# SEPTEMBER/OCTOBER 2016 THE SEPTEMBER/OCTOBER 2016 AWARD-WINNING BUSINESS MAGAZINE • PUBLISHED BY AMERICAN COUNCIL OF ENGINEERING COMPANIES

# **CLINTON TRUMP** Who is best for your business?



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## **PRESIDENTIAL PREVIEW**

The stakes in this year's election couldn't be higher. Which candidate is best for business?

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## 2016 FALL CONFERENCE PREVIEW

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## From ACEC to You

## Council Launches Elite Young Professionals Leadership Training

he September/October *Engineering Inc.* cover story spotlights this year's presidential election, and where Hillary Clinton and Donald Trump stand on various business issues of importance to our industry. *See page 8.* Election issues will also highlight our Fall Conference (Oct. 19-22) at the Broadmoor in Colorado Springs, with Nevada Gov. John Hickenlooper and political analyst Stuart Rothenberg at the Opening General Session.

The Conference features a wide range of industry experts and more than 35 roundtables and seminars that address bottom-line issues. It also kicks off a new executive leadership training program specifically designed for professionals with 8 to 12 years of experience.

The new *Pathways to Executive Leadership* program will offer core leadership competencies in market analysis, business development and staff management. It fills the gap between ACEC's *Business of Design Consulting* and the *Senior Executives Institute*.

Twenty firms have already signed up their aspiring leaders for this program, which includes both onsite and online sessions that begin at the Fall Conference and end at the Spring Convention. You should look into it too. *See page 52 for more information and to register for the Pathways program.* 

This issue of *Engineering Inc.* also includes a report on engineers at the forefront of the smart city revolution, plus ways that innovative workspace design can increase productivity.

Hope you have had a great summer, and we'll see you at the Broadmoor. (By the way, if you have never experienced the incomparable beauty and resources of this 5-star resort hotel, we urge you to do so at the exceptionally low rates we have negotiated.)

Peter M. Strub ACEC Chairman

Horocaquiares

David A. Raymond ACEC President & CEO



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# MarketWatch BY Hospitality Market Enjoys Rebound

he bar graph depicting the past 15 years of activity in the hospitality sector resembles a particularly scary roller coaster.

Climbing out of a dip in 2003, the market more than tripled in size by 2008, topping out at \$35.8 billion in construction put in place. Then the global economic crisis hit, and the hospitality market came crashing down. By 2011, the sector had lost all of its gains and more, cratering at just over \$9 billion in annual activity. From that nadir, the market has soared upward again, increasing at a double-digit annual rate, even hitting a 31 percent growth rate in 2015. "Every aspect of the hotel

market has been very positive in terms of development since what I call the 'dark years' (2009–2011)," says Nunzio DeSantis, managing director of HKS Hospitality Group in Dallas, Texas.

Craig Nealy, senior principal at Stantec in Boston, agrees. "2015 was a halcyon year," he says. "Everything jelled. It was a convergence of available funding, demand for rooms and plentiful construction crews."

Looking forward over the next several years, many firm leaders agree that the market won't be able to maintain such a robust pace, but they are confident it will continue to grow strongly.

In its market projections for

the sector, FMI forecasts 15 percent growth in 2016—making it the fastest-growing sector this year—but then tailing off to an average of about 5.5 percent through 2020.

"We've heard that financing may become more selective, in which case developers might become more cautious and deliberate in determining which projects go forward," DeSantis says. "But even though indications are that the market will slow down, we haven't seen it."

Nealy remains optimistic. "Revenue per available room (RevPar) is up," he says. RevPar is a key hotel industry performance metric. "It's expected to keep going up for the next 10 to 12 years, which makes me feel very bullish."

The hospitality market ranges from limited-service budget hotels to high-end luxury destination hotels. While he expects all of the segments to perform well, DeSantis expects two of them to outperform.

"I think there will always be space in the super-high luxury market and in places that are hard to develop, such as Jackson, Wyoming, and California," he says.

Nealy points to Boston, where he says it is "almost impossible to build a new hotel, even though demand for rooms is way up." As a result he says, existing hotels are selling for record amounts and fueling a strong market for renovations.

"The convention center hotel market will also continue to do well," DeSantis says. They serve a broader purpose than just lodging, he adds; they support the community and bring people to the city.

## Savvy Clients

At a projected \$24.3 billion of construction put in place in 2016, hospitality is one of the smaller nonresidential building sectors, less than half the size of the office sector (\$61 billion). Clients range from developers of one-off boutique hotels to the huge international chains, such as Hilton and AccorHotels. Design firms serving the sector tend to be one-stop shops, offering both engineering and architectural services.

"We bring a full menu of services to our clients—engineering, architecture, place making and branding, landscape engineering and master planning,"

## Hospitality Construction Put In Place Millions of Current Dollars





Nealy says. "We provide the zoning documents on the front end and the construction documents on the back end."

Both Nealy and DeSantis say it's a very competitive market for design firms. "Clients in this sector are savvy," DeSantis says. "You have to earn every dollar that you quote."

DeSantis says HKS recognized the tremendous potential of the hospitality sector as early as the 1970s and has had a specialized hospitality group since the 1980s.

"Many designers think they can design a hotel because they stay in them," DeSantis says. "To be really good at hotels, you have to focus on them: on the guest experience, on what the guest is looking for, on the different types of guests, on where trends in the industry are heading, on what the big brands are doing, on what it takes to stand apart from the hotel down the street."

Nealy says firms serving this sector need to track two big disruptors in the market—the rise of Airbnb and the growth of online reservations networks.

"Airbnb has inspired a lot of big hotel developers to differentiate themselves on a smaller scale," he says. "We're seeing a much higher level of brand differentiation. Hilton has unveiled three microbrands in the past 18 months, and Hyatt is doing the same thing."

Online reservations networks, such as Expedia, have been

cutting into hotels' profit margins, taking a fee out of every reservation. "Hoteliers want that money back," Nealy says.

**Market** Watch

One way they're doing that is by merging to create bigger hotel companies. "Starwood was bought by Marriott to create one mammoth company," Nealy says. "The most valuable thing was their booking network. Now all the customers from those two chains can book through one network."

These disruptions bode well for the continued strong growth in the hospitality sector.

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



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## Congress Extends Airport Funding Through September 2017

Before the summer congressional recess, lawmakers in the House and Senate approved an extension of airport funding and other Federal Aviation Administration (FAA) programs through Sept. 30, 2017.

The legislation ensures stable funding for critical infrastructure accounts—an ACEC priority including the Airport Improvement Program, FAA facilities and equipment, and the collection of passenger facility charges and other user fees. It also includes targeted policy changes related to aviation safety, airport security and the operation of unmanned aircraft systems around critical facilities as well as during emergency response activities.

A more comprehensive, longer-term re-authorization of FAA programs stalled in the House earlier this year over objections to a proposal to move air traffic control functions to a private, nonprofit entity. The extension does not include any provisions related to the privatization of air traffic control.

The bipartisan leaders of the House and Senate transportation committees expressed their commitment to working together on a long-term bill next year.

## ACEC Responding to R&D Tax Credit, Section 179D Concerns

CEC is engaging Congress and the IRS on member concerns over challenges involving the R&D tax credit and the Section 179D energy-efficient commercial buildings tax deduction.

The R&D tax credit incentivizes firms to perform research work in the United States. Although the law does not limit the tax credit to particular industries, A/E firms have reported examples of having the credit denied by IRS examiners. ACEC is working with members of Congress and the agency to ensure that firms can claim the credit when appropriate, and ACEC is developing programming to better educate members about the credit.

ACEC members have also reported challenges with the Section 179D tax deduction, which is intended to encourage commercial building owners to install certain energyefficient systems, such as lighting and HVAC. If the owner Firms have raised concerns about situations in which governmental entities are demanding payments in exchange for assigning the deduction to the designer.

is a governmental entity, it can assign the tax deduction to the designer. Firms have raised concerns about situations in which governmental entities are demanding payments in exchange for assigning the deduction to the designer. Sen. Ben Cardin, D-Md., recently wrote to the Secretaries of Treasury and Housing and Urban Development to raise serious concerns about the ethical and legal questions surrounding this practice.

Firms experiencing problems with these tax provisions are encouraged to contact Katharine Mottley, ACEC's director of tax & regulatory affairs, at 202-682-4306 or kmottley@acec.org.

## House, Senate Make Progress on ACEC-Backed Energy Bill

ouse and Senate negotiators, before adjourning for the summer recess, overcame a major obstacle in their effort to develop a consensus energy package that could be signed into law this year.

The Senate overwhelmingly voted to appoint conferees and move forward with formal negotiations with the House after congressional Republicans agreed to drop a number of provisions adopted in the House that had provoked a veto threat from the White House.

The Senate approved the energy package during ACEC's Annual Convention in Washington D.C., and the Council has been working with leaders in both houses to secure passage of a final bill. If successful, this would be the first comprehensive energy bill to pass Congress in a decade.

## Senate Republicans Seek Action on Water Legislation

majority of Senate Republicans have signed a letter calling on Senate leaders to schedule a vote on the Water Resources Development Act before Congress adjourns.

ACEC and industry allies worked to build support for the letter, authored by Sen. Jim Inhofe, R-Okla., chairman of the Environment and Public Works Committee. Thirty Republican

## \$12 billion for new Corps of Engineers projects

senators signed the letter urging a floor vote on the legislation, which authorizes more than \$12 billion for new Corps of Engineers projects, assistance for communities impacted by lead in drinking water, and other critical water resource needs.

Similar legislation has been approved by the House Transportation and Infrastructure Committee, but it also awaits a floor vote. ACEC continues to lobby for action on this important legislation.



	WHAT'S NEXT
Comprehensive energy bill	Final vote possible this fall
Tax code reforms	Further review in 2016; legis- lative action possible in 2017
Water Resources Development Act	House, Senate vote in the fall

## ACEC, Coalition Work for Tax Rate Parity

CEC and other business organizations are joining forces to promote improvements to a tax reform blueprint released by House Ways and Means Committee Chairman Kevin Brady, R-Texas.

In June, Brady and Republican leaders in the House released a broad outline of major tax-code changes including significant tax-rate reductions.



The blueprint proposes reducing the top corporate rate to 20 percent, the top rate for pass-through businesses to 25 percent,

ACEC has strongly advocated for parity in the top rates for corporations and passthrough businesses. and the top individual rate to 33 percent. ACEC has strongly advocated for parity in the top rates for corporations and pass-through businesses. The blueprint lowers the rates for C corporations and pass-through businesses by a similar amount, but it does not achieve true parity.

ACEC and coalition allies urged Brady to pursue rate parity while lowering tax rates, and to eliminate the

double layer of tax on corporate income, which is levied on C corporations and on the dividends they pay to shareholders.

In addition to the coalition letter, the Council intends to submit its own comments on the plan. ACEC members are encouraged to contact Katharine Mottley, ACEC's director of tax and regulatory affairs, at 202-682-4306 or kmottley@acec.org.

## For More News For weekly legislative news, visit ACEC's *Last Word* online

at www.acec.org.

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# RES DENTRAL PREVIEWS Vhich Candidate is Best for Business? By Alan Joch



At a time of prolonged economic uncertainty, the stakes in this year's election couldn't be higher. Here's a guide to help engineers weigh the industry impact of each candidate's economic proposals

s we near the 2016 presidential election, many executives remain concerned about the future strength of the U.S. economy and question which candidate will be best for business.

In its monthly surveys of small companies, the National Federation of Independent Business (NFIB) reports business optimism is stuck at levels seen during the 1990 recession. "Our members tell us that uncertainty about taxes, regulations and health care is making them very pessimistic," says Juanita Duggan, NFIB president.

Given the high stakes of this year's election, business leaders face a tough choice as they decide which nominee has the background, expertise and policies to restore economic optimism. To help answer those questions, here is a summary of key business issues the candidates have been discussing on the campaign trail.

# HILLARY CLINTON Change Maker



## **Tax Policy**

"An Analysis of Hillary Clinton's Tax Proposals," by the Urban Institute & Brookings Institution Tax Policy Center, concludes that federal revenues would rise by \$1 trillion in the first decade and add \$2.1 trillion in new receipts the following decade.

Contributing to the gains would be interest savings from a more than \$1.2 trillion reduction in federal debt over 10 years as a result of Clinton's proposals, the center reports. Other revenues would come from increased taxes surcharges and exemption limits for the highest-income filers. The top 1 percent would contribute about 75 percent of the additional revenues, while those with incomes below \$300,000 would see little change in their taxes, the center forecasts.

Businesses won't see changes in corporate rates based on Clinton's proposals; however, certain corporations would pay more to the government as a result of related actions, such as adjustments to laws that multinational corporations use to avoid or lower their U.S. taxes.

Other increased costs for some businesses would come from Clinton's plan to cut tax subsidies for fossil fuels, including the expense of intangible drilling costs and the deduction for domestic manufacturing for the production of oil, natural gas and coal, the center says. The flipside is tax breaks for businesses that participate in an apprentice program, create employee profit-sharing programs and invest in distressed communities and infrastructure.

## Infrastructure

Clinton would increase federal infrastructure funding by \$275 billion over a five-year period, fully paying for these investments through business tax reform. Of these funds, she would allocate \$250 billion to direct public investment. She would allocate the other \$25 billion to a national infrastructure bank, dedicated to advancing our competitive advantage for the 21st century economy. The bank would leverage its \$25 billion in funds to support up to an additional \$225 billion in direct loans and loan guarantees for energy, water, broadband, transportation and multimodal projects for a total investment of \$500 billion.

The bank would also administer part of a renewed and expanded Build America Bonds program, and look for opportunities to partner with the private sector.

Clinton says she would increase accountability, streamline permitting, support multimodal projects that extend beyond a single type of transportation, and encourage better design and technology.

The Democratic challenger plans to upgrade aging rail tunnels and bridges, expand congested highway corridors, eliminate dangerous at-grade railway crossings, and build deeper port channels to accommodate the newest and largest cargo ships. She has promised to begin upgrades to at least 25 of the most costly U.S. freight bottlenecks by the end of her first term.

Clinton says: "Investing in our infrastructure is about so much more than creating good-paying jobs; it's about maintaining our status as the world's economic superpower."

## **Health Care**

A bedrock of the Clinton campaign is support for the Affordable Care Act (ACA), including fighting attempts by opponents



## \$275 billion in new federal infrastructure spending over five years

to repeal the law. Clinton also promises to lower premiums and reduce out-of-pocket expenses for consumers who purchase insurance through Obamacare exchanges. The Democratic nominee would also let immigrants purchase insurance through ACA exchanges regardless of their official immigration status.

Clinton also is calling for additional incentives for states to expand Medicaid coverage for low-income residents.

Some of Clinton's policies evolved during the primary campaign in response to opponent Bernie Sanders' "Medicare for all" stance. In May, Clinton said she



would back what the *New York Times* called "Medicare for more," so people in their 50s could voluntarily buy into the program rather than waiting until they reached 65, which is the current age threshold.

## **Federal Regulations**

While some business groups have railed against what they see as the onerous effects of federal regulations on the economy, the campaign is holding open the option of easing some regulations but hasn't offered specifics. This includes eliminating "unnecessary regulatory" burdens on community banks that stifle credit for small business owners.

The Clinton campaign highlights laws it supports, including ACA and the Dodd-Frank Act's financial-industry controls.

Clinton has vowed to use regulatory powers as president to control corporate

"inversions," in which companies acquire foreign competitors and list the offshore addresses to lower or avoid U.S. taxes, according to *The Wall Street Journal.* "If Congress won't act, then I will ask the Treasury Department, when I'm there, to use its regulatory authority, if that's what it takes," the newspaper quoted Clinton as saying at a campaign event.

## International Competition

Clinton officially opposes the TPP trade pact, which many observers consider a reversal of her previous stance on the agreement.

The campaign says a Clinton administration would aggressively combat trade violations and make trade enforcement and leveling the playing field for American workers and businesses—a top presidential priority. "We…have to see to it that our competitors in global trade cannot rig the game to their own advantage," says a Clinton policy statement.

Clinton also backs the continuation of the Export-Import Bank, which her campaign calls a crucial financing partner for small businesses. She vows to help the bank expand its small business programs and wants to encourage "innovative new platforms" to help small businesses sell throughout the world.

## Federal Minimum Wage

Throughout the primaries, political analysts pointed out vagaries in Clinton's stance on a federal minimum wage. In April, the candidate appeared to clarify her position, saying she would support a phased-in rise in the federal rate modeled on a program in New York. That state's law raises wages over three years from \$9 to \$15 an hour, while rates would rise more slowly to the \$15 minimum in upstate areas, according to a report in *The Washington Post.* 



## **Tax Policy**

The Trump campaign calls for a "bold, simple and achievable [tax] plan based on conservative economic principles." This includes "tax relief for all Americans, especially the working poor and middle class, pro-growth tax reform for all sizes of businesses, and fiscally responsible steps to ensure this plan does not add to our enormous debt and deficit."

The campaign outlines tax-code changes that would remove about half of current filers from income tax rolls and reduce the number of tax brackets from seven to four. Trump's plan also reduces or eliminates loopholes for the very rich and special interests. The campaign has offered few details.

Implementation of Trump proposals administration would reduce federal revenue by \$9.5 trillion in the first 10 years, with an additional \$15 trillion decline in the next decade, according to "Analysis of Donald Trump's Tax Plan," by the Tax Policy Center.

The majority of revenue declines would stem from tax cuts for individuals. The cuts would affect all income levels, but high-income taxpayers would see the largest reductions. For example, the highestincome 0.1 percent of taxpayers would see an average reduction of more than \$1.3 million in 2017, nearly 19 percent of after-tax income, according to the Tax Policy Center report. Middle-income households would receive an average tax cut of \$2,700—or 4.9 percent of after-tax income.

Lower corporate income taxes and rate changes for pass-through businesses would account for approximately a third of the total tax cuts, the center estimates. The Trump plan proposes a tax rate of 15 percent for corporations and pass-through businesses.

If enacted, the tax reforms could boost

incentives to work, save and invest, the analysis concludes. However, the proposals also raise the specter of increased federal deficits. "Assuming the tax cuts are not offset by spending cuts, the national debt would rise by an estimated 39 percent of GDP in 2026 and by nearly 80 percent of GDP by 2036," the report says.

"Offsetting a deficit this large would require unprecedented cuts in federal spending," with Congress facing reductions in projected program spending of 21 percent to prevent the plan from adding to the deficit in 2025, the analysis estimates.

## Infrastructure

Trump says the nation's infrastructure would need at least twice the \$500 billion investment proposed by his opponent. "I would say at least double her numbers, and you're going to really need a lot more than that," he said.

The Republican nominee is proposing a trillion-dollar infrastructure rebuilding plan backed by a newly developed infrastructure fund. The fund would be supported by government bonds that investors and citizens could purchase, which he says would be particularly attractive now because interest rates the government pays to buyers of U.S. Treasuries are near record lows.

"These would be bonds, and sold as bonds, so we'd do infrastructure bonds for the country," he said.

Similar to some leaders in both parties, Trump has also said he would allow companies to repatriate capital from abroad at a low tax rate and use the money raised to fix bridges and roads.

He also proposes that an independent commission decide which infrastructure projects get funded rather than politicians.



## \$2,700 average tax cut for middle-income households

Trump believes his experience as a developer would allow him to more effectively rebuild the country's infrastructure "on time and under budget" than others.

## **Health Care**

Echoing a pledge by many people in the Republican Party, Trump says the next president should "completely repeal Obamacare" and calls ACA an "incredible economic burden."

Trump also advocates modifying existing laws that inhibit the sale of health insurance across state lines, as well as new rules for allowing individuals to fully deduct health insurance premium payments from their tax



returns. Trump wants to offer "block-grant Medicaid" to states. "The reforms outlined above will lower health care costs for all Americans," the candidate says.

But critics, including some in the Republican Party, say the campaign hasn't fully addressed the impact of these proposals. Robert Laszewski, a former insurance executive and someone *The New York Times* calls a frequent critic of ACA, characterized Trump's health care plans as "a jumbled hodgepodge of old Republican ideas, randomly selected, that don't fit together."

## **Federal Regulations**

In addition to repealing ACA, Trump's regulatory proposals call for eliminating what the candidate describes as "a tremendous amount of regulations." He adds, "The business people, they talk about regulation more than they talk about taxes."

Although the Trump campaign doesn't offer specifics about regulatory reform,

the candidate has offered some insights in recent interviews and campaign events. In May, he told a group of oil company representatives that the government should "get out of the way" of the energy industry and criticized oil and coal regulations. "We've got to get rid of some of these regulations," he added. "It's gotten out of control."

In other interviews, Trump called for "dismantling" the Dodd-Frank Act.

## **International Competition**

Saying the U. S. "has always been a trading nation," Trump promises "trade will flourish" under his administration. The candidate will emphasize fair trade and will strive for "not protectionism but accountability."

Trump says that while the U.S. "fully opened its markets to China... [China] uses unlawful tariff and nontariff barriers to keep American companies out of China and to tilt the playing field in their favor." Part of the Trump strategy will be tougher trade negotiations designed to bring fairness to trade with China.

Trump has been a vocal opponent of new trade deals, such as TPP, and has called President Bill Clinton's NAFTA pact the "worst trade deal in history." Trump says he'd seek to renegotiate NAFTA with Canada and Mexico and would withdraw from the pact if the talks didn't result in better terms for the U.S.

## Federal Minimum Wage

While saying that wages should rise, Trump has endorsed an increase in the federal minimum wage to \$10, but believes individual states, not Washington, D.C., should be responsible for setting minimum wages.

Alan Joch is a business and technology writer based in Francestown, New Hampshire.





ACEC Member Firms incorporate several different approaches to this best practice

y the time the RFP came out from the Hillsborough County Aviation Authority in 2013, requesting bids from designbuild teams to lead the design and construction of a consolidated rental car center and automated people mover at Tampa International Airport, the team at Gresham, Smith & Partners (GS&P), Nashville,

Tennessee, was prepared to submit its proposal.

The reason, says Al Pramuk, a GS&P principal and its chief strategy officer, was Way-2-Win, the firm's proprietary capture-planning process.

STEVE McCRACKEN

"We've been working with the airport authority on various projects for more than 12 years, so we have good, solid relationships as a trusted adviser," Pramuk says. Several months before the RFP was issued for the 2.6-million-square-foot, \$730 million project, GS&P had already begun familiarizing themselves with the airport master plan "to understand the challenges to implementing the program," he adds.

Simultaneously, GS&P was talking with several potential teaming partners who had the expertise it would take to successfully execute the large, complex program.

The team with GS&P won the work, and GS&P is the lead design manager for the multifirm design-build team, as well as the architect of record for the peoplemover infrastructure and three transit stations. The project is on track for completion in October 2017.

Capture planning, which may go by different names at different engineering firms, initially gained popularity in the public sector in the 1990s. Over the past 20 years, it has emerged as a best practice for both public and private sector business development. Essentially, it's the process of proactively identifying or creating client and project opportunities, assessing the business environment and implementing strategies to win or "capture" business opportunities. Capture planning takes on various guises, but it's all about leading to success.

Way-2-Win, implemented in 2010, is actually GS&P's latest variation of the practice, says Pramuk, who's been with the nearly 50-year-old firm for 26 years. "We wanted to have a more disciplined approach," he says, comparing the most recent iteration with GS&P's previous capture planning program.

"Way-2-Win includes a sales approach focused on listening and developing ideas, from the client's mindset, and coming up with transformational solutions," Pramuk adds. "If we listen to clients in the proper ways and gather the right information, that allows us to put together better proposals more aligned with our client's needs." A rendering of the automated people mover at Tampa International Airport designed and constructed by GS&P.

of the strategic goals of capture planning at Detroit, Michigan-based Wade Trim, says Tom Brzezinski, chief development officer. Wade Trim formalized the practice nearly a decade ago—though, he adds, the firm did it informally before then—and updated the program last year.

"Coming out of the economic downturn, everybody is looking to be more efficient," Brzezinski says. "You only want to spend so much to chase work, so the smarter you chase it, the cheaper it usually

Doing things more efficiently is one



Capture Plan Implementation – Proactively builds relationships and communications to win work

## ACEC Tools for Effective Capture Planning

ACEC's recently published manual *Capture Planning for Private Client Practices* and the on-demand webinar "Capture Planning to Dramatically Increase Your Win Rate" provide Member Firms with proven practices for maximizing their MROI (marketing return on investment). Both resources advance a firm's efforts to become a client's preferred firm, and trusted to provide optimal solutions prior to formal or informal procurement. For more information on these business education resources and more, go to www.acec.org.

is, and your return on investment should increase."

To ensure its aim is true, Wade Trim developed a training process focused on capture planning, and it expanded that process this year. "Business development doesn't include just a handful of people. It includes everybody in the company," Brzezinski says. "We've gone from training only the management team to now including some senior project managers." The firm conducts monthly project manager training, shifting topics from project delivery to managing clients to business development, he adds.

Fostering relationships

among a growing list of clients and meeting their needs have been the focus for Omaha, Nebraska-based HDR since it began using capture planning more than 18 years ago, says Nancy Gruwell,

vice president of marketing. While HDR develops capture plans around specific projects—especially large, strategic pursuits—the firm generally looks at client organizations as a whole, plus the types of engineering design and consulting services they're going to need five, 10, even 20 years down the road.

"Capture planning is really positioning ourselves for projects, so when we start with a client development plan, a capture plan might roll out of that," Gruwell says. "It's an ongoing mindset about what challenges our clients might be facing, such as new regulations they have to deal with. Many times, those discussions can happen without a particular project in mind, but knowing that eventually there's going to be a need."

A particular project demanded a capture plan when HDR pursued the contract to provide design and construction support



"The capture plan positioned us to make sure we had the right teaming partners to respond to the client's complex needs." services for the 1,900-footlong Mike O'Callaghan-Pat Tillman Memorial Bridge spanning the Colorado River, also known as the Hoover Dam Bypass, which rerouted traffic over the top of the Hoover Dam. HDR prepared its capture plan well in advance of the RFP, issued by a division of the Federal Highway Administration, and was ultimately named to lead an integrated group of firms collectively known as the Hoover Support Team.

Construction on the \$240 million project started in 2005, and it was completed in 2010.

"The capture plan positioned us to make sure we

had the right teaming partners to respond to the client's complex needs," Gruwell says. The job involved not just the federal government but also the two states on either side of the river, Arizona and Nevada. With such a complex project, funding issues and other factors caused several pauses during the project pursuit, so it was important to continually update the capture plan.

Firms consider most capture plans to be working documents that can be amended as new information becomes available. That's the case with the Big Opps (as in opportunities) capture planning program at Omaha-based Lamp Rynearson & Associates (LRA). "We develop Big Opps documents for specific, larger projects," says Leslie Peterson, LRA's client development manager. "We access them at marketing meetings, so everyone has the ability to edit them."

Big Opps makes LRA more proactive in today's highly competitive environment, says firm President Mike McMeekin. "We're not sitting back, playing the waitand-see game. We're actively creating plans to go after large projects, and Big Opps improves our chances of winning the work," he adds.

To assist LRA's engineers, surveyors, planners and other technical staff who are



part of the Big Opps clientcentric marketing strategy, the firm created an initiative called Got Client? "It gets people to buy into the notion that they are responsible for client relationships and sets the stage for asking solid questions from the beginning of client discussions," Peterson says.

To prompt client interaction throughout each Big Opps project, Got Client? incorporates three components:

**1. Check It Out** encourages people to regularly communicate with their clients.

**2. Kick It Off** prompts project managers and their team members to keep the client's vision and goals in mind by referring to a pre-printed, customizable worksheet.

**3. Make It Right** promotes problem solving by having frank conversations with clients.

Got Client? relates to capture planning "by helping our people approach projects from the client standpoint, from early on during the capture process and through the execution," McMeekin says.

As much as LRA's capture planning is buttoned up and methodical, Psomas, which is based in Santa Ana, California, has taken a less formal, yet disciplined approach to what it calls Pursuit Capture Planning.

"We developed Pursuit Capture Plan forms in 2008," says Corporate Director of Marketing Julie Shepard. She admits that getting people from all four of the firm's groups to use the forms has been challenging. However, Psomas made some executive changes in recent years that included an increased focus



"You only want to spend so much to chase work, so the smarter you chase it, the cheaper it usually is, and your return on investment should increase."

on business development.

The transformation began by promoting Ryan McLean to CEO and president and moving Steve Margaroni from director of construction management to the chief development officer position.

"It's a morphing of the firm and really holding people accountable for business development," Shepard says. Toward that end, the firm launched an initiative dubbed One Psomas. "It's about people doing everything as teams and not just about yourself or your region," Shepard adds.

Capture planning is a perfect way to implement One Psomas, Margaroni says. "On bigger projects, our teaming approach is very strategic. There's internal coordination

within the organization that needs to be done, [and] there's politics that might need to be played. That's where you need to sit down with your team and strategize." One example, the comprehensive 400page Pursuit Capture Plan Psomas developed and monitored over several years in order to win a major wastewater treatment project, is a testament to the firm's new approach. "A lot of that success was because of how bad we wanted it and how hard the team worked," Margaroni says. "You need people around who are passionate about the pursuit."

Regardless of how a firm chooses to enact its capture planning program, making long-term, strategic business development a key part of the company culture is vital. "Culturally we're still trying to get it more ingrained in the firm, but when we're all doing this together, it's less scary and more fun for the typically introverted engineer," Shepard says.

At HDR, capture planning is definitely something everyone at the firm has bought into as part of the culture, Gruwell says. The reason, she adds, is because it works. "When we apply the processes and follow them, we are successful most of the time. I believe that's because capture planning continues the focus on our clients and keeps that top of mind, day in and day out," she says.

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



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# Smart

Advances in technology and data management are transforming smart cities from concept to reality, and engineering firms are at the center of the movement

> t's no secret: Digital technology now touches almost every aspect of business and life. Yet, as the intersection points grow and data volumes swell, there's also a growing interest in tapping connected systems to address the challenges of urban living: traffic congestion, energy consumption, air pollution and overall livability. "It's possible to solve many of today's problems and deliver significant benefits through the effective use of digital technology," says Jesse Berst, chairman of the Smart Cities Council.





Smart transportation systems make roads safer and less congested. Smart infrastructure improves the delivery of municipal services, such as trash collection and road repair. Smart energy systems reduce consumption and curb air pollution. Finally, smart buildings introduce more comfortable, efficient and sustainable environments.

Already, a growing number of cities around the world-from Barcelona, Spain, to Charlotte, North Carolinaare tapping IT systems, data, sensors and devices to reduce costs, boost efficiency and improve the quality of life. "The smart city concept has evolved beyond a marketing catchphrase. It's a tangible and viable thing that centers on creating a different and better experience," says Paul Doherty, president and CEO of the Digit Group, a real estate development and design and construction firm that specializes in smart city development.

Smart cities and smart grids ultimately revolve around building greater infrastructure resiliency, improving the integration of existing and emerging systems, and delivering information that can be used to create revenues and value, says Mike Beehler, vice president at Burns &

McDonnell. "It's all about delivering benefits related to people, profits and planet," he says.

In fact, as the 21st century unfolds, there's growing competition among cities to attract new residents, support businesses and entice visitors. At the same time, city officials find themselves contending with increasingly tight budgets, scarce resources and greater citizen expectations.

## **Getting Smart**

According to Frost & Sullivan, a global research and business consulting firm, more than 60 percent of the world's population will live in urban centers by 2025. In order for these cities to function effectively and deliver vibrant economic

conditions along with a high level of livability, it's nothing less than critical to tap technologyparticularly big data and the Internet of Things (IoT)-to fuel innovation and advancements. "We are

of the world's witnessing a population will live in urban tremendous convergence of technologies that have the potential to significantly impact the way people live and work," says Biff Lyons, executive vice president and manager of the Defense and Security Division at Parsons Corp.

For A/E/C firms, the opportunities related to smart cities are enormous. The market is projected to hit \$1.5 trillion by 2020, according to Frost & Sullivan. Yet the challenges are also formidable.

There's a need to understand the diverse and complicated array of digital technologies; design, engineer and build new and more advanced systems using tools such as Building Information Modeling (BIM); integrate new technology with legacy infrastructure; transform raw data into information and insights; and design

highly secure IT systems and networks that are resistant to hacks and cyberattacks. Although the smart city concept isn't newcomputers and data already tackle myriad tasks-the next decade and beyond will deliver radical and potentially disruptive

changes that will reshape cities and society.

centers by

2025

Consider that Barcelona, which was named the world's top smart city by Jupiter Research in 2015, already has more than 80 smart city initiatives in place, including intelligent street lighting that switches on when there's motion, trash receptacles that signal when they're full so that sanitation workers can optimize their routes, sensors that indicate when parking spots are available to motorists, and



"There is an ever-increasing need for people who can bridge the gap between the technologists and the business leaders and thus focus on the art of the possible." **BIFF LYONS** PARSONS CORP.



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The city is also using seawater to cool office buildings. Smarter water systems, street lighting and parking technologies alone have contributed more than \$87 billion in savings and 47,000 new jobs, the city reports.

In Charlotte, the quest for a more sustainable and economically viable future has resulted in an intelligent building initiative that relies on a wireless network, smart meters and data analytics software to crunch data and understand how to operate HVAC and other systems more

## Smart Cities at a Glance

Here's how connected technologies are reshaping cities and making them smarter and better:

Transportation. Already, sensors embedded in roadways, cameras and other devices provide real-time monitoring and data about traffic. Over the next few years, connected vehicles, smart materials and infrastructure-including connected traffic signals-will lead to deeper insight into traffic patterns and adjust stoplights for current traffic conditions. Technology will also make it possible to optimize and integrate broader transportation networks, such as railroads and parking. Jupiter Research estimates smart parking initiatives could save

upwards of 4.2 billion hours per year globally by 2021.

Energy. Smart meters, sensors and other equipment are already providing ways to understand and manage usage patterns and consumption more effectively. However, connected homes and businesses will allow utilities to gauge usage far more effectively, helping them manage fuel purchases and rates to better match demand. In addition, smart systems will allow buildings to understand current weather conditions and adapt an HVAC system to either warm or cool the building

using sources such as the data center, outside air or water. In addition, smart lighting systems and smart materials will slash costs.

■ Infrastructure. Today, a growing number of cities around the world are using RFID and other technologies to tag waste receptacles and identify when they should be emptied. Some have introduced intelligent systems to manage public transportation, emergency services and urban planning initiatives, such as how to design buildings, transportation networks and energy systems to deliver maximum results and sustainability. A few are now looking at using video and computer algorithms to spot crime or identify water leaks in pipes and sewers.

■ Social Programs. Big data and analytics can drive other improvements. These advances typically center on education, health care and government-managed social programs. In addition, connected smartphones and apps can provide real-time feedback about behavior and support crowdsourcing initiatives that generate ideas and innovation in order to guide a smart city program.



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efficiently. The technology, which spans more than 60 buildings that are 10,000 square feet or larger, generates more than 150,000 data points per building each month.

This approach has led directly to a 16.1 percent reduction in energy and more than \$17 million in savings. The end goal is a 20 percent reduction in energy consumption.

Although much of the smart city focus is on more efficient transportation grids, improved energy utilization and better use of infrastructure and other finite resources, smart city programs can veer into virtually any area, says Greg Yager, senior vice president and service leader for planning/urban design at CallisonRTKL.

Programs can involve more efficient ways to handle disaster planning and initiatives such as bike share programs and predictive policing. Moreover, these initiatives increasingly involve publicprivate partnerships and other alternative models and methods, including crowdsourcing and machine learning. "The ability to use real-time data to understand behavior, vehicle flows and many other things can prove transformative,' Yager says.

## **Designs on the Future**

Navigating the smart city space requires new thinking and, in some cases, different expertise, says Matt Lamont, national practice leader for architecture and building engineering at Michael Baker International. "When you look at the pace at which smart technologies are evolving, it can all be a bit overwhelming," he says.

The overarching issue, Lamont adds, is how to generate value. "It's ultimately not about the technology; it's about using the technology to build systems and networks that introduce greater efficiencies and cost savings."

Yager says three central pieces of the concept-people, planet and profit--can be overlooked. "We want a smart city program to optimize city living, the

economy and socioeconomic growth of a city and--at the same time-reduce carbon emissions," he says. "We aim to build net-zero communities."

Beehler believes it's critical to start small but think big. This includes participating in pilot projects and working with local officials and developers to create innovative neighborhoods. Burns & McDonnell, which has contributed to a number of smart grid initiatives, including a U.S. Department of Energy-sponsored demonstration project in Kansas City, Missouri, typically focuses on issues such as cost savings, revenue generation, operational efficiencies, sustainability and value. "Smart cities are still in their infancy," Beehler

says. "Are they coming? Absolutely. The challenge for now is demonstrating value and showing how it's possible to make money-or save money-using these systems," he adds.

> This may translate into an A/E/C firm bolstering skills and knowledge, including data scientists, technologists and visionaries who can understand how devices, APIs, equipment, networks and software translate into better transportation, energy and data systems. In many cases, smart city initiatives also extend to consumer technolo-

gies-everything from smart

sprinkler systems to smart thermostats-that intersect with utilities and energy grids.

In order to tap the full potential of smart cities, engineers and others must understand how to build networks-and incorporate IoT into systems-without compromising security or data privacy. "There is an ever-increasing need for people who can bridge the gap between the technologists and the business leaders and

The world is moving forward, and engineering firms must move forward.

Smart cities aren't a futuristic concept—they are taking shape today." MATT LAMONT

MICHAEL BAKER INTERNATIONAL

thus focus on the art of the possible," Lyons says. "Successful teams must now more than ever be populated with cross-functional expertise and people with the ability to understand and translate data into real world results."

Yet, achieving success in this brave new world also means harnessing design and engineering tools, such as BIM. Although many firms already use this software to design better buildings, power facilities and other infrastructure, not all use it to maximum potential. "It provides a great deal of insight into how a building or other structure operates over time. It can transform data into an asset management tool," Lamont says.

What's more, BIM can help embed the digital DNA

into a project that delivers deep and broad insights into the context of a design in relation to a city, district or neighborhood. In addition, Doherty believes that BIM will soon intersect with machine learning and artificial intelligence to speed and improve designs further-and incorporate the resulting structures into more advanced smart city projects.

Although a wide range of companies, including IBM, Cisco, Siemens, Schneider Electric and GE are already heavily represented and invested in the smart cities market, there's ultimately no turnkey approach or single vendor that can supply all the pieces necessary to drive an initiative forward. In the end, A/E/C firms that embrace smart cities and build a center of expertise are better positioned for the future, Lamont says.

At some point, and it's not all that far away, engineering firms will require expertise and proficiency in the space, or they won't be equipped to work on most projects, he adds. "The world is moving forward, and engineering firms must move forward. Smart cities aren't a futuristic concept—they are taking shape today."

Samuel Greengard is a business and technology writer based in West Linn, Oregon.

trillion projected total market value of smart cities by





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# Going

How engineering firms can leverage multiple resources to expand business overseas

## By Bob Violino

any U.S. engineering firms are seeking to expand their services into the international market and, fortunately, there are plenty of sources that can help. "Doing business overseas

has a lot in common with doing business overseas in our home markets," says Eric Dean Cook, president of Greenbrier Engineering Company in White Sulphur Springs, West Virginia, and chairman of ACEC's International Committee. "The vernacular of, 'It's who you know,' applies just as well—if not more so—given the need to understand local culture, administration and logistics, which we can sometimes take for granted as second nature when delivering projects here in our home markets."



U.S. firms interested in international work should consider teaming up with a local partner to accelerate their learning curve of the target marketplace, Cook says. But these partnerships are not without risk. "Firms should exercise caution when choosing a local firm to partner with. Consideration should be given to commonality of business interests and operations modalities," he adds.

It's critical to manage communications with a local partner early in the relationship in order to mitigate misunderstandings. U.S. engineering firms must also ensure their local partner is legitimate and not listed on a debarment list, such as the World Bank's cross-debarment list, which is a unified agreement with other multilateral development banks (MDBs).

The international committee is working with U.S. government agencies, international organizations and MDBs to help support international business

efforts. "One of the ways we do this is by engaging with congressional

Every Every USTDA has invested in its programs has yielded <sup>\$</sup>74 in U.S. exports engaging with congressional leaders and their staff on legislative issues that have an international focus that may impact our firms delivering high-quality projects overseas—or even here at home," Cook says.

For ACEC Member Firms interested in international markets, the international committee is a good source to get started

with their market analysis, business intelligence and relationship development, Cook says.

Firms can also leverage a number of U.S. government and multinational banking organizations to successfully compete in foreign markets for projects, such as smart grid technology; multimodal planning; water, wastewater and water reuse technology; participation in the international P3 market; and power development.

Here's a look at five key resources:

## U.S. Trade and Development Agency (USTDA)

The USTDA is an independent U.S. government agency with a mission to connect businesses based in the U.S. with opportunities in global infrastructure development. "We help our partners in emerging markets build the infrastructure they need to grow their economies by sponsoring early-stage project preparation activities," says Thomas Hardy, USTDA's director of congressional and public affairs.

By bringing in U.S. experts to perform these activities, USTDA is also able to help generate exports of U.S.-manufactured goods and services. Every dollar USTDA has invested in its programs has yielded \$74 in U.S. exports, Hardy says.

The agency provides U.S. engineering firms and other businesses with opportunities to engage in large infrastructure projects overseas during

the critical early stages of a project—when designs, requirements and technology options are being defined. It sponsors feasibility studies that provide the comprehensive analysis needed for projects to achieve financing and implementation.

"We also provide technical assistance to help create environments conducive to increased U.S. exports," Hardy says. "And we fund pilot projects, which demonstrate a U.S. company's equipment or technology in an overseas setting. U.S. firms perform all of the work under these activities."

For example, USTDA sponsored a feasibility study to help Kawar Energy, a private Jordanian energy company, design a solar photovoltaic power plant. Following the feasibility study, U.S.-based firm First Solar was selected as the engineering, procurement and construction contractor for the project. To date, the project has generated \$16.8 million in exports of U.S. solar equipment and engineering services, Hardy says.

Currently, three USTDA grant recipients offer contracting opportunities in each of the agency's priority sectors: energy, transportation and IT/ telecommunications.

The USTDA also provides Trade Leads—alerts about opportunities in emerging markets. These opportunities are based either on previous USTDA-funded activities or provided by the agency's network of overseas partners.



"Doing business overseas has a lot in common with doing business here in our home markets." ERIC DEAN COOK

GREENBRIER ENGINEERING COMPANY, CHAIRMAN, ACEC INTERNATIONAL COMMITTEE

## Export-Import Bank of the United States (EXIM)

EXIM is the nation's official export credit agency. Founded in 1934, its mission is to finance U.S. exports in order to support U.S. jobs at home. The organization supported about 109,000 American jobs in fiscal year 2015 and has supported more than 1.4 million jobs in the U.S. during the last seven years, according to Lawton King, public affairs specialist at EXIM.

In 2015, EXIM generated a surplus of \$431.6 million for American taxpayers. Over the last two decades, the bank has wired nearly

\$7 billion to the U.S. Treasury to support deficit reduction.

For engineering firms, as well as other companies looking to do business outside the U.S., EXIM can provide buyer financing at competitive rates for the U.S. content of international projects. Likewise, EXIM can provide short-term insurance and working-capital support to U.S. exporters, King says. By doing so, EXIM levels the playing field on the financing side, freeing up U.S. firms to compete on the basis of quality, technology, price and other commercial factors.

"There are currently 85 export credit agencies in 67 countries around the world seeking to win sales for their respective exporters," King says. "For some projects—like water and wastewater projects—EXIM can provide extended repayment terms of up to 18 years from project completion as part of the OECD Sector Understanding covering renewable energy, climate change mitigation and adaptation, and water projects. EXIM can also authorize financing of local costs up to 30 percent of the value of the U.S. scope of supply."

In the last 10 years, EXIM has supported the export of about \$10 billion in U.S. engineering services. Projects benefiting from these services include oil refineries, water treatment and distribution facilities, natural gas liquefaction facilities, mines, oil-field development and petrochemical plants.

## The World Bank

The World Bank is an MDB that supports development projects in 173 countries. Each year the bank typically finances between \$15 billion and \$20 billion worth of projects. About 75 percent of these projects are infrastructure-related, and they generally fall into the transportation, water and energy sectors.

In addition, the bank also finances many projects in health, education, environment, agriculture and other areas, and offers developing countries grants, low-interest loans and zero-to-low-interest credits. The projects cover areas such as public administration, agriculture, environmental and natural resource management, infrastructure, and financial and private sector development. Some are cofinanced with governments, other financial institutions and private-sector investors.

"The World Bank provides financing to projects that otherwise may not happen," says Christopher Browne, chief procurement officer. "We also provide technical, procurement, financial management, environmental and social [and] governance expertise to the project and the borrower."

The bank sets the rules of procurement that must be followed when its finances are used, Browne says. Some lower-value projects might use the country's own procurement documentation with amendments to meet bank requirements. For larger projects, the bank's Standard Bidding Documents are used.

The bank finances about 1,800 investment projects, including those in power technology, planning, and water and wastewater treatment. "The projects we finance are planned well in advance," Browne says.

## Inter-American Development Bank (IDB)

One of the key goals of IDB is to improve conditions in Latin America and the Caribbean. The bank offers financial and technical support for countries in those regions as a means to reduce poverty and inequality, and also to support health care, education and the building of more advanced infrastructures. IDB is the main source of development financing for these regions, through loans, grants and technical assistance.

Since IDB was founded in 1959, the bank has sought effective ways to deal with the economic, environmental, institutional and social challenges facing countries in Latin America and the Caribbean and has approved more than \$251 billion in loans for projects in key sectors such as transportation, energy, education, health, water and sanitation, with an emphasis on poverty reduction, according to John Ferriter, lead communications specialist in the IDB's office of external relations.

Historically, more than one-quarter of IDB lending has been in infrastructure, resulting in billions of dollars of contract awards to engineering firms based in most—if not all—of the bank's 48 member countries.

"Every year, IDB loans and technical cooperation grants generate more than 20,000 contracts for the supply of goods, services

and civil works related to development projects in Latin America and the Caribbean," Ferriter says. "Contracts are open to businesses, organizations and experts from the IDB member countries."

IDB doesn't manage the purchases

and contracts derived from the projects it finances project implementation and administration are the responsibility of borrowers. However, IDB does review procurement and contracting to ensure compliance with its policies and procedures, Ferriter says.

Loans from the bank are used to finance the construction, expansion and renovation of a number of facilities, such as hospitals, schools, office buildings, factories, water and sewerage systems, irrigation systems and power plants. Projects also include roads, airports, railways and other transit systems.

## International Activity by the Numbers

- According to the Bureau of Economic Analysis, exports of architectural and engineering services by U.S. firms totaled \$12.34 billion in 2014, the most recent year for which the bureau has statistics. That compares with \$12.87 billion in 2013 and \$13.41 billion in 2012.
- U.S. Trade and Development Agency projects have helped generate more than \$2.2 billion in engineering services contracts, supporting high-value jobs for more than 60 companies in the U.S.
- In the last 10 years, the Export-Import Bank of the United States has supported the export of about \$10 billion in U.S. engineering services.

# **\*2.2** billion in engineering services contracts have been generated with assistance from the USTDA

## Office of the U.S. Trade Representative (USTR)

USTR handles the development and coordination of U.S. international trade, commodity and direct investment policy. Managed by the U.S. Trade Representa-



"We fund pilot projects, which demonstrate a U.S. company's equipment or technology in an overseas setting." THOMAS HARDY U.S. TRADE AND DEVELOPMENT AGENCY tive—who serves as a member of the Cabinet as the principal trade adviser, negotiator and spokesperson on trade issues—the agency oversees negotiations with other countries. Through an interagency structure, USTR coordinates trade policy, resolves disagreements and frames issues for executive decision.

USTR's main role in assisting U.S. engineering firms seeking international work is to obtain and enforce legally binding commitments for nondiscriminatory access to other countries' markets, says Todd Nissen, director of services trade negotiations at USTR. "Whether through the World Trade Organization or our bilateral and regional trade agreements, we obtain commitments from other countries that ensure they treat U.S. firms no less favorably than they treat domestic firms, or firms from other countries," Nissen says. "We also negotiate specific government-procurement rules and obligations."

Among the recent highlights of U.S. trade policy as it pertains to the engineering industry, the U.S. successfully challenged the European Union's \$18 billion in Airbus subsidies. When the EU claimed compliance without withdrawing its subsidies, the U.S. initiated a compliance proceeding, which is still underway. A successful resolution could potentially deliver benefits to American firms by creating a more level playing field.

USTR does not provide technical assistance, business-promotion services or other programs to help individual companies, Nissen says.

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

The open staircase of Mead & Hunt's new office makes a strong first impression on visitors as well as potential employees.

71

1



Innovative workspaces spark collaboration, productivity and engagement with young and veteran engineersonce they get past the culture shock

Inspire

ead & Hunt's new 69,000-square-foot office complex sits just 5 miles away from the firm's previous headquarters in Madison, Wisconsin, but the innovative space is a

world away from the inefficient design of its old office.

"Imagine an apartment building with a long hallway down the middle with apartments on both sides—that's kind of how our office was," says Wendy Culver, human resources director at the architecture and engineering firm, now based in Middleton, Wisconsin. The new building, which opened in August 2014, was designed with productivity in mind. Traditional office elements, such as low-walled cubicles, blend with modern modular furniture, light-filled workspaces and open gathering areas. "We had some really good insights of what was going on in the industry, but we also didn't want to be so trendy that two years from now the workspace wouldn't be workable anymore," Culver says.

While the firm had no difficulty attracting young talent before the move, the new space made a strong first impression. "Having all the new furniture, the natural light and our open gathering spaces has made a difference when people come in for interviews," she adds. "They see what kind of workspace they would be in."

As the economy improves and engineering firms expand into new, long-

awaited digs, designers are seizing the opportunity to incorporate plans that enhance health, wellness and well-being in addition to productivity. Offices have also become an important component in recruitment, says Randy Fiser, CEO of the American Society of Interior Designers (ASID).



"We debated having all open space with little to no private space but decided that total openness would not be good for JMT." SANDY SAWICKI JMT ENGINEERING "The design of a workspace is becoming more influential, particularly in younger generations who are making decisions about where they will go to work," Fiser says. "They will actually choose a workplace based upon its design and its sense of connectedness to who they are as a person; they may even choose that over a job that pays better."

Studies show innovative workspace designs also correlate to productivity and well-being for current staff members, Fiser says. For starters, access to natural light in the design of a space has direct connections to productivity and engagement. It may even give workers a better night's sleep because natural light has the ability to affect the body's circadian rhythm, which impacts sleep cycles and other bodily functions, he adds.

Acoustical comfort is important too—the level of noise in a space can be distracting. "It doesn't have to be zero noise, but it needs to be a level of noise that's not distracting," Fiser says. "That doesn't mean you can't have an open concept," he adds. Soundmasking systems, ceiling tiles and other materials that manage sound within a space are critically important to that acoustical comfort and productivity.

Interacting with nature—either outdoors or simulated indoors also helps employees perform at their highest level, Fiser says. "Their emotions, level of stress and other things are impacted by those types of elements being built into the space," he says. "We're now spending 93 percent of our time indoors and 70 percent of that time seated. That's not what our bodies are designed to do." Employees, therefore, must have the opportunity to get up and move, he adds.



Many engineering firms are including these elements in their new office designs. When the executives at JMT Engineering decided to build a new office complex in Sparks, Maryland, after the firm outgrew its old headquarters, JMT's VP of Interior Design Sandy Sawicki saw an opportunity to modernize the firm's workspace.

"The idea is to create a very collaborative space where everyone can get to everyone," she says. JMT has incorporated many of the innovative design trends, but with some important tweaks that adapt to the engineering firm's culture.

The planned four-story office building, set to open in spring 2017, will have three open staircases between floors so departments and divisions have easy access to one another. One of these stairs is a central gathering stair connecting the third floor reception area to a light-filled cafe on the second floor. This gathering stair incorporates stadium seating and will be the designated spot for companywide "all hands on deck" meetings and announcements. A first floor

JMT Engineering's new office space, set to open in spring 2017, includes a mix of traditional workspaces and private offices for upper-level management.

93% of your time is spent indoors

state of the art training center, outdoor walking path and terrace are additional amenities planned for the new headquarters.

## In the Zone

The wide-open space designs of five years ago are giving way to zones that offer a mix of open, private and collaborative spaces depending on the employee's need, which suits the engineering culture well.

"We debated having all open space with little to no private space but decided that total openness would not be good for JMT because there's a lot of focused work," Sawicki says. The design team also sought to eliminate walled offices in the space, but veteran JMT engineers had a hard time giving them up, so compromises were made, she adds.

"A very important part of their culture for years has been that when you get to a senior level, one of the perks is a private office and as you move up the ranks, your office gets bigger," Sawicki says.

The size of the office increases as senior management moves up the ranks, and after discussing the pros and cons of closed offices, the firm determined that there could be a mutiny if they were eliminated, she says.

The compromise was to keep the private offices for upper-level

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JIM JACOBI, PE / TECHNOLOGY CONSULTING JJACOBI@WALTERPMOORE.COM / 800.364.7300 / WALTERPMOORE.COM management, but they would be located in the interior of the building with glass fronts to keep the open feeling and allow natural light to come through the space. "Nobody is tucked away," Sawicki says. All offices would also be the same size, so as groups expand or shrink, they could be relocated without concerns about each person being in the right size office, she adds.

Office and workstation size still matter for many engineers. There are "mixed feelings" among employees regarding the design of Mead & Hunt's new workspace, Culver says. "A lot of our people had much larger cubicles before we moved into the new space. The tradeoff was that the new furniture was a lot nicer." There's one change in particular that's been a big hit—variable height desks for all employees, she adds.

## Sound Effects

When Lamp, Rynearson & Associates (LRA) moved its Kansas City, Missouri, office, they selected an older building that was to be rehabbed. Being a part of the initial planning afforded an opportunity to influence the design. When reviewing design



"We didn't want to be so trendy that two years from now the workspace wouldn't be workable anymore." WENDY CULVER MEAD & HUNT

70% of time spent at work is seated



trends like open workstations and exposed ceilings, the effects on staff and productivity were considered. "The exposed ductwork is really cool, but we were also concerned about controlling sound," says Nancy Pridal, LRA senior VP and director of organizational development. To absorb some of the noise, they boxed the ceilings up, so they're higher over the workstations, and put in drop-down "reverse cloud" ceilings between workstations.

The firm also keeps the volume down by placing teams close together. Open space is organized into pods of six workstations with two project managers plus four engineers and technicians working together in each group. Each pod has its own collaborative space replete with tables and chairs.

The pod design is intended to foster collaboration. "There's more opportunity for mentoring and coaching," Pridal says. "You're able to talk to the person sitting next to you; you know what's going on and what they're doing, and they can ask for support." The firm moved into the new space in late June and, so far, "feedback has been positive," she adds.

## Open Space, Open Mind

A shiny new office space with all the modern features may sound like a win-win for everyone, but change often doesn't come easy. Some employees—both young and old—might begrudge a more open office design for several reasons.

## • Why mess with a good thing?

If you've been doing something the same way for 30 years, there's a threat of not being as successful in this new environment, Fiser says.

## • Big Brother is watching

"There are pieces of control that people have and fear losing," Fiser says. For instance, "Now my monitor I used to do work on can be seen by other people. Do I really want them to see my work every minute? Whether that's reality or not, that's what people think about," he adds.

## • Don't judge me!

Millennials—who have learned to multitask on phones, laptops and social media at the same time—are often perceived by veteran employees as not really doing work, Fiser says. "That causes tension in the workplace just because of different workstyles."

Design and HR professionals try to head off these fears by including employees in the design process in order to address concerns and develop plans that will keep the majority happy. LRA employees, for example, filled out an anonymous survey during the planning phase to air their concerns and ideas for the new space.

At Mead & Hunt, the furniture company came into the old facility and set up different variations of cubicles. Employees could try them out, explore chair options and even work in the new space for a week. "It was not a surprise to them what we were planning to do," Culver says.

Keep in mind, though, that you can't please everyone, Fiser says. "Hearing their concerns and acknowledging them doesn't necessarily mean that's going to drive your decision. Maybe you are going for a culture change in the organization."

Finally, know that it's not going to be perfect, he adds. "That's OK. You can tweak elements as you operationalize the space."

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

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# Corporate Social Responsibility

A Day of

Back The global design firm encourages its employees to give back with an annual day of service

By Calvin Hennick

very September, Doug Hamming—a Stantec architect based in Vancouver—spends a day sorting, testing and packing thousands of Christmas lights.

In mid-November, the lights will be assembled into an enormous display called Lights of Hope in front of St. Paul's Hospital. The exhibit will

attract countless onlookers, media and donors. Ultimately, the display will help raise about \$3 million for research, equipment and enhanced patient care at the hospital.



Stantec team members Andree MacKay (left) and Monique Morin-Sauerteig (right) from the company's Saint John, New Brunswick, office help a team of 21 volunteers clean Bayshore Beach. More than 7,000 Stantec employees from around the world took part in last year's Stantec in the Community Day by cleaning parks (bottom left) and sorting donated clothes (bottom right).

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Hamming won't be the only one sorting through the strings of tangled lights. Another 10 to 20 Stantec volunteers will be there with him, and a couple hundred more will be working on other projects around the city, sprucing up garden spaces at day cares and preparing and serving meals for the disadvantaged.

Across the world, Hamming knows Stantec employees will be doing similar work on the same day. In London, they'll be riding their bikes 54 miles to support a children's charity; in Tucson, Arizona, they'll be packing meals for elementary school kids; and in Sarasota, Florida, they'll be creating oyster habitats.

Like the lights Hamming is testing and packing, each of these efforts is valuable on its own. But when you step back and consider them altogether, the effect is stunning.

## **Rallying Together**

That day in September is Stantec in the Community Day, an initiative started in 2013 to unify employees around their existing community service efforts.

"Community engagement already happens naturally throughout the year," says Kim Austin, vice president of regional marketing and communications for Stantec,



the Community Day] was a push for one day for us to rally together as a company." KIM AUSTIN STANTEC Tampa, Florida, and one of the leaders responsible for the annual community service day. "This was a push for one day for us to rally together as a company. We found that by letting each office identify what is important to them, it gives everybody an opportunity to take some leadership and ownership over the program."

Last year, more than 7,300 Stantec employees up from around 4,000 on the first companywide community day in 2013—participated in activities that ranged from making blankets for children's hospitals, to constructing a wishing

well, to holding a bake sale.

During the first year of the program, Austin volunteered with her office at a metropolitan ministry that assists families who have fallen on hard times. Stantec employees went through the facility's living quarters, stripping the beds and doing all of the organization's laundry. The next year Austin participated in a river walk cleanup, and last year she volunteered to assemble educational packets at a local aquarium.

In addition to the obvious benefits for the partner organizations, Stantec in the Community Day helps forge new connections and strengthen existing ones between

## 365 Days of Service

Stantec's commitment to community engagement doesn't start and stop with a single day. The company partners with charitable and community organizations year-round in hundreds of different ways.

In 2015, Stantec gave more than \$2.95 million in cash and in-kind donations to arts, education, environmental, and health and wellness programs. The company's year-round Dollars for Doers program allocates company funds to support community groups in which Stantec employees volunteer, and the company also regularly supports employees who travel to places like Madagascar, Honduras and Nepal with Engineers Without Borders.



Stantec team members also regularly mentor and speak

to students at schools around the country, and the company sponsors educational events such as Popsicle bridge-building competitions to promote STEM learning.

the firm and the community, and among employees themselves. Many of the places where employees volunteer are chosen because the firm has worked with them on engineering projects in the past, or because employees who already volunteer with the organizations have suggested them as partners.

"It's really created a focus for us," says Scott Murray, executive vice president and chief operating officer at Stantec. "It helped us identify an activity where we could engage staff in the community and let them have an opportunity to be active and give back, particularly with each other outside of the office setting. It was so well received by the staff and by local communities, and it was really, really gratifying to see it all come together."

## **Building Team Spirit**

While Stantec workers in many regions split up to work on a number of different projects, the employees at the company's two Boston offices unite for a single day of service.

"That's partially what makes Stantec in the Community Day so special, that we all come together for one event," says Erin Garnaas-Holmes, an urban designer who coordinates the service day in Boston. "It's a good way to get us together and build that team spirit, but then we're also doing community service."

Boston Parks and Recreation, in addition to being the beneficiary of Stantec employees' volunteer hours, is also a client. "It's important—and fun—to develop that relationship a little further," Garnaas-Holmes says. "We have a lot of landscape architects and engineers that are working on projects in parks, and to go back to a site and volunteer to keep it going is fun for folks."

During the cleanup day last September, more than 100 Stantec employees spent the afternoon tidying a corner of Franklin Park, a sprawling green space that houses a zoo and a golf course, which is also flanked by racially and socioeconomically diverse neighborhoods. The workers arrived in small groups, many via public transportation, all decked out in the same red T-shirt. "People came out raring to go," says Garnaas-Holmes.

Over the course of the day, informal teams vied to fill more trash bags than one another, even sending "spies" to check in



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on their colleagues' progress. "People form these little teams in these two hours," Garnaas-Holmes says. "There was a lot of intermingling of the staff groups, and some competitions that sprouted up like, 'We're going to fill up more trash bags!'

"Because everybody is wearing the same red T-shirt and is out there together, the office hierarchy dissolves a little bit. You see younger staff interacting with our executives, and people breaking the department silos. I spent a lot of time with people I don't ever work with," he adds.

By the end of the day, the team had collected a small mountain of trash and debris, but Garnaas-Holmes and other employees knew it represented only a small portion of the work that their col-

leagues around the country had completed that day. "We got to see the visual result of our work when we were done," Garnaas-Holmes says.

"The roads were just lined with all of the things that we'd collected—we ran out of bags. Being able to see the giant pile of bags, I then imagined multiplying that times all the [Stantec] offices that there are. You get to see the bigger impact," he adds.

## A Long-Term Impact

In addition to volunteering with Lights of Hope on Stantec in the Community Day, Hamming chairs a committee of design and engineering professionals that helps to construct the display. The patchwork of donated time and supplies is impressive, he says, with lighting companies in Asia agreeing to send excess equipment, shipping companies agreeing to deliver the lights to a dock in Beijing, and an airline volunteering to transport them to Canada.

"It all kind of comes together," Hamming says. "We have this regional—and in some cases international—group of people, many of whom have never met face to face, helping to support research at this hospital in downtown Vancouver."

This sort of philanthropic networking helps to bring out the humanity in people, Hamming says. It's the same reason why it's important for Stantec employees to physically get out into their communities to help, rather than simply doing pro

bono engineering and design work, he says.

Partner organizations value this personal connection too. Mary York, who serves as a liaison between the career academies at Overton High School in Nashville, Tennessee, and the school's business partners, calls the commitment of Stantec volunteers amazing. They come to the school throughout the year for different projects, she says, but on Stantec in the Community Day, they show up en masse, ready to clear out cluttered spaces and repaint peeling classroom walls.

"These partnerships are so valuable for the school and the students," York says. "It's not about 'write me a check." Members of the Stantec Van Nuys, California, office create and deliver blankets for children undergoing extensive inpatient care at Children's Hospital of Los Angeles (left). A team member from Stantec's Dubai, UAE, office helps with a group cleanup on the iconic Burj Al Arab Beach.

It's so much bigger than that and richer than that. The kids can see that there are people who care, who are invested in public schools—that we're not just over here doing everything on our own."

"There's value in physically being involved," Hamming says. "Yes, we could engage those 200 people in an activity for which they are trained—'You're going to design a bridge'—but it doesn't have that

**7,300** Stantec employees participated in the Stantec in the Community Day program in 2015

reality, that you are in a community, and these people that you are serving are also in the community, and they are benefiting from your physical presence. It's this notion that we are linked human beings physically, emotionally, intellectually and that's the way we have any long-term impact in a community."

Calvin Hennick is a business, technology and travel writer based in Milton, Massachusetts.



"Because everybody is wearing the same red T-shirt and is out there together, the office hierarchy dissolves a little bit." ERIN GARNAAS-HOLMES STANTEC

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# Mergers and Acquisitions

## First Half M&A Review: Political Uncertainty Slows Deal-Making

erger and acquisition (M&A) activity among engineering industry firms slowed during the first six months of 2016 compared with the same period last year. Through the first six months of 2016, there were 106 sales of U.S.-based A/E industry firms—a 15 percent decline—compared with 125 deals in the first half of 2015.

Deal-making overseas increased slightly with 63 sales of international firms through June 30 compared with 61 over the same period last year. Overall, industry M&A was down about 9 percent, with political and economic uncertainty being a major factor.

The upcoming election has led some buyers to hold off on investing in growth until the U.S. chooses its next president and fills seats in Congress. Firms with significant exposure to public sector projects, which include transportation, water and defense, are particularly anxious about the upcoming election results.

Overseas, the impact of "Brexit" and other global events on M&A remains unclear, but it has left firms based in the U.K. and Europe with a heightened sense of unpredictability. Many firms appear to be waiting for the dust to settle before embarking on major acquisition efforts. This is partially evidenced by a slowdown of the large-scale deal-making we saw in 2014 and 2015.

While overall M&A is down, 2016 is still on track for 200-plus domestic transactions—a level of activity on par with 2014 and still above the average of 183 deals made annually from 2007 to 2015. We anticipate firms confident in their growth prospects will continue to pursue M&A opportunities despite the political and economic climate. Regardless of the election results, infrastructure development remains a glaring need in the U.S. and overseas. We expect industry firms with a long-term view to continue to pursue M&A as a means of capturing growth opportunities.

To see an infographic highlighting A/E/C M&A activity through the first half of 2016, please visit: http://www. morrisseygoodale.com/2016-Mid-Year-Review.html.

## Recent ACEC Deal-Makers JULY 2016

ACEC member **Civil Engineering Consultants** (San Antonio) acquired ACEC



# Mergers and Acquisitions

## member Denham-Ramones Engineering and Associates

(San Antonio), an engineering and surveying firm serving single-family residential development projects.

ACEC member **CES**, Inc., (Brewer, Maine) acquired ACEC member **Mohlin & Co.** (Saco, Maine) to strengthen its structural engineering services for heavy and light industrial clients.

Engineers, Inc., (Silver City, N.M.) and ACEC member Occam | EC Consulting Engineers, Inc., (Albuquerque, N.M.) merged to create a combined firm with more than 50 employees and seven offices in New Mexico and Texas.

ACEC member **Olsson Associates** (Lincoln, Neb.) acquired ACEC member **Tri-State Engineering, Inc.,** (Joplin, Mo.), a 20-person engineering firm.

ACEC member **TranSys**tems (Kansas City, Mo.) acquired ACEC member **Athalye Consulting Engineering Services, Inc.**, (Lake Forest, Calif.), a firm specializing in transportation construction, engineering and design services.

ACEC member **Mason & Hanger** (Lexington, Ky.), a **Day & Zimmermann Co.** (Philadelphia), acquired architectural and engineering firm and ACEC member, **Hankins & Anderson** (Glen Allen, Va.).

## **JUNE 2016**

ACEC member LJA Engineering, Inc., (Houston) acquired Longaro & Clarke Consulting Engineers (Austin, Texas), which has served municipal, commercial, industrial and private sector clients in Texas since 1994.

ACEC member **NV5** (Hollywood, Fla.) acquired **X8e-Vinyard** (Albuquerque, N.M.), a geotechnical consulting and construction materials inspection and laboratory testing services company.

ACEC member **Barr Engineering Co.** (Minneapolis) acquired ACEC member **Darg, Bolgrean, Menk, Inc.,** (Golden Valley, Minn.), a structural engineering firm.

ACEC member WSP | Parsons Brinckerhoff (Montreal) acquired Diseno Integral y Tecnologia Aplicada S.A. de C.V. (DITEC) (Mexico City) and the industrial water consultancy business of Schlumberger (Paris).

ACEC member **Westwood Professional Services** (Eden Prairie, Minn.) acquired ACEC member **Site Consultants, Inc.**, (Scottsdale, Ariz.), a civil engineering and land surveying firm.

ACEC member **Foster**, **Jacobs & Johnson, Inc.**, (Duluth, Minn.) merged with **Obermiller Nelson Engineering** (Fargo, N.D.), a mechanical, electrical and civil engineering firm. The combined firm will employ 125 people.

ACEC member LaBella Associates (Rochester, N.Y.) acquired Sandberg Kessler Architecture (Jamestown, N.Y.), a firm that serves educational, institutional, municipal and health care clients.

## MAY 2016

ACEC member **Stantec** (Edmonton) closed its acqui-

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.



sition of VOA Associates, Inc., (VOA) (Chicago).

ACEC member **Goodwyn** | Mills | Cawood (Montgomery, Ala.) acquired Stevenson & Palmer Engineering (Smyrna, Ga.), a provider of engineering and infrastructure services.

ACEC member **GEI Con**sultants, Inc., (Woburn, Mass.) announced that coastal and waterfront engineering firm **Bourne Consulting Engineering (BCE)** (Franklin, Mass.) has joined the firm.

ACEC member **Morrison-Maierle, Inc.**, (Helena, Mont.) acquired **Vista West Engineering** (Sheridan, Wyo.), a civil engineering firm serving the public sector. ACEC member **GZA** 

GeoEnvironmental, Inc., (Norwood, Mass.) acquired Rose & Westra, Inc., (Grand Rapids, Mich.), an environmental engineering and consulting firm. Rose & Westra will operate as a division of GZA.

ACEC member **EEA Con**sulting Engineers (Austin, Texas) acquired **Vertterre Corp.** (Albuquerque, N.M.), a mechanical and electrical engineering firm.

ACEC member **Ayres Associates, Inc.**, (Eau Claire, Wis.) acquired **The Ash Group, Inc.**, (Tampa, Fla.), a provider of subsurface utility engineering, site civil engineering, and utility design and coordination.

ACEC member **TTL**, **Inc.**, (Tuscaloosa, Ala.) merged with ACEC member **Drash Consultants** (San Antonio). Drash specializes in geotechnical engineering, environmental consulting and constructionmaterials testing services.

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 is based in the firm's Houston office and can be reached at nchurman@ morrisseygoodale.com.







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## Members in the News

## On The Move

George J. Pierson has been named president and CEO of San Diego-based Kleinfelder Group, effective Sept. 6. Pierson, former CEO of Parsons Brinckerhoff, will succeed Kleinfelder's interim President and CEO Kevin Pottmeyer.

Springfield, Illinois-based Hanson Professional Services, Inc., has named CEO Sergio "Satch" Pecori as chairman, and Markets Leader Jeff Ball as president. Eugene Wilkinson becomes chairman emeritus.

Scott Cattran was appointed president and CEO of Dayton, Ohio-based Woolpert. Cattran, who joined the firm in 1999, previously served as COO.

Arcadis announced two leadership successions: Matt Bennion, COO for Arcadis Asia, will succeed Kenneth Poon, CEO of Arcadis Asia, as of Sept. 1. Poon will retire at year-end after more than 40 years' service with Langdon & Seah, an Arcadis company. He will continue as a nonexecutive member of the advisory board for the firm in Asia. Arcadis North America COO Joachim Ebert has succeeded John Jastrem as CEO of Arcadis North America. Jastrem joined Arcadis in 2014 upon the acquisition of his former company, Callison, and leaves having successfully implemented the structure for the transformation of the North America business. Jastrem will continue with Arcadis in an advisory capacity. Kim Brown Wilmsen was promoted to CIO at Arcadis, where she will be responsible for all IT in North America. She replaces CIO Mark Endry, who has left the firm. She is based at Arcadis' U.S. headquarters in Highlands Ranch, Colorado.

New York City-based WSP | Parsons Brinckerhoff announced the following appointments: Hugo Blasutta was appointed president and CEO of WSP in Canada. He previously served as CEO of the MMM Group, which WSP | Parsons Brinckerhoff acquired in 2015. Jorge A. Chaves was named as president and Asdrubal Montenegro as CFO of its Latin America region. Chaves will oversee offices in Colombia, Chile, Peru, Mexico, and Trinidad and Tobago, and formerly served as the general manager of Schrader Camargo, an engineering firm based in Colombia. Montenegro, who has worked

in the Middle East, Asia, the U.S. and Latin America, has held financial and commercial positions at companies including Halliburton. Nasri Munfah has been appointed a senior vice president and director of global tunneling. He rejoins WSP | Parsons Brinckerhoff from Kansas City, Missouri-based HNTB Corp., where he served as chairman of the global tunnel business practice. He is based in the New York City office.

Michael Matthews was named president of Lexington, Kentucky-based Mason & Hanger following the firm's acquisition of Hankins & Anderson, where Matthews was president. Matthews will be based in the firm's Richmond, Virginia, office.

Travis Engelke has joined Surveying And Mapping, LLC, (SAM) as CFO. Most recently he served as CFO for Stanley Consultants in Iowa. He is based in Austin, Texas.

Edward C. Fronczkiewicz Jr., has been promoted to general counsel at Philadelphia-based Urban Engineers. He succeeds Bruce M. Mundorf, who will remain with



George J. Pierson

**Kim Brown Wilmsen** 



Sergio Pecori



Jeff Ball



Scott Cattran





Asdrubal Montenegro Nasri Munfah



**Michael Matthews** 





**Travis Engelke** 



Jorge A. Chaves





Joachim Ebert



# Members in the News

the firm until his retirement this December. Fronczkiewicz, a vice president of the firm, previously served as assistant counsel.

Stewart S. Vaghti was appointed corporate sustainability officer of Camp Hill, Pennsylvania-based Gannett Fleming. As a leader of the firm's Corporate Sustainability Team, Vaghti will work to advance its sustainable initiatives and practices. Based in the Phoenix office, he also serves as a senior project manager and project engineer.

HNTB Corp. announced the following appointments: Diana Mendes joined the firm as senior vice president and national transit/rail practice leader. Mendes formerly served as Americas transit/rail director for AECOM. She is based in the firm's Arlington, Virginia, office. Katharine "Katie" Nees joined the firm as growth officer and senior vice president. Nees, who formerly served as director of the strategic projects division of the Texas Department of Transportation, is based in the Dallas office.

Kansas City, Missouri-based TranSystems announced the following promotions:

**Alex Houseal** was named regional vice president for the Northeast region, where he will focus on market expansion, business development, client relationships and the day-to-day operations of the region. Houseal is based in the firm's Philadelphia office. Greg Murphy was appointed regional vice president for the Great Lakes region, expanding his role leading the sales and operations of the Ohio offices. He also serves the Great Lakes and Midwest regions. Murphy is based in the firm's Columbus, Ohio, office.

Federico Balestrazzi has joined Thornton Tomasetti's newly opened Miami, Florida, office as a vice president in its Façade Engineering practice and will serve as the practice leader for the mid-Atlantic South region. He formerly operated his own engineering consulting firm in Miami, Fourzero, LLC.

Gill Mosseri joined Pasadena, Californiabased **Parsons** as vice president and New York region business development manager for its Infrastructure Business Unit. Mosseri, who will develop and implement strategies and initiatives to expand Parsons'

portfolio of projects in New York, is based in the firm's New York City office.

Philadelphia-based Pennoni Associates promoted Todd Hay to regional vice president and Jerry Prevete to associate vice president. Hay formerly served as associate vice president and Newark, New Jersey, office director. Prevete served as senior business development associate. Both will be based in Pennoni's Newark office.

Stantec recently appointed Alfonso Rodriguez as vice president and operational leader of its Pacific Region encompassing California and Hawaii. He is based in the company's Sacramento office.

Chris Grace has been appointed vice president of Nashville, Tennessee-based Barge, Waggoner, Sumner and Cannon, **Inc.** He is based in the firm's Birmingham, Alabama, office.

Andrew Cairns was appointed vice president and North American ports practice leader at Mott MacDonald. He will be based at the firm's corporate headquarters in Iselin, New Jersey.



Edward C. Fronczkiewicz



Stewart S. Vaghti



**Diana Mendes** 





**Katharine Nees** 



Jerry Prevete



Alex Houseal



**Alfonso Rodriguez** 



**Greg Murphy** 



**Chris Grace** 



Federico Balestrazzi Gill Mosseri









## Members in the News

## Welcome New Member Firms

### ACEC/Alabama

Barter & Associates, Inc., Mobile

## ACEC/Arizona

Advanced Structural Engineering ASE-KPFF, Phoenix Ethos Engineering LLC, Chandler Pearson Engineering Associates, Inc., Phoenix

## ACEC/California

Firma Design Group, Santa Rosa Prime Design Group, Inc., Santa Cruz Tanner Pacific, Inc., San Carlos Valued Engineering, Inc., Upland

## ACEC/Colorado

CGRS, Inc., Fort Collins **Congruent Environmental** Strategies, LLC, Morrison Reynolds Ash + Associates Architecture & Engineering, Durango Spacek Timbie Blevins Engineering, Inc., Evergreen

### **ACEC/Kentucky**

Paradiam Engineers & Constructors, PLLC, Louisville World Tower Co., Inc., Mayfield

## **ACEC/Massachusetts**

Brennan Consulting, LLC, Burlington

ACEC/Michigan Yamasaki, Inc., Birmingham

## ACEC/Mississippi

Allen Engineering and Science, Jackson Civil-Link, LLC, Southaven Precision Engineering Corp., Oxford

## **ACEC/New York**

Korley Engineering Consultants, LLC, New York MG Engineering D.P.C., New York

## ACEC/North Carolina

Energy Vision, Inc., Indian Trail Jack A. Farrior, Inc., Farmville LockLear, LockLear & Jacobs, PLLC, Pembroke

## ACEC/Ohio

Engineering Associates Inc., Wooster

ACEC/Oklahoma Benham, a Haskell Co., Oklahoma City Craig & Keithline, Inc., Tulsa Neo Design, LLC, Owasso

ACEC/Oregon Cascadia Consulting, LLC, Portland

**Century West Engineering** Corp., Portland

ACEC/Tennessee John H. Matthews & Associates, Inc., Cookeville

ACEC/Texas Bovay Engineers, Inc., Houston

Kavi Consulting, Katy **KP Engineering, LP**, Tyler Miller Gray, LLC, Austin

## ACEC/Utah Avenue Consultants, Inc., Taylorsville Tech-Flow, Layton

## ACEC/Virginia

Eden and Associates, P.C., Martinsville EPR, Inc., Charlottesville Obsidian Onsite Services, Inc., Fredericksburg

**ACEC/Washington** RHC Engineering, Inc., Seattle

ACEC/West Virginia Sustaining Development **Engineering**, Williamstown

**ACEC/Wisconsin** Lakeside Engineers, LLC, Wauwatosa

ACEC/Wyoming Black Willow Oars, LLC, Thermopolis

Since the ACEC Job Board's inception in August of 2005, over 3,437 member firms have posted job openings and more than **29,000** job seekers have posted

## ENGINEER on ACEC's Job Board...

## www.acec.org/jobs

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

## Calendar of Events

## SEPTEMBER

- **Creating a Financially Intelligent** 20 Culture through Open Book Management (online class)
- 22 Avoiding Pitfalls in Contracts (online class)
- 27 Capital Strategies and M&A Market Update (online class)
- 29 Brand Now: Refocus Your Brand and Help Your Firm Grow (online class)

## **OCTOBER**

- 4 15 Things Learned in 15 Years Marketing Professional Services Firms (online class)
- 5 The Lifecycle of Going Global (online class)
- 6 Current & Future Trends Impacting the Engineering & Design Industry (online class)
- 12 Scope and Design Budget Management (online class)
- 13 Project Management: We're Doing it All Wrong! (online class)
- Fundamentals of Microsoft Excel 18 (online class)
- 18-20 Pathways to Executive Leadership (various locations)
- 19 Do This: It Works. Your Step-by-Step Guide to Effective Presentation Skills (online class)
- 19-22 ACEC Fall Conference, Colorado Springs, Colorado
- 25 Earning a Seat at the Table: A Guide for Emerging Leaders (online class)

## NOVEMBER

- 1 Sustainability and Economic Returns as a Market Differentiator (online class)
- 3 Ethical Decision-Making for PEs: Standards and Benefits (online class)
  - 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.

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# **Business** Insights: Solutions for the A/E Industry

## New ACEC Program Prepares Top Talent for Executive Leadership

ACEC's new leadership development program, *Pathways to Executive Leadership*, is for early career elites and promising midcareer professionals who have approximately 8 to 12 years of experience.

With 45 hours of comprehensive leadership coursework spread out over six months, this real-world program centers on the core skills necessary to think strategically in your markets, build effective teams and deliver great service for your most valued clients. These skills include: High-Level Business Development; Leading a Team of Teams; Coaching, Active Listening and Managing Others; Effective Community & Political Involvement; Managing Uncertainty; and Strategic Market Analysis.

To learn more, visit: bit.do/acec-ExecLeadership

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

This two-day program details how to use the AASHTO Audit



*Guide* in the development and administration of A/E consultant direct and indirect costs and rates. Presented by Dan Purvine, A/E Clarity Consulting & Training, and Diana DeWitt, CPA, CCIFP, Mendelsohn & Associates, P.A., the program is composed of two minicourses: "Developing Indirect Cost Rates and Development/Auditing" and "Oversight of A/E Consultant Indirect Cost Rates."

DOT and A/E firm person-

nel who administer/manage contracts, develop/review RFPs and contracts for government procurement, build/review cost proposals, perform indirect cost rate audits and provide oversight of contracts and costs will find this program of particular value. Mark your calendar for Sept. 19-22, 2016, Portland, Oregon.

Review the full agenda and registration information:

- COURSE 1: bit.do/acec-aashto-course1
- COURSE 2: bit.do/acec-aashto-course2

## Solutions for the A/E Industry: ACEC Coalitions' Best-Selling Publications

ACEC Coalitions are dedicated communities of ACEC members organized by practice area or firm size. Coalition publications help firms streamline their operations for greater efficiencies and profitability. Best-selling coalition publications for 2016 include:

• Council of American Mechanical and Electrical Engineers (CAMEE)

An Agreement for the Provision of Limited Professional Services— A sample agreement for use when the MEP engineer provides services to a client for small projects with limited scope of services, or if the project will be undertaken within a short time frame.

## • Council of American Structural Engineers (CASE)

An Agreement between Structural Engineer of Record (SER) and Contractor for Transfer of CAD Files on Electronic Media—Fabricators and suppliers are requesting CAD or BIM files from the designer. By providing CAD or BIM files, changes may be made to the files by others that would not be distinguishable without a critical review. This sample document spells out the limitations and extent to which both the structural engineer of record and recipient of the CAD or BIM files may use those files and allows for the transfer of CAD or BIM files to others.

- Council of Professional Surveyors (COPS) Ground to Grid and Coordinate Localization Spreadsheet—This spreadsheet will help the surveyor convert coordinates from ground to grid or grid to ground. Data units are entered in meters, but the user is able to convert all calculations to U.S. Survey Feet, if desired.
- Land Development Coalition (LDC)

Marketing Your Land Development Firm with Greater Success— For firms seeking to improve marketing outreach and client management efforts, this publication covers three critical marketing areas: Defining the Unique Value of Your Firm, Writing Proposals that Land Clients and Establishing Positive Client Relationships from the Start.

All ACEC Coalition-developed publications are available at **www.acec.org/bookstore**.

## FOR MORE BUSINESS INSIGHTS

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- Factoring Executive Compensation
- Cyberattacks and Data Security
- High-Impact Proposal Writing

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# These firms selected outstanding retirement planning for their participants. Is your firm's name here?

609 Consulting, LLC 68 West Engineering, Inc. A&R Engineering, Inc. A. Morton Thomas & Associates, Inc. ARS Engineers, Inc. Abonmarche Consultants, Inc. ACEC Life/Health Insurance Trust ACEC of California ACEC of Colorado ACEC of Georgia ACEC of Massachussetts ACEC of Minnesota ACEC of Missouri ACEC of Nebraska ACEC of North Carolina ACEC of New York ACEC of Oregon ACEC of Pennsylvania ACEC of Tennessee ACEC of Texas ACEC of Virginia ACEC of Washington ADGI Advanced Earth Sciences, Inc. Ahneman Kirby, LLC Al-Farooq Corporation American Council of Engineering Companies American Engineers, Inc. American Geotechnics, Inc. American Structural Engineering Anderson and Hastings Anderson, Eckstein & Westrick, Inc. Andrews, Hammock and Powell, Inc. Architectural Engineers, Inc. Arredondo, Zepeda & Brunz, LLC Associated Design Group, Inc. Augspurger Komm Engineering, Inc. Barnett Consulting Engineers, Inc. BB&E, LLC Bellelli USA, LLC Birkhoff, Hendricks & Carter BJLJ Engineers & Architects Blackburn Consulting, Inc. Bladykas Engineering P.C. Blue Ocean Civil Consulting Bollinger, Lach & Associates, Inc. Borton-Lawson Engineering, Inc. Bowman Engineering & Consultants BP Consulting Engineers, Inc. Brandt Engineering, Inc. Bridge Gap Engineering, LLC Bridging Solutions, LLC Brooks Jackson & Little, Inc. Byce & Associates, Inc.

C. A. Wehsener C.T. Male Associates P.C. Cagley & Associates, Inc. Cameron Engineering & Associates, LLP CBC Geospatial Consulting, Inc. Christian-Roge & Associates, Inc. Christy Cobb, Inc. Civil Design Group, Inc. Civiltech Engineering, Inc. CK Group, Inc. Collins Engineers, Inc. Consolidated Technologies Core Consultants, Inc. Credere Associates, LLC Creegan & D'angelo Consulting Engineers Crist Engineers, Inc. Cunningham-Allen D. Mark Goodwin & Associates Dahl, Taylor & Associates, Inc. DCS Engineering, LLC Design South Professionals, Inc. Dixon Engineering, Inc. DJ&A, P.C. DIG. Inc. Donohue & Associates, Inc. Dorman Project Services Duffield Associates, Inc. EBL Engineers, LLC ECI, Inc EDI, LTD EMCS, Inc. EMK Consultants Engineering Design Source, Inc. Engineering Strategies, Inc. Entellus, Inc. Environmental Engineering and Technology, Inc. Erdman Engineering, P.C. Erdman, Anthony Holding Co., Inc. Excelsis, Inc. Faisant Associates, Inc. FK Engineering Associates Florida Engineering Society, Inc. Fox Engineering Associates, Inc. Gaches Braden & Associates, Inc. Gausman & Moore Associates, Inc. Gebau, Inc. Gen2 Group, LLC Geodesign, Inc. George F. Young, Inc. Geotechnology, Inc. Gervasio & Associates, Inc. Gestra Engineering, Inc.

Gibson Engineering Gilsanz Murray Steficek, LLP Gray, Hong, Nojima & Associates H2M, Inc. Harris Consulting Engineers, LLC Hepworth-Pawlak Geotechnical, Inc. HÉSMA&A, Inc. Hoffman Borowski & Associates Holben, Martin & White Consulting Holloway, Updike and Bellen Holzmacher, McLendon & Murrell, P.C. Hornfeck Engineering, Inc. Hubbell Roth & Clark, Inc. Hufsey-Nicolaides-Garcia-Suarez Associates Incledon Consulting Group Institute for Sustainable Infrastructure J.B. Wyble & Associates Jackola Engineering & Architecture, P.C. Jacobson-Westergard & Associates, Inc. John S. Deerkoski, P.E. & Associates Jones & Demille Engineering Jones Edmunds & Associates, Inc. Jones-Stuckey, Ltd., Inc. Jorgensen & Associates, Inc. Jorgensen Associates, P.C. Kai Hawaii, Inc. KCI Technologies, Inc. Kister, Savio and Rei, Inc. Kline Engineering & Consulting Klingner & Associates, P.C. Klotz Associates, Inc. Knesal Engineering Services, Inc. Kramer Gehlen & Associates, Inc. Krebs Engineering, Inc. KRM Consultants, Inc. KS Engineers, P.C. LandDev Consulting Lane Engineers, Inc. Lawson-Fisher Associates Lazenby & Associates, Inc. Leading Edge LS, Inc. Leonard Rice Consulting Water Engineers, Inc. Lilker Associates Lin Engineering, Ltd. Linfield, Hunter & Junius, Inc. LSC Transportation Consultants, Inc. LSW Engineers Lunsford Associates, LLC Mathew J. Thompson III, Consulting Engineers, Inc.

Maxon Enterprises Maxson Engineering MB Bim Solutions, LLC McGoodwin, Williams & Yates, Inc. Mead & Hunt, Inc. Meyer, Meyer, Lacroix & Hixson, LLC MGA Structural Engineers Midtown Engineers MK Engineers Group MKK Consulting Engineers, Inc. Mohr & Associates, Inc. Moreland Altobelli Associates, Inc. Morton & Pitalo, Inc. Mosure & Syrakis MSA Professional Services, Inc. Murray, Smith & Associates, Inc. N-Y Associates, Inc. Neser, Roomsburg & Workman, P.C. Neyer, Tiseo & Hindo, Ltd. Nishkian & Associates Nishkian Chamberlain Nishkian Dean Nishkian Monks Nobis Engineering, Inc. Northwest Hydraulic Consultants, Inc. OLA Consulting Engineers, P.C. P.W. Grosser Consulting Pack Engineering, Inc Page Engineering Consultants, P.C. Palanisami & Associates, Inc. Peoples & Quigley, Inc. Peters Construction Consultants, Inc. Pharmer Engineering, LLC Pickets Engineering, LLC Pinyon Environmental, Inc. Ponzer Youngquist, P.A. Potomac Energy Group, Inc. Precision Civil Engineering Professional Engineers, Inc. Protection Engineering Consultants, LLC Quad Knopf, Inc. Raba Kistner Consultants, Inc. Reece, Noland & McElrath, Inc. ReStl Designers, Inc. RH2 Engineering, Inc. Ronald A. Roberts Associates, Inc. Ruen-Yeager & Associates, Inc. S&ME, Inc. Sam Schwartz Engineering, PLLC Schaaf & Wheeler Consulting Engineers Shaffer Baucom Engineering Sidhu Associates SJB Group, LLC

Smislova, Kehnemui & Associates Society of American Military Engineers Spalding Dedecker Associates, Inc. Sparling, Inc. Spurlock & Associates Standridge Design, Inc. Stb Structural Engineers, Inc. Sterling Consultants, Inc. Steven Schaefer Associates, Inc. Studio 8.18 Engineering Submeter One, LLC Surveying Solutions, Inc. Sweitzer Engineering Synterra Tamarack Consulting, LLC TAM Consultants The Eads Group, Inc. The Wallace Group, Inc. Thompson & Litton Toft, De Nevers & Lee Tuck Mapping Solutions, Inc. Vali Cooper and Associates, Inc. Vanderpool Pipeline Engineers, Inc. VEI Consultants VH Engineering, LLC Via Consulting Services, Inc. Wagner Engineering & Survey, Inc. Warren Smith & Associates Washtenaw Engineering Company, Inc. Watershed Science and Engineering, Inc. Weatherby-Reynolds Consulting Engineers, Inc. Welch Comer & Associates, Inc. Wessler Engineering, Inc. West Plains Engineering, Inc. Western Water Consultants, Inc. Wetherill Engineering, Inc. WGK. Inc WGM Group, Inc. White Engineering Associates White Hawk Engineering White Sands Water Engineers, Inc. Wightman & Associates, Inc. William Tao & Associates, Inc. Willis Engineers, Inc. Wince-Corthell-Bryson Retirement Plan WLA Consulting Wold Engineering, P.C. Wood Rodgers Wood, Patel & Associates, Inc.

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**2. Confidence in coverage:** By participating in the Trust, you offer employees **essential coverage** consistent with the Affordable Care Act (ACA). And UnitedHealthcare's vast provider network offers **local access to 99%** of the U.S. population.

**3. Proven satisfaction:** Currently, more than 1,400 ACEC member firms like yours participate in the Trust, and they **renew 93%** of the time.

**4. Product and price flexibility:** Through the Trust, you receive both **product and price flexibility** to fit your firm's needs.

**5. Simple setup and dedicated service:** Moving from your current health plan is **surprisingly easy**. Rely on the Trust's dedicated account service team with more than 20 years of **combined engineering industry and health care coverage experience**.



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has been serving ACEC members for over 50 years. Since 2007, the Trust has been insured and serviced by UnitedHealthcare. UnitedHealthcare offers medical, dental, vision, life and disability insurance to Trust participants.

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