



# Beyond Compliance: Motorola Solutions Drives Winning Security Culture



**MOTOROLA**  
SOLUTIONS

Since 1928, Motorola has been the name behind some of the most cutting-edge communications technology on the planet. With no signs of slowing their innovation any time soon, Motorola Solutions spent over USD \$500 million<sup>1</sup> on research and development in 2017 alone. Counting over 100,000<sup>2</sup> commercial and public safety clients across 100 countries<sup>3</sup>, they have mastered the art of transformation and invention in a rapidly changing space. And it is safe to say that this entrepreneurial approach extends beyond their products and services, with their development team reaping the rewards of internal forward-thinking initiatives.

Marilyn Barrios is the Senior Cybersecurity Training Specialist at Motorola Solutions, running the security training program for their team of more than 6,000 developers across the globe.

With Motorola Solutions' lengthy history of staying at the forefront of technological advancement, Marilyn's goal is to ensure that those on the front lines of the company's extensive software development are equipped with the knowledge, tools and ongoing training required to combat the growing global cybersecurity threat.

To accomplish this, she created an internal security culture, one that thrived from not only a core skills perspective, but also in understanding its paramount importance in overall software quality. Her people-first, positive approach engaged them, created excitement about security and morphed into something far more powerful than a simple compliance exercise.

1,2,3 Source: [https://www.motorolasolutions.com/en\\_us/about.html](https://www.motorolasolutions.com/en_us/about.html) **Company Facts**



**SECURE  
CODE  
WARRIOR**

[securecodewarrior.com](https://securecodewarrior.com)

## THE CHALLENGE



Marilyn's team faced challenges that many companies could likely appreciate: tight deadlines for feature delivery, the need for scalable training that could flex with growing teams, as well as an uncompromising demand for products to be as secure as possible.

"Ensuring that our products are secure is our highest priority. That's why we're working to create a culture of security-first thinking across the company – so people not only understand cybersecurity and why it is vital to maintaining a high standard of software quality, but are excited to learn more," Marilyn said.

With such a large development team covering multiple facets of the business, insight into each individual's security knowledge and current skill level could be elusive and difficult to collate. Marilyn sought to streamline this process, working towards a holistic solution that would deliver key metrics, relevant training in the languages and frameworks that were actively being used in the business, while remaining engaging enough to be revisited – even for more senior engineers.

*"Our eventual tournament winner was so excited with the boot camp, and he was so engaged with the Secure Code Warrior tool. He became a huge advocate among his team."*

MARILYN BARRIOS

## THE IMPLEMENTATION

Marilyn and her team worked hard to implement an immersive, engaging training experience for their developers. Starting with a boot camp, their developers learned offensive coding techniques before playing Secure Code Warrior tournaments to test their defensive skills against the attacks they had just seen in action. This setup proved effective and eye-opening for the participants:

Key to their successful internal roll-out was clear communication, encompassing both senior stakeholders and boot camp participants. Marilyn ensured projected outcomes were clear, sign-ups were seamless and the training program was defined to the developer's needs, while also aligned to wider company objectives. "It was imperative that our training program was very specific. We didn't want somebody sitting in boot camp, taking time out of their workday, only to not be able to apply any of the learnings to their everyday job," Marilyn said.

Motorola Solutions also leveraged current security champions from different departments to help spread awareness, enthusiasm and participation in the program, with the goal of also identifying a new wave of champions within the group to assist in keeping security front-of-mind for the whole team. The icing on the cake, of course, was the incredible prizes offered for Secure Code Warrior tournament winners:

"For the overall tournament winner, the major prize was an all-expenses-paid trip to DEF CON 26 in Las Vegas. Bear in mind, our tournament was a global affair, so we had people all over the world competing for the crown. And no matter where they were playing from, they would get to attend DEF CON 26 in Vegas if they won. That really motivated people to train, play and make the most of the experience. We also gave out a range of cash prizes to the runners-up," Marilyn said, before adding that "recognition across the board was the most important aspect. We wanted our devs to feel celebrated for their immense effort in such a short time."

**"In really diving deep into how cyber attacks can be executed, the team saw how easy it was to do a lot of damage at the application level. By then practicing how they can defend against these attacks with Secure Code Warrior, their eyes were opened to how they can help if they keep security a priority in their work. They enjoyed the experience and it was beneficial for them, too," Marilyn said.**

## THE RESULT

Marilyn and her team at Motorola Solutions successfully executed a comprehensive, engaging and fun security training program that not only lifted security awareness overall, but helped to identify a new group of champions to keep the critical message of cybersecurity best practices thriving long-term.

Interestingly, the eventual winner of the tournament did not start the program as the most experienced and security-aware developer. The boot camp was instrumental in rapidly upskilling the individual, and the gamified aspect of the training ensured a high level of engagement and information retention: "Our eventual tournament winner was so excited with the boot camp, and he was so engaged with the Secure Code Warrior tool. He became a huge advocate among his team, saying, 'You guys have to get this; you need to get this!' He practiced on Secure Code Warrior so much in a two-month period, improving so significantly, that he ended up winning the tournament," Marilyn said, noting: "From there, he recruited even more champions, piqued their interest in security and helped them along to become advocates in their respective groups as well."

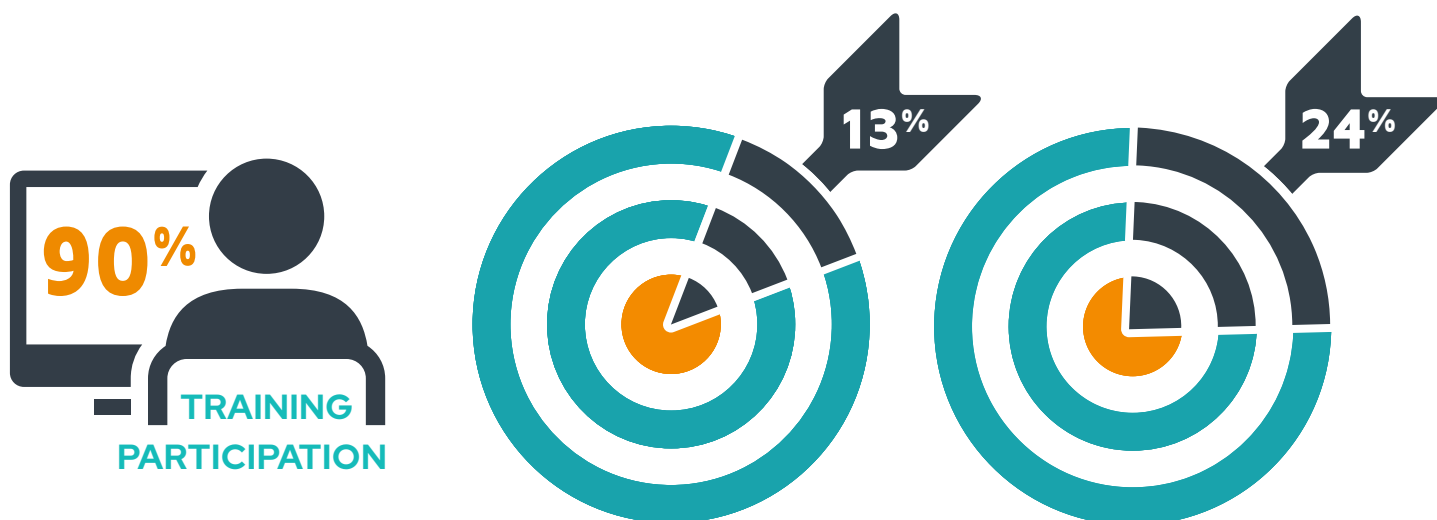
Marilyn's broader goal of creating a buzz, one so strong that it compels an organic security culture to grow within the company, is certainly on track. Gamified training, team events driven by tournament initiatives and the incentive to keep engaging with AppSec have resulted in something very positive: Developers are not only working to have a better understanding of security, but actively seek to uphold company best practice initiatives in their day-to-day work.

## RESULTS

- ✓ Engaging and fun training program
- ✓ High level of engagement and information retention
- ✓ Organic security culture grows within the company
- ✓ Developers actively seek to uphold company best practice initiatives

*"After watching the short video on Cross-Site Request Forgery, I will never log into my online bank account in a browser with any other open tabs."*

MOTOROLA SOLUTIONS DEVELOPER



Leading into their global tournament, Motorola Solutions enjoyed a training participation rate of over **90%**.

Within three days, platform training yielded an immediate impact, with accuracy increasing by **13%** from the pre-boot camp assessment to the post-boot camp tournament.





After participating in platform training leading into the tournament, accuracy increased **24%** across the global tournament.



## FAST FACTS

- ✓ Other managers of development teams were motivated to get Secure Code Warrior for their own developers due to the demand post-tournament.
- ✓ The platform has proven useful as part of the developer recruitment process.

## MARILYN'S TIPS FOR SUCCESS

-  AppSec professionals need to be **passionate** about what they're 'selling.' Believe in what you're trying to get others to do, and lead by example. Be a supportive security advocate.
-  Don't underestimate the importance of obtaining **sponsorship** and support from senior leadership within your business. This buy-in is critical to the success of new initiatives being promoted in the training space, and we are fortunate to have strong support from executive leadership to create a cyber-first culture at Motorola Solutions.
-  Always tie objectives to the '**why.**' You should know why you're trying to meet a goal or influence change; don't just give a direction with no context. For us, it's easy: we make it personal. Motorola Solutions is responsible for delivering key communications over mission-critical infrastructure and devices for public safety and commercial enterprises. First responders, citizens and front-line workers alike are relying on this technology to be as secure as possible, so we emphasize the importance of learning best practices.
-  **Communicate** positively and often with the developers in your team; run focus groups, get feedback, and keep training relevant and useful to them.

### ABOUT MOTOROLA

Motorola Solutions is a global leader in mission-critical communications. Our technology platforms in communications, software, video and services make cities safer and help communities and businesses thrive. At Motorola Solutions, we are ushering in a new era in public safety and security.

[www.motorolasolutions.com](http://www.motorolasolutions.com)

### ABOUT SECURE CODE WARRIOR

Secure Code Warrior is the developer-chosen solution for growing powerful secure coding skills. By making security a positive and engaging experience, our human-led approach uncovers the secure developer inside every coder, helping development teams ship quality code faster.

Through inspiring a global community of security-conscious developers to embrace a preventative secure coding approach, our mission is to pioneer a people-first solution to security upskilling, stamping out poor coding patterns for good.

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