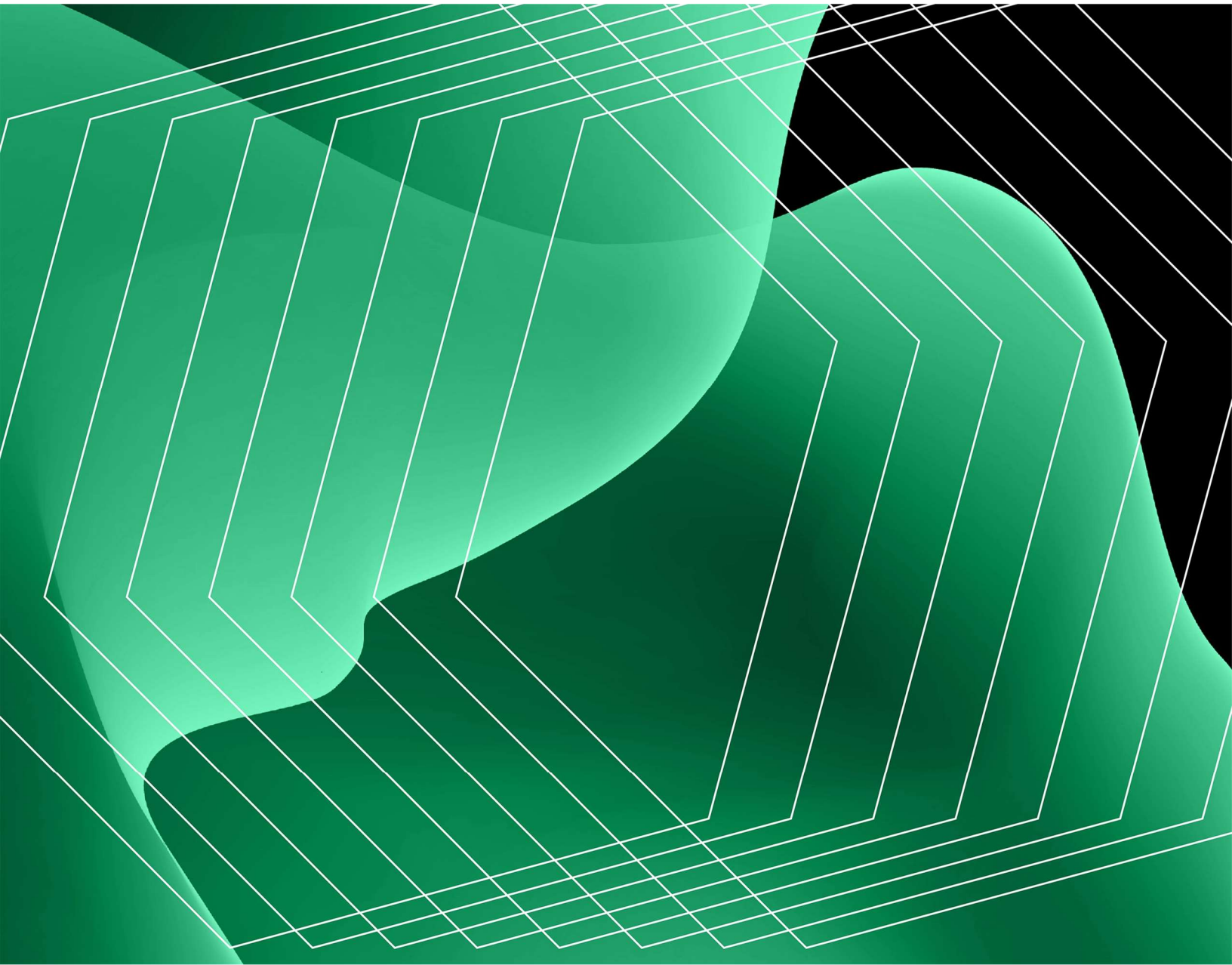
FORRESTER®

The Total Economic Impact™ Of Tricentis Solutions For Oracle Application Quality Assurance

Cost Savings And Business Benefits Driven By End-To-End AI-Powered Quality Assurance

A FORRESTER TOTAL ECONOMIC IMPACT STUDY
COMMISSIONED BY TRICENTIS, AUGUST 2025



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Executive Summary

Businesses and organizations today face mounting pressure to deliver faster, higher-quality software releases while managing complex business-critical platforms like Oracle. Application modernization projects — such as migrating from on-premises deployments to Oracle Cloud — frequently incur costly delays and budget overruns. One key cause of these inefficiencies: legacy quality assurance (QA) practices that rely heavily on manual testing and outdated tooling. These methods struggle to scale, are resource-intensive, and often detect defects too late — leading to expensive rework, missed deadlines, and increased risk.

To address these challenges, technology leaders are looking to modern, AI-powered QA platforms that enable teams to test throughout all stages of the software development lifecycle with greater confidence — ensuring that releases meet performance, compliance, and user expectations. With capabilities spanning test management, test automation, intelligent change risk analysis, data accuracy and reliability management, and performance validation, these tools help organizations modernize end-to-end QA practices across both legacy and cloud-based environments and thus are essential to derisking digital transformation and accelerating time to value.

This study analyzes two Tricentis solutions and how they leverage automation and AI to improve quality assurance for Oracle applications: the test management platform qTest and the continuous testing platform Tosca. qTest helps teams organize, manage, and track manual and automated testing across the software development lifecycle, providing visibility into test planning, execution, and defect tracking for better collaboration between testers and development teams. Tosca supports codeless, model-based test automation, allowing extended teams without traditional coding expertise to create and maintain tests. Tosca enables high levels of automation coverage and integrates with continuous integration and continuous delivery (CI/CD) pipelines to support a more proactive approach to risk management in agile and DevOps workflows.

Tricentis commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Tricentis solutions for Oracle application testing. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Tricentis solutions for Oracle application testing on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed eight QA testers with experience using Tricentis solutions for Oracle application testing. For the purposes of this study, Forrester aggregated the experiences of the interviewees and combined the results into a single composite organization, which is a global organization with $30 billion in annual revenues and 40,000 total employees.

Return on investment (ROI)
372%

Net present value
$6.3 million

Interviewees said that prior to using Tricentis solutions for Oracle application testing, their organizations relied heavily on manual testing or legacy tooling. However, these solutions suffered under the demands of modern application development processes and business timelines, leaving them with fragmented testing operations across the organization, delayed test cycles, and heavy maintenance burdens. These in turn led to late application releases, inconsistent test coverage, increased risk of defects, and difficulty scaling automation across the multiple platforms that comprise complex enterprise systems.

After adopting Tricentis solutions for Oracle application quality assurance, the interviewees' organizations achieved reduced testing windows, increased testing throughput, and expanded test automation coverage. These enhancements streamlined testing operations, significantly accelerated release cycles, and enabled broader stakeholder participation in testing and quality assurance. Each of these process improvements was critical to achieving process standardization, broader knowledge sharing, and increased rates of internal innovation.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits for the composite organization include:

- **Efficient upgrade cycles.** The composite deploys qTest to manage all of its test cases, manual and automated, including test cases utilized by other automation solutions besides Tosca. In doing so, it is able to reuse 750 test cases from one Oracle application upgrade to the next, reducing duplicative test cases and saving on costs. The total reduction in costs from qTest test reusability is $484,000 over three years.

"We used to need eight weeks to complete our test cases. With Tosca, that is now just 14 days, and we're only at 70% automation for now. All this using 50% of our testing resources."

RELEASE MANAGER, FINANCIAL SERVICES

- **Accelerated testing at nearly 40% reduced cost.** The composite uses Tosca to automate test case development and execution without the need for code, while reusing test cases across applications and integrations. This enables the composite to free up 33% of its prior resource costs related to testing, redeploying these to other high-value, strategic work. This expands the rate of automation of Oracle application test cases to 90%, enabling the composite to experience further unquantified cost reductions associated with code defect remediation and application security. When also decommissioning a prior, limited automation tool, the composite achieves total testing cost reduction of nearly 40%, worth more than $1.3 million over three years.
- **Added business value of testing from 3x test frequency.** The composite's expansion of Oracle application test automation enables it to shrink its testing cycles by 67%, accelerating test cycle frequency to 3x its prior abilities. As these releases get into end user's hands faster, they experience average efficiency gains of 5% per additional release during the year, as modified by a 50% productivity recapture rate. In total, the business value of testing more frequently saves 104 annual hours per employee (83,200 annual hours total) and is worth $6.2 million to the composite over three years.

Unquantified benefits. Benefits that provide value for the composite organization but are not quantified for this study include:

- **AI-enhanced testing.** The composite leverages additional AI-based features of its Tricentis solutions, such as Vision AI, to automate previously difficult-to-automate test cases like those focused on UI changes, extending automation, and achieving additional business value. It uses self-healing to run test cases despite failures due to control

changes so as to more easily identify the new control. Lastly, Tricentis Copilots act as intelligent assistants providing guidance to QA team members throughout the testing lifecycle, further optimizing these processes.

- **Reduced Oracle sysadmin workload.** The composite also uses Tosca to automate Oracle system administrator configuration of Oracle environments below the production level, reducing the associated configuration time from hours to just minutes.
- **Improved patch compliance.** The composite's acceleration of test execution improves its ability to meet patch deployment policies, improving application security and its compliance with SLAs.
- **Improved audit readiness.** As the composite tracks all test evidence in one location with qTest, its test team members save 25% of their time previously spent assisting with audits.

Costs. Three-year, risk-adjusted PV costs for the composite organization include:

- **Tricentis fees.** The composite experiences fees from Tricentis for implementation based on product choice and environment complexity and for ongoing licensing based on number of users per solution, including virtual users. The cost of Tricentis fees is worth $1.3 million to the composite over three years.
- **Deployment and ongoing administration costs.** The composite experiences upfront deployment effort costs equating to two FTEs at 2.5 months of labor to assist Tricentis, ongoing administration effort costs of one FTE annually, and training costs of 32 hours per tester. These costs total less than $398,000 over three years.

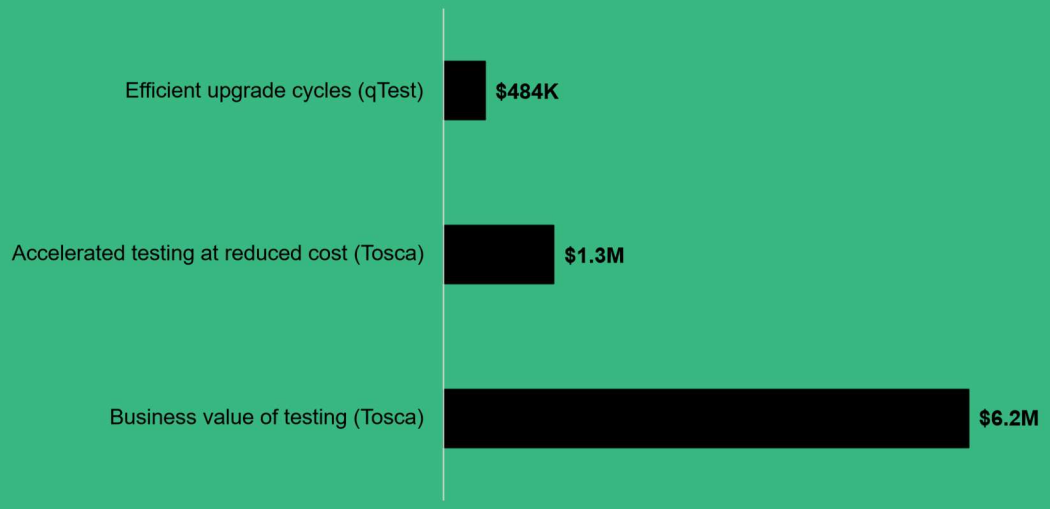
The representative interviews and financial analysis found that a composite organization experiences benefits of $8 million over three years versus costs of $1.7 million, adding up to a net present value (NPV) of $6.3 million and an ROI of 372%.

Added business value from increasing Oracle application test frequency to 3x the prior rate

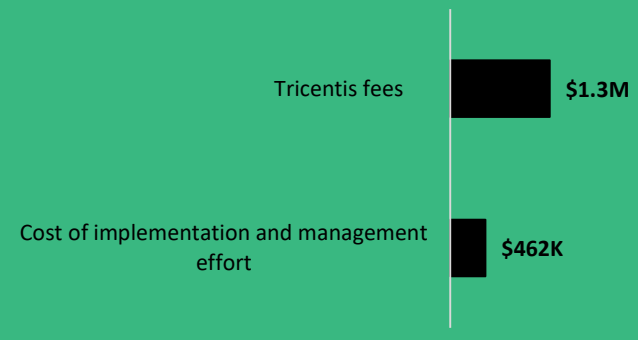
$6.2 million

ROI	BENEFITS PV	NPV	PAYBACK
372%	**$8 million**	**$6.3 million**	**< 6 months**

Benefits (Three-Year)



Costs (Three-Year)



TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in Tricentis solutions.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that using Tricentis solutions for Oracle app QA can have on an organization.

1. **Due Dilligence**
   Interviewed Tricentis stakeholders and Forrester analysts to gather data relative to Oracle app QA.
2. **Interviews**
   Interviewed eight representatives at organizations using Tricentis to obtain data about costs, benefits, and risks.
3. **Composite Organization**
   Designed a composite organization based on characteristics of the interviewees' organizations.
4. **Financial Model Framework**
   Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.
5. **Case Study**
   Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Tricentis Solutions For Oracle Application QA Customer Journey

Drivers leading to the Tricentis solutions investment

Interviews			
Role	**Industry**	**Region**	**Total employees**
• QA supervisor • Automation developer • Applications analyst	Utilities	North America	2,000 employees
• Release manager	Financial services	Global	20,000 employees
• Testing manager • Test automation lead	Industrials	Global	30,000 employees
• Testing program manager • QA analyst	Technology	Global	50,000 employees

KEY CHALLENGES

Before adopting Tricentis application testing solutions, the interviewees' organizations either used manual testing or used automated testing from a competing vendor to test their Oracle applications.

The interviewees noted how their organizations struggled with common challenges, including:

- **Lengthy testing cycles.** The interviewees noted that before deploying Tosca, they had lengthy testing cycles that could take up to 12 weeks to complete. Where manual testing was used, testers had to manually prepare data, log into systems, navigate through multiple screens, and validate outputs. For example, the interviewees from the utilities organization reported that manual execution of 303 test cases took 363 hours to complete. As Oracle applications have interdependent workflows and require frequent updates, hundreds to thousands of test cases had to be executed every cycle. Even where automation tools were being used, these tools required programming knowledge and took extensive time to code and maintain. They had limited automation (less than 50%), and test cases were duplicated across regions. Redundant scripts inflated test

suites to more than 2,000 scripts for the financial services organization, leading to longer development and update cycles.

- **Expensive, specialized resources.** Where organizations were leveraging an automated testing tool before Tosca, interviewees noted the tool required testers to be developers or technically advanced to write and maintain scripts, increasing the cost of the testing team as such resources are in high demand. On top of that, debugging and updating scripts was time-consuming and complex, especially with dynamic UIs in Oracle applications, meaning these processes took longer and were run by a technological employee.
- **Limited scope, reusability, and scalability.** The interviewees also shared that their prior testing solutions were limited in scope, reusability, and scalability. On scope, the QA supervisor from the utilities organization noted that no legacy testing application could cover the organization's entire suite. Even for the same application, legacy testing solutions' scripts were often not modular or reusable, leading to duplication of effort.

> "With our prior tool, you needed to know how to code to automate. One test case would be worked on by two or three teammates and could take up to a week. Now, with Tosca, one person can build a test case in a few hours."
>
> **TEST AUTOMATION LEAD, INDUSTRIALS**

> "The structure within Tosca makes scaling automation easier — with reusable blocks and no need to be a developer, we've expanded automation across multiple systems."
>
> **TESTING MANAGER, INDUSTRIALS**

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected. The composite organization is representative of the eight interviewees, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The composite organization is a global business with 40,000 employees and $30 billion in annual revenue. It employs a team of 20 testers who ensure the quality, performance, and reliability of its Oracle-based software and applications. Some of these testers are trained developers and programmers, as these skills are necessary to effectively utilize the organization's legacy application testing tool for its Oracle solutions. This tool costs the organization approximately $80,000 a year in fees and $110,000 a year in total ongoing management and administration work.

Deployment characteristics. After a six-month implementation period, the composite starts using Tricentis qTest and Tosca in Year 1. It leverages qTest to manage test cases and results, including cases and results for manual tests. It leverages Tosca to improve its use of automation in its Oracle application testing. The composite undergoes a major application upgrade in Year 3.

Model Assumptions For The Composite Organization

Ref.	Metric	Source	Year 1	Year 2	Year 3
R1	Total employees	Composite	40,000	40,000	40,000
R2	Total testers	Interviews	20	20	20
R3	Average fully burdened annual rate for a testing team member	Composite	$110,000	$110,000	$110,000
R4	Annual fees from legacy automation tool	Interviews	$80,000	$80,000	$80,000
R5	Annual ongoing cost of administering legacy tool	Composite	$110,000	$110,000	$110,000

Analysis Of Benefits

Quantified benefit data as applied to the composite

Total Benefits						
Ref.	**Benefit**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Efficient upgrade cycles (qTest)	$0	$0	$648,000	$648,000	$486,852
Btr	Accelerated testing at reduced cost (Tosca)	$284,850	$611,550	$774,900	$1,671,300	$1,346,562
Ctr	Business value of testing (Tosca)	$2,496,000	$2,496,000	$2,496,000	$7,488,000	$6,207,183
	Total benefits (risk-adjusted)	$2,780,850	$3,107,550	$3,918,900	$9,807,300	$8,040,597

EFFICIENT UPGRADE CYCLES (QTEST)

Evidence and data. The interviewees shared that utilizing qTest for test management helped them to reduce their costs of Oracle upgrades. qTest provides organizations with a centralized repository where test cases can be tracked and shared. This enables the reuse of test cases and reduces duplicative test case development. With qTest, teams build test cases once and then can easily discover and access them in order to reuse them across different projects and testing sessions, which avoids the costs of building redundant cases.

The QA supervisor from the utilities organization shared that it reused more than 1,000 tests from a 2021 Oracle EBS upgrade for a 2025 upgrade. This recycling of tests saved the organization's employees the effort of rewriting those test cases, approximately 160 labor hours per month for three to six months. As an added bonus, qTest empowered business users, not just technical teams, to own and execute test cases in qTest. This reduced reliance on IT and improved testing efficiency and accuracy by an unquantified amount.

Modeling and assumptions**.** For the composite organization, Forrester models:

- The composite undergoes a major Oracle application upgrade in Year 3.
- It is able to reuse a conservative 750 test cases from the prior upgrade cycle.

- It costs the composite $960 to write each test case, composed of a QA engineer working at a fully burdened hourly rate of $60 for 16 hours (two working days).

Risks. The reduced cost of upgrades may vary with:

- The number of upgrades an organization performs.
- The number of test cases that can be reused.
- The costs of test case development.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $487,000.

> "We are now reusing 1,000 scripts for our latest upgrade. All we have to do is copy them. It would take around 160 hours to recreate those scripts from scratch."
>
> APPLICATIONS ANALYST, UTILITIES

Efficient Upgrade Cycles (qTest)					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
A1	Reusable manual test cases per upgrade	Interviews	750	750	750
A2	Prior cost to write each test case	Interviews	$960	$960	$960
A3	Upgrades leveraging qTest	Composite	0	0	1
At	Efficient upgrade cycles (qTest)	A1*A2*A3	$0	$0	$720,000
	Risk adjustment	↓10%			
Atr	Efficient upgrade cycles (qTest) (risk-adjusted)		$0	$0	$648,000
	Three-year total: $648,000			**Three-year present value: $486,852**	

ACCELERATED TESTING AT REDUCED COST (TOSCA)

Evidence and data. The interviewees also shared that implementing Tosca saved their organizations various costs associated with testing Oracle applications. These included costs associated with script writing, duplicative resources, skill levels, and manual testing. Tosca's model-based interface enabled interviewees' testing teams to accelerate the speed at which they develop and execute on testing.

For example, the testing manager from the industrials organization shared that Tosca enabled his firm to reduce the test case creation process from between three and six days to between 3 and 6 hours. This time reduction was achieved on top of reducing the average number of resources leveraged per test. The same interviewee reported using two to three resources per test case created prior to Tosca, while after Tosca, only one resource was needed. This enabled customer organizations to bring more test case creation onshore, reducing reliance on offshore consulting firms and improving oversight of the test case creation process.

Furthermore, Tosca's ability to rescan and easily update test cases accelerated test maintenance, which was less resource-intensive than with legacy tools. Customers reported that dynamic data handling, or the ability to use test data that updates during test execution rather than a fixed value, and reusable test blocks further reduced the time needed to update test cases for new releases and for integrations with other applications. The testing program manager from the technology firm reported being able to reuse test blocks at a rate of 60% to 70% with Tosca, compared to once every 10 test blocks with their prior tool.

The same model-based, codeless interface that accelerates test case creation also enabled the interviewees' organizations to reduce the cost of testing team resources. Without the need to write code and program for their legacy automated tools, the interviewees' organizations could utilize their skilled developer resources for higher-value and higher-impact work. By reducing the number of these more expensive resources on the testing team, overall testing team costs were reduced.

With faster test creation and test reusability, the interviewees reported accelerating the rate of their test automation. The testing manager from the industrials organization shared that it went from a rate of less than 50% of Oracle test cases automated before Tosca to 95% of Oracle test cases automated with Tosca. Increased automation dramatically improved testing execution speed and resource utilization. The release manager from the financial services organization reported reducing their regression testing time from eight weeks down to just 14 days. This was

achieved while reducing resource utilization for regression testing by 50%. Organizations that wanted to shorten testing cycles even further chose to use Tosca's distributed testing capability to run tests simultaneously across virtual machines.

Increased automation rates also helped detect code defects earlier in the testing cycle. This contributed to the testing time reduction above while also reducing by an unquantified amount the higher costs of defect remediation that is incurred when defects are found later in the testing cycle. Automation also reduced human errors in testing itself such as typos, omissions, or subjective decisions, reducing by an unquantified amount the costs of remediating such testing errors.

Modeling and assumptions. For the composite organization, Forrester models:

- Prior testing team resource costs of $2.2 million = 20 total testers (R2) * $110,000 average testing team member fully burdened annual rate (R3).
- Faster scriptwriting, reusable scripts, the reallocation of more expensive developer resources to higher-value work, and an increase in test automation lead the composite to reduce its annual testing team resource workload by 33%.
- One quarter of the benefit accrues in Year 1, 75% in Year 2, and 100% is achieved on an ongoing basis by Year 3.
- A previous licensed tool is decommissioned in favor of Tricentis. This tool cost $80,000 annually in fees and $110,000 annually in ongoing management labor costs.
- A productivity recapture rate of 50% applies to the ongoing management labor work saved.

Risks. The reduction in testing costs may vary with:

- In the prior state: costs of scriptwriting, average scriptwriting speed, reusability of any testing blocks, rate of automation, and rate of defects needing to be resolved before release.
- The number of testers and the number of developers in their ranks.
- The rate of pay of these testers and developers.
- The decommissioning of any prior tools and their associated ongoing management costs.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1.3 million.

Reduced testing workload due to efficiency benefits (less script writing, dynamic data, less expensive resources, test automation, and reusability of integration tests)

33%

"In Oracle CC&B [Customer Care & Billing], we have 303 test cases. Manual testing would take 363 hours. Tosca takes 54 hours. That's 85% time and cost savings, right there."

AUTOMATION DEVELOPER, UTILITIES

Accelerated Testing At Reduced Cost (Tosca)					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
B1	Prior cost of testing team resources	R2*R3	$2,200,000	$2,200,000	$2,200,000
B2	Reduction in workload from testing efficiency	Interviews	33%	33%	33%
B3	Percentage benefit achieved	Composite	25%	75%	100%
B4	**Subtotal: Value of reallocated resources**	**B1*B2*B3**	**$181,500**	**$544,500**	**$726,000**
B5	Licensing cost of decommissioned tool	Composite	$80,000	$80,000	$80,000
B6	Reduction in workload from decommissioning tool	1*R3	$110,000	$110,000	$110,000
B7	Productivity recapture rate	TEI methodology	50%	50%	50%
B8	**Subtotal: Reduced cost of testing software**	**B5+B6*B7**	**$135,000**	**$135,000**	**$135,000**
Bt	Accelerated testing at reduced cost (Tosca)	B4+B8	$316,500	$679,500	$861,000
	Risk adjustment	↓10%			

Btr	Accelerated testing at reduced cost (Tosca) (risk-adjusted)	$284,850	$611,550	$774,900
	Three-year total: $1,671,300	**Three-year present value: $1,346,562**		

BUSINESS VALUE OF TESTING (TOSCA)

Evidence and data. The interviewees noted that, after their organizations improved their test execution speeds, they were able to accelerate their testing throughput, or the number of tests run on Oracle applications. Increased throughput of Oracle application testing led to several value-based benefits for the customer organizations, with the core quantifiable benefit being an increase in end-user productivity from the higher-frequency testing.

Before Tosca, the interviewees' organizations typically released Oracle application updates on a quarterly or semiannual basis. Much of this was due to long regression testing cycles that could last up to 12 weeks. After Tosca, with regression testing reduced to between three and six weeks, some organizations were able to move toward an two-month or even monthly release cadence. The testing manager from the industrials organization reported that Tosca had reduced testing times so dramatically that they were now running daily tests of some Oracle applications.

Depending on the type of testing and the breadth of the application code tested, increasing testing frequency had the following reported productivity benefits to end users of Oracle applications:

- End users received updates, enhancements, and bug fixes sooner, reducing downtime and improving system usability.
- Finance and human resources teams implemented and utilized new workflows sooner, improving their operational efficiency.
- Code defects were caught sooner, leading to fewer disruptions for end users and less time spent reporting or working around bugs.
- Business users were leveraged as testers, making them more familiar with application changes and improving their adoption of new features and processes.

Modeling and assumptions**.** For the composite organization, Forrester models:

- Before Tosca, the composite needs three months on average to complete testing.

- After Tosca, the composite's average testing time is reduced by 67%.
- End users gain a total possible two months of additional productivity per release.
- Their operational efficiency for this period is improved by an average of 5% per release, as modified by a 50% recapture rate, for a total of 104 annual hours gained per employee and 83,200 annual hours gained for the organization.
- A total of 800 finance and human resources employees are impacted by each release.
- The average fully burdened hourly rate of pay for an impacted employee is $40.
- Impacted employees are assumed to work 2,080 hours per year and 173.3 (2,080/12) hours per month.

Risks. The improved value of testing may vary with:

- The prior rate of release.
- The organization's decision to reinvest reduced testing time into additional testing.
- The impact on operational efficiency of these additional tests.
- The number of employees impacted per release and their fully burdened pay rates.
- The ability of the organization to recapture employee efficiency as productive time.

Results. To account for these risks, Forrester adjusted this benefit downward by 25%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $6.2 million.

Reduction in time to release
67%

Increase in testing frequency
3x

> "We've reached 95% automation of Oracle test cases. That's allowed us to go from weekly testing to daily testing. We're catching issues faster, releasing faster, and freeing up resources to focus on higher-value work."
>
> TESTING MANAGER, INDUSTRIALS

Business Value Of Testing (Tosca)					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Prior months to release	Composite	6	6	6
C2	Reduction in time to release	Interviews	67%	67%	67%
C3	New months to release	C1*(1-C2)	2	2	2
C4	Months of productivity gained per release	C1-C3	4	4	4
C5	New annual number of releases	12/C3	6	6	6
C6	Average efficiency improvement per impacted employee per release	Composite	5%	5%	5%
C7	Employees impacted per release	Composite	800	800	800
C8	Average fully burdened hourly rate per impacted employee	Composite	$40	$40	$40
C9	Productivity recapture rate	Composite	50%	50%	50%
Ct	Business value of testing (Tosca)	C4*2,080/12*C5*C 6*C7*C8*C9	$3,328,000	$3,328,000	$3,328,000
	Risk adjustment	↓25%			
Ctr	Business value of testing (Tosca) (risk-adjusted)		$2,496,000	$2,496,000	$2,496,000
	Three-year total: $7,488,000		**Three-year present value: $6,207,183**		

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **AI-enhanced testing.** The interviewees' organizations leveraged Tricentis' AI-based features to extend automation even further. For example, one interviewee described using Vision AI's computer-vision-based AI to "see" and track dynamic UI scenarios, where the UI changes to adapt to user input. This extends automation to test cases previously relegated to manual processes, further reducing time and resources needed for testing, and improving business outcomes by freeing resources for business-critical projects. Other AI features include self-healing test cases, which allow for test cases to run without fail despite having control changes, allowing for a statistical analysis and discovery of the most likely new control. Lastly, Tricentis Copilots act as intelligent assistants throughout QA processes, providing guidance and further optimizing QA cycles.
- **Reduced Oracle sysadmin workload.** The interviewees reported that Tosca also helped to reduce the workload of their Oracle sysadmins. After cloning Oracle production data to lower environments, sysadmins typically spent hours manually configuring these environments. This same task was automated with Tosca scripts, reducing the manual configuration time to minutes.
- **Improved patch compliance.** Accelerating test execution also improved patch compliance and application security. Some organizations' regression testing processes took longer than their 60-day patch deployment policies required. This meant that patches were released on a lagging schedule, typically one patch behind or N-1. After adopting Tosca, these organizations' regression testing cycles reduced by up to 75%, enabling them to move to N-0, deploying the latest patch within 60 days. This improved both security posture and compliance with SLAs.
- **Improved audit readiness.** qTest helped ease audit burdens and improve audit readiness for customer organizations. As qTest centralized test evidence, it enabled organizations to more easily retrieve required test data during any audits. The QA supervisor from the utilities organization reported that they reduced their audit time by 25% thanks to qTest, saving hours per audit for multiple team members.

> "Tosca's test cycle reduction enables us to deploy Oracle's latest security patches within 60 days. That's critical because we're tracking hundreds of vulnerabilities each quarter. With Tosca, we're catching defects earlier, reducing incidents, and staying compliant with our security SLAs."
>
> RELEASE MANAGER, FINANCIAL SERVICES

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement Tricentis solutions for Oracle application QA and later realize additional uses and business opportunities, including:

- **Easier migration to cloud.** The interviewees reported that Tosca helped ease their migration to the cloud, in particular their migrations of Oracle E-Business Suite (EBS) from on-premises deployments to Oracle Cloud Infrastructure (OCI). Tosca enabled faster regression cycles, which led to quicker validation of cloud-deployed patches and updates. It lowered test maintenance overhead, which simplified adoption of new UIs and cloud-specific configurations. It led to resource optimization that freed developers and programmers for migration-critical tasks. It expanded automated integration testing, which ensured continuity across hybrid systems during phased migrations. And it increased test reusability, which reduced duplicative work across on-premises and cloud environments.
- **Center of excellence (CoE) development.** The interviewees also reported that using Tosca led to their plans to develop a CoE for testing. Tosca's benefits and its functionality across applications led to it becoming the solution of choice not just for Oracle but for other ERP systems as well. With cross-application adoption, organizations could standardize their testing practices. Tosca's codeless interface expanded its use beyond developers and eased tester onboarding that would allow the CoE to scale. Reusable modules would make it easier to improve efficiency across teams and to maintain the consistency and quality of testing. By automating post-clone Oracle system environment

configuration and integration validations, Tosca enabled cross-functional collaboration between testers, sysadmins, and business users. Lastly, qTest and Tosca could provide centralized reporting, version control, and test management, all necessary for CoE governance.

- **Organizational agility.** With Tosca's accelerated testing cycles, the interviewees' organizations could respond more quickly to regulatory changes, security patches, and internal process updates. These changes kept systems aligned with business needs, facilitating quick decision-making, innovation, and responsiveness to market changes.

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

> "We now have multiple teams — six different product groups — using Tosca for their systems. Tosca allowed us to see the bigger picture and envision a potential center of excellence."
>
> **TESTING MANAGER, INDUSTRIALS**

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Dtr	Tricentis fees	$150,000	$465,000	$465,000	$465,000	$1,545,000	$1,306,386
Etr	Cost of implementation and management effort	$87,647	$124,724	$124,724	$124,724	$461,818	$397,817
	Total costs (risk-adjusted)	$237,647	$589,724	$589,724	$589,724	$2,006,819	$1,704,203

TRICENTIS FEES

Evidence and data. The interviewees reported experiencing costs from Tricentis including fees for implementation services and ongoing licensing fees. Tricentis implementation fees are based on product, license, and scope. Licensing fees are based on the number of users, including virtual users.

Modeling and assumptions. For the composite organization, Forrester models:

- Upfront implementation fees of $150,000.
- Ongoing licensing fees for qTest of $190,000 annually.
- Ongoing licensing fees for Tosca of $275,000 annually.

Risks. For the composite organization, Forrester models:

- The testing environment and any necessary migrations from prior testing tools.
- The product selected; its licensing model; the number of users needed, including virtual users; and the scope of deployment.

Results. As Forrester priced the composite with Tricentis, this figure has not been adjusted for risk, yielding a three-year total PV (discounted at 10%) of $1.3 million.

Tricentis Fees						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
D1	Implementation fees	Tricentis	$150,000	$0	$0	$0
D2	Licensing fees for qTest	Tricentis	$0	$190,000	$190,000	$190,000
D3	Licensing fees for Tosca	Tricentis	$0	$275,000	$275,000	$275,000
Dt	Tricentis fees	D1+D2+D3	$150,000	$465,000	$465,000	$465,000
	Risk adjustment	0%				
Dtr	Tricentis fees (risk-adjusted)		$150,000	$465,000	$465,000	$465,000
	Three-year total: $1,545,000			**Three-year present value: $1,306,386**		

COST OF IMPLEMENTATION AND MANAGEMENT EFFORT

Evidence and data. The interviewees also experienced costs associated with their internal efforts related to implementation, training, and ongoing management. Implementation took approximately six months and required between two and five FTEs. Most organizations dedicated one or two testing resources to managing Tricentis solutions on an ongoing basis. Lastly, free training courses required 32 hours of each tester's time.

Modeling and assumptions. For the composite organization, Forrester models:

- Two FTEs are needed for a total of 2.5 months' worth of labor during the six-month implementation period to assist Tricentis with implementation.
- One FTE is dedicated to managing the Tricentis solutions.
- All 20 testers are trained at 32 hours each on Tricentis solutions in the initial period. In the ensuing years, two new testers each complete 32 hours of Tricentis training due to tester attrition.

Risks. The costs of implementation and management effort will vary with:

- The testing environment and any necessary migrations from prior testing tools.
- The number of Tricentis solutions, features utilized, and their deployment complexity.
- The experience level of the testers trained.

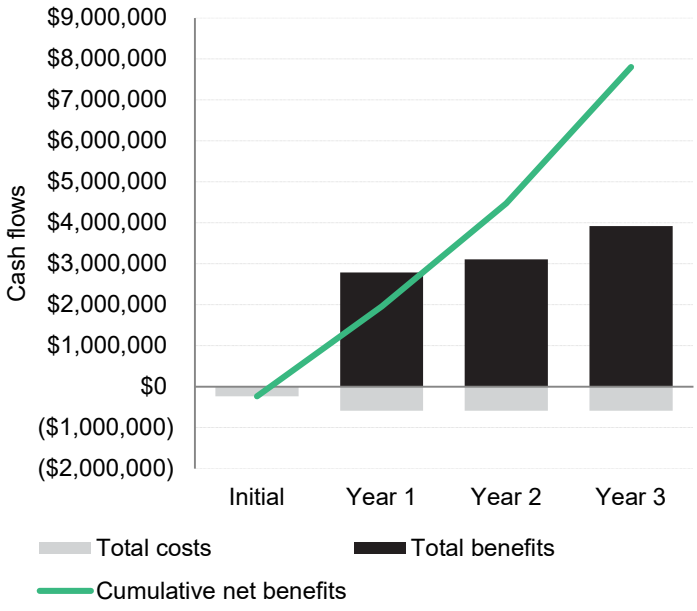
Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $398,000.

Cost Of Implementation And Management Effort						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	FTEs working on implementation and deployment	Interviews	2	0	0	0
E2	Months to implement and deploy	Interviews	2.5	0	0	0
E3	**Subtotal: Implementation effort cost**	**E1*E2*R3/12**	**$45,833**	**$0**	**$0**	**$0**
E4	FTEs needed to manage	Interviews	0	1	1	1
E5	**Subtotal: Management effort cost**	**E4*R3**	**$0**	**$110,000**	**$110,000**	**$110,000**
E6	FTEs needing training	Composite	20	2	2	2
E7	Hours spent training	Interviews	32	32	32	32
E8	**Subtotal: Training effort cost**	**E6*E7*R3/2,080**	**$33,846**	**$3,385**	**$3,385**	**$3,385**
Et	Cost of implementation and management effort	E3+E5+E8	$79,679	$113,385	$113,385	$113,385
	Risk adjustment	↑10%				
Etr	Cost of implementation and management effort (risk-adjusted)		$87,647	$124,724	$124,724	$124,724
	Three-year total: $461,819			**Three-year present value: $397,817**		

Financial Summary

Consolidated Three-Year Risk-Adjusted Metrics

Financial Analysis (risk-adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	($237,647)	($589,724)	($589,724)	($589,724)	($2,006,819)	($1,704,203)
Total benefits	$0	$2,780,850	$3,107,550	$3,918,900	$9,807,300	$8,040,597
Net benefits	($237,647)	$2,191,126	$2,517,826	$3,329,176	$7,800,481	$6,336,394
ROI						372%
Payback						<6 months

APPENDIX A: TOTAL ECONOMIC IMPACT

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

Total Economic Impact Approach

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

Present Value (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

Net Present Value (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made unless other projects have higher NPVs.

Return on investment (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

Discount rate

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

Payback period

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

APPENDIX B: ENDNOTES

[1] Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists solution providers in communicating their value proposition to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of business and technology initiatives to both senior management and other key stakeholders.

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