

Security startup accelerates AI development and go-to-market timeline



Patriot One Technologies · Size: 50+ employees · Industry: Security · Location: Toronto, Canada

Patriot One Technologies' mission is to deliver innovative threat detection and counter-terrorism solutions for safer communities. Its PATSCAN Multi-Sensor Covert Threat Detection Platform provides a network of advanced sensor technologies with powerful next generation AI/machine learning software. Each solution in the platform identifies weapons, threats, or disturbances for immediate security response. For more information, visit: patriot1tech.com.

Challenges

- Find a powerful, stable hardware platform to support AI workloads
- Speed up product development and optimization
- Solidify go-to-market strategy and partners

Results

- Reduced the cost of processing and storage compared to cloud-based alternatives
- Improved product performance and stability
- Accelerated AI training from days to hours
- Brought new solution to market with speed and confidence

Solutions

- Cisco Unified Computing System™ (Cisco UCS)
 - Cisco UCS C480ML with NVIDIA Tesla V100 Tensor Core GPUs
 - Cisco UCS C220 with NVIDIA T4 Tensor Core GPUs

For more information

- [Cisco UCS](#)



Challenge: Accelerate solution development and deployment

Traditional threat detection systems are inherently limited. Like security screening stations at an airport, sporting event, or courthouse, they are typically designed for a singular purpose—metal detection, for example—and require human monitoring.

“We need to get away from the one camera, one screen, one officer model,” says Martin Cronin, CEO of Patriot One Technologies. “They’re not good enough for safety, and they inhibit personal freedom. Nobody wants checkpoints everywhere.”

Patriot One Technologies has created a powerful alternative: A multi-sensor platform that can detect a variety of objects and threats—in real time and without human assistance. The PATSCAN platform includes a targeted magnetic resonance system for crowd screening, video recognition technology for identifying weapons in open view, a cognitive microwave radar for detecting concealed objects, and a multi-chemical sensor for locating explosives, chemical agents, and opioids. The multi-sensor platform can be deployed across a multitude of venues to dramatically improve facility and public safety.

In developing the PATSCAN platform, Patriot One Technologies faced several hurdles. The startup needed to train the AI models of its sensors, determine the computing system on which the platform would be delivered, solidify its ecosystem of partners, and accelerate its go-to-market timeline.

Patriot One received assistance from Cisco on all of those fronts and continues to enjoy a close working relationship with the technology leader.

“It’s one thing to have smart people and good ideas,” Cronin says. “It’s another to bring those ideas to market in a stable and scalable way. Working with Cisco has been a huge strategic advantage for us.”

“UCS has become a part of our secret sauce. When you’re going to market with a new solution, you need to have the confidence and reassurance that come with a Cisco box.”

Jeanault Lasnier

Senior Strategic Manager of
Technology and Partnerships,
Patriot One Technologies



Training deep learning models

Through an introduction facilitated by IBM, Patriot One was invited to the Cisco Toronto Innovation Center, which helps businesses experiment, test, and co-create solutions that solve real world challenges.

“We needed to figure out how to glue all of our sensor technologies together and deliver them in one platform,” says Jeanault Lasnier, Senior Strategic Manager of Technology and Partnerships at Patriot One. “We also needed help with the upfront training of our deep learning models.”

The company’s PATSCAN VRS video recognition technology requires a massive amount of parallel processing, he explains, and Patriot One had been struggling to find a hardware system that could deliver enough power—and cooling—to support the workloads. The engineers at the Cisco Toronto Innovation Center recommended the new Intel® Xeon® processor-based Cisco UCS C480ML, a purpose-built server for deep learning applications that includes eight NVIDIA Tesla V100-32GB Tensor Core GPUs.

“High-powered GPUs throw a bunch of heat, and other systems were falling over,” says Lasnier. “The UCS boxes worked perfectly. They’re incredibly well designed, we’ve had no cooling or reliability problems, and they’re more cost-effective than cloud-based processing and storage resources. Training our deep learning models now takes hours instead of days.”

A lighter version of the system—featuring Cisco UCS C220 with NVIDIA T4 GPUs—was selected as the hardware platform for PATSCAN VRS deployments. The system can be customized to fit a variety of customer environments and needs.

“UCS has become a part of our secret sauce,” says Lasnier. “When you’re going to market with a new solution, you need to have the confidence and reassurance that come with a Cisco box. We don’t worry about hardware anymore.”

Going to market

The collaboration between Patriot One and Cisco started well before the hardware was selected and configured.

“Cisco gave us tremendous technical assistance and they opened doors for us,” says Cronin. “Those are really critical when you’re marching to revenue.”

As a Cisco innovation partner, Patriot One was introduced to ecosystem partners like NVIDIA and Singlewire, whose technologies are now key ingredients of the PATSCAN platform. It was given a full test environment at the Cisco Toronto Innovation Center, with engineering support for solution integration, optimization, and customization. The company also received guidance on solution deployment, scaling, and support.

“Cisco understood our vision and our needs,” Lasnier says. “They didn’t just look at this as a

technology problem. They helped us figure out how to bring our solution to market.”

“It would have taken us much longer to get our PATSCAN platform in customers’ hands without Cisco,” Cronin confirms. “But more important are the quality of the solution, the strength of the partnerships, and the viability of the go-to-market approach. Cisco has helped us with all of them.”

The hard work and collaboration have paid off, with Patriot One shifting its focus from development to deployment.

“We’re at the moment of execution and new boxes were shipped last week,” Cronin notes. “It’s an exciting time for us, and we’re proceeding in lockstep with our good friends at Cisco.”

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CEO, Patriot One Technologies