

The Total Economic Impact™ Of Hitachi Application Reliability Centers (HARC)

Cost Savings And Business Benefits Enabled By HARC

A FORRESTER TOTAL ECONOMIC IMPACT STUDY
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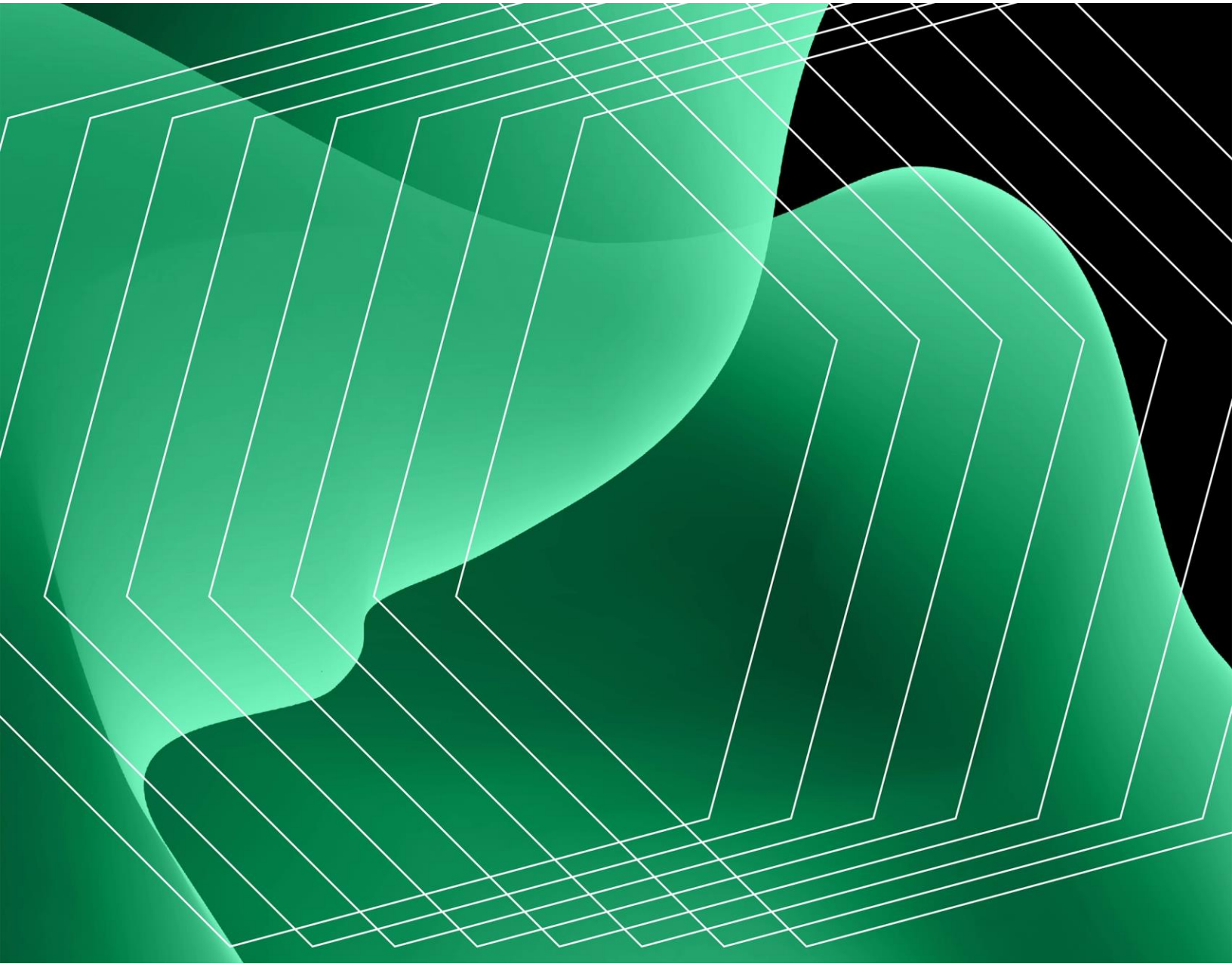


Table Of Contents

Executive Summary	3
The Hitachi Application Reliability Centers Customer Journey	9
Analysis Of Benefits	13
Analysis Of Costs	27
Financial Summary	31

Consultant Team:

Sanitra Desai

Anna Orban-Imreh

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Executive Summary

Enterprises today operate in increasingly complex and regulated environments where reliability, security, and compliance are critical to business continuity and trust. As technology landscapes expand, IT, security, quality, and compliance teams spend a disproportionate amount of time on reactive activities such as incident response, audit preparation, and manual evidence collection, limiting their ability to focus on proactive improvements to operational resilience. At the same time, leaders require timely insights into risk, quality, and performance, but these insights are often constrained by fragmented data and disconnected systems. Together, these challenges lead to higher operating costs, slower response times, and underutilization of skilled personnel.

[Hitachi Application Reliability Centers \(HARC\)](#) are application reliability and operations platforms that sit above existing IT, cloud, and operational systems to continuously monitor, analyze, and optimize how they run. Rather than replacing core tools, HARC connects and orchestrates them to provide a unified view of performance, risk, and cost across environments. It can use automation and intelligent agents to detect issues early, surface actionable insights, and enable faster, more proactive responses, helping organizations transition from reactive operations to more predictable, governed, and data-driven execution.

Hitachi commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying HARC.¹ The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of HARC with cloud-based management services on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four decision-makers with experience using HARC. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single [composite organization](#) that is a multibillion-dollar global enterprise that is regulated and asset intensive. It has approximately 10,000 employees, 25 operational sites, and over 1,000 direct users impacted by HARC-enabled workflows.



Return on investment (ROI)
29%



Net present value (NPV)
\$1.7M

EXECUTIVE SUMMARY

Prior to adopting HARC, interviewees reported challenges with siloed systems, manual compliance processes, reactive maintenance, multicloud cost sprawl, and gaps in AI governance. Interviewees' organizations adopted HARC to unify observability and control, enable predictive maintenance and optimization, accelerate regulated AI deployments, and improve audit readiness.

Following implementation, interviewees' organizations realized improvements including reduced IT and maintenance costs, fewer unplanned outages, faster issue detection and resolution, improved uptime for digital workloads, and faster compliance evidence production.

KEY FINDINGS

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

- **Reduced unplanned IT operations through improved reliability and monitoring.** HARC reduces unplanned IT support and operations labor by improving system reliability, enabling earlier issue detection, and strengthening monitoring across environments. This reduces the volume of reactive work and allows operations teams to function more predictably. This benefit delivers a risk-adjusted present value of \$1.7 million for the composite organization, reflecting sustained efficiency gains as usage matures.
 - **Lower compliance and security remediation effort through automation.** HARC reduces compliance and remediation effort by automating evidence collection and standardizing workflows. Centralized controls and continuous monitoring decrease the time required to prepare for audits and respond to findings. This benefit generates a risk-adjusted present value of \$68,000 for the composite organization, driven by labor savings that grow as automation scales.
 - **Avoided business losses from reduced downtime and faster incident detection.** HARC avoids business costs associated with downtime by enabling earlier issue detection and faster incident resolution across digital and operational environments. Improved observability and predictive capabilities prevent extended disruptions that would otherwise impact productivity and revenue. This benefit represents the largest quantified impact in the study, delivering a risk-adjusted present value of \$3.8 million for the composite organization.
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- **Renewed focus on high-value work.** HARC enables the composite organization's teams to shift effort away from manual, repetitive compliance and quality activities toward higher-value work such as risk analysis, optimization, and continuous improvement. While oversight and governance remain essential, automation reduces time spent on routine tasks. This redeployment of capacity results in a risk-adjusted present value of \$2.0 million for the composite organization, reflecting productivity gains as HARC becomes embedded in daily operations.

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

- **Greater confidence in operational reliability and risk posture.** HARC increases confidence in day-to-day operations by providing the composite organization with a centralized, real-time view of system health, risk, and compliance. This enables its teams to identify issues early and ensures that critical systems operate within expected parameters, even in complex and highly regulated environments.
 - **Improved decision-making and executive visibility.** HARC improves decision-making by delivering consistent, real-time insights into the composite's performance, risk, and operational trends across systems and environments. This visibility enables leadership to make faster, more informed decisions without relying on manual data aggregation or ad hoc reporting.
 - **Reduced human error and rework.** HARC reduces human error and rework at the composite organization by automating data collection, monitoring, and evidence generation. This minimizes reliance on manual processes and supports more consistent quality, compliance, and operational outcomes.
 - **Higher morale and better use of skilled staff.** HARC enhances employee experience and productivity by shifting work away from repetitive, manual tasks. Engineers, IT staff, and compliance professionals at the composite organization can focus more on analysis, problem-solving, and continuous improvement initiatives rather than routine data gathering or firefighting.
 - **Stronger governance and trust in regulated operations.** HARC strengthens governance by enabling continuous monitoring and automated controls, improving audit readiness and compliance consistency. This increases trust among internal stakeholders, regulators, and customers, particularly in highly regulated industries.
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- **Improved trust in operational teams to deliver business changes.** HARC enables more consistent execution of system updates and new capabilities, which increases confidence among business stakeholders in the composite organization's ability to follow through on planned changes. With fewer unexpected issues and less reliance on reactive coordination, the composite organization's teams are better able to advance new initiatives and maintain momentum across business priorities.

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

- **Fees to Hitachi and internal costs.** The composite organization incurs ongoing HARC subscription and managed service fees, along with internal labor costs for operations, governance, and coordination. While automation reduces manual effort, internal oversight remains necessary. These costs total a risk-adjusted present value of \$5.9 million over three years.

The representative interviews and financial analysis found that a composite organization experiences benefits of \$7.6 million over three years versus costs of \$5.9 million, adding up to a net present value (NPV) of \$1.7 million and an ROI of 29%.

“HARC changed how we run operations. Instead of reacting to problems after they occurred, we gained earlier visibility into system health and performance, which helped us take action and make better decisions across the organization.”

ENGINEERING MANAGER, AUTOMOTIVE MANUFACTURING



Return on investment
(ROI)

29%



Benefits PV

\$7.6M



Net present value
(NPV)

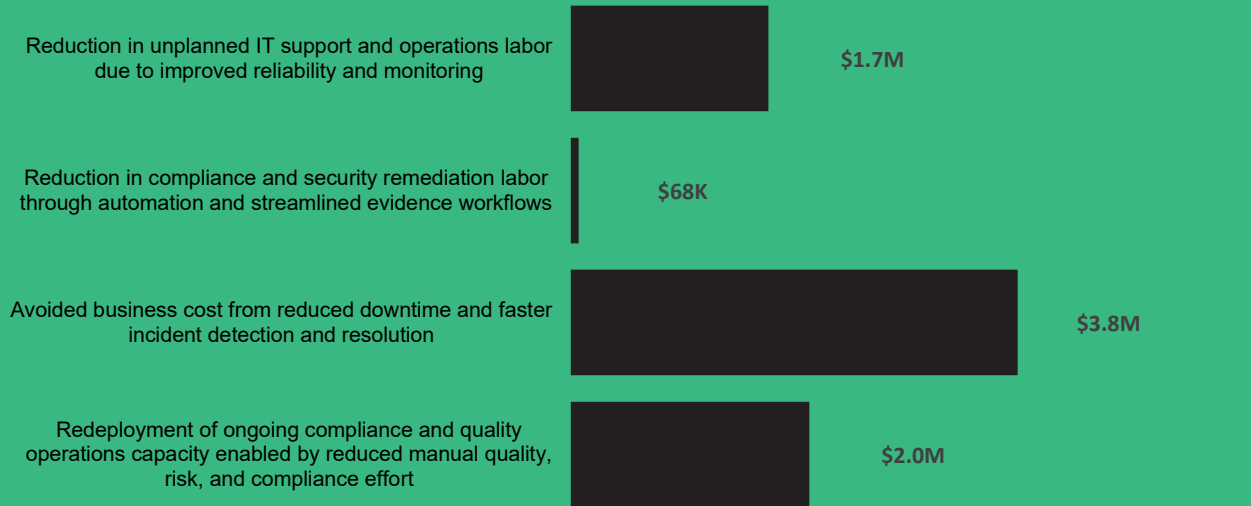
\$1.7M



Payback

17 months

Benefits (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 HARC with cloud-based management services.

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 HARC can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Hitachi and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the study to determine the appropriateness of an investment in HARC.

Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.

Hitachi provided the customer names for the interviews but did not participate in the interviews.

Due Diligence

Interviewed Hitachi stakeholders and Forrester analysts to gather data relative to HARC.

Interviews

Interviewed four people at organizations using HARC to obtain data about costs, benefits, and risks.

Composite Organization

Designed a composite organization based on characteristics of the interviewees' organizations.

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.

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 Hitachi Application Reliability Centers Customer Journey

Drivers leading to the HARC investment

Interviews			
Role	Industry	Region	Revenue
Principal scientist	Biotechnology	Global	\$250 million
Head of integrated operations	Mining	Global	\$50 billion
Engineering manager	Automotive manufacturing	Global	\$180 billion
CISO and managing director	SaaS provider	Global	\$12 million

KEY CHALLENGES

Before implementing HARC, interviewees' organizations lacked a consistent way to monitor, analyze, and manage reliability, risk, and compliance across complex environments. As a result, their teams operated reactively, relied on manual processes, and struggled to scale consistent practices across their organizations. The interviewees noted how their organizations struggled with common challenges, including:

- **Limited visibility and control.** Lack of centralized visibility across the interviewees' application, infrastructure, and operational environments limited control and standardization. This fragmentation made it difficult to move beyond localized troubleshooting and manage reliability and compliance at scale.
- **Reactive operations driven by incidents and audits.** Without continuous monitoring and early warning capabilities, teams at the interviewees' organizations were frequently pulled into reactive work — responding to incidents, outages, and compliance requests after issues had already occurred — rather than proactively preventing failures or addressing risk trends. This posture increased operational effort and distracted teams from higher-value initiatives.

- **Exposure to unplanned downtime and service disruptions.** Interviewees noted that limited proactive detection and fragmented operational visibility made it difficult to identify issues early and prevent outages across applications and infrastructure. As a result, unplanned downtime disrupted business operations, required intensive incident response, and drove both direct business costs and indirect productivity losses.
- **Manual and labor-intensive compliance processes.** At the interviewees' organizations, compliance activities, such as evidence collection, documentation, and reporting, relied heavily on manual effort and ad hoc processes. This increased the time required to support audits and investigations and introduced inconsistency and rework across teams and business units.
- **Fragmented data and analytics.** Interviewees reported that data needed to assess quality, risk, and performance was distributed across multiple tools and systems, requiring significant manual aggregation and analysis. As a result, their leaders lacked timely, trusted insights to support decision-making, and their teams spent substantial time preparing reports rather than acting on insights.
- **Limited ability to scale best practices.** The absence of standardized, automated workflows made it difficult to consistently apply reliability, governance, and compliance best practices across the interviewees' organizations' environments and teams. This led to uneven outcomes, duplicated effort, and increased operational risk as systems and use cases scaled.

“A lot of our effort was reactive. We were responding to incidents after something broke rather than having early indicators that let us intervene sooner.”

ENGINEERING MANAGER, AUTOMOTIVE MANUFACTURING

“Compliance required a lot of manual effort. Pulling evidence, validating controls, and preparing for audits took time away from more strategic work.”

PRINCIPAL SCIENTIST, BIOTECHNOLOGY

“As our use of AI and cloud services expanded, it became harder to manage risk, cost, and compliance consistently. We needed better structure and oversight as complexity increased.”

CISO AND MANAGING DIRECTOR, SAAS PROVIDER

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 interviewees' organizations, 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 multibillion-dollar, global, regulated, and asset-intensive enterprise with over 10,000 employees and operations spanning 25 sites worldwide. It runs mission-critical systems across a mix of on-premises, cloud, and hybrid environments. More than 1,000 direct users across IT operations, engineering, security, quality, and compliance functions are impacted by HARC-enabled workflows, with broader indirect impact on business users who depend on system reliability and uptime. Prior to adopting HARC, these teams faced increasing operational complexity, rising reliability and compliance demands, and growing pressure to reduce manual effort while maintaining service levels at scale.

Deployment characteristics. The composite organization deploys HARC as a centralized layer to improve visibility, reliability, and governance across its existing environments without replacing underlying systems. Deployment focuses first on the most critical applications, infrastructure, and operational assets across the composite organization's global footprint, with usage expanding as teams adopt new workflows and automation. IT operations, engineering, and governance stakeholders use HARC to monitor system health, detect issues earlier, automate compliance evidence collection, and reduce reactive work. Benefits increase over the analysis period as adoption broadens and teams shift from reactive incident response toward more proactive, data-driven operations.

“One of the early challenges was getting teams comfortable with a new way of working. People were used to pulling information manually from different systems, so there was an adjustment period as they learned to trust a centralized platform and change existing processes.”

PRINCIPAL SCIENTIST, BIOTECHNOLOGY

Key Assumptions

Multibillion dollars in annual revenue

25 global operational sites

10,000 employees

About 1,000 users impacted by HARC-enabled workflows

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	Reduction in unplanned IT support and operations labor due to improved reliability and monitoring	\$526,500	\$729,000	\$810,000	\$2,065,500	\$1,689,681
Btr	Reduction in compliance and security remediation labor through automation and streamlined evidence workflows	\$22,893	\$28,998	\$30,524	\$82,414	\$67,710
Ctr	Avoided business cost from reduced downtime and faster incident detection and resolution	\$1,053,187	\$1,723,396	\$1,914,884	\$4,691,467	\$3,820,418
Dtr	Redeployment of ongoing compliance and quality operations capacity enabled by reduced manual quality, risk, and compliance effort	\$635,099	\$879,368	\$977,075	\$2,491,541	\$2,038,203
Total benefits (risk-adjusted)		\$2,237,678	\$3,360,762	\$3,732,483	\$9,330,923	\$7,616,012

REDUCTION IN UNPLANNED IT SUPPORT AND OPERATIONS LABOR DUE TO IMPROVED RELIABILITY AND MONITORING

Evidence and data. Prior to adopting HARC, interviewees said their organizations spent a sizable portion of IT operations time responding to unplanned work driven by incidents, system instability, and late detection of issues. Inconsistent monitoring and limited end-to-end visibility made it difficult to identify emerging problems before they escalated into disruptions. According to the interviewees, HARC improved reliability by enabling continuous monitoring and earlier detection across environments, reducing the volume of reactive work. As a result, IT operations teams were able to focus more on higher value-add activities, such as planned maintenance, reliability improvements, and supporting new initiatives, rather than ongoing firefighting.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

ANALYSIS OF BENEFITS

- The model quantifies the reduction in IT operations effort attributable to improved system reliability, proactive monitoring, and earlier issue detection.
- The baseline IT operations labor is \$9 million for the composite organization, with 40% or \$3.6 million attributed to unplanned or reactive work prior to the investment in HARC.
- The solution reduces the share of IT effort spent on unplanned activities to 20%, or \$1.8 million of the baseline cost, resulting in lower labor required for incident response, firefighting, and corrective maintenance.
- Consistent with TEI methodology, only a portion of the gross labor savings is counted as realized benefit through a 50% productivity recapture factor.
- Benefits ramp to steady state over the analysis period to reflect adoption and operational maturity, achieving 65% in Year 1, 90% in Year 2, and 100% in Year 3.

Risks. This benefit may vary across organizations for the following reasons:

- Baseline maturity of monitoring and reliability practices.
- Scope of deployment across environments.
- Attribution alongside parallel modernization of reliability initiatives.

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 \$1.7 million.

“Before HARC, we spent a lot of time reacting to issues once something had already gone wrong. We didn’t have consistent visibility across systems, so problems escalated before anyone saw them. With HARC in place, we catch issues much earlier, and that has significantly reduced the amount of reactive work the team has to do.”

ENGINEERING MANAGER, AUTOMOTIVE MANUFACTURING

Reduction In Unplanned IT Support And Operations Labor Due To Improved Reliability And Monitoring					
Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Baseline annual IT operations cost	Composite	\$9,000,000	\$9,000,000	\$9,000,000
A2	Portion of IT operations cost attributed to unplanned/reactive work (pre-HARC)	A1*40%	\$3,600,000	\$3,600,000	\$3,600,000
A3	Portion of IT operations cost attributed to unplanned/reactive work (post-HARC)	A1*20%	\$1,800,000	\$1,800,000	\$1,800,000
A4	Productivity recapture rate	TEI methodology	50%	50%	50%
A5	Progress to steady state	Composite	65%	90%	100%
At	Reduction in unplanned IT support and operations labor due to improved reliability and monitoring	(A2-A3)*A4*A5	\$585,000	\$810,000	\$900,000
	Risk adjustment	↓10%			
Atr	Reduction in unplanned IT support and operations labor due to improved reliability and monitoring (risk-adjusted)		\$526,500	\$729,000	\$810,000
Three-year total: \$2,065,500			Three-year present value: \$1,689,681		

REDUCTION IN COMPLIANCE AND SECURITY REMEDIATION LABOR THROUGH AUTOMATION AND STREAMLINED EVIDENCE WORKFLOWS

Evidence and data. Interviewees said that compliance and security activities previously required substantial manual effort, particularly during audits, investigations, and remediation events. Evidence collection, documentation, and reporting often relied on ad hoc processes that required staff to gather information from multiple systems, increasing the time and effort needed to support audits and respond to issues. HARC automated key aspects of evidence collection and centralized compliance data, reducing the effort interviewees' organizations required to prepare for audits and respond to security or compliance requests. As a result, their compliance and security teams spent less time assembling documentation and remediating findings and more time focusing on governance, risk management, and proactive controls.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The baseline effort is defined based on 12 audits and 120 security-related incidents per year and the average manual effort required per activity. It takes 180 hours to collect

compliance evidence per audit and 6 hours on average to investigate and remediate a security incident.

- With HARC, compliance personnel achieve 25% time savings compliance evidence gathering, while security personnel achieve 30% time savings on incident remediation enabled by automated, centralized, and standardized workflows.
- The fully burdened hourly rate for senior IT, engineering, security, compliance, and quality roles in a large, global, regulated enterprise is \$85.
- The composite realizes a 50% productivity recapture since not all time saved translates directly into cost reduction.
- Benefits ramp over time as teams standardize processes and increase reliance on automated workflows, achieving 75% in Year 1, 95% in Year 2, and 100% in Year 3.

Risks. This benefit may vary across organizations for the following reasons:

- Complexity of regulatory requirements.
- Level of integration with existing systems.
- Frequency of audits and security events.
- Existing automation and governance maturity.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$68,000.

“A major challenge for us was the manual effort required to pull evidence and support audits and investigations. HARC streamlined a lot of that work by centralizing and automating evidence collection, which reduced the time our teams spent preparing for audits and responding to compliance issues.”

PRINCIPAL SCIENTIST, BIOTECHNOLOGY

Reduction In Compliance And Security Remediation Labor Through Automation And Streamlined Evidence Workflows					
Ref.	Metric	Source	Year 1	Year 2	Year 3
B1	Annual audits	Composite	12	12	12
B2	Average time to collect compliance evidence per audit (hours)	Composite	180	180	180
B3	Time saved on audits (hours)	B1*B2*25%	540	540	540
B4	Subtotal: Labor savings from reduced audit preparation and compliance evidence collection	B3*\$85	\$45,900	\$45,900	\$45,900
B5	Annual security and compliance-relevant incidents requiring investigation and remediation	Composite	120	120	120
B6	Average manual investigation and remediation time per security incident (hours)	Composite	6	6	6
B7	Reduction in remediation time (hours)	B5*B6*30%	216	216	216
B8	Subtotal: Labor savings from reduced manual security incident remediation	B7*\$85	\$18,360	\$18,360	\$18,360
B9	Productivity recapture rate	TEI methodology	50%	50%	50%
B10	Progress to steady state	Composite	75%	95%	100%
Bt	Reduction in compliance and security remediation labor through automation and streamlined evidence workflows	(B4+B8)*B9*B10	\$24,098	\$30,524	\$32,130
	Risk adjustment	↓5%			
Btr	Reduction in compliance and security remediation labor through automation and streamlined evidence workflows (risk-adjusted)		\$22,893	\$28,998	\$30,524
Three-year total: \$82,414			Three-year total: \$67,710		

AVOIDED BUSINESS COST FROM REDUCED DOWNTIME AND FASTER INCIDENT DETECTION AND RESOLUTION

Evidence and data. Interviewees said unplanned downtime and service disruptions had a direct impact on business operations prior to implementing HARC, particularly in asset-intensive and regulated environments. Issues were often detected late, which prolonged outages and increased the downstream impact on production, service availability, and customers. According to the interviewees, HARC enabled faster detection of abnormal behavior and earlier intervention, reducing the frequency and duration of downtime events.

- **Downtime reduction.** Interviewees noted that improved visibility and predictive capabilities helped prevent certain failures from occurring at all by identifying issues before they escalated.
- **Faster incident detection and resolution.** Interviewees also said that when incidents did occur, centralized monitoring and automated insights reduced the time required to diagnose and resolve issues. As a result, interviewees' organizations avoided business costs associated with prolonged outages while improving overall operational stability.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The model captures avoided business losses resulting from fewer downtime events and reduced duration of service disruptions as HARC improves monitoring and incident response, reducing both the likelihood of outages and the mean time to detection and resolution.
- The average cost of downtime per hour is \$250,000 for the composite organization.
- HARC reduces annual downtime by 20% from a baseline of 88 hours per year.
- The composite handles an average of 22 security incidents per year that have the potential to cause downtime.
- HARC reduces average security incident detection and remediation time by 25%.
- The fully burdened hourly rate for senior IT, engineering, security, compliance, and quality roles in a large, global, regulated enterprise is \$85.
- The composite realizes a 50% productivity recapture.
- Benefits increase as monitoring coverage expands and operational teams gain experience with the platform, achieving 55% of the benefit in Year 1, 90% in Year 2, and 100% in Year 3.

Risks. This benefit may vary across organizations for the following reasons:

- Baseline frequency and duration of downtime events.
 - Criticality of affected systems.
 - Speed of operational response adoption.
 - Shared responsibility for uptime improvements.
-

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$3.8 million.

“HARC gave us earlier detection and better insight into what was happening across environments, which helped us resolve incidents faster and avoid extended downtime that would have affected production.”

HEAD OF INTEGRATED OPERATIONS, MINING

Avoided Business Cost From Reduced Downtime And Faster Incident Detection And Resolution					
Ref.	Metric	Source	Year 1	Year 2	Year 3
C1	Baseline annual downtime pre-HARC (hours)	Composite	88	88	88
C2	Reduction in downtime due to faster detection and repair post-HARC (hours)	C1*20%	18	18	18
C3	Cost of downtime per hour	Composite	\$250,000	\$250,000	\$250,000
C4	Subtotal: Avoided downtime cost	C2*C3	\$4,500,000	\$4,500,000	\$4,500,000
C5	Security incidents resulting in downtime	C1/4	22	22	22
C6	Average time saved on remediation per incident (hours)	Composite	12	12	12
C7	Reduction in incident response duration (hours)	C5*C6*25%	66	66	66
C8	Subtotal: Reduced incident response effort	C7*\$85	\$5,610	\$5,610	\$5,610
C9	Productivity recapture rate	TEI methodology	50%	50%	50%
C10	Progress to steady state	Composite	55%	90%	100%
Ct	Avoided business cost from reduced downtime and faster incident detection and resolution	(C4+C8)*C9*C10	\$1,239,043	\$2,027,525	\$2,252,805
	Risk adjustment	↓ 15%			
Ctr	Avoided business cost from reduced downtime and faster incident detection and resolution (risk-adjusted)		\$1,053,187	\$1,723,396	\$1,914,884
Three-year total: \$4,691,467			Three-year present value: \$3,820,418		

REDEPLOYMENT OF ONGOING COMPLIANCE AND QUALITY OPERATIONS CAPACITY ENABLED BY REDUCED MANUAL QUALITY, RISK, AND COMPLIANCE EFFORT

Evidence and data. Interviewees said that beyond discrete audits and incidents, a significant portion of time was spent on ongoing quality, risk, and compliance activities such as reporting, data preparation, and analytics. These tasks were largely manual and often duplicated across teams, consuming skilled resources without directly improving outcomes. According to the interviewees, HARC reduced this ongoing manual effort by automating data collection and enabling centralized analytics for quality, risk, and compliance monitoring.

As a result, the time saved allowed the interviewees' organizations to redeploy knowledge worker capacity toward higher-value activities, including analysis, decision support, process improvement, and innovation. Interviewees emphasized that this benefit reflected continuous operational effort reduction and outside of time savings associated with audits or incident remediation, which this study captured separately.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The model estimates the value of redeploying compliance, quality, and risk management resources to higher-value activities as manual effort declines.
- Prior to the investment, 150 FTEs invest 50% of their time in compliance and quality operations.
- HARC reduces ongoing manual work related to quality checks, risk reviews, and compliance management by 15%.
- Prior to the investment, 100 FTEs invest 80 hours per year in error correction and rework efforts related to compliance processes.
- HARC reduces ongoing manual work related to error correction and rework by 10%.
- The fully burdened hourly rate for senior IT, engineering, security, compliance, and quality roles in a large, global, regulated enterprise is \$85.
- Redeployed capacity is valued at 50% for the composite organization.

- Benefits ramp to steady state to reflect organizational change management and evolving operating models, with the composite achieving 65% of the benefit in Year 1, 90% in Year 2, and 100% in Year 3.

Risks. This benefit may vary across organizations for the following reasons:

- Degree of manual effort in the pre-HARC state.
- Consistency of adoption across teams.
- Ability to redeploy saved time.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$2.0 million.

“HARC didn’t eliminate the need for governance, but it did reduce the manual overhead. That allowed us to shift time away from repetitive compliance tasks and focus more on higher-value activities like risk oversight and improving how we manage AI across the organization.”

CISO AND MANAGING DIRECTOR, SAAS PROVIDER

Redeployment Of Ongoing Compliance And Quality Operations Capacity Enabled By Reduced Manual Quality, Risk, And Compliance Effort					
Ref.	Metric	Source	Year 1	Year 2	Year 3
D1	FTEs involved in quality, risk, and compliance efforts	Composite	150	150	150
D2	Time spent per FTE on compliance efforts pre-HARC (hours)	Composite	1,040	1,040	1,040
D3	Time saved on compliance and quality insight generation due to HARC-enabled workflows (hours)	D1*D2*15%	23,400	23,400	23,400
D4	Subtotal: Effort saved due to quality, risk and compliance analytics collection workflows	D3*\$85	\$1,989,000	\$1,989,000	\$1,989,000
D5	FTEs involved in error correction and rework	Composite	100	100	100
D6	Time spent on error correction efforts per FTE per year (hours)	Composite	80	80	80
D7	Reduction in rework and manual transcription effort due to HARC (hours)	D5*D6*10%	800	800	800
D8	Subtotal: Reduced rework or error correction effort in quality and compliance processes	D7*\$85	\$68,000	\$68,000	\$68,000
D9	Productivity recapture rate	TEI methodology	50%	50%	50%
D10	Progress to steady state	Composite	65%	90%	100%
Dt	Redeployment of ongoing compliance and quality operations capacity enabled by reduced manual quality, risk, and compliance effort	(D4+D8)*D9*D10	\$668,525	\$925,650	\$1,028,500
	Risk adjustment	↓5%			
Dtr	Redeployment of ongoing compliance and quality operations capacity enabled by reduced manual quality, risk, and compliance effort (risk-adjusted)		\$635,099	\$879,368	\$977,075
Three-year total: \$2,491,541			Three-year present value: \$2,038,203		

UNQUANTIFIED BENEFITS

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

- **Greater confidence in operational reliability and risk posture.** Interviewees mentioned that having a centralized, real-time view of system health, risk, and compliance increased confidence in day-to-day operations. Their teams felt more assured that issues were identified early and that critical systems were operating within expected parameters, even in complex and regulated environments.
- **Improved decision-making and executive visibility.** Interviewees shared that HARC provided leadership with clearer, more consistent insight into performance, risk, and operational trends across sites and environments. This improved visibility supported faster, more informed decisions without requiring manual data aggregation or ad hoc reporting.
- **Reduced human error and rework.** Interviewees stated that automating data collection, monitoring, and evidence generation reduced reliance on error-prone manual processes, resulting in fewer mistakes, less rework, and more consistent quality, compliance, and operational workflows.
- **Higher morale and better use of skilled staff.** Interviewees mentioned that shifting work away from repetitive, manual tasks improved job satisfaction among engineers, IT staff, and compliance professionals. Teams spent more time on analysis, problem-solving, and improvement initiatives rather than routine data gathering or firefighting.
- **Stronger governance and trust in regulated operations.** Interviewees noted that continuous monitoring and automated controls strengthened governance and audit readiness, increasing trust with internal stakeholders, regulators, and customers. This was particularly important for interviewees whose organizations were operating in highly regulated industries or offering regulated digital services.
- **Improved trust in operational teams to deliver business changes.** Interviewees noted that as HARC reduced reactive work and introduced more consistent monitoring and workflows, operational performance became more predictable over time. This increased confidence among business stakeholders that changes, updates, and new initiatives could be delivered without introducing unexpected issues or delays. With

fewer last-minute escalations and more consistent execution across environments, interviewees' organizations experienced stronger alignment between business and technology teams and greater willingness to move forward with new priorities.

“One of the biggest changes for us was having a single place to understand what was happening across systems and operations. That made conversations and decisions much more fact-based instead of relying on partial or delayed information.”

HEAD OF INTEGRATED OPERATIONS, MINING

“HARC gave us more confidence in the information we were using. Instead of questioning whether data was current or complete, teams could focus on what actions to take based on the insights.”

PRINCIPAL SCIENTIST, BIOTECHNOLOGY

“Having a shared view of performance and risk helped align technical teams and business stakeholders. It reduced back-and-forth and made it easier to prioritize issues and investments together.”

ENGINEERING MANAGER, AUTOMOTIVE MANUFACTURING

FLEXIBILITY

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

- **Ability to extend HARC to new use cases and environments.** Interviewees stated that by establishing a common, scalable foundation, HARC made it easier to expand into additional use cases, sites, business units, and regulated workloads without significant replatforming or reinvestment.
- **Faster experimentation and innovation with governed automation and AI.** Interviewees noted that the availability of prebuilt and reusable agents enabled their teams to more quickly test and deploy new analytics, automation, and AI-driven use cases while maintaining governance and compliance, supporting future growth and innovation.

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

“We started with a fairly focused set of use cases, but one of the advantages was that we didn’t have to lock ourselves into a narrow scope. As teams became more familiar with HARC, it was easy to apply it to additional problems without rethinking the platform.”

ENGINEERING MANAGER, AUTOMOTIVE MANUFACTURING

“We viewed HARC as a foundation for where we were headed with AI, not just where we were at the time. As our use of AI grows, having a governance and operations layer already in place gives us flexibility we didn’t have before.”

CISO AND MANAGING DIRECTOR, SAAS PROVIDER

“Once the model was proven, we could see clear potential to extend HARC to other parts of the organization. Different teams have different priorities, but the same underlying platform could support them without starting from scratch.”

HEAD OF INTEGRATED OPERATIONS, MINING

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
Etr	Fees to Hitachi and internal costs	\$472,500	\$2,205,000	\$2,178,750	\$2,152,500	\$7,008,750	\$5,894,870
	Total costs (risk-adjusted)	\$472,500	\$2,205,000	\$2,178,750	\$2,152,500	\$7,008,750	\$5,894,870

FEES TO HITACHI AND INTERNAL COSTS

Evidence and data. Interviewees said the primary cost associated with HARC was an ongoing managed service fee, which included access to the HARC platform, prebuilt and custom agents, continuous monitoring and optimization, and ongoing service support. Interviewees shared that core service costs remained stable over time, even as usage expanded across additional environments and use cases.

Interviewees also shared that implementing and using HARC required ongoing internal involvement from IT operations, engineering, security, and governance teams. The interviewees stated that internal effort included activities such as onboarding and planning, coordinating with the HARC service team, participating in incident reviews, governing compliance and risk workflows, and aligning priorities with business stakeholders. According to the interviewees, HARC did not fully eliminate internal oversight or operational responsibility; rather, it changed how teams spend their time.

As a result, the study models internal costs as a steady, ongoing expense rather than declining over time. Interviewees did not indicate that internal coordination, governance, or oversight effort materially decreased after the initial implementation period, supporting a conservative assumption of flat internal costs across the analysis period.

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- **Implementation and ongoing managed service costs.** The composite organization faces a one-time implementation costs of \$350,000 for setup, integration, and configuration, along with recurring subscription and managed service fees of \$1.8 million annually to operate and maintain HARC. Costs remain stable over the three-year period, reflecting a steady-state service model.
- **Internal labor costs to operate, govern, and use the solution.** Internal labor costs for IT, operations, compliance, and security teams are necessary to support initial implementation and oversee the solution, review outputs, and participate in ongoing governance and optimization activities. The initial investment is \$100,000, while annual internal costs decline modestly over the three-year period, from \$300,000 in Year 1, to \$275,000 in Year 2 and \$250,000 in Year 3 as the composite organization moves from initial adoption to steady-state operations.

“From a cost perspective, we viewed HARC as an ongoing managed service rather than a one-time tool purchase. The fees covered not just the platform itself, but also the expertise and operational support that we would otherwise have needed to staff internally.”

CISO AND MANAGING DIRECTOR, SAAS PROVIDER

“There was some initial training required, especially for users who weren’t familiar with advanced analytics or predictive maintenance concepts. Once that foundation was in place, adoption became much smoother, but it did take time at the beginning.”

ENGINEERING MANAGER, AUTOMOTIVE MANUFACTURING

Risks. This cost may vary across organizations for the following reasons:

- **Scope and scale of deployment.** Costs may vary based on the number of applications, assets, sites, and use cases included in the HARC deployment, as broader scope typically requires higher service levels and internal coordination.
- **Organizational and regulatory complexity.** Highly regulated or asset-intensive organizations may require greater internal governance, oversight, and validation effort, increasing internal costs relative to less complex environments.
- **Operating-model maturity.** Organizations with less mature reliability, compliance, or operating practices may incur higher internal effort during adoption as teams adjust workflows and embed new processes.
- **Adoption consistency across teams.** Maintaining parallel legacy processes or uneven adoption across teams can increase both internal effort and time to fully realize benefits.
- **Growth and change over time.** Business growth, additional sites, or new regulated workloads introduced after initial deployment may increase both managed-service and internal costs beyond modeled assumptions.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$5.9 million.

“After the initial implementation, the next challenge was scaling usage across different teams and parts of the business. Each group had slightly different priorities, so we had to standardize how HARC was used while still allowing for flexibility.”

HEAD OF INTEGRATED OPERATIONS, MINING

“After we implemented HARC, our internal effort shifted to oversight rather than execution. Teams were still involved in governance, risk reviews, and decision-making, but they spent far less time on manual monitoring, evidence collection, and troubleshooting across environments. Most of the ongoing work was focused on reviewing insights, acting on exceptions, and refining policies, rather than doing repetitive operational tasks.”

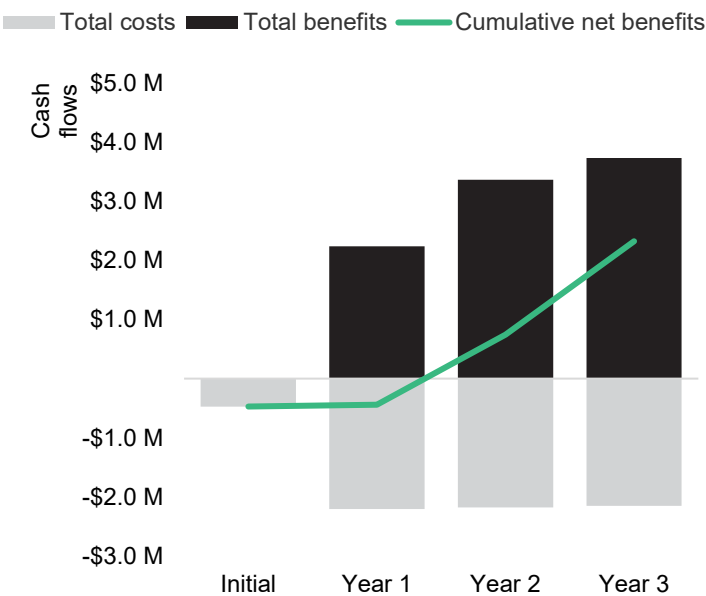
CISO AND MANAGING DIRECTOR, SAAS PROVIDER

Fees To Hitachi And Internal Costs						
Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
E1	Fees for Hitachi HARC	Composite	\$350,000	\$1,800,000	\$1,800,000	\$1,800,000
E2	Internal costs	Composite	\$100,000	\$300,000	\$275,000	\$250,000
Et	Fees to Hitachi and internal costs	E1+E2	\$450,000	\$2,100,000	\$2,075,000	\$2,050,000
	Risk adjustment	↑5%				
Etr	Fees to Hitachi and internal costs (risk-adjusted)		\$472,500	\$2,205,000	\$2,178,750	\$2,152,500
Three-year total: \$7,008,750			Three-year present value: \$5,894,870			

Financial Summary

Consolidated Three-Year, Risk-Adjusted Metrics

Cash Flow Chart (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 Estimates)						
	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	(\$472,500)	(\$2,205,000)	(\$2,178,750)	(\$2,152,500)	(\$7,008,750)	(\$5,894,870)
Total benefits	\$0	\$2,237,678	\$3,360,762	\$3,732,483	\$9,330,923	\$7,616,012
Net benefits	(\$472,500)	\$32,678	\$1,182,012	\$1,579,983	\$2,322,173	\$1,721,142
ROI						29%
Payback						17 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 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.

Total Economic Impact Approach

Benefits represent the value the solution delivers to the business. The TEI methodology places equal weight on the measure of benefits and costs, allowing for a full examination of the solution's effect on the entire organization.

Costs comprise all expenses necessary to deliver the proposed value, or benefits, of the solution. The methodology captures implementation and 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. 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 PVs 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%.

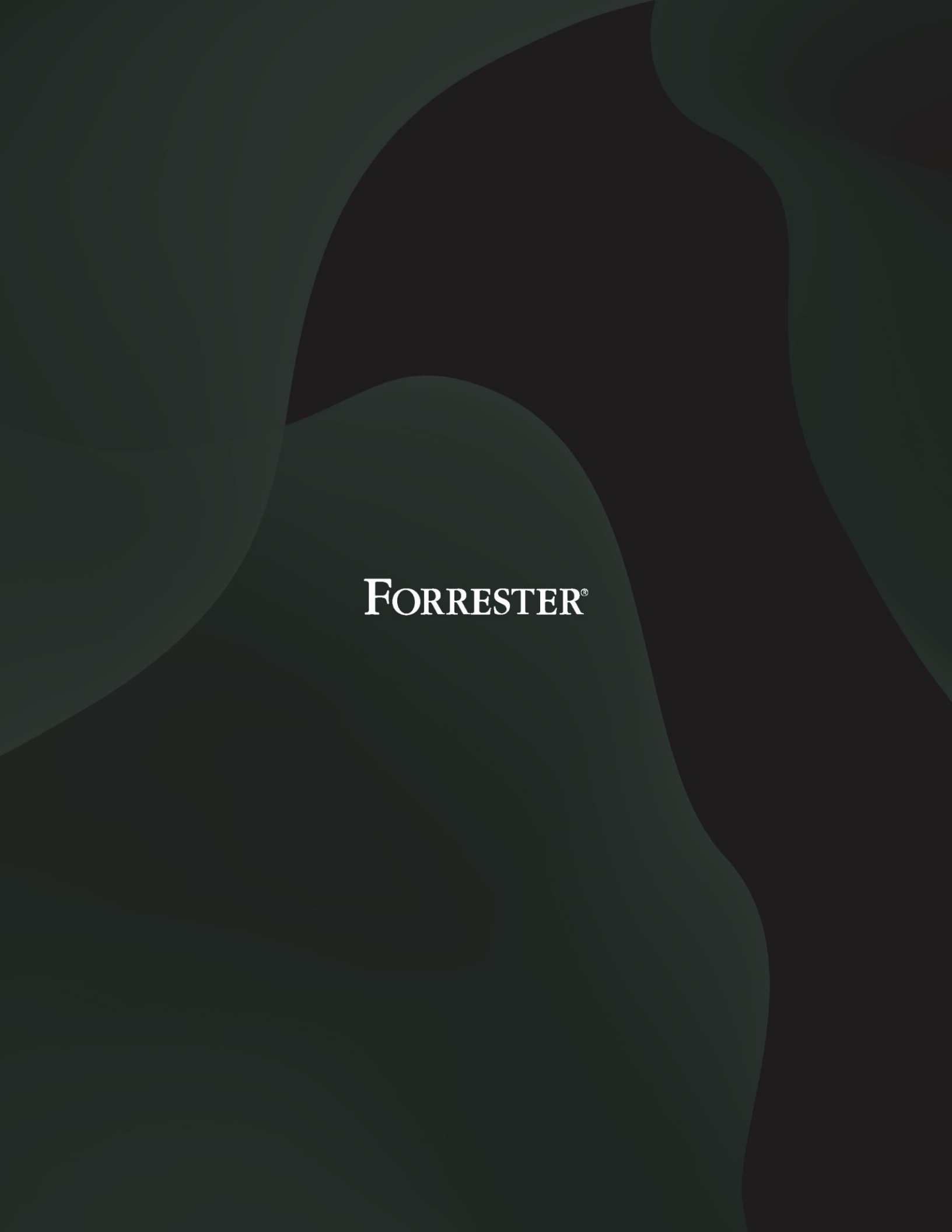
PAYBACK PERIOD

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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