

2022 State of Software Testing Report

Improving applications through better DevOps and Functional UI testing

Substantial and effective graphical user interface (GUI) testing — an important component of functional UI testing — is required to develop good quality applications. But, testing takes time and slows development. Technology executives are working towards faster application development without losing quality by adopting automation and transitioning testing responsibility, so it happens earlier in production.

Pulse and Ranorex surveyed 300 technology executives who are part of their company's DevOps or GUI testing team to understand their current challenges and plans for 2022.

Data collection: Dec 21, 2021 - Jan 28, 2022

Respondents: 300 technology executives

DevOps and functional testing show capacity for improvement through additional automation

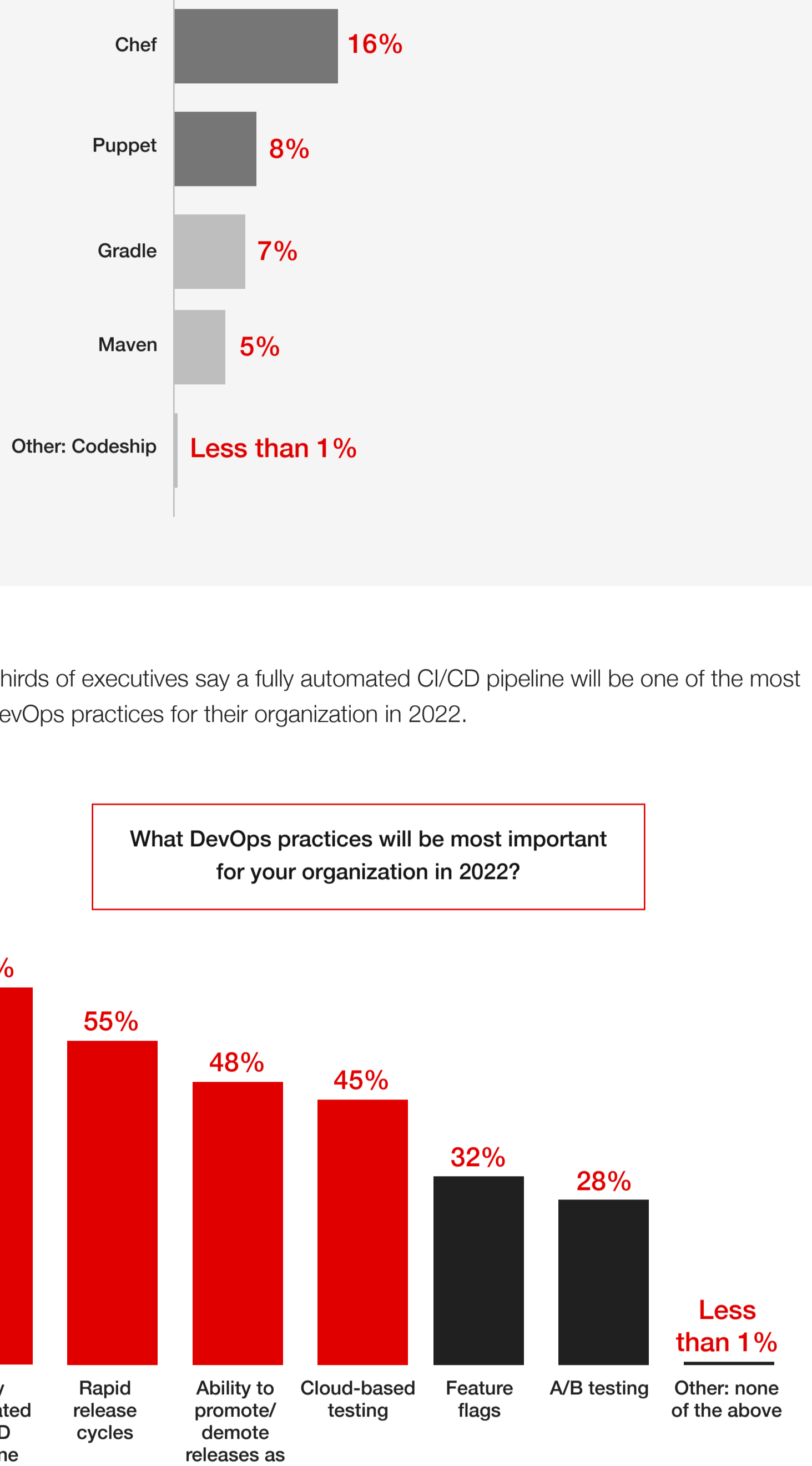
65% of technology executives say their organization's application release cycles are two weeks to one month long.

What is the average length of your organization's release cycle for desktop, web and mobile applications?



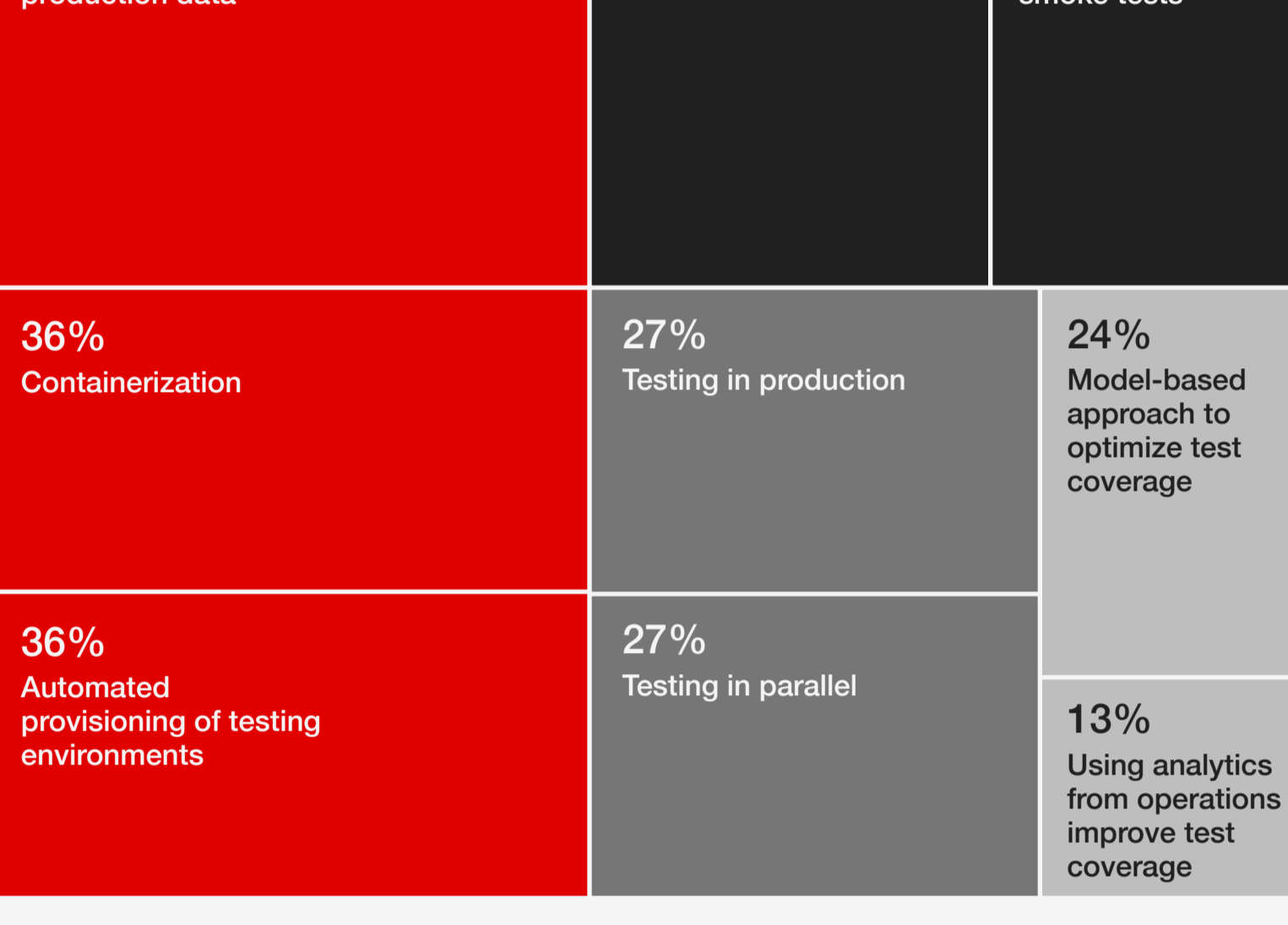
The most popular DevOps tools that teams are currently using are Jira Software (56%), AWS DevOps (55%), and Azure DevOps (50%).

Which of the following DevOps tools is your team currently using?



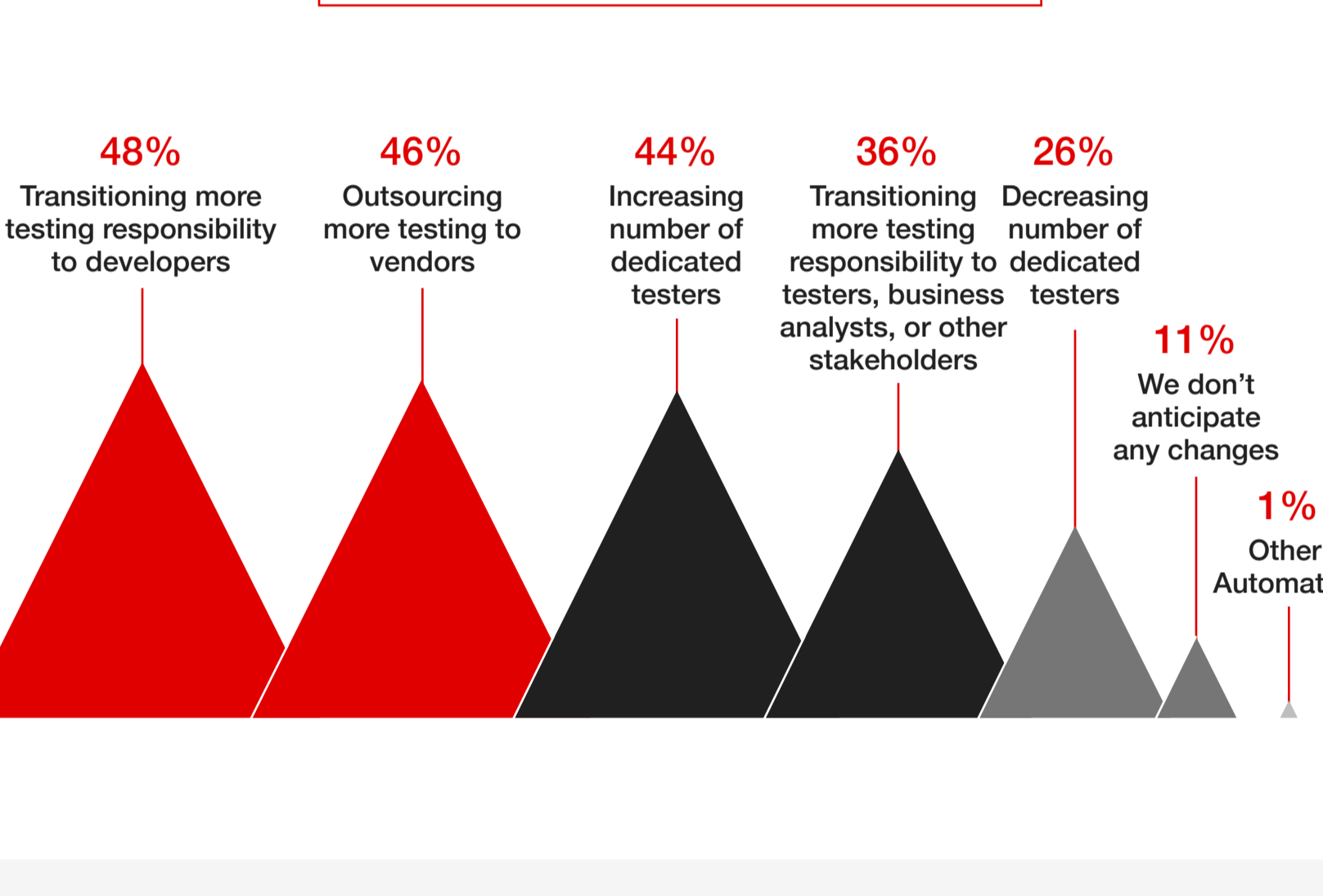
About two-thirds of executives say a fully automated CI/CD pipeline will be one of the most important DevOps practices for their organization in 2022.

What DevOps practices will be most important for your organization in 2022?



Organizations' most common continuous testing practice is testing with production data (50%), followed by containerization (36%) and automated provisioning of testing environments (36%).

During software development, which of these continuous testing practices does your organization use?*



*Data gathered from a separate survey within the Pulse community: Aug 17, 2021 - Feb 16, 2022, n=185

Executives anticipate changes to testing teams and approaches in 2022

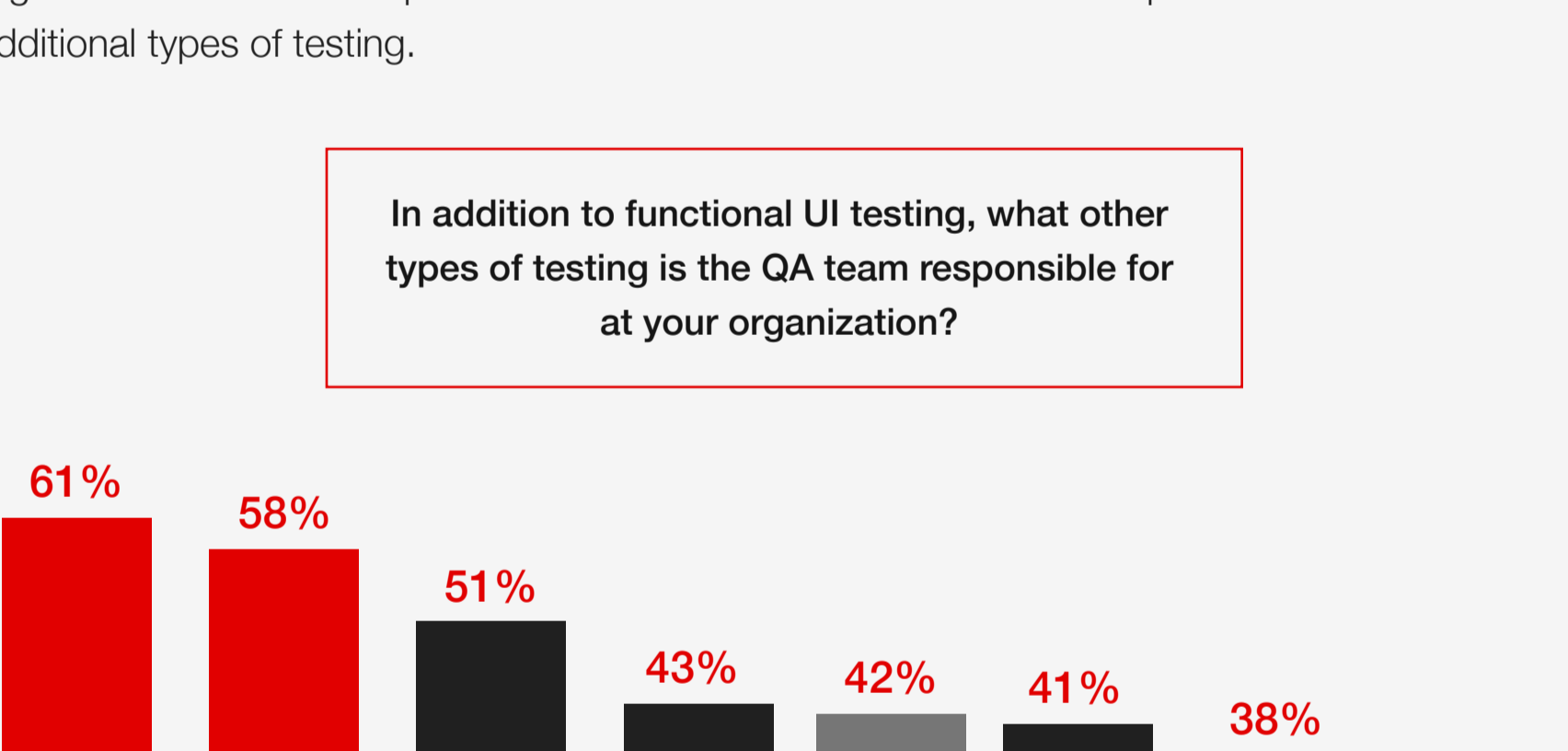
In 2022, 48% of respondents expect to transition more GUI testing responsibility to developers, while 46% anticipate outsourcing more testing to vendors.

How do you anticipate your GUI testing team will change in 2022?



Important testing strategies in 2022, for most organizations, involve API testing (59%), continuous testing (59%), or end-to-end testing (54%).

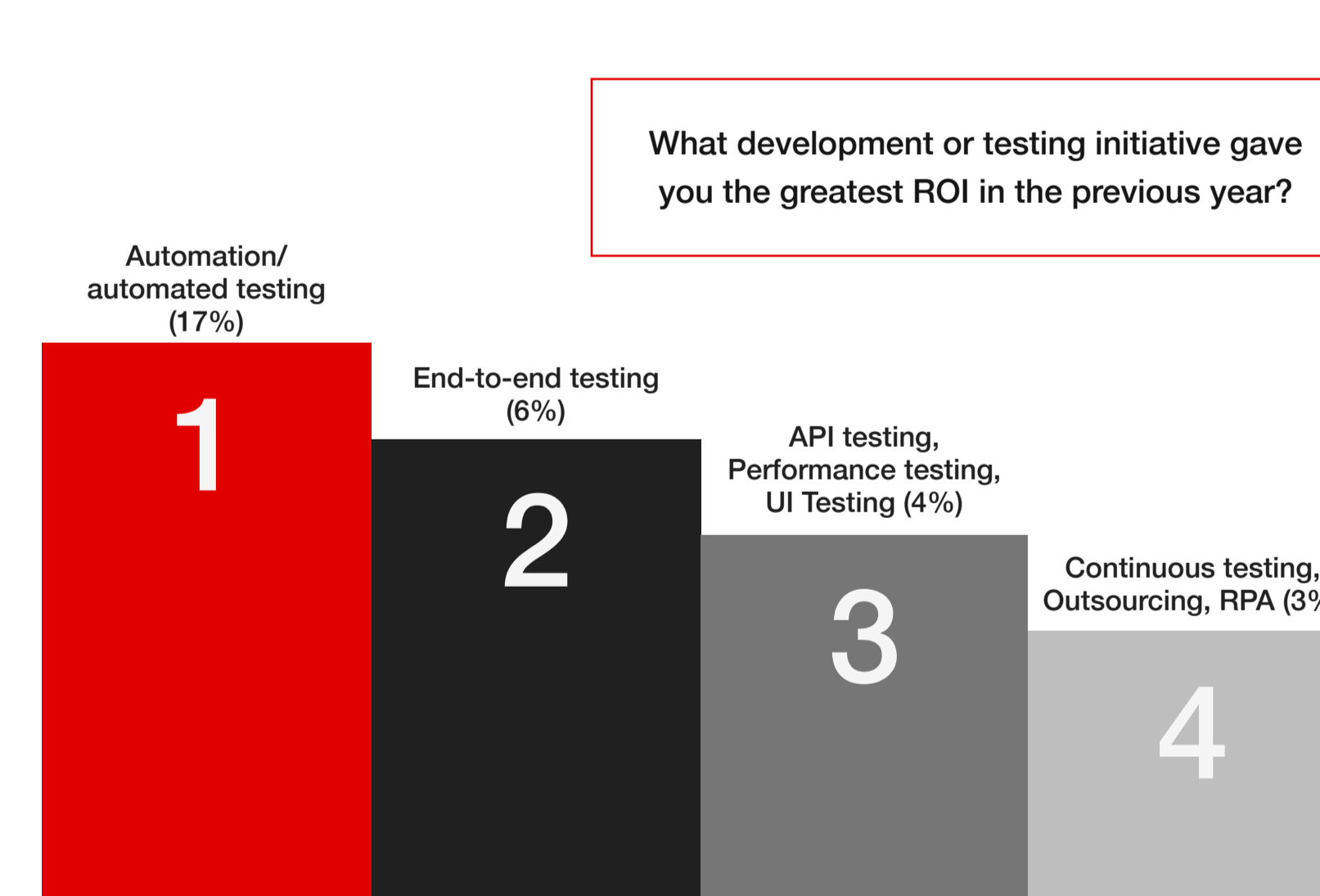
What testing approaches or strategies will be important for your organization in 2022?



Robotic Process Automation (RPA) 37%, Testing in production/TestOps 27%, Shift-left 12%, Visual testing 12%, Other: Automating testing <1%, Other: Unit testing <1%

58% of respondents find creating and maintaining test automation one of their top 3 challenges with GUI testing. Many executives struggle to hire knowledgeable testers (55%) and test automation engineers (48%).

What are your top 3 GUI testing challenges?



In addition to functional UI testing, QA teams are responsible for a wide variety of testing at organizations. 97% of respondents indicated that their QA team is responsible for at least two additional types of testing.

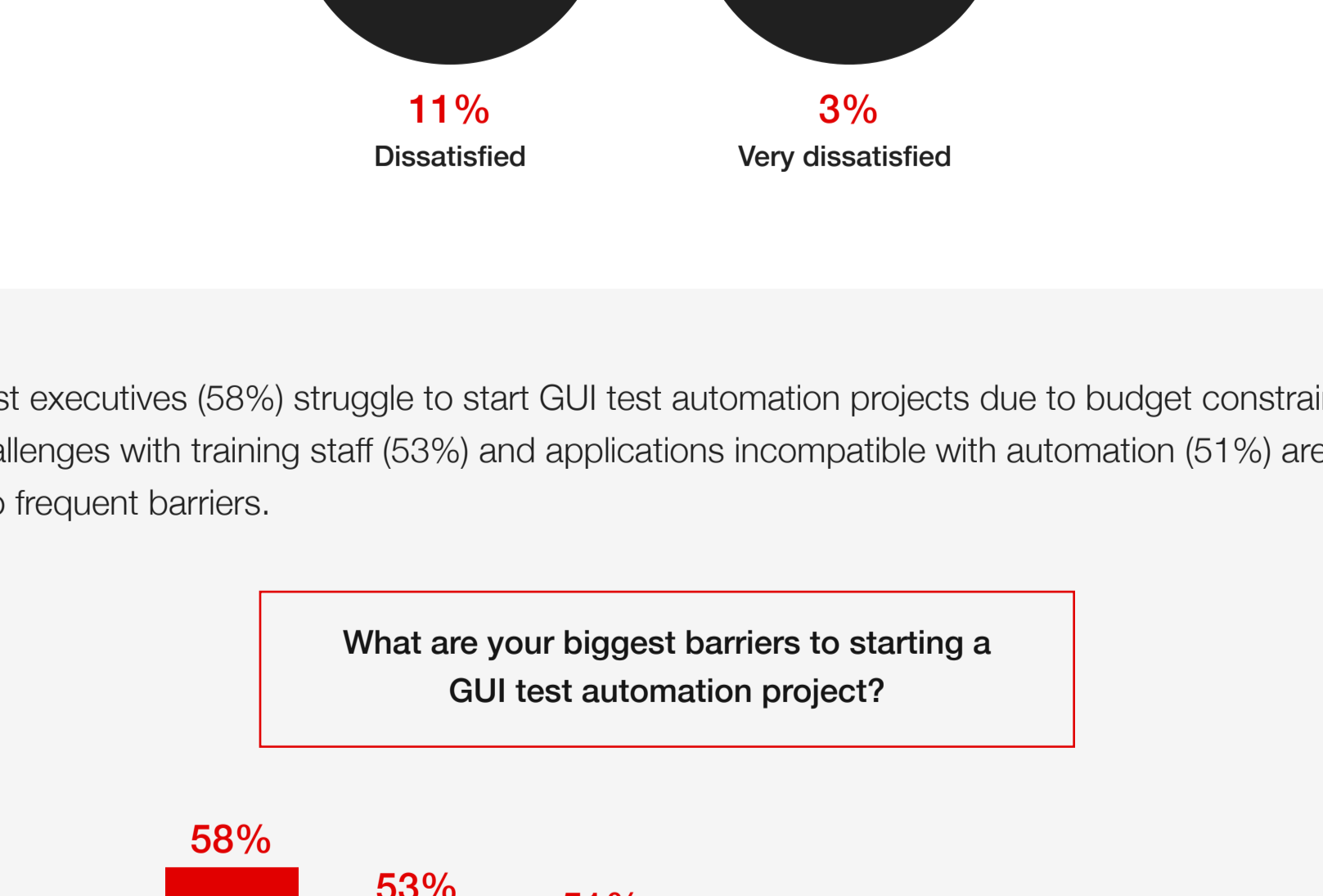
In addition to functional UI testing, what other types of testing is the QA team responsible for at your organization?



Automating testing is providing the greatest ROI, but it is still a challenge due to budget, staff, and technology constraints

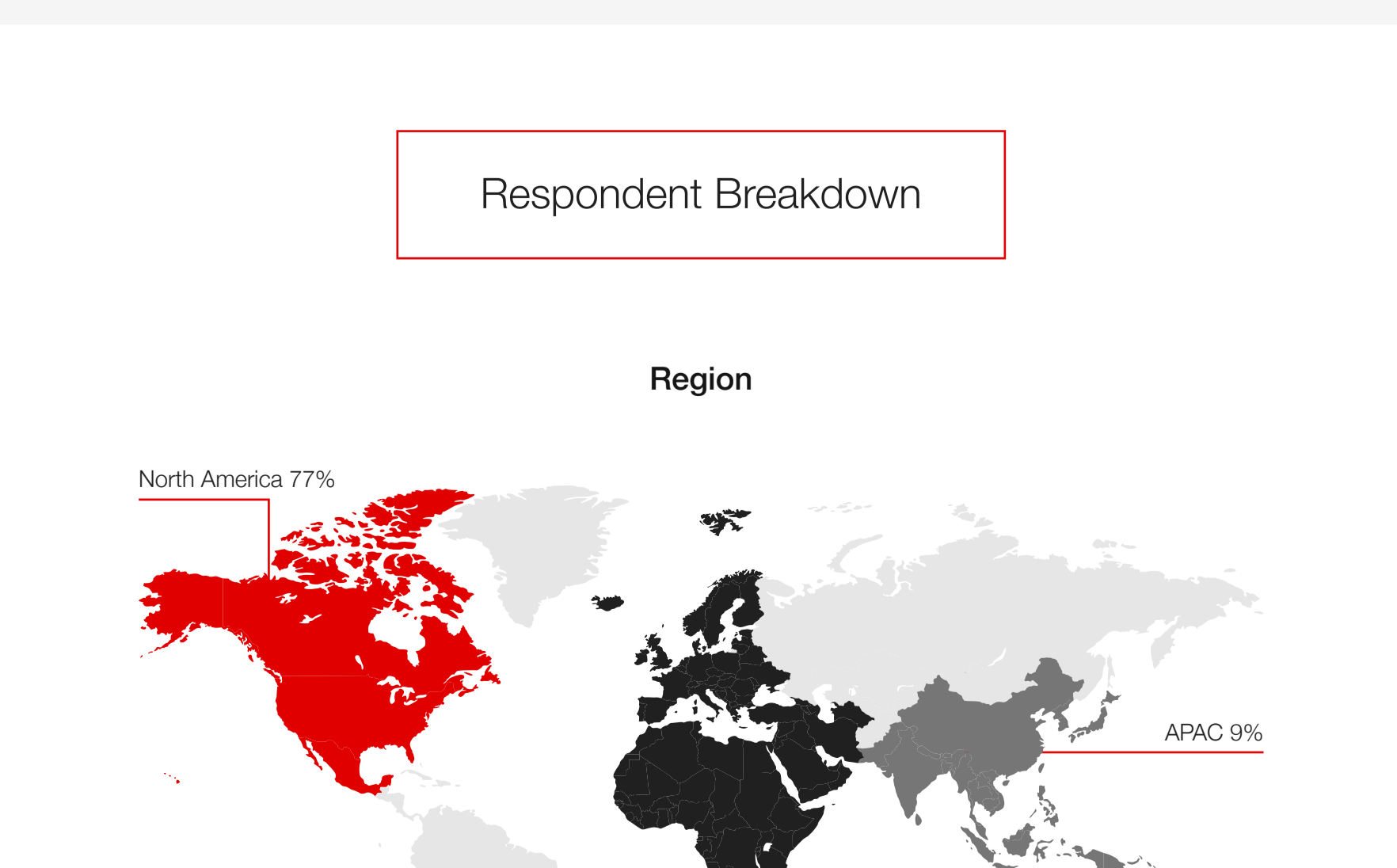
17% of respondents identified automation initiatives as the development or testing initiative that generated the greatest ROI in the previous year. Other common answers included end-to-end testing.

What development or testing initiative gave you the greatest ROI in the previous year?



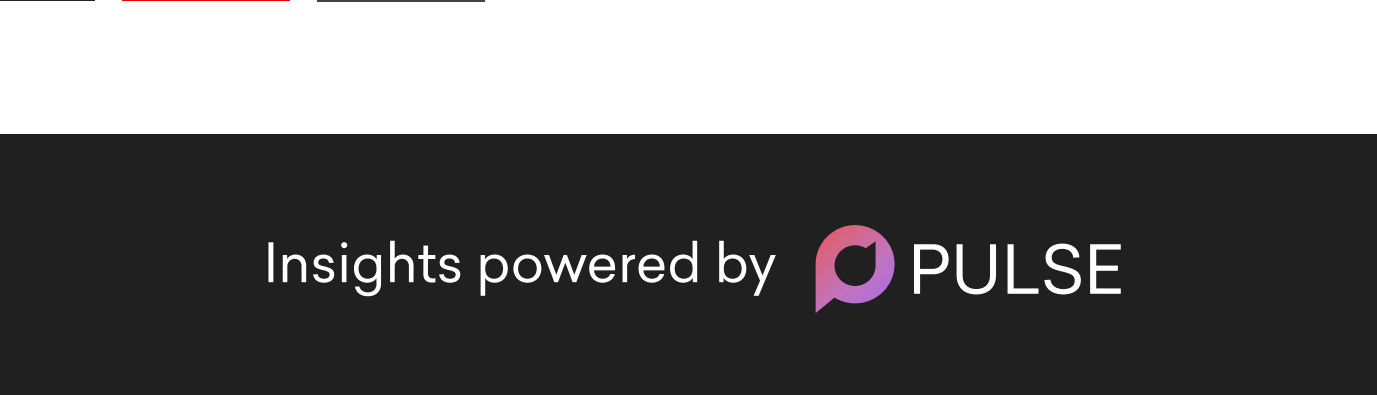
91% of respondents have automated less than half of their testing.

How much of your graphical user interface (GUI) testing is being performed by automation today



43% of executives surveyed are not entirely satisfied with their current level of automation.

What is your level of satisfaction with your current level of automation?



Most executives (58%) struggle to start GUI test automation projects due to budget constraints. Challenges with training staff (53%) and applications incompatible with automation (51%) are also frequent barriers.

What are your biggest barriers to starting a GUI test automation project?

Respondent Breakdown

Region

Title

Company Size

