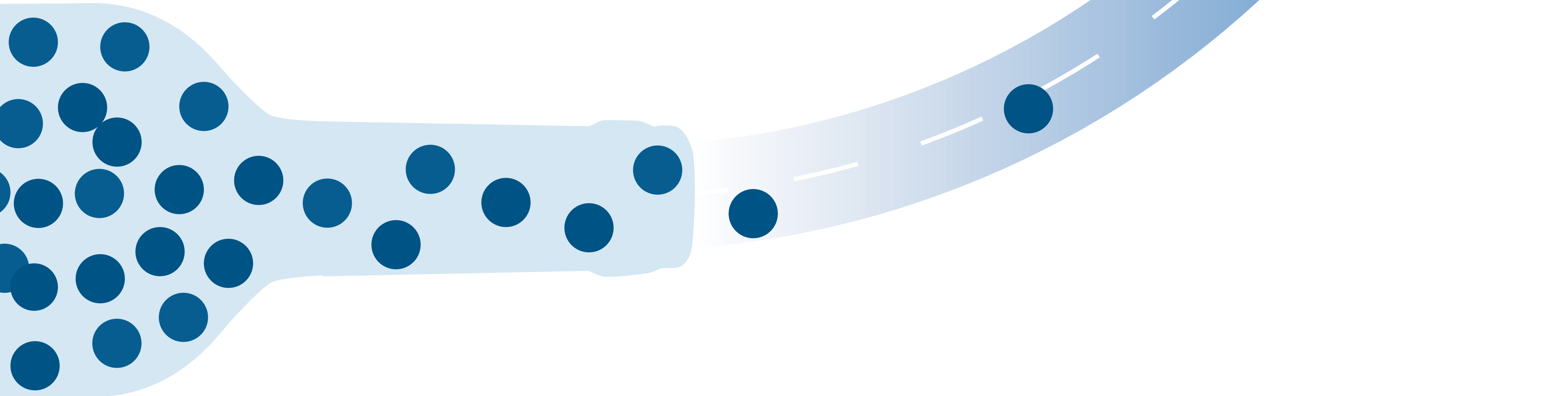


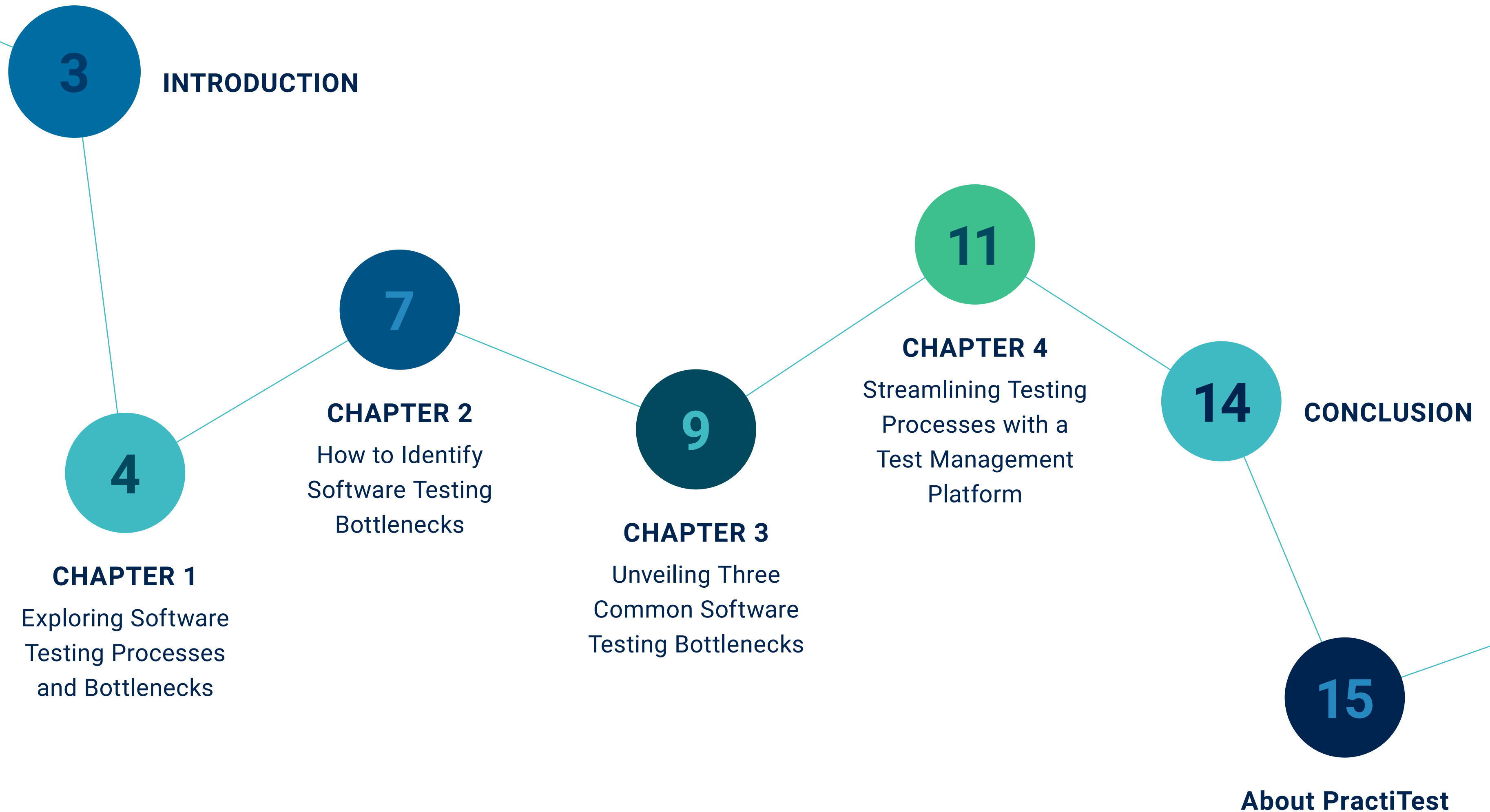


Break Through Software Testing Bottlenecks and Get Into the Test Management Fast Lane



Identify, Tackle, and Eliminate Bottlenecks
from Your QA Processes

Table of Contents

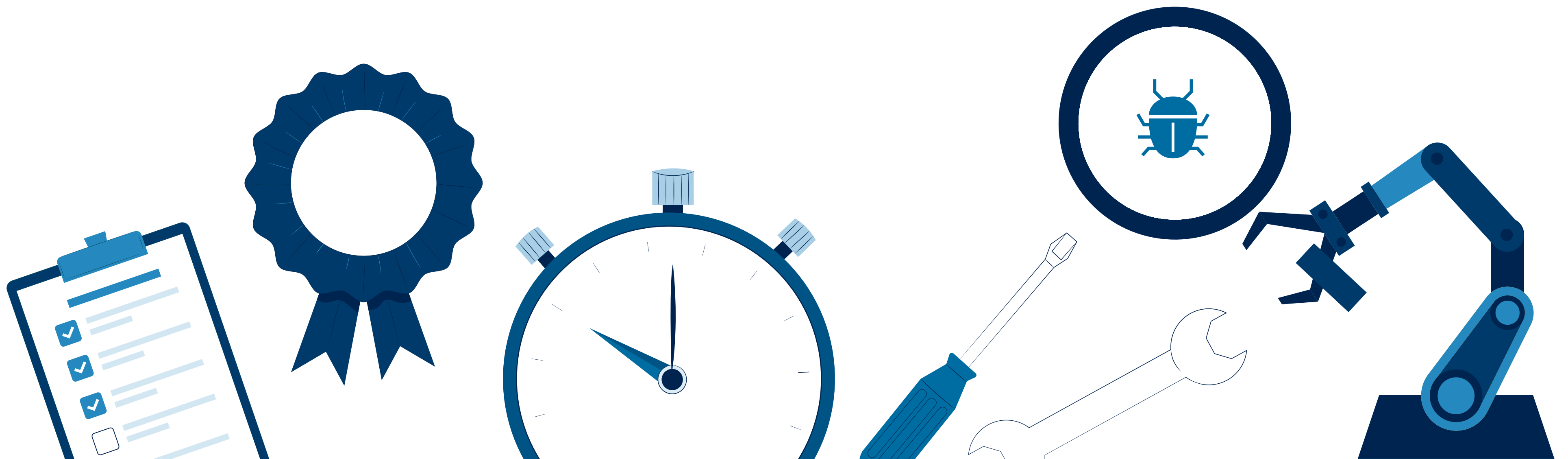


Introduction

The success of a project hinges on multiple interconnected processes, each playing a crucial role in achieving our desired objectives. Developing new software, for example, is a quite complex project with many inner processes that require a collaboration of different staff with diverse skills, eventually, aiming to fulfill technical requirements and cater to user needs. At the core of this intricate journey lies a pivotal process essential for delivering robust and reliable software—software testing.

Efficient software testing provides companies with visibility to their software quality, allowing them to ensure it meets user expectations. However, the path to successful software testing is riddled with challenges and bottlenecks that impede the seamless progression of the testing process. These bottlenecks can significantly hinder progress, leading to delays in releases, compromised testing quality, and ultimately delivery of suboptimal software.

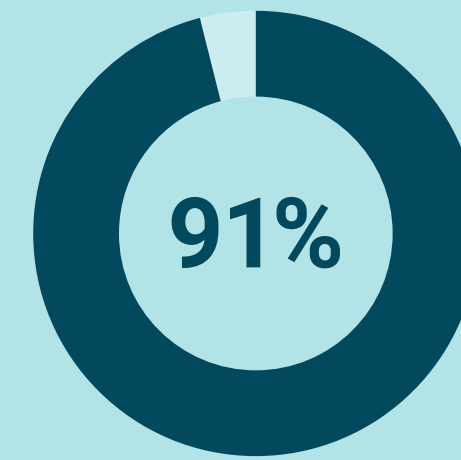
This eBook is your comprehensive guide to unraveling the intricacies of the software testing process, with a focus on identifying and overcoming common bottlenecks. It will equip you with valuable insights into the origins of bottlenecks within the testing phase and actionable strategies to enhance the quality of your software deliveries, overcoming challenges and optimizing your testing processes for greater success.



Exploring Software Testing Processes and Bottlenecks

Before discussing QA bottlenecks, let's take a look at modern software testing processes.

Of course, every organization implements its own strategies and techniques, but in recent years, we've witnessed a growing number of companies implementing Agile and DevOps methodologies.



of the participants' organizations follow Agile or Agile-like methodologies



In fact, according to the *2023 State of Testing™* survey, 91% of the participants' organizations follow Agile or Agile-like methodologies. The principles and practices behind these approaches are transforming the way companies test their software. Instead of being a separate phase after the development process, QA is now an ongoing process occurring in parallel with the software development.

Three Important Modern Testing Process Attributes



Velocity and Quality

The flexibility and adaptability of Agile and DevOps aim to help organizations release software faster than ever. But it's not just about speed, it's also about prioritizing the quality of the software to precisely meet the needs of end-users. Software testing helps validate that with every stride toward rapid deployment, the quality standards are not being compromised.



Various Testing Members

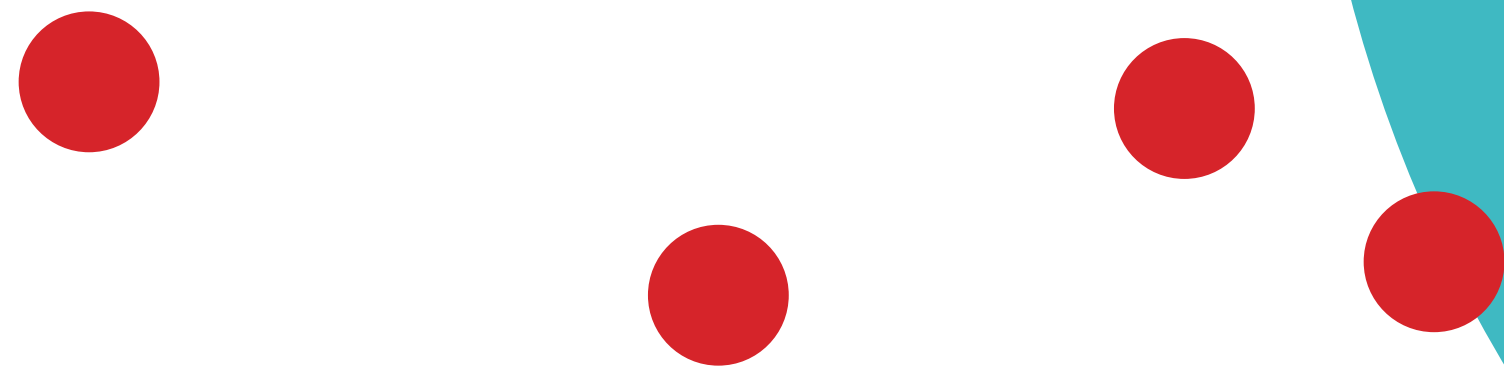
In contrast to the past, when software testing was exclusively reserved for QA experts, today it has become a total collaborative effort. Staff members from multiple departments, including developers, product owners, and business users, now actively execute tests, bringing their unique set of skills and points of view. The testing process no longer operates in isolation, but thrives in collaboration, where both technical and non-technical staff contribute their insights to deliver better software.



Diverse Toolset

QA teams navigate a broad spectrum of tools designed to enhance their efficiency. From bug trackers to CI/CD, automation tools, and internal communication systems, testers rely on an array of software solutions for their daily tasks. While each tool serves a specific purpose and contributes to streamlining the testing workflow, it demands coordination and a deep understanding of its functionality to elevate its impact and avoid getting lost in the process.

The Bottlenecks



Bottlenecks in the software testing process can take on different forms.

For the most part, it is common to classify them into two main categories:

Performance-Based Bottlenecks

These bottlenecks are intricately tied to individuals or teams participating in the process, whose performance may fall below the anticipated level. Testing has evolved drastically over the last few years, but many employees lack the necessary skills to meet the new requirements and need upskilling. Other common causes include inadequacy in the workforce, where the team size is insufficient for the scope of tasks, leading to a strain on resources. Communication gaps between testers and other staff members can further escalate these challenges and create misalignment in goals and assignments. Especially in an era of remote teams, ensuring alignment with overarching objectives becomes crucial to avoid bottlenecks that hinder the QA process.

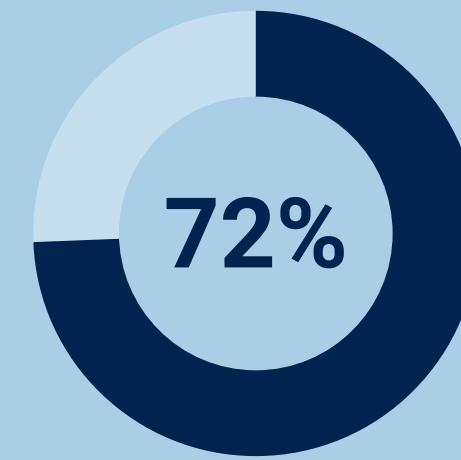
System-Based Bottlenecks

The second type of bottlenecks relates to systems, machines, infrastructures, and the software solutions integral to the testing process. Various tools play pivotal roles in the QA process and it's imperative to ensure these applications are not inadvertently impeding progress. Outdated legacy tools may harm rather than facilitate the testing workflow. Embracing agile and modern tools that seamlessly integrate with existing systems is the hallmark of a progressive and efficient QA process, empowering teams with better control over their testing work.

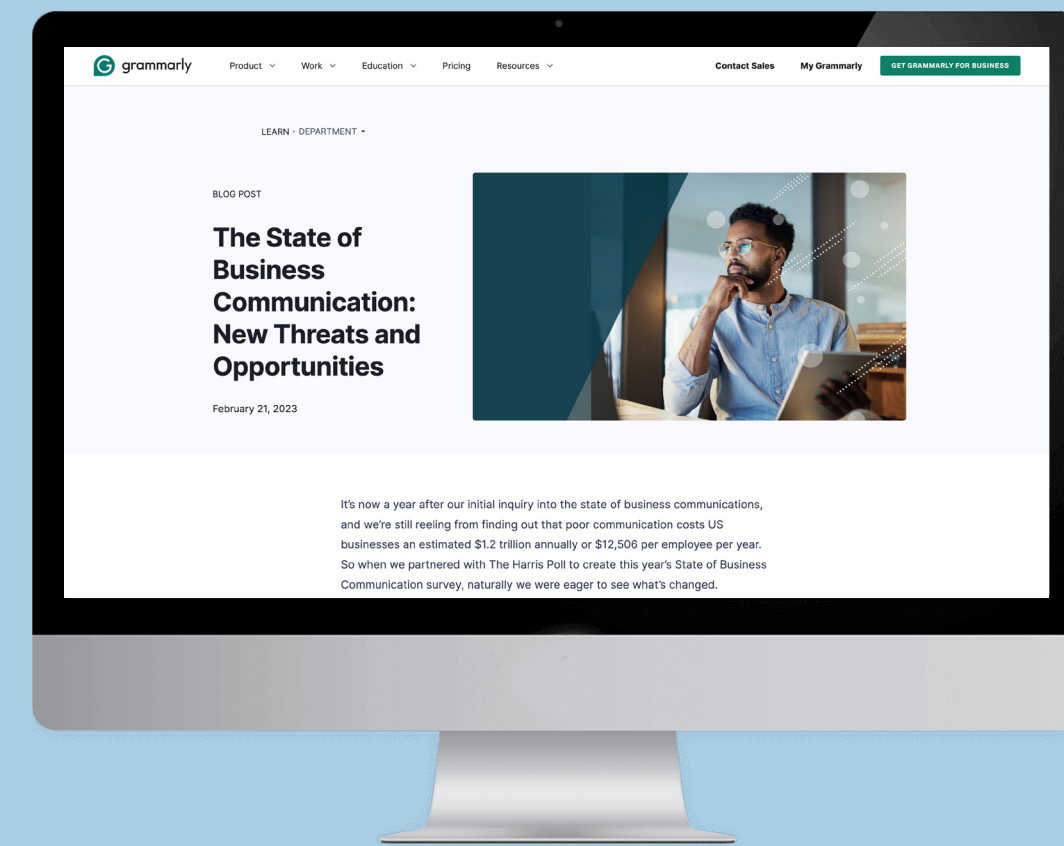
How to Identify Software Testing Bottlenecks

In the relentless pursuit of meeting project goals, identifying software testing bottlenecks emerges as a critical task for testing teams. Delays, inefficiencies, or quality issues can be traced back to specific areas within the testing process. Two key areas where QA managers and test leads can uncover bottlenecks stand out.

Don't Underestimate Communication



of business leaders think that effective communication has improved their team productivity.



According to the *2023 State of Business Communications* report, **72% of business leaders** think that effective communication has improved their team productivity. While managers provide oversight from a higher perspective, testers operate at a more detailed level, often the first to notice bottlenecks. In addition to testers, developers, product managers, and other stakeholders can also offer unique perspectives on the testing process. Regular team and one-on-one meetings create a space for feedback, allowing team members to raise concerns. Fostering open communication channels empowers managers to leverage team insights.

You Can't Improve What You Don't Measure

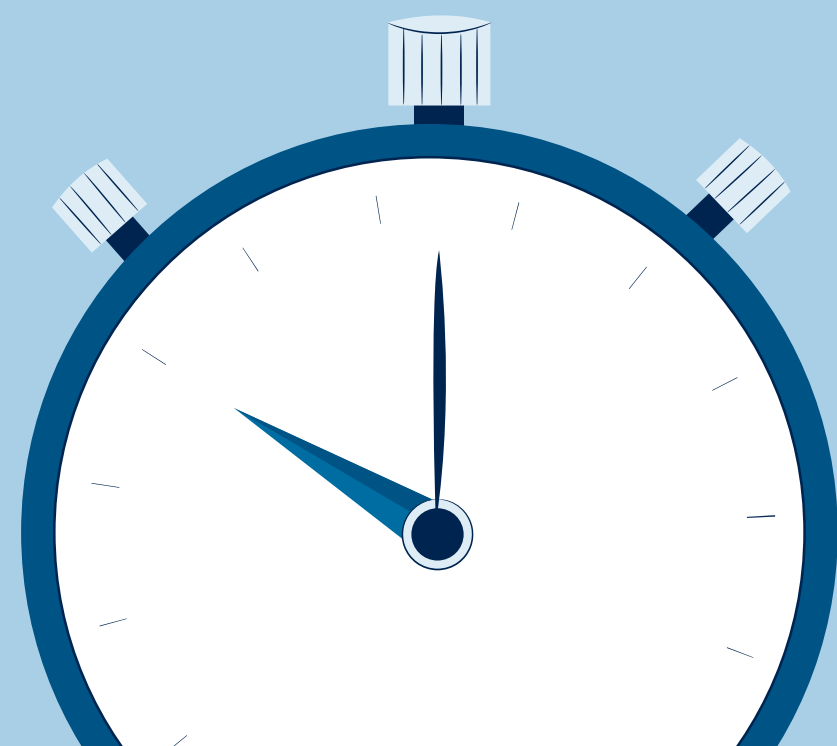
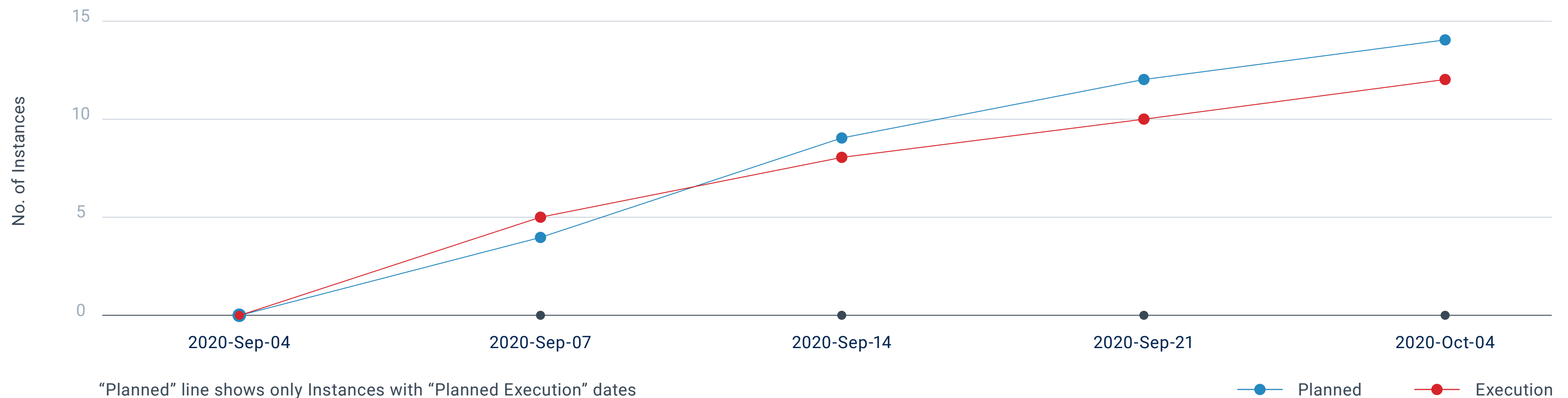
A comprehensive mapping of the testing process, delving into aspects like team members, tasks, testing data, and tools, serves as a crucial step in uncovering bottlenecks. This detailed analysis lays the groundwork for measuring QA work, revealing

patterns, and identifying potential weak areas. Gaining full visibility into the testing process from various angles equips team leaders with valuable insights, enabling smarter decision-making and proactive bottleneck resolution. For instance, a

graph comparing planned versus executed test cases provides insights into whether the team successfully completed intended tests within a specified timeframe or if any tests were overlooked.

Instances Planned vs. Executed

Weekly Activity (Filter: All Instances)



Timing Is Everything

Timing holds critical importance in the identification process as it directly influences the effectiveness of corrective actions. When maintaining open communication with team members, identifying bottlenecks becomes an ongoing process that can help solve them early before escalating into major

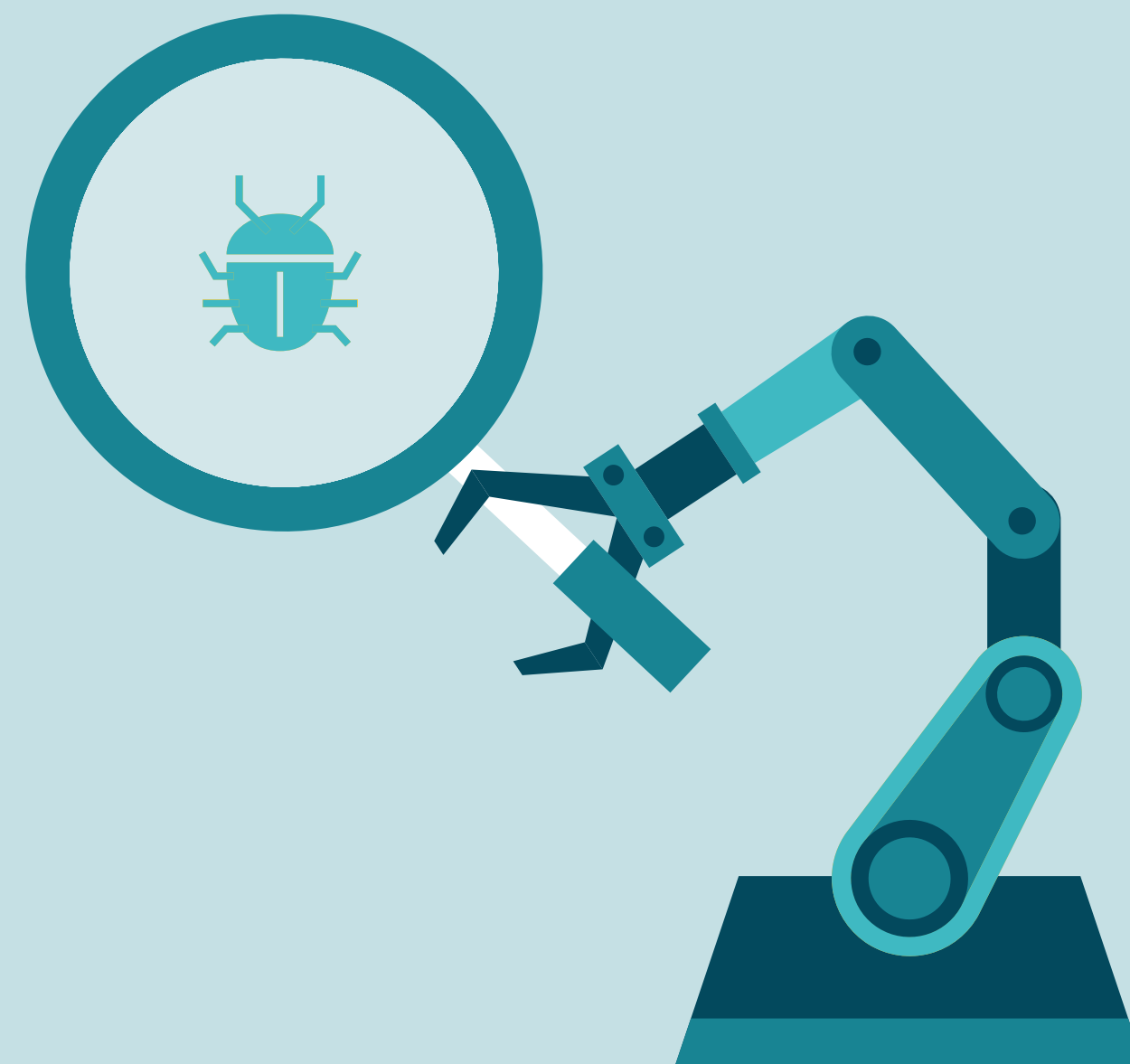
hurdles. However, timing isn't solely about early detection. It's also about recognizing bottlenecks when they are most impactful. For instance, identifying bottlenecks before crucial phases, such as release cycles, ensures that the project progresses smoothly without compromising on quality or timelines.

Unveiling Three Common Software Testing Bottlenecks

In this chapter, we will explore three common potential bottlenecks that might harm your testing process and how to avoid them.

Overlooking Automation Testing

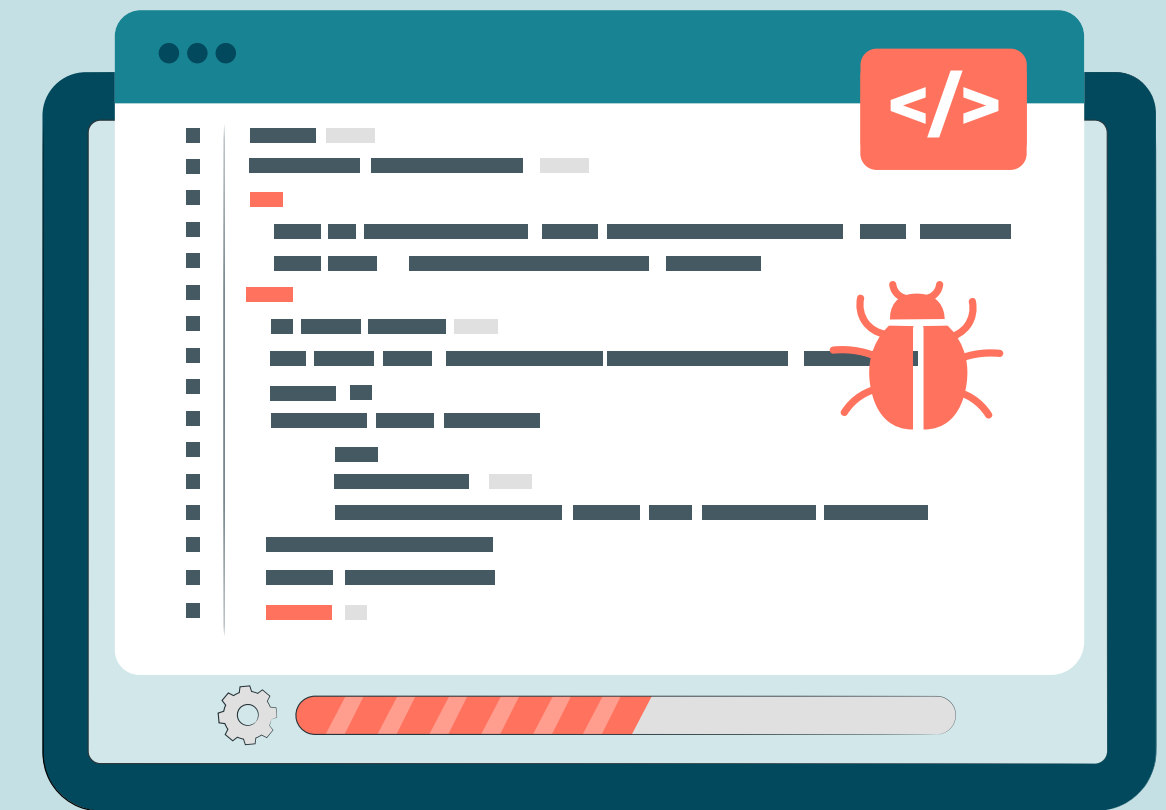
Limited or nonexistent automation represents a critical bottleneck that hampers the efficiency and effectiveness of software testing processes. Automation testing leverages scripts and tools to execute complex tests far more rapidly than manual methods. Besides delivering results faster, automation also ensures reliable and consistent results, significantly reducing the likelihood of human error. Automation testing also allows testers to focus on tasks that demand their unique human skills, such as exploratory testing.



Excluding Developers from the Testing Process

A common bottleneck in many software testing processes is the exclusion of developers from active participation in testing efforts. Involving developers in testing is highly beneficial as they bring a unique technical perspective into the process. Developers can contribute by testing their own code, their peers' code, and executing comprehensive unit testing of software pieces before sending them to testers.

In addition, it can help catch bugs and defects early, reducing the risk of these issues slipping into later stages of development. By resolving issues early, organizations can mitigate the potential of defects escaping into production, when fixing them becomes more expensive. Embracing a culture that integrates developers into testing creates a holistic approach to quality assurance, aligning development and testing efforts for more effective software projects.



Poor Visibility, Traceability, and Efficiency



A pervasive bottleneck in software testing is the lack of clear visibility, traceability, and operational efficiency. When testing processes are spread across multiple tools, it can be confusing and difficult to keep track of all of the information. Especially with legacy or makeshift tools, they may be missing important functionality or often fail

to integrate seamlessly, leading to incomplete and confusing workflows. To overcome this bottleneck, selecting tools that can integrate and share information effortlessly is crucial. A unified approach ensures full visibility, providing a complete picture of the testing process, and increases collaboration between testers and other team members.

Streamlining Testing Processes with a Test Management Platform

In the pursuit of optimizing software testing processes, organizations are increasingly embracing test management platforms. Specially designed for QA work, these platforms easily support the dynamic needs of modern Agile testing teams. As those software solutions are helping companies gain better control over their testing efforts, here are a few examples of how they can help reduce bottlenecks.

One Centralized Hub

Test management platforms serve as the centralized hub for orchestrating all aspects of QA work. They effectively streamline testing tasks and provide a repository for managing test cases, tracking bugs, and monitoring test execution. By consolidating these functions, they establish a unified workspace where all team members converge, ensuring alignment with tasks and improved progress tracking.

Another advantage of test management platforms lies in their robust integration capabilities. These platforms can seamlessly integrate with various testing tools, including automation tools, bug trackers, and CI/CD tools. As a result, teams benefit from enhanced visibility, streamlined workflows, and a holistic understanding of their testing processes, ultimately contributing to more efficient QA work.



PractiTest has allowed us to develop a centralized platform for testing where all the results filter into one location. This allows us to analyze our comprehensive results before we release to production.

Siva Kopparapu

Director of Software Quality Assurance at PartsSource.

[Read PartSources Case Study](#)



Real-Time Visibility

An essential benefit of test management platforms is their ability to deliver real-time visibility. These can generate testing reports and real-time dashboards that include all relevant testing data. This serves as a cornerstone for transparency and traceability, offering testers, managers, and other stakeholders a clear view of testing processes.

For testers immersed in the day-to-day execution of tasks, real-time visibility equips them with immediate insights into ongoing processes. They can track the status of test cases and adapt their testing strategies to meet evolving project needs. Managers, on the other hand, can dive deeper into comprehensive reports, allowing them to make informed

strategic decisions for identifying areas of improvement and enhancing testing efficiency.

“

PractiTest reporting and dashboard capabilities allowed us to get full visibility about our testing coverage which translates into business value, as we have better confidence in coverage and are able to release faster.

Surendra Nagaura

QA Lead at LambdaTest

[Read LambdaTest Case Study](#)

”



AI Capabilities

As AI continues to emerge as a transformative force in the many different software solutions we use, it also can be harnessed in test management platforms. For instance, AI can empower QA managers and testers to prioritize test case execution based on urgency and potential impact, ensuring that more critical tests take precedence. Additionally, AI can contribute to streamlining multiple manual and time-consuming processes into quick, seamless actions.

PractiTest, a leading test management platform, offers several AI-powered capabilities to enhance decision-making and optimize testing activities. The Test Value Score, a unique feature within PractiTest, assigns a numerical score to each test, providing a quantitative reflection of its overall value to the testing project. This scoring mechanism aids teams in prioritizing tests strategically, aligning testing efforts with project objectives, and optimizing efficiency within tight timelines.

Recently, PractiTest launched Smart Fox, an innovative AI assistant designed to streamline the test creation process. This feature revolutionizes test creation by automatically generating multiple relevant and well-defined steps based on the provided test name and description. The Smart Fox's time-saving capabilities allow testing teams to shorten the manual task of creating a list of steps into a swift, automated action.

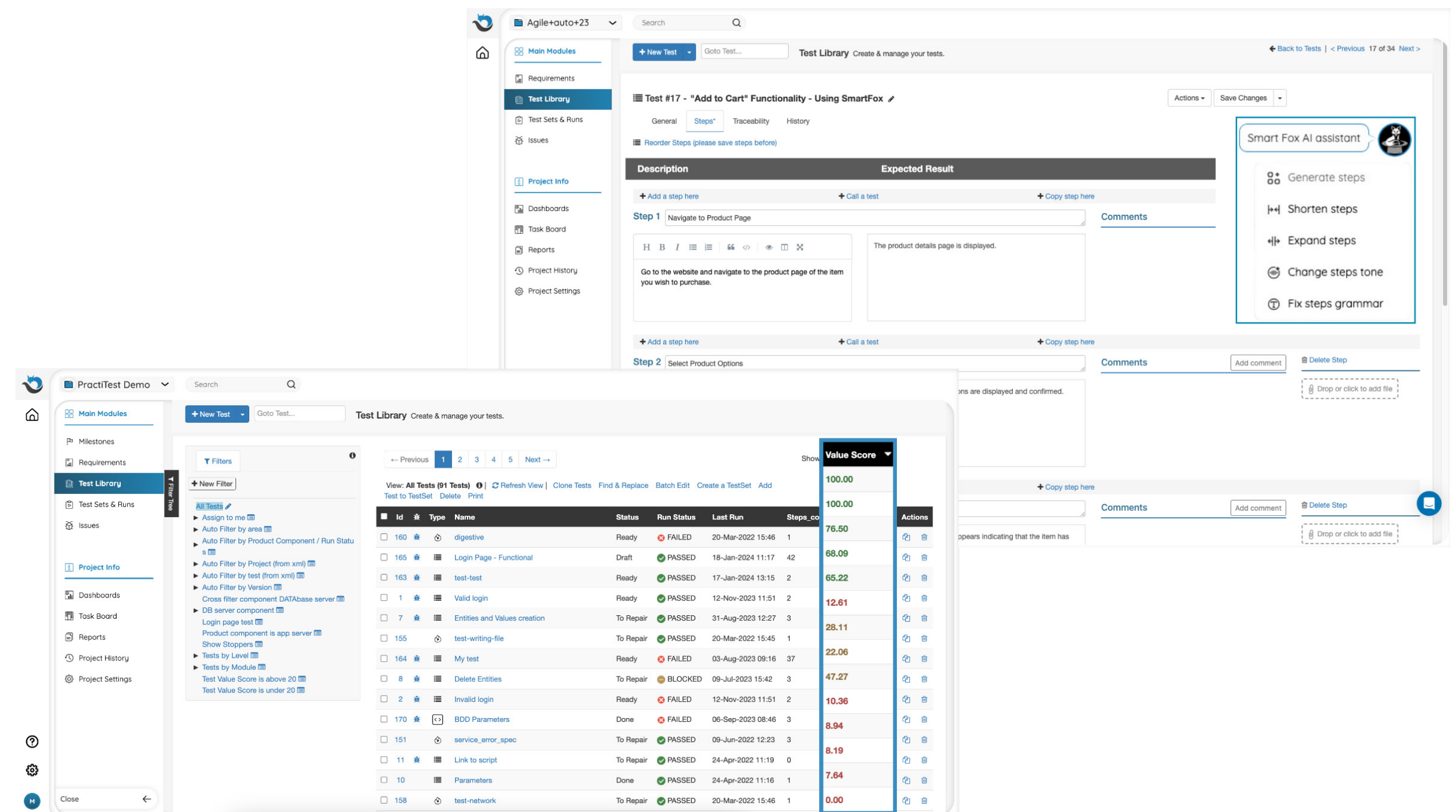


PractiTest for us is a reliable partner. We can write down test scenarios 20% faster than when we used the old solution.

Oldrich Klima

QA Lead at MoroSystems

[Watch MoroSystems Case Study](#)



Conclusion

As we explored in this eBook, software testing significance in project processes is crucial, and there are different bottlenecks QA teams may face in their work. Delving into these challenges, we explored the diverse forms bottlenecks can take, whether performance-based or system-based.

Centralized test management platforms emerged as powerful tools in the battle against these bottlenecks. Serving as a unified hub, these platforms facilitate organized testing tasks, offering real-time visibility for transparent and traceable processes. Their integration capabilities ensure a seamless collaboration of diverse testing tools, contributing to more efficient workflows.

As we conclude, the journey towards efficient software testing requires embracing innovation, collaboration, and the strategic use of cutting-edge tools. This eBook serves as a roadmap for empowering QA teams to overcome bottlenecks, release higher-quality software faster, and delight their end-users.





About PractiTest

PractiTest is an end-to-end test management platform that centralizes all your QA work, processes, teams, and tools into one platform to bridge silos, unify communication, and enable one source of truth across your organization.

Laser eye or bird eye views-, Practitest's highly customized, multi-dimensional Reporting empowers you to make strategic, data-driven and swift decisions throughout the entire planning and execution.

Improve team productivity, plan your team's work based on AI-generated insights, and enable them to focus on what really matters. Align your testing operation with business goals and deliver better products faster.

