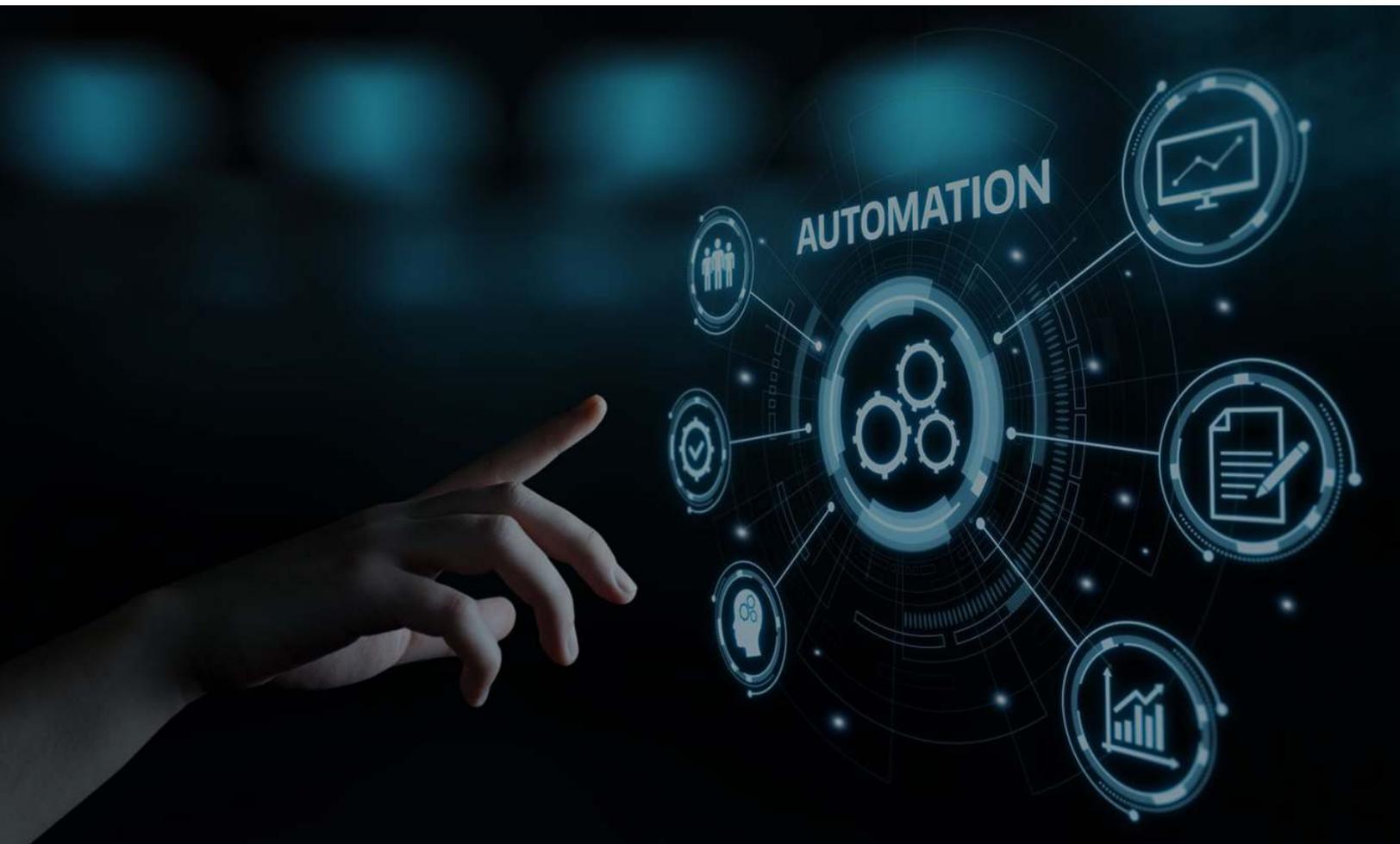


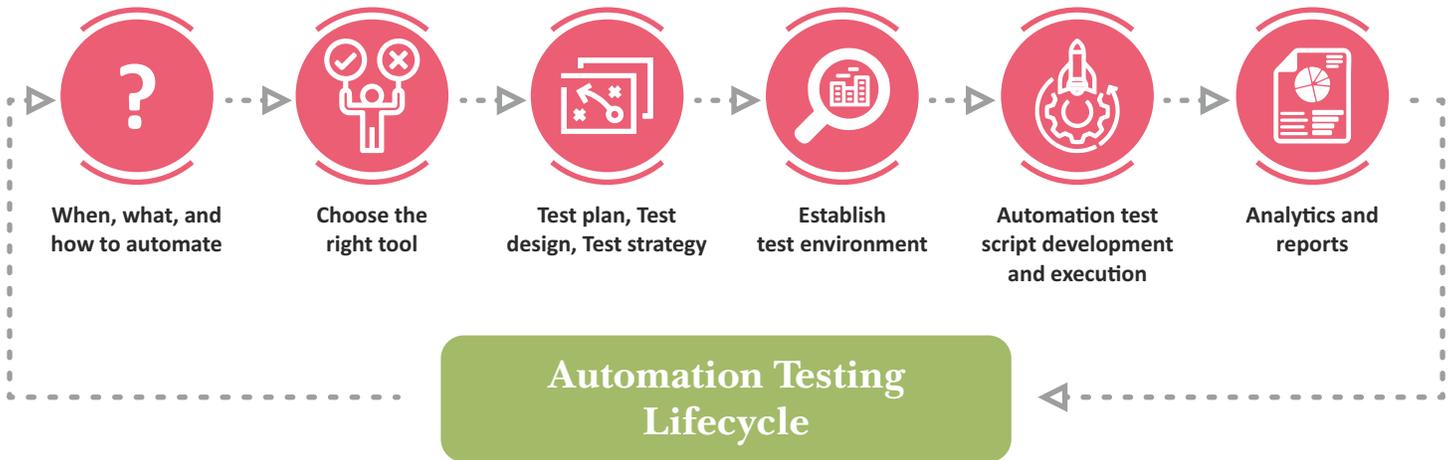
Test Automation Trends in 2020

Raghukiran Basavaradhya & Praveen Narayan



Automation needs preparation

It is a transformational phase for testing teams. Hard-pressed with immediacy to deliver quality software, teams are leveraging [test automation to accelerate development cycles](#). Automation testing is not only helping testing teams improve the coverage of their tests, but it is also providing increased quality, shorter testing cycles, and cost savings. While there are a few who are reaping benefits through automation, it isn't the same for all as automation testing requires skills, planning, and the right testing tools to excel.

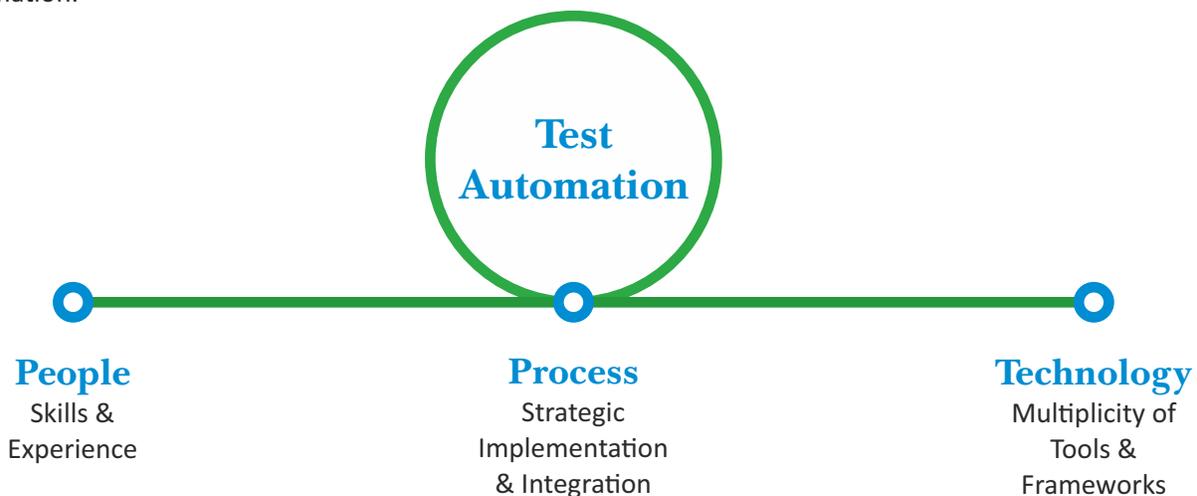


It is no hop, skip, and jump to attain efficiency in test automation and derive optimal value. Test automation requires a strong foundation built on three quintessential pillars of People, Process & Technology.

Collate to automate

While test automation can build momentum and accelerate a process, it can become cost-expensive and less impactful if not conceived and governed well. Organizations need to collate all its valuable and experienced resources to initiate and drive test automation. Though test automation has proved its merit, it is getting challenged by indecisiveness. Unfortunate, as smart automation can have a significant impact on quality software development.

People, process, and technology are essential drivers that need to align to provide high-quality, result-yielding, cost-effective test automation.



People

Automation requires individuals with the requisite skills and know-how on what, when, and how to automate, strategically. A significant impediment for businesses looking to automate is the lack of expertise to utilize the right testing tools for specific test scenarios. An expert understanding of the available automation resources such as proprietary, open-source, and commercial tools can enable test teams to automate with confidence, saving on time and costs.

Test automation teams require to strategize as automation focusses on ROI. An unorganized approach to test automation can cost the organization big bucks. Teams have to chalk out a well-thought strategy to initiate and drive automation.

We believe that the following will be key in 2020

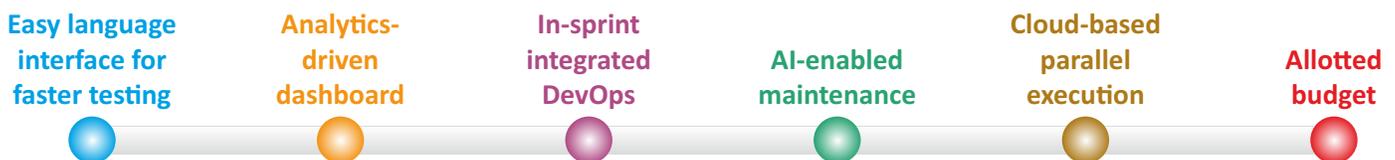
- Risk assessing capabilities
- Understanding and skills to utilize multiple automation tools and frameworks
- Awareness about exploratory automation and tools
- Ability to strategize and plan

Process

The rise of [agile methodologies integrated with DevOps](#) is a visible trend driving the software development lifecycle. Automation is integral to the fast-paced development environment hinging heavily on [continuous integration and continuous development](#). Enabling CI/CD through integrated application lifecycle management and processes, tools that help the organization to manage the complete software development lifecycle, efficiently, will become the norm.

[CI/CD](#) will further be buoyed with a focus on in-sprint automation, and ensure testing runs parallel to development, with features, releases, and updates getting tested as they get developed.

In- sprint automation aiding development



Our belief

- Instant feedback to help developers make in the moment design decisions
- Provide manager with data to assess a release
- Multiple tests through the day
- Increased efficiency minimize risks
- Reduce defect fixing time
- More time for feature development

Technology

Technology, as a capability, has been driving businesses for decades now. Every turn of a decade introduces new technologies to better business efficiencies. Some technologies were created in the past but are finding their relevance and prominence now. Technologies such as artificial intelligence that have withered the AI winters and have become the much sought after capability. This section provides a rundown on the technologies and tools that can help you forge ahead with test automation in 2020.

API Testing

Testing of application programming interfaces directly or as part of integration testing to determine the functionality, reliability, performance, and security of a software product is referred to as API testing. These tests are carried out at the interface layer.

Some of the popular API testing automation tools



AI lighting up the test automation sky

Talking of 2020, something that surely will be in vogue with most industries is [artificial intelligence](#). Scope and influence of technology are growing by the day, no doubt it is also a much sought after capability in the testing domain or environment. AI's influence in testing will surely be felt with testers making use of the available AI automation tools to make smart automation a reality.

Here is a list of AI-powered automation tools that can help you forge ahead with automation in 2020.

Tools that leverage AI



Some of the frameworks that will assist tester's up their game

Robot

An open-source automation framework, Robot Framework, is one of the top python-based test frameworks. It is used for acceptance testing, acceptance test-driven development (ATDD), and robotic process automation. The structure utilizes a keyword-driven testing approach and can be operated using tabular test data syntax.

Pros

- Easily create readable test cases based on a keyword-driven approach, making automation simpler
- Convenience of using test data syntax
- A vast ecosystem comprising generic tools and test libraries enables the use of individual elements in separate projects.
- High number of API's make the framework highly extensible
- Run parallel tests using the selenium grid as a separate layer

Cons

- Inadequacy for parallel testing

Katalon

A free tool, Katalon works with a selenium based engine. It is designed to create and rescue automated test scripts for UI without using codes. Katalon also helps run automated tests of UI elements such as pop-ups, iFrames, and wait time. It can be launched across Microsoft Windows, macOS, and Linux. The tools also support multiple languages, including Python, Javascript, VBScript, JScript, C++Script, and C#Script.

Pros

- Cloud and native CI/DevOps integrations
- Intelligent analytics-driven dashboard and reports
- Multiple Testing options
- Keywords Driven Data-Driven API Testing Cross Browser
- Parallel execution on various environments customized as per framework
- Easy to comprehend user interface
- Free tool

Cons

- Limited scripting language support

We believe

- Right technology to bolster existing or planned processes
- Faster automation
- Identifying and engaging with different levels of automation
- Identifying the right framework and tools
- Leveraging 5th Gen technology capabilities, AI/ML

Conclusion

Our belief is that Automation is one of the key imperatives that will drive the testing narrative in 2020

Emphasis to deliver quality software within a shorter turnaround time necessitates the need for automation. Automation can be rewarding but requires strategizing. Test teams should have their automation strategies validated and planned in the initial stages of software development, with an allocated budget. Testing teams should ensure that automation fits the bill to compliment continuous integration and delivery and is efficiently amalgamated with the software development lifecycle. Another area to be focussed on would be the tools and frameworks that would ensure a seamless transition and implementation of test automation.

A firm footing with respect to people, process, and technology is the way forward to implement and integrate test automation and bodes well for organizations looking to automate the complete software development lifecycle.

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benefits of test automation**

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To learn more about Trigent visit www.trigent.com

Our Headquarters

Trigent Software Inc.
2 Willow Street, Suite #201
Southborough, MA 01745
+1.508.779.6743
sales@trigent.com

Other Location

Trigent Software Ltd.
Khanija Bhavan, 1st Floor
#49, West Wing, Race Course Road
Bangalore - 560001, India
+91 (80) 2226-3000

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