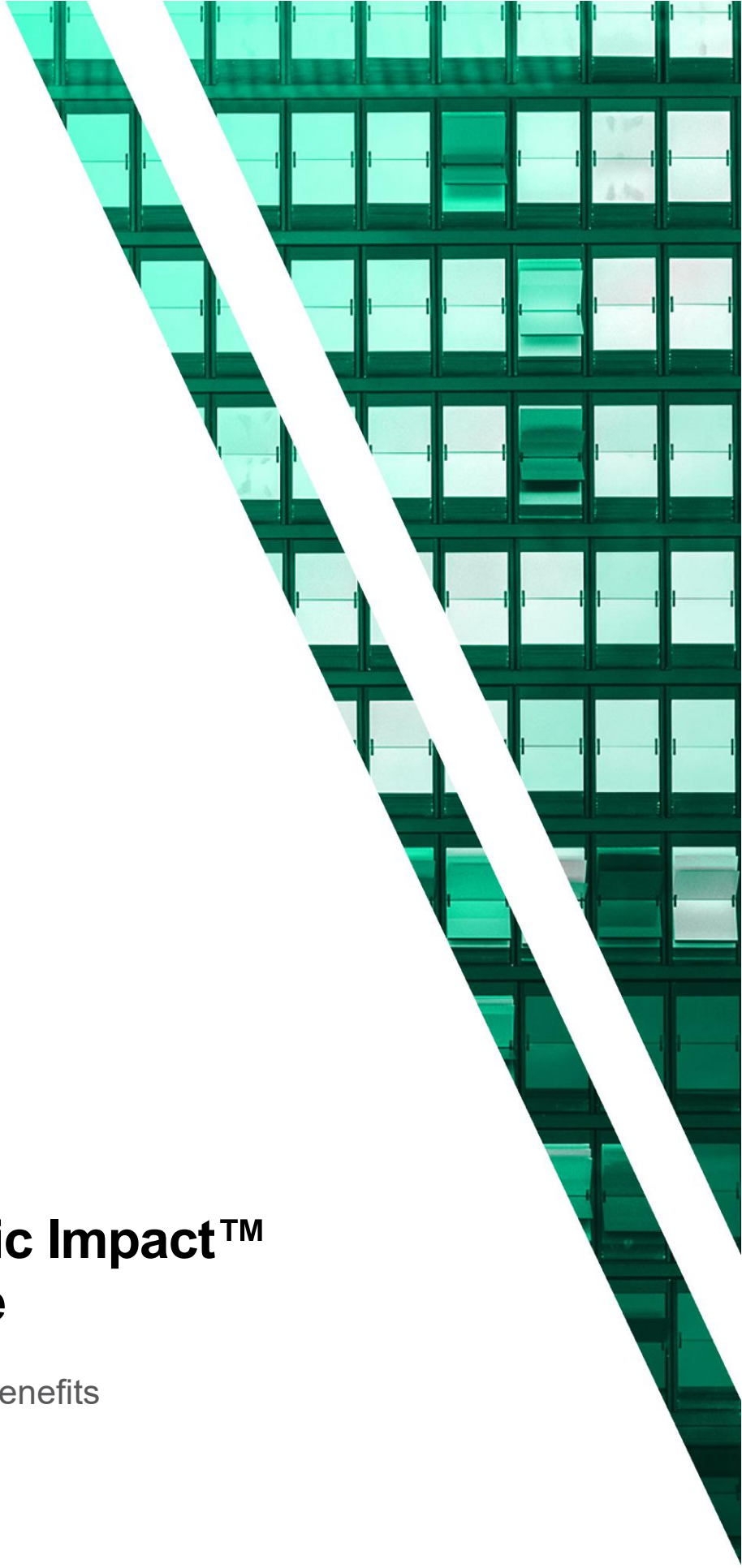
FORRESTER®



The Total Economic Impact™ Of HPE GreenLake

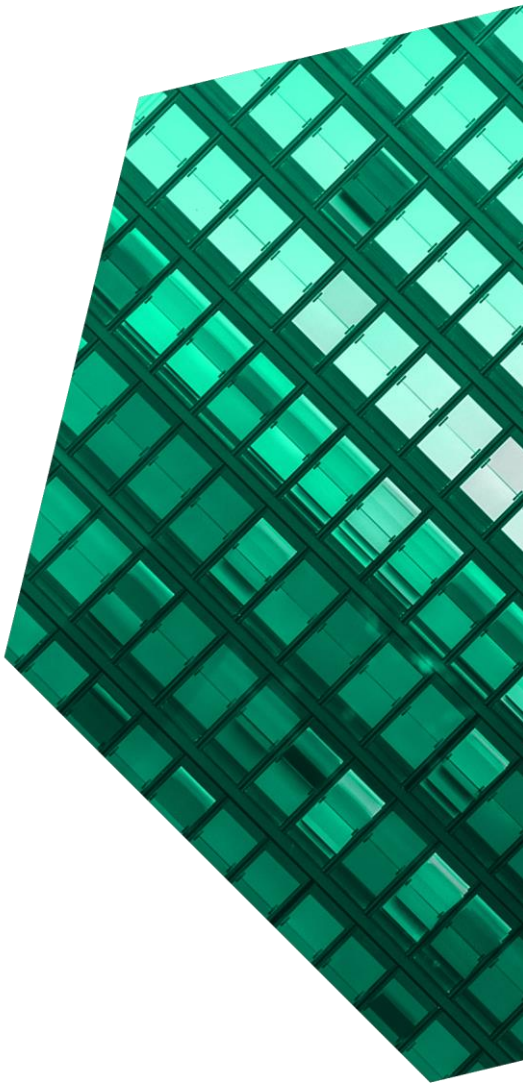
Cost Savings And Business Benefits With HPE GreenLake

MAY 2022

A FORRESTER TOTAL ECONOMIC IMPACT™ STUDY COMMISSIONED BY HPE

Table Of Contents

Consulting Team: Sam Conway
Isabel Carey



ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. For more information, visit forrester.com/consulting.

Executive Summary

To keep up with the rapid pace of digital transformation, organizations across industries need to adapt their business models — as well as their infrastructure. While public cloud enables IT teams to support businesses in a flexible and nimble manner, most organizations cannot eliminate on-premises infrastructure due to security, existing workloads, or other requirements. HPE GreenLake offers a pay-per-use, self-service, managed experience that keeps workloads on-premises with a cloud-like experience.

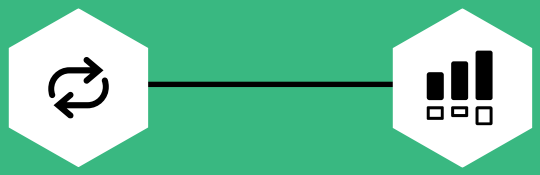
HPE GreenLake is a scalable IT infrastructure service that provides a usage-based IT platform and vertical-based workloads that are aligned to capacity usage. IT organizations can easily scale up to handle fluctuations in demand and receive personalized support to augment their IT teams. This flexible hybrid IT model provides organizations with the agility to scale their environment without the usual delays associated with procuring and managing new infrastructure.

HPE commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by subscribing to HPE GreenLake.[1] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of HPE GreenLake on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four decision-makers with multiple years of experience using HPE GreenLake.[2] For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization.

Prior to using HPE GreenLake, these interviewees noted how their organizations managed multiple data centers with extensive physical and virtual infrastructure footprints. Technology purchases were often decentralized, creating a complex web of hardware and software from myriad vendors.

KEY STATISTICS



Return on investment (ROI)
161%

Net present value (NPV)
$21.2 million

Organizations also experienced arduous procurement cycles that involved significant planning and budgeting efforts that made keeping up with current technology trends difficult.

After the investment in HPE GreenLake, the interviewees said it enabled their IT teams to be more responsive to organizational demands and reduced the time-to-market for infrastructure-backed IT projects. Additionally, organizations better aligned their spending with capacity needs. This led to a reduction in overprovisioning and ancillary support spend.

"HPE GreenLake has been a never-ending value generator. It's not a one-time shot; we've invested in more than hybrid infrastructure, this is a partner."
Director of global infrastructure, operations

KEY FINDINGS

Quantified benefits. Risk-adjusted present value (PV) quantified benefits for the composite organization include:

- **Shortened time-to-market of deployed IT projects by 80%.** Interviewees noted that HPE GreenLake enabled them to quickly right-size capacity and accelerate their response to business demands. Their organizations could maintain a metered capacity buffer to quickly deploy infrastructure, without costly up-front capital expenditures and lengthy procurement processes. For the composite organization, this amounted to $21.1 million over three years.
- **Achieved operational savings of 65%.** Interviewed decision-makers said their organizations used their HPE GreenLake investment as a catalyst to simplify and consolidate their infrastructure footprints. With HPE GreenLake, organizations kept pace with current technology, ensuring that they were using the most up to date and efficient solutions. Additionally, by simplifying their stack under a single vendor, organizations could eliminate ancillary support spend for other hardware and software solutions. With this benefit, the composite organization saw a benefit of $3.3 million.
- **Reduced total cost of ownership (TCO) for infrastructure by 45%.** HPE GreenLake enabled interviewees' organizations to avoid overprovisioning on infrastructure and eliminate expenses for technology refreshes, especially as infrastructure requirements continue to evolve. With HPE GreenLake, these organizations had access to modern, more powerful technology and scaled their usage up or down as required by their business needs. This benefit was worth $7.1 million for the composite organization.
- **Improved IT resource efficiency by 60%.** With HPE GreenLake supporting organizational choices of on-premises infrastructure and data center management tasks (including support, administration, and capacity planning), the interviewees' organizations reallocated internal IT resources to more strategic business initiatives. For the composite organization, this benefit was worth $2.3 million.

"HPE GreenLake gives us more transparency and more flexibility."

— Head of engineering computing services, manufacturing

- **Reduced back-office costs by 15%.** The interviewed decision-makers said that simplified planning, billing, and budgeting reduced the burden on their organizations' related back-office teams — including professionals across finance, procurement, and IT. This benefit amounted to about $531,600 for the composite organization.

Unquantified benefits. Benefits that are not quantified for this study include:

- **Financial flexibility.** Decreased capex spending and flexible capacity payments allow organizations to reduce the cost of capital and avoid opportunity costs.
- **Improved risk management.** With HPE GreenLake, organizations are able to stay current with refreshes and utilize HPE expertise to proactively manage and support on-premises infrastructure.
- **Improved transparency.** Simplifying billing and eliminating shadow IT spend improves financial transparency for technology decision-makers.
- **Improved sustainability.** Staying current with hardware technology ensures that organizations are using the most energy efficient and environmentally friendly solutions. With HPE's expertise, organizations can improve technology utilization to minimize environmental impact.

Costs. Risk-adjusted PV costs for the composite organization include:

- **Implementation costs of $354,000.** This includes planning, defining requirement, data migration, and testing on the HPE platform. Additionally, the implementation time considers the internal procurement process requirement. The full end-to-end transition takes six months for the composite organization and the equivalent of 12 FTEs for 40% of their time.
- **HPE GreenLake annual costs averaging approximately $5 million.** This includes the annual HPE GreenLake contract across the entire infrastructure, including compute, storage, and backup.
- **Ongoing annual labor costs of $139,000.** This includes four FTEs spending 25% of their time supporting the HPE GreenLake environment.

The decision-maker interviews and financial analysis found that a composite organization experiences benefits of $34.4 million over three years versus costs of $13.2 million, adding up to a net present value (NPV) of $21.2 million and an ROI of 161%.

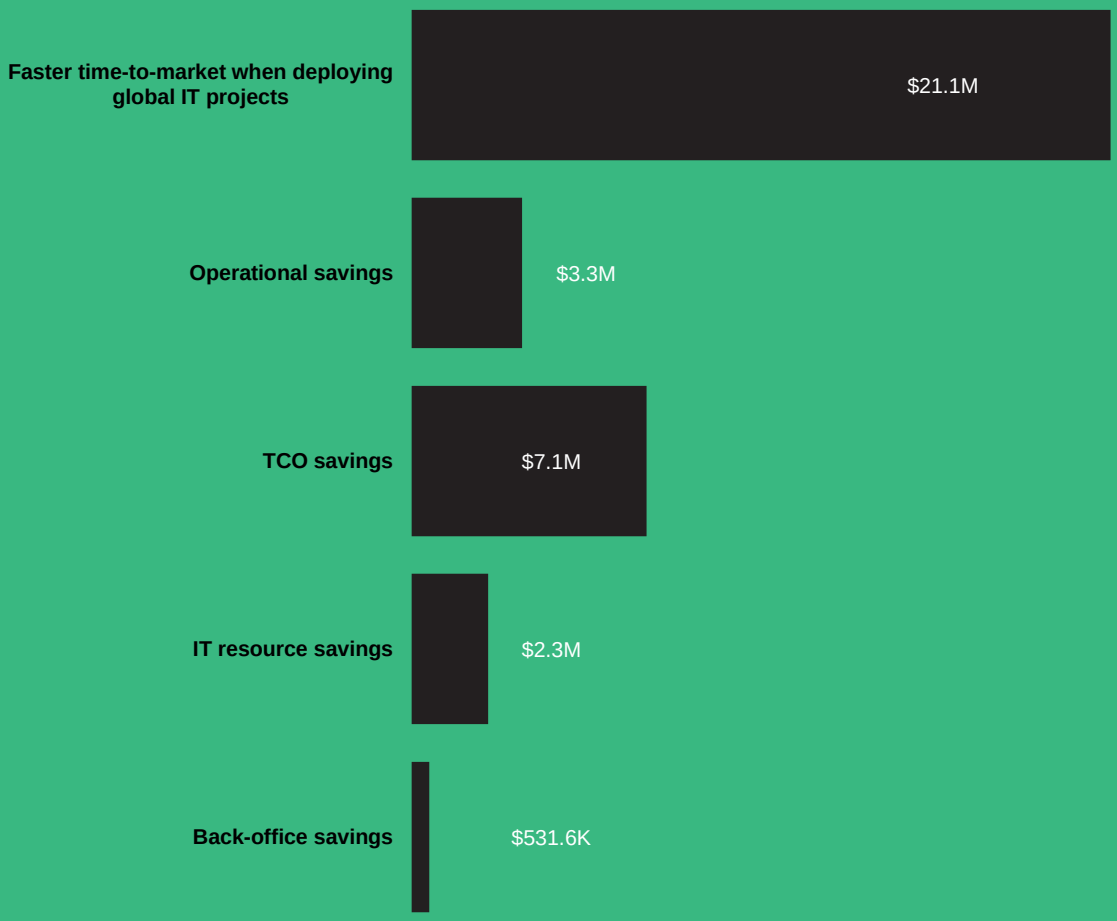
ROI
161%

BENEFITS PV
$34.4 million

NPV
$21.2 million

PAYBACK
<6 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 HPE GreenLake.

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 HPE GreenLake can have on an organization.

DUE DILIGENCE

Interviewed HPE stakeholders and Forrester analysts to gather data relative to HPE GreenLake.

DECISION-MAKER INTERVIEWS

Interviewed four decision-makers at organizations using HPE GreenLake to obtain data with respect to 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 decision-makers.

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 HPE GreenLake Customer Journey

Drivers leading to the HPE GreenLake investment

Interviewed Decision-Makers

Interviewee	Industry	Region	Revenue
Director of global infrastructure operations	Chemical	Global	$19 billion
Head of engineering computing services	Manufacturing	Global	$30 billion
Data center manager	Chemical	Global	$6.5 billion
CIO	Government	United States	N/A

KEY CHALLENGES

Forrester interviewed decision-makers at four organizations using HPE GreenLake. Prior to using HPE GreenLake, the organizations maintained their own on-premises infrastructure in distributed data centers. The interviewees' organizations had common goals that lead to an investment in HPE GreenLake.

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

- **Required on-premises footprint with no desire to run data centers.** While their motivations differed, interviewees shared a common need to retain their on-premises infrastructure. Some organizations required it due to regulations, while others ran workloads that were difficult or cost prohibitive to move to the public cloud. However, all of the interviewees' organizations shared a desire to offload the management, maintenance, and procurement of data center assets and focus on their core business. The director of global infrastructure operations for a chemical manufacturer noted, "We are a petrochemical company, not an IT company."
- **A lack of business agility.** Technology limitations from prior environments impacted the interviewees' organizations' abilities to act quickly on time-sensitive business opportunities. Additionally, the global organizations had arduous procurement processes and had to coordinate installation with distributed global IT teams, which further impeded reaction times.
- **Complicated capacity planning and overprovisioning.** Interviewed decision-makers' organizations struggled to adequately plan for needed capacity, leading to scenarios where they either quickly used up all available resources or were too conservative and paid for unused overprovisioning.

> **"When we invested in HPE GreenLake, we were facing challenges predicting capital expenditures and managing the equipment that was out there in the field."**
> *Data center manager, chemical*

- **Standardization of global operations and consistent refreshes.** Interviewees' organizations struggled to standardize technology usage and utilization. Regional teams made procurement decisions, which led to shadow IT departments and a lack of transparency in utilization. Additionally, siloed decision-making hampered the company from consistently keeping up with the latest hardware.

"From an operational standpoint, you cannot underestimate the burden of the supply chain. Even after you order new equipment, that does not mean it hits the floor."
CIO, government

- **Organizational drive to reduce costs.** Organizations faced internal pressure to redirect expensive IT resources away from supporting hardware and other low-level initiatives. Additionally, organizations wanted to reduce their overall data center footprints with better hardware utilization and more efficient infrastructure.

SOLUTION REQUIREMENTS

The interviewees' organizations searched for a solution that could:

- Accelerate digital transformation.
- Replace capital expenditures with predictable usage-based operating expenses.
- Simplify vendor management.
- Standardize capabilities across the organization.
- Reduce the burden of capacity planning.
- Improve IT productivity.

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 four decision-makers that Forrester interviewed and 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, multibillion-dollar organization with operations across 100 countries. The organization employs 400 total IT employees, with 15 of the department's FTEs spending time managing the infrastructure. The organization faces end-of-life challenges and significant expenses for its server and storage environment.

Key assumptions

- **10 data centers**
- **4 petabytes of storage**
- **500 physical assets**
- **3,000 virtual servers**

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	Faster time-to-market when deploying global IT projects	$7,698,240	$8,553,600	$9,408,960	$25,660,800	$21,136,582
Btr	Operational savings	$1,237,500	$1,350,000	$1,462,500	$4,050,000	$3,339,500
Ctr	TCO savings	$2,520,000	$2,880,000	$3,240,000	$8,640,000	$7,105,334
Dtr	IT resource savings	$752,400	$940,500	$1,128,600	$2,821,500	$2,309,207
Etr	Back-office savings	$213,750	$213,750	$213,750	$641,250	$531,565
	Total benefits (risk-adjusted)	$12,421,890	$13,937,850	$15,453,810	$41,813,550	$34,422,188

FASTER TIME-TO-MARKET WHEN DEPLOYING GLOBAL IT PROJECTS

Evidence and data. Prior to investing in HPE GreenLake, interviewees' organizations required extensive capacity planning, provisioning of additional infrastructure, and data center management when launching new IT projects. The average time a project would take varied by organization and was driven by location and the specific needs of the project. However, interviewees agreed that standing up new infrastructure with their legacy environments was a multimonth affair.

After investing in HPE GreenLake, organizations accelerated their time-to-market for new IT projects through simplifying the procurement process, reducing wait times, and streamlining vendor management. Interviewees noted a significant decrease in time-to-market, especially by utilizing HPE GreenLake's meter-based buffer to provide easy access to additional capacity when needed.

- The CIO of a government agency explained: "The whole analog process of having to go get a PO cut to get the storage and compute that you need, wait for it to hit the floor, coordinate provisioning with field engineering to install and to deliver — those are activities that would take months even in the private sector. That is now gone and built into my buffer. When I do scale it is an automated process with HPE. I turn it on and it's on."
- A chemical organization experienced an issue that required the rapid deployment of additional compute. The director of global infrastructure operations explained that the time it took to spin up additional resources was much faster with HPE GreenLake than other legacy environments they maintained. The director of global infrastructure operations at a chemical company stated: "We needed additional compute power and we were able to spin that up without really even having a conversation with HPE. We added 15% to 20% capacity within minutes. [When] we had to order capacity outside of HPE GreenLake, it was about seven to 10 days to get that order in procurement, and even then, there was a chip shortage to deal with."
- The data center manager for a chemical company added: "HPE GreenLake accelerates

the installation process. If the equipment arrives on Friday, HPE is there on Monday, and by Thursday it is handed over to our internal teams and done. Before HPE GreenLake, we had to manage internal workloads and it could take a few weeks just to get hands on the equipment."

Modeling and assumptions. In modeling the benefit of faster time-to-market for global IT project, Forrester made the following assumptions:

- The composite executes between 45 and 55 global IT projects annually, including product development, new product launches, customer experience improvements, etc.
- Ninety percent of new global IT projects require additional infrastructure.
- On average, IT needed four months to launch a project prior to HPE GreenLake.
- Six full-time IT resources are involved in a project from start to finish.
- The average rate of an IT resource was $11,000 per month.

Risks. Forrester recognizes that time-to-market benefits may vary from organization to organization. Specific risk considerations include:

- Types and complexity of projects.
- Current environment and capacity to support new projects.
- Geography and prevailing labor rates.

"What would take months now [needs] hours or days."
CIO, government

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 over $21.1 million.

Faster Time-To-Market When Deploying Global IT Projects

Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Number of global IT projects (product development, customer experience, new product launches, finance)	Composite	45	50	55
A2	Percentage of global projects needing additional infrastructure	Composite	90%	90%	90%
A3	Time per project in months prior to HPE GreenLake	Composite	4	4	4
A4	Number of IT resources required per project	Composite	6	6	6
A5	Monthly burden rate of IT resources	Composite	$11,000	$11,000	$11,000
A6	Savings in time with HPE GreenLake	Interviews	80%	80%	80%
At	Faster time-to-market when deploying global IT projects	A1*A1*A3*A4*A5*A6	$8,553,600	$9,504,000	$10,454,400
	Risk adjustment	↓10%			
Atr	Faster time-to-market when deploying global IT projects (risk-adjusted)		$7,698,240	$8,553,600	$9,408,960
	Three-year total: $25,660,800			**Three-year present value: $21,136,382**	

OPERATIONAL SAVINGS

Evidence and data. Interviewees noted that their legacy environments comprised of myriad solutions from multiple vendors. Additionally, their organizations operated in a decentralized manner prior to HPE GreenLake, with siloed planning and procurement processes. After investing in HPE GreenLake, organizations moved to a hybrid infrastructure environment delivered through a single vendor. This allowed for the interviewees' organizations to reduce software maintenance costs for other solutions. Centralizing data center management and infrastructure procurement also allowed for the organizations to reduce regional IT and implement cost controls.

- Interviewees noted that with HPE GreenLake they were better able to stay on top of technology refreshes and ensure that their organization was using the most efficient, state-of-the-art technology. They also worked with HPE to plan and improve utilization, reducing the overall amount of hardware used to support their capacity needs. This allowed the interviewees' organizations to reduce ancillary software spend associated with legacy deployments.
- The director of global infrastructure operations at a chemical company stated, "We were able to reduce our software and maintenance contracts that we carry on all our gear."
- The CIO in government added: "We had tech sprawl across our data centers with multiple vendors. We also had a bifurcation of IT responsibility, with individual IT teams running their own program and creating shadow IT [departments]."

Modeling and assumptions. In modeling operation savings, Forrester assumes:

- The composite organization spends an average of $2.5 million on software maintenance for its impacted data center infrastructure.
- The software maintenance reduction increases over the three-year period as the organization expands HPE GreenLake usage.

Risks. Forrester recognizes that operational savings will vary by organization. Specific risk considerations include:

- Size, scope, and make-up of legacy environment.
- Annual software maintenance spend.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of over $3.3 million.

Operational Savings

Ref.	Metric	Source	Year 1	Year 2	Year 3
B1	Annual spend on software maintenance	Composite	$2,500,000	$2,500,000	$2,500,000
B2	Avoided software maintenance spend with HPE GreenLake	Interviews	55%	60%	65%
Bt	Operational savings	B1*B2	$1,375,000	$1,500,000	$1,625,000
	Risk adjustment	↓10%			
Btr	Operational savings (risk-adjusted)		$1,237,500	$1,350,000	$1,462,500
	Three-year total: $4,050,000			**Three-year present value: $3,339,500**	

TCO SAVINGS

Evidence and data. Interviewees noted that their IT departments primarily needed to provide their organizations with infrastructure to support business processes, and that overprovisioning and underprovisioning for capacity were frequent issues. Not having enough capacity was an obstacle to business growth and ongoing projects, while paying for unused capacity was a wasteful use of organizational resources. With HPE GreenLake, organizations could maintain a capacity buffer and not incur costs until they used it, eliminating the risk of being under capacity while also reducing wasteful spend.

HPE GreenLake's fully managed on-premises IT model saved interviewees' organizations' resources by eliminating hardware refresh costs. They had access to the latest technology and hardware based on their needs, which reduced the costs associated with traditional piecemeal replacement.

- Before investing in HPE GreenLake, most organizations targeted 20% overprovisioning but ended up closer to 40% in reality.
- The CIO in government explained: "Historically, when I would buy storage or compute [resources], I would buy them in blocks and chunks, and I would use my best resources, my best capacity planning, my best minds to estimate how I'm going to be able to grow for the next three to five years. By design, you're paying for stuff that you're not consuming, and you're being burdened for that cost because you're estimating that sometime in the future you will need that overhead."
- The head of engineering computing services for a manufacturing firm estimated that they saved 20% to 30% of their IT budget by reducing overprovisioning. The interviewee stated: "We have flexibility a buffer for storage with HPE GreenLake. I have 50 TBs available when I need them, but I don't pay until I use it. Normally we would have to buy that hardware ahead of time."

Modeling and assumptions. When modeling TCO savings, Forrester assumes:

- The composite organization has an average annual capital spend of $8 million on server and storage prior to using HPE GreenLake.
- The reduction in overprovisioning costs increases over the three-year period as the organization continues to scale.

Reduction in overprovisioning costs

up to 45%

Risks. TCO savings may vary by organization. Specific risk considerations include:

- Amount of server and storage hardware capex.
- The need for overprovisioning and hardware replacement.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of over $7.1 million.

TCO Savings					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Physical assets: server and storage hardware capital spend per year prior to HPE GreenLake	Composite	$8,000,000	$8,000,000	$8,000,000
C2	Avoided overprovisioning costs with HPE GreenLake flexible consumption	Interviews	35%	40%	45%
Ct	TCO savings	C1*C2	$2,800,000	$3,200,000	$3,600,000
	Risk adjustment	↓10%			
Ctr	TCO savings (risk-adjusted)		$2,520,000	$2,880,000	$3,240,000
	Three-year total: $8,640,000		**Three-year present value: $7,105,334**		

IT RESOURCE SAVINGS

Evidence and data. By switching to HPE GreenLake, interviewees' organizations recognized cost savings associated with configuring and managing infrastructure. The organizations offloaded this work to HPE, reallocating IT resources to other strategic work. Some interviewees noted that they recognized even more internal labor savings managing tasks through HPE GreenLake Central.

- The director of global infrastructure operations, whose organization displaced 25% of their team stated: "[Before] we really managed the entire infrastructure. We had to manage all the components that we gave to HPE GreenLake."
- An interviewee noted that since their organization was growing, it did not eliminate or reallocate any internal labor. However, the organization was able to avoid hiring additional resources to manage its growing IT stack because HPE absorbed additional work. The data center manager explained: "The team itself hasn't shrunk so to speak, but I would certainly say that if we weren't on GreenLake, we would grow the team."
- Interviewees noted that HPE GreenLake Central could provide labor savings in other departments. The director of global infrastructure operations explained: "Our next step is to extend this to our public cloud and leverage HPE GreenLake across both platforms. We've already been turning more over to HPE like managing the operating system and building our images."

Modeling and assumptions. In modeling IT resource savings, Forrester assumes:

- The composite organization has a team of 15 IT resources supporting infrastructure.
- The average annual fully burdened rate for impacted IT employees is $132,000.
- The reallocation amount increases over time with maturity of use and an increased reliance on HPE support.

Risks. IT resource savings may vary by organization. Specific risk considerations include:

- Size of dedicated IT department and prevailing wages.
- Skill sets of IT team members and organizational ability to offload management and support tasks.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV of $2.3 million.

IT Resource Savings

Ref.	Metric	Source	Year 1	Year 2	Year 3
D1	IT resources supporting infrastructure	Composite	15	15	15
D2	Average fully burdened FTE salary	TEI standard	$132,000	$132,000	$132,000
D3	IT resource reallocation	Interviews	40%	50%	60%
Dt	IT resource savings	D1*D2*D3	$792,000	$990,000	$1,188,000
	Risk adjustment	↓5%			
Dtr	IT resource savings (risk-adjusted)		$752,400	$940,500	$1,128,600
	Three-year total: $2,821,500			**Three-year present value: $2,309,207**	

BACK-OFFICE SAVINGS

Evidence and data. Interviewees explained that their organizations undertook arduous planning and procurement processes to support their global IT footprint prior to using HPE GreenLake. Organizations had large teams of finance, business operations, accounting, and IT resources tasked with planning capacity needs, purchasing assets, and working with vendors. By streamlining planning and purchasing under HPE GreenLake, the interviewees' organizations eliminated much of this work and simplified the procurement process. Additionally, by not owning infrastructure, the organizations eliminated work associated with evaluating and reporting depreciation of assets.

- The head of engineering computing services for a manufacturing firm explained: "HPE GreenLake is transparent financially and makes for easier planning. It saves time for back-office staff and the different accounting teams. The auditing process is also easier because now I have one global contract with transparent numbers."
- The data center manager noted, "From an accounting and finance sense we've got level spend and we've moved to an annual approval process."

Back-office time savings

15%

- When commenting on the simplicity of vendor relations and billing, the director of global infrastructure operations stated, “We wanted one partner, and one bill.”

Modeling and assumptions. When evaluating back-office savings Forrester assumes:

- The composite organization has a global team of 30 FTEs involved in back-office tasks associated with their IT infrastructure. The staff has a blended average annual salary of $100,000.
- Forrester assumes that the organization redirects 50% of the time savings to productive or value-add tasks.

Risks. Back-office savings will vary by organization. Specific risk considerations include:

- Size, scope, and complexity of legacy environment.
- Financial planning processes and involved staff.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV of almost $532,000.

Back-Office Savings

Ref.	Metric	Source	Year 1	Year 2	Year 3
E1	Personnel in involved in financial planning, procurement, and operations	Composite	30	30	30
E2	Blended average fully burdened FTE salary	TEI standard	$100,000	$100,000	$100,000
E3	Time savings with centralized vendor management and provisioning through HPE GreenLake	Interviews	15%	15%	15%
E4	Productivity recapture	TEI standard	50%	50%	50%
Et	Back-office savings	E1*E2*E3*E4	$225,000	$225,000	$225,000
	Risk adjustment	↓5%			
Etr	Back-office savings (risk-adjusted)		$213,750	$213,750	$213,750
	Three-year total: $641,250			**Three-year present value: $531,565**	

UNQUANTIFIED BENEFITS

Additional benefits that customers experienced but were not able to quantify include:

- **Financial flexibility.** Interviewees' organizations had the financial flexibility to invest in other initiatives with resources that were dedicated to buffer capacity purchases before HPE GreenLake.
- **Improved risk management.** Having the most up-to-date technology allowed organizations to minimize the risk of hardware failure or security incidents. Additionally, interviewees noted the ability of their organizations to quickly scale compute resources and conduct scanning during a security breach with HPE GreenLake.
- **Improved transparency.** IT decision-makers had better visibility into consumption and spending across global organizations.
- **Improved sustainability.** Staying current with hardware technology ensures that organizations are using the most energy efficient and environmentally friendly solutions. With HPE's expertise, organizations can improve technology utilization to minimize environmental impact.

"Sustainability is one of the company's big goals. We have certainly seen improvements naturally as the equipment is refreshed. The fact that we're keeping on top of the refresh cycle naturally ensures we're using the latest and greatest and the most energy efficient equipment that HPE has to offer."
Data center manager, chemical

FLEXIBILITY

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

- **Faster time-to-value.** The improved time-to-market for IT projects has been quantified in terms of internal labor. However, these projects can also have downstream revenue impacts which organizations can now recognize faster.
- **Standardization.** With HPE GreenLake, organizations can standardize consumption, IT infrastructure planning, and reporting across regions, business units, and product offerings. This offers IT leadership a consistent view of their IT footprint and provides them with the ability to plan and forecast better.
- **Networking savings.** One chemical organization chose to land their HPE GreenLake environment in a colocation center. This organization noted that they had seen additional networking cost reductions by taking this approach.

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

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**
Ftr	Implementation costs	$353,640	$0	$0	$0	$353,640	$353,640
Gtr	HPE GreenLake fees	$0	$4,725,000	$5,040,000	$5,355,000	$15,120,000	$12,484,035
Htr	Ongoing labor	$0	$138,600	$138,600	$138,600	$415,800	$344,678
	Total costs (risk-adjusted)	$353,640	$4,863,600	$5,178,600	$5,493,600	$15,889,440	$13,182,353

IMPLEMENTATION COSTS

Evidence and data. The transition to HPE GreenLake took interviewees' organizations multiple months. This included planning and defining requirements, data migration, and testing. Additionally, the time necessary to go through the organization's procurement process was reflected in the overall implementation timeline. HPE charged the organizations a fixed, nonrecurring price for implementation.

Modeling and assumptions. For the composite organization Forrester assumes:

- It takes six months to transition from on-premises data centers to HPE GreenLake.
- Twelve FTEs are involved in HPE implementation for 40% of their time.

Risks. Implementation costs may vary, specific risk considerations include:

- Size, scope, and complexity of implementation.
- Internal IT resources.

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 almost $354,000.

Implementation Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
F1	Implementation time (months)	Interviews	6	0	0	0
F2	Number of internal FTEs	Composite	12	0	0	0
F3	Percentage of time dedicated	Composite	40%	0	0	0
F4	Monthly FTE salary	Composite	$11,000	$0	$0	$0
F5	Fixed HPE cost to support implementation	Composite	$20,000	$0	$0	$0
Ft	Implementation costs	(F1*F2*F3*F4)+ F5	$336,800	$0	$0	$0
	Risk adjustment	↑5%				
Ftr	Implementation costs (risk-adjusted)		$353,640	$0	$0	$0
	Three-year total: $353,640			**Three-year present value: $353,640**		

HPE GREENLAKE FEES

Evidence and data. For the interviewees' organizations, the HPE GreenLake monthly cost was a sum total of minimum monthly commitment and any usage above that base. It varied based on the infrastructure size and configuration. Total monthly costs fluctuated based on usage peaks and lows.

Modeling and assumptions. For the composite organization Forrester assumes an average monthly cost of $375,000 in Year 1, which escalates to $425,000 by Year 3.

Risks. Implementation costs may vary, specific risk considerations include:

- Cost variations from contract terms.
- The volume of resources used.

Please contact HPE for exact pricing for your organization.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of about $12.5 million.

HPE GreenLake Fees						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
G1	HPE GreenLake average monthly usage costs	Composite	$0	$375,000	$400,000	$425,000
G2	Number of months	Assumption	0	12	12	12
Gt	HPE GreenLake fees	G1*G2	$0	$4,500,000	$4,800,000	$5,100,000
	Risk adjustment	↑5%				
Gtr	HPE GreenLake fees (risk-adjusted)		$0	$4,725,000	$5,040,000	$5,355,000
	Three-year total: $15,120,000			**Three-year present value: $12,484,035**		

ONGOING LABOR

Evidence and data. Interviewees' organizations dedicated limited resources to the ongoing planning and administration of HPE GreenLake usage. Outside or troubleshooting and management, these resources worked with HPE customer success managers to plan their HPE GreenLake usage and target new ways to recognize organizational benefits.

Modeling and assumptions. For the composite organization Forrester assumes:

- A team of four FTEs supporting HPE GreenLake usage and dedicating 25% of their time to the solution.
- An average fully burdened salary of $132,000.

Risks. Ongoing labor costs will vary based on organizational needs and the size and scope of deployment.

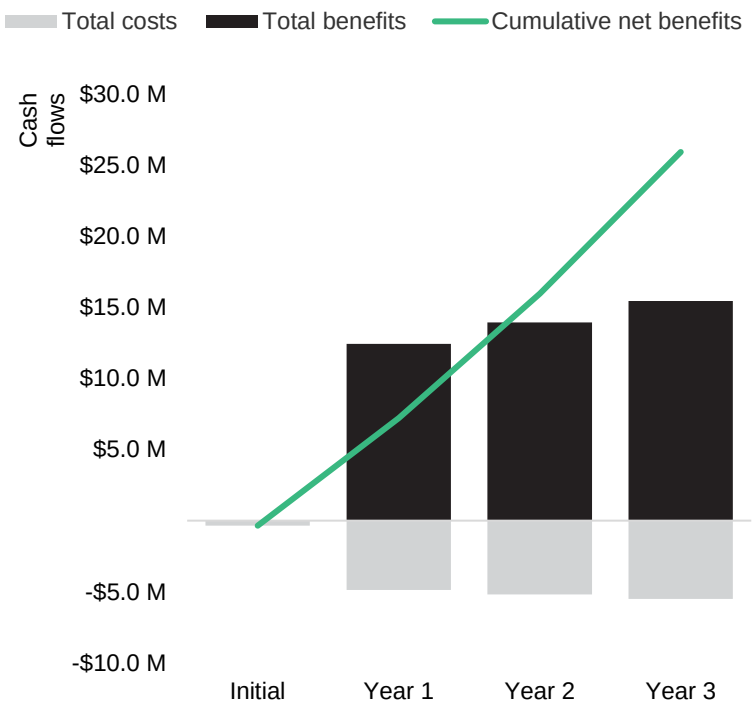
Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of almost $345,000.

Ongoing Labor						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
H1	FTE team supporting HPE GreenLake	Composite	0	4	4	4
H2	Average fully burdened salary	TEI standard	$0	$132,000	$132,000	$132,000
H3	Percent of time dedicated to HPE GreenLake	Interviews	0	25%	25%	25%
Ht	Ongoing labor	H1*H2*H3	$0	$132,000	$132,000	$132,000
	Risk adjustment	↑5%				
Htr	Ongoing labor (risk-adjusted)		$0	$138,600	$138,600	$138,600
	Three-year total: $415,800			**Three-year present value: $344,678**		

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	($353,640)	($4,863,600)	($5,178,600)	($5,493,600)	($15,889,440)	($13,182,353)
Total benefits	$0	$12,421,890	$13,937,850	$15,453,810	$41,813,550	$34,422,188
Net benefits	($353,640)	$7,558,290	$8,759,250	$9,960,210	$25,924,110	$21,239,835
ROI						161%
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."

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.

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.

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 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.

[2] All customer quotes contain full HPE GreenLake branding for consistency. In some instances, this has been added by Forrester for clarity.


FORRESTER®