

LEADERSHIP PROFILE

BY DAVID SILVERBERG

WATER. OTHER THAN AIR ITSELF, FOR MOST AMERICANS IT'S THE MOST TAKEN FOR GRANTED SUBSTANCE IN THE WORLD.

But providing the assurance that water is pure, clean and drinkable takes immense work, massive infrastructure and constant attention—as Jeffrey Throckmorton knows all too well. The president of Hach (pronounced “Hock”) Homeland Security Technologies, Loveland, Colo., he's charged with developing the means to monitor and secure water and air distribution from contaminants and attacks.

He also bears the title vice president for Global Innovation, which requires him to develop more advanced technologies and identify emerging ones and decide where to invest, whether those technologies are in academia or in other companies.

“Security and defense is in my blood,” Throckmorton told *HSToday*. “My father, Leroy Throckmorton, retired from the Department of the Navy Strategic Systems program as the senior executive for the Missile Branch that was responsible for all aspects of the Trident II submarine-launched ballistic missile.”

It would seem that not only does Throckmorton have security in his blood but water, as well.

Revelation in Utah

Throckmorton attended Virginia Polytechnic Institute and holds a doctorate in chemistry from the University of South Florida. He spent the last 16 years developing water and air monitoring instrumentation, joining Hach in mid-2000 and rising through a variety of positions in the company.

In 2002, Hach received the contract for water security at the Salt Lake City winter Olympics, and Throckmorton was put in charge. It was then that he became aware of the danger of “backflow” attacks, in which an attacker, using pressure greater than the pressure of the water coming out of the distribution system, forces a liquid agent into the system. It could happen at any tap, with an attacker using simple devices—and Throckmorton didn't have faith in the existing backflow preventers.

How could security authorities monitor potential threats of that type?



JEFFREY THROCKMORTON

President
Hach Homeland Security
Technologies

Throckmorton and his team developed a platform for detecting water threats and a system to provide warning of any dangers. From that solution there grew an entire initiative and host of Hach products for water security monitoring and early warning. In August, Hach products were deployed in Beijing to protect the Olympics there—“a wonderful vote of confidence,” in Throckmorton's words.

What is more, Hach has won SAFETY [Support Anti-terrorism by Fostering Effective Technologies] Act certification for all its air and water products from the Department of Homeland Security, protecting it from liability in the event of terrorist attack.

“I don't know of anyone else who has achieved that,” he said.

Hach and history

The company producing these solutions started humbly in Ames, Iowa, in 1947 when a husband and wife team, Clifford and Kathryn Hach, developed a simple means for measuring hardness in drinking water.

From that first success, their company and product line grew to include larger and more sophisticated means of measuring

and analyzing water and then air. Hach also became a leader in bringing laboratory analysis to the field and making solutions increasingly portable and flexible. Its operations expanded overseas beginning with the opening of an office in Namur, Belgium, in 1972.

Hach also acquired other companies and in 1999 was acquired itself by Danaher Corp., a \$12 billion diversified technology company based in Washington, DC, and whose best known consumer products are Craftsman tools.

Challenges ahead

Looking to the future, Throckmorton sees two major challenges.

One is simply the age of the water distribution infrastructure in the United States and abroad. In many cities, he points out, “The age of the pipes is quite high. The pipes were installed in the late 19th century. Some of them had lifetime ratings of about 100 years. As they age they become more susceptible, not only to age but also intrusion. We have to help municipalities afford to update distribution networks.”

Another challenge is simply securing the water system.

“One of the future needs that I see is that a lot of the research, when it comes to terrorism and security, comes from government research. A lot of that is based on products and technologies that were developed for the military. One of the issues that we're concerned about is that when you apply military-based products, or military application products, to the civilian world, the concept of operations and the potential for attacks will probably be different. When we look at this, I see people in fragmented research and fragmented activities. That's not right or wrong, but a lot of the activity has been focused on force protection and protection of the military, and we also need to really make sure that we are funding for the civilian world.”

Despite that concern, Throckmorton believes there is a growing appreciation for the criticality of all aspects of homeland infrastructure, not just those that are physical. Protecting all infrastructure is going to take a major effort and require a wide variety of tools. As he put it: “I think...we need to make sure that we're investing in research to make sure that we have those tools.” **HST**