

Case Study

PCL Construction Builds Safer Applications and Strong Security Culture

Industry

Construction and Engineering

Location

Edmonton, Canada

Checkmarx Solutions

- Checkmarx One™
 - Static Application Security Testing
 - Software Composition Analysis
- Codebashing

Key Takeaways

- 🕒 <4 hours to onboard Checkmarx One
- 🔄 4.4 million lines of code scanned weekly
- 📊 21+ applications scanned every week
- 🛡️ Security-focused mindset across all teams
- 🔧 Finding and fixing vulnerabilities significantly faster



The Need

Shift security throughout application development

PCL Construction is one of the largest contracting organizations in North America. It relies on a growing universe of over 100 in-house developed applications to help it deliver projects safely, on time, and on budget — for projects ranging from complex infrastructure to heavy industrial, stadiums, hospitals, and solar applications.

The organization has been migrating its business-critical applications to the cloud. During the move, PCL recognized the need for more robust security, not only in production, but across the entire software development life cycle (SDLC).

With cloud-based applications, PCL needs application security (AppSec) solutions designed for modern development, delivered from the cloud. Ideally, PCL wanted AppSec solutions to help it shift security into every phase of the SDLC and identify and address potential threats earlier, where they are easier, less risky, and more cost-effective to fix.

To foster a stronger security culture, PCL sought AppSec solutions they could easily integrate and automate into its developers' existing workflows. PCL also anticipated that overly complicated tools would be underused, leaving applications vulnerable.

"Today, nearly 95 percent of our apps are cloud-based, so we can no longer rely on managing security behind our firewall," said Blaine Stearns, Lead Solution Architect, PCL Construction. "We had to step up our game on the development side since we're exposing things to the Internet, where the risks are far greater. We need a tool that helps us stay on top of the learning curve and not at the bottom. We also want to foster a continuous-learning cycle, so the ideal solution must be easy to use and help developers assess security principles."



We're in a stronger position today when it comes to open source supply chain or package threats because of Checkmarx One.

Joel Godbout

Cybersecurity and Networking Manager,
PCL Construction



The Solution

A comprehensive, cloud-based AppSec platform

With a clear understanding of their requirements, the PCL application security team began their search. After thoroughly evaluating several solutions, they selected the Checkmarx One™ Application Security Platform, with Static Application Security Testing (SAST) and Software Composition Analysis (SCA).

Checkmarx One, a cloud-based solution, is the most comprehensive AppSec platform on the market. The platform was specifically designed for cloud development and today's technology stack, processes, vulnerabilities, and risks. This was an important consideration for the team because nearly all of PCL's applications are cloud-based.

The team also wanted a complete solution so it could standardize on one platform and not introduce new complexity into its environment. Checkmarx met these requirements with the ability to simplify security — in application source code, open source dependencies, supply chains, APIs, and more — from a single platform and scan.

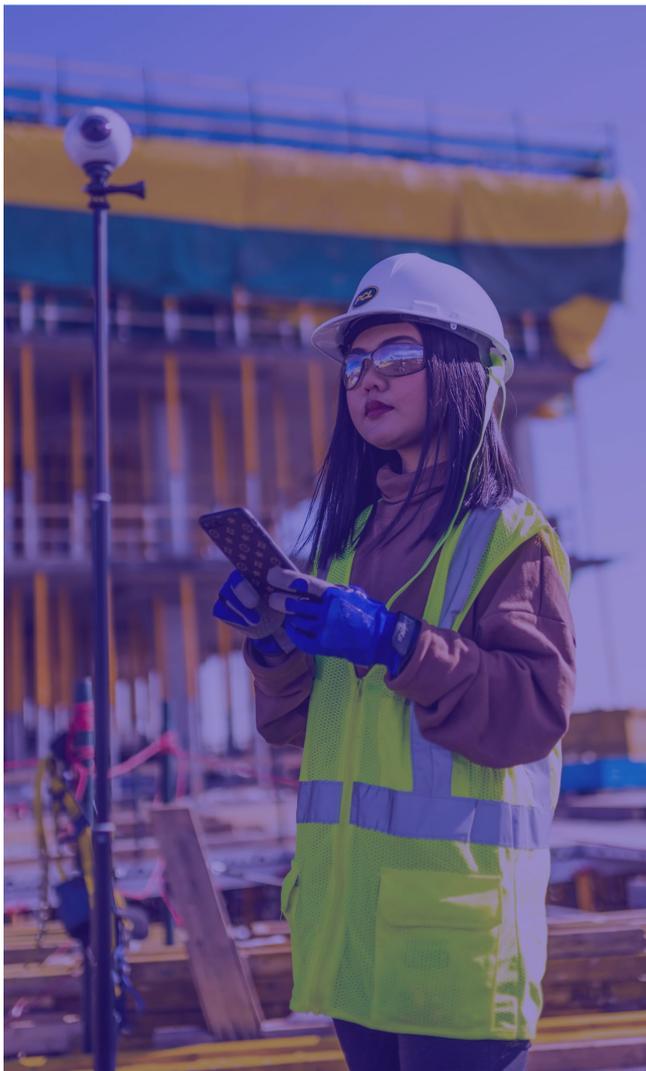
With more than 100 applications, PCL needed a cost-effective solution. "I wanted a tool that would work well for the developers and had a licensing model that wasn't going to break the bank," explained Joel Godbout, Cybersecurity and Networking Manager, PCL Construction. "One solution we considered had a per-app licensing model that would be cost-prohibitive in our organization."

Checkmarx's pricing model, which licenses users for unlimited apps, appealed to Godbout. But the solution had to deliver much more than a strong price value proposition. "Checkmarx One definitely checks all my boxes from a security standpoint and has a great interface that's engaging and easy to use."

"Some of the solutions we considered were more complicated," he continued. "With Checkmarx One, it's easy to get right to the problem with a little-to-no learning curve. In about 20 minutes, I was able to jump right in and look at an app, identify issues, and accurately say, 'Here are all the problems that we need to fix.'"

Stearns shared Godbout's excitement about the platform's ease of use. "I handed it to one of my team members and let him run with it. Within a week, he had automated scans running for almost 10 of our apps," Stearns said.

Education is critical as PCL builds out its AppSec security program, and the team chose Codebashing, Powered by Checkmarx™ — gamified, just-in-time secure code training — to advance developer understanding and knowledge of secure coding best practices. With Codebashing, developers learn how to securely and proactively code as part of an integrated AppSec awareness program, without the dreaded hours-long security training modules that erode productivity. As part of the gamified tool, developers can link from scan results directly to a specific lesson so they can remediate issues right away with guidance that's keyed directly to their code.



The Results

+ Fast and seamless onboarding

PCL first deployed **Checkmarx One** several months ago, and the process was fast and seamless. The PCL development team had the first scan running from an automated build in about four hours and the platform has been up and running ever since.

+ Quick developer adoption

The value from Checkmarx One has been quickly recognized. The company's onshore development team, which includes approximately 50 developers, uses the solution daily, and the company hopes to roll out the platform to its offshore developers soon. The platform is easy to learn and integrates well into existing developer workflows — optimizing adoption.

Checkmarx **Codebashing** is also helping to drive developer adoption. "It becomes part of everybody's workday, identifying potential problems before they start — and how to avoid them," said Stearns. "The learning is continuous and organic, with lessons and best practices delivered to developers right when they are needed. That is a powerful proposition."

+ Rapid detection & flaw remediation

Today, PCL uses **Checkmarx SAST** to rapidly detect and remediate security risks in its mission-critical applications. It also enables the team to prioritize risks so it can focus on the most important issues first. PCL automates its SAST scans — spanning millions of lines of proprietary and open-source code — for nearly a dozen applications, and it continues to add applications to the platform.

+ Secure software supply chain

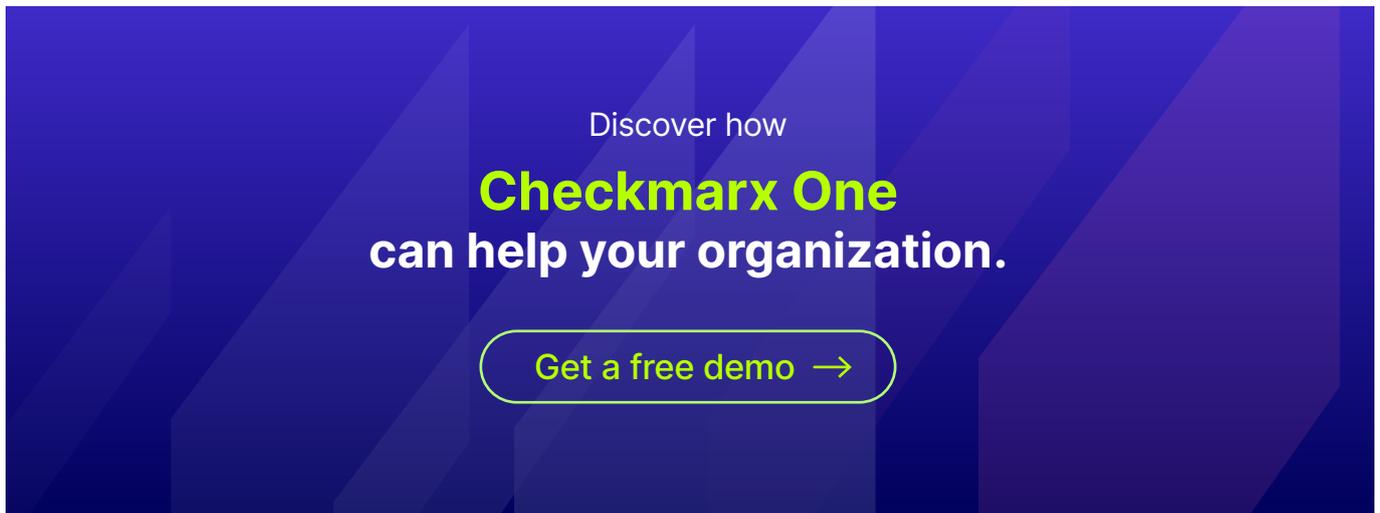
PCL leverages significant open source code in its applications, and **Checkmarx SCA** saves the team significant time as it reduces risk associated with open source threats. "Today, we can quickly determine which of our applications might be running problematic packages and then quickly patch them," explained Godbout. "Before, we had to go to every developer to determine if their apps were using the code. We're in a stronger position today when it comes to open source supply chain or package threats because of Checkmarx One."

The Future

Shift AppSec everywhere

The group is now turning its attention to deploying the power of Checkmarx One to shift security into every phase of the SDLC and seamlessly integrate it into development environments and the CI/CD pipeline. Godbout explained that this step is fundamental to building a strong AppSec program and will enable the company to identify and fix security threats earlier in the SDLC, where they're less costly and time-consuming to address.

"In many organizations, security is handled by a person or team as a final step before production. We want to build an organization where everyone has a role in identifying and attacking problems, which is so much more powerful. Checkmarx One and Codebashing will be instrumental in helping us achieve this important goal," Godbout said.



Checkmarx

Checkmarx is the leading application security provider, offering the industry's most comprehensive cloud-native platform, Checkmarx One™. Our products and services enable enterprises to shift everywhere in order to secure every phase of development for every application while simultaneously balancing the dynamic needs of CISOs, security teams, and development teams. We are honored to serve more than 1,800 customers, including 60 percent of Fortune 100 organizations, and are committed to moving forward with an unwavering dedication to the safety and security of our customers and the applications that power our day-to-day lives.

MAKE SHIFT HAPPEN