

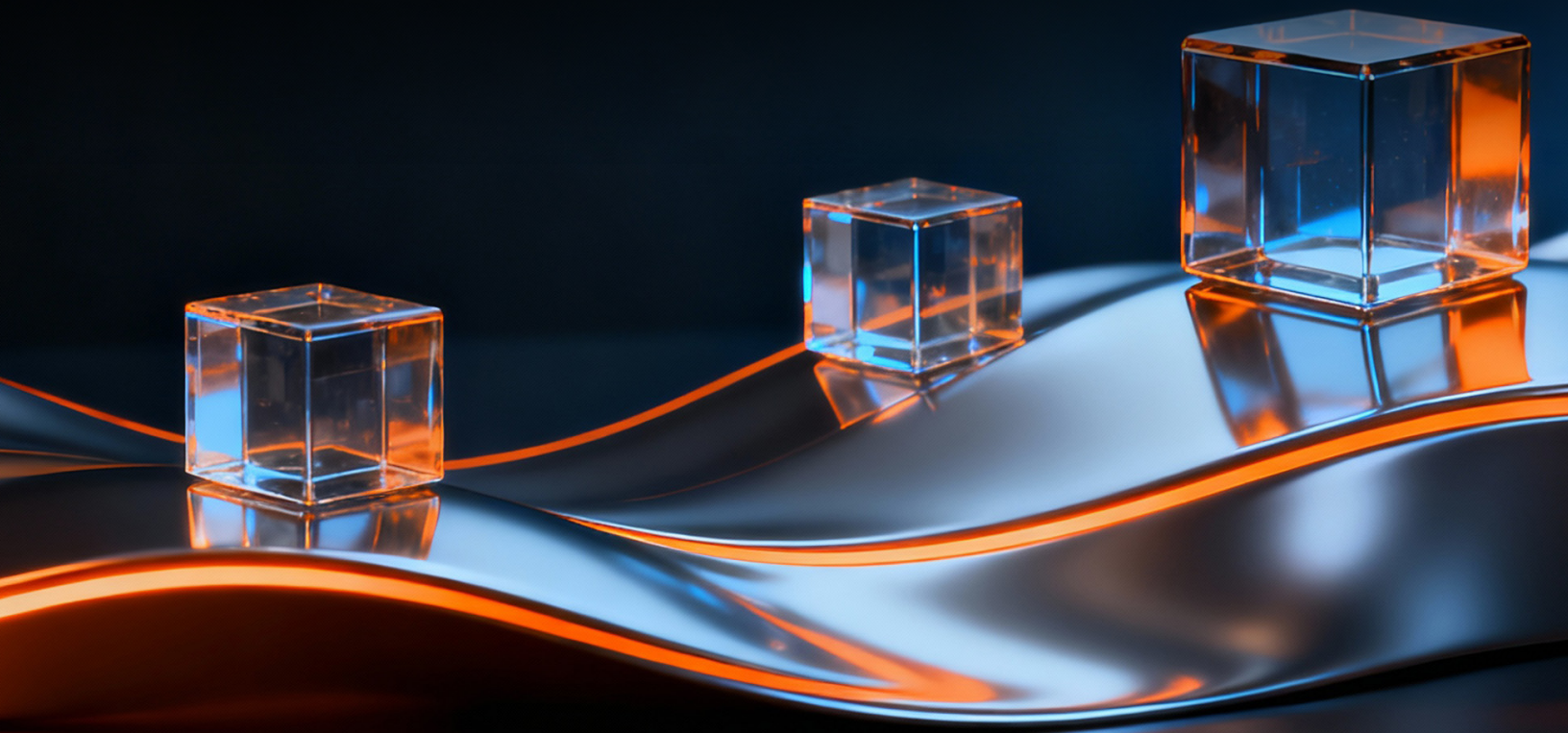


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research



# Smarter, Secure Software Delivery in the AI Era with Docker

Harnessing AI, Agents, and Software Supply Chain Security  
to Drive ROI, Productivity, and Business Continuity



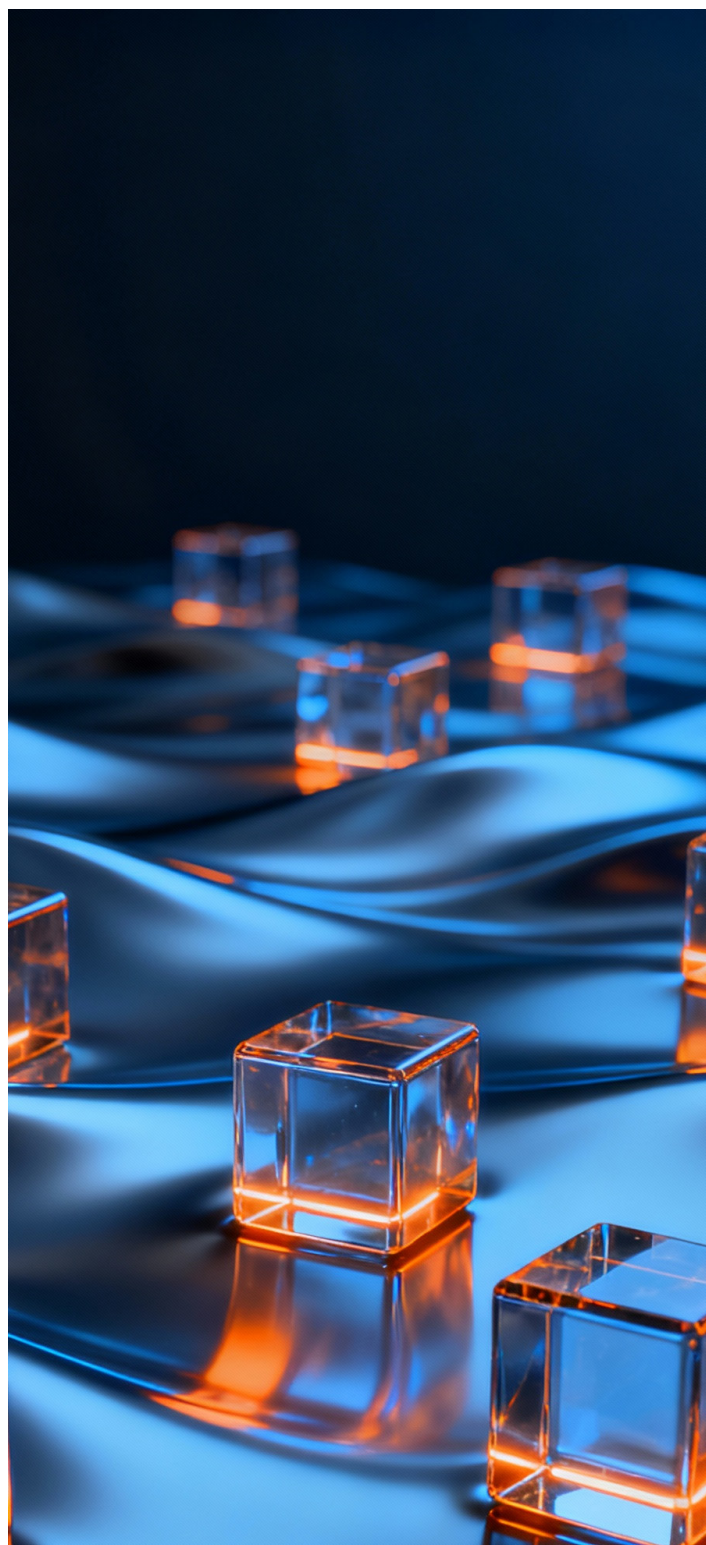
# Research Objectives

This survey reveals how organizations are leveraging the Docker platform and ecosystem to boost developer productivity, strengthen security, speed up AI and agent development, and generate measurable ROI. The research focused on identifying key trends and use cases that drive efficiency in development workflows, as well as understanding the broader strategic business impacts of Docker adoption.

Core areas of investigation included:

- Measuring improvements in developer productivity and efficiency.
- Assessing the influence of Docker on IT spending and return on investment (ROI).
- Evaluating the alignment between technology initiatives with Docker and business strategy.
- Examining the role of AI and agents in accelerating innovation and delivering measurable business value.
- Strengthening software supply chain security, compliance, and vulnerability management across the development lifecycle.

A total of 393 IT and application development professionals and leaders participated, with 84% holding senior IT executive or management roles. Respondents primarily represented large organizations, with 50% employing over 2,500 people and 57% reporting annual revenues above \$250 million. Nearly all respondents (98%) had expertise in application development practices and requirements.



# Key Findings Agenda

## 1. AI and Agent Development, Testing, and Security

Survey data confirms that Docker Desktop and Docker's AI capabilities enable enterprises to develop AI applications and agents in a multi-agent and multi-model world. Standardized development environments and reproducible containers cut setup times in half or more, while Docker Model Runner, MCP Catalog & Toolkit, and Offload enable developers to build and test AI agents using trusted models, data sources, and cloud GPU resources. Additionally, enterprises are able to maintain security, governance, and portability across deployment targets. The result is faster AI experimentation, smoother validation, and consistent deployment across cloud, edge, and on-premises systems.

## 2. Security, Compliance, and Vulnerability Management

Respondents identified Docker as a critical enabler of software supply chain security. With Docker Scout, Hub trusted content, and Hardened Images, organizations can identify vulnerabilities earlier in the SDLC, leverage minimal secure base images from the start, and benefit from fast SLA-backed remediation. This ensures enterprise-grade security while enabling modern applications to meet evolving regulatory and security standards.

## 3. Developer Productivity and DevOps Enablement

Docker Desktop, combined with Docker Compose and integrations into CI/CD systems, is reshaping the inner-to-outer loop of software delivery. Developers

report measurable productivity gains, such as faster builds, standardized workflows, and fewer environment conflicts. These efficiencies extend to DevOps teams, where Docker enables broader automation and accelerates adoption of modern delivery practices.

## 4. Application Modernization and Time-to-Market Acceleration

Enterprises highlighted Docker's role in bridging legacy and cloud-native environments. By containerizing and refactoring existing applications as well as streamlining migration to modern architectures, organizations cut release cycles and bring new features to market more quickly. Docker Hub and Docker's ecosystem integrations ensure teams can move at speed while maintaining portability across infrastructure choices.

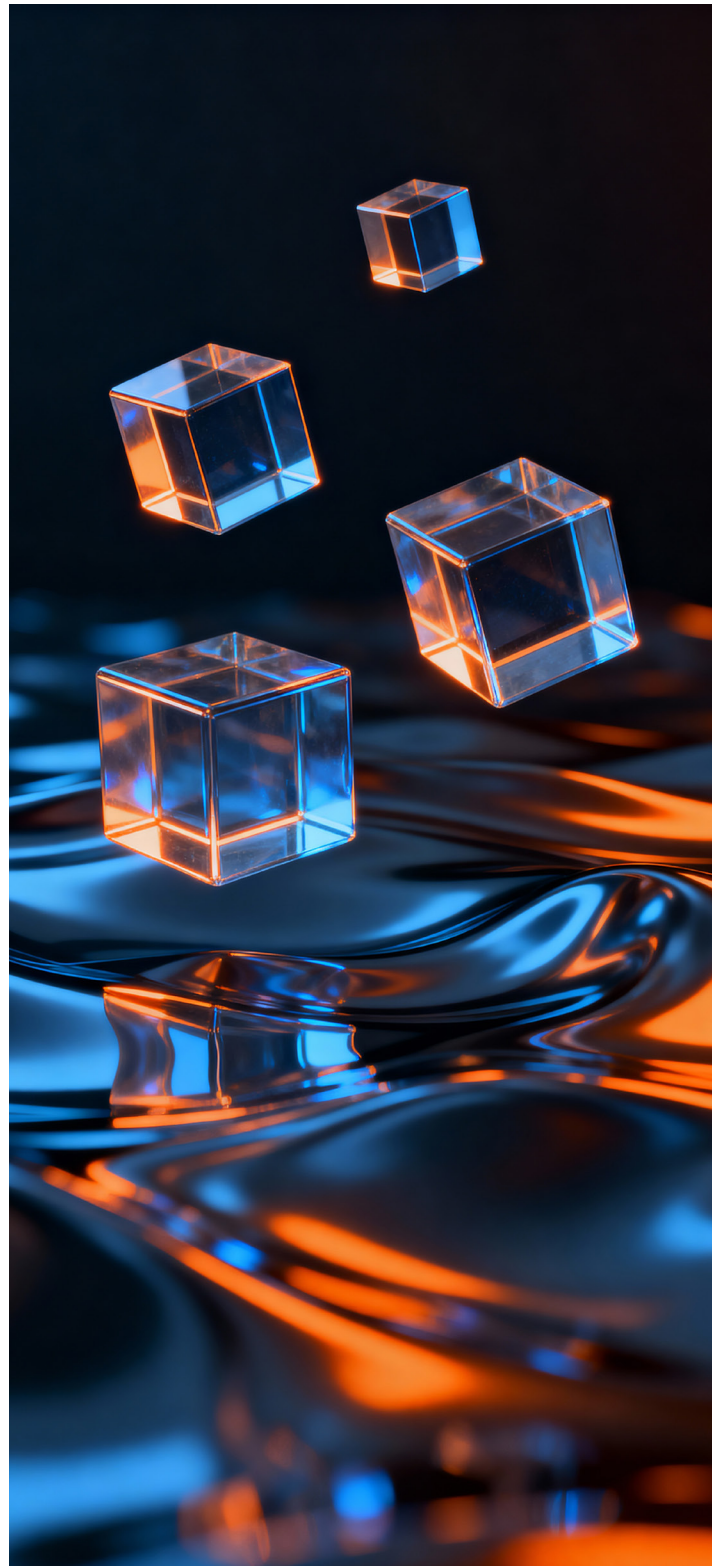
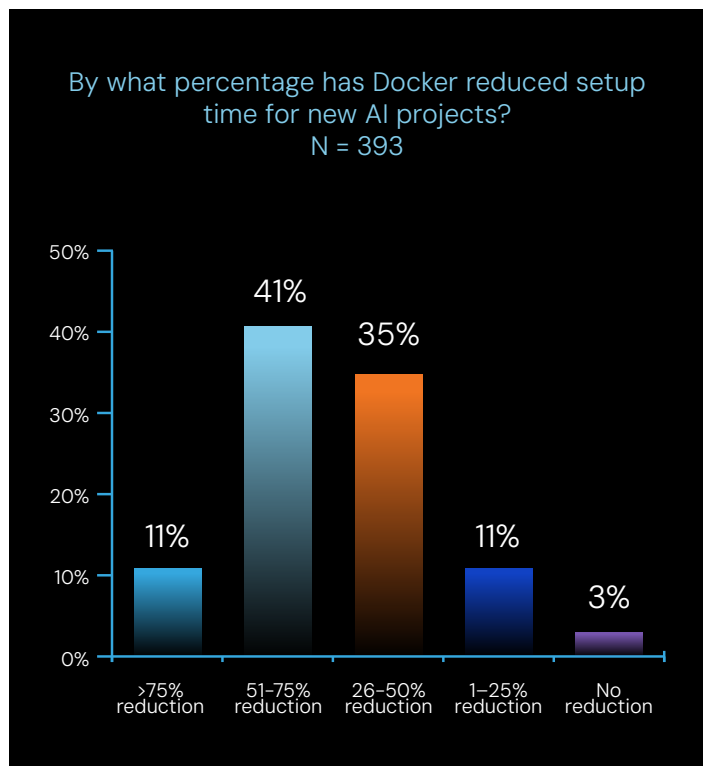
## 5. Business Value and ROI

Survey respondents consistently tied Docker adoption to bottom-line impact and strong ROI. From cost savings through infrastructure optimization to faster innovation cycles, Docker's platform enables clear and measurable savings. Organizations reported six- and seven-figure annual savings, alongside high ROI percentages, underscoring Docker's position as both a developer productivity tool and a strategic enterprise investment in the AI and security-first era.

# AI Project Acceleration and Reliability

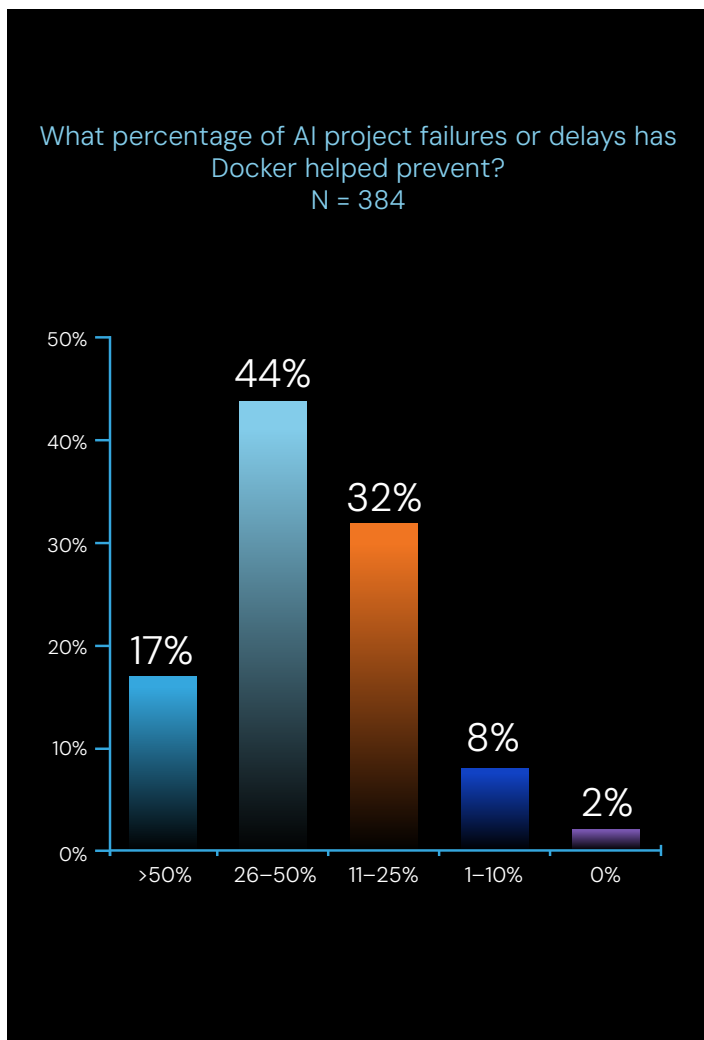
## Docker Reduces AI Project Setup Time

Environment setup remains one of the most persistent challenges in AI development. Survey results show that Docker is helping teams overcome this barrier by dramatically shortening setup cycles. 41% of organizations reported reducing setup time by 51–75%, and another 35% achieved 26–50% faster setup. Even 11% experienced reductions greater than 75%, underscoring Docker's critical role in helping teams move rapidly from concept to execution. These findings confirm that reproducible environments and standardized containers are central to accelerating AI project starts and maintaining consistent performance across development teams.



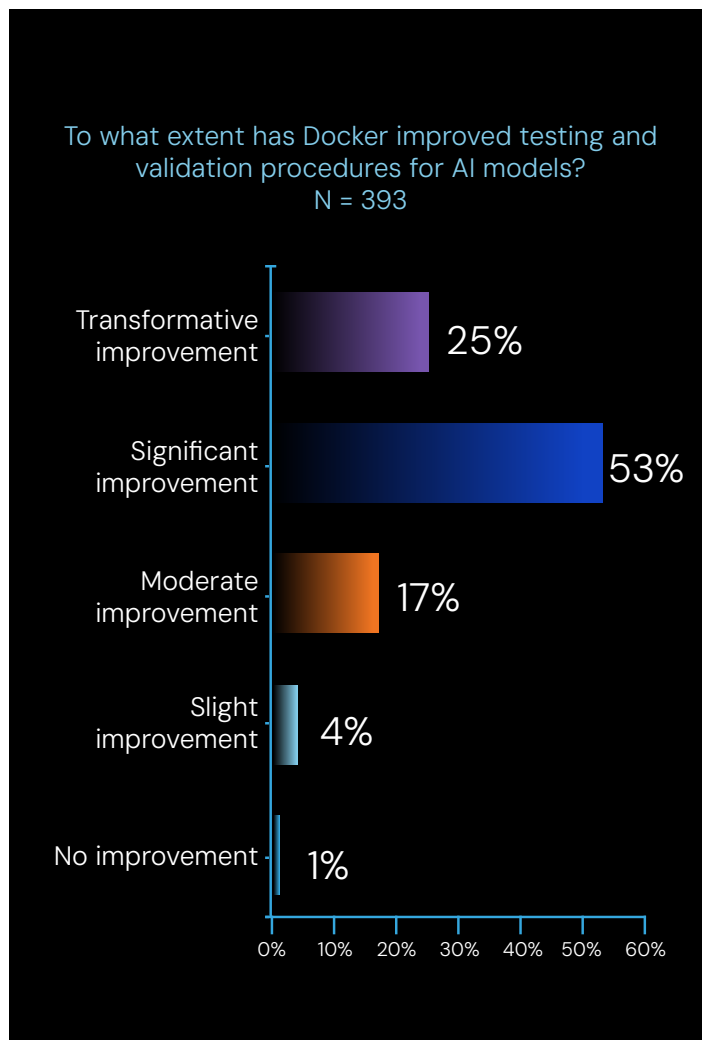
## Reduced AI Project Failures and Delays

Reliability remains a key performance indicator for AI initiatives, and Docker is proving instrumental in minimizing risk. 44% of respondents indicated that Docker helped prevent 26–50% of project failures or delays, while 17% reported prevention rates exceeding 50%. These results highlight how Docker’s consistency, isolation, and repeatability not only speed development but also reduce costly rework and downtime—strengthening confidence in AI project delivery.



## Stronger AI Testing and Validation Practices

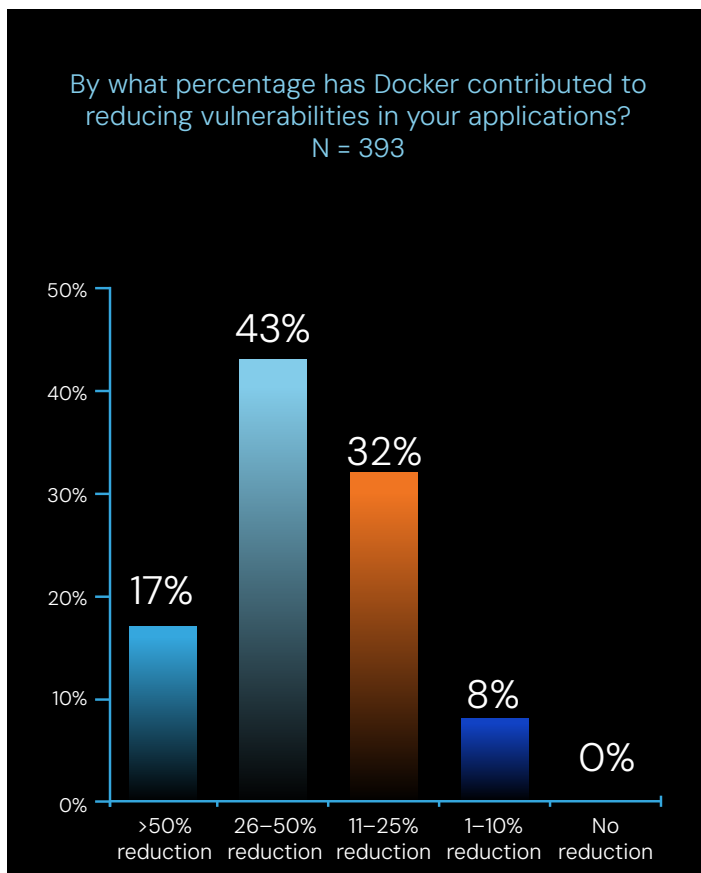
Testing and validation are critical to responsible AI operations, and Docker is driving measurable improvements in both. The majority of respondents (53%) reported that Docker significantly improved their AI testing and validation procedures, while another 25% cited a transformative impact. With just 1% reporting no benefit, the findings suggest that Docker is enabling standardized, secure, and reproducible workflows that improve the quality, reliability, and governance of AI models across the enterprise.



# Security, Compliance, and Vulnerability Management

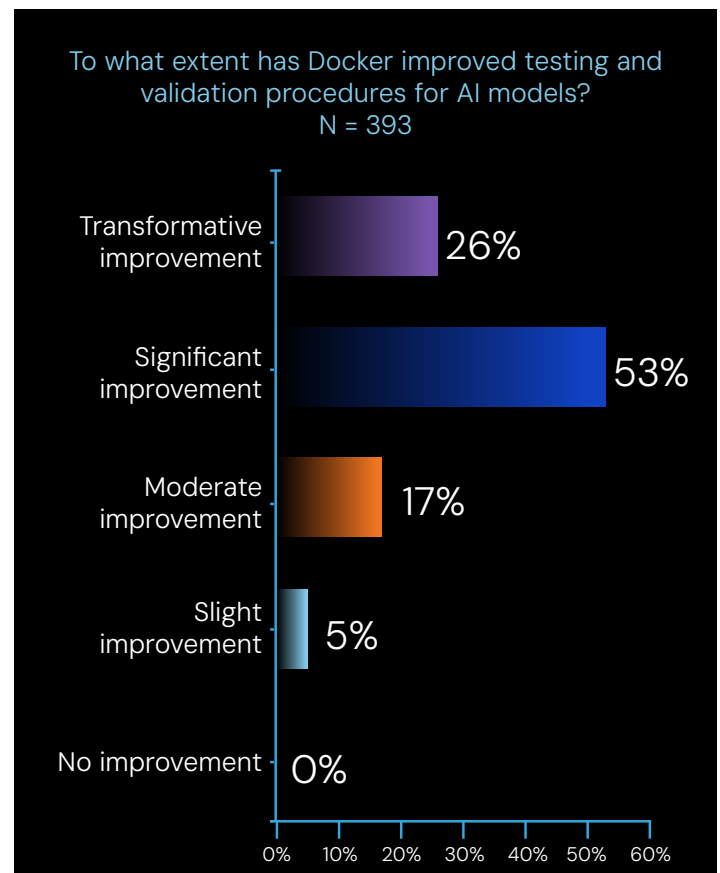
## Strengthened Application Security

Security remains one of the biggest challenges in AI and modern application development, and Docker is delivering measurable results. In fact, 43% of organizations reported a 26–50% reduction in vulnerabilities, while 17% achieved reductions of more than 50%. With over 90% seeing at least some level of improvement, Docker is proving to be a critical tool for building safer, more resilient applications.



## Elevated Security Posture

Organizations are seeing clear security benefits with Docker: 53% report significant improvement and 26% even describe the impact as transformative. With 96% experiencing at least some security gains and 0% reporting no improvement, Docker is emerging as a trusted foundation for strengthening enterprise security strategies.

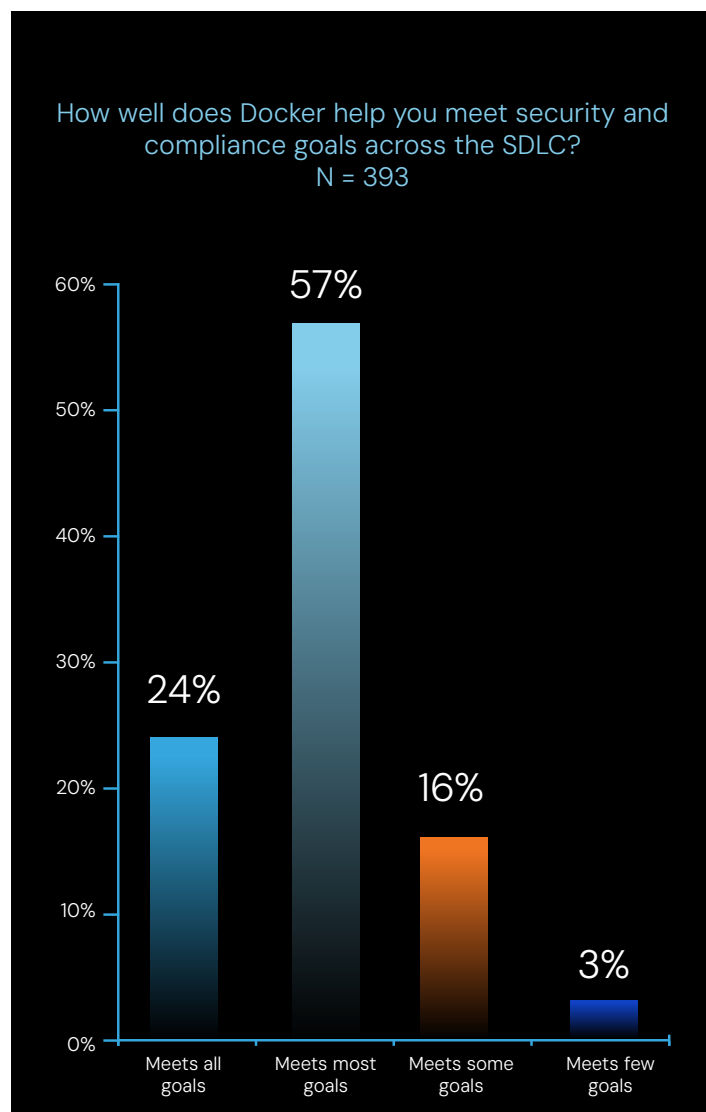
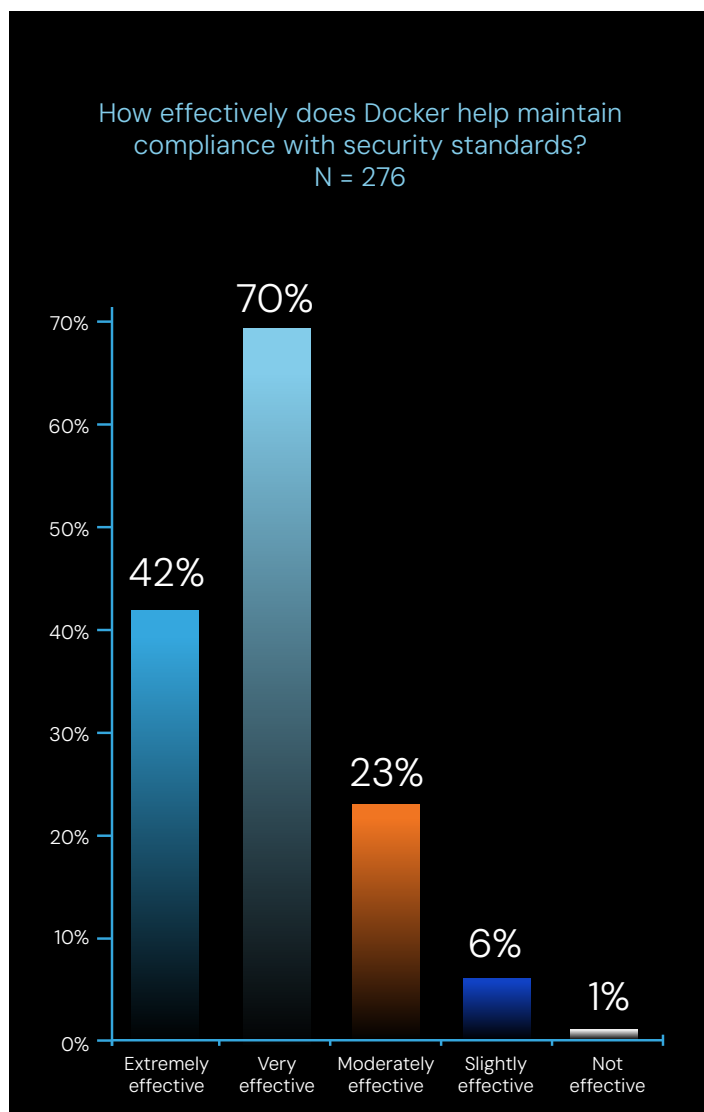


## Simplified Security Compliance

Compliance is a top concern for enterprises, and Docker is helping organizations meet security standards with confidence. 42% of respondents rated Docker as extremely effective, while another 70% said it is very effective, and only 1% found it ineffective. With over 90% finding Docker effective at some level, it's clear the platform plays a vital role in reducing compliance burdens and ensuring stronger governance.

## Docker Delivers on Security and Compliance Goals

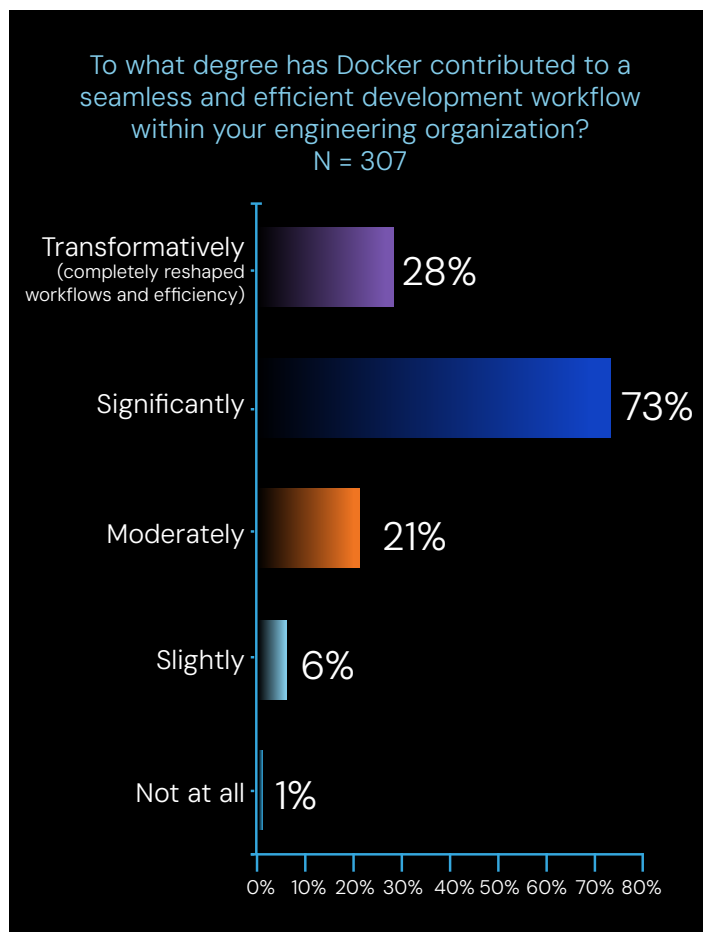
Across the software development lifecycle, Docker is helping teams stay aligned with critical compliance requirements. 57% of respondents said Docker helps them meet most security and compliance goals, while another 24% reported it enables them to meet all goals. With nearly 80% of organizations achieving broad compliance coverage, Docker is proving essential for embedding security directly into development workflows.



# Developer Productivity and DevOps Enablement

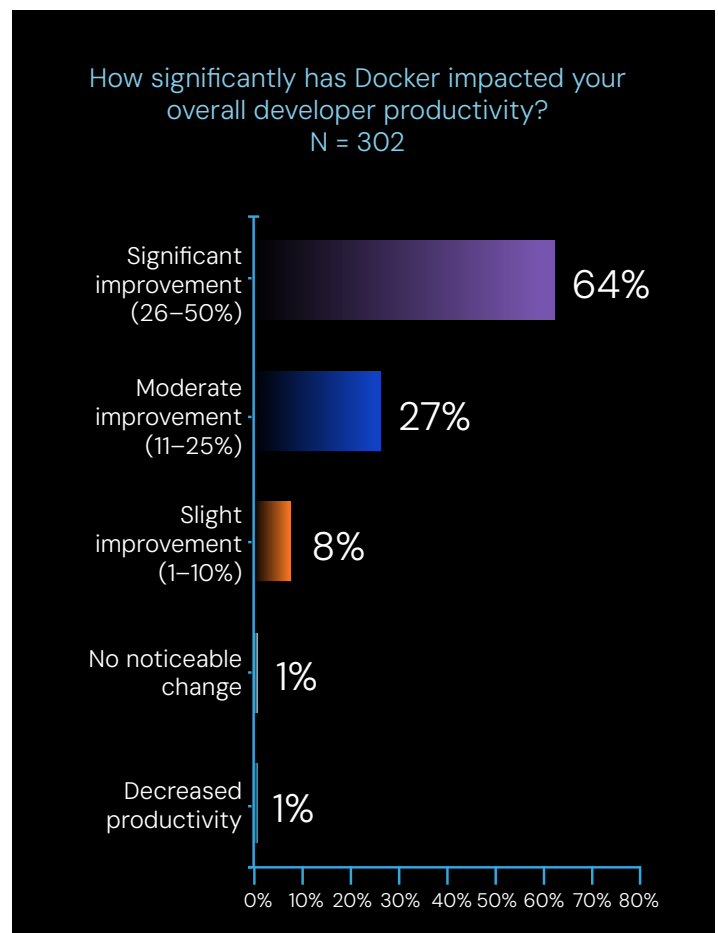
## Docker Streamlines Development Workflows

Engineering teams credit Docker with reshaping how they work, driving efficiency and collaboration across the development lifecycle. 73% of organizations report significant improvements in workflow efficiency, while another 28% describe the impact as transformative, completely reshaping how development gets done. With only 1% seeing no impact, Docker has become a cornerstone for seamless and efficient DevOps practices.



## Docker Boosts Developer Productivity

Docker is driving measurable gains in developer output, with 64% of organizations reporting significant improvements of 26–50% and another 27% seeing moderate gains of 11–25%. With only 1% citing no improvement or decreased productivity, Docker has clearly established itself as a critical enabler for accelerating developer efficiency and impact.

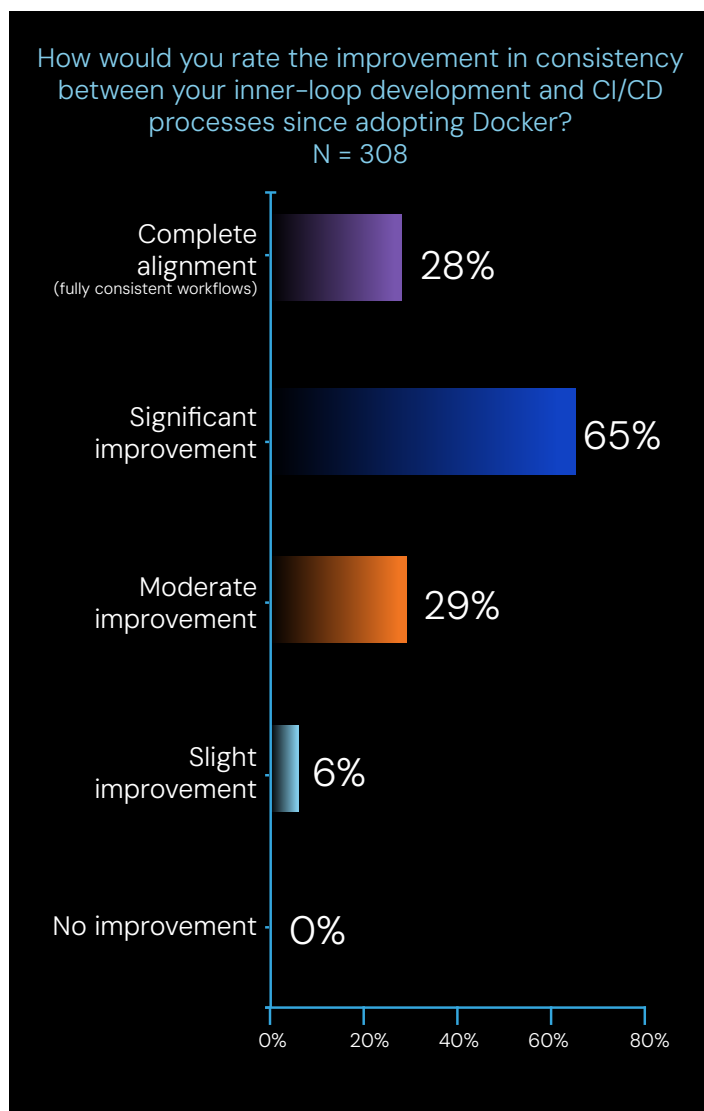
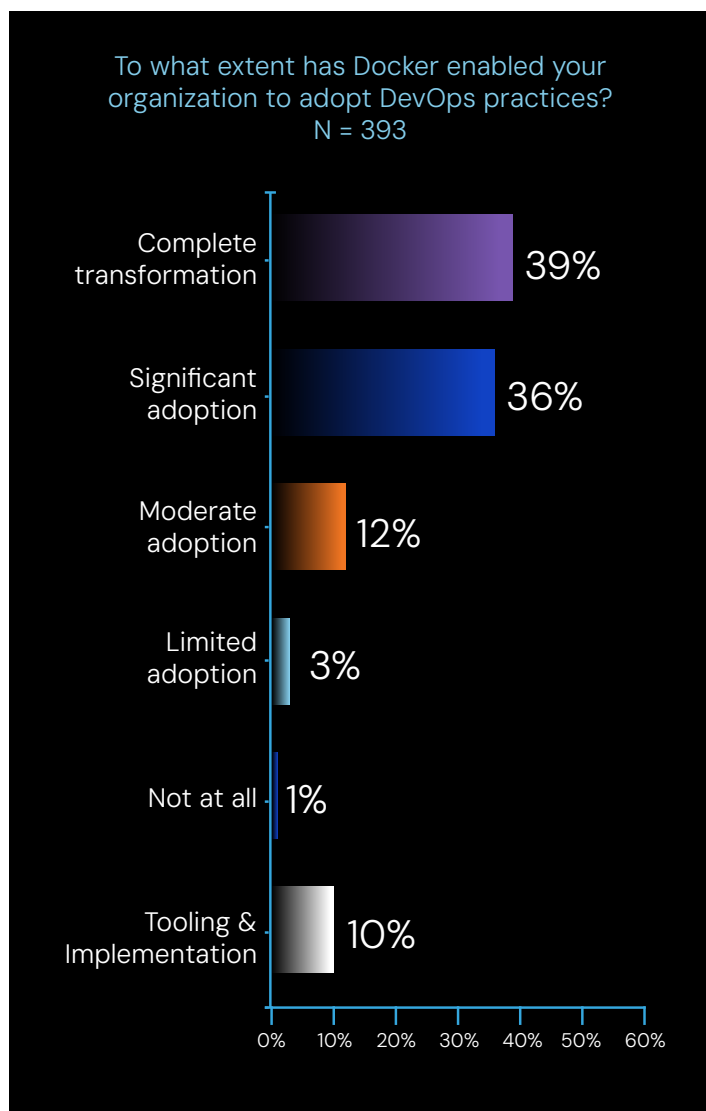


## Docker Accelerates DevOps Adoption

Docker is driving DevOps maturity across organizations, with 39% reporting a complete transformation and 36% citing significant adoption enabled by the platform. Even among those earlier in their journey, 12% noted moderate adoption and 10% highlighted Docker's role in tooling and implementation, underscoring its importance as a catalyst for modern DevOps practices.

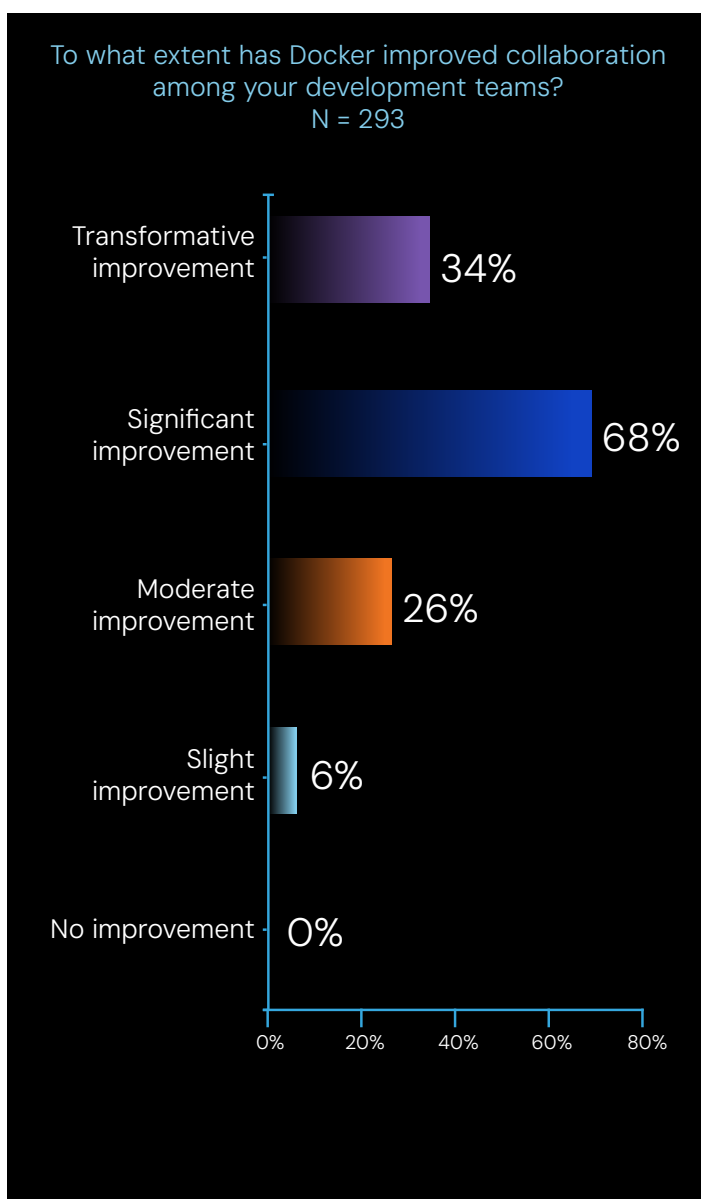
## Docker Aligns Development and CI/CD Workflows

Docker is bridging the gap between inner-loop development and CI/CD pipelines, creating more consistent and reliable workflows. 65% of organizations report significant improvement in alignment, while 28% achieved complete workflow consistency and another 29% saw moderate gains. With 0% reporting no improvement, Docker is proving essential for enabling smoother, end-to-end DevOps integration.



## Docker Enhances Team Collaboration

Collaboration across development teams is stronger with Docker, as 68% of organizations report significant improvement and 34% describe the change as transformative. With an additional 26% seeing moderate gains and 0% reporting no improvement, Docker is clearly enabling smoother teamwork and breaking down silos across the software development lifecycle.



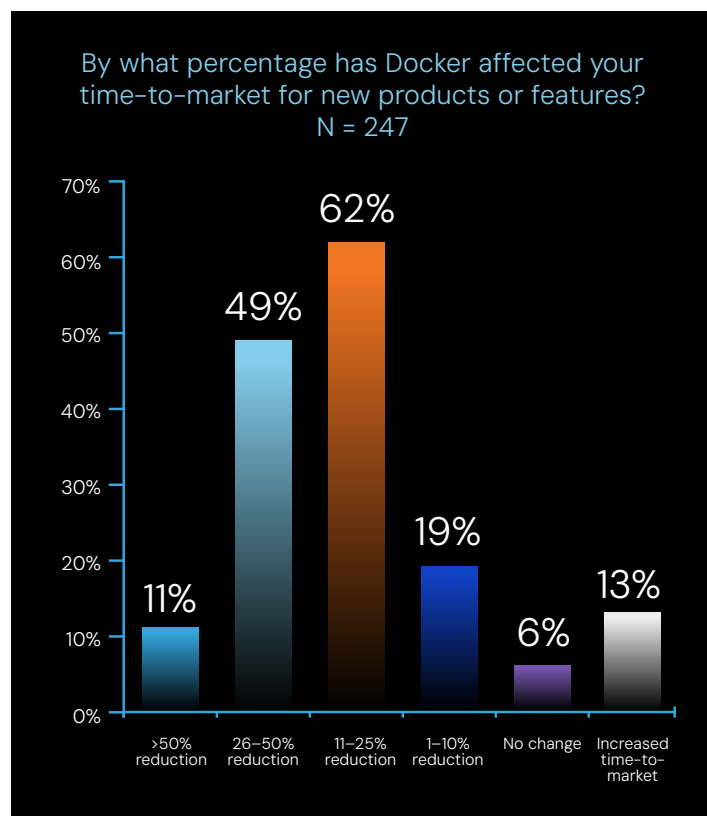
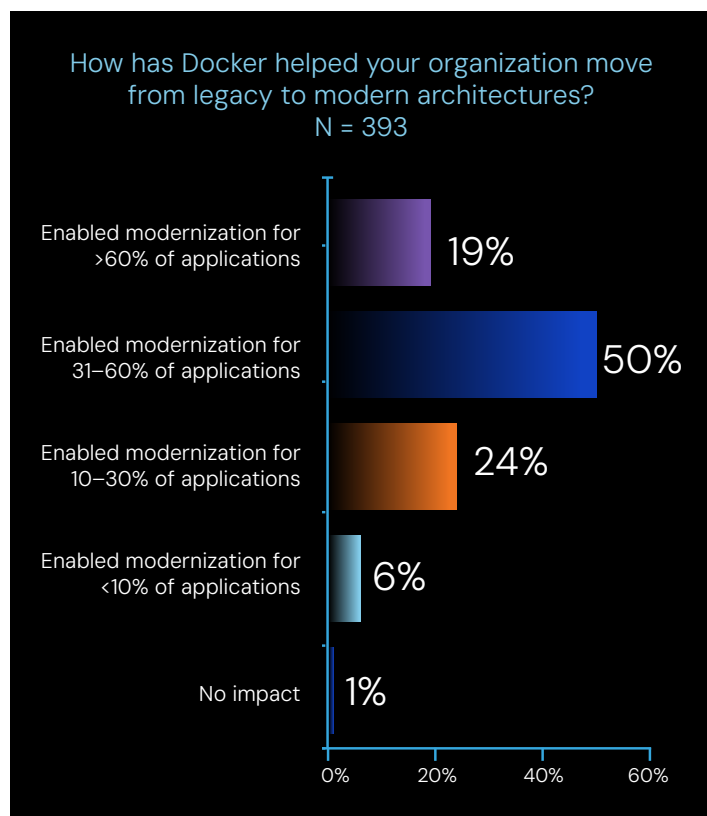
# Application Modernization and Time-to-Market Acceleration

## Docker Enables Application Modernization

Docker is a key enabler of modernization, helping organizations transition from legacy to modern architectures at scale. 50% of organizations report Docker enabled modernization for 31–60% of their applications, while 19% achieved modernization across more than 60%. With another 24% modernizing 10–30% of applications, Docker is accelerating the shift to modern, cloud-native environments that drive agility and faster time-to-market.

## Docker Speeds Time-to-Market for New Features

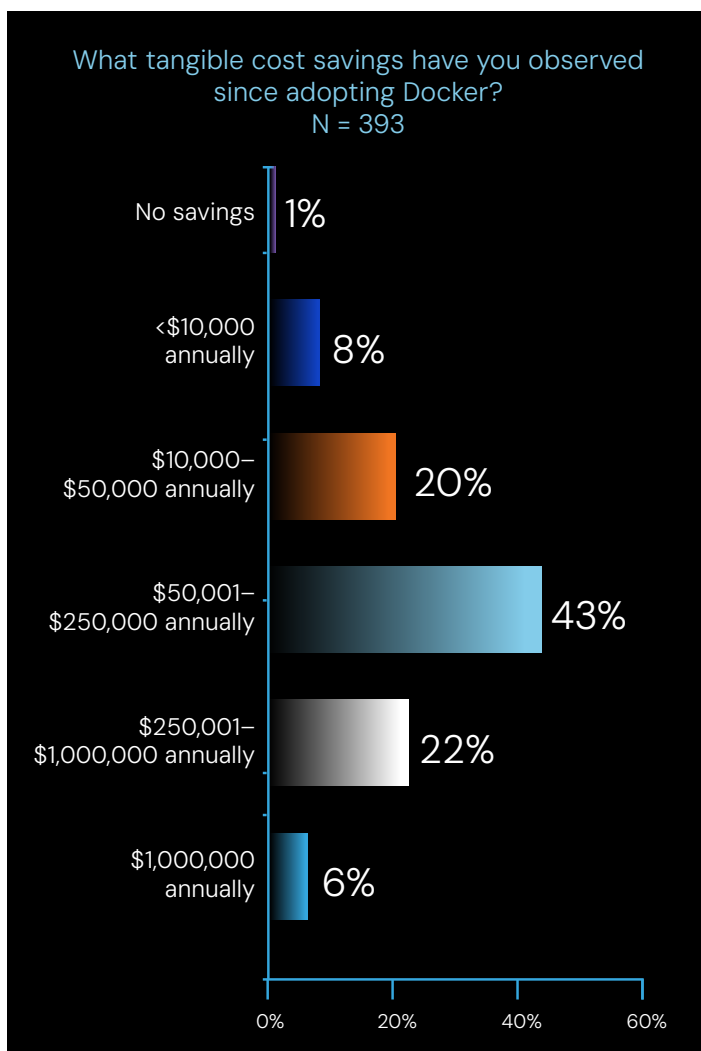
Organizations using Docker are cutting delivery times dramatically, with 62% reporting a 11–25% reduction in time-to-market for new products or features and 49% seeing reductions of 26–50%. Even 11% achieved reductions of more than 50%, underscoring how Docker empowers teams to bring innovation to market faster while reducing friction across the development lifecycle.



# Business Value and ROI

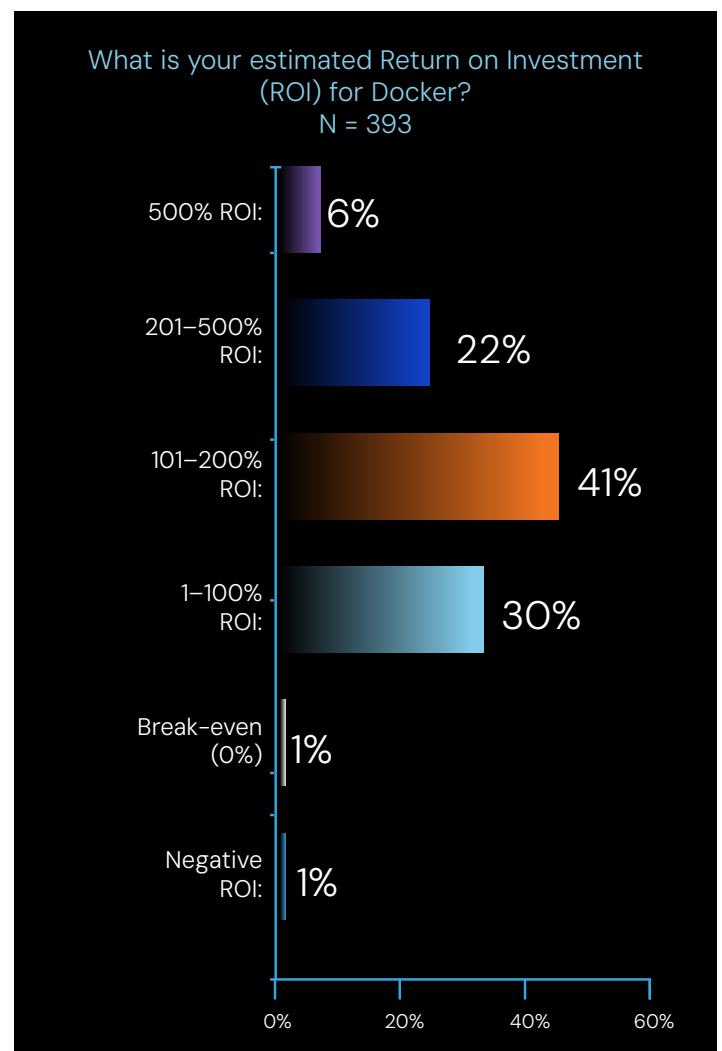
## Docker Delivers Measurable Cost Savings

The financial benefits of Docker adoption are clear, with 43% of organizations saving between \$50,000 and \$250,000 annually and another 22% realizing savings of \$250,000 to \$1 million. Even 6% reported savings of more than \$1 million per year, showing that Docker not only accelerates modernization and time-to-market but also drives substantial cost efficiencies across development and operations.



## Docker Delivers Substantial ROI

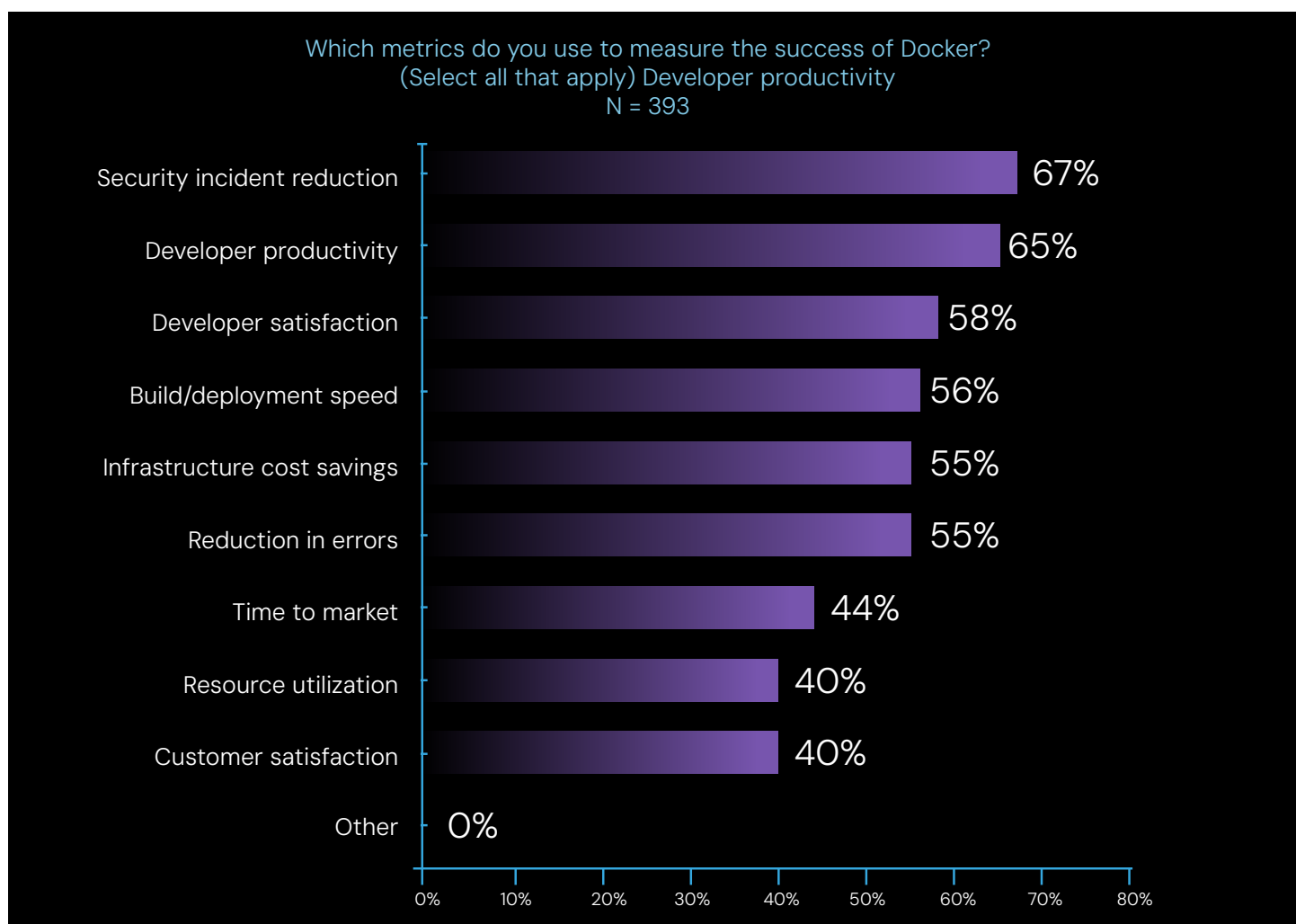
Organizations are realizing substantial returns from their Docker investments, with 41% reporting an ROI of 101–200% and 22% achieving 201–500% ROI. Notably, 6% have seen returns greater than 500%, while 30% report 1–100% ROI, highlighting Docker’s consistent ability to generate measurable business value well beyond its adoption costs.



# Metrics that Define Docker's Impact

Organizations measure Docker's impact through clear, outcome-driven metrics. Security incident reduction (67%) is the leading success measure, followed closely by developer productivity (65%), reflecting Docker's dual role in both protection and efficiency. Additional key metrics include developer satisfaction (58%), build and deployment speed (56%), and infrastructure cost savings (55%), underscoring the broad value Docker

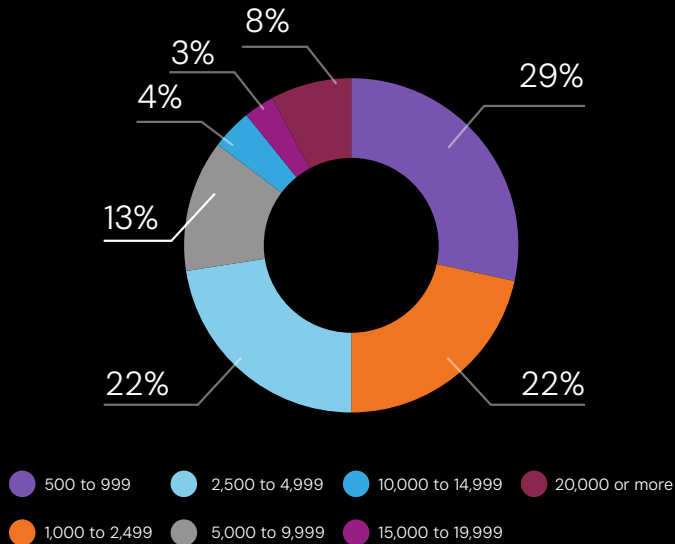
delivers. Even downstream outcomes such as reduction in errors (55%), time-to-market improvements (44%), and customer satisfaction (40%) highlight how Docker adoption translates directly into stronger business performance.



# Demographics

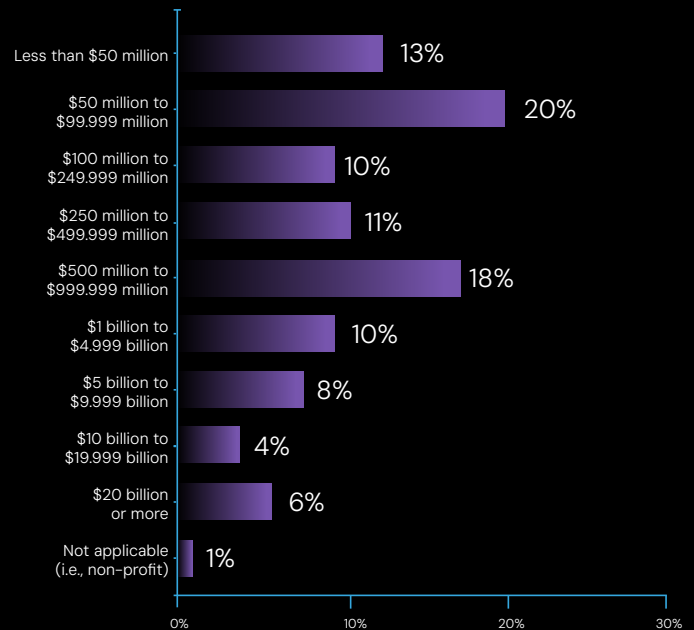
## Respondents by Company Size

How many total employees does your company have worldwide? N = 393



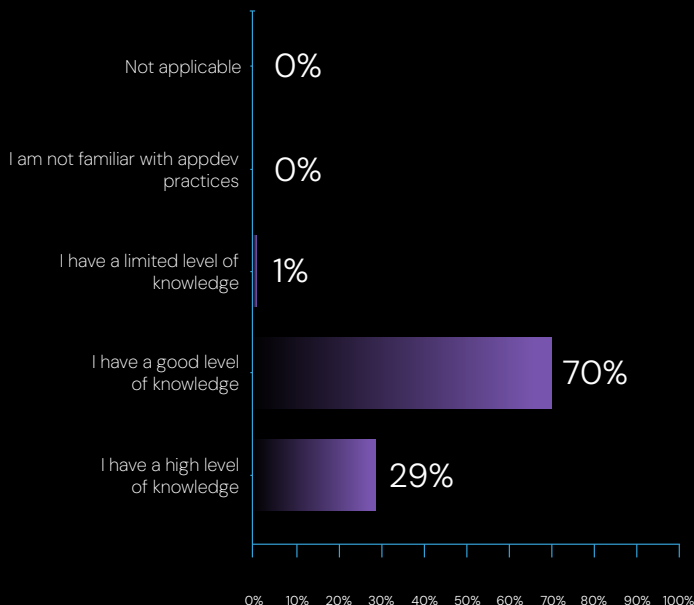
## Respondents by Company Revenue

What is your company's total annual revenue (US \$)? N = 393



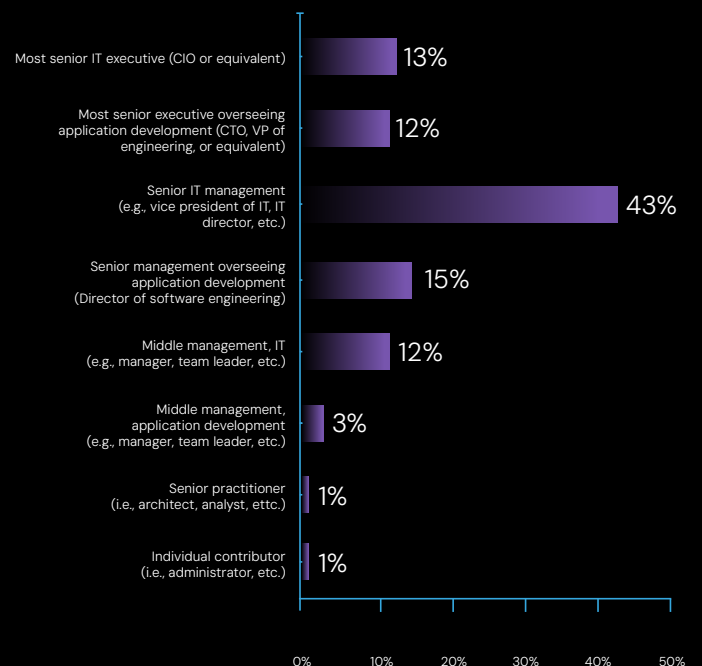
## Respondents by Degree of AppDev Knowledge

To what extent do you have knowledge of your organization's application development practices and requirements? N = 393



## Respondents by Job Title

Which of the following best describes your current job title/level? N = 393



## About Docker



**Docker** drives modern software development by making it easy to adopt container technology to radically boost productivity, security, testing, and collaboration at every step of the developer experience. This includes emerging AI, agentic, and software supply chain security requirements. Embraced by over 20 million developers worldwide, Docker's unmatched flexibility and choice make it the preferred tool for developers seeking efficiency and innovation for creating modern applications. Learn more about Docker at [www.docker.com](http://www.docker.com)



## About the Author

**Paul Nashawaty**, Practice Leader and Lead Principal Analyst, specializes in application modernization across build, release and operations. With a wealth of expertise in digital transformation initiatives spanning front-end and back-end systems, he also possesses comprehensive knowledge of the underlying infrastructure ecosystem crucial for supporting modernization endeavors. With over 25 years of experience, Paul has a proven track record in implementing effective go-to-market strategies, including the identification of new market channels, the growth and cultivation of partner ecosystems, and the successful execution of strategic plans resulting in positive business outcomes for his clients.

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