

Engineering the best in telecommunications

From the Hoover Dam to the Channel Tunnel to the Hong Kong Airport, Bechtel has been at the centre of some of the world's largest engineering and construction projects, including global telecommunications deployments, says CIO Geir Ramleth



Bechtel specialises in huge engineering and construction projects through a number of business lines, which include Bechtel Telecommunications.

Ask Geir Ramleth, the corporate CIO, to identify 107-year-old Bechtel's top projects and he will run through a dazzling list of wonders of the modern world. Headlining all of them is the giant Hoover Dam in Colorado. When it was built in the 1930s, it was the largest engineering project in US history. "It was Bechtel's first megaproject, and it shaped the company's ambitions forever," says Ramleth.

Ramleth adds a few more megaproject examples from more recent times. "We were responsible for the \$20 billion Hong Kong Airport," he says. "We completed the Channel Tunnel between the UK and France, and the high-speed rail link up to London."

"We are experts at managing large, highly complex projects," he adds. "You need to have excellent project management skills, as well as a very astute sense of balancing risk and reward in that environment. In addition to telecommunications deployments, we handle a range of engineering and construction projects, including power generation facilities, oil, gas and chemical plants, and mining and metals production, as well as infrastructure such as airports, railroads, and highways. Additionally, we are a leading contractor for the US government, providing world-class engineering, construction, and management services on large, complex, first-of-a-kind projects."

Global communications are central to Bechtel's business. Ramleth is responsible for ensuring that all Bechtel's projects have best-in-class telecommunications facilities. Bechtel is, in more ways than one, an intelligent user of top-flight IP systems — ideal for managing demanding engineering projects.

"We can have projects where we do engineering in multiple locations — which could include the US, India, or Europe, as well as wherever that project is located," says Ramleth. "In a global engineering environment, you perform engineering 24/7, and you need to have engineering centres of excellence around the world. That, in turn, means you rely on high-quality networking. You need more bandwidth. You need a high-quality network that is reliable, performs well, and is flexible to meet your business demands."

He cites a current example. "Presently, we are constructing a project in Egypt, a liquefied natural gas (LNG) plant. We perform engineering in New Delhi and in Houston, Texas, and have onsite operations in Egypt. When engineers are at the end of the work day in Egypt, their activities continue

seamlessly in Houston."

The LNG project requires large data files to be available around the world, and this can be more challenging than it would seem from a network perspective. "Since we don't necessarily perform these projects in a city environment, we need connections in remote areas and an agile network infrastructure. No matter where a project is based, we need our responsive networks up and running quickly, with a cost advantage. We rely on high-speed, high-quality networking."

Ramleth and his colleagues implemented Bechtel's global IP VPN roughly 18 months ago, giving the company's teams around the world the opportunity to transmit voice, data, and video.

"Today we purchase a lot more bandwidth than we did before, because we can afford to. The carrier we buy most of our bandwidth from today is in fact increasing its revenue despite the decreased unit cost," he says. "Our IP VPN enables us to have a common infrastructure for voice, video, and data. As a result, we are performing work differently, not just moving the data around, but adding voice and video conferencing."

Next, Ramleth wants to combine voice, video, and data in a wired and a wireless form — a move to fixed-mobile convergence, which is the sort of thing British Telecoms is looking for with its 21st Century Network project.

"We were tied down by a network that had grown piecemeal as we shifted activities and expanded," he says. "We had to change the entire network. It has had a tremendous positive impact on our business," he says. "We have networking where we want it. It is much faster to deploy. It has better performance than in the past, and per unit rate, per megabit, we are paying 20% or less than what we paid before. And we have such a different cost structure, enabling us to do what we wanted to do before without being penalised for it. This is a crucial piece of infrastructure."

On British Telecoms 21st Century Network deployment, Ramleth comments, "I think this is a positive initiative. British Telecoms has people who are seeing how technologies are shifting and presenting new service opportunities. They are right on course. The challenge will be making a technology shift in such a large organisation. It comes down to change management. I am very encouraged by what they are doing. They have a clear vision. British Telecoms is definitely at the forefront. Enterprises and consumers will be served differently and much better than before." ■