

The State of Software Test Automation in 2022

Software Testing Gets Set for
the Hyper-Automation Era

Sections:

3 Introduction

5 The State of Software Test Automation In 2022

7 Percentage of Tests Automated Today

9 What's Driving Automation Adoption: Top 3 Factors

11 Hyper-Automation: 3 Key Trends

15 Conclusion

Software Testing Gets Set for the Hyper-Automation Era

Modern teams have come a long way from the old days of manual, monolithic software testing – but they still have a very long way to go.

That’s the overarching takeaway from a survey Kobiton recently conducted.

97%

Virtually all respondents are using some form of automation in their software testing today.

But they also want to do more. There’s a sizable gap between what teams are doing now and their desired state for their testing programs in the future.

1 in 5

22% surveyed for this report said they’ve automated more than 50% of their software test cases.

1 in 2

in that same group said they want to automate more than 50% of their tests.

Software teams want to increase the scale of the automation initiatives to implement more tests – and to be able to run them and update them faster and more frequently than before.





Organizations are shifting away from heavily manual approaches, and into mainstream adoption and usage of test automation.

But that usage still relies on a lot of human effort and expertise. As the hyper-automation era emerges, teams will be able to scale their automation initiatives without undue burdens.

That makes it a fantastic time for organizations that are either expanding their automation programs or just getting started. And many organizations are doing just that.

30% of respondents said that beginning or increasing an automation program was their top testing priority in 2022.

This report takes a closer look at the state of software test automation today – including the primary catalysts behind such widespread adoption.

It also examines several key trends software teams can capitalize on as they get set to enter the next phase of growth: **hyper-automation**.



The State of Software Test Automation in 2022



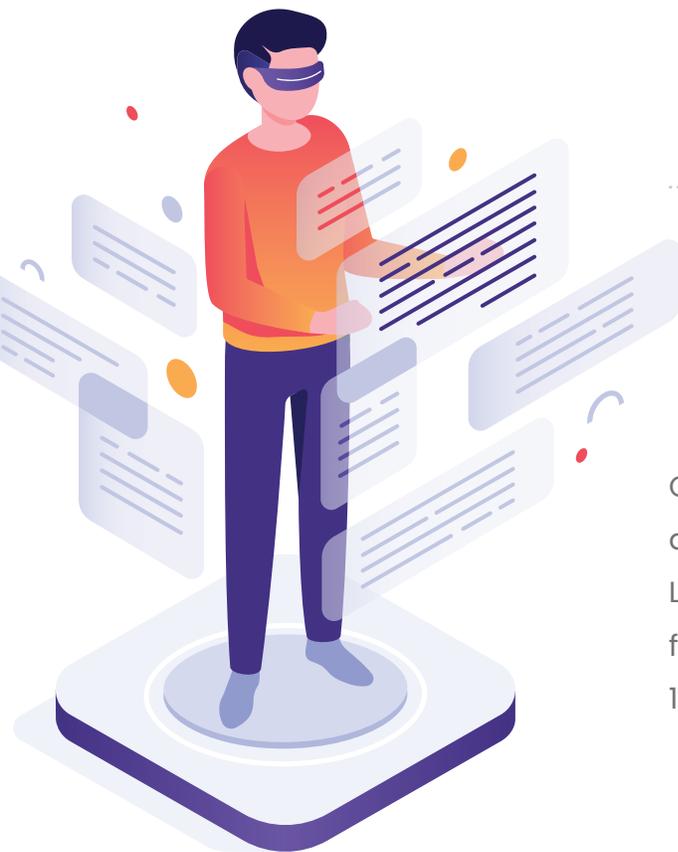
97%

Virtually all respondents in Kobiton's 2022 survey indicated that they are running some automated tests.

That's remarkable progress as an industry. In a similar survey that Kobiton conducted two years earlier, half of the respondents indicated their test automation programs were relatively new at the time.

Clearly, they've made major progress from the days when software testing was a largely – if not entirely – manual effort.

However, one of the most fascinating results in the 2022 survey, indicates a turning point: While automation has clearly gone mainstream, most organizations report a gap between what they're doing today and what they want to be doing in the future.



17%

of respondents said they've automated between 50-75% of their tests today.

BUT

38%

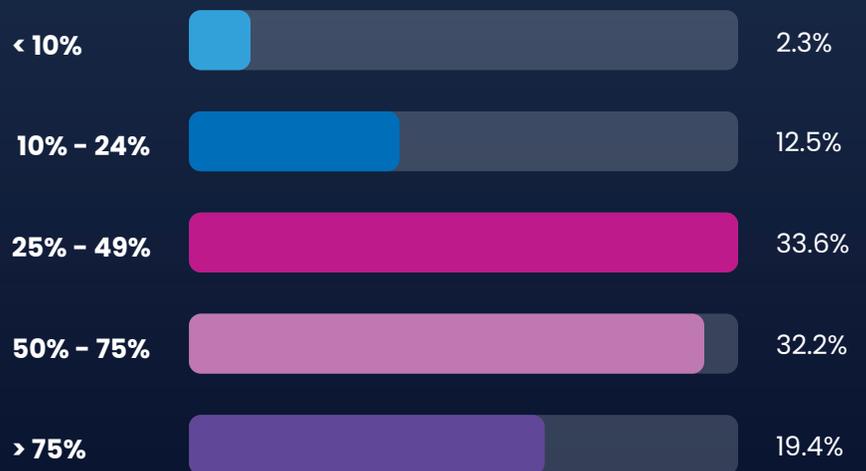
of testers – *more than double the number today* – said they want to automate 50-75% of their test cases in the future.

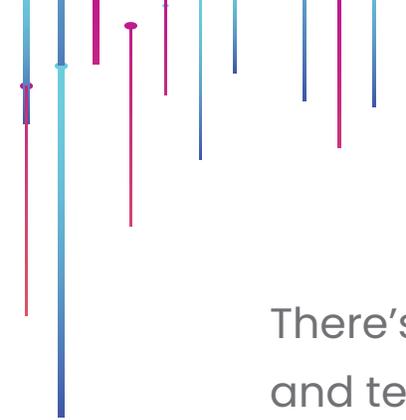
Conversely, one in three (33%) software testers are automating just 10-24% of total tests today. Looking ahead to where they want to be in the future, that shrinks to just 14% of testers automating 10-24% of cases.

What percentage of your test cases are automated?



What percentage of your test cases do you want to be automated?





There's a huge opportunity ahead for IT leaders and testers to build momentum from early wins and leverage maturing tooling and experience to expand their programs.

The survey found relatively even distribution among the various metrics for determining whether an automation implementation is a success, including:

**Speed
of Delivery**

29%



**Human
Hours Saved**

29%



**Number of
Bugs Found**

24%



It's still early days in terms of the potential business impacts that increased software testing automation can yield. That means it's a great time for teams that are either just getting started with test automation or planning to expand their current initiatives.

What's Driving Automation Adoption

Top 3 Factors

Enterprise IT trends tend to be commonly associated with cost reductions and/or cost optimizations. If you implement technology X, you'll cut costs by Y – that's the general pitch.

Budgets are certainly critical in any business and always top of mind for CIOs and IT leaders. But costs are only a secondary factor driving increasing adoption of and enthusiasm for automated testing. Rather, most organizations are automating software tests to ultimately improve the usability and functionality of their apps.

Kobiton's survey asked respondents about the primary strategic driver behind their test automation strategy.

The top three factors were:

Improve User Experience

40%

Improve App Functionality

34%

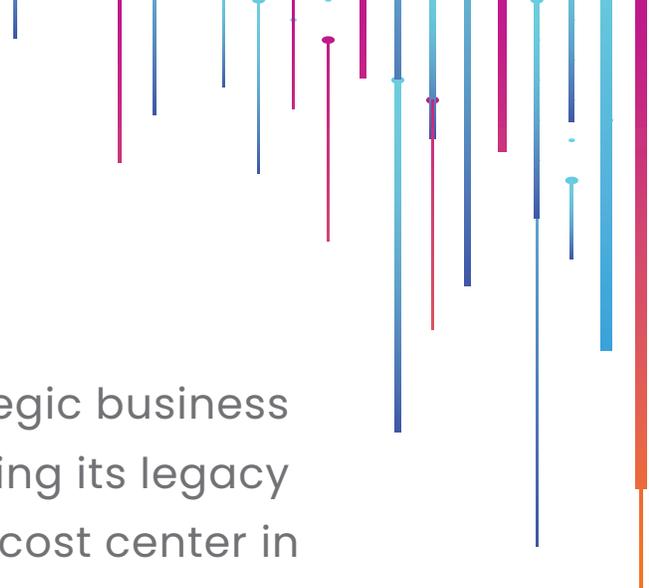
Speed Up Time to Market

13%

9%

Meanwhile, just nine percent of respondents listed cost reductions as their primary automation driver.





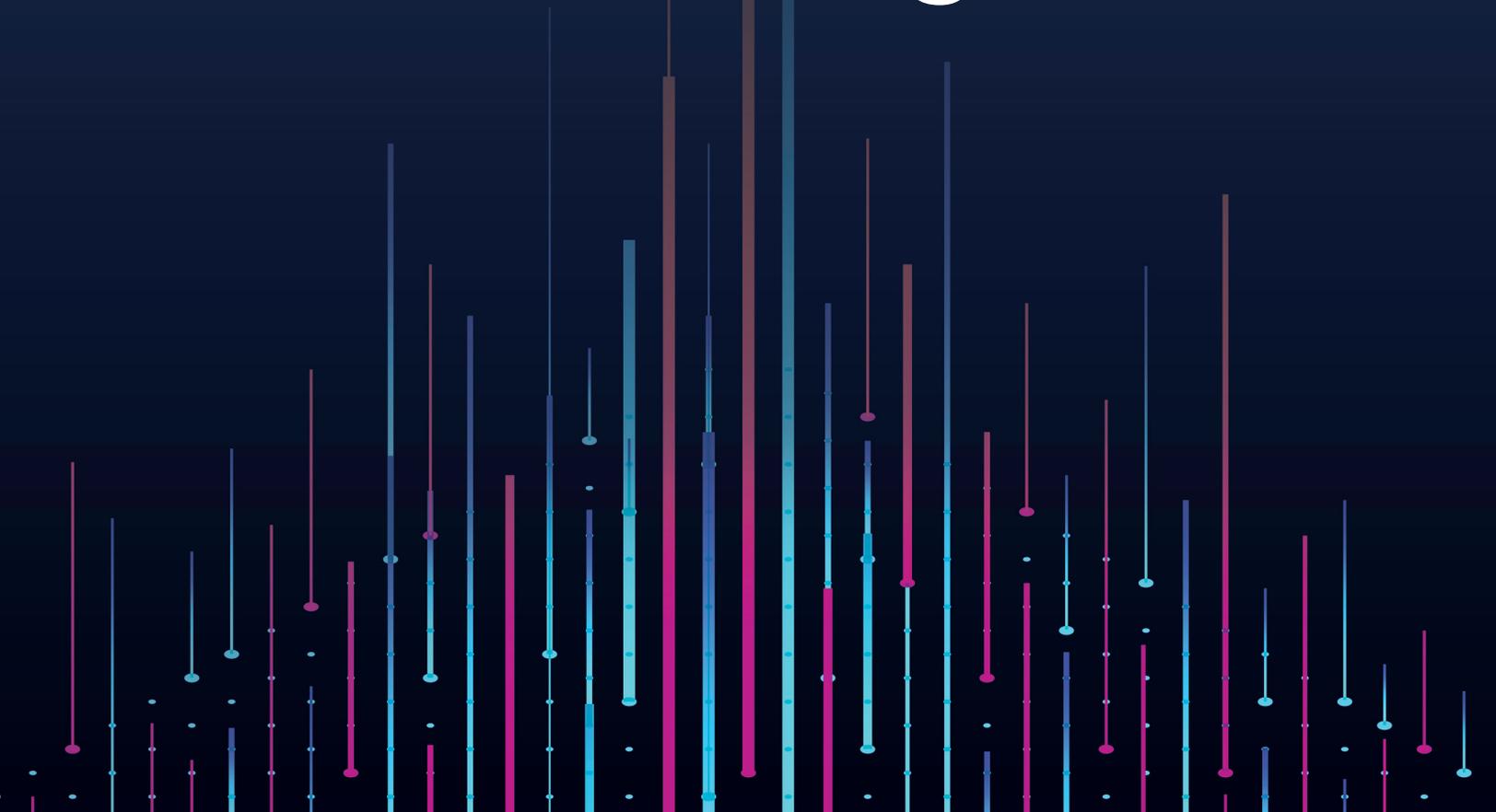
IT has become a more strategic business unit in recent years – shedding its legacy reputation as a back-office cost center in the process. It now plays a leading role in customer experience, both in digital and physical interactions. Increasing usage of test automation reflects this macro trend: Software testing is no longer just a final check before deployment – nor an afterthought or a manual bottleneck to be done begrudgingly.

Teams are embracing automated testing to improve customer experiences and unlock new business opportunities.



Hyper-Automation:

3 Key Trends Propelling the Next Era of Software Testing



As initial adoption has soared, it's generating significant enthusiasm for expanding the percentage of software tests being run automatically. And that enthusiasm is not that difficult to understand. While the benefits of test automation are numerous – and often compound over time, especially as teams and applications scale – the immediate difference between manual and automated testing speaks for itself.

In Kobiton's 2022 survey:

47%

of respondents said it's taking around 3-5 days to complete manual testing prior to a release.

45%

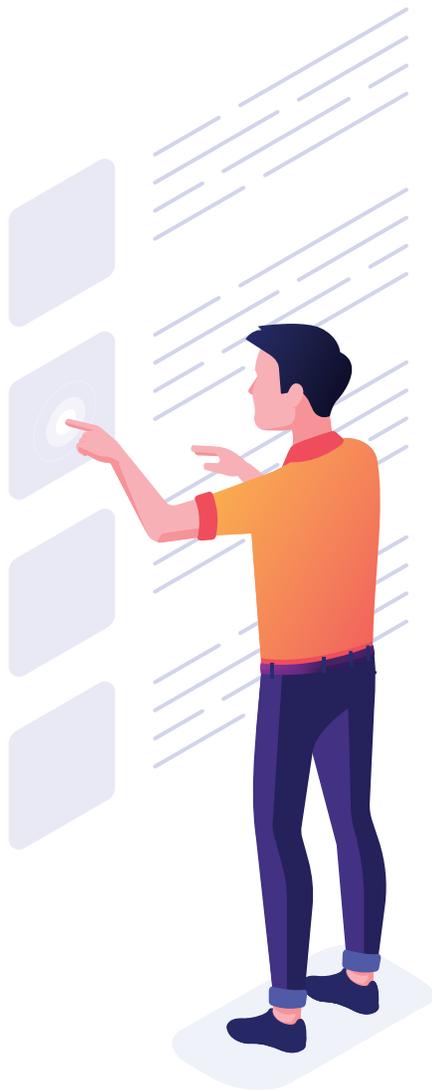
of respondents said automated tests get done in 3-6 hours.

The enthusiasm generated by tangible results is now intersecting with technology availability and evolution. Testing teams are increasingly able to leverage mature commercial platforms that incorporate artificial intelligence, low-code/no-code tools, machine learning, and other capabilities to usher in the era of hyper-automation in software testing.

It's not just that testing capabilities are becoming more advanced – it's that they're becoming more accessible and usable to a wider range of stakeholders. This is ultimately what will power the hyper-automation phase of software testing.

There are three overlapping trends teams should be aware of as they build out their automation strategy.

You no longer need to be technical to create or update tests.



A lot of test automation to this point still requires a lot of technical expertise – namely, the ability to write scripts that automate many of the tasks that would otherwise have to be performed manually. This creates friction in terms of implementing and increasing the number of test cases, since even large software teams are constantly juggling multiple priorities and resource constraints.

Testing platforms that embed low-code and no-code capabilities into their tools can expand the pool of people who can successfully build and implement – and equally important, maintain and update – tests. For anyone, low-code/no-code functionality can simplify the work involved in implementing a test.

That’s a needed change: **Responding to a question that asked about the biggest negative surprise they’d encountered after implementing test automation–**

33% of testers said code complexity – making it the top response



You no longer need to be technical to understand and analyze test results.

The maturity of today’s testing platforms has also made it far easier to understand and act on the results of both your manual and automated tests. An organization shouldn’t need to allocate an entire team of data scientists to decipher what your software tests are telling you.

Simplified, intuitive UIs and context can help broaden organizational IQ and understanding when it comes to testing and how it can positively impact application performance, customer experience, and other important facets of the business.



You can leverage AI/ML to speed everything up.

While automation adoption is already very promising, there remains a lot of untapped potential in terms of optimizing for maximum impact and ROI.

38%

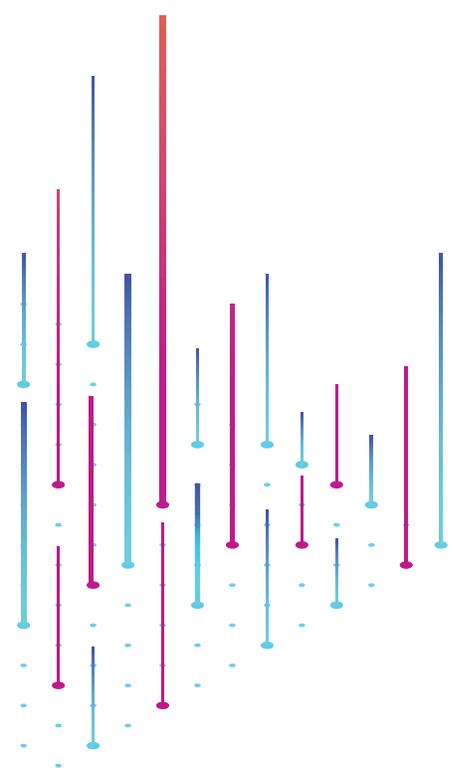
of respondents said that it takes between three days to one week to update automation scripts for a new app release.

ANOTHER

22%

said it takes between one and four weeks.

By leveraging AI/ML in a testing program, teams can significantly speed up this effort – just as they’ve used automation to speed up the rest of the CI/CD pipeline. As an example, AI/ML can notice a change such as adding 2FA/MFA to a sign-in process – and update that step without you having to rewrite the entire application test.



Conclusion

The intersection of widespread adoption, early success stories, and technology maturity have created an inflection point for software test automation. It's an incredible time to be expanding an automation program – or just beginning one.

That's because the next era in software testing – hyper-automation – is upon us, empowering teams to eliminate bottlenecks further and optimize their programs for significant, sustainable business impacts.

About Kobiton

Kobiton enables enterprise organizations to provide the best mobile device experience across a suite of real devices and operating systems. With Kobiton's next-generation automation, users can test apps in a fraction of the time by leveraging intuitive AI and ML capabilities. Resulting in an excellent user experience for both app users and testing teams across the world.



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