1B visa system to allow engineering firms to hire the skilled people they need to serve their clients when American engineers are not available.

House Votes to Increase Full-Time Employee Delineation in Affordable Care Act

The House of Representatives passed the *Save American Workers Act*, which raises the threshold defining full-time employees under the *Affordable Care Act* from 30 hours to 40 hours per week. ACEC and other business organizations support the legislation.

Under the health care law, employers with more than 50 full-time employees must offer qualified health insurance or pay penalties.

ACEC worked with a broad coalition of business organizations in supporting the legislation. The House approved the measure by a vote of 252-172. Similar legislation has been introduced in the Senate. Officials at the White House say President Obama would veto the bill.

For More News

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



SENATOR ORRIN HATCH Unveils His Vision

Addresses comprehensive tax reform
and infrastructure funding

As a seven-term senator, Orrin Hatch (R-Utah) is now the Senate's senior Republican and chairman of the Senate Finance Committee. His 38-year career includes spearheading passage of both the Balanced Budget Amendment to the Constitution and the America's Security Act. As committee chairman, Hatch will have a vital voice on numerous legislative issues affecting engineering firms. In this exclusive interview with *Engineering Inc.*, the senator offers his perspectives on the importance of tax reform, the development of a long-term highway bill and the funding of infrastructure. >>

ACEC: As the chairman of the Senate Finance Committee, you will have a major role in shaping efforts to reform the tax code in 2015. What outcomes are you looking to achieve in a comprehensive tax reform package?

Sen. Orrin Hatch: Comprehensive tax reform is no longer optional—it's essential if we're going to get our economy moving again. And promoting growth in jobs and the economy must be our first and most important goal.

In December, I released a report drafted by my staff on the Senate Finance Committee titled *Comprehensive Tax Reform for 2015 and Beyond*. This report outlines the major issues policymakers will have to confront as we undertake tax reform. The report is not a tax reform plan and is instead a discussion of ideas and principles that I hope will be the first step in a renewed bipartisan effort to reform our nation's tax code.

As the report outlines in detail, comprehensive tax reform should embrace seven key principles: economic growth, fairness, simplicity, permanence, competitiveness, promoting savings and investments, and revenue neutrality.

“We also need to make the tax code more competitive for American job creators. This means lowering the corporate tax rate and shifting to a territorial tax system with base erosion protections.”

With these principles as our guideposts, I believe Congress will be able to develop strong consensus on a plan that will rebuild the system in a way that will spur economic growth, jumpstart job creation and, once again, restore prosperity to the American people.

I've said it many times before and I'll say it again: I'm willing to work with anyone—Republican or Democrat—to reform our nation's tax code. And I look forward to continuing this effort in the 114th Congress and, if necessary, beyond.

ACEC: ACEC represents over 5,000 engineering firms that are a mixture of C corporations, S corporations, partnerships, LLCs and sole proprietorships. Do you think Congress should pursue corporate-only tax reform or tax reform that treats all business structures equally?

Hatch: My preference has always been to do comprehensive tax reform on a bipartisan basis because America's anti-competitive tax system hurts growth, is unfair and is too complex.

Should the administration show real leadership and opt to put forward a detailed proposal on how to resolve the problems on the business side of the tax code—including proper treatment of pass-through entities—I would be willing to listen and consider their ideas.

ACEC: One of the major points of disagreement between the White House and Congress is whether tax reform should be used as a means for raising revenue or remain revenue neutral. Do you believe this difference can be overcome in order to move a reform bill forward?

Hatch: In my view, America needs tax reform for tax reform's sake—not tax hikes disguised as tax reform, as we've seen with

the president and his past budgets. And, don't forget, the White House received more than \$600 billion in new revenue in the fiscal cliff deal that passed Congress a few years ago.

Clearly, the issue of raising revenue through tax reform is a subject of great debate amongst both parties. But before addressing the issue of revenue, Congress and the administration must first work together to move the ball forward in a reasonable and responsible manner to actually reform the code.

This means finding consensus on policies that will help to lower the rates and broaden the base. We need to simplify the code and make it easier and more efficient for individuals and families. We also need to make the tax code more competitive for American job creators. This means lowering the corporate tax rate and shifting to a territorial tax system with base erosion protections. Pro-growth tax reform will mean more income, more jobs and more opportunities for all Americans. The revenue question would be resolved through this process.

ACEC: It is generally expected that tax reform will combine lower tax rates with a broader tax base through eliminating various tax credits and deductions. ACEC Member Firms understand the need for tradeoffs, but there are some provisions—such as proposed limits on cash accounting—that would be very problematic for engineering firms, even with lower tax rates. Do you think all tax preferences should be on the table for discussion, or are there areas you think Congress should avoid when reforming the tax code?

Hatch: Certainty in the tax code is a very important factor in allowing businesses to plan their affairs, make investments and create jobs. And these job creators don't want bad certainty—they don't want to hear that their taxes are going up. Congress should provide this certainty by making permanent the provisions that are worthy of remaining in the law and eliminating those that are not.

This Congress and the Finance Committee will continue with its efforts to examine a variety of tax preferences to see what works and what doesn't. In my view, when



ACEC Chairman Richard Wells with Sen. Hatch.



From left: Sen. Orrin Hatch meets at his office on Capitol Hill with ACEC President Dave Raymond and ACEC Chairman Richard Wells.

we reduce or eliminate certain tax preferences, we should use the revenue generated to lower tax rates.

ACEC: Transportation-related revenues into the Highway Trust Fund aren't keeping pace with spending levels or funding needs. ACEC has repeatedly said that all options have to be on the table for a long-term, sustainable financing solution. What are the prospects for the House, Senate and the administration to reach consensus on this issue before MAP-21 funding expires in May 2015? Do you see this happening as part of a reauthorization bill or as an element of a larger agreement on a tax or budget deal?

Hatch: I've advocated for the development of a long-term highway bill that will give the transportation community stability and predictability. I firmly believe Congress should examine all potential options when it comes to creating a viable solution to this problem and look forward to working with my colleagues on the Senate Finance Committee to establish a sound financial structure for the Highway Trust Fund next year.

ACEC: With the decline in federal revenues, a variety of public-

private partnership ideas have been proposed to assist states and local governments in financing infrastructure projects, such as infrastructure banks, lifting the volume cap on private activity bonds for water/wastewater projects, and other tax mechanisms for leveraging private investment. Are these the approaches that Congress should be pursuing?

Hatch: First, we need to be clear on the difference between funding and financing. Already, committees such as the Senate Committee on Environment and Public

Works and the House Committee on Transportation and Infrastructure have held hearings examining new proposals to finance infrastructure, but these mechanisms in and of themselves do not address the funding side of the equation, which is mostly represented by the Highway Trust Fund.

Keeping that in mind, I'm in favor of considering any approach that allows states and communities to be better able to make and implement decisions regarding the infrastructure they need. However, we need to make sure that any financing mechanism is in the interest of taxpayers and doesn't simply shift costs around without also creating efficiencies. ■

Fast Facts for Sen. Orrin Hatch

Personal

- Birth date: March 22, 1934
- Wife: Elaine Hansen Hatch
- Children: 6
- Grandchildren: 23
- Great-grandchildren: 14

Education

- University of Pittsburgh, J.D., 1962
- Brigham Young University, B.A. (history), 1959

Professional

- Attorney, Pringle, Bredin, and Martin (Pittsburgh) 1962-1969
- Attorney, various firms (Salt Lake City) 1969-1976
- U.S. senator from Utah, 1977-present

Senate Committee Assignments

- Finance Committee
- Health, Education, Labor and Pensions Committee
- Judiciary Committee



Engineer- Elected

Engineers who also hold state and local public office are rare, but they bring a knack for problem solving to government

By Bob Woods

Engineers are known for providing imaginative solutions to pressing social challenges, which allow Americans to drink clean water, enjoy new technologies and travel safely and efficiently.

Elected officeholders in state and local government also seek meaningful answers to quality of life issues faced by their constituents. But in the instances when engineers can utilize their technical proficiency while fulfilling responsibilities as an elected officeholder, the benefit to the public is magnified.

In this special *Engineering Inc.* report, a quartet of current and former state and local officeholders, who are also engineers, share their problem-solving experiences in government. >>

Pathway to Public Service

Charles Busby is CEO and president of Orion Engineering in Mississippi and also a freshman legislator in the state's House of Representatives. He represents the nearly 24,000 constituents of District 111, an industrial region in the state's southeast corner that includes his hometown of Pascagoula. The 51-year-old Busby has long been civically active, from serving as sophomore class president to Little League coach to member of the local planning commission. "It's important that you demonstrate to the voters, prior to running for office, that you're willing to give of yourself for the good of the public," he says.

In 2011, a group of local citizens recruited Busby to seek his first elected office. After passing muster with GOP leaders in Jackson, the state capital, "I felt this tremendous pressure to have answers for all the woes that plagued Mississippi, and I simply didn't have those answers," he says. He finally decided that the only way to find them was to run. "I needed to ask the right questions, and I was comfortable that I could do that." In the election, he nipped the incumbent—a lawyer—by 35 votes.

Stephen Costello took a less deliberate route than Busby to public office. As president of Costello, Inc., the Houston-based civil engineering and surveying firm he co-founded in 1991, he focused less on civics and more on improving the fourth-largest U.S. city's crumbling streets and drainage systems. But in 2008, when his local ACEC chapter—which had been advocating for infrastructure investment and storm-water management—suggested that one of its members run for city council and man the bully pulpit, Costello raised his hand, if reluctantly.

"Before that moment, I never, ever thought I'd be in politics," he concedes. "I had a successful engineering practice, and my wife and I were empty nesters. I don't know why I volunteered."



"On environmental issues, my background is a major asset. I approach everything factually and technically, and not politically."

RICK CATLIN
CATLIN ENGINEERS &
SCIENTISTS
N.C. GENERAL ASSEMBLY
REPRESENTATIVE

Putting Experience To Work

During his first term, Costello became chair of the city's Flooding and Drainage Committee, where he was able to champion issues that were important to him. "We created Renew Houston, a program to reinvest in infrastructure by combining new revenue from a drainage fee and a conservative approach to municipal funding," he explains. Now called ReBuild Houston, the program aims to replace about 70 percent of Houston's street and drainage infrastructure over 20 years at a cost of up to \$8 billion.

In assessing how his background factored into the bill's passage, Costello, now 61, says, "The fact that I'm an engineer and a specialist in storm-water management

gave me a level of credibility in talking to the public."

Likewise, Mike Lally, vice president at Olsson Associates, an engineering design firm headquartered in Lincoln, Nebraska, acknowledges that his resume made him an effective city councilman for nine years in Overland Park, Kansas, a suburb of Kansas City. "There's no doubt that being an engineer, especially from the public works perspective, was extremely helpful in understanding what we were trying to accomplish," he says. "Whether we were dealing with roads, traffic, storm-water or other projects, the guys in public works appreciated my background. They knew that I 'got it' in terms of regulations and certain aspects of science and engineering."

Even before Lally earned his bachelor's and master's degrees in geological

engineering from Missouri University of Science and Technology (formerly University of Missouri-Rolla), "I always had an interest in politics," he says. "As a kid, I thought I'd like to get involved at some level of government."

Lally did just that as soon as he moved to Kansas City after college, volunteering for various political campaigns while simultaneously launching his engineering career at Black & Veatch and going back to school for an MBA in finance. He later relocated to Overland Park, a community of about 175,000 residents. In 1992, when the local councilman announced his early retirement, the local Democratic Party appointed Lally to replace him.

"I had nine months to see if it would sit well with my career and my family," he says, referring to the time before his seat would be up for election. "I got into it and loved being involved in helping shape the community." That positive experience convinced him to run, successfully, for a full term in 1993 and again in 1997. He and his wife had three young children at the time, and he'd moved on to another firm as a managing consulting engineer.

"It was a real balancing act," Lally, now 53, admits. Although he juggled it all with aplomb, when his second term ended in 2001, Lally opted to retire from politics. "I loved what I was doing, but my kids were older, and I knew I couldn't be the father I wanted to be by trying to make a living and doing the political thing."

Connecting the Dots

As much as being an engineer enhanced Lally's job as councilman, what he learned in public office has boosted his career at Olsson, which he joined in 2004. "Understanding how city governments work has been very beneficial," he observes. That became apparent while recently working with a client in Missouri on a sanitary sewage system. "We needed to meet with the mayor, the



"Whether we were dealing with roads, traffic, storm-water or other projects, the guys in public works appreciated my background. They knew that I 'got it.'"

MIKE LALLY
OLSSON ASSOCIATES
FORMER CITY COUNCILMAN
OVERLAND PARK, KANSAS

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Rendering Courtesy of The Wharf: Hoffman-Madison Waterfront

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city council person who oversees public works, the city manager and the public works director,” he recalls. Lally was able to convince them to raise taxes to fund the project.

“Nobody wants to raise taxes,” he asserts, “but I had a certain amount of empathy for the mayor and the other officials. I’ve been in their shoes and understand the thought process they’re going through. I had to make similar decisions all the time. My training as city councilman has been invaluable in serving various clients today.”

On the other hand, Rick Catlin, president and owner of Catlin Engineers and Scientists in Wilmington, North Carolina, doesn’t make much of a connection between his engineering practice and his public service. “Very little of what I do in politics relates to my business,” says the District 20 representative in the North Carolina General Assembly. He’s in the midst of his first term after more than 20 years of active leadership on local and state commissions.

Yet like Busby, Costello and Lally, Catlin brings his engineering experience to bear in the political realm. “As an environmental engineer, I understand the economic benefits of a healthy environment, clean water, adequate water supplies, healthy beaches and navigable waterways,” he states. “I research legislation like an engineer does designs. I often draw charts and algorithms to make sure we understand the legal wording, because I’m not a lawyer. On environmental issues, my background is a major asset. I approach everything factually and technically, and not politically.”

Catlin, 60, points to the wide range of tangible and intangible qualities that engineers possess—which are assets in pursuing elected office. “We, as professional engineers, live by ethical standards,” he says. “We bring nonpolitical solutions to issues that have not been viewed from our perspective for many years. We have a strong focus on infrastructure, regulatory efficiency, public health and safety, education and environmental protection. There are people with expertise in other areas, but it’s good to balance the tools and resources in politics.” ■

Bob Woods is a technology and business writer based in Madison, Conn.

The Engineer Who Would Be Mayor

Stephen Costello, Houston city council member at-large and president of Costello, Inc., has announced his intention to run for mayor of Houston in 2015.



Q: How does your engineering background help you as an elected official?

A: We’re problem-solvers. In order to be a problem-solver, you have to step back, take

the emotion out of the issue, just look at the facts and try to develop a series of solutions. When I first got on the council, other members would come to me with an issue and ask what I thought. It was rewarding to know that we are respected as a profession, and they value our position. But as an engineer, sometimes that does get in the way. We might think this is the right solution, but in any political world, there are a number of viable solutions. Sometimes there are solutions that don’t solve the problem entirely, and there’s a compromise everyone is happy with. So you have to be able to feel comfortable with those types of conclusions. I call it the gray area. It’s related to how you interface with the public and those who either agree or disagree with you.

Q: As an avid amateur athlete who’s completed more than 40 marathons, you know about running, so what are your thoughts about running for mayor of Houston this year?

A: I made the decision to run for mayor about a year ago. The city is a giant service organization. It’s really no different from an engineering firm that is a service organization. I want to bring my business practices and engineering skills to the city to improve the quality of life. I want to give back to the city.

Q: Besides infrastructure, what other local issues are important to you?

A: I’ve also been involved in social, public health and economic-development issues. One is the “food desert” issue. We’re advocating for access to healthy food in underserved neighborhoods. I met my wife in a local grocery store, when we were two teenagers working part time, over 40 years ago. This issue not only solves a public health-related problem, but provides part-time jobs and is an economic-development driver when you get other retail stores moving into those neighborhoods.

Q: Why should more engineers consider pursuing elected office?

A: Infrastructure is part of every service you provide to the public. People take for granted turning on the faucet and flushing the toilet, that when it rains the water just drains somewhere. If we’re providing public safety, the police officers and firefighters have to drive on the streets we design. As engineers, we need to bring to the forefront the requirements necessary for infrastructure investment. Someone once told me, we are the generation of users. The generations before us built our cities, and we’ve been using what they built, but we haven’t been refurbishing it for the next generation. We have to change that dynamic and be the generation that rebuilds our city for the next two generations.



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Breaking the Mold

Commoditization: How to overcome a major threat to a firm's success

By Samuel Greengard

In this era of rapid change, from globalization to emerging technologies, delivering value to customers and clients is more complicated than ever. A/E firms find themselves facing an increasingly competitive and cutthroat marketplace—with clients who don't always recognize or want to recognize differing values in products and services. The result is that as pricing pressures increase, so does the risk of engineering services becoming commoditized. >>



Engineers On Sale

In more than 900 responses by Member Firm CEOs, presidents and chairmen to the *ACEC Engineering Business Index* quarterly survey in 2014, commoditization was consistently named the third biggest threat to an engineering firm's success, behind only adverse economic trends and a lack of public/private funding.

A Growing Threat

All businesses face pricing pressures, but it's clear that things have changed in the A/E industry over the last few decades. While products such as steel, coffee and pork bellies are clearly commodities, engineering and design services increasingly face many of the same pricing pressures—even at firms that are acknowledged industry leaders. Today, more procurement strategies and selection processes focus heavily on lowest-cost providers.

"I'm not surprised at all that commoditization is ranked so highly among threats to an engineering firm's success," says Ray Kogan, president of Kogan & Company, a strategy and management consulting firm for the design and construction industry. "It's always been a chief concern among industry leaders and specifically since the beginning of the recession."

Kogan explains that during the recession clients and firms were increasingly compelled to emphasize lower costs—from the client's view to get a project started, and from the firm's view to keep people employed.

He says that scenario added to the notion of there being no differentiation in the engineering product—a notion that is growing today and representing the industry's own version of a "recession hangover."

Most experts believe that some commoditization has always occurred—and some practitioners actually thrive as low-cost commodity players because they're able to deliver basic or turnkey services very efficiently.

Kogan notes there will always be clients who will never understand or accept



"People purchasing engineering services aren't as awed by professional knowledge as they once were. It's a reality that cuts across professions and fields."

WILLIAM D. LAWSON
TEXAS TECH UNIVERSITY

differences in professional services such as engineering—differences in expertise, quality and the people. "These incorrigible clients will never see engineering other than 'get the lowest price,' and there are engineering firms that actually win that kind of commoditization battle."

That commodity model is an approach that often upsets other practitioners. "Commoditization devalues the industry as a whole," says Mike McMeekin, president at Lamp Rynearson & Associates and chairman of ACEC's Management Practices Committee.

The challenges of commoditization to the industry are magnified due to several factors: technology and growing access to data and information, social media tools that allow organizations

to see what's taking place in the field, and an abundance of players in the A/E field, including upstarts located outside the U.S.

As Terry L. Giles, president and CEO of Giles Engineering Associates, explains: "Technology is a double-edged sword. It introduces new opportunities but also new challenges."

Databases, maps, aerial photos, satellite images and reports that once required specific knowledge or proprietary access are now widely available online. It's now possible to access special libraries with a click rather than embarking on a several days' trek across the country. At the same time, design and engineering firms—as well as those contracting with these companies—can outsource discreet tasks to consultants and third-party providers, often at significantly lower prices. Finally, Giles says, the concept of value is changing. "In many cases, clients view reports and other documents as commodity items. There is a lack of understanding about what is required to produce and interpret them."

The result is downward pressure on pricing. Sociologist George Ritzer, a distinguished professor at the University of Maryland, has coined the term "McDonalization" to address an overarching social

trend toward standardization, efficiency and uniformity.

William D. Lawson, an associate professor in the Department of Civil and Environmental Engineering at Texas Tech University and a former practitioner in the field, says, "It's about consumers desiring systems—and companies responding by creating systems—that deliver products and services in a reliable and expected way. A certain amount of autonomy is forfeited by professional services firms in order to satisfy the demands of the marketplace."

Lawson believes that this ongoing trend—accelerated by information technology and macroeconomic factors—contributes to a belief by some that all A/E firms are essentially equal and that price is a suitable criterion to differentiate and assess knowledge and expertise. "People purchasing engineering services aren't as awed by professional knowledge as they once were. It's a reality that cuts across professions and fields."

Facing the Challenge

Navigating an increasingly challenging business environment and conquering commoditization requires new thinking, a more strategic business framework and a high level of communication with both prospective and existing clients. While some firms may succeed by cutting costs and improving efficiency—including turning to foreign firms that handle drafting work and other less strategic tasks at one-fifth or one-tenth the cost—the overall equation is far more complex. The reality is that there's no single or simple fix.

One supported strategy is to continue to educate and encourage lawmakers and government agencies to enforce existing Qualifications-Based Selection (QBS) laws. In the *ACEC Engineering Business Index*, 41 percent of survey responders believe this, more than any other factor, is the best defense against commoditization.

McMeekin works within professional societies and organizations to advance QBS processes. "It is important that we have laws and procedures in place that focus on qualifications," he says. "We must work together and with other professional societies in both the public and private sectors to create a framework based on value and qualifications."

ACEC was the driving force that prompted Congress to adopt the Brooks

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Act in 1972 requiring the use of QBS for the procurement of architect and engineering services. By law, QBS mandates that since engineering is a highly skilled service—a service that directly affects the health, safety and welfare of the public—it is important that only the most qualified and experienced firms be tasked with these critical functions and not be selected on the basis of cheapest price. While efforts to circumvent QBS occur, ACEC remains active in ensuring that the law's mandates are followed. QBS is used by all federal agencies, 46 state governments, and many localities throughout the nation.

Differentiation

Kogan says a primary key to combating commoditization is differentiating your firm by portraying “superior intellect” on a particular project. “What a client really wants is what’s upstairs,” he says.

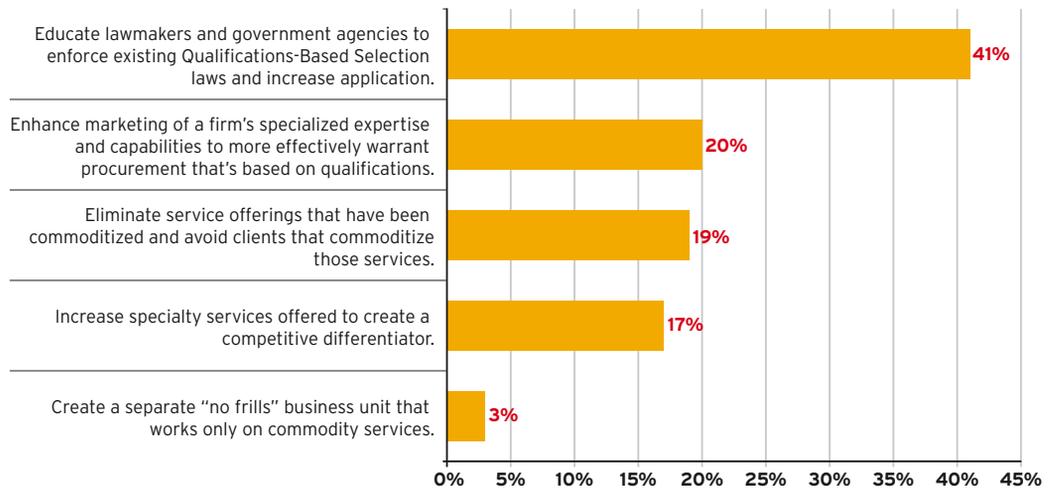
“Presenting to a client that your firm is a true knowledge leader in a particular area, possessing specialized expertise that adds perceptible value, is what will make a client willing to pay extra.”

Another important step is to boost your firm’s marketing and communicate the value of the expertise and capabilities you provide. Be clear about what makes your design and engineering services stand out.

Giles Engineering Associates trains engineers and other professionals to ask a detailed set of questions and work with clients in a highly collaborative way. “We work to save money, create more efficient projects and solve problems. The goal is to create a long-term relationship and deliver maximum value,” Giles says.

Catchy slogans and lofty mission statements don’t necessarily translate into

Best Defense Against Commoditization



Source: ACEC Engineering Business Index (Fourth Quarter, 2014)

results, Giles says. “The expertise your staff displays and how they demonstrate and communicate their knowledge is extremely important. If you go to a meeting as the principal of the firm, you can’t be the only person that speaks; you have to have the rest of your staff, whoever you happen to bring to a meeting, participating. This includes young associates who are handling many of the tasks and interacting with key people at the client firm,” he says. “It’s critical that they have a level of confidence and the knowledge to address important tasks and engage in technical and business discussions.”

Another way to protect a firm from commoditization is to eliminate service offerings that have been commoditized or consider breaking off a still profitable but commoditized activity into a separate unit or company. Similarly, firms benefit by adding new and higher-margin products and services and marketing them effectively. “The environment is constantly changing, and there’s a need for ongoing analysis and re-evaluation,” Lawson says.

Forward Thinking

Understanding the dynamics of today’s business environment is essential,

says Bill Siegel, president and CEO of Kleinfelder. “The thing that’s important to focus on is that coffee may be a commodity, but people spend \$5 at Starbucks when they can spend about 50 cents at a 7-Eleven,” he says. “Commoditization exists—it is driven by buyers—but it’s all about differentiating yourself in the eyes of a client. The real issue is whether we allow this to happen to our industry.”

At Kleinfelder, this differentiation begins with rejecting projects that aren’t a good match. Siegel says that a firm can establish itself as a technology leader, a service-centric organization or a low-cost provider, but not all three. Ultimately, it’s critical to “figure out which parts of the business allow you to differentiate yourself and which parts are in fact a commodity. You have to focus on value in the areas where you have an advantage,” he says.

“It’s important to think in a more flexible and agile way,” McMeekin says. “You have to constantly monitor the business environment, technology and the overall marketplace and understand how to stand out.”

“Every client has their own hot buttons,” Kogan says. “If you can demonstrate superior intellect that addresses a client’s highest priorities, and impress them with your thought leadership in that specific area, then you will have effectively combated commoditization.” ■



“Presenting to a client that your firm is a true knowledge leader in a particular area is what will make a client willing to pay extra.”

RAY KOGAN
KOGAN & COMPANY

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

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APP to Order

By Bob Violino

When an off-the-shelf app won't meet your firm's needs, **build one that does**

Software apps have changed the way engineers work. One app turns the iPad into a high-resolution function plotter and scientific calculator, while another contains more than 300 mechanical engineering conversion formulas. Apps like Autodesk ForceEffect even allow you to sketch concept designs and apply loads until your design is optimized. >>



Such apps, short for applications, are connected to the Internet and run on everything from desktop computers to mobile devices such as smartphones and tablets, and they've revolutionized how engineers and project managers collaborate and communicate in the field. In essence, they've become essential tools for A/E firms.

Plenty of popular off-the-shelf apps are available today for all sorts of processes. While field management and collaboration apps are among the most commonly used, firms are taking advantage of a diversity of available industry apps. These products run the gamut from simple to complex and cheap to expensive.

In some cases, however, it makes sense for firms to build their own apps in-house or use highly customized versions of com-



“You build it means you own it, and you can change the application when you want to.”

ROB MCKINNEY
THE CONSTRUCTION APP GURU

mercial software products. This strategy provides a number of potential benefits as well as challenges for firms.

Before exploring that option, let's look at some of the more popular engineering apps on the market that engineers are using for a variety of design applications. These and many other apps can deliver a range of benefits to engineering firms.

- Bluebeam Revu for the iPad is frequently used to create and view PDF plans, mark up project files and collaborate with domestic and international work groups.
- Autodesk's BIM 360 Field construction management software enables almost anytime, anywhere access to project data throughout the building construction lifecycle.

- SmartUse allows building and infrastructure owners and construction team members to quickly and easily review, annotate, compare and share plans.
- FotoIN Mobile is an automated mobile management solution that captures, documents and files site photos in customers' storage repositories, the cloud or in-house.
- BIManywhere is a visual BIM collaboration platform for construction and facilities management.

What to Consider

Sometimes firms can't find the right app to meet their needs, or the right app at the right price. That's when a build-your-own strategy can be the best approach.

This strategy can provide greater flexibility. “You build it means you own it, and you can change the application when you want to,” says Rob McKinney, of the Construction App Guru, who consults with construction and engineering firms about technology.

Another possible benefit of building your own app is increased security, McKinney says. If, for example, a firm is working on a contract for a government or military client that has stringent security requirements, an off-the-shelf software product might not be sufficiently secure to meet the demands of the client.

Some larger firms have their own staff of app developers they can turn to, McKinney says. Many smaller and mid-sized firms, however, don't have internal staff and will need to look outside for help. These firms can hire an experienced developer, either full time or on retainer, to build an application within its cost parameters.

When hiring a developer to create a single app, it's important to keep in mind that you will be paying the developer not only to initially build the app, but for any necessary revisions and possibly for versions to run on multiple mobile operating environments, such as iOS and Android, McKinney says.

Smaller firms also have the option of leveraging online platforms to create relatively simple applications, such as daily reporting, McKinney says. For example, Intuit Inc.'s QuickBase is a cloud-based

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platform that enables companies to build a variety of customized apps for different computing devices.

"You can go into QuickBase and build your apps and then share them with your team," McKinney says. "The only caveat is that it's very Internet-dependent. There's no offline mode, so that can be an issue for access from remote areas."

Another company, Catavolt, offers an enterprise application mobility platform that allows companies to quickly create mobile apps.

McKinney says some software companies, such as Procore, allow customers to request new features to products through online boards, and the features that receive the most requests are incorporated into applications.

Often, the decision on how to acquire apps comes down to cost, McKinney says, and firms need to determine how important the app is to the business and how much they are able to spend on application development versus buying the most suitable commercial app.

Making It Work

Firms that have developed their own apps are seeing results. For example, Atkins, a design, engineering and project management firm, developed an application called FloodMap Mobile, which gives floodplain managers, city planners and emergency responders on-demand access to critical information in the field.

Using the mobile app, engineers, community officials and customer service authorities have quick and easy access to information about flood map numbers, flood gauges and floodplains. FloodMap Mobile, available for free at the Apple, Android and Windows Phone app stores, can also be used by real estate professionals and prospective home buyers to understand the flood risks for specific properties and to get estimated flood insurance costs based on home value.



"Combining the geolocation features of a smartphone with a data mashup allowed us to answer this common question and many others on the spot in a public meeting, providing much faster customer service."

MICHAEL DePUE
ATKINS

"Atkins has a large and industry-leading flood mapping business. As part of this business, we found that many of the questions the general public asked us in town hall forums could be most effectively answered with the help of a mobile application," says Michael DePue, vice president of the Floodplain Hazard Management group at Atkins.

"In a town hall forum, the most common flood mapping question is the exact flood zone for a specific property," DePue says. "Combining the geolocation features of a smartphone with a data mashup allowed us to answer this common question and many others on the spot in a public meeting, providing much faster customer service. As we deployed the original application in public meetings, we found many local officials and real estate professionals really liked the tool, so we decided to expand the use of it to the general public."

The technological requirements for building the application were relatively simple, DePue says. "However, the sub-

ject matter expertise needed to deploy the app contents was complex, and our in-house staff was best suited to do that work," he says. "It made sense to keep the subject matter experts and the development staff close together."

The firm did not need to add new staff to create the app, DePue says. "Atkins maintains a robust information technology group that offered all the necessary skills to design and build the application," he says.

When Atkins first developed the application, it charged a small fee for the download. "This increased the complexity of the process within our company, since it required direct deposit of fees and tracking of small amounts of money," DePue says. "Ultimately, we found it more effective to offer the application for free. We continue to feel that the

industry goodwill generated from the application is far greater than the actual amount of funds we could recover from sales of the application."

Another firm, MWH Global, developed an app called AutoForm that lets users collect data in the field while offline. The data is entered in an easy-to-use form that reduces input errors, says Jim Dwyer, senior manager of mTOOLS product development at MWH.

Forms can be created to handle simple or complex data relationships, Dwyer says. Form data includes text, drop-downs, checkboxes, dates, weather, photos with markup, GPS and signatures.

"Existing enterprise data can be taken into the field for reference and correction, providing full data lifecycle capability," Dwyer says. "When you are back online, all data captured in the field is later synced to the enterprise cloud [via Microsoft SharePoint], allowing for automatic integration with dashboards, real-time analysis of data and immediate generation of complex reports."

AutoForm runs on iPads and iPhones as well as Windows 8 devices.

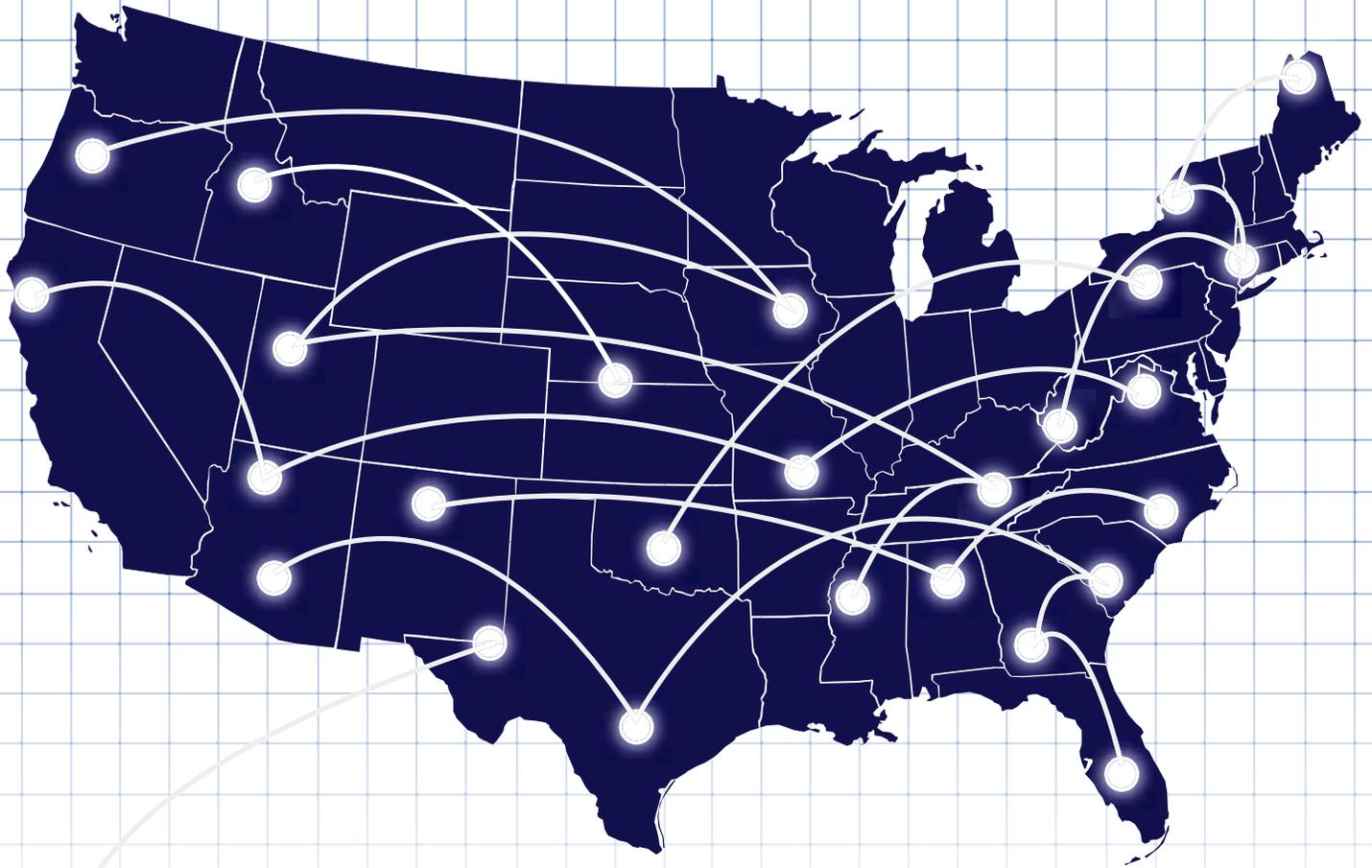
Prior to the app, users were capturing data using paper forms, which had a number of quality issues, including incorrect data, errors uploading to a central database, delays in access to data and delays in report generation.

"An electronic form linked to the enterprise database would solve these problems," Dwyer says. "The introduction of the iPad by Apple tipped the scales and put us into action."

Existing products for the iPad and iPhone did not integrate well with the enterprise database, and they didn't allow existing data to be taken into the field, Dwyer says. "They also could not handle complex, hierarchical data relationships," he says.

MWH used its existing development team to create AutoForm on both the iOS and Windows platform. "Our developers had most of these skills from developing our mTOOLS product—dashboards and reporting tools—for SharePoint," Dwyer says. "We just needed to learn some Objective C and we were off to the races." ■

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



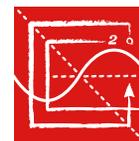
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ATCH
difference!

By George Lorenzo

MAKING A QUALITY- OF-LIFE NICE



How Black & Veatch's Christmas in October initiative is rebuilding homes and lives in Kansas City

Black & Veatch takes corporate citizenship very seriously. Since the company began in 1915, robust, results-oriented corporate social responsibility has always been a major part of its culture, says James Lewis, chief administrative officer of the global engineering firm headquartered in Kansas City, Mo. >>

PHOTOGRAPHY COURTESY OF BLACK & VEATCH

“We have our values that we have been living with for a while, and those are integrity, shared ownership, common purpose, stewardship, respect, accountability and entrepreneurship,” Lewis says. “We encourage our people to demonstrate those values.”

One of the ways the company does so is by actively supporting its local communities with charitable initiatives, such as Christmas in October, a volunteer organization that rehabilitates the houses of low-income homeowners in the Kansas City area—at no cost to them. Black & Veatch has been Christmas in October’s primary sponsor and provider of hands-on volunteers for 30 of the 31 years the organization has existed.

In rebuilding houses, lives and neighborhoods, the Christmas in October volunteers help needy families, the elderly, the disabled and veterans live in safety, warmth and dignity. As the organization’s largest volunteer base, each year Black & Veatch supplies an average of 650 hands-on workers, who repair as many as 60 houses in one day, according to Christmas in October’s Executive Director John Summers. “Black & Veatch’s sense of corporate responsibility goes beyond

most corporations,” he says. “They are our biggest partner, period.”

Nearly 8,500 Kansas City homes have been improved by Christmas in October since the program started, and Summers says Black & Veatch volunteers renovated more than 800 of them. “We operate on a \$300,000 annual budget,” he says. “In the last three years, Black & Veatch has donated \$320,000 through their Building a World of Difference Foundation.” The foundation provides charitable donations and employee volunteers to organizations and programs around the world.

Banner Year

In 2014, Black & Veatch supplied 850 volunteers to work on 41 home renovation projects, says Black & Veatch Senior Vice President and Christmas in October Pro-



“The fact that we are making a difference right here in our backyard, in the neighborhoods where our families live and work, really gives you the energy to keep coming back and doing it every year.”

GREG CLUM
BLACK & VEATCH

gram Manager Greg Clum.

Beginning in February, an extraordinary amount of pre-planning and organization occurs to make this volunteer effort happen. Business unit champions from each of the company’s 10 divisions work with volunteer house captains and co-captains to identify project needs and recruit volunteers.

The champions review all applications for assistance Christmas in October receives and begin a house inspection process that runs through May. Then, over several weekends, volunteers inspect the houses they plan to renovate on the big day in October. “They put together the material list and start pulling together the volunteers,” Clum says. “Everything is lined up so that in that one day we do the work on all the houses. There is a tremendous amount of work that goes into that one Saturday.”

Additionally, Black & Veatch volunteers perform Christmas in October “lead-in” projects throughout the year. In 2014, for instance, a team of Black & Veatch interns renovated the basement of a church located across the street from an inner-city alternative high school, creating a meeting space with a computer room for students to use after school instead of hanging out on the streets.

Moment of Impact

Summers says Black & Veatch’s support for Christmas in October makes a huge difference in people’s lives. “This is getting out of your bed, getting dirty, going to places where folks are literally living in third-world conditions and changing their lives.





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Jon Carlson
CEO — Braun Intertec Corporation

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EA Engineering, Science, and Technology, Inc., PBC

Leading the Way for Socially Responsible Business

There is a growing market in the U.S. for socially responsible businesses; according to B Lab nearly 70 million U.S. consumers state a preference for making purchasing decisions based upon their sense of a company's social and environmental responsibility. EA Engineering, Science and Technology, Inc., PBC (EA) is an interdisciplinary environmental services firm that has embraced this movement wholeheartedly by pairing an Employee Stock Ownership Plan (ESOP) with public benefit corporation (PBC) status, and the sum of this pairing is far greater than the parts. This combination makes EA a "first-mover" among major national environmental consultancies as a 100% ESOP-owned PBC.

EA embraced the employee ownership concept years ago when the ESOP acquired a significant equity ownership interest. To further this concept, in December 2014, EA completed a transaction in which its ESOP became the 100% owner of all EA common stock. As a 100% ESOP-owned S corporation, all of the S corporation's flow-through income is reported to the tax-exempt ESOP trust. EA employees receive a tax-deferred beneficial interest in EA stock and thus share in the growth and value of the company. This important benefit gives employees a stake in EA's success, and provides a great way to save for retirement.

Also in December 2014, EA amended its corporate charter to become a public benefit corporation under Delaware law. As a PBC, EA remains a for-profit corporation, now operating with an expanded corporate purpose and with a requirement to promote and report on the delivery of its specific public benefits.

"EA's core purpose is to improve the quality of the environment in which we live, so it's only appropriate that we initiated these changes," commented Ian

MacFarlane, EA's President and CEO. "Becoming a 100% ESOP-owned PBC shows that we *walk the walk and talk the talk.*"

ESOPs and architecture/engineering/consulting (AEC) firms seem to have a mutual affinity. According to Nancy Wiefek, Research Project Director at The National Center for Employee Ownership, a search of public filings for ESOP plans shows that approximately 7% of all ESOPs are sponsored by architectural and engineering related companies. Perhaps this stems from the fact that AEC firms tend to be owned by their employees in the first place, and ESOPs can perpetuate this ownership model while adding significant tax efficiencies.

Beyond the tax advantages, ESOPs are generally credited with improving employee morale and productivity. In 2009, the Employee Ownership Foundation, in its *18th Annual Economic Performance Survey*, found that 88.2% of surveyed companies agreed that creating employee ownership through an ESOP was "a good decision that has helped the company." By owning a stake in the company in which they work, employees have increased dedication to their company, which in turn leads to reduced turnover and more stability among top talent.

"ESOPs are an excellent way to provide broad-based employee ownership, and the next step is to align management incentives with the company's strategy, which ultimately benefits all shareholders, including the ESOP."



-Matt Keene, Managing Director at Chartwell, works with EA on management compensation and incentives



“Given our environmentally focused mission, our employees’ interest in supporting our communities, and our firm’s commitment to sustainability, EA is well-aligned to operate as an ESOP and a PBC.”

- Ian McFarlane, President & CEO of EA Engineering, Science, and Technology, Inc., PBC

EA has long recognized that its people are its most important asset, and the ESOP enables EA employees to directly benefit from the company’s success.

While ESOPs have been in the U.S. for decades, PBCs are a new class of corporation designed to enable for-profit corporations to produce tangible benefits while operating in a responsible and sustainable manner. To date, 27 states have adopted legislation creating such entities, and the requirements vary from state to state. To become a Delaware public benefit corporation, a company must identify one or more specific public benefits in their certificate of incorporation, which they must promote, track, and report to shareholders at least biennially.

The status of PBC helps those companies compete for talent – and customers. B Lab reports that millennials now represent 50% of the global workforce, and one of their principle desires in the workplace is to work with meaning. These young professionals understand that only socially responsible companies carry the label of PBC, which is definitely an advantage in attracting the best of today’s talent. In EA’s case, the PBC designation supports its environmental stewardship, which is a draw for both present employees and future hires.

With the growing market in the U.S. for socially responsible businesses, the designation of PBC is a major draw for clients as well. Becoming a PBC does not contradict profitability – it complements it. According to Cone Communications, 86% of consumers are more likely to trust a company that shows the impact of its cause efforts. Electing to become a PBC is an excellent way for a company to signal to current and prospective clients that it will exercise corporate social responsibility. MacFarlane of EA commented, “We see our clients’ own commitments to sustainability and green procurement as a growing trend that is here to stay. Adoption of PBC status in our company charter means that, in addition to continuing to provide high quality environmental services, we will plan, measure, and report on EA’s progress in delivering our specific public benefits, which will further distinguish and enhance the value we create for ourselves, our clients, and our environment.”

With the growing consumer demand and preference

for those businesses that display strong commitment to social responsibility, ESOPs and PBCs are two unique ways to appeal to this market. The transition to 100% ESOP ownership and PBC status is a pioneering step in the AEC industry and will perpetuate EA’s long-standing commitment both to the environment and to its employees, community, and broader society.

“The transition to a 100% ESOP firm highlights EA’s long-standing commitment to its employees and creates a truly sustainable employee-owned firm.”

-Lynn DuBois, Partner at ESOP Law Group, represented the trustee of the EA ESOP for its December 2014 transaction



About EA Engineering, Science, and Technology, Inc., PBC

EA is a 100% ESOP-owned public benefit corporation that provides environmental, compliance, natural resources, and infrastructure engineering and management solutions to a wide range of government and industrial clients. Headquartered in Hunt Valley, Maryland, EA employs more than 400 professionals through a network of 23 offices across the continental U.S., as well as Alaska, Hawaii, and Guam. In business since 1973, EA has earned an outstanding reputation for technical expertise, responsive service, and judicious use of client resources. For more information about EA, visit www.eaest.com.

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Monday, April 20

1:45-3:00pm

“Six Steps for Increased Profitability in A/E Firms”

Presented by June Jewell, *AEC Business Solutions*

3:30-4:45pm

“Insights on Successful Firm Valuation”

Presented by: Joe Skorczewski, *Chartwell*

Tuesday, April 21

8:00-9:30am

“Hot Topics”

CFO Roundtable Discussion

Moderated by Chris Staloch, *Chartwell*

2:00-3:15pm

“ESOP Sustainability, Repurchase Obligation, & Proper Plan Implementation”

Presented by Ryan Graham, *Chartwell*

3:30- 4:45pm

“The Impact of New Regulations and Tax Policies”

CFO Roundtable Discussion

Moderated by Katharine Mottley, *ACEC*



that it was just a way of life for her,” Clum says. “She had learned how to make do. All she really wanted was peace and quiet when it got stormy at night.”

The Black & Veatch team improved the elderly woman’s home and made it much more livable. She was extremely grateful and satisfied with the end results.

“You are really making a difference, not just for that homeowner but for the community,” Clum says. “This is our home. People with engineering and technical disciplines have skills that really match well with what Christmas in October is all about. The fact that we are making a difference right here in our backyard, in the neighborhoods where our families live and work, really gives you the energy to keep coming back and doing it every year.” ■

George Lorenzo is a freelance business, education and technology writer based in Williamsville, N.Y.

They are leaving them with heating, running water, bathrooms that work and kitchens that work, and doors that will lock and windows that close. It is different than any other thing I have been part of. It is the CEO and his wife out there working on a house. They don’t do it for publicity or anything. They do it because it is the right thing to do.”

Black & Veatch Associate Vice President Keith Small tells an inspiring story. A Kansas City homeowner was involved in a debilitating car accident several years ago that caused severe damage to his legs. He underwent extensive surgery, but unfortunately one of his legs had to be amputated. Small and a team of volunteers inspected the man’s home and developed a plan to make it more accessible—remodeling the bathroom and installing grab bars and a wheelchair ramp on the front porch—but they discovered some additional challenges. The furnace and air conditioning unit were broken. Christmas in October completely renovated the man’s home and installed a newly repaired air conditioning unit and furnace in time for him to arrive home after his amputation surgery.

“I came away from that experience with a deep appreciation for persevering through life’s setbacks,” Small

says. “Despite numerous reconstructive surgeries, pain and loss of mobility, the homeowner always greeted us with a smile and uplifting words. It was great to see our collective families getting to know one another personally, and we were inspired with each interaction.”

Clum tells a story about a woman in her 80s who was seeking the repair of her leaky bathroom ceiling; rainwater would drip into her tub and keep

her awake at night. When the inspection team members entered her house, they found windows in desperate need of repair, a broken furnace, no hot water and serious electrical problems. For several years, she sat close to an open kitchen oven for heat, heated water on the stovetop, and used a dishrag to screw and unscrew a light bulb in her bathroom. “She had made do with all those problems for so long



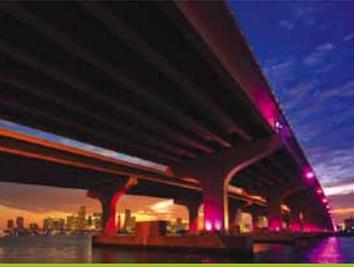
“I came away from that experience with a deep appreciation for persevering through life’s setbacks.”

KEITH SMALL
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ACEC/PAC
Champions
reveal
strategies
that helped
smash
fundraising
records in
2014. Sights
now set
on \$1 million

By Stacy Collett

California PAC Champion Stephanie Wagner is not shy about extolling the virtues of ACEC/PAC to any group of state directors who will listen. Armed with her PowerPoint presentation, she describes “everything that’s happening good for their firms from a national advocacy perspective,” including the 9 percent tax deduction for A/E firms, repeal of the 3 percent withholding mandate, a new four-year aviation bill and passage of MAP-21. >>

"I'm trying to educate them from the beginning and make them aware of all that ACEC/PAC has done," Wagner explains. "My goal is to get people saying, 'OK, when do I send you my check for this year?' Then I'll know I'm successful."

Wagner's tenacity, along with that of other PAC Champions across the country, has helped the Council's political action committee (ACEC/PAC) reach a record-breaking year in terms of receipts, disbursements and total people involved. In 2014, ACEC/PAC receipts were \$834,705, exceeding 2013's record total of \$770,000.

The number of individual contributors who made donations totaled 2,386, also a record. First-time givers made more than a third of those contributions (37 percent).

"It's becoming more evident that engineers see a clear connection between their business and what goes on in Washington every year—that's why people are becoming more engaged," says Andy Cummings, ACEC/PAC chairman.

He points to infrastructure allotments in December's \$1.1 trillion federal spending authorization as an example of the industry's growing influence. "This latest vote, I think, is an example of the strength of our PAC and how engineering is viewed in terms of helping our infrastructure and the economy."

ACEC/PAC is the nation's only political action committee protecting the legislative interests of engineering firms. It plays an essential role in the success of ACEC's overall advocacy program by supporting pro-business candidates, on a bipartisan basis, who support the engineering industry's agenda in Congress. ACEC/



"It's becoming more evident that engineers see a clear connection between their business and what goes on in Washington every year—that's why people are becoming more engaged."

ANDY CUMMINGS
ACEC/PAC CHAIRMAN

PAC is currently the largest PAC in the A/E industry and in the top 4 percent of all association PACs in the country, having grown more than 500 percent in 10 years.

"The changes in attitude have been occurring about our PAC," says ACEC/PAC Vice Chairman Chris Robertson. "We started to turn the tide five or six years ago, and it's still coming in."

ACEC/PAC has become especially important to small-business owners. "A good percentage of our members are small businesses. I am a small-business owner," Cummings says. "I feel that my contribution creates a voice in Washington because I'm working collectively. Individually, it would be lost in the sea. We're much better as a single voice."

New York, Illinois Enjoy Fundraising Rivalry

Robertson credits the organization's fundraising success to the hard work of its state and local counterparts. At the national level, "we can't do it

without the help of the state-, local- and national-level PACs," he says. "They help open the doors so we can have good discussions with legislators. It gives us access that 10 years ago we would never have dreamed of."

ACEC/Florida and ACEC/Vermont made PAC goals for the first time ever in 2014, while ACEC/New York and ACEC/Illinois PACs had the highest fundraising totals in the entire ACEC/PAC nation. Their PAC Champions were also active in organizing fundraising events for members of their congressional delegations.

ACEC/New York members raised over \$66,000—the most ever by any state—through fundraisers such as golf tournaments, Broadway events and "A Day at the Races" at Saratoga.

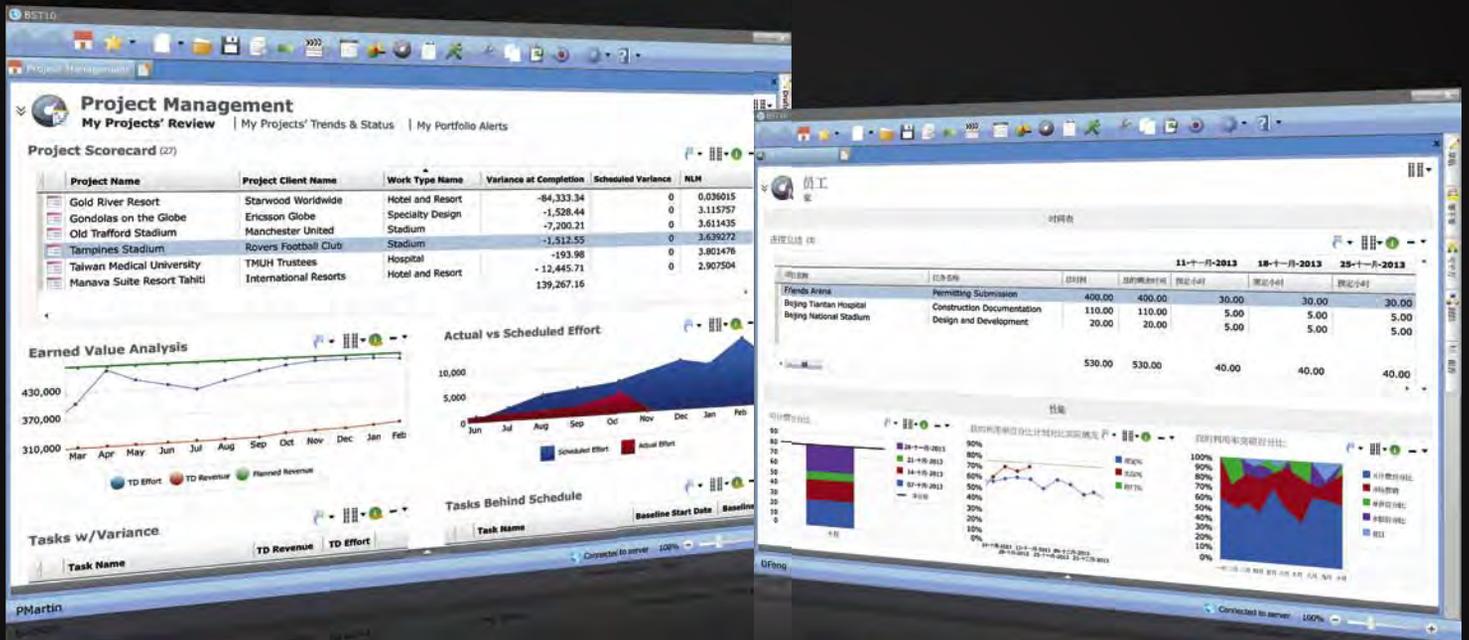
"We tried to tailor it to the local and regional needs," says ACEC/New York President Jay Simson. "New York is divided into eight regions, each with different events for their members," such as golf outings for the mid-Hudson and Long Island regions and a Broadway matinee performance of Carole King's *Beautiful* for members in Manhattan.

"We've been most successful in tying the event with meeting a public official or officials in the event," Simson says, noting that Rep. Sean Patrick Maloney (D-N.Y.),



ACEC/New York President Jay Simson (right) is joined by Rep. Elise Stefanik (R-N.Y.) and Joseph Amato of Cameron Engineering & Associates during the "A Day at the Races" fundraiser at Saratoga Race Course.

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a member of the powerful House Transportation and Infrastructure Committee, mingled with members at a reception at a Member Firm's Times Square office before the Broadway show.

New York State Sen. David Carlucci (D-Rockland/Westchester) took part in a mid-Hudson region golf outing and briefed attendees on his legislative agenda and infrastructure interests.

Simson says that in the engineering industry, "we think our issues are common sense, but congressmen get thousands of requests every year from industry PACs who are spinning things their way. When we get them to understand, they become our allies."

While ACEC/Illinois raised some \$65,000 for ACEC/PAC in 2014, its six-year reign as ACEC's top fundraising state ended. "We're not happy with second place," says ACEC/Illinois Executive Director Dave Bender of the state's friendly rivalry with ACEC/New York. "Starting Jan. 1, we're going to reclaim that crown."

Bender credits the advocacy of Illinois PAC Champion Chip Craddock and ACEC/Illinois President John Carrato in getting members to contribute. The state organization's 20 committee chairpersons were also heavily engaged in the fundraising process, which featured more than \$7,500 raised through PAC raffles of member-donated items, such as iPads, Google Chrome notebooks and GoPro cameras.

Engaging With Legislators Aids State Efforts

In addition to fundraising, ACEC/Illinois also serves as a valuable resource to the representatives. "People like to talk to their congressman about the conditions of their roads and the traffic when commuting to work," Bender says. "Engineers can really be a big help with that and explain what's involved and why the member of Congress has to make some tough decisions. We volunteer to help them educate their constituents on the process."

Bender says ACEC/Illinois has built strong relationships with three of its U.S. representatives who serve on the House Transportation and Infrastructure Committee—Dan Lipinski (D-Ill.), Rodney Davis (R-Ill.) and Cheri Bustos (D-Ill.).

In California, ACEC members are making a strong PAC resurgence under the leadership of new PAC Champion Stephanie Wagner, who has taken a divide-and-conquer approach to her first year in the role. With 22 local chapters in the state, she is asking members at the chapter levels to identify worthy candidates and key issues throughout the vast territory.

"These kind of events really speak to the candidates, when they get the funds directly from their constituents," Wagner says. "We're above our levels from the same time last year. It's a process."

Arkansas PAC Champion Jeffrey Geurian learned early in his career that it's the engineer's responsibility to represent the community when it comes to infrastructure improvements and quality of life in general. "If we didn't stand up and come together and be the voice, then nobody else would," he says. "If something was going to change, somebody had to have that voice to speak out for change."

Today, his state members are actively involved in supporting candidates who share ACEC's mission. "We were most active with Rep. Bruce Westerman (R-Ark.). He is a professional engineer and has a unique awareness of what the nation needs to succeed," Geurian says.

The state also made numerous special requests to ACEC for additional PAC contributions for worthy congressional candidates, and all were accommodated, he says. "We thought they were important, and we were never turned down, contributing to a victory."

Disbursing Funds to Deserving Candidates

In the 2013–2014 election cycle, ACEC/PAC disbursements topped \$1,466,600, which went to 287 U.S. House and Senate candidates, with 271 candidates winning (94 percent). ACEC/PAC supported 175 Republicans, 170 of whom won, and 112 Democrats, of whom 101 won.



John Forcier, Vermont PAC Champion, helped ACEC/Vermont reach its PAC goal for the first time in 2014.

An additional \$183,500 was disbursed to leadership PACs and national party committees in the election cycle, and another \$45,500 was disbursed after the election to help both newly elected members and incumbents retire campaign debt from the 2013–2014 election cycle.

ACEC/Tennessee, for instance, recommended disbursements to the campaigns of U.S. Sens. Lamar Alexander (R-Tenn.) and Bob Corker (R-Tenn.) as well as U.S.

Rep. John J. Duncan Jr. (R-Tenn.).

"All three candidates have a very solid record of being pro-business members of Congress and have been incredibly active in advocating for the development and expansion of our nation's infrastructure," says Tennessee PAC Champion and former ACEC/National Chairman Jerry Stump.

"Sen. Corker was one of the vocal advocates on record for improving the funding mechanisms for infrastructure," Stump says. "Congressman Duncan has been a longtime advocate of freedom from government competition, another issue that is really important to our organization. Sen. Alexander is known as someone who can work with all parties and someone who can effect good legislation."

As 2015 gets underway, PAC leaders are confident that contributions will continue their upward trend with additional education and awareness of what the PAC provides.

"There are so many things that the federal government does that affect our businesses," Simson says. "You might think of the transportation and water bill, but there are also business and tax policies that affect the smallest firms in rural areas to the very large mega-firms." That includes everything from cash accounting or different types of tax deductions to investments in energy, he adds. "Everybody is affected by it. So building those relationships and educating members is critical." ■

Stacy Collett is a business and technology writer based in Chicago.



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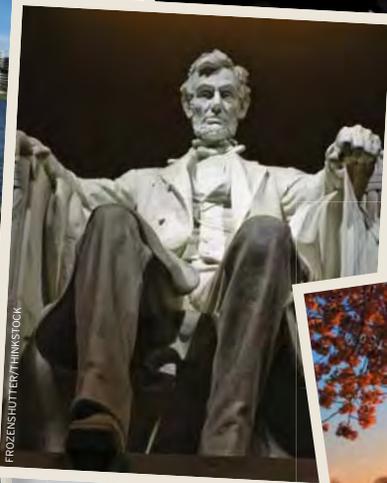
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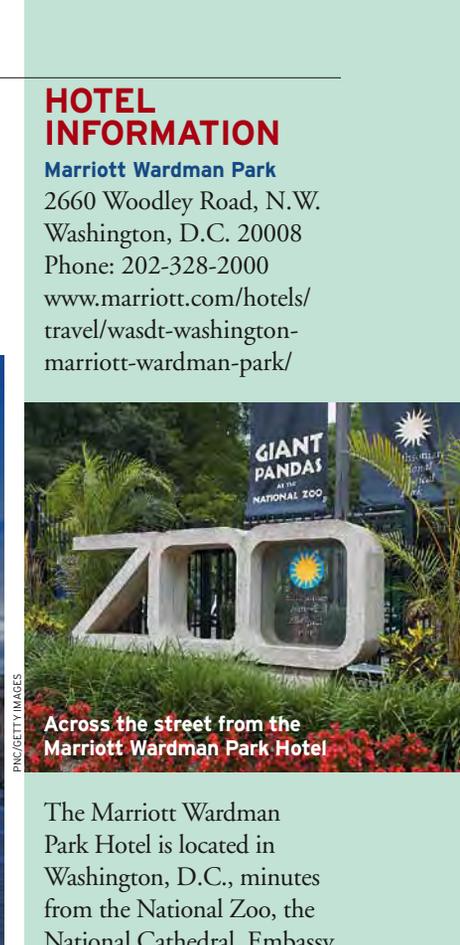
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The Marriott Wardman Park Hotel is located in Washington, D.C., minutes from the National Zoo, the National Cathedral, Embassy Row, and the vibrant Adams Morgan neighborhood, with unique shops, ethnic restaurants and active nightlife. The hotel is also easily accessible by Metro, near the Woodley Park Station on the Red Line.

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. 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.

FEATURED SPEAKERS



General Stanley A. McChrystal
Lessons in Leadership
 Former Commander of U.S. and International Forces in Afghanistan



Jake Tapper
Political Polarization: Prospects for Progress
 CNN Chief Washington Correspondent and anchor of the CNN weekday television show *The Lead with Jake Tapper*

FEDERAL PROGRAMS AND LOBBYING

- Congressional Issues Briefing
- Lobby Congress on infrastructure, energy, transportation, water and other key business issues
- Federal business opportunities from officials at the U.S. Army Corps of Engineers, Department of Defense, Naval Facilities Engineering Command, Federal Aviation Administration, General Services Administration, World Bank and other agencies
- Capitol Hill Visits
- ACEC/PAC Sweepstakes and Congressional Fundraiser

TEAMING FAIR

- Small and large firms team for work on government contracts

ENGINEERING EXCELLENCE AWARDS GALA

- "Academy Awards of the engineering industry"—black-tie reception, dinner and awards ceremony, to celebrate the year's most outstanding engineering achievements
- "Champagne After-Party," featuring live music and dancing, free to all Gala registrants

Land Development Eyes Recovery from Recession Hangover

We all remember “the good old days” of the early 2000s, when the economy was growing and engineers were riding the development wave.

Then, in 2007, the wave crashed, and we’ve been slowly crawling back to sea level again.

When things were good, they were really, really good: Builders and developers were building, land development engineers had plenty of work, and we were all busy, filling our days with work and profits.

But when things were bad, they were really bad. The Great Recession that lasted from 2007 to (officially) 2010 hit the land development industry hard. With the downturn, many firms closed, consolidated or just disappeared overnight, leaving engineers without jobs and projects incomplete. Clients also disappeared or stopped work. The industry seemed to grind to a halt.

In 2011 and 2012, as the Great Recession began to wane, we woke up with a terrible hangover—the world was cloudy and we were not completely ourselves as we grappled to figure out how to maneuver in this new, different and unsteady world.

Many of those who were laid off as the recession hit started their own firms, creating more competition for less work and with fees that were more competitive. Clients were taking fewer risks, had fewer new projects to win and were tightening operations to meet the new demands of development. Though we now partner with our clients more than ever, it’s a challenge to get them to spend money.

We are finding our ground in the “new world,” figuring out how the new marketplace works and how we go about doing business, while still wiping off the dust from the collapse. The industry looks different than it did three decades ago when I started out, and we are still learning the ropes in this new environment.



Jay Wolverson

Challenges in the New World

Those ropes include changes in the workforce and the way we support our clients. We have learned to maneuver in this new world through experience and a network of peers willing to share information.

CHALLENGE 1: We have a significant lack of talent. “The lost generation,” as Michael Unger of Manhard Consulting in Centennial, Colo., calls them, are the engineers who were finishing school just as the recession hit. “It’s the three-to-seven-year graduates—the ones who would have graduated in 2008 to 2011—that we are missing. We have lost a generation of engineers who have gone on to do other things because there was little to no engineering work to do,” Unger says.

More time and resources are being spent on training young engineers and bringing them up to speed, especially as technology changes at an ever-increasing pace. However, this younger generation of engineers is eager to learn, willing to adapt and coming into an industry that they will help define.

CHALLENGE 2: The role of the project manager is significantly different than before. Though spending less, clients often ask for so much more than before. We are playing a program manager role, overseeing all aspects of the job instead of just doing the engineering work. We serve as the link between the owner and the developer, oftentimes setting up their connection and creating the deal. We serve as counsel not only to the owner, but to the broker, the developer, the attorney, the architect, and on and on.

Therefore, the job description for a project manager in today’s land development arena has drastically changed. We are now client liaisons and partners instead of just technical engineers.

Even though the Great Recession officially ended more than four years ago, we are still recovering—that’s what you’ll hear many in the land development industry say. The hangover, while fading, is still throbbing in the background.

But we are tackling the challenges directly, creating networks and training programs, sharing information with one another and molding the industry into something that is just as profitable and good as before.

With our hard work, one day soon we will wake up to find the hangover is gone. On that day, we will be focused and our goals will be clear because we will have built the skills, talent and technology to move the land development industry forward.

Jerry C. (Jay) Wolverson Jr. is CEO of Wolverson & Associates, Inc., in Duluth, Ga. He also is chairman of ACEC’s Land Development Coalition’s Publications Committee.



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Successfully managing your A/E business requires technical know-how as well as a broad awareness of today's best multidisciplinary business practices. Firm leaders must know the rules of management and finance and how they work in the real world—from reading income statements to making complicated investment decisions to managing both employee and client expectations.

Effective navigation of business challenges in the current economy also requires:

- Understanding the intricacies of human relations and related legal elements
- Creating and managing client relationships and expectations
- Managing risk and drafting/adapting contracts
- Knowing the fundamentals of business development
- Understanding ownership transition and employee satisfaction

ACEC's benchmark education program course, *The Business of Design Consulting*, is a unique playbook for building leadership and managing your firm. The program will be held March 18–21 in Dallas, Texas. It will feature an expert and experienced faculty of industry practitioners, who will cover contemporary best practices and critical operational management techniques. Attendees will learn specific skills and techniques to help them manage change and build success in performance management, strategic planning and growth, finance, leadership, ownership transition, contracts and risk management, marketing and more.

For more information, visit www.acec.org/calendar and click the “Business of Design Consulting – Dallas 2015” link.



Indemnification Clauses In Engineering Contracts

More engineers are being asked—and often required—to sign contracts that may unfairly make them indemnify their client (and possibly others) against losses the client might suffer on the project. The indemnification clause can be so broadly worded that it could be applied to any loss the client may suffer, whether or not it is attributable to the engineer's activities.

Trade associations and professional societies have long condemned such clauses because they impose liability on design professionals beyond their proper responsibility, involve exposure in considerable excess of what the law would normally require, and the risk involved is likely not covered under the design professionals' insurance. If owners seek additional protection, the most reasonable course is for them to obtain additional or special insurance.

Instead, the strategy by many is to subject the design professional, by contract, to greater responsibilities than the law would

normally impose, including for undesired outcomes that could occur even when the design professional meets the standard of care, and with no compensation. This is an obvious attempt to reallocate risk and responsibility to design professionals for things over which they have no control.

The Engineers Joint Contract Documents Committee (EJCDC) recognizes that owners are pressuring engineers to include some form of indemnification of the owner. That is why EJCDC's *E-500: Agreement Between Owner and Engineer for Professional Services* includes specific language that the engineer indemnifies the owner against claims caused by the “negligent act or omission” of the engineer. In most cases this would be covered by the engineer's professional liability policy, and it extends the engineer's liability only slightly beyond what the law already imposes. *E-500* similarly provides cross-indemnification by the owner for the engineer's benefit.



To review *E-500: Agreement Between Owner and Engineer for Professional Services* and the full array of EJCDC documents, visit www.acec.org/publications/books-and-contracts and click the “Contracts” link.

CASE White Paper on Standard of Care

The CASE Guidelines Committee's white paper on Standard of Care is now available.

Many engineers who are licensed and practice in many states know that what is customary in one state may not be so in another. Codes and standards are becoming more standardized and national in nature, leading to more uniformity and perhaps a higher level of engineering skills across the country. Gone may be the days when an engineer can say, “We don't do that around here.”

As a result, a good understanding of your legal responsibilities is more important than ever. This important white paper addresses the legal implications of state codes and standards and highlights how their differences can affect engineers practicing in more than one state. It also discusses how to reconcile these differences.

To download the white paper, visit www.acec.org/case/news/publications and click the “Standard of Care White Paper” link.

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 or bookstore at www.acec.org/bookstore, or call 202-347-7474, ext. 324, for further information.

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* Edelman Berland Driver Survey, 2014 | ** Edelman Berland Survey, 2013

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Members in the News

On The Move

WSP Global, Inc., announced several executive changes following its purchase of **Parsons Brinckerhoff (PB)**: Former PB COO **Greg Kelly** was named president and CEO of the combined organization for the U.S., South America and the Caribbean; former PB CFO **John Murphy** was named president and CEO for Europe, the U.K., the Middle East, India and Africa; former PB President and COO for Asia Pacific **Guy Templeton** was named president and CEO for Asia Pacific. **David Cooper** was appointed president of the U.S. buildings practice and chief commercial officer for the U.S. region. **George Pierson** stepped down as president and CEO of PB on Dec. 31, 2014, but remains a WSP board member.

ARCADIS appointed **John Jastrem** CEO of its North American activities and **Joachim Ebert** to COO for North America. Both succeed **Gary Coates**, who is retiring after having combined those roles for the past 22 months following the departure of **Steve Blake** as

CEO in 2013. **Lowell McBurney** was promoted to executive vice president. The firm also appointed **Jeff Burdick**, **Derek Edge**, **Peter Glus**, **T. Wayne Holcombe**, **Tim Llewellyn** and **Jim McConnell** to senior vice president in various U.S. locations.

Omaha, Neb.-based **HDR** announced executive changes following the firm's acquisitions of Brentwood, Tenn.-based **Infrastructure Corporation of America (ICA)** and Pooler, Ga.-based **MEI, LLC**. Former ICA CEO **Butch Eley** was named president of **HDR | ICA**. Former MEI CEO and owner **Ralf Schwimbeck** joins HDR as a vice president. Former ICA Division President **Mark Acuff** was named COO of **HDR | ICA Engineering**.

Pasadena, Calif.-based **Parsons** appointed **James Kerr** president of Parsons Canada. He is based in Markham, Ontario, Canada. **Perfecto M. Solis** was named senior vice president Americas

of its aviation division, responsible for business in North, Central and South America. He is based in the Dallas/Fort Worth region. **Debra A. Fiori** was named corporate vice president and global talent director, succeeding **David R. Goodrich**, who is retiring. She is based in Washington, D.C. **Scott R. Armstrong** was appointed vice president and alternative project delivery business development director for its transportation business unit. He is based in Columbia, S.C.

The Burns Group appointed **Steven Bolt** vice president of the highway group, following its acquisition of **Orth-Rodgers & Associates, Inc. (ORA)**. Bolt, formerly ORA president, served two terms as ACEC/Pennsylvania president (2010–2011 and 2011–2012).

Robert A. Lepore joined **Kimley-Horn** as a regional vice president focusing on strategic growth for the firm's current and emerging transportation market sectors. He is based in Fort Lauderdale, Fla.



Greg Kelly



John Jastrem



Joachim Ebert



Lowell McBurney



Butch Eley



Ralf Schwimbeck



James Kerr



Perfecto M. Solis



Debra A. Fiori



Scott R. Armstrong



Steven Bolt



Robert A. Lepore

Welcome New Member Firms

ACEC/Alaska

Steph Engineering, LLC,
Anchorage

ACEC/Arizona

PK Associates, LLC,
Scottsdale

ACEC/Arkansas

Consolidated Land Services,
Inc., Mountain Home

ACEC/California

CSDA Design Group,
San Francisco
Disney Construction Inc.,
Burlingame
GP Strategies, Escondido
Hale Engineering, San Diego
Hillesland Consulting, Inc.,
Granite Bay
Peters Engineering,
Sacramento
Transpedia Consulting
Engineers, Santa Rosa

ACEC/Delaware

Baker, Ingram & Associates,
Dover

ACEC/Florida

Albeck Gerken, Inc., Tampa
Belt Engineering, Tampa
C2S Engineering, LLC, Coral
Springs
Carnahan-Proctor-Cross,
Margate
Epic Forensics and
Engineering, Lake Worth
FDS Engineering Associates,
Maitland
Global Engineering Security
Systems, Inc., Miami
McGill Engineering, Inc.,
Tampa
Mortensen Engineering, Inc.,
Tampa
Quigg Engineering, Inc.,
Plant City
Reiss Engineering, Inc.,
Winter Springs
ZNS Engineering, L.C.,
Bradenton

ACEC/Illinois
Laramore Douglass and
Popham, Inc., Chicago
Robert E. Hamilton,
Consulting Engineers, Inc.,
Joliet

ACEC/Indiana
Banning Engineering,
Plainfield
JustCos Engineering, Danville
Roger Ward Engineering, Inc.,
Indianapolis

Spectrum Engineering
Corporation, Auburn

ACEC/Kentucky

Cann-Tech, LLC, Lawrenceburg
Central Associated Engineers,
Inc., Lexington
Connolly Consulting
Engineers, PLLC, Lexington
Integrated Engineering, PLLC,
Lexington
Jacobi, Toombs & Lanz, Inc.,
Louisville
K.S. Ware & Associates, LLC,
Bowling Green

ACEC/Louisiana

BCP Engineers & Consultants,
Gretna
C-K Associates, LLC,
Baton Rouge
H&K Engineering, Inc.,
Baton Rouge

ACEC/Maine

W.H. Demmons, Inc., Portland

ACEC/Massachusetts

Fitzmeyer & Tocci
Associates, Inc., Stoneham

ACEC/Michigan

7GenAE, Kalamazoo

ACEC/Mississippi

All South Consulting
Engineers, Biloxi
Innovative Design and
Engineering Services, LLC,
Hattiesburg
MS Engineering &
Development, LLC,
Diamondhead

ACEC/Missouri

Howe Company, LLC, Macon
Rollie Johnson, Inc.,
Chesterfield

ACEC/New Hampshire

TEC, Inc., Hampton

ACEC/New Mexico

JCB Engineering, Inc.,
Sandia Park

ACEC/New York

CES Consultants, Inc.,
Long Island City
LiRo Engineers, Inc., Syosset

ACEC/North Carolina

Mid-Atlantic Associates, P.A.,
Raleigh

ACEC/North Dakota

Tait and Associates, Inc.,
Bismarck

ACEC/Oklahoma

Enercon Services, Inc., Tulsa

ACEC/South Carolina

Forsberg Engineering &
Surveying, Inc., Charleston
Three Oaks Engineering,
Columbia

ACEC/South Dakota

Electrical Engineering
Solutions, Rapid City

ACEC/Tennessee

Civil Site Design Group, PLLC,
Nashville

ACEC/Texas

Blum Consulting Engineers,
Inc., Dallas
CJG Engineering Group,
Houston
DFW Mechanical Group, LLC,
Wylie
Environmental Fuel Systems,
Inc., d/b/a Chapman
Engineering, Boerne
Five-G Consulting, Inc., Reno
HPI, LLC, Houston
IKERD Consulting, Dallas
Mesa Engineering, Inc.,
Houston
Metallurgical Engineering
Services, Inc., Richardson
Paragon Structural
Engineering Ltd., Plano
Pivot Engineers, PLLC, Austin
ProNet Group, Inc.,
Sugar Land
Quality Custom Rail & Metal,
LLC, Balch Springs
R-Delta Engineers, Garland
Sanchez-Salazar &
Associates, LLC, San Antonio
Serene Homes, Southlake
Valquest Systems, Inc.,
Richardson

ACEC/Vermont

Cole Company, Inc., d/b/a Cole
Engineering & Construction,
Manchester Center

ACEC/Washington

Dalton, Olmsted & Fuglevand,
Inc., Kirkland
Natural Systems Design,
Seattle

ACEC/West Virginia

Geosyntec Consultants,
Huntington

ACEC/Wyoming

JTEC, Jackson

MARCH

- 18-21** Business of Design
Consulting—2015, Dallas
- 19** Characteristics of Higher-
Performing Design Firms
(webinar)
- 24** Exit Strategies Using ESOPs
and Internal Buyouts (webinar)
- 25** Strategic Planning—Don't Waste
Your Time! (webinar)
- 26** The Competitive Value of Client
Service (webinar)

APRIL

- 1** Communicate Technical Topics
to Non-Technical Audiences
(webinar)
- 7** Proposals that Lose: Anatomy
of the Worst Proposal Ever
(webinar)
- 8** How a Strong LinkedIn
Presence Can Generate Leads
for Your Firm (webinar)
- 9** How to Give and Receive
Effective Feedback (webinar)
- 14** The Death of 'Old School'
Business Development: What
Your Future Leaders Need to
Know (webinar)
- 15** Legal Issues Unique to Design-
Build (webinar)
- 16** Be Memorable and Win
More Work: The Difference-
Makers for Winning Proposals
(webinar)
- 19-22** ACEC Annual Convention
& Legislative Summit,
Washington, D.C.
- 21** Writing and Editing for
Readable Proposals (webinar)
- 29** Mergers & Acquisitions 2.0
(webinar)

To sign up for ACEC online seminars,
go to www.acec.org/education.

Additional information on all ACEC
activities is available at
www.acec.org.

2014 a Record Year for Engineering M&A

The New Year marked the end of one of the biggest years ever for industry mergers and acquisitions activity. The sheer number of transactions among engineering firms, as well as the size and scale of the deal making, was unprecedented in numerous ways.

In 2014, we tracked 203 domestic deals (those involving a U.S.-based seller), which set a new industry high-water mark. This topped the previous record of 180 deals, set in both 2008 and 2013, by nearly 13 percent.

Beyond the remarkable number of deals, last year saw many of the largest transactions in our industry's history. In the November/December 2014 issue of *Engineering Inc.*, we covered several mega-deals, which were pervasive in 2014, and the trend has not slowed down. Danish firm Ramboll Group merged with 1,500-person ENVIRON of Arlington, Va., in December. Early this year, HDR announced its acquisition of 600-person Infrastructure Corporation of America (ICA). The strength of the

economy, coupled with growing corporate cash reserves and soaring share prices, contributed to the boom.

In a statement, Ramboll Group called North America "the world's most attractive market for consulting engineering services." This sentiment appears to have been echoed by firms across the globe. In 2014, there were 25 deals in which an international buyer merged with or acquired a U.S.-based firm—up from 17 the year before. The U.S. market has proven to be a destination for global firms, as economies in Europe, Asia and Africa continue to face challenges. It remains to be seen if the recent decline in oil prices will affect this momentum, but the broader U.S. market appears to provide some cushion to firms that are diversified in their markets and services.

Within U.S. borders, firms continued to expand into new domestic markets. Last year, 114 deals involved two firms based in different states, up slightly from 111 in 2013. This signals that U.S. firms remain bullish on growth, as they seek out new geographies

and end markets for expansion. We saw this figure dip during the recession when firms focused more on shoring up their existing positions in their current geographies.

In many ways, 2014 may be hard to top in terms of industry M&A activity, but there do not appear to be any signs of consolidation slowing down. As long as the U.S. economy stays on the upswing—and if oil prices can find their footing—we expect the pace of deal making to continue, if not ramp up, in 2015.

Recent ACEC Deal-Makers January 2015

ACEC Member **HDR** (Omaha, Neb.) acquired **Infrastructure Corporation of America (ICA)** (Brentwood, Tenn.), a transportation engineering, asset maintenance and management specialist, and **MEI, LLC** (Pooler, Ga.), a liquid natural gas consulting firm.

ACEC Member **Strand Associates** (Madison, Wis.) acquired **O'Malley Engineers** (Brenham, Texas), a provider of civil engineering and surveying services.

December 2014

ACEC Member **CP&Y** (Dallas) acquired ACEC Member **The Wallace Group** (Waco, Texas), an engineering, architectural, survey and subsurface utility engineering firm.

ACEC Member **CDM Smith** (Cambridge, Mass.) acquired **The Louis Perry Group** (Wadsworth, Ohio), an engineering, architectural and design-build firm.

ACEC Member **DOWL HKM** (Anchorage, Alaska) announced the addition of **Buckhorn Geotech** (Montrose, Colo.), a civil, structural and geotechnical engineering firm, to its portfolio.

ACEC Member **S&ME** (Raleigh, N.C.) announced its intent to purchase ACEC Member **Littlejohn** (Nashville, Tenn.), a planning, engineering and environmental design firm.

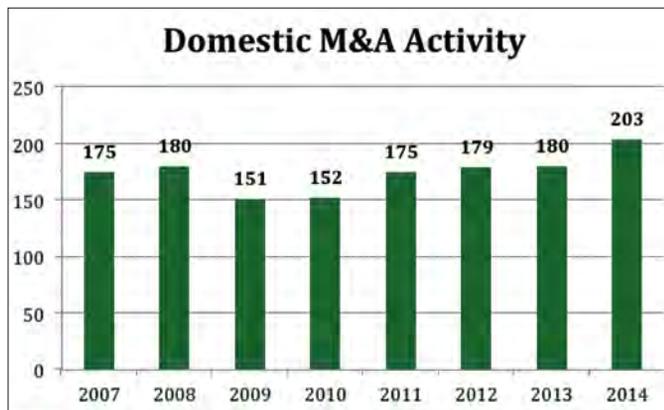
ACEC Member **Ayres Associates** (Eau Claire, Wis.) entered into a letter of intent to acquire **SAA Design Group** (Madison, Wis.).

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

Watch the M&A Takeaway video that accompanies this article, presented by Mick Morrissey at www.morrisseygoodale.com/ACECMergers/MarchApril2015



Neil Churman is principal consultant of Morrissey Goodale LLC—a strategy, M&A and human capital solutions firm serving the A/E/C industry. Churman, who is based in the firm's Houston office, can be reached at nchurman@morrisseygoodale.com.



The ACEC logo features the letters "ACEC" in a bold, serif font, with a yellow arc above the letters.

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

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