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# From ACEC to You

# ENGINEERING<sup>INC.</sup>

THE OFFICIAL PUBLICATION OF THE  
AMERICAN COUNCIL OF ENGINEERING COMPANIES

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SENIOR COMMUNICATIONS WRITER	Gerry Donohue

## ACEC PUBLIC RELATIONS AND EDITORIAL ADVISORY COMMITTEE

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## ADVERTISING SALES

Nina Goldman  
Director, Sales and M.O. Services  
ACEC  
1015 15th Street, NW, 8th Floor  
Washington, D.C. 20005-2605  
202-682-4325  
ngoldman@acec.org

Rob Shafer  
Media Director  
Naylor  
770-810-6986  
rshafer@naylor.com

## U.S. Engineering Firms Finding New Opportunities Overseas

As Member Firms struggle through a tight domestic market, many are pursuing opportunities in other parts of the world. Globalization is an increasingly profitable option for firms hoping to grow their business and improve bottom lines.

Last year, international revenues for the *ENR 500* totaled \$26 billion—more than double the nearly \$12 billion generated in 2006.

And after years of foreign acquisitions of U.S. firms, the trend reversed this year with U.S. firms acquiring more foreign companies.

This issue of *Engineering Inc.* covers the opportunities and challenges of doing business abroad. In “Handling Global Markets” (see page 8), leaders of Member Firms with successful international track records offer tips and strategies for succeeding in international markets.

Overseas projects are also highlighted in our Multi-Project Feature (see page 24); and Mick Morrissey’s Mergers & Acquisitions update provides an in-depth review of recent international M&A activity. (See page 36.)

As industry observers point to signs that domestic as well as foreign markets are turning up for engineering firms, members of the 2012–2013 ACEC Executive Committee offer their own views on new opportunities. (See page 28.)



Ted C. Williams  
ACEC Chairman



David A. Raymond  
ACEC President & CEO



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# A Tale of Hot and Cool Market Sectors and Regions

**A**lthough the U.S. economic recovery officially began in 2010, growth in engineering markets has been slow.

Industry employment, for example, has climbed in 16 of the past 18 months since it hit bottom, but is up only 4 percent in that time and nearly 9 percent below its peak in June 2008.

That's about to change, says Randy Giggard, managing director of FMI's Research Services Group in Raleigh, N.C. "It looks like we're finally turning the corner in 2012. The engineering sector should be up about 4 percent this year and close to 7 percent in 2013."

But, like a patient after surgery, analysts say recovery is not a straight line. Some market sectors will race ahead. Others such as transportation will putter along in second gear. Still others will fail to move at all. Here's a look at how a few of the most improving industry sectors are performing:

## Power

"Energy has been the renaissance of the engineering industry," says Mick Morrissey, managing principal of Morrissey Goodale LLC, in Boston. "It has been the really hot sector."

According to FMI, the power sector will continue to lead the industry, climbing 9 percent in total spending annually in 2013 and 2014, and projected to jump 12 percent in 2015.

The engine behind that performance will continue to be horizontal hydraulic fracturing (fracking), which is opening up huge U.S. reserves of natural gas and oil.

The combination of fracking and rising oil prices has been a

boon to western North Dakota and Montana, which sit atop the oil- and natural gas-rich Bakken formation, in addition to the communities above the West Texas Permian Basin.

"These are remote areas undergoing tremendous economic expansion," says Ray Kogan of Kogan & Company in Arlington, Va. "In addition to all the energy work, they need all sorts of infrastructure to support the rapidly growing populations."

In contrast, the economic boom from natural gas fracking in the Marcellus Shale formation in the Mid-Atlantic has become the victim of its own success.

"Pennsylvania and West Virginia were hot as a pistol, but natural gas prices have dropped so low that it no longer pays to extract there anymore," says Morrissey. "A lot of producers are putting corks into the holes and moving to Ohio, where the topography is easier to deal with."

## Health Care

The health care industry has been in a state of suspended animation for the past few years, awaiting some consensus in Washington over a new national health care law.

"There's been a lot of confusion, so we haven't seen the massive design and construction that we'd become accustomed to," says Mark Goodale, principal of Morrissey Goodale. "When we get some clarity on the law, the floodgates will open."

A hold-down on new hospital construction because of the pending reforms is evidenced by the results of the annual construction survey of hospital executives conducted by Health Facilities Management and the

## Year-to-Year Spending Comparison by Sector

Year	Percentage of Change			
	Power	Health Care	Water and Wastewater	Transportation
2010	-6	-10	3	-6
2011	7	2	-2	-3
2012	5	3*	5*	2
2013	9	9*	5*	5
2014	9	13*	6*	5
2015	12	11*	7*	4

Source: FMI \*Projected

American Society for Healthcare Engineering.

Survey results show that health care organizations planned to spend more on facility renovations than new construction in 2012 for a second straight year. What's more, some 30 percent of respondents say infrastructure will account for a larger part of their capital budgets—significantly more than for new construction.

But those numbers could be on the rise. FMI projects a 9 percent increase in health care construction in 2013 and 13 percent in 2014.

## Infrastructure

Budget crises fueled by political wrangling and anemic tax revenues due to slow job growth will keep the brakes on most infrastructure funding through at least the end of 2013.

After actually falling 3 percent in 2011, transportation infrastructure investment is projected to inch up 2 percent this year, according to FMI. After that, the investment pace will pick up slightly, rising 5 percent in both 2013 and 2014 and 4 percent in 2015. Water infrastructure, on the other hand, will average 6 percent annual increases through 2015.

"There is also a lot of crumbling water infrastructure that has been ignored too long. The work must be done," explains FMI's

Giggard. "Municipalities all over the country have demonstrated the willingness to pass bond issues to pay for it."

## Strong Markets

It's perhaps no surprise that the strongest engineering markets are in energy-rich states.

Western states will also see double-digit annual growth in the power sector through 2015. "California has a strong upside," says Morrissey. "California scares the bejesus out of people because of its fiscal problems, but it is such a big economy. There are counties in the state that can self-fund infrastructure spending without relying on the state."

Energy production will continue to power the Texas market, which performed well throughout the recession. "The state was relatively unscathed by the downturn," says Kogan. "It hasn't had as far to rebound."

Morrissey adds another potential growth region: Canada.

"They have a diversified economy; they didn't get into the boom and bust cycle; and they have tremendous energy plays," he says. "They also have a tradition of using public-private partnerships to get infrastructure built, so even that spigot is flowing."

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

# Legislative Action

## House, Senate Finalizing Transportation Bill; House Bid to Restrict Highway Funds Defeated

**H**ouse and Senate negotiators are finalizing a deal on a long-term surface transportation bill.

In addition, the House rejected a motion to cut investment levels, opting instead to protect current funding.

Members of the conference committee and their staffs have been meeting nearly every day for weeks to work out the differences between the Senate and House bills. The biggest hurdle continues to be how to support current funding levels for highway and transit programs. Budget projections show a depleted balance in the Highway Trust Fund in early 2013 without additional revenue or transfers. Lawmakers were reportedly seeking as much financing support as possible to sustain current funding levels at least to the end of F.Y. 2013, perhaps longer.



ACEC and other stakeholder organizations successfully rallied opposition to a nonbinding motion in the House to restrict expenditures to projected revenues into the Highway Trust Fund. Such a provision would have resulted in a 25 percent reduction in funding if enacted in the bill. The motion was resoundingly defeated by the House by a vote of 82-323.

Other key policy issues under discussion include highway program consolidation, project delivery streamlining, and state funding formulas.

ACEC continues to pursue its priorities in the bill, including funding stability, aggressive reforms to environmental review processes and project approval requirements, and a provision to promote the utilization of private-sector firms for engineering and design services.

“The infrastructure investments and program reforms in this bill will reap huge economic dividends across the country and should be enacted as soon as possible,” ACEC President Dave Raymond wrote to the members of the conference committee. “Failure to pass a bill will only subject our national transportation programs to further uncertainty and financial instability,” warned Raymond.

If necessary, Congress is expected to pass another short-term program extension to avoid a shutdown while a long-term bill is finalized.



Sen. Max Baucus (D-Mont.)

PHOTOGRAPHER: ANDREW HARRER/BLONBERG/GETTY IMAGES

## ACEC Engages On Tax Reform

**C**ongress is expected to consider broad-based tax reform next year, and ACEC is actively lobbying the House and Senate to ensure that all businesses, whether they are organized as C corporations or passthrough entities, are treated fairly.

Senate Finance Committee Chairman Max Baucus (D-Mont.) and House Ways and Means Committee Chairman Dave Camp (R-Mich.) have both publicly expressed support for a comprehensive approach to tax reform.

Camp is looking at the impact of tax reform on firms of all sizes and has invited ACEC to provide input.

Before turning to tax reform, Congress must decide how to address the expiration of large parts of the tax code at the end of December. The House is expected to pass a one-year extension of tax provisions passed in 2001 and 2003 by the end of July, but it is unclear whether the Senate will take up the legislation before the election.



Rep. Dave Camp (R-Mich.)

PHOTO BY BILL CLARKE/GO ROLL CALL

## President Signs ACEC-Backed Export Assistance Bill

President Obama signed ACEC-backed legislation into law to reauthorize the Export-Import Bank (Ex-Im) and increase its lending capacity to support the export of engineering services, manufactured goods and other products.

The Ex-Im has become increasingly important to U.S. engineering firms competing in the highly competitive global marketplace. As more international clients want firms to bring financing to the table when competing on large infrastructure projects, the bank fulfills this critical need.

Paul Weida, vice president of government affairs for Black & Veatch, said, "The financing options, loan guarantees and credit provided by the Bank are critical to leveling the international playing field for U.S. firms."

## Water, Energy Spending Bills on the Move

Spending bills that fund key federal construction programs are beginning to move through Congress, although proposed cuts in key areas may pose challenges for ACEC Member Firms and their clients in the coming months.

The House cleared a \$32 billion appropriations bill in June to fund the U.S. Department of Energy (DOE), U.S. Army Corps of Engineers and the Bureau of Reclamation in F.Y. 2013.

The measure provides the Corps of Engineers civil works programs \$4.8 billion, or slightly more than the \$4.7 billion

requested by the president, but \$187.8 million less than the 2012 funding level. The Senate Appropriations Committee's version of the bill increases the funding level above the president's request to \$5 billion, an increase of \$5 million above F.Y. 2012.

In the DOE budget, the House bill funds DOE defense environmental cleanup programs—used for the cleanup of sites contaminated by previous nuclear weapons production—at \$4.9 billion, while the Senate bill provides

\$5.1 billion. The president's budget requested \$5.47 billion.

The House Subcommittee on Interior-EPA made its recommendations for the State Revolving Funds (SRFs) for water and wastewater infrastructure—a key ACEC legislative priority. While the president's budget proposed \$1.18 billion and \$850 million, respectively, for the clean water and drinking water SRFs, the House subcommittee cut the Clean Water SRF by \$780 million, approximately 53 percent compared with current funding. The Drinking Water SRF was cut by the subcommittee by \$89 million, nearly 10 percent below this year's level. The Senate is expected to support somewhat higher funding levels.



CHARLES GULLING/GETTY IMAGES

### ISSUES ON THE MOVE

Highway, transit reauthorization

Water, energy spending bills

Industry tax issues

### WHAT'S NEXT

Possible conference report action before August recess

Final action expected after Election Day

Final action likely in post-Election Day tax package

## ACEC Advocates for S Corps, Extended Bonus Depreciation

ACEC has joined an effort to make it easier for firms that convert to S corporations to access capital.

The Council is backing the S Corporation Modernization Act of 2011, introduced by Reps. Dave Reichert (R-Wash.) and Ron Kind (D-Wis.), which would reduce the built-in gains waiting period from 10 to five years, permitting firms to access their own capital sooner without paying a tax penalty.

In addition, ACEC is leading an effort to reinstate the 100 percent bonus depreciation for 2012. From September 2010 through the end of 2011, engineering firms and other businesses were able to completely deduct qualifying investments in one year. This tax benefit fell to 50 percent in 2012.

Restoring the 100 percent bonus depreciation would assist engineering firms with purchases such as computers and software.

It is expected that these issues will be deferred until the end of the year, when Congress must address the expiration of the individual income tax rates and other parts of the tax code.



Rep. Dave Reichert (R-Wash.)



Rep. Ron Kind (D-Wis.)

### For More News

For weekly legislative news, visit ACEC's *Last Word* online at [www.acec.org](http://www.acec.org).

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# Handling Global Markets

By Bob Woods

Member Firm CEOs examine  
prospects, challenges in the  
**international marketplace**

## Takeaways

- >> Member Firms diversifying overseas.
- >> U.S. trade agreements, Ex-Im funding creating new opportunities.
- >> Commitment needed for long haul.

**I**t's hardly a secret that the downturn in the U.S. economy has stymied the types of construction and infrastructure projects that were once the lifeblood of domestic engineering firms. As companies look to grow their business and improve their bottom line, many leaders are now steering their firms to new opportunities in other parts of the world.

In this special feature, eight ACEC Member Firm executives with significant international market experience discuss the overall global business landscape and keys to success. >>



## Water Works

**Alan Krause**

**President and CEO**

**MWH Global, Inc.**

**Headquarters:** Broomfield, Colo.

**Recent international projects:**

*Canterbury Earthquake Recovery Program, Christchurch, New Zealand; Drainage Asset Management Program, Qatar*

**F.Y. 2011 international revenues:**

Private company, chooses not to break out international revenues; total revenues were \$1.4 billion

As its name implies, MWH Global comprises 7,500 employees operating out of 160 global offices in 35 countries. It's no wonder, then, that President and CEO Alan Krause understands the nature of doing business in foreign markets. "There are opportunities internationally for firms, certainly in the space that MWH operates in, which includes water, wastewater, water resources, natural resources and industry," he says. "Firms specializing in serving the U.S. federal government can find opportunities through a variety of agencies, such as USAID, the Millennium Challenge Corporation, the Inter-American Development Bank, the U.S. Trade and Development Agency and similar internationally funded institutions."

Krause says the challenges that face firms operating outside the United States are multifold, from payment risk to foreign exchange exposure to risks to human safety and health. The main obstacle, he says, is that American companies have a tough time "competing against local firms with lower overheads, or other international firms that have a different interpretation of risk or corruption."



Alan Krause

U.S. firms don't want to necessarily displace technically qualified local firms, explains Krause, "but rather want the opportunity to compete for those procurements where U.S. firms deliver expertise and technology not found in local markets." He says "a level playing field will balance the need for low-cost solutions with the need to deliver maximum impact, and incentivize local firms to bring on U.S. firms to deliver that assistance."

Despite the risks, he says, MWH will continue marketing its water-related services in emerging and mature regions worldwide, often by seeking strategic partnerships. "We offset the higher risk exposure," Krause says, "by typically working for U.S., Canadian, Australian or British clients that are developing opportunities globally."

## The 40 Percent Footprint

**Dan Batrack**

**Chairman and CEO**

**Tetra Tech, Inc.**

**Headquarters:** Pasadena, Calif.

**Recent international projects:** *Panama Canal, third set of locks, Panama; Kabul City Initiative program, Afghanistan*

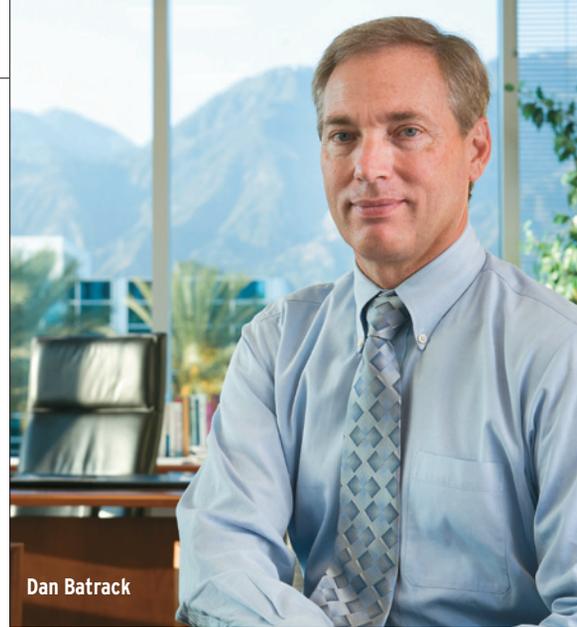
**F.Y. 2011 international revenues:**

\$596.7 million

When Dan Batrack, chairman and CEO of Pasadena-based Tetra Tech, Inc., talks about the strategic growth plan driving his firm's global expansion, he talks in numbers. "Three and a half years ago, less than 1 percent of our work was contracted outside the United States. Today we're at 31 percent, and we expect that within the next two years we'll be at over 40 percent."

Batrack attributes Tetra Tech's "inherently transferable and transportable expertise" in watershed management, environmental assessment and remediation, and water supply and treatment as the reason for its continued growth overseas. "The physical processes and the chemistry are the same here as in China, India, Africa or South America," he says, "so if you have transportable expertise, there are excellent opportunities around the world."

It's not quite that simple, though. Exporting the firm's skill sets, specifically to commodity-driven growth economies in Canada, Australia and South America, also involves a keen understanding of



Dan Batrack

local issues. "That understanding ranges from the climate and the geology to the culture and the politics," Batrack explains. "Through either an acquisition or a collaboration, we apply our technical expertise to solving those issues. We don't just show up and compete cold in a foreign location."

As he looks to grow his firm's overseas business, Batrack cheered Congress' reauthorization in May of the Export-Import Bank's (Ex-Im's) charter, which helps finance the export of U.S. goods to other countries, though he says that the funds could be more inclusive. "Ex-Im's funding has been incredibly successful for manufactured goods and products, such as aircraft and industrial machinery," he says, "but I'd like to see it widened to include technical services like those that Tetra Tech provides."

To reach the firm's 40 percent international goal, Batrack expects continued promise in developing economies, in particular Brazil and Chile, where Tetra Tech completed local acquisitions earlier this year. "These countries need water and power for resource extraction, which means they'll need ports, harbors, infrastructure and piping, the type of work that U.S. engineering firms can do."

## A Quicker Pace

**Thomas Scarangelo**

**Chairman and CEO**

**Thornton Tomasetti, Inc.**

**Headquarters:** New York City

**Recent international projects:** *Carrasco International Airport, Uruguay; Taipei 101 office tower, Taiwan; Qatar Education City Convention Center, Doha, Qatar*

**F.Y. 2011 international revenues:**

\$33 million

Thomas Scarangelo, chairman and CEO of Manhattan-based Thornton Tomasetti, sees a broad range of opportunities for U.S. engineering firms around the world, though not in any single, consistent category. "The one thing that we have seen," he says, "is that everybody is struggling with budget and building more efficiently to meet their postrecession pro formas."

These market demands play well with what Scarangelo feels are his firm's competitive strengths. "The advanced-delivery tools and methodologies that we've been developing for the past 10 years have been a real differentiator in all markets where we're either in or trying to break into," he says. "We're breaking down the barriers between our work and the downstream users." In the steel industry, for example, Thornton Tomasetti engineers develop models that go directly to the fabricator's cutting machines, avoiding the traditional interim step of having drawings interpreted beforehand.

Overseas, the company has worked to move closer to its clients. Instead of overseeing projects from New York, the firm has established offices in Mumbai, Moscow and other cities outside North America, aiming to overcome the challenge of



Thomas Scarangelo

navigating the local landscape of hiring practices, tax laws and business practices.

"There are no markets where you can just parachute in and provide services," Scarangelo says. "There is a substantial investment in time, research and effort to establish a viable presence. If you're not in it for the long haul, you shouldn't move into any market, because it takes years not

only to understand and to integrate, but to become productive and profitable."

With a growing focus on international business, Scarangelo says U.S. firms could benefit from clearer guidance and more support from the federal government. "It would be nice if we could get clear, reliable data as to what the barriers are in each marketplace," he says.

Scarangelo added that Thornton Tomasetti will continue to explore opportunities in countries and cultures with growing populations, "where we see cities attracting more and more people. Building vertically and creating the supporting structures for that density is something that we continue to follow," he says.

## A Surgical Approach

**Richard Fox**  
Chairman and CEO  
CDM Smith

**Headquarters:** Cambridge, Mass.

**Recent international projects:** *Khana Mori girls' middle school, USAID Pakistan Reconstruction Program; Environmental improvements, Ho Chi Minh City, Vietnam*

**F.Y. 2011 international revenues:** \$199.5 million

Last year's merger of Camp Dresser McKee and Wilbur Smith Associates created CDM Smith, headquartered in Cambridge, Mass. The company has nearly 6,000 employees working from more than 120 offices, including overseas operations. The deal combined CDM's background in environmental infrastructure with Smith's strengths in designing transportation projects. This synergy has also empowered the new company to pursue a broader range of opportunities in developing and mature markets outside the United States, says Chairman and CEO Richard Fox, who has always believed in a deliberate approach to new business development.

"Firms would be well advised to be surgical, meaning not chasing every market. Pick them carefully, and focus on providing a high-value proposition that the market is willing to pay for," he says. "The opportunities are there, but you can't be a one-sector firm. You have to pursue water, general infrastructure and facilities projects if you're going to grow on a sustained basis."

Beyond identifying new markets to grow into, Fox says it's important that



Richard Fox

firms not get entangled in murky or potentially corrupt business deals when working with overseas clients, particularly during the selection process. "You need to have your eyes wide open," he says.

Fox says the federal government has made efforts recently to make international business dealings safer and more open, and he hopes those advances continue. For example, USAID, with assistance from the U.S. State Department, has on several occasions insisted that U.S. grants be managed through USAID contracts, rather than local contracts, to ensure transparency.

"The administration should continue to apply political pressure on every nation to employ open and transparent business processes," he says. "That's as much a political, diplomatic issue as it is a commercial issue." Additionally, he says, the federal government needs to be aggressive in pursuit of tax relief for corporate America, "just to maintain its competitive posture."

Fox sees significant opportunities for U.S. engineering firms in global markets, particularly where they can partner with U.S. multinationals establishing oil, gas and mining operations. "Many of those companies are anxious about their legacies," he says. "If you look back at the last 30 years, American corporations, particularly chemical companies, spent a lot of money on remediation. None of them want to leave another legacy issue, so they are looking for responsible engineering and construction firms that have experience in meeting high environmental standards."

## A Smart Balance

**Alvaro Piedrahita**

**President and CEO**

**T.Y. Lin International**

**Headquarters:** San Francisco

**Recent international projects:** *USDITA El Dorado Airport Master Plan Update, Bogotá, Colombia; Thomas MRT Mainline, Package "B," Singapore; Twin River Bridge, Chongqing, China*

**F.Y. 2011 international revenues:**

\$125 million

From its San Francisco world headquarters, T.Y. Lin International (TYLI) began developing a market for its multidisciplinary engineering services in Asia and Latin America in the 1970s. "I am from Latin America, so I have always been bullish on international opportunities," says president and CEO Alvaro Piedrahita. "But the challenges in the U.S. economy and business climate over the last three to five years moved us to increase our presence in those areas." TYLI's business accounts for almost 50 percent of its current revenues, up from nearly 37 percent in 2008.

Given that vast global experience and his personal background, Piedrahita is well versed in the cultural, language and regulatory differences between domestic and foreign markets (half his firm's projects operate on the metric system). Despite a wealth of international opportunities, he



Alvaro Piedrahita

says, persuading a new generation of engineers, especially Gen Xers and Millennials, to think globally presents a challenge. Work-life balance is important for a lot of younger employees, and not everyone is willing to travel and work abroad.

As he works to overcome these challenges, he says, recent trade agreements between the United States and countries such as Colombia and other Latin American countries are opening doors in emerging regions.

He also lauds the efforts of the Overseas Private Investment Corporation (OPIC), the nation's development finance institution. "OPIC brings a lot of opportunities when they come into a country and are able to either finance or guarantee funding," Piedrahita says. "That creates a big advantage."

T.Y. Lin International will continue to focus on international markets with growing economies. "In Asia, the infrastructure—rail transit, highways and bridges—is paramount to generate growth," Piedrahita says. "From Mexico south, you're looking at more than 560 million people, with huge infrastructure needs and growth potential. The key is working with politically and economically stable countries."

## A Risk Worth Taking

**Jeffrey Lindsey**

**President and CEO**

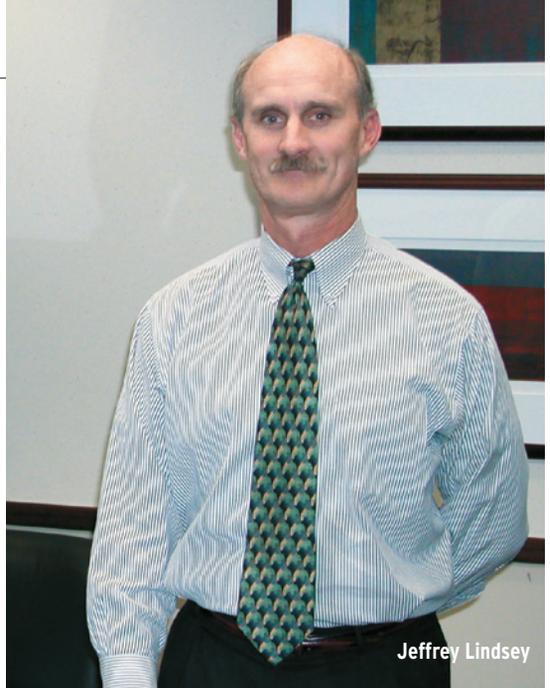
**Alpha Corporation**

**Headquarters:** Dulles, Va.

**Recent international projects:** *Eldorado International Airport, Bogotá, Colombia; Dubai International Financial Centre, UAE; Meydan Racecourse, Dubai, UAE*

**F.Y. 2011 international revenues:** N/A

Since 2007, Alpha Corporation, in response to the soft U.S. market, has opened offices far afield from its Dulles, Va., headquarters. "Although we have been working internationally on and off since 1990, in the last five years there's been a much higher level of commitment to expand our presence," says President and CEO Jeffrey Lindsey. Alpha offers services on infrastructure, buildings and energy projects from foreign offices in Oxford,



Jeffrey Lindsey

U.K.; Bogotá, Colombia; and Jeddah, Saudi Arabia. "And we will have one soon in Brazil," he adds.

"The level of opportunity is substantial," says Lindsey, speaking generally of global expansion by engineering firms, yet posing one essential caveat: "The issue is the willingness of firms to take on a higher level of risk, as opposed to the comfort level of working in the United States."

These risks include dealing with inherent challenges, such as language and cultural differences. "You need to know how they do business in other countries, their customs and so on," Lindsey says. The greatest challenge, though, is building relationships. "We go through private sources and contacts that we have," he states. "In some cases, we use lobbying firms to provide assistance. We certainly make use of U.S. embassies and the Commerce Department. We don't want to find out later we're dealing with an organization with a reputation that doesn't meet our standards and could turn into a problem."

While he praised the reactive efforts of U.S. embassies and the Commerce Department, Lindsey wants to see more from the federal government. "I'd like to see them be more proactive in providing communications about business opportunities in regions we serve," he says.

Lindsey says Alpha plans to open an office in Asia this year and may not stop there. "India and Africa are very promising markets," he says, citing the Obama administration's policy of increasing exports to Africa in particular. "For us, it's a matter of putting resources there," he says.

## Through the Storm

**Manish Kothari**

**President**

**Sheladia Associates, Inc.**

**Headquarters:** Rockville, Md.

**Recent international projects:**

Road network improvement project, Afghanistan; Northern corridor road project, Kenya

**F.Y. 2011 international revenues:**

\$20 million

“There is no shortage of opportunities in places such as Africa, Asia and even in certain markets in Europe,” says Manish Kothari, president of Sheladia Associates and chairman of ACEC’s International Committee. “But there’s a catch,” he says. “It takes a lot of connections and understanding to convert those opportunities into realistic projects.”

Kothari says the single biggest challenge that U.S. firms face when doing business overseas “is that it’s not a fair playing field. Whether you talk about procurements, license requirements or gathering information, U.S. firms are so disciplined in their approach, but foreign competitors don’t play by the same rules.”

Despite the successful track records and proven capability of U.S. firms, Kothari says it’s tough to compete with the “winning and dining” of prospective clients by international competitors, many of which have better access to top decision makers.

Under Kothari the ACEC International Committee is urging U.S. govern-



Manish Kothari

ment officials to do more to improve international prospects for U.S. firms. “Legislation to require U.S. agencies to use qualified engineering firms to provide oversight and technical services on U.S. funded projects would increase jobs for firms of all sizes in our industry. Surprisingly, no such requirement exists today and such work is often performed by non-engineering firms,” he says. “The World Bank does not allow a nonengineering firm to bid on engineering projects. Why are we not holding ourselves to the same standards?”

Sheladia continues to eye opportunities in overseas infrastructure markets, particularly in Asia, Australia and Africa. Kothari cites India’s ongoing need for railways, highways, ports and medical facilities, as well as Africa’s abundance of natural resources, which creates opportunities in mining, energy and roads.

## Be Selective

**George Pierson**

**President and CEO**

**Parsons Brinckerhoff**

**Headquarters:** New York City

**Recent international projects:** *Jacynth-Ambrosia mineral sands mine, South Australia; Gippsland water factory, Traralgon, Australia; Al Hidd power and water plant, Bahrain*

**F.Y. 2011 international revenues:**

\$1.2 billion

George Pierson, president and CEO of Parsons Brinckerhoff (PB), says his firm has become more discerning in marketing its infrastructure and transportation services outside the United States in recent years. “The opportunities are very good,” he explains, “but they are selective.” Noting the many barriers to entry, as well as barriers to success, Pierson offers advice for evaluating international markets. “The trick is identifying the risks,” he says. “Be discerning in the geographics where you want to do business and carefully plan your entry into new locations by understanding the culture and overarching market.”

The ability to recognize new opportunities in an ever-shifting marketplace is key to PB’s international business. “The U.K. market is not as robust today as it was four years ago, while Asia and Australia are as, if not more, robust,” Pierson says. Certain areas of the Middle East are also stronger.



George Pierson

Employing 14,000 people in nearly 150 offices on five continents, 127-year-old Parsons Brinckerhoff, the professional services division of Balfour Beatty, is experienced in dealing with cultural and regulatory challenges in foreign countries. A different type of struggle, though, “is getting the right people, with the right qualifications, at the right locations,” Pierson says. “It’s difficult enough in today’s economy, when you have two-income households, to ask someone to move from New York to California. But asking them to move from New York to Qatar adds another layer of complexity.”

Creating satisfying opportunities for its expats is an ongoing focus as the firm continues to explore projects in the Middle East, Europe, Australia, Canada, Asia and other places where it maintains regional headquarters. Pierson says he wishes access to these projects would improve, ideally as a result of increased efforts by U.S. foreign embassies and commercial attachés to level the competitive playing field. “It should be based on qualifications, along with pricing, or whatever objective criteria is necessary for the project, rather than what type of relationship one might have to strike,” he says of the selection process. “We prefer the U.S. government press these issues even harder, because the world is moving in that right direction.” ■

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



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# 2012 Professional Liability Insurance Survey of Member Firms

# Good News for Firms on Rates

By Maureen Conley

**S**trong competition among insurance carriers and a resurgent business climate in the engineering design sector is keeping Professional Liability Insurance (PLI) rates in check as many firms start to take on new work, according to the 2012 ACEC Professional Liability Insurance Survey of Member Firms. >>

Of the 341 Member Firms that participated in the survey of their F.Y. 2011 liability insurance experience, more had higher revenues in 2011 (48 percent) than losses (34 percent)—the reverse of 2010, when nearly 45 percent of respondents reported declining revenues compared with only 36 percent who reported growth, says Chuck Kopplin, member and former chairman of ACEC's Risk Management Committee.

With more than 50 PLI carriers in the market and more projects in the pipeline, liability insurance is readily available. Practically all firms who responded had some form of PLI in 2011. Results show that five PLI carriers—XL Design Professional, CNA/Schinnerer, Beazley, Travelers and Catlin—insure 71 percent of surveyed firms.

Design firms across the board were largely satisfied with their broker, with 99 percent saying they are at least “somewhat satisfied” with their broker and two-thirds “very satisfied.” Kate Frownfelter, senior vice president at CNA/Schinnerer, attributed the level of satisfaction largely to brokers' willingness to help manage risks, speak in terms customers can understand,

and work as “trusted advisors” for design clients.

Knowledgeable brokers can “match design firms very favorably” with PLI carriers, says Jeff Connelly, senior vice president at Marsh, the exclusive broker for the ACEC Business Insurance Trust.

In fact, broker recommendation was deemed the most important factor for respondents in selecting a carrier (31 percent), ahead of claims expertise (28 percent) and price (27 percent). Of the 59 Member Firms that reported changing carriers last year, 22 percent did so because of advice received from a broker.

### Why Switch Carriers?

Design firms opting to change a carrier have options—perhaps more so than in recent years. Of the firms that reported changing carriers this year, 70 percent received more than one alternative from their broker. Despite the competition,

Kopplin says, the number of firms that reported changing carriers in 2011 is consistent with previous years.

The biggest factor in the decision to change PLI carriers last year remained lower premiums (50.8 percent), followed by better policy terms (30.5 percent).

Beazley A&E focus group leader Jim Schwartz says most PLI policies provide similar basic coverage, though some carriers offer unique enhancements such as technology coverage, crisis management reimbursement and mediation deductible credits.

Another reason many firms switch PLI carriers is to acquire the benefits associated with a multi-year policy, which spares executives from annual renewal, suggests Leslie Pancoast, president of a/e ProNet and managing partner at IOA. Still other firms have expressed interest in “first-dollar” policies, which pay all costs associated with defending a claim and apply the deductible once the claim is settled.

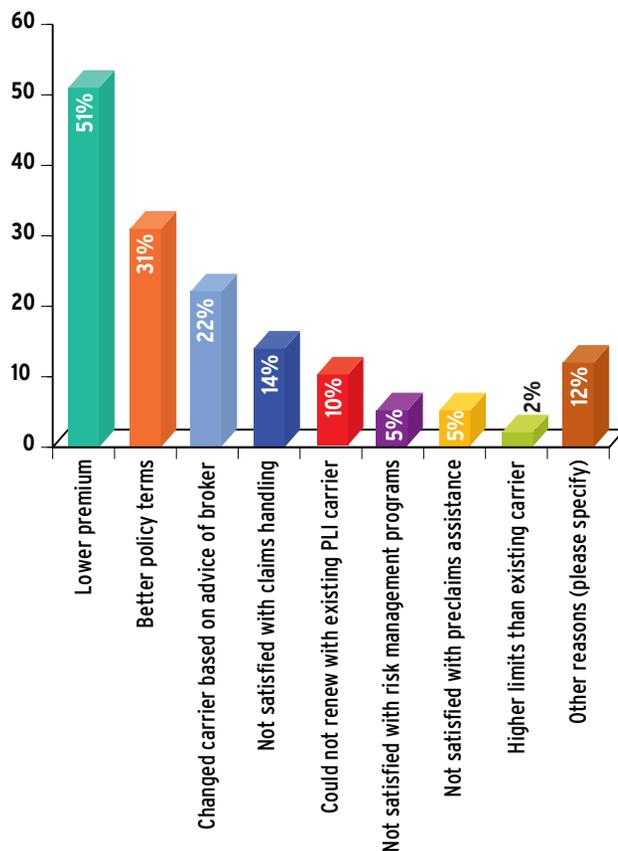
Firms that do business outside the United States must be especially careful when shopping for a PLI carrier. Policy language varies on worldwide coverage, says Pancoast. Some policies cover claims brought in the United States and its territories; others cover claims brought anywhere. Still others might require a firm to defend itself against an international claim but offer reimbursement once it has matured, she says. Some firms choose to forgo international coverage altogether. Pancoast says it's worth asking carriers if they offer endorsements for international projects before making that decision.

### More Than a Service Provider

Successful design professionals view insurance carriers as partners, says Michael Yost, vice president and general counsel of Terracon. With 2,800 employees in 150 loca-

## Reasons Why Firms Changed PLI Carriers

(by Firm Size)



Source: 2012 ACEC PLI Survey of Member Firms

tions across the United States, Terracon relies on the risk management experience of its PLI carrier, which helps the firm assess strategies and opportunities before taking on a project.

Risk management programs vary. Han-son Professional Services relies on its carrier's contract guide to push back on contract language, says Senior Vice President Jim Messmore.

Matt Richards, vice president and corporate secretary at Strand Associates, says agreement review services are increasingly important, especially as contracts become more complex and indemnification clauses “more onerous.” A good carrier will help a firm avoid uninsurable clauses.

Carriers are also using technology to interact with clients. Webinars have become a popular tool for communicating risk management strategies, says Messmore. Some states even count participation in online workshops toward professional development hours.

John Farrar, vice president of Clark Dietz Engineers, says in-house presenta-

**48%**  
Percentage of Member Firms that reported higher revenues this year.

Source: 2012 ACEC PLI Survey of Member Firms

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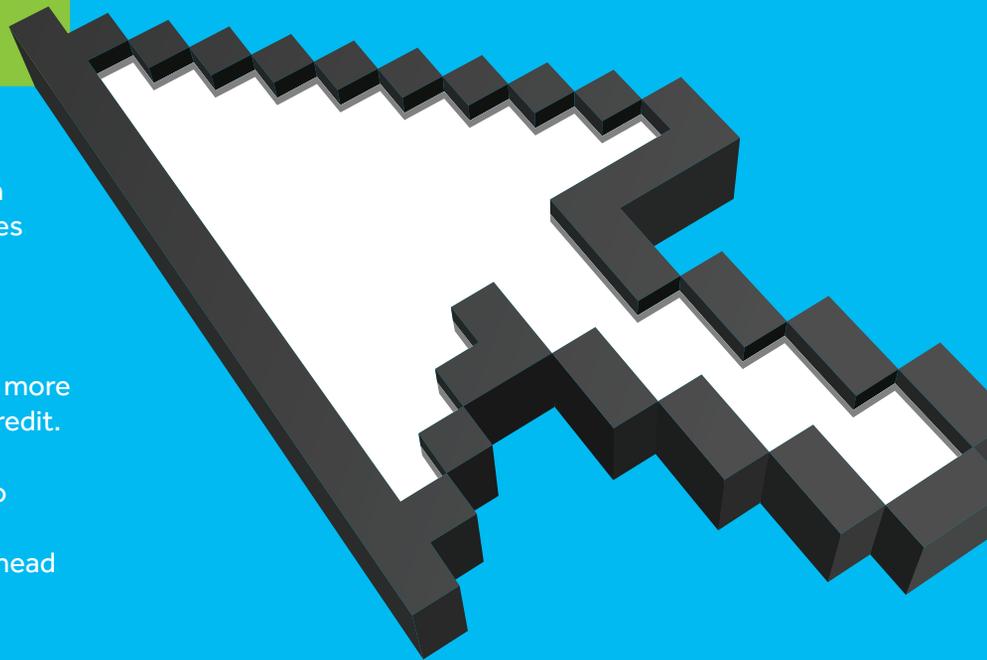
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tions and webinars highlight the importance of communication and client selection. It is "good for young engineers" to hear those messages reinforced by the carrier, he says.

Preclaims assistance is also crucial, adds Strand's Richards, especially from carriers with historical knowledge of the industry. Claims handling experience is "really what you are buying," even if you hope never to use it, says Al Rabasca, director of industry relations for XL Design Professional. A firm's relationship with its PLI carrier means a lot, especially when claims come in, says Richards. Strand regularly looks at different options and asks its broker whether its existing policy reflects the broader market, although the firm has been with the same carrier for years. "I don't think anyone takes switching carriers very lightly," Richards says.

The survey indicates that the respondents spent 44,550 personnel hours defending claims last year—"significant" time that cannot be billed, Rabasca says. All told, firms and their carriers paid nearly \$63 million on claims. This has increased over the last several years and appears to be a trend, perhaps driven by increasing discovery demands by the plaintiff's bar. Email, texts and virtually all electronic data are now fair game and, accordingly, must be factored in when determining litigation costs. Even more far reaching, as potential costs these should be considered at all phases of a project from contract negotiations through project completion, says Rabasca. More time considering and reducing risk factors during a project should reduce personnel hours spent defending claims.

Survey results show that the number of claims filed has remained constant, despite an expectation that the poor economy and other factors might send them higher. "The fact that

claims haven't increased yet to me means it isn't going to happen," says Kopplin, who thinks firms are making smart choices about projects.

Claims continue to result primarily from asserted communications breakdowns and errors or omissions of a technical nature, according to the survey. Firms with more than \$5 million in revenues are more likely to have claims asserting technical errors or omissions—possibly a reflection of the more innovative and often riskier technologies employed by larger firms, Kopplin says. Firms with revenues higher than \$50 million are twice as likely as other firms to have claims regarding project management, which Kopplin says is a byproduct of the size of projects they handle.

**50.8%**  
Among Member Firms that changed carriers this year, the percentage that cited lower premiums as the cause.

Source: 2012 ACEC PLI Survey of Member Firms

Large firms are also more likely than smaller firms to settle claims within their deductible, avoiding a carrier payout, which can help with a firm's loss history.

Of the firms that paid to resolve a claim, 29 percent said the claim was "frivolous." CNA/Schinnerer's Frownfelter says there can be "more than just money at risk" when a claim comes in. For the firm, the expense of litigating includes a significant time and emotional commitment, says Rabasca. The carrier is less emotionally invested and can weigh the

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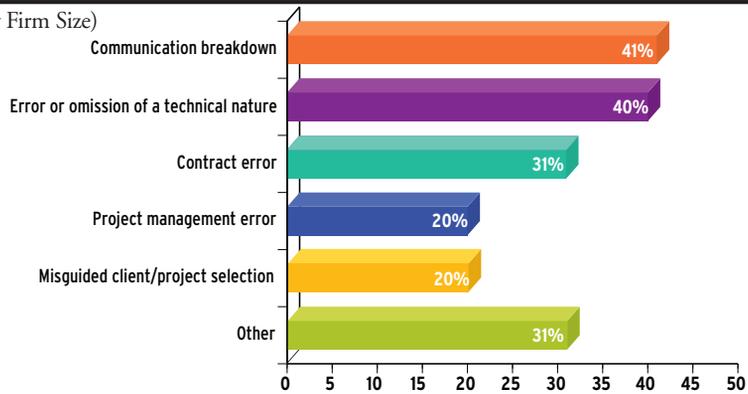
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## Causes of Claims

(by Firm Size)



Source: 2012 ACEC PLI Survey of Member Firms

chance of prevailing at trial as well as the financial cost, which is another reason for the provider and firm to work in tandem. It's important for both carrier and firm to consider "the financial realities, in addition to pure issues of right and wrong," says Rabasca. Both the carrier and the firm need to be prepared to reevaluate as new information comes in.

Sometimes it's worth settling a claim just to maintain a relationship. Clark Dietz has settled smaller claims for which it did not feel fully responsible in order to stay in good standing with a client, says Farrar. In some cases, the contractor may have been mostly responsible, but was "long gone" when the claim came in. If a public agency thinks the designer should fix a problem and the firm can, it probably will, Farrar says, especially if the relationship is important or could lead to future business down the road.

### When to Turn Down Work

When it comes to taking on tough projects, sometimes the risk is not worth the reward. Survey results show that some 66 percent of firms say business is affected by the mere threat of claims. "There is no question that risk factors are impacting the engineering industry, suppressing growth and stifling creativity on projects," says Strand's Richards. Despite a more robust economy, he says firms routinely turn down work for the same reasons: "unfair indemnification, shift of construction site safety responsibility to the engineer, nonnegotiable agreement clauses and cost-based selection. We are just seeing

these things more frequently now than in the past."

Like many firms, Yost says Terracon reports changes in contract terms and a "diminished ability to negotiate." It's his belief that Terracon has lost out on work to smaller firms that have expressed willingness to take on riskier contracts.

Messmore says that Hanson avoids projects and clients that tend to carry higher risks, so it rarely turns down work. However, he says, it's not uncommon to run into clients that expect the engineer or designer to take on the liability that comes with defending an entire project.

Clark Dietz also steers clear of risky work, says Farrar, either because it's too busy or because the scope of work is not within its area of expertise. Occasionally, Clark Dietz

will turn down a project "because we don't think we can make money on it," Farrar adds. The firm also keeps its distance from clients prone to "scope creep," the term for services requested without payment that go beyond the scope of an initial contract.

Yost urges firms to have "an effective process" for comparing the risks and rewards of new clients and services. It is "good business" to take a long-term view on new projects and weigh "the immediate revenue" against potential costs from a claim, Yost says. That's why Terracon regularly turns down work that does not have "a reasonable risk profile." ■

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

**"There is no question that risk factors are impacting the engineering industry, suppressing growth and stifling creativity on projects."**

MATT RICHARDS  
STRAND ASSOCIATES

## Understanding Antiquated Structural Systems

Design professionals frequently encounter 10 distinct structural systems in urban areas that they deem antiquated. These systems typically employ engineering theories and construction experiences of bygone eras, including the use of load tables that were commonly developed and published by the manufacturers.

Engineers involved in renovation projects have to understand the specifics of antiquated structural systems in order to develop nondestructive and unobtrusive solutions. An ACEC webinar scheduled for Sept. 18 will review antiquated structural systems, including the S.M.I. reinforced concrete slab system, clay tile arched floors, one- and two-way tile and unit masonry joist systems, prefabricated clay tile and concrete block framing systems.

Presented by Matthew Stuart of Pennoni Associates, Inc., the webinar will also discuss the early development of precast concrete, structural steel composite stub girder construction, post-tensioned concrete, wrought and cast iron, open web steel joists and other venerable systems.

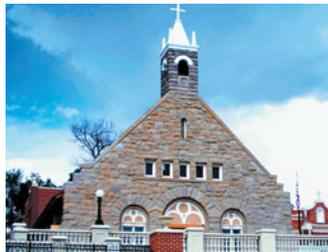
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ACEC is collaborating with the American Society of Civil Engineers (ASCE) to host the Registered Continuing Education Program at RCEP.net, a nationwide continuing education management system.

ACEC and ASCE will establish an independent review board to facilitate education provider approvals and serve as the third-party authority that guarantees that RCEP providers are adhering to effective practices.

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CTL|Thompson, Inc., of Pueblo, Colo., earned a 2012 EEA National Recognition Award for designing a new structural system for the 1900s-era Mount Carmel Church in Colorado Springs, Colo.

RCEP.net serves as a portal for thousands of educational offerings, searchable on the master calendar of activities and the accompanying PDH records as reported by approved providers and issued to individual professionals. Professional engineers and surveyors can use RCEP.net to track their professional activities in RCEP.net by storing certificates of completion issued by RCEP providers, uploading important professional documents, maintaining a complete PDH history through the self-reporting of outside activities and downloading transcripts.

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## New CASE Tool Addresses Deteriorating Client Relationships

Poor communication is frequently cited among the top reasons for deteriorated client relationships and claims. The CASE Tool 4.5: *The Project Communication Matrix and Coordination Log* is designed to make it easier to maintain consistent project communication standards and to document and communicate project coordination decisions.

The Excel-based tool is easily adaptable for individual firm needs, and provides an easy-to-use and efficient way to establish and maintain project-specific communication standards, and to document key project-specific deadlines and program/coordination decisions that can be communicated to a client or team member for verification. This new tool, as well as other ACEC Coalition products, can be purchased through the ACEC e-Store, [www.BooksforEngineers.com](http://www.BooksforEngineers.com).

CASE is one of ACEC's Professional Communities—including active coalitions and forums—that provide a place for individuals from across the A/E/C industry who are seeking specific resources for information-sharing, best practices and networking. These communities offer professionals easy access to information pertaining to their area(s) of specialty. To see a complete listing of ACEC's various Professional Communities and get further information and membership opportunities, visit [www.acec.org/coalitions](http://www.acec.org/coalitions).

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Additional Member, Same Firm	\$850	\$950
First-Time Attendee (Member)	\$850	\$1,095
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ACEC’s room rate is \$250, single/double occupancy, plus tax for the Cloister Traditional Rooms and \$279, single/double occupancy, plus tax for the Tower Estate Rooms. Room reservation must be received by **Sept. 12**. Reservations received after this date, or after the group block sells out prior to this date, will be on a space- and rate-available basis. A deposit of one night’s stay plus tax is due at the time the reservation is made. Check-in time: 4 p.m.; checkout time: 11 a.m.

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New York City/  
London

In the spring of 2011, Thornton Tomasetti began engineering the building skin for a new mixed-use commercial office and retail and residential complex in the planned Linkong Economic Park adjacent to the Hongqiao Transportation Hub near Shanghai.

Working with Zaha Hadid Architects and the developer, the firm's scope of work calls for consulting facade engineering services for the architect, including facade design drawings, facade performance speci-

fications and preliminary calculations for framing, glazing, vertical glass fins, opaque metal cladding and coordinating the work of the project's thermal, fire, acoustic and optical design consultants.

"The goal is to develop a high-scale investment property in Shanghai with a cost-effective design that will be profitable for stakeholders and be an iconic development and key attractor for the region when construction is completed in 2014," explains Sergio De Gaetano, director of the Building Skin practice at Thornton Tomasetti and principal-in-charge of the Sky SOHO project.

The firm developed a unique building envelope that consists of a fully prefabricated curtain wall system, which

is, De Gaetano explains, "a cost-effective and efficient solution to the large quantity of repeating facade elements that are required for the project." Sustainable building and design features of the facade include thermally broken unitized curtain walls with double-glazed units, spectrally selective low emissivity coatings, and high-performing insulation materials and shading devices. Thornton Tomasetti was brought in to balance the project's international design with its complex geometry and budget requirements. "Zaha Hadid and Thornton Tomasetti have offices near each other in London, so team members could assist with the design efficiently, replacing some of the more expensive elements and balancing cost with the need to



Sergio De Gaetano

deliver an aesthetic and futuristic design, while our staff in Shanghai worked with the local state-run design agency, as well as the developer," De Gaetano says. The effect was efficient collaboration and coordination between the London-based design team and the companies' presence in Shanghai.

"Working overseas in a different culture with new political considerations requires overcoming language barriers and being patient, open and willing to maintain a collaborative approach throughout the design team," De Gaetano says.

## Member Firms Bring Innovation to International Projects

**PROJECT:**  
London 2012  
Olympic and  
Paralympic Games

**FIRM:**  
Atkins, London

In 2005, the Olympic Delivery Authority selected Atkins, London, as the official engineering design services provider for the London 2012 Olympic and Paralympic Games and for the engineering design and preparation of the main Olympic Park site, which will transition into an urban park after the Games. The London Olympic Organising Committee of the Olym-



Mike McNicholas

pic and Paralympic Games (LOCOG) charged Atkins with using the historic backdrop of London to showcase the event and with providing engineering design services for construction of temporary sports and other venues, creating a platform for the most green, sustainable Olympic Games ever held.

To meet LOCOG's sustainable target, Atkins mapped a complete carbon footprint of the Games that included an embodied carbon analysis of all commodities, strategic reductions in vehicle movement to decrease transport emissions, and widespread use of recyclable materials.

The company's responsibilities as part of the \$800 million project will conclude in 2012, following the completion of legacy work.

To create the new Olympic Park, Atkins oversaw the investigation and remediation of nearly one square mile of a

brownfield heavily contaminated by previous industrial uses. The firm also designed 30 bridges and underpasses to create essential links across the Olympic Park. Concurrent with soil remediation, Atkins revitalized more than 1.9 miles of rivers and canals that weave through the park, including hydraulic modeling for flood control and bioengineering riverbanks to facilitate one of the largest urban wetlands habitats in the U.K.

The firm developed roughly 130 temporary event venues and facilities, including an estimated 55 sports arenas for 14,700 athletes, with 250,000 seats, 41 acres of tents, 87 miles of fencing and 155 miles of crowd barriers. "The aim of the LOCOG that we met in designing these Olympic facilities was to create a permanent feel from temporary materials that will all be removed without a trace after the international

event ends in September," says Mike McNicholas, project director.

The remediation challenge meant maintaining a nine-month schedule of removing 2 million tons of contaminated soil and cleaning and chemically stabilizing it, restoring it, and replacing it on-site. "We worked collaboratively with the construction contractor to plan access and to perform scientific modeling based on historic records," says McNicholas. The firm adopted a coordinated approach with all the contractors across the Olympic Park site to promote maximum efficiency and flexibility in logistics, design and construction work. "The coordinated and sustainable approach emphasized by this project demonstrates to emerging nations that a country can host the Games well without the expense or invasiveness of limited-use permanent structures," McNicholas says.

# Sustainable Design for Olympic Games

**PROJECT:**  
North Coast  
Highway, Jamaica

**FIRM:**  
Stanley  
Consultants, Inc.,  
Muscatine, Iowa

**S**purred by a call from Prime Minister J.P. Patterson to stimulate the economy and tourist trade, the Jamaican government recently undertook the expansion of the island nation's North Coast Highway. As the major tourist artery from Mon-

tego Bay to Negril on the west end of the island and to Port Antonio on the east end, the highway serves as a highly visible, virtually maintenance-free symbol of the nation's commitment to tourism.

Stanley Consultants, Inc., of Muscatine, Iowa, began design of a new 186-mile, 40-foot-wide, two-lane asphalt highway, 23 accompanying bridges and a new drainage flood control system in the fall of 1993. The project was divided into three segments, each of which was separately funded, with initial construction on the westernmost section beginning in 1996 and the easternmost, final section completed in March 2010.

"Design for all three segments of the project was performed at the same time and included roadway geometrics, structural design, realignment of the old roadway with new bypasses around communi-

ties and drainage," explains Bob Jacobs, vice president of Stanley Consultants and senior project manager and chief transportation engineer. The company was also responsible for construction management, including contractor oversight. Funding for the third segment came from the European Union (EU), and the construction management contract for that segment was awarded to an EU firm.

"One of the biggest challenges of the project," recalls Gary Foster, vice president and project principal, "was working in the very hilly terrain of Jamaica's North Coast." The contract mandated a minimum design speed for traffic of approximately 55 mph. There were a number of communities to bypass, all of which meant larger cuts into the hills than is typical in Jamaica. Poor soil conditions in certain areas,

such as swamps and wetlands, required a combination of deep foundations for bridges and the extensive use of geotextile materials to strengthen embankments.

Stanley Consultants was also tasked with reducing the impact of the expansion on adjacent properties. "We approached this challenge by using mechanically stabilized retaining walls to eliminate grade issues and the need for more land to accommodate the widened road," says Andrew Evans, manager of the firm's Jamaica office.

The project has slashed the average commute from Negril to Port Antonio from six hours to just under three hours. "The largest infrastructure project ever undertaken by the Jamaica government and now considered a national treasure, the North Coast Highway has forever changed the economy of the country," says Evans.



Andrew Evans



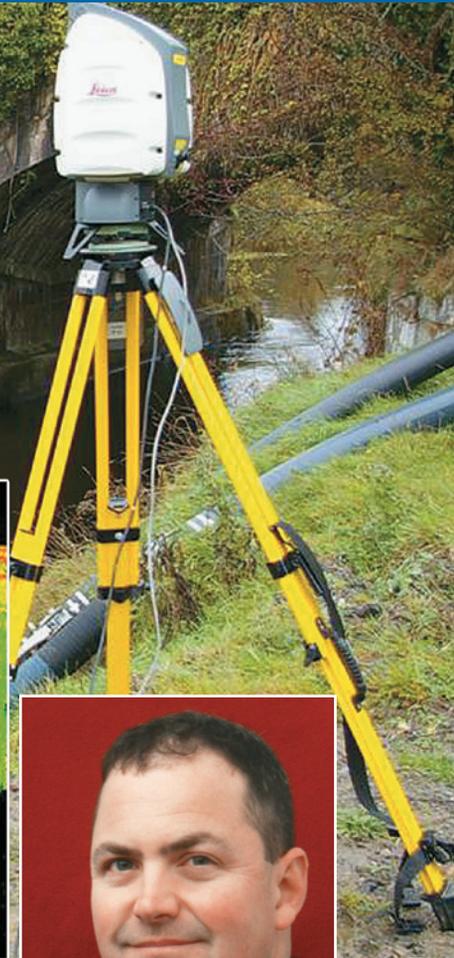
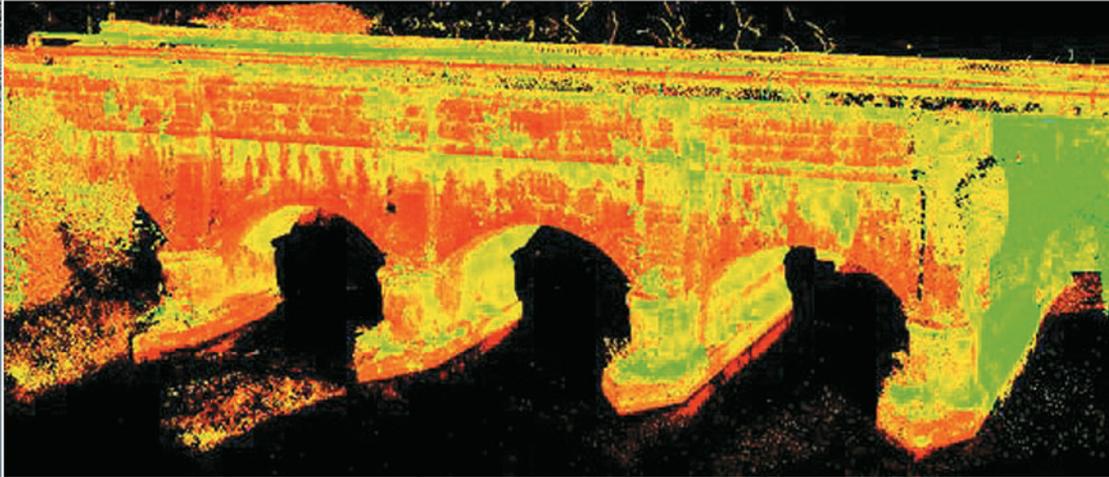
Gary Foster



Bob Jacobs

# Jamaica's Largest Infrastructure Effort Aids Tourism

# Pioneering Asset Management System for Ireland Waterways



**PROJECT:**  
Waterways Ireland Cross-Border Structure Asset Management Program, Republic of Ireland/Northern Ireland

**FIRM:**  
Collins Engineers, Inc., Chicago

In October 2006, Collins Engineers, Inc., began working with Waterways Ireland (WI), a new agency created by the Good Friday Peace Accord and tasked with promoting the protection, preservation, maintenance, repair and rejuvenation of seven cross-border navigable waterways. “The Waterways Ireland agency began work with no legacy information and needed to develop an entirely new program to assess existing assets,

provide maintenance and use public funds cost effectively,” explains Terence Browne, division manager for Collins.

The firm’s staff developed a business process model; provided technical manual development, training, structure analysis, repair design and field data collection; and inspected more than 549 bridges and 342 additional structures covering 519 miles of navigable waters. The firms will continue inspections, assessments and some asset management through 2015.

To inventory and assess the bridges under WI’s purview, Collins used 3D laser scanning underwater acoustic imaging, state-of-the-art asset management software and field data collection devices. “The challenge was dealing with an infrastructure several hundred years old without any design plans or previous inspection or maintenance records,” says

Browne. The decision to use 3D laser scanning technology enabled Collins to create a point cloud of geometric structure surfaces, extrapolate its details and deliver accurate measurements for as-built CAD drawings in addition to an inventory narrative, which will assist in future repair designs. To manage the huge amounts of data, Collins custom-designed a database collection system that was transferred into a third-party information management system for agency field personnel to remotely access.

In addition to its historic value, the project has produced several safety and economic benefits, including an infrastructure management plan, for a new agency with few engineering resources. To ensure safety and prudent use of infrastructure funds, Collins developed an asset management and maintenance business



Terence Browne

process model with key performance indicators and in-house training, allowing safe truck routes important to Ireland’s growing economy without introducing public safety risks from overstressed structures not previously intended to support modern truckloads. To meet an accelerated schedule, the firm also mobilized multiple crews with experienced professionals from offices around the United States to supplement its staff in Ireland.

WI continues to improve the infrastructure of the waterways under its charter and recently celebrated the reopening of a portion of the Royal Canal, which had been blocked for 50 years, a significant achievement and a showing of cross-border goodwill. ■

By Stacy Collett

# Best Practice

2012-2013 ACEC Executive  
members **provide insights on navigating  
business**

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# es

## Committee opportunities

### Set Your Firm Apart

Differentiation is always the best strategy for increased market share and generating growth, says **Michael Matthews**, ACEC vice chairman and president and CEO of **H&A Architects & Engineers** in Glen Allen, Va. "Ironically, most firms offer the same differentiators in service, technology and experience. Unless you can truly set yourself above your competition, you further commoditize what you offer, with price becoming the primary separator."

H&A is perhaps best known for its design of security sensitive installations of U.S. embassies throughout the world, representing more than half of its revenues. "The special expertise required to do that type of high-security work in foreign countries is very unique," Matthews says. The firm now applies this specialization to projects in other federal markets that require highly secure designs.



Michael Matthews



Blake Murillo

### Team to Win

On the West Coast, firms in Arizona, California and Utah are teaming with others to win contracts. "Right now, it's hard to grow by yourself; you have to team up to make sure that your firm is able to grow," says ACEC Vice Chairman **Blake Murillo**, chairman and CEO at **Psomas**, a Los Angeles-based engineering firm specializing in transportation, water, site development, federal and energy markets.

Murillo cites a recent highway interchange project where Psomas conducted the preliminary engineering and environmental work, but partnered with another firm for the design.

"We decided that the best way to ensure that we would be part of the project was to team as a sub-consultant with another firm that we thought was well-positioned for the project," he says. Together, the team won the business.

But doing so took time. And firms need to plan ahead. Getting an early team together is critically important, says Murillo. "We're talking about projects with other firms that are a year to a year and a half out," he explains. "That speaks to the stiffness of the competition."

### Cultivate Talent

After years of learning how to do more with less, ACEC Chairman-elect **Greggs Thomopoulos** says that one key to firm success is becoming



Greggs Thomopoulos

more effective in utilizing a firm's own talent.

As baby boomers retire and fewer engineers graduate from college, "we should be developing future leaders of our firms and our industry, because we are going to face an intense talent shortage," says Thomopoulos, chairman and CEO of **Stanley Consultants, Inc.**, an Iowa-based engineering,



Scott Perkins

environmental and construction services firm. “One way to do this will be to start focusing on the talent already at hand—giving them more responsibility, training and development.”

ACEC Vice Chairman

**Scott Perkins** agrees, saying a strong talent pool keeps firms agile. “There are still a lot of things we’re concerned about in the world and U.S. economy that could change our course very quickly,” says Perkins, vice president at the Albuquerque-based **Wilson & Company, Inc.** “If we keep the right people well-positioned, well-trained, happy and focused—along with very close relationships with clients—those two things are what we need to be prepared for growth.”

### Return to ‘Client Intimacy’

Now is also the time for firms to become more intimate with existing clients and their future needs, says ACEC Vice Chairman **Richard Wells**, vice



Richard Wells

president of corporate development at **Kleinfelder**, who called it the practice of establishing “client intimacy.”

“Talk to clients about what their issues are and what’s causing them the most pain. Then come up with a solution that maybe they wouldn’t have thought of,” he says. “Your idea might, for instance, be relative to waste reduction practices or recycling materials. Or, it might have a financial benefit.” Whatever your approach, he says, firms should always set out to “exceed client expectations.”



Dave Raymond

### Market Diversification

Several firms were able to diversify services to combat the effects of an unstable economy and tight market. “Diversification has saved the skins of many firms during lean economic times,” says ACEC President **Dave Raymond**. “Diversification helps firms avoid financial pitfalls when a market sector they rely heavily upon suddenly tanks.”

**Renee Casillas**, ACEC/Alabama executive director and 2012 **NAECE** representative, concurs, adding that in many cases, firms which diversified now also find themselves better poised for significant growth.

In Alabama, for example, she said that engineering firms are tapping every vein of new



Renee Casillas

commerce they can find, such as manufacturing, energy and the automobile industry.

### Energy Focus

Congress is currently considering a number of initiatives promoting a comprehensive U.S. energy agenda, which, if developed as many industry stakeholders hope, will create considerable new opportunities for engineers. One issue under congressional debate—approval of the Keystone XL pipeline—is an important piece of legislation in the entire energy landscape, says **Ted C. Williams**, ACEC chairman and executive vice president at engineering and environmental services firm **Landmark Engineering, Inc.**

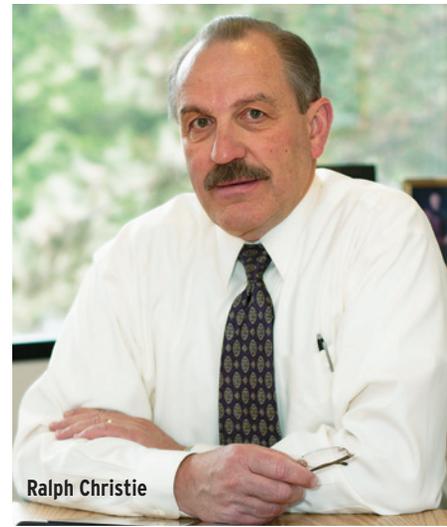
“We must first use the fossil fuels we have in this country, and what we can obtain from



Ted C. Williams

Canada, in an environmentally safe manner,” Williams says. “This will be accomplished by construction of the Keystone pipeline and continued fracking for the extraction of natural gas, which will allow us to develop more sustainable sources of energy at a lower cost.”

Building out the nation’s existing power grid is another priority, according to Williams, who noted that ACEC supports the Federal Energy Regulatory Commission Order 1000, which would facilitate interstate electric transmission line development.



Ralph Christie

“Without a grid that can deliver the electricity or the natural gas pipelines to where the population is—no matter what capabilities we have, we’ll never be able to support the growth on the East and West coasts,” Williams says.

ACEC Vice Chairman **Ralph Christie** agrees: “We need an integrated national grid much like an interstate highway system with interstate agreements, otherwise you can’t distribute the power from renewable sources like wind and solar to highly populated areas that need it the most,” says Christie, chairman & CEO of **Merrick & Company**, as well as chairman of the ACEC Environment & Energy Committee. “If legislators



William Stout

could agree on an interstate grid now, I think we can make incredible progress in the next decade.”

### Renewables/Domestic Production

Production of renewable energy should also be made easier, according to many ExCom members. Legislation is pending in the U.S. House of Representatives, with a companion bill in the Senate, to extend production tax credits for electricity produced from renewable resources. “We need financial and tax incentives that ramp up and ramp back down so there’s incentive for everybody to try to do it quicker” or lose the incentive, adds Kleinfelder’s Wells. “But you have to give them time to step up to the plate.”

Matthews says that in Virginia, the government continues to get in the way of offshore oil and wind energy initiatives. “Unfortunately, government incentives for most renewable energy sources are needed to make them economically viable,” says Matthews, who adds, “If we wait until these sources make economic sense on their own, it will be too late.”

Murillo supports an “all of the above” energy strategy. When it comes to his firm, he says, credits for renew-

able energy, especially solar projects, are critical. “At some point in the near future, support for solar will allow the industry to catch up to where solar becomes very competitive with traditional energy sources, and subsidies won’t be needed.”

**William Stout**, ACEC vice chairman and CEO of global infrastructure firm **Gannett Fleming, Inc.**, would like to see accelerated production of shale gas, coupled with sensible environmental regulations. “While solar, wind and bio gas are important, subsidies are needed to get the technology where it needs to be. That’s long term,” Stout says. “But what can help us in the near term, particularly if there is any kind of a worldwide interruption of the oil supply, is to develop the natural gas that we’re sitting on.”

### Sustainable Infrastructure

If the world population doubles as predicted by 2050, it requires us “to pay a lot of attention to sustainability now,” Thomopoulos says. But getting the nation to embrace sustainable infrastructure remains a tough sell. Costs are high, and it isn’t always easy for people to take the long view.

“The Envision tool of ACEC’s new Institute for Sustainable Infrastructure is a very good guideline for sustainable design of infrastructure,” says Christie. “We are the industry that designs the solutions and has more of an impact on sustainability than any other profession.”

But what can Member Firms do to speed the public awareness and adoption of sustainable infrastructure?

“Talk to staff and clients about the current state of infrastructure and remind people that what we’re putting into it

right now is going to catch up in the not-so-distant future, and the result is not going to be pretty,” Murillo suggests.

“We need to evaluate the economic benefit of sustainable infrastructure similar to how we evaluate life-cycle costs for vertical construction,” says Williams. “We can do that by showing the benefits, such as using rainwater for flushing toilets in buildings, recharging groundwater supplies, or irrigation of landscaping and food crops.”

Convincing clients to invest in improvements that could potentially increase costs will always be difficult, says ACEC Vice Chairman **Peter Strub**, Eastern regional vice president at Kansas City, Mo.-based **TranSystems Corp.** The key is to show clients how near-term expenses contribute to long-term improvements. “How is this going to benefit the next generation, the



Peter Strub

environment, our children’s children?”

“Yes, there’s going to be some costs, but the hope is that the initial cost will flatten out as sustainability becomes the norm,” Strub says. ■

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

## VANDEVENTER BLACK LLP



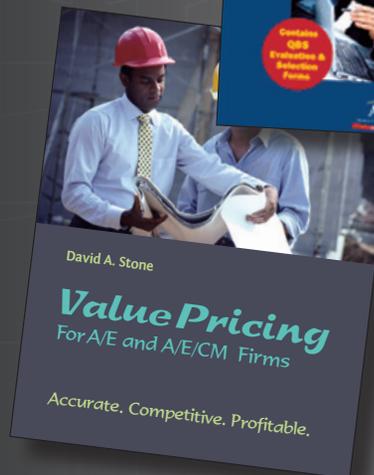
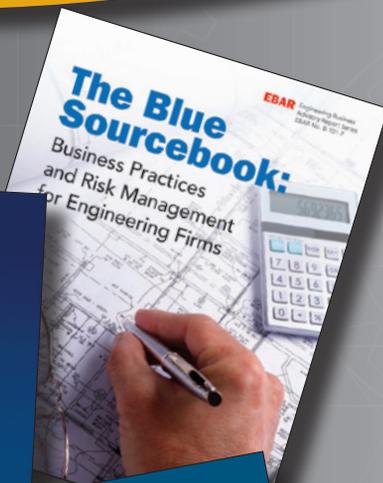
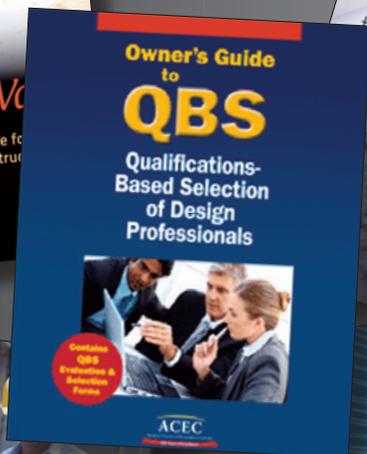
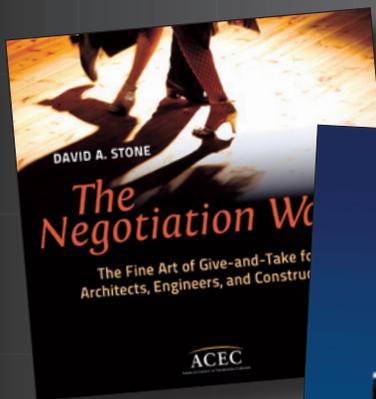
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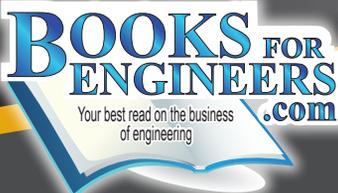
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# The Problem Solver

**R**alph W. Christie Jr. is chairman, president and CEO of Merrick & Company, an Aurora, Colo.-based employee-owned firm with nine offices in the United States and offices in both Canada and Mexico. Christie, who is also an ACEC National vice chairman, has 35 years of technical and management experience in the engineering and construction industries.

associates and clients in a value-added industry that provides considerable benefits to society.

**Q. Do you have a unique hobby that takes up a significant amount of your time?**

**A.** I do oil paintings and pastels when I have some spare time. For me, it's relaxing, fulfilling and gets my right brain going.

**Q. What is the primary reason you chose to become an engineer?**

**A.** It was President John F. Kennedy's vision for the U.S. space program back in the '60s. I remember the excitement of the Mercury and Gemini missions, how they were so new and futuristic, and how they required creative engineering to accomplish what had never been done before. Earlier in my career, I was fortunate to live out my dream and work as project manager on various space launch projects at Cape Canaveral, Kennedy Space Center and Vandenberg Air Force Base.

**Q. If you had not pursued a career in engineering, what other profession(s) would have interested you?**

**A.** It would have been either architecture or public administration. I have a penchant for solving problems, and I like to work with people in the process of problem solving. Those are the kinds of professions that involve taking in a lot of information and then coming up with a solution.

**Q. What is the best advice you ever received?**

**A.** At a very young age, my Uncle Gene advised me to follow my brain (skill sets) and match it with my heart (passion). When a young person can receive advice like that from someone they respect, they have to listen.

**Q. What do you know now that you wish you had known 20 years ago?**

**A.** I wish I understood just how much politics and public policy affects our industry—from each industry sector to

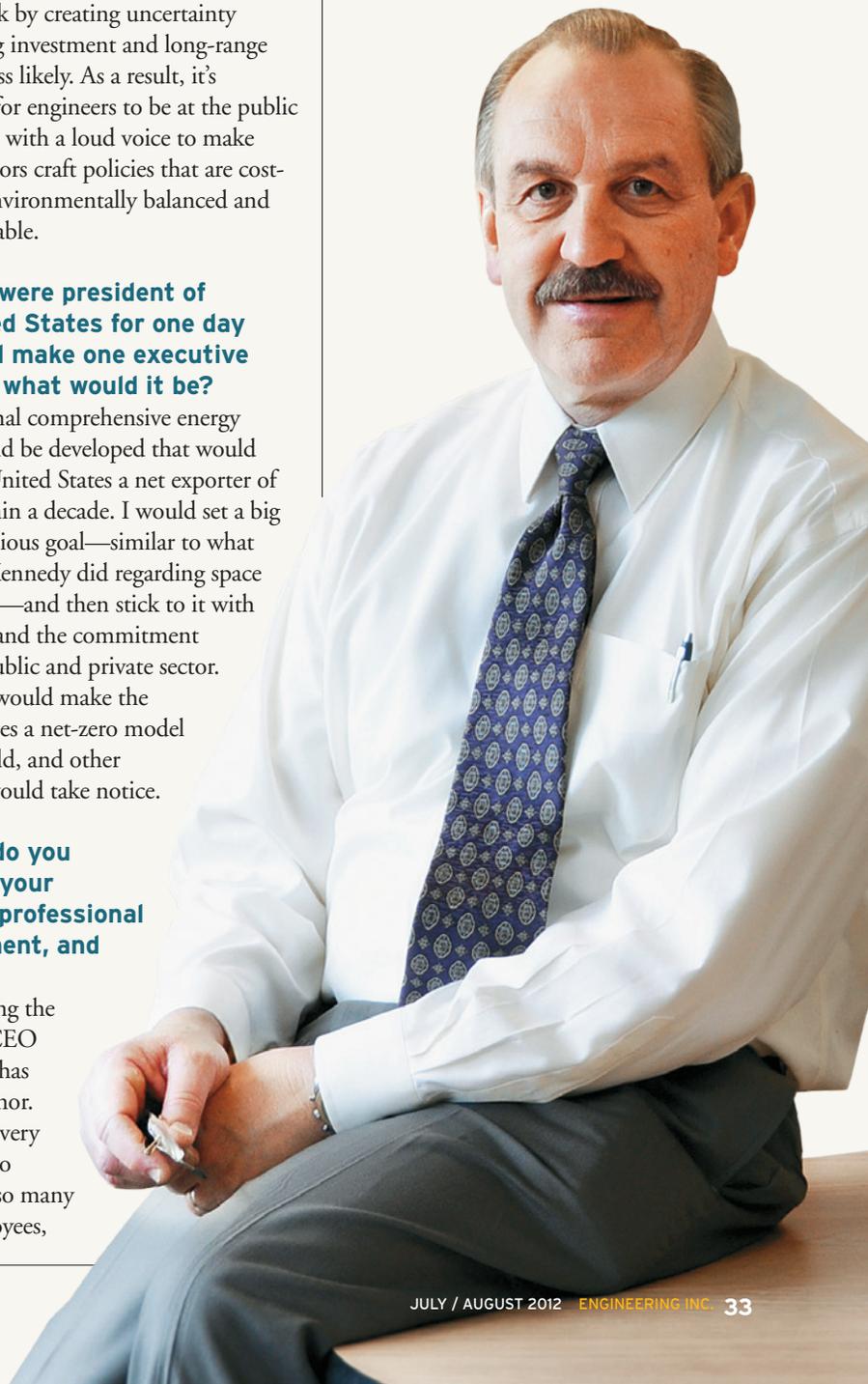
the overall general business environment. Government can also influence how our clients think by creating uncertainty and making investment and long-range planning less likely. As a result, it's important for engineers to be at the public policy table with a loud voice to make sure legislators craft policies that are cost-effective, environmentally balanced and implementable.

**Q. If you were president of the United States for one day and could make one executive decision, what would it be?**

**A.** A national comprehensive energy policy would be developed that would make the United States a net exporter of energy within a decade. I would set a big hairy audacious goal—similar to what President Kennedy did regarding space exploration—and then stick to it with hard work and the commitment from the public and private sector. The result would make the United States a net-zero model for the world, and other countries would take notice.

**Q. What do you consider your greatest professional achievement, and why?**

**A.** Becoming the chair and CEO of Merrick has been an honor. It has been very rewarding to work with so many great employees,



# Members in the News

## On The Move

**Jim Duncan of Sparling** retired in April as chairman of the board and was named the firm's first chairman emeritus. Duncan, who was chairman for 20 years, was named president in 1991 and served as the firm's first CEO from 2000 to 2006. He has been an active member of ACEC: He was a national vice chair from 2008 to 2010. Prior to that, he served on the ACEC/Washington board for eight years and was its board chair in 1997. He was named a Fellow of ACEC and honored as the 1999 ACEC/Washington Engineer of the Year. Duncan is succeeded by **Eric Overton**, who was named president in 2005 and CEO in 2007.



Jim Duncan

region, which includes highway, structural and hydraulic design groups.

**Paula Harris** was promoted to executive vice president and elected corporate secretary and **Kim Sumner Hardin** was promoted to vice president and elected corporate treasurer at architecture and engineering firm **Barge, Waggoner, Sumner, and Cannon, Inc.**, in Nashville, Tenn.

**Gil Janes** was appointed president of **HR Green, Inc.**'s transportation business line, which focuses on highways and bridges, rail and construction services. Janes, who joined the firm in 1981, will be based in the firm's Cedar Rapids, Iowa, headquarters. **Rick Cammarata**, previous president of HR Green's transportation business line, will focus on program management services for major infrastructure projects, as well as marketing in the St. Louis region.

**David Mahoney** was promoted to executive vice president of **Dewberry** and is based in the firm's Fairfax, Va., headquarters. Mahoney is responsible for the infrastructure practice in the Mid-Atlantic



David Mahoney



Paula Harris

**Ben Doan** recently joined **Professional Service Industries, Inc. (PSI)**, as senior vice president and will be based in the firm's Tampa, Fla., office. Doan will be responsible for building and growing PSI's geotechnical and construction materials testing service lines in Tampa and Hudson, Fla.

**Stephen Seigal** joined **Tighe & Bond, Inc.**, as a vice president. His expertise includes the wastewater industry and innovative wastewater treatment technologies. Seigal is based in the firm's Worcester, Mass., office.



Kim Sumner Hardin



Ben Doan



Gil Janes



Stephen Seigal

## Welcome New Member Firms

### ACEC/Alabama

**Kemp & Seagle Consulting Engineers, Inc.**,  
Columbiana  
**Vast Solutions, LLC**, Tuskegee

### ACEC/Arizona

**Quality Testing, LLC**, Gilbert

### ACEC/Arkansas

**Grubbs, Hoskyn, Barton and Wyatt, Inc.**,  
Little Rock  
**Kenneth Jones & Associates, Inc.**, Little Rock

### ACEC/California

**Alfa Tech Consulting Engineers, Inc.**, San Jose  
**AndersonPenna Partners**, Laguna Beach  
**Currier & Company**, Los Angeles  
**John Kular Consulting, LLC**, Bakersfield  
**W. Gilbert Engineering**, Chico

### ACEC/Colorado

**Anderson Consulting Engineers, Inc.**,  
Fort Collins  
**Michael K. Ellsberry, PE, LLC**, Thornton

### ACEC/Connecticut

**AI Engineers, Inc.**, Middletown

### ACEC/Delaware

**Navarro & Wright Consulting Engineers, Inc.**,  
Dover

### ACEC/Florida

**3E Consultants, Inc.**, Orlando  
**Analytic Engineering, Inc.**, Tampa  
**Bracken Engineering, Inc.**, Tampa  
**Chen Moore and Associates**, Fort Lauderdale  
**Hamilton Engineering & Surveying, Inc.**,  
Tampa  
**Hanson, Walter & Associates**, Kissimmee  
**Lindemann Bentzon Bojack Engineering  
Company, Inc.**, Clermont  
**Mehta and Associates, Inc.**, Winter Park  
**Powell and Hinkle Engineering, P.A.**,  
Orange Park  
**Power Grid Engineering, LLC**, Winter Springs  
**R. L. Plowfield Associates, Inc.**,  
Winter Springs  
**SDR Engineering Consultants, Inc.**, Tallahassee  
**Tierra, Inc.**, Temple Terrace

### ACEC/Hawaii

**Group 70 International, Inc.**, Honolulu

### ACEC/Idaho

**Civil Science, Inc.**, Twin Falls  
**Progressive Engineering Group, Inc.**, Lewiston

### ACEC/Illinois

**Blotevogel Associates, Inc.**, Glen Carbon  
**The Roderick Group**, Chicago

### ACEC/Indiana

**CMID, Inc.**, Indianapolis  
**Paul Fujawa Engineers, Inc.**, South Bend  
**Territorial Engineering, LLC**, Walkerton

**ACEC/Kansas**

Kramer Consulting, LLC, Topeka

**ACEC/Maine**

Becker Structural Engineers, Inc., Portland

**ACEC/Michigan**

FK Engineering Associates, Troy  
Ghafari Associates, LLC, Dearborn

**ACEC/Missouri**

TSI Engineering, Inc., Saint Louis

**ACEC/New York**

R.G. Vanderweil Engineers, P.C.,  
New York, N.Y.

RJR Engineering, P.C., Springville

**ACEC/Ohio**

Metro CD Engineering, LLC, Dublin

**ACEC/Oklahoma**

TEEMCO, LLC, Edmond

**ACEC/Oregon**

Casso Consulting, Inc., Beaverton  
Lowe Consulting, LLC, Portland

**ACEC/South Carolina**

ADC Engineering, Inc., Goose Creek

**ACEC/Tennessee**

Geotek Engineering Company, Inc., Nashville  
PDC Consultants, LLC, Franklin

**ACEC/Texas**

ApoCell, Inc., Houston

J&P Technologies, Houston

PwrSolutions, Dallas

Rush Creek Consulting, Inc., Arlington

Solare Engineering Ultd., Inc., Fort Worth

**ACEC/Utah**

Northern Engineering, Inc., Orem

Raba-Kistner Infrastructure, Inc., Lehi

**ACEC/Vermont**

Resource Systems Group, Inc.,  
White River Junction

**ACEC/Wisconsin**

Kapur and Associates, Inc., Milwaukee

Lakeside Engineers, LLC, Brookfield

XPERTZ Engineering, LLC, Milwaukee

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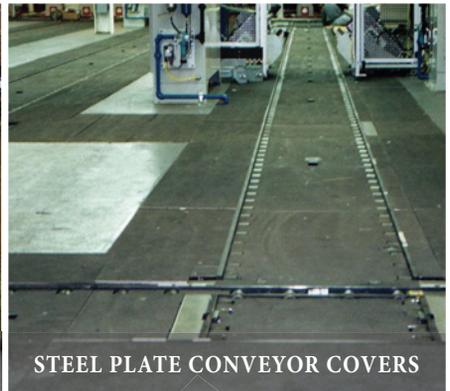
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## Calendar of Events

### JULY

- 10** WIFIA and PABs—Innovative Water Financing for the Future (online seminar)
- 11** Workplace Wellness: Building a Foundation of Better Health (online seminar)

### SEPTEMBER

- 10-11** Information Technology Forum 2012, Denver
- 10-11** Finance Forum 2012, Denver
- 18** Antiquated Structural Systems (online seminar)

### OCTOBER

- 14-17** ACEC Fall Conference, Boca Raton, Fla.

### NOVEMBER

- 8** How to Prepare Your Firm for an Audit (online seminar)

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

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

## Member Firms Leading Overseas Expansion

Globalization continues to gather speed and dramatically change the complexion of the A/E industry. One manifestation of globalization: increasing international revenues generated by U.S. firms.

Last year, according to *ENR*, the leading 500 design firms in the United States generated more than \$26 billion in international revenues, representing almost 32 percent of total revenues for all engineering firms. That's more than double the approximately \$11.8 billion that the top 500 firms generated in 2006, which accounted for just 20 percent of total revenues across the industry.

### Cross-Border Deals

Cross-border mergers & acquisitions (M&A) activity has also evolved as the industry has globalized. From 2007 (and before) through 2010, the pattern of cross-border A/E firm M&A activity was pretty much the same every year—with a greater number of overseas firms acquiring U.S. firms. Prior to the most recent financial crisis (2007 through 2008),

this pattern was supported by a relatively cheap dollar compared with other currencies, making U.S. assets (including consulting engineering firms) relatively inexpensive for overseas buyers. In 2009 and 2010, overseas buyers continued to take advantage of a turbulent domestic market to establish or increase their position in U.S. infrastructure through acquisitions of leading A/E firms.

Many overseas buyers took a positive long-term outlook on the near-term struggles of the U.S. infrastructure market, which helped underpin the inflow of U.S. acquisitions during this period.

Potential foreign buyers saw a huge demand for infrastructure improvements and bet that the United States would eventually discover a public-private funding solution to meet that need.

### Changing Direction

A change in this pattern began in 2011 as the deal flow in and out of the United States achieved equilibrium, with 19 deals that involved a U.S. firm acquiring an overseas firm, exactly matching the number of deals that featured an overseas firm acquiring a U.S. firm.

So far in 2012, U.S. firms, especially ACEC Member Firms, are even more active when it comes to buying foreign. Examples include:

### • AECOM Technology

**Corporation** (Los Angeles) acquired 160-person environmental and engineering consultancy **Capital Engineering Corporation** (Taipei, Taiwan, Republic of China).

- **Parsons** (Pasadena, Calif.) acquired **O'Connor Associates** (Calgary, Alberta, Canada), a 200-person environmental consultancy.
- **SSOE Group** (Toledo, Ohio) acquired design and construction management firm **NKS Design Technologies (dba d-Tech)** (Mumbai, India).
- **URS Corporation** (San Francisco) acquired 10,000-employee oil and gas industry construction services provider **Flint Energy Services** (Calgary, Alberta, Canada).
- **CDM Smith** (Cambridge, Mass.) acquired **INGESAM** (Cali, Colombia), which specializes in water/wastewater infrastructure, air quality and solid waste management for public and private clients throughout Colombia.
- **Geosyntec** (Atlanta) acquired **Ford Consulting Group** (Delph, U.K.), a leading contaminated land consultancy featuring 14 hydrogeologists, engineers and environmental scientists.
- **Tetra Tech** (Pasadena, Calif.) signed an agreement to purchase **CRA Engenharia** (Belo Horizonte, Brazil), a 310-person mining engineering practice that provides EPCM services focused primarily on iron ore and precious metal clients.

### What's Driving Overseas Acquisitions?

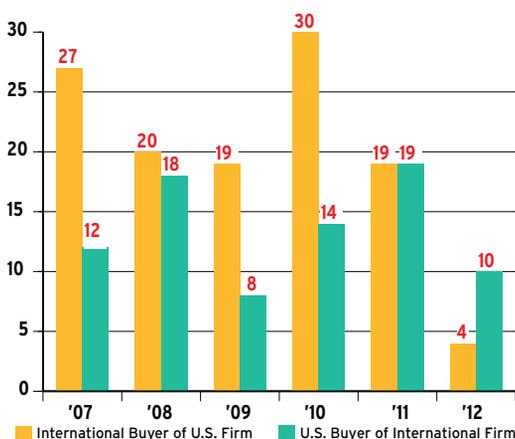
From this list, it's clear that overseas expansion is being

mostly led by the industry's largest firms, which in general are better capitalized and have strong and appropriate risk-management controls in place, and are in a stronger position than smaller competitors to take advantage of overseas opportunities. As we have heard during recent ACEC-sponsored CEO panels, these firms see strong, long-term demand for their services in certain overseas regions, such as Asia, South America and Canada.

### What's Next?

While the globalization of our industry's end markets continues at an aggressive pace, so will the globalization of the overall industry. Domestic firms will do more work overseas—sometimes following existing clients in a relatively risk-free manner, sometimes putting boots on the ground to take advantage of new markets or project opportunities.

### Deal Flow In and Out of the U.S.



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



*Mick Morrissey is managing principal of Morrissey Goodale LLC—a strategy, M&A and human capital solutions firm serving the A/E/C industry. He can be reached at [mmorrissey@morrisseygoodale.com](mailto:mmorrissey@morrisseygoodale.com).*

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