

# ACCELERATING SAP TEST CYCLES OVER 90%

## How a Large Construction Machinery Firm Does It

### SITUATION

- Large construction machinery manufacturing organization preparing to roll out SAP to 50 facilities worldwide
- Used HP ALM for testing SAP, SAP HANA, custom web apps, and eventually PeopleSoft
- Ended 5-year contract for more than 50 manual testing resources, including offshore
- Focus was on spending cuts without sacrificing quality

### PROBLEM

- Only 15%-20% of automated tests were scripted
- Test cycles took too long
- Script maintenance was almost non-existent
- Lack of insight and confidence in test coverage
- Process checks skipped due to lack of time
- Carpal tunnel was becoming a true health issue

### SOLUTION

Implemented TurnKey's cFactory to:

- Leverage existing investment and extensive test libraries already built in HP ALM
- Automate maintenance of test cases
- Ensure test data was easy to get and maintain
- Increase velocity with reusable components, test plans and test scripts
- Increase test coverage and accelerate deployments
- Leverage TurnKey's SAP Accelerator's pre-built content

### RESULTS

- 95% reduction in test cycle time
- \$700k savings per test cycle (3 test cycles/year)
- Rolled out SAP to 50 facilities in 6 short years
- 100% return on investment, including time and resources, in just over a year

See Calculated ROI section for more details.

### THE STORY



In a city surrounded by agriculture, green grass and large farm equipment, one would hardly give a second thought to software.

Yet a large manufacturing firm in the heartland knew that in today's technology-driven world, every corporation functions because of the software it runs on—whether it's order processing, payroll, inventory management or any other critical business process. When that software causes issues, it can negatively impact their customers, employees and the bottom line.

When this company wanted to increase efficiencies to improve their profitability and business performance, they turned to software automation to intelligently automate tasks that were repetitive and time consuming.

It wasn't long before they found an ideal opportunity, instigated by the conclusion of a 5-year contract with 50 offshore resources who had been doing manual functional and regression testing. The end of this contract was the beginning of automated testing, and extraordinary cost savings of an estimated \$700 thousand every test cycle.

*What I love about cFactory is that it is effective regardless of whether your knowledge is in testing or in the business process. It aids us in faster deployments with higher confidence, ensuring that we can meet the Sarbanes-Oxely requirement to go through integration testing twice before a release goes into production.” - Lead Test Coordinator*

## THE PROBLEM

The organization uses SAP as their enterprise resource management platform, and was getting ready to roll it out to every facility across the nation. SAP testing now fell to the QA team at headquarters.

The company had HP’s QTP/UFT for test execution, and when the team began to dig into how the offshore contractors had been testing, they were astonished.

Here’s what they learned:

- **Only 15%-20% of the tests passed.** It became clear that the offshore resources had not maintained the test scripts, instead they used their tribal knowledge and created undocumented workarounds.

The situation was beyond fixable and, as one Test Coordinator quipped, “I guess *Fail* was the new *Pass* for them.”

The company came to the realization that if this is how their offshore resources handled things, **how could they have ever possibly been getting the right coverage?**

- **Testing cycles took too long.** (3 months on average with 20-40 resources across teams)
  - o Interface testing was often omitted, as it was managed by a different group and not connected to the testing environment.
  - o Complex scenarios were often quickly passed through to save time.
  - o Simple, mundane processes were often skipped just to save time.

- o Tests were being run that were no longer relevant due to the lack of test script maintenance.
- o It took too long to find defects and re-test.
- o There was too much unproductive downtime.
- o Separate scripts were required for each scenario.
- **Maintenance required a specific coding background.** To maintain or build scripts from scratch in QTP/UFT was cumbersome, and coding skills were not plentiful in the small QA team.
- **Carpal tunnel is real.** Health issues popped up, as manual testing involves thousands upon thousands of keystrokes daily. This created stress on wrist, hands, and elbows, and generated substantial employee complaints.
- **Results for QTP were so difficult to review** that automated scripts were often signed off without proper review.

**This was not something the company, which prided itself on quality, would tolerate.**

**What they didn’t know at the time was that the fundamental decision to better automate their testing would allow them to rollout out SAP to about 50 facilities in 6 short years, and save millions of dollars over time.**

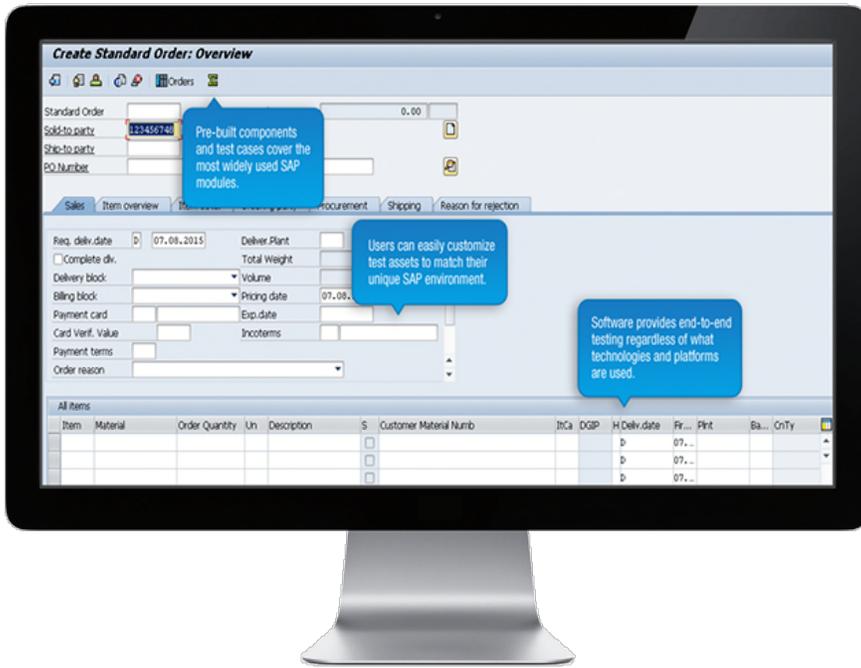
# EVALUATING OPTIONS

## EVALUATING OPTIONS

The team conducted thorough research and narrowed it down to the following three options:

OPTIONS	PROS	CONS
<p><b>Status Quo</b> Don't make any changes and work with what they have.</p>	<ul style="list-style-type: none"> <li>• No additional software costs, since the company already owns QTP/UFT and they know how to use it</li> <li>• There is a large library of test scripts already written in UFT</li> </ul>	<ul style="list-style-type: none"> <li>• Large additional resource and training costs since it requires technical knowledge to build and maintain scripts</li> <li>• Would have the same problems with script maintenance and no way to ensure proper test coverage</li> <li>• Test data was lost whenever there was a refresh (enormously time consuming)</li> </ul>
<p><b>Vendor 1</b> SAP Test Automation Solution</p>	<ul style="list-style-type: none"> <li>• Does not require HP UFT, allowing the organization to move away from HP ALM</li> <li>• Works well with SAP testing</li> <li>• Management more familiar with the process of scripting to automation</li> </ul>	<ul style="list-style-type: none"> <li>• Still requires technical skill and scripting knowledge</li> <li>• Record and playback approach means testing is path-locked – requires time and effort to update test scripts (one of the biggest drawbacks)</li> <li>• Required the exact keystrokes to automate</li> <li>• No re-usability making maintenance just as cumbersome as staying with UFT</li> <li>• Requires multiple scripts for the same scenario</li> <li>• No additional help to simplify data management</li> </ul>
<p><b>Vendor 2</b> Test Automation Solution: TurnKey Solutions</p>	<ul style="list-style-type: none"> <li>• User friendly – no programming required to create and maintain tests</li> <li>• Patented Evergreen Automation means tests are automatically updated when a change occurs, saving thousands of man-hours</li> <li>• Out-of-the-box Accelerators for SAP and PeopleSoft; works with custom and web apps</li> <li>• Test data is documented and available with very little effort using built-in data sheets</li> <li>• Seamless integration with HP ALM takes advantage of existing test library and leverages the investment in HP ALM</li> <li>• Reusable components, test plans, and scripts</li> <li>• Multiple scenarios can be executed, driven by unlimited data</li> <li>• Entire test cycles can be run in a day compared to weeks allowing tests for big or small changes will little effort</li> <li>• Can be test-ready in less than a month</li> </ul>	<ul style="list-style-type: none"> <li>• Business users not familiar with test automation would require 2-5 days of training.</li> <li>• Based on UFT which doesn't support all applications and technology types due to limited UFT object recognition. However, TurnKey's skilled Professional Services team can build UFT add-ins quickly and efficiently that work for any technology making this solution application agnostic.</li> <li>• BPT test execution can be slow within ALM, which might be an impact during test development, but since automated tests are typically run at night, it doesn't have a significant impact. TurnKey has a test execution optimizer which can override BPT by turning all component-based tests into action-based tests accelerating execution by about 30%.</li> </ul>

When reviewing their options, the company ran in-depth, on-site evaluations with the vendors. The first company sent several people out for a week. TurnKey Solutions sent one person out for three days. In that short three days, TurnKey was able to illustrate stronger value with quick implementation and ROI.



TurnKey Solutions was selected, and the team was building automated tests after a week of training, with three full-time offshore resources dedicated to building automation and 7-8 business resources at headquarters about 20% of the time. In a month, they were really rocking and rolling.

“What I love about cFactory is that it is effective regardless of whether your knowledge is in testing or in the business process,” says a Test Coordinator. “It aids us in faster deployments with higher confidence, ensuring that we can meet the Sarbanes-Oxley requirement to go through integration testing twice.”

## CALCULATED ROI

Reporting on results allowed the organization to see the great impact automation could have reducing the time of manual testing hours and increasing test coverage.

- Executing 10 scripts plunged from 324 hours of manual testing to 10 hours and 24 minutes through automated testing in cFactory. That is roughly 96.3% reduction in time.
- Executing 18 scripts for the HANA testing cycle saw a 93.2% reduction in time, plummeting from 596 hours to 40 hours and 49 minutes.
- Eliminated 180 hours/year in building test data. ((20 resources = 60 man hours) \* 3 test cycles)
- After just 2 regression cycles and automating only 25 scripts in cFactory, the company had **full return on investment** of TurnKey’s software.
- By the completion of the project, the organization would save approximately \$700,000 per test cycle just by eliminating the manual testing hours.

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