Northeastern Student Helps Mass. Startup Revolutionize Nuclear Detection

How Silverside Detectors is using a Commonwealth program to connect to young talent

When Bay Staters think about the industries that lead the Massachusetts economy, public safety, defense, and advanced manufacturing do not often come to mind. Silverside Detectors is looking to change that. A bootstrapped startup founded by Andrew Inglis and Sarah Haig in 2013, Silverside is revolutionizing nuclear detection technology, and they are doing it here in Massachusetts.

The backbone of Silverside's technology came from research for Inglis's PhD thesis while he was at Boston University in 2013. His research focused on developing technology to create a less expensive nuclear detector, making it feasible to network multiple detectors in an area to provide thorough coverage and more useful readings than a single, stand-alone, detector could produce. For instance, if a city has 50 detectors, and each detects a spike at the same time, the spike could be the result of noise, from solar activity, for example. But if a spike appears to be "moving" from detector to detector across the network, that is likely the result of activity that should be watched more carefully.

Sarah Haig, Silverside Detectors' Co-Founder and COO

Silverside is making it possible to create these networks with its innovative neutron detector, a device that detects nuclear materials from the neutrons they emit. This novel technology will give public safety officials the opportunity to greatly improve nuclear detection in the United States.

To help grow its business and find new sales opportunities, Silverside participated in MassChallenge's 2013 class, where it was able to access to the accelerator's array of resources and mentors. Later, the company moved to Greentown Labs in Somerville, a clean-tech incubator that provides prototyping and office space for its members. It was during its time at Greentown Labs that Silverside received grants from the National Science Foundation's Small Business Innovation Research (SBIR) program and the Defense Advanced Research Projects Agency (DARPA) to build and test their technology. Silverside remained at Greentown until it outgrew the 500 square foot space and moved to its own 5,500 square foot facility in Cambridge, all the while continuing to receive overwhelmingly positive attention in the press from the *Boston Globe*, *Wired Magazine*, and *FOX News*, among others.

MASSTECH INTERN PARTNERSHIP Success Story

THE INNOVATION INSTITUTE
at the MassTech Collaborative

As a manufacturing startup with just eight full time employees working on groundbreaking technology, Silverside is constantly on the lookout for any opportunity to bring qualified talent onboard. According to Sarah Haig, Silverside's COO, finding labor is consistently among the biggest challenges the company faces and, since getting its start, the startup has participated in a range of programs offered by the state and the community to find, access, train, and support talent.

One such program is the MassTech Intern Partnership (MTIP). The MTIP program is overseen by the Massachusetts Technology Collaborative, a state agency dedicated to supporting the Massachusetts technology economy. The program provides stipends to small businesses that are starting and scaling up in Massachusetts, funds that allow them to hire paid summer interns who are also from the Commonwealth. Since MTIP began in 2013, the program has supported Silverside with two interns, allowing the startup to extend its research and development capabilities.

This summer the MTIP program is proud to support Silverside's intern, Annabel Lewis, a fourth-year Northeastern University student, for three months of her six-month co-op. Haig says that the funding from MassTech helped the startup afford to make Lewis's internship longer, which allows both the company and the intern to get the most out of the experience.

Anabel Lewis, Silverside Detectors' Current Intern

"Our interns get their hands in everything," Haig said. "We start them out on tasks that they can handle, but by the end of their terms we've had interns get intimately involved in every aspect of making our product."

Lewis agreed, and spoke highly of her experience interning at Silverside. The co-op immediately differentiated itself from her last professional experience. "I find that it's easier to focus here when I'm around people, and not trapped in a cubicle by myself," she said. In addition, Lewis was excited by the number of projects that were there for her on day one of her internship, which she attributed to a startup culture where there is constantly critical work to be done.

Haig, for her part, wants to make sure her interns make the most of their time at Silverside. She encourages all of them to tackle a variety of projects, and works with each intern at the end of the term to describe the internship on a resume. "Often, interns surprise themselves when they think about how much work they did here," Haig notes.

Over the coming months, Lewis is looking forward to making the most of her internship, and Silverside will continue to make progress on its product. There is still more testing to do, and adjustments to be made, but Haig and the rest of the team are looking forward to a not-so-distant future where nuclear detection is a lot more effective and efficient.

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