In an increasingly global world, Keith J. Hawksworth knows the distance between two riverbanks often is greater than the space between two nations. Over the past decade, technology has shattered barriers to international business and helped companies build bridges to projects that would have been unimaginable only a few short years ago.

“Today, the opportunities in the global arena are enormous,” says Hawksworth, CEO of New York–based PB, formerly known as Parsons Brinckerhoff. “A major company cannot afford to be on the sidelines.”

These days, PB, with more than 70 offices and 10,000 employees throughout the world, is building plenty of bridges—as well as tunnels, airports, power facilities, roadways and subway systems. PB’s portfolio of global projects includes the Chao Phraya River Bridge in Bangkok, the Sydney (Australia) Transit System, the Delhi airport, the East London Underground extension and the new Taiwan High Speed Rail project. In fact, half the firm’s business now is derived from international projects.

PB is not alone. Many U.S. engineering firms now see the prospects of international business as a golden opportunity. Such deals, executives say, can cushion downturns in the domestic economy; boost revenues; tap into valuable human skills, knowledge and brainpower; and support a more efficient working environment, including the ability to follow the sun and conduct business 24 hours a day, seven days a week.

“The forces contributing to globalization are accelerating. There is growing pressure on firms to compete internationally,” says Jeff Oltmann, principal consultant at Synergy Professional Services, a Portland, Ore.–based consulting firm.

But success is no guarantee. A global presence requires well-conceived business processes; first-rate information technology (IT) tools; knowledgeable employees who understand how to work...
A New Deal

The rise of global capitalism, along with more stable political regimes, has changed the global business scene. Although India, China and the United Arab Emirates are the most obvious examples of this new world order, plenty of other countries have developed an appetite for new infrastructure as their economies have flourished and a middle class has emerged. In many instances, however, engineering companies in these countries lack the expertise and experience to handle large-scale projects, opening the door for American and European firms to take advantage.

As the doors to these and other untapped nations swing open, firms are expanding their reach, adding offices, cultivating local expertise and installing sophisticated IT systems meant to tap into new opportunities—and, in many cases, higher profits.

“There’s a huge and growing demand for services around the world,” says Jonathan Goldstick, vice president and development director of maritime services, North America, at U.K.-based Halcrow, which has 70 offices and 8,000 employees scattered across 50 countries. Halcrow’s revenues now top $750 million a year, with approximately 25 percent
of its business stemming from projects in the Middle East, compared with just 10 percent from the United States.

The scope of the firm’s business is enormous. It is involved in the design and development of container terminals, liquefied natural gas facilities, dams and hydropower facilities, highways, tunnels, bridges, airports and other infrastructure projects. In the past 10 years, Halcrow has evolved from a primarily British consultancy anchored in government projects to one that accommodates the public and private sectors the world over.

One such project is the Jebel Ali Port expansion in Dubai. In an effort to accommodate marine traffic by the year 2030, engineers designed and did the reclamation of a harbor with 2,800 hectares of marine terminals and 40 kilometers of quaywall—features that will enable massive Super-Post-Panamax container vessels to berth. Halcrow, under contract with DP World (formerly Dubai Ports Authority), is charged with juggling a variety of engineering tasks related to the project, including the acquisition of existing data, field data collection programs, the establishment and calibration of models for existing conditions, an analysis of dredging and reclamation impacts, preparation of cost estimates and additional environmental impact issues.

American firms have a competitive edge in this large-scale program management, says Richard Fox, president of CDM, a 4,000-person firm with 18 offices overseas. “The U.S. has had a long history of large program jobs,” he says. “Only recently have developing countries combined both the need and the money to undertake large-scale programs, and they’re turning to U.S. expertise to manage them.”

But it’s not just U.S. firms that benefit. British Halcrow has worked hard to develop the international presence required to land such mega-projects. Worldwide offices—often staffed with top local talent—allow the firm to serve as a “local service provider,” says Michael Della Rocca, president and regional managing director for the firm’s North American operations. To do that, he says, the firm often joins with local partners and forges strategic relationships—including joint ventures and public/private partnerships—with other global services companies.

Emerging as an “A” player on the international engineering stage requires more than a desire to land lucrative contracts and provide a sophisticated array of services. With brainpower and talent scattered across several continents, “it’s important to leverage smart people wherever they are located,” says Oltmann. “Today, a global company must be truly multinational—in terms of its workforce and its overall business approach.”

New Borders and Boundaries
Engineering firms that thrive globally develop specialties that propel them to the forefront of the industry. Halcrow, which performs projects in a range of engineering disciplines, currently derives 6 percent of its business from maritime projects; PB focuses on transportation; CDM’s core competency is in the water sector; and Stanley Consultants—a Muscatine, Iowa–based firm that has worked in 98 countries—has established a presence creating military air bases, particularly in the Middle East.

“We have historically used the international market to counterbalance the domestic market,” says Gregs Thomopoulos, CEO of Stanley Consultants. “While the United States works its way through the current economic downturn, the international market is very robust.” Over the past fiscal year, Stanley’s revenues from its international operations climbed 70 percent while its overall revenues grew by just 15 percent. “With the high revenue from oil, many countries in the Middle East have ambitious infrastructure and other development projects. And the weak U.S. dollar has made U.S. firms very competitive compared with the European firms that have traditionally dominated overseas markets.”

The Louis Berger Group has taken full advantage of the vibrancy of the global market. International operations accounted for 78 per-
Only recently have developing countries combined both the need and the money to undertake large-scale programs.

RICHARD FOX
CDM

Each country and project requires a distinct understanding of the rules, regulations, policies and procedures that facilitate business and make people comfortable. The scope of projects on U.S. soil often is markedly different from those in other countries, says Fredric Berger of the Louis Berger Group. Domestic initiatives trend toward maintenance and rehabilitation, while projects abroad often focus on new large-scale developments. U.S. projects also frequently require a narrower range of skills and deeper technical specialization, where global initiatives demand multidisciplinary talent, particularly bilingualism and workers with multiple areas of expertise.

To build that global expertise, CDM relies on both acquisitions and organic growth. CDM acquired the 350-person German geotechnical firm Jessberger + Partner in 1997. This union created CDM Jessberger and enabled CDM to gain immediate entry into the European and geo-technical markets. Recently CDM completed two smaller acquisitions in Poland to establish a local presence in Eastern Europe.

In markets where CDM has chosen to build its presence organically, Fox says that repatriating engineers who completed their education and started their careers in the United States is the best model. Not only do these staffers know the company, they have an intimate knowledge of the culture and a network of contacts in the engineering field in their native land. "Both our Hong Kong and Vietnam offices are led by such individuals,” he says.

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7 Ways to Excel In the Global Arena

1. **Develop a long-term strategy.** Firms that thrive in the global marketplace map out what expertise and resources they need to conduct business in other parts of the world.

2. **Cultivate a relationship with the end customer.** It’s vital to open offices in countries and recruit local talent. These individuals often have an innate understanding of what customers look for and how work gets done.

3. **Put a centralized project management system in place.** Managing work abroad is inherently complex. How effectively an organization monitors and manages a portfolio of projects will determine whether it flourishes or crashes.

4. **Invest in communication-based information technology.** Today’s global teams require a solid communication infrastructure. E-mail is only a starting point. Key systems include shared websites and portals, collaboration software, document- and knowledge-sharing repositories, videoconferencing, databases and wikis.

5. **Ensure that employees display the proper language skills and cultural understanding.** Language barriers and communication breakdowns derail projects and undermine business strategies. Invest in the training needed to field global teams.

6. **Build a presence beyond an office.** Become a valued member of the community. Participate in professional associations, government-sanctioned events and educational and charitable causes.

7. **Form strategic partnerships that make sense.** Building a global infrastructure is expensive and time-consuming. Consider forming partnerships and strategic alliances to tap into existing expertise and capabilities.

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While U.S. firms often look to staff overseas offices with local
tale, they tend to rely on American engineers to provide the leadership.

“The ideal candidates for international work should be senior engineers who have project management experience, are able to get along with people of all cultures and religions, and are respectful of the local norms and customs,” says Thomopoulos. “They should also have the highest ethics and integrity because international work offers a lot of opportunities for unethical behavior.”

In the end, success is more than the sum of engineering degrees and technical prowess.

“People have to be adept at dealing with other people and sensitive to other cultures. They have to be less dogmatic and more conciliatory,” Berger explains. “Preconceived notions and a single-minded approach won’t get the job done. Oftentimes, there isn’t a single right technology or approach. It’s necessary to adapt things to the environment and have a feel for the agency or staff that operates and maintain the system after the expatriate team leaves.”

As a result, Louis Berger Group seeks out individuals with previous international exposure; workers must be comfortable dealing with uncertainty and change. Ideal candidates often display open-mindedness and a passion for travel. Many have previous international university experience, grew up as children of military officers or expats who served or worked overseas, or decided to join the Peace Corps or another international aid organization. “This demonstrates that they have already mastered a bicultural, bilingual environment,” says Berger. “They are already one step ahead of the game.”

Engineering the Future

If the human component is the heart and soul of a global business success, IT and project management is its central nervous system. “You have to be really good at project management. Things that you could do previously in an ad hoc way are no longer possible in an international environment,” explains Oltmann, the international consultant. “Many companies, the first time they embark on any kind of international project, significantly underestimate the amount of coordination that is required. Consequently, things can become extremely chaotic.”

It’s essential to deploy enterprisewide IT systems, including software, that can support the business processes organizations have in place. These systems not only enable the technical and practical aspects of design, engineering and project management, but also facilitate collaboration and advanced workflows. Technology, taken together with knowledge of underlying business processes, requires vision and leadership. “Someone has to be in a position to pull everything together—including all the input from the various offices or sites—and make it work,” says Oltmann.

PB’s Hawksworth is familiar with the need for top-flight technology. He has witnessed firsthand the industry’s evolution from paper to pixel. “You can now stand in the middle of the Arabian Desert, switch on your BlackBerry and receive e-mail messages,” he says. “Technology has not only made global business possible, it has changed the fundamental nature of business.” Today, PB relies on sophisticated enterprise software to track and manage project status and costs, currency fluctuations, designs and more. “Every project throughout the company is on one system, so it’s possible to know what’s going on with projects individually and have a composite view,” says Hawksworth.

The firm conducts ongoing cost analyses to determine which projects are most profitable—and least risky. Number crunching, for example, has enabled PB to shift from highway design in favor of airports, subways and other specialized infrastructure projects. It also has helped PB better understand labor conditions, including talent shortages, wage inflation and specific circumstances surrounding fixed-rate or lump-sum reimbursements.

The firm’s recent accomplishments only reinforce its position as a global engineering giant. The company served as the project management consultant for the Taiwan High Speed Rail project—a $15 billion privately funded venture that commenced operation in January 2007. It managed the construction of the initial phase of the Delhi Mass Transit System, a 38.5-mile project that includes 53 stations and 7.5 miles of tunneling. And it was recently awarded a contract to provide architectural and engineering services for the $1.8 billion, 3.1-mile Marina Coastal Expressway in Singapore, scheduled for completion in 2013.

It’s imperative to stay abreast of the nuances of international business, regardless of a company’s success. Obtaining business licenses, navigating government bureaucracies and coping with ever-shifting rules and regulations are all part of the global business environment. “There are countries where, strategically, it doesn’t make sense to work on government contracts or certain types of specialized projects,” says Hawksworth.

One thing is certain: The market for global engineering services is thriving. At present, parts of Asia, the Middle East and South America are hot spots for new design and engineering projects.

It’s a new world order, and one that should appear on the radar of every engineering firm.

“It’s unwise to move into the international arena simply for the money or to take advantage of a particular opportunity,” says Oltmann. “A company must develop a long-term strategy and understand how each and every project fits into an overall plan. That’s the basis for long-term success in the international marketplace.”

Samuel Greengard is a business writer living in West Linn, Ore.