A Forrester Total Economic Impact™
Study Commissioned By GitLab
June 2020

The Total Economic Impact™ Of GitLab

Cost Savings And Business Benefits Of Using Version Control And Collaboration, Continuous Integration And Continuous Delivery For Enterprises Enabled By GitLab

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ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit forrester.com/consulting.

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Key Benefits

Improved development and delivery efficiency time:
87%

Number of annual releases for revenue generation applications:
12x increase

Reduction in defects in code:
80%

Executive Summary

In today's rapidly changing IT landscape, DevOps teams must be prepared to quickly react to internal stakeholders' and end customers' needs for digital applications and systems. IT leaders are leaning on DevOps methodologies to help them meet market needs. To do so, DevOps teams must find ways to accelerate speed of delivery, decrease code flaws, and improve time-to-market. GitLab provides a single application to manage the entire DevOps lifecycle, freeing organizations from the burden of complex tool chains by providing a more simplified, visible and secure solution. Utilizing GitLab with continuous integration/continuous delivery (CI/CD) allows the entire team involved in a project to work together seamlessly. GitLab commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying GitLab. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of GitLab on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed several customers with years of experience using GitLab. The study aims to look beyond using just version control and collaboration (VC&C) for source code management, continuous integration, or continuous delivery, but to understand the value of using one solution to meet these needs across the entire DevOps lifecycle.

Key Findings

- **Quantified benefits.** The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the companies interviewed:
- **Improved development and delivery efficiency by over 87%, resulting in over $23 million in savings**. GitLab enabled the organizations to drastically reduce time spent across each phase of the entire DevOps lifecycle. Taking advantage of its capabilities enabled interviewed organizations to develop faster, collaborate better, deliver higher-quality code, and improve the ability to monitor applications. With a single application that enables concurrent workflows, organizations see faster build times, integrated QA, and simplified code sharing. GitLab enabled the organizations to reduce time spent in four main areas: There was an average reduction of 65% in time spent during the planning phase; a reduction of 92% during the creating/coding and review phase; a 90% reduction in time spent on the build/verify (continuous integration) phase; and an 85% reduction in the package, release, configure, and monitor (continuous delivery) phase. Over three years, the improved development and delivery efficiency resulted in over $23 million in savings.

ROI
407%

Benefits PV
$55.8 million

NPV
$44.8 million

- **Increased revenues by enabling organizations to deploy 12 times as many releases**. GitLab greatly impacts an organization's ability to build, test, and release updates across its applications. With GitLab, organizations can ramp up the velocity of updates and releases to allow them to meet the ever-rising digital demands of today's consumers. GitLab helps organizations streamline their processes, improve the efficiency of developers and nontechnical teammates, and improve visibility and collaboration across the entire software development life cycle (SDLC) while also improving the quality of the releases. When these releases are made to revenue-generating applications, it all ties back to the organization's ability to increase revenue while improving customer satisfaction, leading to $12.2 million in incremental revenues over three years.
- **Improved quality of code, reducing defects by 80%.** Prior to the investment in GitLab, the organizations noted that, due to complex toolchains and complex processes, their inefficient development environments impeded their ability to effectively code and test software. This often resulted in rushed developers deploying code that was not well-designed or tested. This inevitably resulted in bad releases and rework, and it opened organizations to security issues. With GitLab, organizations now have a single application that streamlines processes to ensures code is tested, scanned, and verified before it is released. That allows organizations to maintain high quality and security standards and to reduce defects and bugs in their code. This improved quality of code saves nearly $16.8 million over three years.
- **Reduced the complexity of the toolchain by enabling retirement of unnecessary solutions**. Organizations found that shared management of their discrete and complex toolchains created inefficiencies across the DevOps lifecycle. Many also cited additional complexities as different groups across their organizations used different toolchains, which contained different tools within them. GitLab's ability to cover the entire process across the SDLC (including CI and CD) allowed these organizations to dramatically simplify their toolchains by eliminating other tools or reducing their reliance on them. With GitLab, organizations were able to retire or reduce licenses on other tools, simplifying their workflows and saving more than $3.7 million over three years.

Unquantified benefits. The interviewed organizations experienced the following benefits, which are not quantified for this study:

- **More satisfied employees**. Eliminating legacy tools in favor of one tool that covers the entire pipeline reduced the complexity and hassle for employees. Employees also appreciated the increased pipeline visibility and additional capabilities that GitLab offers. Teams are more productive and collaborative, which brings higher satisfaction to employees.
- **More satisfied customers.** Reducing toolchain complexity and increasing capabilities means projects flow more smoothly and increases the number and quality of releases. It ensures customers get what they need, when they need it.
- **Improved market innovation and competitiveness.** GitLab increases competitiveness by speeding up development and cycle time, improving time-to-market. This speed also makes experimentation, bug testing, and the incorporation of new features easier, which encourages innovation.

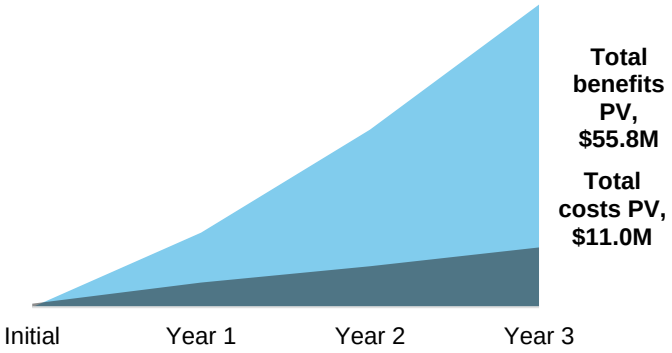
Costs. The interviewed organizations experienced the following risk-

adjusted PV costs:

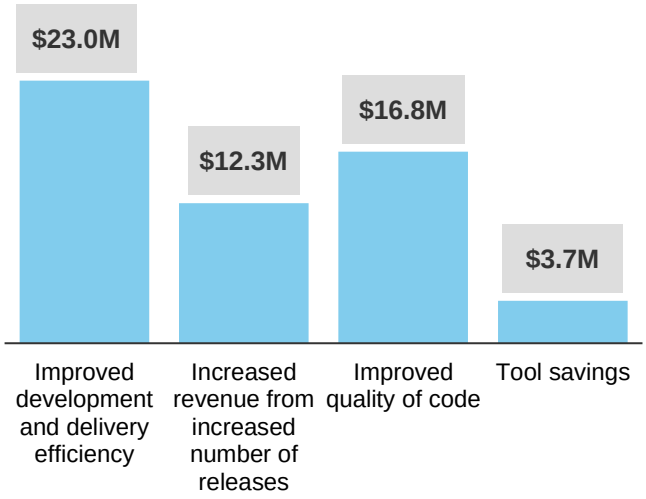
- **Licensing costs of $19 per month per user**. These represent external costs paid to GitLab for their Silver tier platform.
- **Implementation and management costs**. These represent the internal costs for implementation and ongoing management and maintenance of the GitLab solution, as well as the cost of FTEs who act as internal champions and support change management efforts as GitLab is rolled out to users.
- **Training costs**. These represent internal costs to train users on the GitLab solution, including 1.5 days of initial training and ongoing training on the frequent GitLab updates and releases.

Forrester's interviews with four existing customers and subsequent financial analysis found that an organization based on these interviewed organizations experienced benefits of $55.8 million over three years versus costs of $11 million, adding up to a net present value (NPV) of $44.8 million and an ROI of 407%.

Financial Summary



Benefits (Three-Year)



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TEI Framework And Methodology

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing GitLab.

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 GitLab can have on an organization:

The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

DUE DILIGENCE
Interviewed GitLab stakeholders and Forrester analysts to gather data relative to GitLab.

CUSTOMER INTERVIEWS
Interviewed four organizations using GitLab to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION
Designed a composite organization based on characteristics of the interviewed 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 interviewed organizations.

CASE STUDY
Employed four fundamental elements of TEI in modeling GitLab's impact: benefits, costs, flexibility, and risks. Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by GitLab 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 report to determine the appropriateness of an investment in GitLab.

GitLab reviewed and provided feedback to Forrester, but 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.

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

The GitLab Customer Journey

BEFORE AND AFTER THE GITLAB INVESTMENT

Interviewed Organizations

For this study, Forrester conducted four interviews with GitLab customers. Interviewed customers include the following:

INDUSTRY	ANNUAL REVENUE	INTERVIEWEE	NUMBER OF USERS	DEPLOYMENT CHARACTERISTICS
Software and technology	$51.9B	Manager of data integration software engineers	1,700 GitLab users	VC&C, CI, and CD; On-premise deployment
Financial services	$28.15B	Senior software engineer	4,000 GitLab users	VC&C and CI; Software-as-a-service (SaaS) deployment
Telecommunications	$40.6B	Senior manager, continuous delivery platform	1,600 GitLab users	VC&C, CI and CD; SaaS deployment
Information technology	$28B	Head of DevOps and tools	4,000 GitLab users	VC&C, CI and CD; On-premise deployment

Key Challenges

While the interviewed organizations differ greatly in industry, they faced a number of common challenges prior to investing in GitLab, including:

- **Managing complex toolchains created inefficiencies within the DevOps lifecycle.** The interviewees shared how their organizations' previously complex toolchains created complications across the lifecycle and caused them to spend more time learning how to use tools than delivering business value. The manager of data integration software engineers at the software and technology said: "We had some homegrown systems, but it was very rudimentary with many flaws. It was very clunky." Having multiple tools in the toolchain increased the complexity of the teams' workflows, increased expenses, decreased visibility into their workflows and processes, and added security issues to the DevOps processes. Instead of increasing the speed and agility of application delivery, the complex toolchains introduced bottlenecks for these organizations.
- **In addition to managing complex toolchains, organizations had different DevOps teams on disparate toolchains.** Adding to the complexity is the fact that each of these organizations had different DevOps teams using different sets of tools to manage the SDLC. The senior software engineer of the financial services organization said: "We have thousands of developers, and everything was very disparate previously. Everyone was using different systems." In a recent study, Forrester found that the majority of organizations are using two to five toolchains to support software delivery, and 56% of those organizations reported that each toolchain is comprised of six or more tools.[1] As the interviewees noted, the number of disparate tool chains created a lack of visibility into the development process, added to complexity, and was expensive to support and maintain.

> "Having multiple toolchains created artificial separation that became real silos for our teams because we were using different tools across each team. As the DevOps industry and our organization continue to mature, we want ownership of everything to reduce that artificial separation."
>
> *Senior manager, continuous delivery platform, telecommunications industry*

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- These complex, disparate tool chains left the DevOps teams at risk for issues in the quality of their code, exposing the organizations to bad releases and issues with security and compliance. As the organizations received greater pressure to deliver applications more quickly, they found their teams were pushed too hard and too fast, which created risks with quality, security, and compliance. As they tried to release code faster, they rushed or missed important code reviews, exposing them to the potential for a bad release. The senior manager of continuous delivery platform for the telecommunications company said, "Before GitLab, we had a very low chance of finding where problems existed in our apps and when problems were introduced." The organizations shared concerns that a bad release could result in a vulnerability that may pose a security risk. Add to that that each tool in the toolchain has its own security and compliance requirements, and the organizations quickly found themselves at risk for security exposure and unforeseen vulnerabilities in their code.
- **Organizations were hindered by slow releases, impacting their ability to meet the needs of the businesses and stay competitive**. Efficiency is a major concern of the interviewed organizations. Prior to using GitLab, they were impeded by challenges such as too many tools, manual processes that were too complex, and people silos, which led to lower productivity of their DevOps teams and slower overall cycle times. Organizations also found that, even surrounded by different tools, they still didn't have the correct solutions on hand to increase speed. The manager of data integration software engineers for the software and technology organization said: "Previously, we only had version control and collaboration (VC&C) and issue tracking. We didn't really use anything for CI or CD." These inefficiencies led to delays in launches, frustrated internal stakeholders and developers, and ultimately impacted the bottom line. The organizations needed a solution that enabled them to deliver better applications and systems faster.

67% of surveyed IT professionals agreed that handoffs between teams using different tools slows down delivery[1].

Solution Requirements

The organizations understood that multiple tools and multiple tool chains greatly reduced their visibility into the DevOps lifecycle, reduced the quality of their code, and decreased their speed of delivery. They searched for a solution that would enable their organizations to:

- Increase the speed of delivery.
- Improve development and delivery efficiency.
- Improve deployment, management, and use of the solution.
- Improve quality of code.
- Ensure security and compliance.
- The organizations looked for a solution that would allow them to take advantage of VC&C, CI and, in many cases, CD capabilities.

> "If you've taken your toolchain from start to finish and you start to fragment your tools, you could have the best of breed of everything in each individual category, but you still won't gain any time."
>
> *Senior manager, continuous delivery platform, telecommunications industry*

Why GitLab?

After reviewing and evaluating multiple vendors, the interviewed organizations chose to work with GitLab and its built-in CI/CD features over other vendors due to the following factors:

- **GitLab provides one application for the entire DevOps lifecycle that can easily scale to meet enterprise needs.** The interviewed organizations decided they needed a single solution that covered the entire software delivery lifecycle and provided deep visibility while enabling VC&C, CI, and CD capabilities without requiring undue labor to implement and maintain. The interviewed organizations were impressed with how GitLab reduced overall cycle times, created greater efficiency of all teams involved in the development process, and improved the quality of delivered code. As the manager of data integration software engineers for the software and technology organization said: "When we saw what GitLab could do, we knew we wanted to use it 100% for VC&C, CI, and CD. When we saw the demo and what it could do, we didn't need to consider anything else." The results of these capabilities are discussed in more detail below. Additionally, the interviewed organizations were pleased with GitLab's ability to scale as they added more teams to the solution.
- **GitLab's cloud-native deployment capabilities are based on open standards such as Kubernetes, offering organizations the ability to frequently deploy to any environment or cloud, enabling a true multicloud strategy**. Modern toolchains need the capability and flexibility for cloud-native development, and any move to the cloud needs to be as smooth and fast as possible. By consolidating the toolchain and streamlining the process of implementing, managing, building, testing, and deploying, GitLab makes multicloud deployment easy, especially with Kubernetes. Interviewed organizations found this to be impactful within their environments. The manager of data integration software engineers for the software and technology organization said: "We've grown adoption of features quite a bit to the point where we're using the Kubernetes integration, and we have heavily invested in CI automation." GitLab also enabled the adoption of open source and modern cloud-native development patterns such as microservices or serverless, creating greater flexibility and developer productivity. Finally, the interviewees were impressed with the frequency and impact of GitLab's innovations to support their businesses. As the manager of data integration software engineers for the software and technology explained, "GitLab attracted us with the cadence of its releases and features. Every month, there's a new version out [with] new features and new capabilities."
- **GitLab operated their own organization with transparency and input from users.** GitLab leads by example when it comes to transparency. With few exceptions, its documentation — including issue trackers and postmortems of errors on GitLab's end — is public. The senior engineer at the financial services organization compared its prior state to working with GitLab: "With GitLab, because it does everything in the open, it's much more transparent what's being worked on and what's not being worked on compared to other organizations." Increased transparency also applies to development plans, which makes planning for the future and discussing the benefits and costs of potential code changes much simpler. Some interviewees noted how GitLab's culture has impacted their own. One said, "We've started to bleed [GitLab's] culture into our culture. This idea of an open source community has started to change how we work together within our organization." The interviewees each said GitLab's transparent culture is important and impactful to their organizations.

> "Our biggest benefit is having a single tool to go to for multiple things. CI/CD is a key piece of that, and beyond that, and having source code management, issue management, and the ability to manage actual projects alongside the code [is important]. Having that all in one place and having test automation and everything around continuous integration in the same place, I think it's been the biggest benefit that people would call out."
>
> *Manager of data integration software engineers, software and technology industry*

> "GitLab's rate of progression and innovation is why we selected it."
>
> *Senior manager, continuous delivery platform, telecommunications industry*

> "With Gitlab, everything is in the open. It's much more transparent than anything else we've worked with. We know what features are being worked on and how we can leverage them."
>
> *Senior software engineer, financial services industry*

- **GitLab is easy to work with and takes customer relationships seriously.** The organizations Forrester interviewed were impressed with GitLab's initiative, its ability to quickly deliver on requests, and its willingness to collaborate even as it helped implement their solutions. The head of DevOps tools was blown away by GitLab's proactive assistance. "[GitLab] treat me like a partner, and that's very important to me. [GitLab] delivers on things we asked it to deliver on, and it collaborates with us as partners even though we're not really in that kind of relationship." Organizations found that GitLab was willing to get ahead of formal partnerships and provide value as soon as it could.

> "[GitLab is] a very trustworthy organization. When you have that high level of trust and transparency, you can make things happen very quickly, and you get innovation that is really not matched by anyone else."
>
> *Senior manager, continuous delivery platform, telecommunications industry*

Key Results

As a result of the investment in GitLab, the organizations had the following key results and outcomes:

- **GitLab offered much-needed visibility into workflows and encouraged optimization, efficiency, and collaboration.** By consolidating software development into one tool, GitLab made it much easier for the organizations to understand and simplify workflows, identify potential bottlenecks, remediate technical issues, and collaborate. The financial services organization said: "The tight integration of the CI system so close to the VC&C brings us a lot of value. People are spending less time trying to find code from different places. We now have the visibility we need." Regardless of role, teams could more quickly collaborate across these simplified workflows. The manager of data integration software engineers told Forrester: "We've seen improved collaboration. Previously, we weren't able to have a standard workflow the way we do now. We continuously look for ways to optimize these common workflows, and it applies to everybody across the team. We just didn't have that before." With greater visibility, the interviewed organizations better understood their priorities and what work they needed to do to meet the needs of the businesses, creating better agility and faster time-to-market. This visibility syncs well with the inherent advantages of CI and CI/CD development, allowing organizations to take full advantage of faster development by always keeping teams on the same page.

> "We see many strong business benefits from our investment in GitLab. We've seen improved collaboration. We have also seen great predictability and stability with how code gets deployed to our production environment, and we see more consistency with code quality. Because we've been able to enable continuous integration steps more effectively and more efficiently with GitLab then we were able to before, it helps improve the product that we're delivering."
>
> *Manager of data integration software engineers, software and technology industry*

- **Increased productivity led to improved development and speed of delivery**. GitLab enabled the organizations to rapidly create new applications with higher levels of quality. With Gitlab, they found they were able to implement one solution that helped them accelerate the delivery of applications and solutions to better meet the needs of their business. The senior software engineer with the financial services organization said, "With GitLab, it's much easier to create and deploy new products." The manager of data integration software engineers for the software and technology organization shared: "It improved our ability to deliver more frequently. We deploy to production many times a day now, whereas we wouldn't have been able to do that before. You're probably looking at maybe 20 deployments a day now, where before we were in single digits." The added visibility into the workflows allowed the interviewed organizations to take more control over their processes and streamline processes and collaborations to improve development and delivery efficiency. They said that GitLab's CI capabilities helped them to reduce overall cycle times and speed up delivery by validating and ensuring no defects were added into the code. Those organizations that further extended their pipelines to include CD benefited from even faster overall cycle times. They used

> "We're able to test much faster and get much faster feedback with GitLab, and that really improved the quality of our code."
>
> *Senior software engineer, financial services industry*

GitLab to ensure delivery of that validated code through automated deployment capabilities to get the higher quality code to their applications faster. The senior manager of continuous delivery platform for the telecommunications company said, "We went from 26 builds a day to 750 builds a day." The organizations using CI and CD together benefited the most from reduced cycle times and increased speeds of delivery. The senior manager said: "Our ultimate goal is to increase output while increasing cashflow and simultaneously decreasing operating expenses. GitLab has helped us achieve that."

- **GitLab provided time and cost savings on toolchain maintenance**. GitLab's ability to cover the entire process across the SDLC, including CI and CI/CD, allowed the interviewed organizations to dramatically simplify their toolchains by eliminating other tools or reducing the organizations' reliance on them. The manager of data integration software engineers for the software and technology organization said, "We're just saving our people time from not switching from tool to tool." Each of the interviewed organizations previously had complex toolchains with development split across multiple solutions. After implementing GitLab, they were able to simplify their toolchains. The senior software engineer with the financial services organization said, "It's much easier to manage than our previous toolchain of multiple tools."
- **GitLab strengthened quality and security with one complete DevOps solution**. GitLab replaced a complex toolchain of multiple solutions with one product, improving visibility and automation around code review along with a significant source of security vulnerabilities. As the manager of data integration software engineers for the software and technology company said: "With our new CI flow with GitLab, we enforce test automation. We are now able to drive consistency across testing. We didn't have that at all before. . . . We've seen improvement in our deployment-to-defect ratio because, with GitLab, we have test coverage and test automation and [static application security testing] to check for vulnerabilities that we run everything through." By simplifying the toolchain and introducing capabilities like CI and CD, the organizations reduced bottlenecks related to quality checks and security, and they caught bugs earlier in the lifecycle. This resulted in better products, which helped the organizations meet the needs of their stakeholders, stay competitive, and innovate more quickly.

> "With Gitlab, nontechnical people are able to collaborate more easily with our technical team compared to [with] our previous environment."
>
> *Senior software engineer, financial services industry*

> "GitLab has improved our code quality. For example, we have automated linting and standardization around how our code should look. I'd say GitLab enhanced our code quality as a result of enforcing test automation. It helps us to design our code better."
>
> *Manager of data integration software engineers, software and technology industry*

Composite Organization

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization is representative of the four companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. The composite organization that Forrester synthesized from the customer interviews has the following characteristics:

Description of composite. A large global enterprise with annual revenues of $37 billion.

Deployment characteristics. The organization chooses to deploy a Silver SaaS-based version of GitLab. It initially has 3,000 users, and that grows by 25% year over year. Prior to investing in GitLab, the composite organization had multiple users working in different groups with different toolchains, and each toolchain had multiple tools with limited overlap. With GitLab, the organization utilizes its VC&C, CI, and CD capabilities.

Key assumptions

- Global enterprise with annual revenue of $37B
- 3,000 initial GitLab users
- GitLab users increase by 25% YoY

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	Improved development and delivery efficiency	$6,306,575	$9,459,863	$12,613,150	$28,379,588	$23,027,764
Btr	Increased revenue from increased number of releases	$3,480,750	$5,087,250	$6,545,000	$15,113,000	$12,286,012
Ctr	Improved quality of code	$4,600,800	$6,901,200	$9,201,600	$20,703,600	$16,799,315
Dtr	Tool savings	$774,288	$1,548,576	$2,322,864	$4,645,728	$3,728,915
	Total benefits (risk-adjusted)	$15,162,413	$22,996,889	$30,682,614	$68,841,916	$55,842,006

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of more than $55.8 million.

Improved Development And Delivery Efficiency

The first benefit looks at one of the most critical business outcomes for DevOps teams today: improving development and delivery efficiency to meet the needs of internal and external stakeholders. Prior to using GitLab, the composite organization had different teams using different toolchains, and each included a number of different tools. There was limited visibility into the process, and the DevOps team was slowed by complex processes and bottlenecks that led to inefficient development, reduction in the quality of code, and a decreased ability to release new applications and solutions.

GitLab enables the composite organization to drastically reduce time spent across each phase of the entire DevOps lifecycle. The organization takes advantage of its capabilities to develop faster, collaborate better, deliver higher quality code, and improve the ability to monitor applications. With a single application that enables concurrent workflows, organizations see faster build times, integrated QA, and simplified code sharing. GitLab enables them to reduce time spent in four main areas:

- **Planning phase:** During this phase, the team works together across technical and nontechnical users to define and prioritize application and software requirements and issues.
- **Creating/coding and review phase:** During this phase, the DevOps team works to create and review code. GitLab easily allows developers to work independently while keeping their work in sync with the larger team and ensures that new code does not introduce any errors, defects, or vulnerabilities.
- **Build/verify (continuous integration) phase:** During this phase, the composite organization uses CI capabilities to automatically test software quality and security, and merge the code that developers produce.
- **Package, release, configure, monitor (continuous delivery) phase:** During this phase, the team uses CD to automate and deploy software releases to ensure reliable deployments and to reduce the risk of a release, while ensuring actionable feedback from customers.

Planning phase

65%
Improvement with GitLab

Creating/Coding and Review phase

92%
Improvement with GitLab

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Prior to its investment in GitLab, the composite organization did not have a cohesive process and lacked true CI and CD capabilities. Teams now work concurrently, which greatly improves development and delivery times.

Organizations that fully utilize CI and CD see the largest reductions in cycle time, bringing automation to the process. CI ensures the right sequence of automated tests and security measures are completed to ensure the quality and security of the code. CD automates testing and deployment capabilities so that organizations can ensure rapid, reliable, and repeatable deployment of software without manual efforts increasing cycle time. This efficiency improvement helps organizations reduce costs associated with the SDLC, helps them deliver needed applications and solutions to the market faster, ensuring they remain competitive, and also helps them retain and delight their customer base with innovative solutions.

To quantify the value of faster cycle time for the composite organization, Forrester:

- Assumes that, In Year 1, the composite organization takes on 1,000 internal and external projects. The number of projects grows year over year, reaching 2,000 projects by Year 3.
- Looked at each phase of the SDLC to understand time spent on each prior to investing in GitLab, the percentage reduction in time spent on that phase after the implementation of GitLab, and how many hours the organization would save per phase.
- Found that GitLab gives the composite organization a 65% reduction of time spent during the planning phase, a 92% reduction of time spent during the creating/coding and review phase, a 90% reduction of time spent on the verify/build (CI) phase, and an 85% reduction of the time spent during the package, release, configure, monitor (CD) phase.
- Calculated 209 total person-hours saved per project with GitLab. That works out to 208,650 total person-hours saved in Year 1, and it grows to 417,300 total person-hours saved in Year 3.
- Assumes the average fully loaded DevOps salary is $110,000 per year and includes a 35% increase to capture the value of benefits in total compensation (based on national industry averages used by Forrester Research). This equals $71 per hour.
- Included a conservative productivity recapture of 50%, as not all saved time is repurposed for additional work.

It is important to note that while this calculation focuses on each phase of the SDLC, Forrester does not include the increase of throughput that the interviewed organizations experienced. The existing throughput and reduction will vary greatly from company to company based on existing workflows, existing toolchains, the number of tools used, and existing processes. As organizations consider the benefits of GitLab, Forrester recommends decision makers consider not only how it reduces faster cycle time, but how it may reduce throughput within the organization.

The savings from faster cycle time will vary with:

- The number of projects taken on each year.
- Time spent previously on each of these phases.
- How well and where the organization leverages GitLab to reduce cycle time.

Build/Verify (Continuous Integration) phase

90%
Improvement with GitLab

Package, Release, Configure and Monitor/ (Continuous Delivery phase)

85%
Improvement with GitLab

Impact risk is the risk that the business or technology needs of the organization may not be met by the investment, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for benefit estimates.

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› The fully loaded compensation of the DevOps team.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of over $23 million.

Improved Development And Delivery Efficiency: Calculation Table

REF.	METRIC	CALCULATION	YEAR 1	YEAR 2	YEAR 3
A1	Projects per year (internal and external)		1,000	1,500	2,000
A2	Planning time prior to GitLab Platform	Person-hours per project from interviews	25	25	25
A3	Reduction in time spent during planning phase with GitLab platform	From interviews	65%	65%	65%
A4	Hours saved on planning with GitLab platform	A2*A3	16.25	16.25	16.25
A5	Creating/coding and review time prior to GitLab platform	Person-hours per project from interviews	95	95	95
A6	Reduction in time spent during creating/coding and review phase with GitLab Platform	From interviews	92%	92%	92%
A7	Hours saved during creating/coding and review phase with GitLab platform	A5*A6	87.4	87.4	87.4
A8	Verify phase time prior to GitLab platform	Person-hours per project from interviews	60	60	60
A9	Reduction in time spent on verify/build phase with GitLab platform/continuous integration	From interviews	90%	90%	90%
A10	Hours saved on verify/build phase with GitLab platform/continuous integration	A8*A9	54	54	54
A11	Package, release, configure, monitor phase time prior to GitLab platform	Person-hours per project from interviews	60	60	60
A12	Reduction in time spent on package, release, configure, monitor phase with GitLab platform/continuous delivery	From interviews	85%	85%	85%
A13	Hours saved on package, release, configure, monitor phase with GitLab platform/continuous delivery	A11*A12	51	51	51
A14	Total person-hours saved per project (rounded value shown)	A4+A7+A10+A13	209	209	209
A15	Annual person-hours saved annually	A1*A14	209,000	313,500	418,000
A16	DevOps fully loaded hourly salary (rounded value shown)	($110K*1.35 benefit multiplier)/2,080 working hours per year	$71	$71	$71
A17	Productivity recapture		50%	50%	50%
At	Improved development and delivery efficiency	A15*A16*A17	$7,419,500	$11,129,250	$14,839,000
	Risk adjustment	↓15%			
Atr	Improved development and delivery efficiency (risk-adjusted)		$6,306,575	$9,459,863	$12,613,150

Increased Revenue From Increased Number Of Releases

Similar to the experience of interviewed organizations, GitLab greatly impacts the composite organization's ability to build, test, and release updates across its applications. While many of the developed applications and solutions are either internal-facing or are customer-facing without a direct impact on the organization's revenue, some of the composite organization's created applications generate revenue. Prior to its investment in GitLab, the composite organization was stuck in a situation with many disparate solutions that negatively impacted its efficiency, which resulted in infrequent releases, development delays, and rework. This all impacted the organization's ability to increase revenue and market share. With GitLab, the composite organization is able to ramp up the velocity of updates and releases, which allows it to meet the ever-rising digital demands of today's consumers. GitLab helps the organization streamline its processes, improve the efficiency of developers and nontechnical teammates, and improve visibility and collaboration across the entire process while also improving the quality of the releases. These releases tie back to the organization's ability to increase revenue while improving customer satisfaction.

For the composite organization, Forrester assumes that:

- In Year 1, the composite organization has 90 revenue-generating applications. By Year 3, this increases to 100.
- Prior to their investment in GitLab, the organization was only able to release 2 new releases each year. With GitLab, they are able to drastically improve the number of updates and releases they make each year, increasing from 15 new releases/updates in Year 1 to 24 by Year 3, 12 times what they were able to do prior to GitLab.
- While each release and update will have varying impact on revenue, Forrester assumes (based on the interviews) that each release will generate an average of $50,000 in new revenue.
- The composite organization has an average operating margin of 7%.

The incremental revenue generated from increased releases will vary with:

- The number of revenue-generating applications.
- The number of releases an organization deployed prior to its investment in GitLab.
- How well and where the organization leverages GitLab to ramp up releases.
- The average revenue a release generates.
- The operating margin of an organization, which will vary greatly based on a variety of factors.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of more than $12.2 million.

12X

The number of releases deployed by Year 3 with GitLab

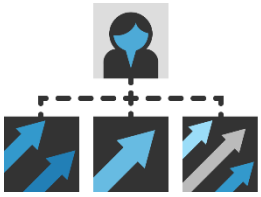
Increased Revenue From Increased Number Of Releases: Calculation Table					
REF.	METRIC	CALCULATION	YEAR 1	YEAR 2	YEAR 3
B1	Number of revenue-generating applications	Interviews	90	95	100
B2	Number of annual updates/new releases prior to GitLab	Interviews	2	2	2
B3	Number of updates/new releases to applications with GitLab	Interviews	15	20	24
B4	Number of new updates to revenue-generating applications per year	B3-B2	13	18	22
B5	Assumed revenue generated per update	Interviews	$50,000	$50,000	$50,000
B6	Incremental revenue from increased number of releases	B1*B4*B5	$58,500,000	$85,500,000	$110,000,000
B7	Operating margin	Assumption	7%	7%	7%
Bt	Increased revenue from increased number of releases	B6*B7	$4,095,000	$5,985,000	$7,700,000
	Risk adjustment	↓15%			
Btr	Increased revenue from increased number of releases (risk-adjusted)		$3,480,750	$5,087,250	$6,545,000

Improved Quality Of Code

A key benefit that comes from having a single application for the entire DevOps lifecycle is the improved quality in code. Prior to investing in GitLab, the composite organization was up against a complex toolchain and complicated processes. Its inefficient development environment impeded its ability to effectively code and test software whenever a request came in, and that often resulted in rushed developers deploying code that was not well-designed or tested. This inevitably resulted in bad releases and rework, and it opened up the organization to security issues. This was frustrating for all involved. With GitLab, the organization now has a streamlined process that ensures code is tested, scanned, and verified before it is released. That allows it to maintain high quality and security standards. With GitLab, organizations catch bugs early in the lifecycle, before the code is released and causes issues. With CI and CD, this process is automated and testing is done early and often, which relieves manual tasks and ensures quality releases. This helps the composite organization create better code, meet the needs of its customers, and stay competitive.

For the composite organization, Forrester assumes:

- Prior to the investment in GitLab, there is an average of 30 defects per month (or 360 annually) per project.
- It takes an average of 30 minutes to find and fix each of these defects.
- With GitLab, the organization reduces the number defects by 80%.
- The average fully loaded salary of a DevOps team member is $71 per hour.
- Not all the saved time results in additional work. To account for this, Forrester conservatively assumes a 50% productivity capture.
- The savings resulting from the improved quality of code will vary with:
- The number of projects per year.



80%

Reduction in number of defects

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- The frequency and complexity of bugs or defects, and how long it takes to fix them.
- The fully loaded compensation of the DevOps team.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of nearly $16.8 million

Improved Quality Of Code: Calculation Table

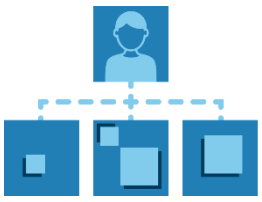
REF.	METRIC	CALCULATION	YEAR 1	YEAR 2	YEAR 3
C1	Projects per year	A1	1,000	1,500	2,000
C2	Total number of defects per project before GitLab platform (In new or existing code)	Assumes 30 per month	360	360	360
C3	Person-hours spent finding/fixing each defect	Interviews	0.5	0.5	0.5
C4	Total person-hours per year spent finding/fixing defects before GitLab platform	C1*C2*C3	180,000	270,000	360,000
C5	Reduction in defects	Interviews	80%	80%	80%
C6	DevOps team hourly salary	A16	$71	$71	$71
C7	Productivity recapture		50%	50%	50%
Ct	Improved quality of code	C4*C5*C6*C7	$5,112,000	$7,668,000	$10,224,000
	Risk adjustment	↓10%			
Ctr	Improved quality of code (risk-adjusted)		$4,600,800	$6,901,200	$9,201,600

Tool Savings

The final benefit takes into consideration the value of reducing the number of tools the composite organization uses. As Forrester learned from the interviews, many of the issues the composite organization faces (such as lack of visibility, complex workflows, inefficiencies in development, and quality concerns) stem from the complexity of the toolchain. The composite organization's team of 3,000 GitLab users are split across four different groups. Prior to the investment in GitLab, each of these groups had their own toolchains — many with different tools, although there was some overlap. With GitLab, the organization strives to bring all of its developers together on one platform, and reduce the complexity and costs associated with multiple tools. Each year, the organization is able to slowly take different tools from each of the groups as they move over to GitLab.

For this benefit, Forrester assumes:

- Each year, the organization reduces its tool count by four, and the cumulative effect of these reductions is visible in years 2 and 3.
- There's an average licensing cost of $200,000. Forrester notes that the costs will vary from tool to tool. Some may be free, this was the average cost.
- Employees spend an average of 10 person-hours per week maintaining each tool. IT is responsible for maintaining the tools, and the average fully loaded hourly salary of an IT employee is $58.
- As noted from interviews, not all tools are able to be eliminated right away. To consider this, Forrester assumes the cost associated with licensing and maintaining these tools are reduced by 50% each year.



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Tools decommissioned each year

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The savings from the reduction in the number of tools used will vary with:

- The number of tools an organization uses.
- The annual licensing costs of the tool.
- The hours required to maintain it.
- How quickly that tool is retired.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of more than $3.7 million.

Tool Savings: Calculation Table

REF.	METRIC	CALCULATION	YEAR 1	YEAR 2	YEAR 3
D1	Number of tools reduced each year	Interviews	4	8	12
D2	Assumed average annual licensing cost per tool		$200,000	$200,000	$200,000
D3	Average annual person-hours required to maintain each tool	Assumes 10 person-hours/week	520	520	520
D4	Percentage of tools reduced YoY	Interviews	50%	50%	50%
D5	IT fully loaded salary		$58	$58	$58
Dt	Tool savings	(D1*D2)+(D1*D3*D5)*D4	$860,320	$1,720,640	$2,580,960
	Risk adjustment	↓10%			
Dtr	Tool savings (risk-adjusted)		$774,288	$1,548,576	$2,322,864

Unquantified Benefits

In addition to the above benefits, Forrester also determined GitLab provides additional benefits that could not be quantified.

- **More satisfied employees**. Eliminating legacy tools in favor of one tool covering the entire pipeline reduces the complexity and hassle for employees. Workers also appreciate the increased pipeline visibility and additional capabilities that GitLab offers. The manager of data integration software engineers for the software and technology organization said "the fact that you can go in to GitLab and you can actually see the logs, how many steps it runs, and the detail of that without any other help [is impressive]." Teams are more productive and collaborative, which brings higher satisfaction to employees.
- **More satisfied customers.** Reducing toolchain complexity and increasing capabilities means projects flow more smoothly, which increases the number and quality of releases and ensures customers get what they need when they need it.
- **Improved market innovation and competitiveness.** GitLab increases competitiveness by speeding up development and cycle time, improving the composite organization's time-to-market. This speed also makes it easier to experiment, test bugs, and incorporate new features. The interviewed organizations told Forrester that these features, coupled with GitLab's frequent updates, encourage innovation within their own organizations. The senior manager of continuous delivery platform for the telecommunications organization told said, "[GitLab provides] innovation that is really not matched by anyone else."

Unquantified benefits:

- More satisfied employees
- More satisfied customers
- Improved market innovation and competitiveness

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Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement GitLab and later realize additional uses and business opportunities, including:

- **Upgrade plans to increase benefits such as security.** Through upgrading to GitLab's gold plan, organizations unlock additional pipeline capabilities, features for license compliance, and increased security and vulnerability management through the security dashboard, which monitors vulnerabilities at the pipeline, group, and instance levels for projects. The manager of data integration software engineers for the software and technology organization said: "We do expect to expand on use of the security features. We're not using those — like container scanning and security scanning for example — a lot right now. It's something that we want to create usage around."
- **Increase number of GitLab users.** GitLab's per-user licensing model and multiple pricing tiers make it easy to expand the user base within an organization and provide multiple options for user capability.
- **Further reduce reliance on other tools and multiple tool chains.** Increasing the number of users on GitLab decreases the number of users who need to use other tools, which cuts down on the overall toolchain.

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

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a future additional investment. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to do so.

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	Licensing costs	$0	$684,000	$855,000	$1,068,864	$2,607,864	$2,131,483
Ftr	Implementation and management	$20,416	$534,600	$668,250	$835,313	$2,058,579	$1,686,271
Gtr	Training costs	$614,250	$3,071,250	$2,149,875	$2,687,958	$8,523,333	$7,202,554
	Total costs (risk-adjusted)	$634,666	$4,289,850	$3,673,125	$4,592,135	$13,189,776	$11,020,308

Licensing Costs

This cost represents external costs organizations pay directly to GitLab. GitLab operates on a subscription model with an initial free tier and more features added with each additional tier. GitLab charges licensing fees per user. Based on the interviewed organizations, Forrester makes the following assumptions for the composite organization:

- The organization is using the silver tier of GitLab licenses at a cost of $19 per month.
- There is a 25% increase of GitLab users year over year.

This cost yields a three-year risk-adjusted total PV of $2.1 million.

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of more than $11 million.

Licensing Costs: Calculation Table

REF.	METRIC	CALCULATION	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Annual license cost per user	$19/month*12 months		$228	$228	$228
E2	Number of users	Assumes 25% more users YoY		3,000	3,750	4,688
Et	Licensing costs	B1*B2		$684,000	$855,000	$1,068,864
	Risk adjustment	0%				
Etr	Licensing costs (risk-adjusted)		$0	$684,000	$855,000	$1,068,864

Implementation And Management

These costs represent those that the composite organization incurs to implement and manage GitLab. The organization deploys GitLab's SaaS model, avoiding significant hardware investment. Based on feedback from the interviewed organizations, the composite organization's implementation is relatively easy, and maintaining and managing the platform requires relatively little effort.

Based on customer interviews, Forrester makes the following assumptions for the composite organization:

- The total implementation time is 320 person-hours.
- The GitLab platform requires two FTEs per 1,500 users to manage and maintain. These individuals also act as internal champions and support users when questions arise. They also help support change management needs across the organization.

These costs can vary with:

320 person-hours
Total implementation time

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- The size and method of the deployment, which will increase the time required to implement, and potentially additional costs required.
- The size of the organization.
- The average salary of IT personnel.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of $1.68 million.

Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

Implementation And Management: Calculation Table

REF.	METRIC	CALCULATION	INITIAL	YEAR 1	YEAR 2	YEAR 3
F1	Time required to implement (person-hours)	interview	320			
F2	FTEs for change management related to GitLab Platform	Interview		4.00	5.00	6.25
F3	IT fully loaded salary	$90,000*1.35X benefits multiplier	$121,500	$121,500	$121,500	$121,500
F4	IT hourly salary (rounded value shown)	F3/2,080 working hours per year	$58			
Ft	Implementation and management	(F1*F4)+(F2*F3)	$18,560	$486,000	$607,500	$759,375
	Risk adjustment	↑10%				
Ftr	Implementation and management (risk-adjusted)		$20,416	$534,600	$668,250	$835,313

Training Costs

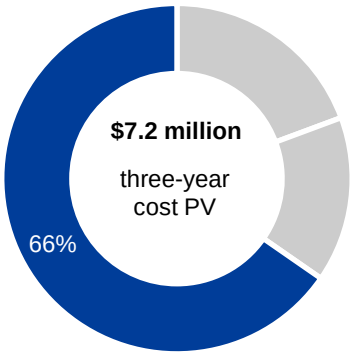
Based on best practices of the interviewed organizations, the composite organization spends time training employees on GitLab. Forrester makes the following assumptions about the composite organization:

- One of the four teams is trained initially, followed by training for the rest of the users after deployment. Initial training for GitLab takes 1.5 days. An additional 6 hours of training are required each year for updates and changes.

These costs can vary with:

- The size of the organization, which can impact the number of users who require training.
- The average salary of GitLab users who require training.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of $7,202,554.



Training Costs: Calculation Table

REF.	METRIC	CALCULATION	INITIAL	YEAR 1	YEAR 2	YEAR 3
G1	Users who require initial training	Interviews	750	2,250	750	938
G2	Time for initial training	1.5 days	12	12	12	12
G3	Users who require update training	E2		3,000	3,750	4,688
G4	Time for training on updates	6 hours/year		6	6	6
G5	Blended hourly salary of GitLab users		$65	$65	$65	$65
Gt	Training costs	((G1*G2)+(G3*G4))*(G5)	$585,000	$2,925,000	$2,047,500	2,559,960
	Risk adjustment	↑5%				
Gtr	Training costs (risk-adjusted)		$614,250	$3,071,250	$2,149,875	$2,687,958

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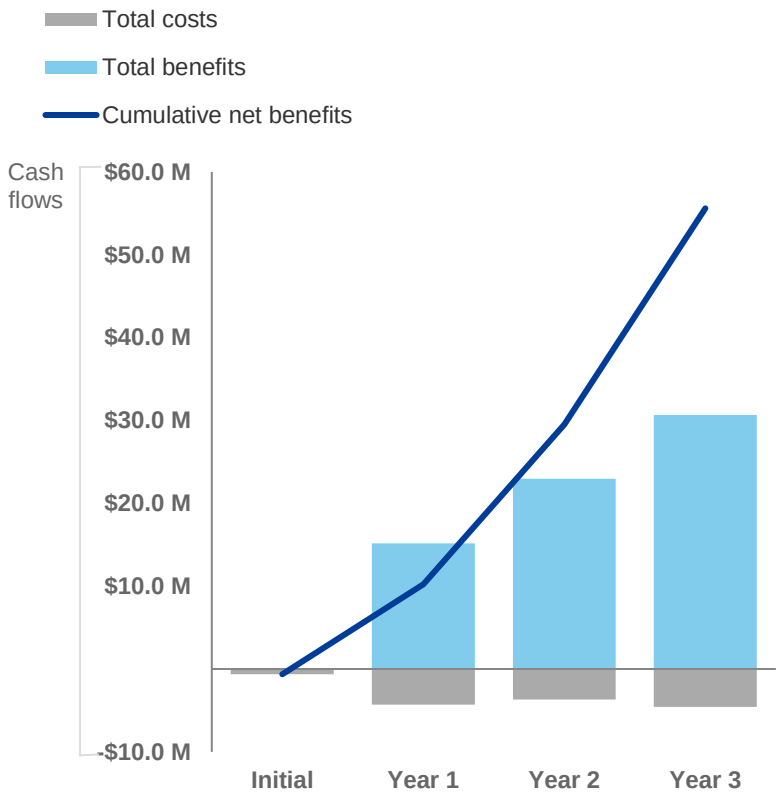
Financial Summary

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	($634,666)	($4,289,850)	($3,673,125)	($4,592,135)	($13,189,776)	($11,020,308)
Total benefits	$0	$15,162,413	$22,996,889	$30,682,614	$68,841,916	$55,842,006
Net benefits	($634,666)	$10,872,563	$19,323,764	$26,090,480	$55,652,140	$44,821,698
ROI						407%

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GitLab: Overview

The following information is provided by GitLab. Forrester has not validated any claims and does not endorse GitLab or its offerings.

GitLab is a complete DevOps platform, delivered as a single application, fundamentally changing the way Development, Security, and Ops teams collaborate. GitLab helps teams accelerate software delivery from weeks to minutes, reduce development costs, and reduce the risk of application vulnerabilities while increasing developer productivity. GitLab provides unmatched visibility, radical new levels of efficiency and comprehensive governance to significantly compress the time between planning a change and monitoring its effect.

GitLab collapses cycle times by driving higher efficiency across all stages of the software development lifecycle. For the first time, Product, Development, QA, Security, and Operations teams can collaborate in a single application. There's no need to integrate and synchronize tools, or waste time waiting for handoffs. Everyone contributes to a single conversation, instead of managing multiple threads across disparate tools. Development teams have complete visibility across the lifecycle with a single, trusted source of data to simplify troubleshooting and drive accountability. All activity is governed by consistent controls, making security and compliance first-class citizens instead of an afterthought.

Built on Open Source, GitLab leverages the community contributions of thousands of developers and millions of users to continuously deliver new DevOps innovations. More than 100,000 organizations from startups to global enterprise organizations, including Ticketmaster, Jaguar Land Rover, NASDAQ, Dish Network and Comcast trust GitLab to deliver great software at new speeds.

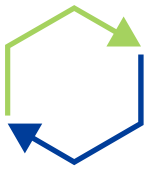
Appendix A: Total Economic Impact

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] “Manage Your Toolchain Before It Manages You,” a commissioned study conducted by Forrester Consulting on behalf of GitLab, March 2019.