Construction Goes Global: Infrastructure and Project Delivery Across Borders

By Dan McNichol, Author of The Roads That Built America

With Foreword by Bruce Katz, Vice President, Brookings Institution; Director, Metropolitan Policy Program; and Co-Author of The Metropolitan Revolution
We live in a pivotal decade where construction has gone global. Today, successfully planning, financing, constructing and operating large-scale construction and infrastructure projects is completely different than it was 10 years ago. Mega projects have become a multinational enterprise. The United States faces an unprecedented number of challenges that compel both government and the private sector to rethink the way we build. The realities that compel this renewed thinking are diverse—from the shale gas revolution to renewed business and consumer preferences for urban environments. Yet, they share one underlying need: modern, efficient, and reliable infrastructure.

Tangible infrastructure components made from concrete, steel, and fiber-optic cable are essential building blocks of the American economy. Infrastructure facilitates global trade, powers businesses, connects workers to their jobs, creates new opportunities for struggling communities, and protects America from an increasingly unpredictable natural environment. Unfortunately, these systems face a broad range of challenges that will force the United States to adapt to new economic, energy, demographic, and financial realities.

With over 83 percent of growth in global gross domestic product (GDP) expected to occur outside the United States over the next five years, and the rapid urbanization of emerging markets, it is imperative that more U.S. metros and firms (particularly middle market firms) expand their presence abroad. The role played by America’s logistics infrastructure will be amplified as the seaports, air hubs, freight rail, border crossings, and truckways that move products quickly and efficiently in support of complex supply chains become even more integral to a modern economy.

These changes are also impacted by America’s rapidly diversifying domestic energy portfolio. The recent windfall of unconventional natural gas implicates both new and traditional methods for energy transportation and requires rapid development of truck, pipeline, and rail networks. Green energy is also in a state of rapid growth. Roof-top solar production has rattled electric utilities as they scramble for new ways to incorporate and store energy while keeping the grid operational. At the same time, smart grid and clean energy finance challenges remain complex as hundreds of thousands of small- and large-scale projects are projected to come online in the next few decades.

An increasingly urban and mobile population will place new demands on already overtaxed infrastructure assets, including transportation and data networks. Demographic and cultural changes—such as the aging of our society, shrinking household size, and domestic migration—place additional pressures on America’s aging infrastructure. The United States has added nearly 25 million people in the last ten years, mostly in its 50 largest metropolitan areas. This growth is complemented by changes in family structure and lifestyle. The prototypical family of the suburban era—a married couple with school-age children—now represents only 20 percent of households, down from over 40 percent in 1970.¹

Finally, the United States is facing a severe infrastructure financing deficit. Today, infrastructure spending as a share of U.S. GDP is 2.4 percent; by contrast, the comparable figure for Europe is close to 5 percent, and between 9 percent and 12 percent for China.² The McKinsey Global Institute estimates that the United States must spend an additional $150 billion annually on infrastructure through 2020 to meet its needs³, which is unlikely to come from a more budget conscious federal government. Therefore, future responsibility for American infrastructure investment will increasingly be shared by government agencies, private firms, financiers, and the general public.

In many respects, America’s full realization of its competitive potential depends on making smart infrastructure choices that are responsive to game-changing economic, energy, demographic, and financial realignments. The solutions won’t be easy, but it is imperative that business leaders look beyond their traditional silos at innovative and cooperative financing and development solutions, and beyond America’s borders toward a more globally integrated future. The reality is, construction has gone global. A competitive, dynamic, and resilient U.S. economy built on multinational networks is at stake.

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AIG would like to extend a special thanks to those interviewed within this report:

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- Robin Johnson, Head of Broker and Client Management, Asia, AIG
- Dr. Barbara Samuels II, Executive Director and Founder, Global Clearinghouse for Development Finance
- Ken Terpstra, Project Manager for California Highway Department
- George J. Pierson, President and Chief Executive Officer, Parsons Brinckerhoff
- Roberto Pons, CEO, Projectlab
- The Honorable Edmund Lee, Mayor of San Francisco, California

“When we became Sister Cities back in the 1980s, Shanghai asked us for help with their sewer system,” said San Francisco Mayor Ed Lee. “We sent our Public Works Director. Fast forward 30 years later and China is helping us with our bridge.”
Executive Summary

Growth in the global construction industry is on an unprecedented trajectory, fueled by the growth of cities and accelerated development in emerging markets. In an increasingly global society, construction projects are no longer bound by borders, bringing both an interconnectedness and a complexity. For the first time ever, rising economies are hosting the majority of the world’s construction projects. In less than a decade, emerging markets have gone from posting a third of the world’s construction work to just over half of the industry’s total revenue.1 And in the next ten years, nearly two thirds of all construction activity will take place in these rapidly developing nations.2

In an economic cycle of booms and busts, this dynamic shift is projected to be a long-standing trend,3 rather than a simple economic upswing and corresponding downswing. If economists are correct, an expansion of the worldwide construction industry in dollars is set to outpace the growth of the world economy and should continue for decades.4

Driving record breaking construction numbers are three events. First, the historic reemergence of an ancient economy: China, which undertook a series of economic reforms to transition to a market-based economy. The “Central Nation’s” quarter of a century economic rise is also lifting neighboring economies, including the Philippines, Vietnam and Indonesia. On other continents, China’s quest for resources is driving construction activity upward in both Africa and Latin America. India, while trailing China in overall growth, is also making an impact.

Second, mass urbanization. A rise in population and a growing middle class is creating demand for transportation, housing and basic utilities, especially energy. The rise in urbanization is particularly keen in Asia, and it is bringing along with it a correlated increase in the middle class.

By 2030, more than 55 percent of the Asian population will live in cities, according to the Asian Development Bank.5 Furthermore, the United Nations (U.N.) predicts the global urban population to top 6.25 billion by 2050—80 percent of whom are anticipated to live in cities within Africa and Asia.6 More immediately, the U.N. anticipates that 80 percent of the urban population added in the next 15 years will occur in countries like China, India, South Africa, Nigeria, Indonesia and Pakistan.7 Urbanization will remain the largest driver of economic growth in China over the next decade, according to Morgan Stanley Smith Barney.8

And thirdly, construction starts around the world are up due to creative financing. Large private and state-owned firms are financing their own work in exchange for concessions. As the projects included later in this report show, road, rail and port facilities are being built in sophisticated exchanges for commodities, including food. And national banks remain a source of low-interest loans to favored firms.

Global growth is increasing the complexity of multinational construction programs. As a result, infrastructure endeavors are more commonly massive in scope, well over a billion U.S. dollars. Firms are venturing beyond their national borders making global infrastructure delivery a robust forum of foreign construction firms. Fabrication is taking place in multiple countries and a project’s supply chain can involve multiple nations. When building, these firms often bring their own work forces, creating small cities of workers to support the large-scale projects in Africa, Latin America and the Middle East. The boundaries of these projects often cross international borders.

Conversely, the advantages in the global market belong to firms with the keenest understanding of the local market in which they operate. Risks on the legal, compliance and tax fronts are traps that ensnare the most sophisticated contractors. The ramifications can be devastating to newer players on the world stage. Longer supply chains put greater pressures on schedules and create more opportunities for damages, while also increasing loss and customs complications. When international firms are involved, litigation and risk can involve numerous jurisdictions.

“Messy complexities,” is what Thomas P. Hughes, author of Rescuing Prometheus: Four Modern Projects That Changed the Modern World, calls these large projects. In the modern world, Hughes argues, increasingly complicated, costly and capricious projects are demanding sophisticated project management. Comprehensive approaches that ensure the timely and safe delivery of a project are no longer an advantage but rather a necessity.9

2. “Urban World: Cities and the Rise of the Consuming Class,” p. 4
6. “Facts and Data about Cities and Urbanization in Asia,” p. 4
7. “Facts and Data about Cities and Urbanization in Asia,” p. 34
8. World Economic and Social Survey 2013 Sustainable Development Challenges, published by the UN Department for Economic and Social Affairs, July 2013, p. 54, 56
Planning, building and maintaining the world’s large scale infrastructure projects has triggered the global movement of owners, architects, engineers, contractors and manufacturers from nearly every continent.

Today, seven of the 20 largest global construction firms are Chinese-owned. Japan, Spain, France and the United States are represented by two firms each, according to Engineering News-Record’s 2013 ranking of top global contractors. Australia, Austria, Brazil, Germany and Sweden each have a domestic firm in the top 20. The ranking is based on total revenues, which includes both work done domestically and in other locales.

The growth of a global construction community and the pace of its expansion are set to continue into the foreseeable future. Current global infrastructure demand is $4 trillion annually, according to the World Economic Forum. At this rate, global construction will outpace global GDP by 2025, according to the publication Global Construction 2025.

“This is a really big trend. It’s a very fundamental shift in the construction industry of the globe and it’s ongoing,” lectures Graham Robinson, author of Global Construction 2025. “If you look back to 2005, 35 percent of all construction globally was in emerging markets. Today, 52 percent, so we are at a tipping point. And we are going to zoom up to 63 percent,” Robinson predicts when looking to 2025. “That’s a huge shift in volume that’s going to be built in emerging markets versus those developed markets.”

Demand for the delivery of global infrastructure is at a peak and the global construction community stands to make impressive gains. However, the needs of many nations remain unsatisfied. Industrious and purposeful projects with noble intentions are going unrealized because of the limited resources among countries wanting to modernize.

“We’ve talked a lot about the demand potential. What we haven’t talked about is whether the world’s got the resources to actually deliver on this level of construction,” warns Jonathan Hook of PricewaterhouseCoopers LLP’s global engineering & construction industry practice, “How is the world going to prioritize its resources if it is going to deliver this sort of growth?”

Regardless of certain emerging markets’ ability to supply the resources necessary to design, build and maintain vital civic projects, this pattern is set to continue for decades. The global construction industry will persist in delivering these projects at increasingly ambitious schedules. The issue is which countries rise to the challenge to successfully deliver vital civic projects? Those markets are the ones that are underway with intensive urbanization policies. The two are interdependent: urbanization both drives and demands civic projects.

Desirable Density

The world is urbanizing as quickly as it is populating. “By 2050, there’ll be two billion additional city dwellers; sustainable urbanization will be a major construction challenge and the industry must strive to find innovative new products and solutions to contribute to building better cities,” says Bruno Lafont, Chairman and Chief Executive of global building products Lafarge.

The population explosion is forcing governments to urbanize in order to increase efficiencies of delivery while providing even more goods and services. In 1999, U.N. Secretary General Kofi Annan proclaimed the birth of a baby boy in India as the world’s six billionth person.

Twelve years later, the U.N. made another birth announcement, this one of a baby girl in October of 2011—the seven billionth person on the planet. Further projections anticipate that the world’s population will reach nine billion in 2043, and 10 billion in 2083, respectively. In less than a century the world’s population will have doubled. To meet this crushing population the most practical way to accommodate the world’s rapidly increasing population is to build bigger—smarter—cities. This requires infrastructure modernization.

Universal urbanization is being driven by necessity and desirability. Seeking wages, healthcare and education for their children, millions are populating the cities of the fastest growing economies. Governments of these rising economies are encouraging the trend. When it comes to preserving natural resources, economizing on energy and benefiting from an economy of scale for necessary services such as schools, urbanization holds the most promise.

Super Supply Chains

The connection between infrastructure investment and population benefit is increasingly clear. A case in point is China’s infrastructure frenzy that began with Deng Xiaoping in the 1980s. In this instance, researchers found that public infrastructure investment led to growth and provided benefits for the poor. Between 1980 and 2000, it is estimated by the World Bank that nearly half a billion Chinese were lifted above the poverty line.

Researchers determined that “the conclusion that infrastructure both raises growth and lowers income inequality implies that infrastructure development is a key win-win ingredient for poverty and inequality reduction. In addition to raising society’s overall economic growth, it also helps raise the share of income earned by the poor. Infrastructure development within China has proven to be one of the most effective ways to reduce poverty. Development along these lines suggests that it is also an effective way to create equality within the Central Nation’s populous.”

China invested $600 billion in its roads, focusing on better connecting its larger cities. That investment is attributed to a growth in income of six percent.

As other countries attempt to follow China’s model, many investors find delays in project readiness. According to a World Economic Forum study: “The reason for this paradox, especially in developing countries but also in some developed countries, is the ‘project preparation gap’, i.e. the shortage of well prepared, bankable [public private partnership (P3)] projects where investors are sufficiently reassured by the commercial and technical feasibility, the risk allocation, the public sector’s contractual commitment and capacity as well as the institutional and legal framework.”

Not all of the potential for global construction remains in emerging markets, however. The United States and Europe—both once leaders in infrastructure investment—now find themselves with aging infrastructures desperately in need of retooling to compete with improving supply chains worldwide.

Lastly, investing in the world’s premier urban areas is becoming increasingly desirable. London, New York and Hong Kong are considered some of the most coveted locations for the world’s wealthiest to own property and for their children to attend school. London property has become an investment class in itself, making it the most expensive city to live within. Similarly, New York and Paris also have growing investment appeals. While the focus on infrastructure investment in developing nations is grabbing much of the focus, more established cities and countries should not be ignored.

Regardless of region, multinational projects have brought with them new risks “and clients really need to be more sophisticated in the way that they now approach these risks,” said Robin Johnson, AIG’s Head of Broker and Client Management, Asia. “For instance, where there is fabrication in multiple countries, if a client were to fail to buy the right programs, they face the chance that the risks won’t be covered, that there will be gaps in coverage. Before the globalization of these mega projects that simply wasn’t the case. You could just buy a policy in the single country you were working in and be relatively certain that it would cover what you needed it to cover.”

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San Francisco-Oakland Bay Bridge, California

The $7 billion East Span of the San Francisco-Oakland Bay Bridge, California’s largest infrastructure project to date, opened on September 2, 2013. Damaged in an earthquake in 1989 and exceeding its lifespan, the nearly 80-year-old bridge needed replacing. The project stands as an icon to the rebuilding of America’s infrastructure and its construction is emblematic of the trends outlined in this report.

“The superstructure is the world’s largest self-anchored suspension bridge and the most seismically advanced civil structure ever built,” explains Ken Terpstra, Project Manager for California Highway Department, the bridge’s owner. Operating in a global market required innovative approaches. Terpstra adds, “we sent more than 60 experts from our staff to Shanghai in an unprecedented program, in order to oversee our contractor’s work on the main structural steel fabrication. Since the work was on a heightened critical path, we had to ensure the metals, welds and fabrication were delivered to our exacting standards here in California. This level of overseas work has never been contracted out by our contractors before. Correcting problems on this side of the Pacific was not an option,” emphasized the project’s leader.

The bridge’s components come from around the world. China produced the bridge’s deck sections, the 525-foot tower and one of the world’s largest-ever suspension cables. South Korea manufactured seismic bearings and temporary detour structures, Japan forged the world’s first double cable saddle atop the Chinese tower and England produced the main cable’s bands. The majority of manufacturing — about 80 percent of the total—was produced in the U.S.

ZPMC, a state-owned enterprise in China, fabricated the steel for the superstructure in a nearly $400 million contract for its client, a joint venture between The American Bridge/Fluor Joint Venture (ABFJV), which had exhausted possible fabrication sources in the U.S. Fluor singled out ZPMC to ship eight shipments every two months between Shanghai and the Port of Oakland in the United States. ZPMC manufactures about 80 percent of the world’s giant port gantry cranes. In 2006 it began expanding productions into record-breaking world-class highway bridges in a deliberate move to position themselves to support efforts in the rebuilding of American structures.

San Francisco Mayor Edmund Lee speaks to the global world of infrastructure delivery in his city, a sister city to Shanghai: “When we became sister cities back in the 1980s, Shanghai asked us for help with their sewer system. And we sent our Public Works Director, who was also named Lee, to go into Shanghai to help them develop a sewage system that worked for them,” recalls the city’s chief executive who also led San Francisco’s Department of Public Works in 2005. “Fast forward 30 years later and China is helping us with our bridge.”

Makkah (Mecca) Mass Rail Transit, Saudi Arabia

When Saudi Arabia’s King Abdullah bin Abdul-Aziz and China’s President Hu Jintao met in February of 2009, the first phase of a construction project to build a rapid mass transit was launched. The main purpose of the transportation project—known as the Makkah (Mecca) Metro—is to accommodate devout Muslims during the hajj, a five-day pilgrimage of faithful from around the world to Mecca’s Great Mosque.

Shortly after the contract signing ceremony, thousands of Chinese workers began occupying work camps in Saudi Arabia in order to start building the first phase of the $20 billion project. Cultural and political sensitivity was vitally important on this project. Aware of the consequences of missing a seemingly impossible deadline, the foreign contractors became interdependent. Heavy rains and high heat made for harsh conditions. Defaulting on the deadline triggered hefty penalties and endangered the promise of billions more in contracts in Saudi Arabia. The multi-national team, however, delivered the project in record time. Within 20 months, the China Railway Construction Corporation, eager to export its newly developed expertise in rapid mass transit, excavated, laid track and delivered
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world-class rolling stock. Siemens of Germany built the power supply system, installed overhead contact lines and substations as well as delivered switches and diesel generators. Parsons Brinckerhoff, a design firm based in New York City and owned by the United Kingdom’s giant Balfour Beatty, consulted on engineering and construction throughout the project.

The interconnectedness was the key to success in meeting a seemingly impossible deadline, all while adhering to local cultural sensibilities.

Wheatstone Project, Australia

The world’s demand for energy supplies to power growing cities and to support the population boom is driving the Wheatstone Project just west of Onslow in Western Australia. Australia is sitting on a 100-year supply of natural gas and the country’s proximity to Asia, and the region’s rapidly increasing thirst for new energy sources, provide the drive for the Wheatstone Project.

The Wheatstone Project is poised to capitalize on the liquefied natural gas (LNG) boom. A global venture, the owners are international in scope. Key stakeholders include the Australian subsidiaries of Chevron (64.14%), Apache (13%), Kuwait Foreign Petroleum Exploration Company (KUFPEC, 7%), Shell (6.4%), and Kyushu Electric Power Company (1.46%), together with PE Wheatstone Pty Ltd (part owned by TEPCO, 8%). The construction is being handled by a variety of global enterprises. Customers have already lined up agreements to purchase LNG once Wheatstone is viable. Although the project is still in the early stages, Chevron discovered the natural gas field in 2004; groundbreaking began in 2011. Chevron has already made significant progress, both locally and globally, on the $29 billion project.

In addition to the international consortium of owners, Wheatstone has included steel from Korea and China. Daewoo Shipbuilding & Marine Engineering Co. in South Korea is constructing the platform. Australian company Worley Parsons provides construction management services. Locally, Chevron has also invested in upgrading Onslow facilities, including the Onslow Airport, a recreation and aquatic center and a picnic area and playground.

Bechtel, having completed the Front End Engineering and Design (FEED), was awarded the engineering, procurement, construction and commissioning contract by Chevron. Australian company Thiess landed a subcontract from Bechtel for the onshore site clearing and preparation including bulk and final-finish earthworks for the plant, storm water drainage system and access roads around the project. Additionally, the Kiewit Ertech Joint Venture was awarded the Construction General Services 3 (CGS3) subcontract from Bechtel. Australian firms will also handle the 3,800-bed construction village with John Holland constructing the Construction Village buildings and utilities and their subcontractor Ertech undertaking roadwork and earthwork. Australian company Thiess and Belgian firm BESIX SA will develop the breakwater and materials offloading facility.

Wheatstone sits in the midst of a $200 billion building boom; a total of seven major LNG projects are under construction in Australia. They will join the three major operations currently in existence. Forecasts show Australia with a 100-year supply of natural gas, with most of that concentrated on the country’s northwest coast. Exported in liquid form, Australia ranks as one of the top producers of liquefied natural gas (LNG) consumed in Asia.

Note that many of the owners of the project are energy companies looking for a ready supply. Before the project had lowered its first drill, 80 percent of the resources were spoken for. That shows a willingness on the part of energy companies to continue to invest in securing their supplies.

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The project also showcases the sophistication of resource-rich regions. Requiring numerous commitments to hire and invest locally, the endeavor provided roughly 6,500 jobs at peak construction. An estimated $17 billion of revenue is generated to Australian businesses and services.22 Chevron also is spending $250 million on infrastructure projects in nearby Onslow, including community facilities, roads and water infrastructure and education and health services.23 That is the result of an agreement with the Thalanyji People, who hold the native title to the region.

In all, the project is expected to provide an estimated $20 billion in government revenues during the construction phase.24 Wheatstone is far from alone. The Ichthys LNG project in Australia’s Northern Territory likewise was an international project. Fabrication alone took place in three different countries: Philippines, Korea and Malaysia.25 Approximately 70 percent of the LNG is to be delivered to Japan, including Tokyo Power, Toho Gas, Chubu Electric Power and INPEX Corporation, the project’s ultimate owner. The remaining supply will go to Taiwan. Some two dozen commercial lenders from Japan, Australia, Korea, France, Germany and The Netherlands were involved in financing the project.26

Construction is international in scope as well. British firm AMEC Engineering landed the front-end engineering design (FEED) work. Houston, Texas-based KBR joined two Japanese firms—JGC, Inc., and Chiyoda Corp. in landing key construction roles.27 Korea’s Samsung Heavy Industries Co., and two U.S.-based companies, General Electric Co. and McDermott International Inc., were awarded development contracts.

Açu Port, Brazil

Brazil is an ever-expanding player on the world’s economic stage. It is rich in iron ore and oil; its farmers are among the world’s most prolific suppliers of soybeans and grains, and Brazil’s current progress earned the country the hosting rights to both the 2014 FIFA World Cup and the 2016 Summer Olympics (both first-time awards for South America as a whole).

Currently, Brazil moves more than three-fourths of its agriculture to port via roads. In the soybean growing region of Rondonopolis, a 125-mile round trip to the state capitol Cuiaba takes eight hours.28 That is just the first step of the journey to reach the ports. As a result of transportation delays, ships attempting to reach existing ports can expect a 15-20 day wait to load Brazilian goods.29

With private Brazilian enterprises struggling to build the level of infrastructure the country requires, President Dilma Rousseff signed a law in mid-2013 designed to strengthen its ports. The multi-pronged approach allowed for the development of new ports near existing locations, as well as the privatization of existing ports.

A rapidly expanding global market, Brazil is proof of how a commitment to infrastructure improvements can set off a construction boom that draws global interest.

Spain, which was better equipped to handle the size and scope of this endeavor. The caissons were shipped to Brazil on semi-submersible vehicles, a trip that took more than 15 days. Dutch company Boskalis handled dredging on the second terminal.

A global operation from the outset, with numerous commitments from foreign outfits for port leases, French oil and gas company Technip, French steel pipe maker Vallourec SA, and Finnish ship engine manufacturer Wärtsilä were among the first to lease space in the “super port” and its surrounding areas.

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Despite the heavy international investment in the project, LLX, which was created by Batista solely for port management, hit rough financial seas. In 2013, just after the port opened, the U.S. firm EIG Global Energy Partners LLC, brought an infusion of cash to LLX; it assumed control of the company and its signature project, Açú. The Ontario Teachers Union Pension Plan is another significant investor.

While the Açú Port project may be majority U.S.-owned thanks to EIG, at this time, other port concessions (similar to a lease)—expected in early 2014—should also draw global interest. Singapore’s state-run port terminal operator PSA was among the first to express its intentions to bid.

In addition to its ports, Brazilian leaders are also currently considering privatization of highways, airports, railways and energy production. A rapidly expanding global market, Brazil is proof of how a commitment to infrastructure improvements can set off a construction boom that draws global interest.

It also is a country ripe for investment and foreign involvement. Not only does Brazil possess numerous natural resources, the interest from the 2014 FIFA World Cup and the 2016 Olympic Games have the country in a building frenzy. With its federal government feeling the pressure to improve infrastructure ahead of these two events, it seems willing to look outside for construction involvement, financing, and ownership.

Conclusion

International construction brings both promise and potential peril. “Global...firms are benefiting from the sea of change around infrastructure delivery. Dynamic changes in practices of how vital large-scale project planning, designing and constructing are carried out is creating the greatest opportunities ever seen in the global construction market,” explains Roberto Pons, a graduate of Princeton University’s engineering school and Oxford’s Said Business School. Pons is also the founder and CEO of Brazilian based Projectlab, a project management educational provider.

Still, one claim against a single contractor can put billions of dollars at risk. “The complexities in today’s projects: a multitude of international firms performing design, construction, and maintenance services, longer supply chains, thousands of workers in camps on foreign soil, and constructing along accelerated delivery schedules, all give rise to the chances of litigators winning their claims,” counsels Pons. “A short while ago, litigators were limited to one or two countries. Now, with numerous international firms involved in a single project, there is a greater chance that lawsuits will have a more costly settlement. A refinery project in Angola may have designers that are European, financiers from the United States, and a joint venture general contractor from Asia. Because one member of a large team is from the United States, the American court system becomes a viable jurisdiction.”

Today, the delivery of large scale construction projects is truly a worldwide venture, fueled by accelerated urbanization and development around the globe. As opportunities for cross border project delivery continues to evolve, so do the complexities. From foreign financing to fabrication across multiple countries, success in global infrastructure delivery increasingly depends on effective project management at both the local and international levels. In meeting changing infrastructure needs, firms need to be well versed in recognizing and mitigating potential risk exposures. More global projects likely bring an increased level of risk. When the complexity of multiple jurisdictions is introduced, different legal exposures, contractual obligations, tax and compliance issues, and cultural norms such as worker safety, must be taken into consideration.

For those looking to lead in this increasingly global industry, world-class risk management strategies are key. The most effective protection for construction firms looking abroad is the ability to make well-informed decisions in identifying and mitigating both domestic and foreign risk exposures. That is why it is vital for global construction firms to understand the intricacies involved— for all— from project conception to completion.

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