

QRA Fast Facts: Automate

Test Automation Provides Significant Time Savings

Many organizations have inadequate test coverage and miss deadlines due to manual testing.

Survey Results

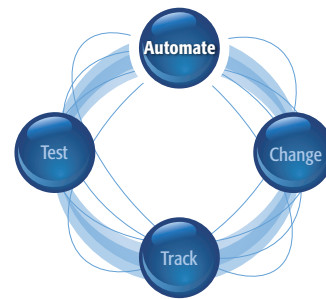
Seapine Software recently released the quality-ready assessment (QRA). The QRA is a high-level evaluation tool that helps development organizations measure the state of their quality readiness. To date, nearly 1,000 companies have completed the survey.

According to the QRA, few organizations have embraced automated testing. Forty-four percent of organizations have either not investigated automated testing or do not see enough of an ROI to implement it.

Seapine Analysis

The QRA results show that automated testing has not gained wide acceptance among software development and QA organizations.

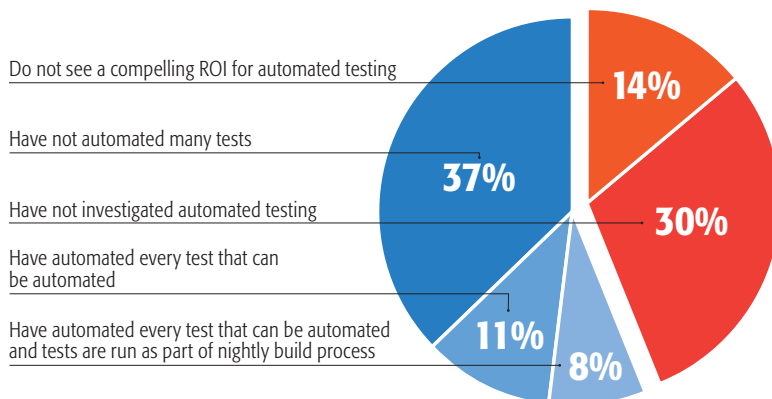
Automated testing tools range widely in their capabilities and ease of use. Some have complex scripting languages that require programming knowledge. Others have graphical interfaces that make it easy to record scripts but difficult to design complex testing scenarios. These factors may affect the adoption rate.



Testing Automation

- 37% of organizations have purchased an automation tool but have not put it into wide use.
- 60% of organizations must redeploy some resources to regression test critical bug fixes.
- 44% of development and QA organizations do not use automated testing.

How organizations describe their automated testing process



Automation is one of the best ways to use time and resources efficiently.

How often does your organization complete development on time and on budget?

Always	4.5%
95%-99% of the time	7.3%
90%-94% of the time	9.6%
75%-89% of the time	22.0%
Less than 75% of the time	34.2%
Never	7.3%
Don't Know	15.3%

Delivering Software on Time is Still an Issue

According to the QRA, 34 percent of companies complete their application development on time and on budget less than 75 percent of the time.

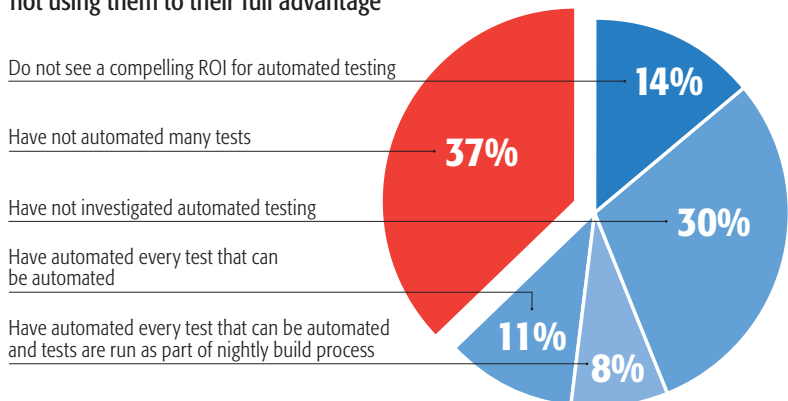
Because organizations must continue to test existing functionality, regression suites grow with each release. When all the tests are performed manually, test time increases as well. To avoid missing deadlines, organizations have to decide between adding additional testers, lengthening release cycles, or increasing risk by reducing test coverage.

Organizations Have Not Fully Implemented Automated Testing Solutions

More than one-third (37 percent) of organizations have purchased an automation tool but have not put it into wide use. This may be the result of tools being difficult to use, or organizations being unclear about which tests to automate. The best tests to automate include:

- Regression tests that are run for every build
- Data-driven tests that use multiple sets of data over many iterations of the test
- Configuration tests that run on many different platforms
- Test bed setup/configurations that configure a group of computers for testing
- Backend/non-GUI tests that verify the data collected by an application

Even organizations with automated solutions are not using them to their full advantage



Automated testing allows organizations to expand test coverage by freeing resources from performing manual regression testing.

Automation Improves Efficiency While Increasing Test Coverage

Regression testing, which ensures that new features or bug fixes have not affected existing functionality, is tedious. Performing these tests manually is inefficient and costly.

Using testers to perform regression testing takes time from more complex and valuable activities such as integration testing. Automating regression testing not only allows the tests to run more often but also enables organizations to expand their test coverage by freeing resources.

Automation reduces manual testing time and allows organizations to utilize off-hour time by having tests running continually.

Automation Enables Organizations to Effectively Test Fixes

Sixty percent of the organizations have to redeploy some resources to regression test critical bug fixes and to ensure that fixes do not compromise the existing code. With automated testing, regression tests are part of the build process and run without manual intervention.

Which of the following best describes your ability to react to an unplanned regression test due to a critical bug fix?

Limited, due to resource constraints.	33%
We would need to redeploy resources, and testing would take a very long time.	14%
We would need to redeploy resources, but testing could be done fairly quickly.	33%
Our regression tests are semi-automated, but we would need to redeploy resources to perform the manual portion of the regression testing.	13%
Our regression tests are fully automated and could be performed quickly with minor impact on resources.	7%

Recommended Actions

For most software development organizations, test suites grow in lockstep with the code base. To continue to complete the required testing, organizations must either add more testers or find more efficient ways to test. Test automation provides a solution to that problem.

Developer

Review your unit testing process

First, ensure you have a process in place for unit testing. QA should not be the first to test the code.

Next, run as few tests manually as possible. Unit tests should be triggered automatically at specific milestones.

If you do not have this level of automation, investigate automated testing tools with your team.

QA Analyst

Document repetitive tests

Make a list of tests that:

- Are run for every build
- Require multiple sets of data
- Run on many different platforms
- Configure test machines before testing can begin
- Verify the data collected by the application

In most cases, these types of tests do not need to be run manually. You should investigate an automated testing solution to perform them.

Look for under-tested areas of functionality

It is impossible to test everything. However, there are probably areas that you wish you could test more thoroughly.

Ask yourself what activities are preventing you from getting to that testing. Determine if those activities require human interaction. If not, consider your automation options.

Team Lead

Evaluate the testing process for bug fixes and patches

When you fix an unexpected critical bug, do you have to redeploy testers to perform regression testing?

Every time the code is changed, you run the risk that new bugs will be introduced. You need a way to protect existing functionality without overtaxing your resources.

Automated testing can allow you to efficiently release fixes without overtaxing your resources.

Executive

Evaluate the quality of testing

Over the course of a release, manually testing multiple iterations of your software can impact the effectiveness of testers.

Automated tests produce consistent results whenever they run. This ensures efficiency and quality.

Consider your preventative measures

It is far cheaper to fix bugs before the software is released and your customers find them.

With automated testing, regression tests run continually so your team finds the bugs, not your customers.

Automated testing reduces risk, helps to ensure quality, and protects your reputation.

About Seapine Software

With over 8,500 customers worldwide, Seapine Software is the leading provider of quality-centric application lifecycle management solutions. Headquartered in Mason, Ohio, and with offices in Europe and Asia-Pacific, Seapine solutions help companies reliably and efficiently develop quality software applications. Seapine's products support best practices, integrate into all popular development environments, and run on Microsoft Windows®, Linux®, Sun Solaris®, and Apple Macintosh® platforms.

Contact

Discover how serious your company is about quality. Take Seapine Software's Quality-Ready Assessment at www.seapine.com/qualityready. Learn more about Seapine's ALM solutions by visiting www.seapine.com or contacting one of our sales representatives in your area.

Seapine Headquarters

5412 Courseview Drive,
Suite 200
Mason, OH 45040

Tel: (888) 683-6456
Fax: (513) 754-1660
sales@seapine.com

Seapine Germany

Feringastrasse 6
Muenchen-Unterfoehring
85774 Munich
Germany

Tel: +49 (89) 9 92 16 -446
Fax: +49 (89) 9 92 16 -449
salesintl@seapine.com

Seapine Europe

Canisiusgasse 6/51
1090 Vienna
Austria

Tel: +43 676 930 6393
Fax: +43 (1) 319 1192
salesintl@seapine.com

Seapine United Kingdom

Building 3, Chiswick Park
566 Chiswick High Road, Chiswick
London, W4 5YA
United Kingdom

Tel: +44 (0) 208-899-6775
Fax: +44 (0) 208-899-6774
salesuk@seapine.com

Seapine APAC

8 Cartier Walk
Point Cook, Victoria 3030
Australia

Tel: +61 (3) 9395 5514
Fax: +61 (3) 9395 5232
salesapac@seapine.com



Copyright © 2008 Seapine Software, Inc. All rights reserved worldwide. TestTrack Pro, TestTrack, Surround SCM, QA Wizard, SoloBug, SoloSubmit, Seapine CM, and the Seapine logo are trademarks of Seapine Software, Inc. This document is the result of research performed by Seapine Software, Inc. Seapine Software believes its findings are objective and represent the best analysis available at the time of publication. Unless otherwise noted, the entire contents of this publication are copyrighted by Seapine Software and may not be reproduced, stored in a retrieval system, or transmitted in any form by any means without prior written consent from Seapine Software. 8104.2 QRA Fast Facts-Automate.indd 6/08