



How AI can improve testing efficiency: 4 key use cases



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Introduction

The pressure is on for IT leaders to integrate AI/ML and generative AI into a variety of business processes, including software delivery, application modernization, and cloud migration, among others. If they don't make moves with AI, [40%](#) of executives believe their organizations will not remain economically viable a decade from now.

In an evolving, dynamic, highly integrated IT landscape, where any change can compromise quality, leveraging AI for quality assurance initiatives can give your projects an edge. An intelligent approach to AI-driven quality can help you deliver better software faster by enhancing the efficiency, productivity, and accuracy of your software testing initiatives in many ways.

Will AI take testing jobs?

You've probably seen the headlines that say AI is taking over the workplace and insinuating humans should be worried about losing their jobs. But it's not all doom and gloom!

Forrester is forecasting that it's less about losing jobs to generative AI and more about jobs being influenced by generative AI. They predict the percentage of jobs that will be lost to generative AI in the U.S. by 2030 (1.5% or 2.4 million) will be much lower than those that are influenced by generative AI (6.9% or 11.08 million).

At Tricentis, we believe that AI can act as an augmenter to human productivity – not a replacement. We embed AI into our products to enable our users to do their jobs smarter and better so organizations can elevate quality and lower business costs.

The reality is that AI will provide more of an interactive, iterative, and collaborative two-way relationship between machines and testers. Remember that humans will always be needed for things that AI can't do, like making decisions, acting morally and ethically, or understanding the context of a situation. Quality engineering teams should be prepared for AI to transform the way they work, but it can never replace their ingenuity, strategic thinking, or problem-solving skills. And it will take all of these to succeed with AI.



Key use cases for AI in software testing

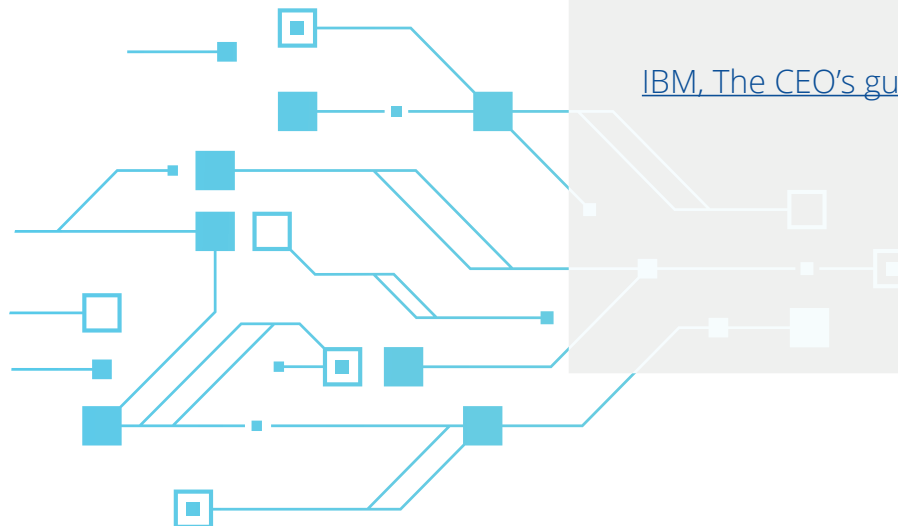
AI can help speed up and automate tedious, rote testing tasks – like test case creation, detecting UX changes, keeping test cases up-to-date, and more. And these areas are just the start. AI technology is evolving at lightning speed, and it's already proven its utility in several key use cases. Here are a few we've highlighted that your organization can act on now, freeing up your team to work on higher priority projects that push innovation forward.



79%

of executives say
using generative AI in
app modernization
projects will increase
business agility.

[IBM, The CEO's guide to generative AI](#)



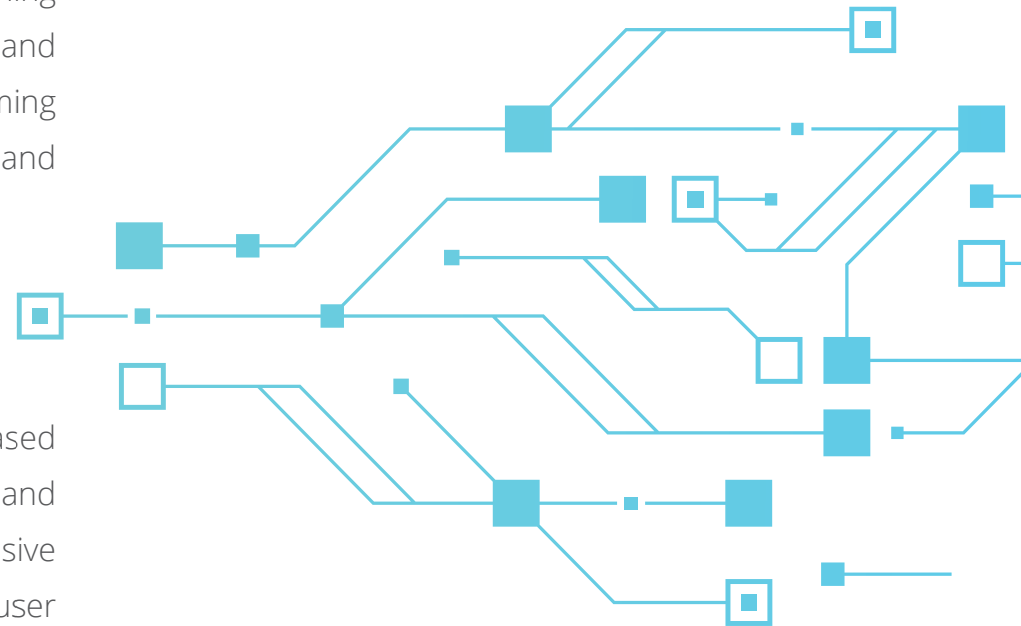
USE CASE #1

Use case #1: Streamline test case creation

Software testing always has a need for speed, whether that's getting a feature release out quickly or minimizing risk during fast-paced application modernization projects. One of the hold-ups is often test case creation, a largely manual process that requires designing a collection of tests to ensure new features work as intended and don't impact existing application functionality. It's a time-consuming process that becomes increasingly difficult as your feature sets and regression suites grow.

Create test cases faster, test earlier

Generative AI speeds up test case creation by creating test cases based on requirements in just seconds. It can auto-generate test cases and test steps, covering various scenarios and ensuring comprehensive test coverage by analyzing requirements, code changes, and user stories.



USE CASE #1: STREAMLINE TEST CASE CREATION

Generative AI can help teams reduce test case generation efforts by:

- Autogenerating tests by analyzing requirements (user stories and epics) using natural language
- Including the title, preconditions, and description for each generated test case
- Including informative descriptions and the expected test result

The obvious benefit is less time creating test plans, cases, and suites, so you can test and release sooner. But there's also significant potential for AI to boost confidence in test coverage and go/no-go decisions over time by ensuring sufficient requirements coverage and learning your team's needs from the feedback they provide.

Tricentis Test Management for Jira's generative AI capabilities offers many of these benefits today by creating test cases based on linked Jira requirements. [See how it works.](#)



USE CASE #1: STREAMLINE TEST CASE CREATION

Turn visual prototypes into automated test cases

Machine learning can simplify UI test case creation by scanning mockups and creating automation. That means you can build your automation much earlier in the release process, during the design phase – before the code is even written.

Many of Tricentis' customers are already benefiting from this significant time-saver with Tricentis Tosca's Vision AI, which is trained across a range of enterprise applications, such as SAP, Oracle, Salesforce, Pega, Confluence, Microsoft Dynamics, and Workday. That means that as soon as your application vendor publishes UI prototypes or mockups, you can begin building automation, saving you from the typical testing time crunch before an update is released.

Vision AI scans your apps to create test automation based on mockups using neural networks – a type of machine learning. Vision AI recognizes UI elements such as buttons, drop-downs, and tables and reads screens in real time, so you can understand your UI fast.



We have evaluated a number of vendors promising to make testing simpler using AI, and apart from what we have seen from Tricentis, nothing else came even close to solving our problems.

– Markus Bonner | Test Manager,
Vienna Insurance Group

Use case #2: Improve test case resilience

Self-healing AI helps detect application changes and auto-heals the associated test cases. It significantly improves test case resilience by updating your automated test scripts every time your application changes – without the need for constant human intervention – to lower maintenance, stabilize test automation, and reduce both testing costs and timelines.

Self-healing AI detects and corrects object changes

Self-healing AI in both Tricentis Tosca and Tricentis Testim improves test case resilience by detecting and auto-correcting object identification issues. With this capability, you have a smart assistant to compare baseline screenshots with subsequent detections to identify changes and ensure tests run smoothly.

Self-healing means your tests are future-proofed, helping you avoid test suite bloat by allowing you to reuse tests even after major technology changes and upgrades.



50%

TreviPay reduced maintenance due to Testim's AI and smart locators by 50% over competitors.

[Read more about TreviPay's AI-powered UI testing.](#)

Use case #3: Know what to test after every change

Small changes can have a big impact on functionality, especially in complex, highly integrated systems. Teams need to be able to easily identify when an application change will affect other areas of the system, including integrations and end-to-end business processes. Using change intelligence, teams can have insights into the risks of a change.

Using an AI-powered impact analysis tool allows teams to make informed decisions about minimizing the risk of changes. These tools can help you pinpoint exactly what's changing and how it could affect downstream systems or processes, so you can ensure those areas are tested. Typically, a team testing a major application upgrade might feel safer applying a blanket approach: Running the entire test suite and hoping that all risks are covered. With change intelligence, your team can focus on testing only the impacted areas that could introduce risk, instead of testing everything.





USE CASE #3: Know what to test after every change

AI algorithms reduce SAP risks

Tracking changes with new SAP application updates is one area that we see our Tricentis clients struggle with since these applications tend to link every aspect of their business. Many are using Tricentis LiveCompare for its AI-powered analytics and insights to reduce the risk, time, and cost that come with delivering and supporting changes to SAP systems.

LiveCompare uses an innovative Risk AI technology to analyze code changes in an SAP environment. By examining changes to your custom code, business processes, and integrations, LiveCompare for SAP can quickly pinpoint high risk areas of your system that need to be prioritized for testing. This helps cut your release scope by 85% or more and achieve 100% risk coverage.



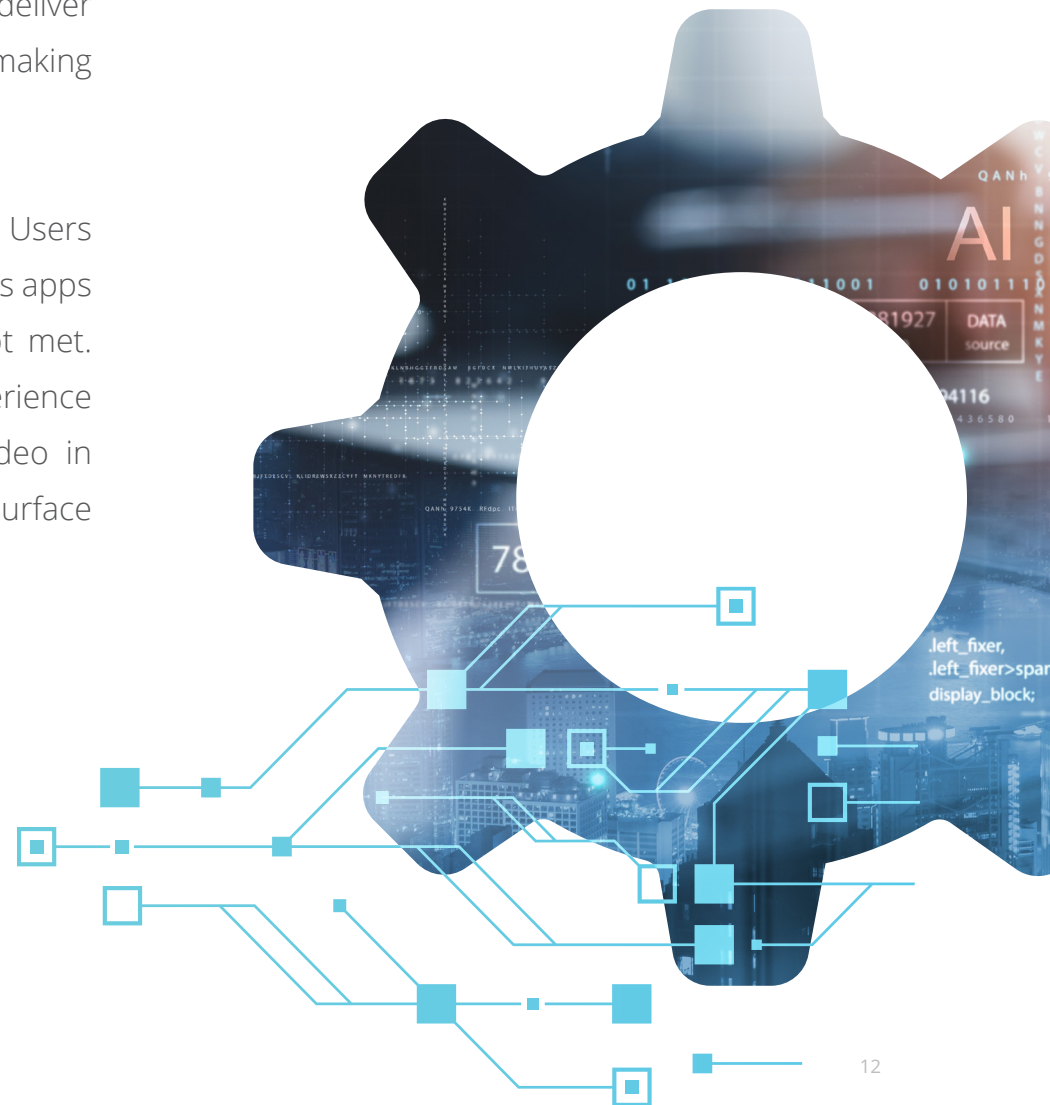
Without LiveCompare, we had no idea what was impacted. We spent days manually comparing payroll data. Gaining this level of accuracy with LiveCompare has ensured everyone takes home the right pay at the end of the month!

- Tahiana Jefferis | Project Manager,
[Surrey County Council](#)

Use case #4: Gain intelligent user experience insights

According to PwC's fourth annual [AI business survey](#), companies are using AI to improve the customer experience (40%) and deliver valuable business outcomes. Almost two-thirds of leaders are making customer experience business decisions with AI support.

Customer experience is critical when it comes to mobile apps. Users have high expectations about their interaction with a company's apps and will quickly abandon them if those expectations are not met. Machine learning technology can provide intelligent user experience insights by recognizing image, text, network, audio, and video in application interfaces. It can track against many KPIs to quickly surface critical issues that may impact the user experience.



USE CASE #4: Gain intelligent user experience insights

Machine learning optimizes the user experience

If you're looking to improve your users' mobile app experience, then consider Tricentis Device Cloud. It's a real device farm for mobile test execution that uses machine learning and convolutional neural networks to provide intelligent user experience insights. What does all that mean? Tricentis Device Cloud's mobile AI engine leverages human perception data embedded in the tool to provide an aggregated impact score on how well the application is performing in terms of its user experience. It tracks 130+ KPIs related to network, location, response time, CPU, and more to pinpoint failures and quickly surface critical errors that impact user experience and front-end performance.



85%

of the global population owns a smartphone and 73% of total e-commerce revenue is generated from mobile devices.

AI: It's here to stay

One thing is abundantly clear – AI isn't going anywhere. The use cases outlined above can be excellent starting points to implement AI into your business processes and begin supplementing the efforts of your human workforce.

To learn more about Tricentis' approach to AI-driven testing, [watch this webinar](#).



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AI

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DATA
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