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CyberRes / Jaguar TCS Racing Case Study

Boosting Cyber Resilience with Fortify

Pushing the boundaries of
competition and innovation



At a Glance

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Jaguar TCS Racing

The team competes in the ABB FIA Formula E World Championship, an all-electric street racing series that showcases what sustainable mobility technology can do. ABB FIA Formula E interactively involves more than 300 million fans, and the championship contributes to pushing electric vehicles to the forefront for a better, cleaner future.

Challenge

Successfully implement software and data to gain competitive advantage in Formula E racing

Products and Services

CyberRes Fortify on Demand

Success Highlights

- Flexible access through SaaS solution
- Application security gains identified early and quickly implemented
- Secures software development lifecycle with minimal operational cost impact
- Targeted approach with actionable alerts
- Improved application quality with enhanced system security

Partnering with Micro Focus for racing success

Formula E brings racing tech to the road. With some of the biggest car and racing brands going head-to-head on the streets, Formula E is more than just a racing series—it's a battle for the future. The cars, powered purely by electricity, pave the way for the cars of tomorrow. All Formula E cars are governed by a stringent set of technical regulations, so how do teams create the competitive edge they need to get ahead in the race?



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The key elements for us are the driver and the right software and data so that we can optimize the cars' performance. In fact, software for us is what aerodynamics is for the Formula 1 teams.

Data can make that crucial difference between winning and losing. We are also lucky to have FANBOOST. In the three days prior to and up to 15 minutes into the race, fans can vote for their favorite driver at the FIA Formula E website or through the Formula E app. The top 5 drivers with the most votes are awarded a boost of power that can be deployed during a five-second window in the second half of the race. This often makes for a really exciting finish.

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Julian A. Garcia-Grajales
Head of Performance, Jaguar TCS Racing

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As Formula E is so technology-driven, Jaguar TCS Racing entered strategic partnerships with key technology vendors, including Micro Focus. With up to 50 applications used by the race team, and over 250,000 lines of code embedded in the race car, delivering secure applications across their complex environment is vital to the success of Jaguar TCS Racing.

The applications are used to load and analyse actual data from previous races and test drives to see if the result can be improved in any way. Strategic decisions on how to manage the race and preserve the car's power for the best performance are completely data-driven.

50 

Applications used
by the race team

250K+ 

Lines of code embedded
per race car



Fast Fortify implementation for enhanced application security

Micro Focus CyberRes strategists conducted a cyber resilience assessment workshop to help the team identify any potential risks and gaps in its cyber security posture. They found a requirement to improve application security in a rapidly evolving development infrastructure with many moving parts. This is where Fortify Application Security delivers. Fortify is designed to seamlessly integrate into an existing development toolchain. It scans code, applications, and web services, shows results, and gives high quality findings and remediation advice during every stage of the development cycle to assist in vulnerability removal.

Fortify On Demand, as a Software-as-a-Service (SaaS) solution, didn't require any tooling change on Jaguar TCS Racing's side and had minimal impact on operations, thanks to its simplicity and SaaS approach. During the implementation, Jaguar TCS Racing went through its own organizational transformation, so the seamless integration of Fortify into an existing development architecture and process was very helpful and crucial in becoming productive straight away.



We use Fortify's static analysis capabilities to analyze our source code as we develop new features or make enhancements. Fortify prioritizes and categorizes the findings so that we can address them immediately.

We operate a cloud environment that makes it easy to collaborate between our factory HQ in the UK and any race location we attend in the world. Most of our application access is through web or API interfaces and this is where Fortify's dynamic scanning can make sure our code is robust and remains fully secure.

Performance Engineer
Jaguar TCS Racing



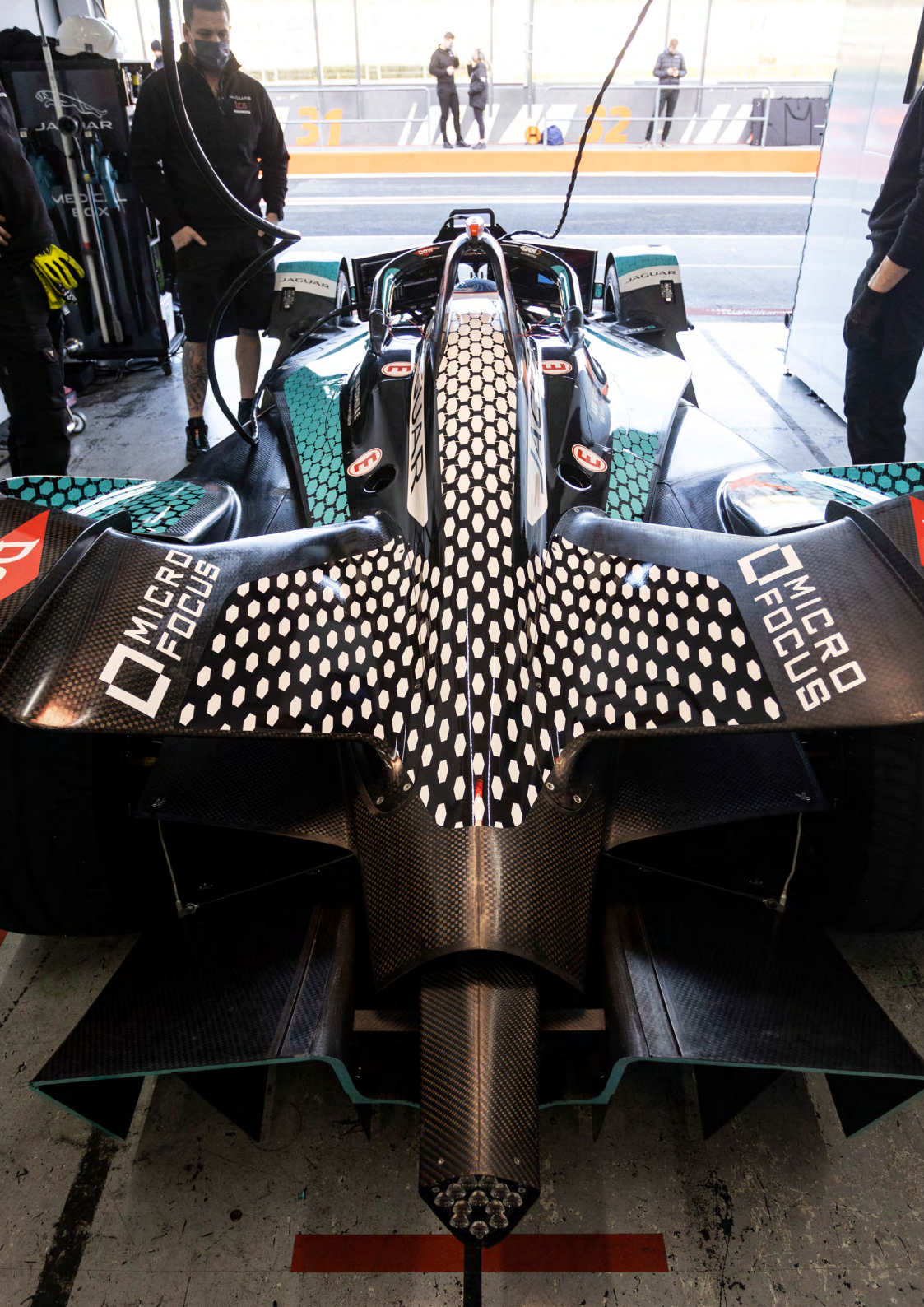
Actionable alerts produce higher quality software

When Fortify on Demand Portal was enabled for Jaguar TCS Racing and the first scans were conducted against new and existing code, among other findings the team discovered a number of opportunities to enhance the existing API architecture and security approach. Repeated Fortify scans gives them a security lens through which any issues can be identified and addressed quickly.

“Other tools can flood a development team with false positive alerts.”

“Fortify has a really low level of false positives and gives us actionable alerts that we can address immediately. Including Fortify in our development cycle has fundamentally changed the way in which we design and develop our applications. Our developers could learn on the job as when Fortify finds a flaw it not only flags it, but also recommends a best practice and code snippet to learn from. This was essential to raise awareness among new developers who don't necessarily have a security background,” comments a Performance Engineer.





Fortify static and dynamic scanning identified potential vulnerabilities within application code that were addressed successfully before they could cause issues in the production environment. The practice of regular code scanning also drives the Jaguar TCS Racing development team to better structure, describe, and protect their APIs, resulting in higher quality applications.

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Following the successful implementation of Fortify we have noticed a definite downward trend in the number of potential vulnerabilities identified in the development process, which means we release higher quality applications that will give our team the competitive edge we all aim for.


We appreciate the strategic approach and expertise displayed by Micro Focus in collaborating with us on our cyber resilience. We feel confident that our applications give Jaguar TCS Racing drivers the best chance of success.

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Julian A. Garcia-Grajales
Head of Performance, Jaguar TCS Racing

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Hear what James Barclay, Team Principal, Jaguar TCS Racing, shared with us at the beginning of our technical partnership.

Watch now 

[Learn more about our partnership >](#)



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