



Emerson

The engineering technology company stresses its reliance on innovation as a growth strategy, thus aligning itself with a main PRC government objective

Sara Yang Bosco became president, Asia Pacific, Emerson, in January 2008. She joined Emerson in 2005 as general counsel, Asia Pacific. Prior to that, she was a partner with Baker & McKenzie, Hong Kong, and then Perkins Coie LLP, Hong Kong, where she worked on Emerson's acquisition of Avansys from Huawei Technologies. She recently spoke to CBR Editor Virginia Hulme about Emerson's China operations and plans.

CBR: For most of your career, you've been a practicing lawyer. Why do you think Emerson chose you to be Asia Pacific president?

Bosco: Lawyers, especially those coming out of private practice, are very client focused. Because we provide a service, our clients expect us to be customer-driven and results-oriented. And Emerson values those same qualities. The company expects its managers and employees to think about what customers are looking for and try to find solu-

tions. That's similar to what lawyers do in private practice and why Emerson considered me for this new role.

There are three characteristics that describe Emerson. I think these are reflected in how the company has invested in China and in the selection of me for this particular role. First is innovation—Emerson sees China as an innovation center for leadership in manufacturing, technology development, and product development. Second is the way that Emerson sees opportunity where it may not be obvious. When I ask people around the company what they think is different about Emerson, they say it is the ability to look outside of the box and see a person, opportunity, product, or business platform outside of where it currently is. That distinguishes us from other companies.

The third aspect is the absolute highest ethical standards that Emerson's OCE [the Office of the Chief Executive], board, and shareholders expect. Putting someone like me, who has been responsible for compliance in a legal role, into a top management position is not a coincidence.

Emerson has always had an extremely high reputation for ethics, and one of the messages to take away from this leadership transition is that ethics will remain a top priority for the company.

CBR: What plans do you have for Emerson in Asia Pacific and China in particular?

Bosco: Immediately, one of my main goals is to learn more about the broader range of issues the company faces in China and Asia Pacific, which is my territory. China is a major center for us and will remain so. We intend to maintain it as our center for innovation—innovation for leadership, technology, production and manufacturing processes, and management process. Over the years, Emerson has established a foundation in China for these areas, and we will continue to focus on them and invest in China. So over the next five to ten years, I don't see any decrease in our commitment, engagement, or presence in China. We will continue to expand in China by investing in engineering, product development, and business platforms that bring solutions to our customers.

CBR: Emerson has expanded rapidly in the last few years—how much has the company expanded, and what are its plans for future expansion?

Bosco: Currently, we have more than 40 entities in China—over 30 wholly foreign-owned enterprises, plus joint ventures and engineering centers. Those have all been set up since 1993. When we opened our investment vehicle, a holding company in 1993, we were one of the first US multinationals to set up a holding company. It was an interesting time, as I understand, because there was no legal framework to do that. I think that was an early example of Emerson being innovative.

Now we have more than 35,000 employees in China alone and over 51,000 employees in Asia Pacific. Certainly this is one measure of how much we've grown over the last 15 years.

And we've tracked how China has grown. China launched its reform and opening policy 30 years ago, and we came to China 30 years ago with our first technology license for pressure transmitters through the Rosemount division. So, in a way, we've grown up with China.

CBR: Among Emerson's 40-plus entities in China are several engineering centers. What do they do?

Bosco: The engineering centers [located in Suzhou and Nanjing, Jiangsu; Shanghai; Qingdao, Shandong; Shenzhen, Guangdong; and Xi'an, Shaanxi] engage in a wide range of projects. We really see China as a center of innovation and product development, and we design and develop product in Asia for Asia, in China for China, in

Emerson in Brief

Emerson is a Fortune 500 industrial engineering and technology company headquartered in St. Louis, MO, and organized around eight business platforms: Emerson Process Management, Emerson Climate Technologies, Emerson Network Power, Emerson Storage Solutions, Emerson Professional Tools, Emerson Appliance Solutions, Emerson Motor Technologies, and Emerson Industrial Automation. Founded in 1890, the company now employs more than 140,000 people in 150 countries, with roughly 265 manufacturing locations worldwide, and had global revenue of \$22.6 billion in 2007. Emerson reeled in \$3.61 billion, or 16 percent of its global sales, in the Asia Pacific region last year. In China, by the end of 2007, Emerson had more than 35,000 employees and boasted more than 40 legal entities, of which more than 30 are manufacturing facilities. These entities include 33 wholly foreign-owned enterprises, 8 joint ventures, 6 engineering centers, and 3 advance materials characterization centers.

Driven by innovation, the company launched 577 new products, between 2004 and 2006, including some created in China for the local market and for export. For example, Emerson engineers are currently working on wind turbine technologies in Xi'an, Shaanxi, and a team of engineers based in Suzhou, Jiangsu, developed Emerson's Digital Scroll technology, which increases heating capacity by 30 percent and reduces electricity costs by up to 40 percent. To fund this level of innovation, Emerson has invested \$800–\$900 million per year worldwide in recent years.

China for the rest of the region, and in China for the rest of the world. So as you can imagine, the need for engineering and investment is enormous. We find the pool of talent in China to be fantastic and the key to finding the people with the local perspective that we need for the company's growth.

CBR: Do the engineering centers focus on certain areas?

Bosco: Yes, they are generally affiliated with our business platforms (see above). For instance, the engineering centers for Emerson Climate Technologies are focused on air conditioning or climate control technology. We also have engineers working on appliance motor products, which would be our MAC [motors and appliance components] group, while Emerson Network Power in Shenzhen focuses on power supply and precision cooling. The centers have a large pool of engineers who are developing the next product, the next kind of technology that changes the way people operate, what we call game-changing technology. For instance, our Smart Wireless technology is helping drive efficiency in processing plants in Asia and around the world. The centers also work together with customers' engineers on joint projects.

Interview

The other focus of the engineering centers and of the company generally, of course, is energy efficiency. We're focused on developing technologies that use energy much more efficiently. We think it's the right social thing to do, and we think it's the right business focus to have. For example, our engineers in Emerson Network Power and Emerson Industrial Automation are trying to create more efficient wind turbine parts. The other area of focus for energy efficiency is Digital Scroll technology for our compressor business. Compressors take a chemical, like a refrigerant, and compress it down into a form that can then be used to cool a room. Scroll technology is a way for the parts to work together using less energy. It slows down or modulates the machine without turning it off, like putting a computer into sleep mode. We also educate customers about data center efficiency through our Network Power platform.

CBR: Emerson also has a joint engineering facility with Wuxi Little Swan Co. Ltd. What does it do, and how does it differ from the other engineering centers?

Bosco: We set up the Little Swan Emerson Appliance Controls Engineering Center in July 2006, at Little Swan's base in Wuxi, Jiangsu. There, Emerson and Little Swan engineers work together to develop customized motor controls for their washing machines, dryers, and dishwashers. This kind of cooperation with our customers reflects what Emerson does globally—we have joint engineering arrangements or programs with major customers in other parts of the world. Developing products with customers helps us better serve the customer and be better partners with the customer.

CBR: Emerson also has a few materials characterization centers in China. What are these, and what do they do?

Bosco: The materials characterization centers exist because we have large procurement operations in Asia Pacific and in China. The materials characterization centers help source raw materials and components, but most important, they test the quality of materials. These three centers in China help us make sure that we get the best quality raw materials and components possible. Testing and assessing raw materials at the source is far more efficient than sending them to a plant and testing there. It also makes our supply chain more efficient for the customer because they're getting something that's already been tested.

CBR: Tell me about Emerson's shared services center in Xi'an, Shaanxi.

Bosco: We established it in December 2007, though it's not our first shared services center in Asia—we have one

in Manila. But we felt we needed to be in Xi'an to serve the Chinese market. And it's been fantastic for us. It allows us to put some added weight on our team by letting us put resources in a lot of areas that we would not be able to in a higher cost area. Another reason to locate such a center in Xi'an is the quality of human resources there. Xi'an has many outstanding universities in the immediate area—the local talent pool is just fantastic. The ability to find people who can speak other languages, not just English and Chinese, to serve the Asia Pacific market is great.

CBR: Now I'd like to turn to some broader issues. Human resources (HR) is a huge issue facing all companies in China. Emerson has just expanded greatly. How has Emerson dealt with HR issues and found good staff? Also, you have programs with several universities—how have these programs worked?

Bosco: The senior management at Emerson spends about 30–40 percent of its time on HR issues. And that's the whole range of HR issues—identification, retention, leadership development, education—needed to maintain a stable and productive workforce. I am impressed with the amount of time members of the OCE spend in China and in Asia Pacific. The OCE has only five members, and every month or every other month, one of them is in Asia. This indicates how important China and Asia Pacific is to the company. They are visiting our factories, plants, and research centers, and they also meet with customers.

We have developed internal leadership programs specific to Asia Pacific and China. We have a China-specific program for developing leadership in China, and we have another program focused on developing leadership for Asia Pacific. At these sessions, it's the top business leaders and OCE—not the HR person from the factory—giving the programs. So this is another tool that we use to meet all those HR objectives. There's no question about it, HR is an issue for all of us. And we invest significant time and resources in finding and developing talent to support our business growth.

In terms of university programs—and that's another aspect of identification and retention—not only do we have scholarship programs, but we also send our employees back to school to get a degree to help them advance their career in our company. That's a key part of our HR program. The scholarship programs identify the kind of students we would like to support—people who are intelligent, think outside of the box, have a desire to succeed, and can communicate or have the desire to learn to communicate well. They don't necessarily come to work for us after they get a scholarship from us. We support them because they're doing things that we'd like to encourage.

CBR: Are these scholarships targeted mostly at science and engineering students?

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Bosco: Most of our scholarships are for MBA programs. Many of the students are already engineers, but we put them into an MBA program because we want them to develop a skill set that includes not only technical aspects, but operational, financial, and communications skills.

CBR: Two other big issues for our members are intellectual property (IP) rights and standards. Emerson develops a lot of its own products, and IP is a core asset for the company. How do you protect your IP?

Bosco: Our engineers create products, technology, and processes, which are part of our core assets. Innovation drives our growth, so we need to protect our IP. We protect our IP quite aggressively, and we have an IP team based in Asia. The small-scale nature of an infringement does not deter us from taking action because it's so important to us to protect our IP. We're pleased to see China's legal system developing around IP protection.

The specific actions we take depend on the type of IP infringement. We have successfully litigated for patent infringement against a company that had copied our technology. In counterfeiting cases, we obtain as much information as we can collect ourselves and then request the appropriate PRC authorities, typically the local or regional administration for industry and commerce (AIC), to take action to stop the infringement. Throughout the process, we work closely with the authorities, including by formally identifying counterfeit products for them. In serious cases, we seek the involvement of the Public Security Bureau [police]. In one recent case, criminal charges were brought and the owner of the counterfeiting factory jailed.

Emerson also participates actively in the Quality Brands Protection Committee, an association of 178 multinational companies and their subsidiaries committed to working cooperatively with the Chinese central and local governments to improve IP protection in China and to share best practices in IP protection.

I also think that the environment for IP protection in China has changed over time. You know, I was in private practice in the early days, when IP infringement was ridiculously obvious. That type of infringement still exists, but Chinese companies have come to view IP as a key compo-



Emerson Network Power, Shenzhen. Courtesy of Emerson.

nent of their assets' value, and I think that view, in turn, has helped the government understand the need to protect IP. We will always protect our IP aggressively, but we are not alone in our goal, and the combined effort is really improving the climate for IP protection.

On standards....We develop standards for efficiency and capacity, as well as technical specifications for our products, so we are quite enthusiastic about monitoring standards development in China. The best example of our standards work is the

efficiency standards for air conditioning in China. Years ago, we started to work with the Chinese government to help them determine where they wanted to go on air conditioning standards. Then, in December 2004 we signed a memorandum of understanding with the Standardization Administration of China about creating a higher energy-efficiency standard for air conditioning. We hope that legislation will raise the energy-efficiency standard for air conditioning from the current level five (level five being low and level one being the highest efficiency), to level three or two. This would be a huge change because it would mean that new systems would all need to meet the new standard. If the change comes about, Emerson will be ready since we already have products that meet those high efficiency standards.

Another example is standards for food waste disposers. Our InSinkErator brand is a market leader in the US, and we can provide our experience to the Chinese government as they consider efficiency standards for garbage disposers.

We were also very active on China's ROHS [restriction of hazardous substances] standards. When China's ROHS regulations [Administrative Measures on the Control of Pollution Caused by Electronic Information Products] first came out in 2006, we worked with the government to try to help it figure out how best to implement the new standards, because it was—and is—a huge project. We also had our experience in the EU to draw upon, as the EU was the first to implement ROHS standards. Emerson has a working committee to monitor its ROHS content and implementation. The committee is made up of technical experts at our working companies as well as engineering and legal experts at the corporate level. We also have a company representative on the government working committee to determine how to implement ROHS more broadly. 完