

Innovation Revolutionizes Slide Management



Alex Bushell, CEO of Lab Improvements (left) and Bernard Schaan. Submitted photo: Peterborough Regional Health Centre

In Peterborough, Ontario, a man named Bernard Schaan recognized an issue that needed fixing. In the laboratory at Peterborough Regional Health Centre (PRHC), where Schaan was the laboratory manager, staff regularly took up to six hours daily to file and sort glass slides. This laborious task occurs in labs across the country and worldwide, and archiving slides is crucial to patient care. Every year, over 1.82 million lab tests are performed at the hospital.¹

“Our hospital files about 125,000 slides a year. We have to go back periodically and retrieve historically archived slides in order to give the information to the pathologist so that they can make a more informed decision,” says Schaan.²

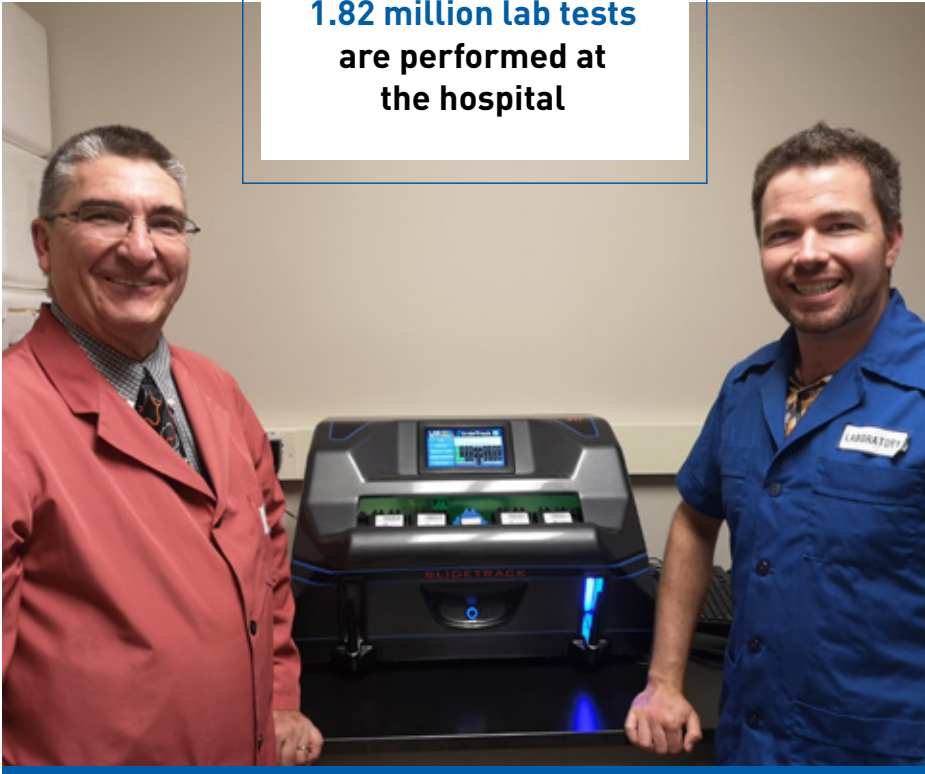
Instead of accepting the status quo, Schaan came up with the idea to develop a unique robotic slide management device. This bench-top instrument, known as SlideTrack, automates the filing and sorting of laboratory slides. Instead of hours per day, this task now takes only minutes to process the same volume of slides.¹

Schaan wasn't the only PRHC employee involved in this exciting, innovative project. Lori White, who is a medical laboratory technologist in PRHC's lab, offered invaluable guidance. Schaan reached out to an engineering company called Lab Improvements, which specializes in laboratory automation, to help him turn his concept into a reality. Like PRHC, the company he partnered with is from Peterborough.¹

“It was very beneficial to work with a company in the design phase because you were getting an instrument that was built for the job you wanted it to do,” says Schaan.²

For long-term storage, a slide is loaded

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into SlideTrack, which then scans various crucial elements, like barcodes and unique identifiers. With this technology, locating and retrieving either individual slides or entire cases is reliable, as the location of each slide is now controlled in a database.¹

“We worked with Lab Improvements to define a process of what needs to be captured that is already on the slide, how it can be filed and we came up with a database filing system with all the information that is captured on the slide,” says Schaan.²

Usually, innovative laboratory inventions like SlideTrack are not created in smaller cities, which is only one of the reasons why this invention is impressive.

“This whole thing was developed in Peterborough by a Peterborough lab and a Peterborough company. That makes it very unique. In terms of laboratory inventions, these things usually come from really

high-level, multi-national companies. Very rarely is something like this developed in a small Ontario city,” says Alex Bushell, CEO and co-founder of Lab Improvements.²

Despite the invention’s comparatively humble origins, the designers had a bigger picture in mind – to collaborate and create a transformative product that can be used in labs both nationally and internationally. To reach this end, the project was awarded a \$25,000 development grant and a \$15,000 procurement grant from North America’s biggest innovation hub, MaRS.¹

And it looks like their bigger picture is coming to fruition. The outstanding benefits of the innovative slide management system is garnering attention not just in Peterborough but elsewhere. Other health care facilities across North America have already visited the lab to see what the device can do up close and personal.¹ 📺

How It Works

The SlideTrack is loaded with slides, and each slide is scanned for barcodes, key characters, unique identifiers and colours to sort, divert or archive the slides into storage magazines. A large database houses the location of where each slide is stored so individual slides or entire cases can be located easily and retrieved.

Once a storage magazine is full, it can be placed into traditional long-term storage infrastructure. A single SlideTrack device is capable of processing upwards of 4,000 slides within eight hours.

To see the SlideTrack in action, watch the video here:

<https://vimeo.com/prhc1/prhcslidetrack>



REFERENCES

- ▶ ¹Lab Improvements and Peterborough Regional Health Centre. *How an Ontario hospital cured the headache of histology slide archiving.*
- ▶ ²PRHC. SlideTrack poised to improve patient care at PRHC and around the world [Internet]. Vimeo. Retrieved from: <https://vimeo.com/348246536>



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