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Modernization Is No Longer a Project

AI-enabled managed services for continuous change

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Table of contents

Click any title to navigate directly to that page.

Table of contents (continued)

Executive summary

AI is moving from promise to practice in application operations. Success is defined by how effectively AI is embedded into the core of IT operations to enable continuous modernization and deliver measurable business value.

- Mature organizations are moving from reactive IT to continuous modernization. By integrating AI and platform-led engineering, they are not just fixing tech debt, they are building evolutionary architectures that grow instead of age. This shift accelerates release cycles and proactively manages risk, turning ITOps into a value center.
- Partner engagement models are also shifting, with greater emphasis on outcomes, shared risk, and value-based delivery.

Adoption a matter of when, not if

Around 50% of organizations use AI in application operations; the rest plan to within two years. 9 in 10 large enterprises (5,000+ FTEs) already use AI. The question has shifted from "if" to how quickly an organization can achieve industrial-grade reliability.

Evolving operating models

Most organizations have moved beyond reactive operations, and many are starting to integrate AI tools; however, only a minority have transitioned to fully AI-driven operations.

Value focus

Top AI benefits cluster around automation, speed, security, and cost, but uncertain ROI and data quality are the biggest barriers.

Modernization strategy

One in three organizations are moving to rebuild for the AI era, shifting to a continuous, incremental application maintenance model to drive velocity, agility, and the systematic reduction of technical debt.

Culture and people first (over tooling)

Competitive advantage is found in leadership-led cultural transformation, where cross-functional collaboration and people and process realignment allow organizations to operationalize AI at scale.

Commercial shift

The market is decoupling labor from value. While baseline automation creates downward pressure on "people-heavy" pricing, it creates a premium for semi-autonomous, engineering-led functions that drive innovation. This evolution demands a transition to value-based partnerships and performance-linked SLAs that ensure AI that works at scale.

Today's modernization approaches fall short

Modernization is not a standalone initiative; it is becoming an integral part of application operations. Yet most organizations still approach it intermittently, creating gaps that undermine operational efficiency.

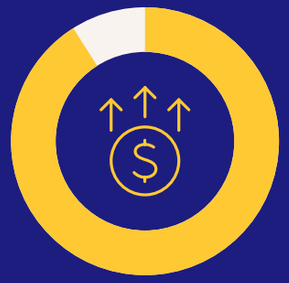
9 in 10
organizations take an intermittent approach to modernization.

Only 2 in 10
indicate current app modernization approaches proves value.

Q: How effectively has your organization's app modernization program delivered new features and maintained a competitive advantage?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

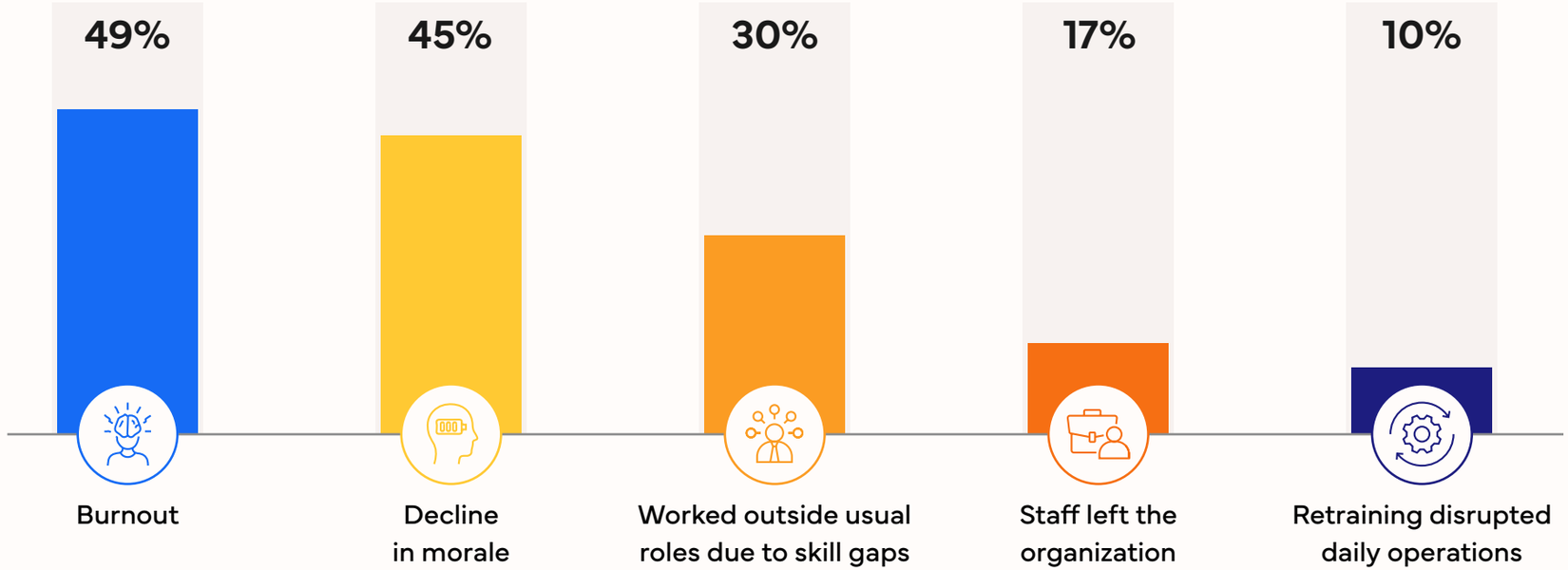
The cost is high on people, from burnout to attrition



91%

of organizations indicate their staff pays a price for project-based modernization.

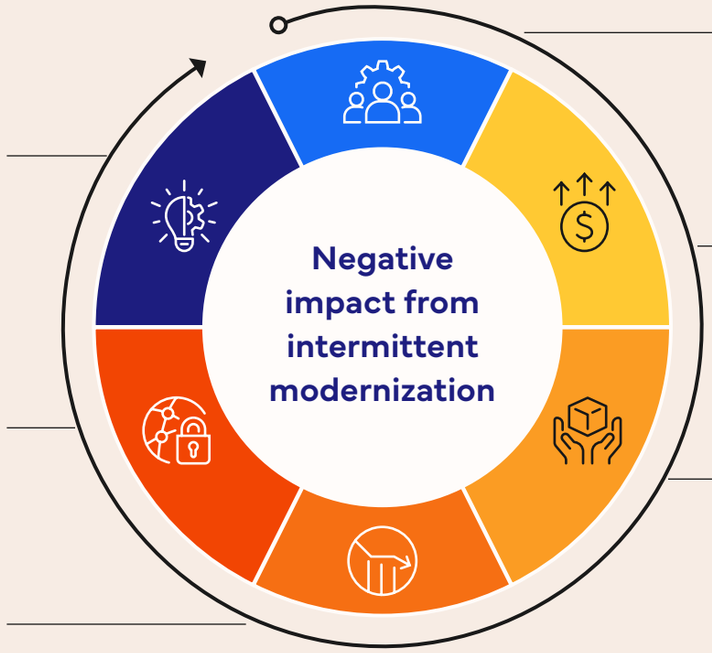
Impact of intermittent application modernization on people:



Q: How have intermittent application modernization initiatives impacted your organization's IT staff?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

Current practices leave critical gaps — this is costly at multiple levels



Q: What are the most negative impacts your organization has experienced due to one-off or intermittent application modernization initiatives over the past two years?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

Intermittent modernization creates operational inefficiencies and hidden costs. Moving to integrated continuous modernization within application operations, enabled by AI-driven practices, helps address challenges of disruption, cost and ROI, and innovation.

The path to greater efficiency requires evolving current practices.

Modernization strategies are evolving

Speed and agility demands are driving one-third of organizations toward continuous modernization.

Two-year application modernization strategies:

- **35%** Shift to continuous, incremental modernization model
- **52%** Piecemeal approaches
- **12%** Lead efforts with "If it isn't broken, don't touch it" mentality

Q: Which of the following application modernization strategies does your organization plan to prioritize over the next two years?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

Multiple benefits are sought from continuous modernization:

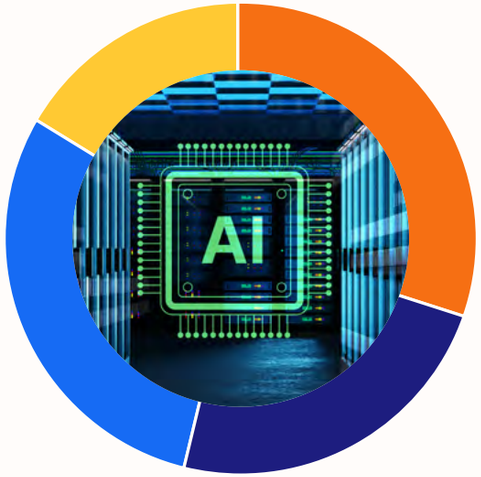
1. Improved velocity in development/feature release/ product update
2. Greater agility
3. Lower tech debt/security engineering cost
4. Improved systems maintainability and scalability
5. Better IT alignment to business goals

Q: Which of the following positive outcomes of your organization's shift to continuous/ incremental application modernization would be most beneficial?

AI is already rewiring operations

53% of organizations already use AI in application operations.

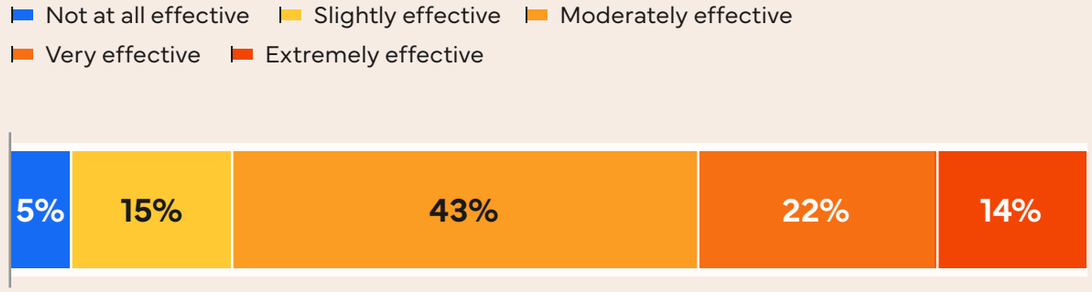
47% plan to use AI in the next two years.



- **27%** Not using AI
- **26%** Exploring possibilities
- **30%** Running pilot AI programs
- **17%** Actively modernizing with AI

Q: To what extent does your organization use AI to alleviate challenges posed by intermittent modernization?

Effectiveness of AI in addressing modernization challenges



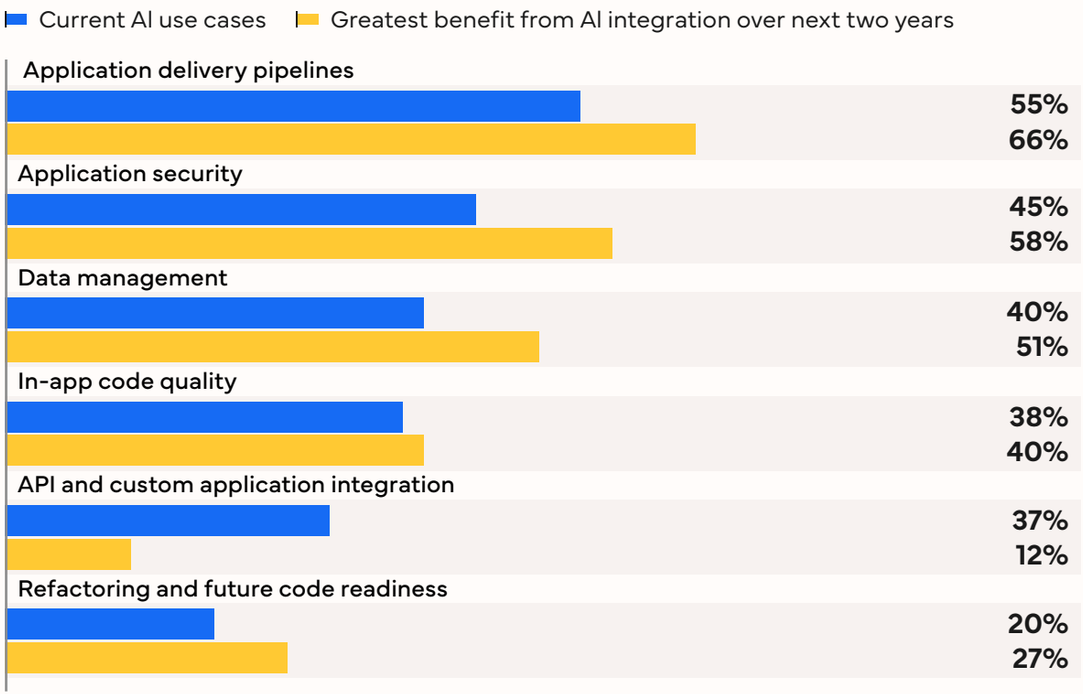
Q: How effective has the use of AI been in addressing these challenges?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

How AI aligns to strategic and tactical priorities

Efficiency, productivity and security readiness are primary business areas to benefit from AI

AI within application support areas: Use cases and value to be gained

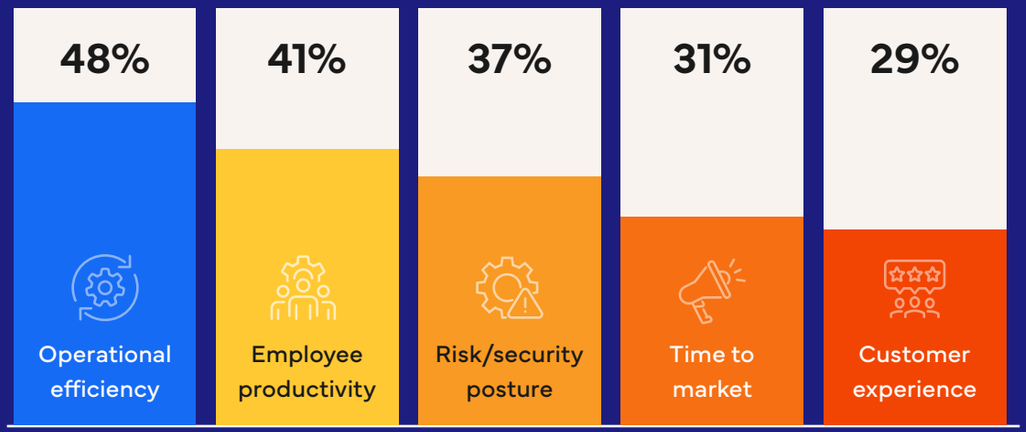


Q: Which of the following support areas currently use AI in your organization's software delivery flows?

Q: Which of these support areas will see the greatest benefit from AI integration over the next two years?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

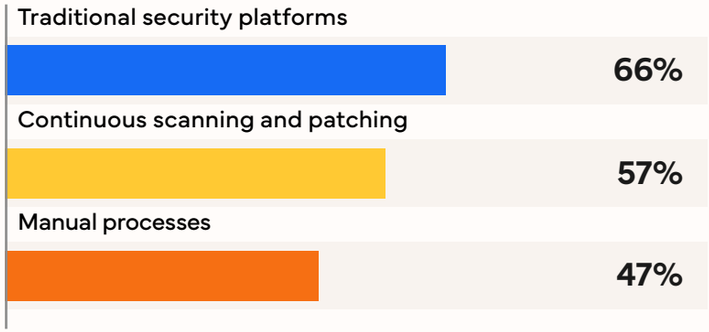
Business areas expected to be most positively impacted by AI in ITOps:



Q: Which business areas in your organization are expected to be most positively impacted by the integration of AI into IT operations?

Integrating AI-based security into operations

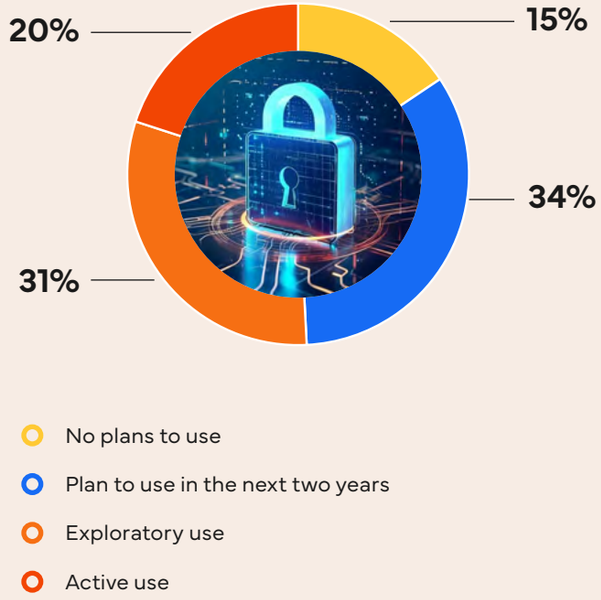
How vulnerabilities are handled today:



Security has been tool-centric and manual, which will not work in the age of AI-driven software operations.

There us a clear and growing appetite for enterprise security that is AI-led.

AI adoption in vulnerability management:



AI in vulnerability management:

Realized benefits:

Faster detection/response	44%
Deeper threat detection	42%
Better risk management	34%
Reduced manual effort	29%

Expected business outcomes:

Reduced risk exposure	48%
Faster incident response	38%
Regulatory compliance	36%
Customer trust	32%

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

Blockers, enablers, and outcomes of AI success

Continuous modernization and AI adoption are converging within application and ITOps. Success depends on aligning these initiatives through clear strategy, governance, and measurable outcomes.

Top 3 barriers to implementing AI in the delivery value chain:

- ROI uncertainty
- Data quality/availability
- Lack of expertise in dev team

Q: What are the main barriers preventing your organization from implementing AI in its software delivery value chain?

Top 3 enablers of successful AI implementations:

- Clear AI strategy/roadmap
- Cross-functional collaboration
- Leadership sponsorship

Q: Which of the following are most important for successful AI implementations in your organization's software delivery?

Successful AI implementations in IT operations deliver:

1. **Strategic alignment with business goals**
2. **Clear measurable results/ROI**
3. **Reduced manual effort**

Q: Which outcomes best represent a successful AI implementation in your organization's IT operations, from specific processes to enterprise-wide adoption?

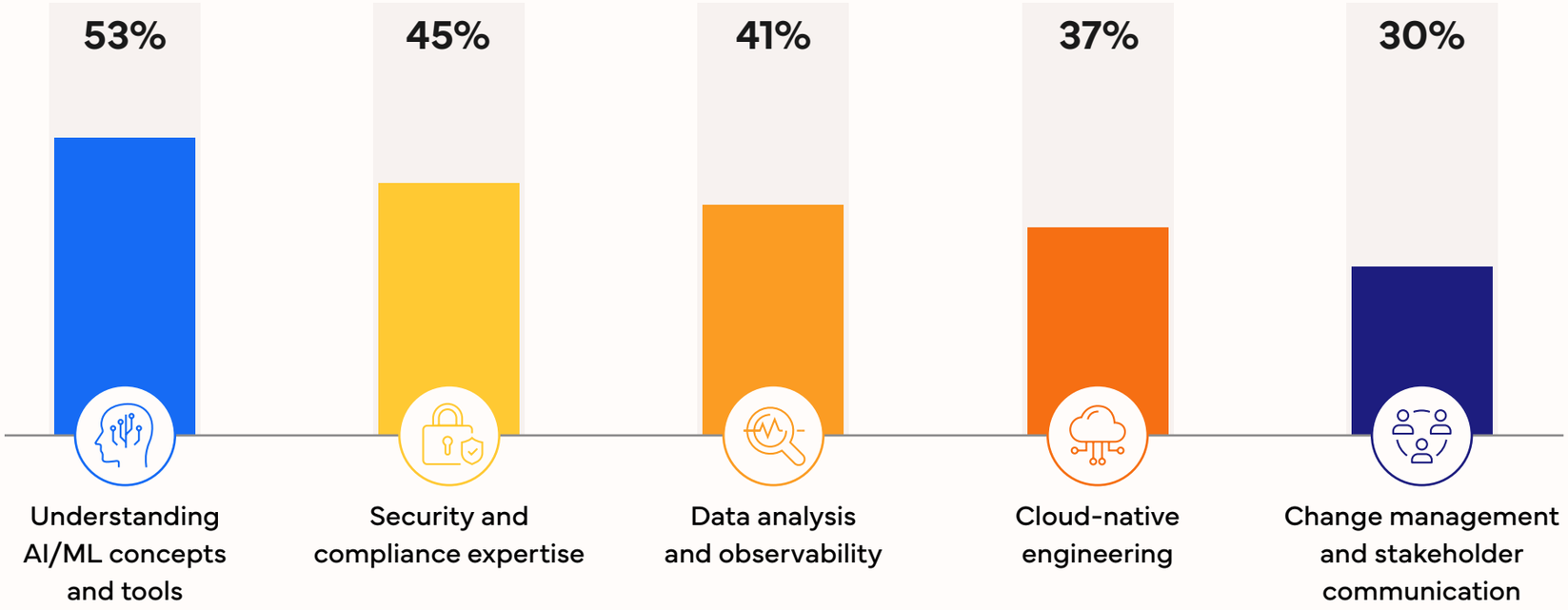
AI is becoming a crucial enabler in closing the longstanding gap between IT operations and business objectives.

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

The human-AI delivery

Organizational realignment demands that skills and roles must evolve.

Critical skills required:



Q: Which of the following skills do you consider most critical for teams working with AI-enabled managed application workflows?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

AI-enabled managed application workflows demand a new mix of skills and roles. This is not a one-time transformation, but an ongoing shift toward human-AI collaboration, requiring both technical expertise and a deep understanding of business architecture.

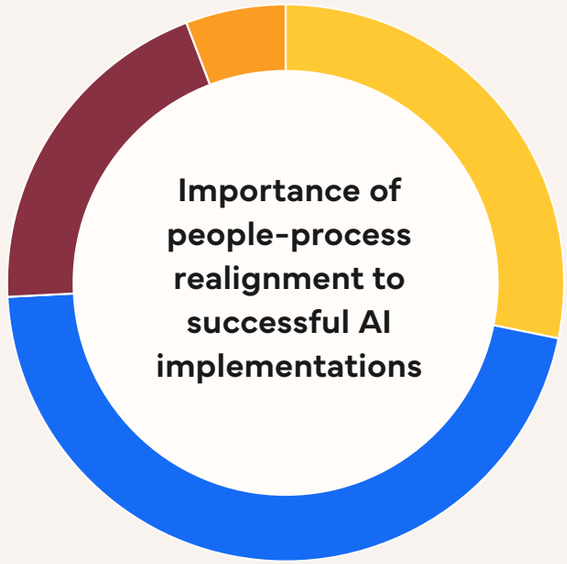
The human-AI balance

A "human-in-the-loop" approach is strategic for guiding AI-based application and IT operations

74%

of organizations recognize that successful AI-infused operations requires organizational redesign and systems realignment.

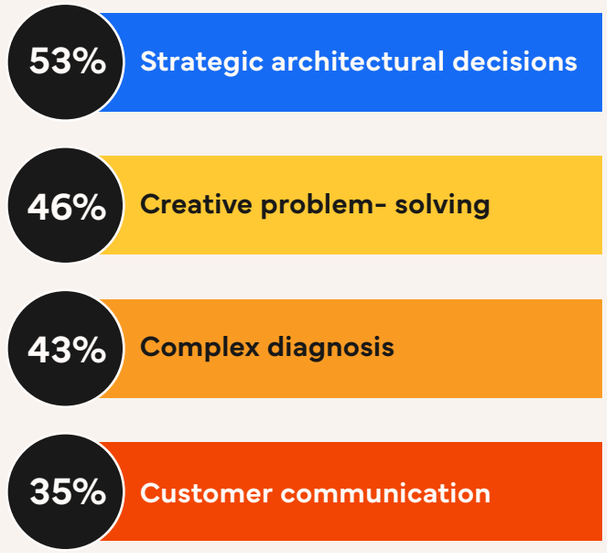
Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)



- **46%** Very important
- **28%** Extremely important
- **6%** Not at all or slightly important
- **20%** Moderately important

Q: How important is the realignment of processes and people to successfully implement AI within your organization's software delivery and IT operations?

Where humans add the most value over full AI automation:



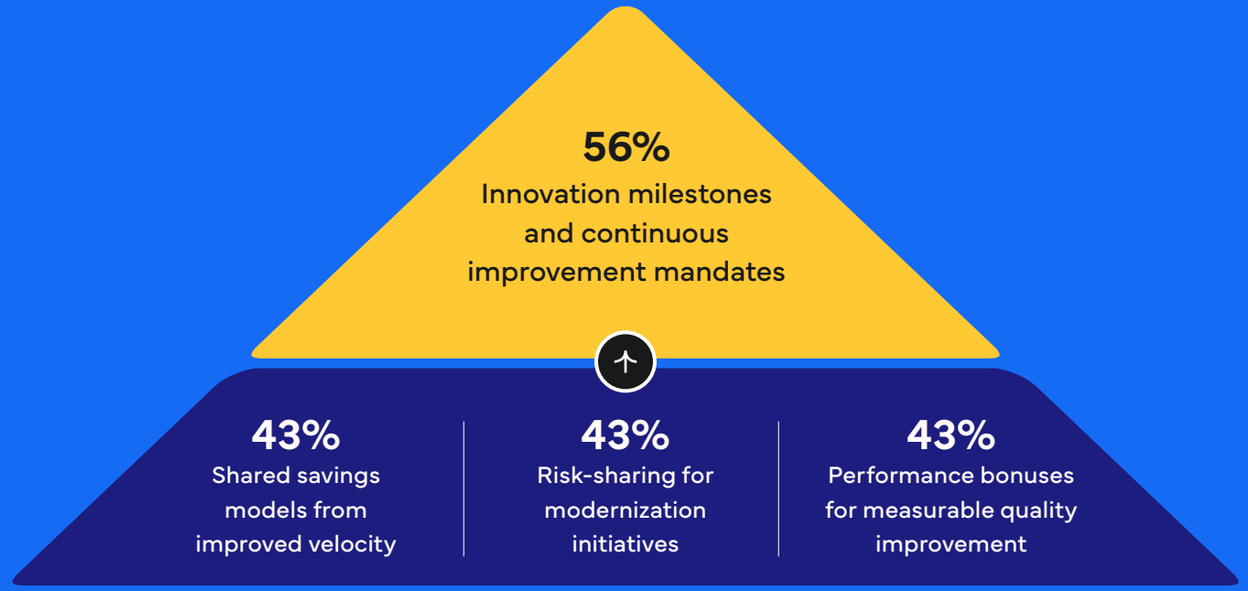
Q: In which areas of your organization's software delivery workflows does human expertise provide the highest value compared with full AI automation?

As AI revolutionizes IT operations, application support shifts to value creation

For **1 in 2** organizations, application operations strategy will focus on **automation** and a **shift to AI-powered** delivery practices and platforms.

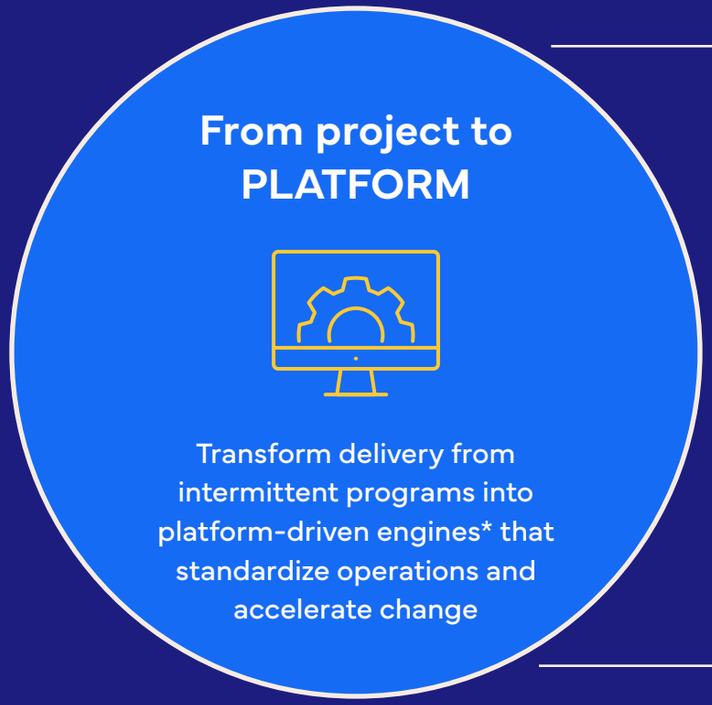
Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

Key areas defining AI-enhanced managed services engagements:



Q: Which of the following mechanisms would your organization opt to include in an AI-enhanced managed services contract?

For mission-critical, customer-facing apps: What changes now



*Platform-driven engines are modular, composable foundations that industrialize application and IT operations by embedding automation, security, observability, and AI into a systemic approach for continuous modernization and innovation.

Automate to accelerate

Harness AI to transform high-impact areas of testing, code review, security remediation, and predictive maintenance into engines of speed and resilience.

Security as a design principle

Embed AI-driven vulnerability management and DevSecOps into delivery pipelines to proactively reduce risk, accelerate incident response, and ensure compliance.

Data, observability, and feedback loops

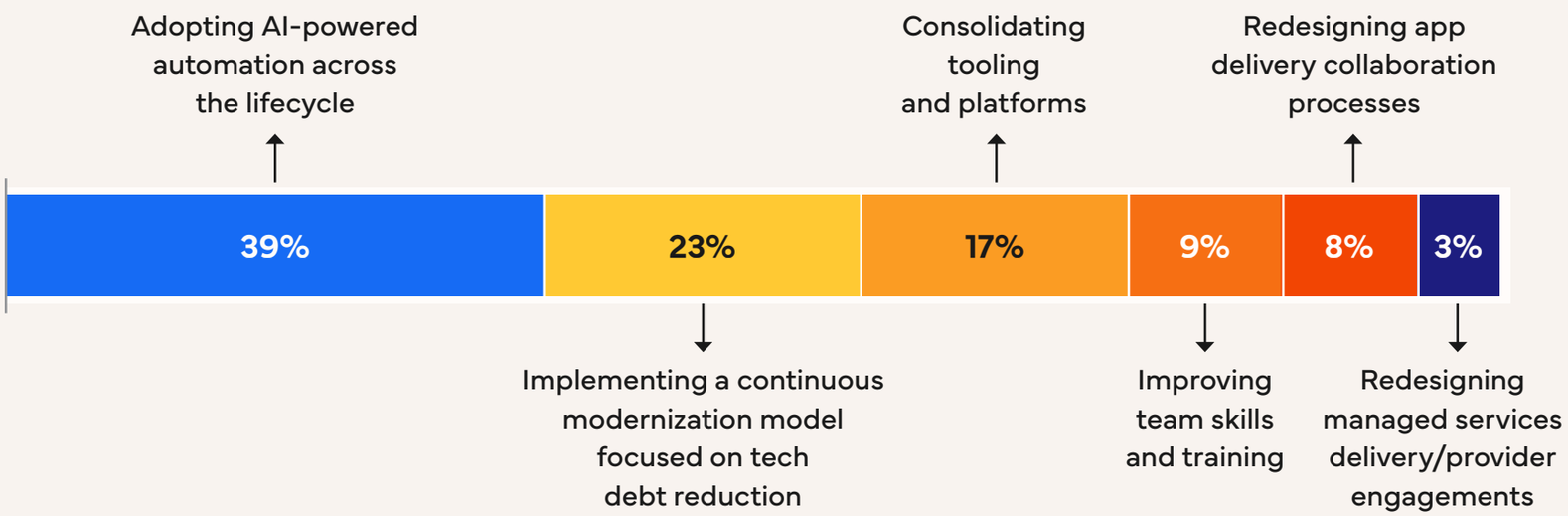
Invest in data quality and closed-loop learning to break through barriers and unlock actionable insights. Establish platform-level telemetry across pipelines, environments, and user experiences to drive smarter decisions.

Outcome-based operating model

Redefine success around measurable outcomes — speed, resilience, and customer experience — while aligning provider incentives to innovation milestones and continuous improvement.

What has the greatest positive impact on app support and operations?

Automation, modernization, and consolidation form the three pillars of impact.



% of organizations

Q. What single change would have the greatest positive impact on your organization's application support and operations?

Source: IDC's *Reimagining IT Operating Models Survey*, Q4 2025 (N = 500)

AI-powered automation is the #1 change for application operations impact

Prove value in 180 days: Scale, automate, and align

Build a portfolio of AI-enabled use cases

Start with high-impact areas but design for scale:

- Pipeline intelligence: AI-assisted test selection, flaky test detection, risk scoring
- Security in delivery: AI-assisted Software Composition Analyst(SCA)/ Static Application Security Testing (SAST) triage, guided remediation playbooks
- Ops automation: AI-based incident triage and routing, predictive failure detection
- Data management: AI-driven observability and anomaly detection

Enable continuous modernization through platforms

- Embed modernization practices across ITOps, supported by a library of AI-enabled use cases aligned to the IT Value chain, making tech debt reduction part of daily work.
- Platform-driven guardrails for security, observability and automation
- Measure success via lead time, change failure rate, Mean Time to Repair (MTTR), and customer experience

Prove value in 180 days:

Deliver measurable gains in speed, resilience, and risk posture

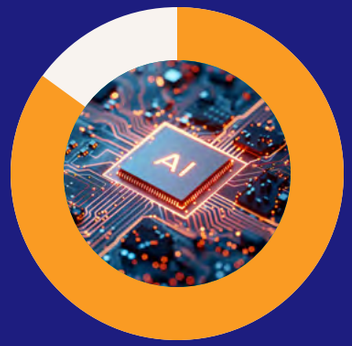
Human-AI collaboration as a strategic design principle

- Upskill for AI collaboration: AI/ML literacy, security, and data observability
- Role redesign and change management
- Governance for responsible AI: frameworks to ensure ethical AI use, compliance, transparency, and accountability

Align partnerships to outcomes and shared risk

- Outcome-based pricing tied to KPIs
- AI performance metrics integrated in SLAs to ensure accountability for automation and modernization progress
- Risk-sharing and continuous improvement in contracts to align provider incentives with organizational goals

How leading organizations are evolving



12%

of organizations operate a fully continuous and AI-driven maintenance and optimization model

Agility, resilience, and cost control

Leading organizations gain agility, strengthen system scalability, and reduce tech debt and security engineering costs, fueling sustainable growth.

AI for risk and efficiency

Mature organizations use AI for security vulnerability management and predictive maintenance to mitigate risks and improve operations.

Clear AI strategy

Having a clear AI strategy and roadmap helps guide investments and prioritize initiatives effectively.

Modernization as advantage

Linking modernization with competitive advantage drives market responsiveness and business growth.

Performance-based incentives

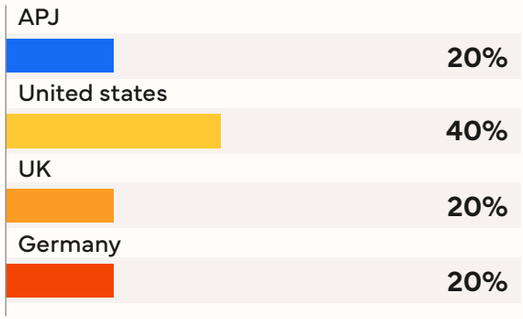
Commercial models with shared savings and bonuses promote continuous improvement and successful outcomes.

Strategic Checklist

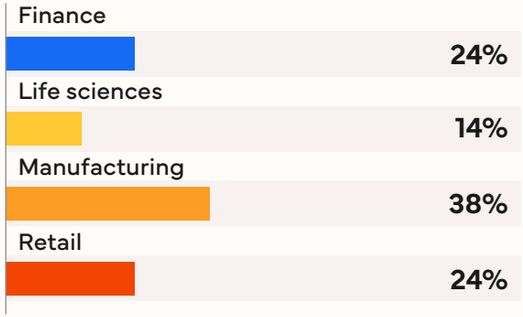
- Focus on measurable improvements in speed, resilience, and risk posture.
- Use automation and security integration to enhance operational efficiency and risk management.
- Modernize platforms for scale and security, shifting from project-based delivery to platform-driven models.
- Enable AI-driven outcomes tied to performance metrics, and upskill teams in AI/ML, security, and observability.
- Build momentum and stakeholder confidence for long-term transformation.

Demographics

Countries

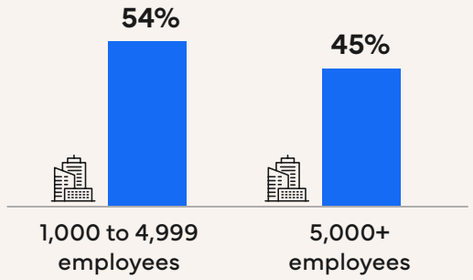


Industries

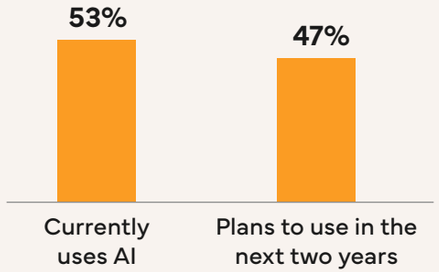


Sample size: 500 respondents

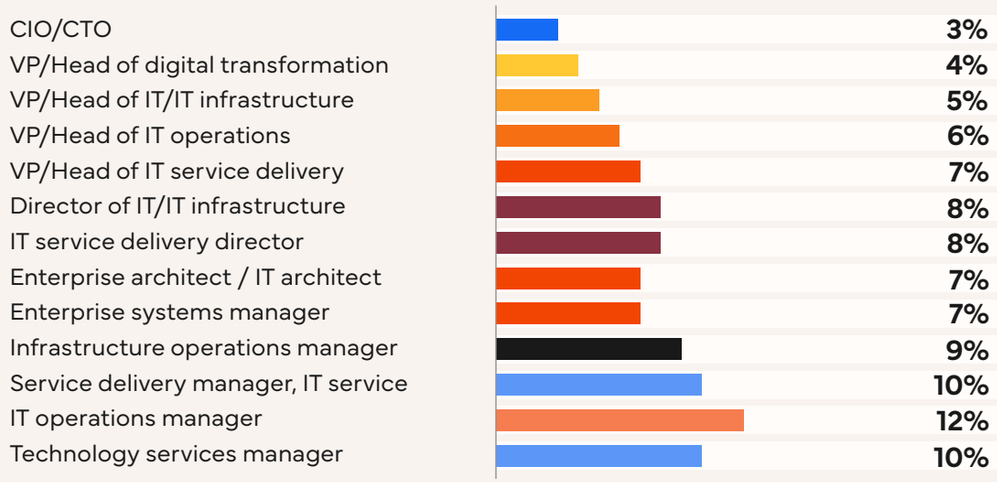
Company size by FTEs



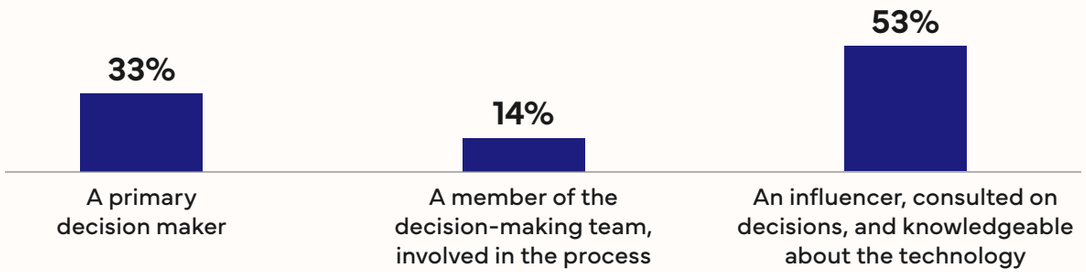
Company size by FTEs



Roles



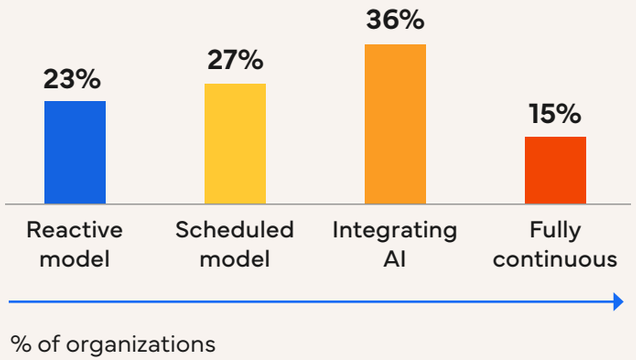
Decision making



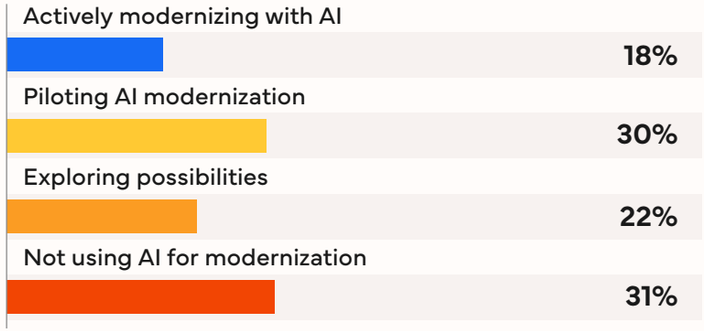
Vertical dashboards

Finance

Progress toward continuous modernization



AI for modernization



AI adoption and use cases

Current AI use	
Application delivery pipelines	56%
In-app code quality	47%
API and custom application integration	40%

Highest potential	
Automated testing and QA	54%
Predictive maintenance and failure prevention	48%
Security vulnerability detection	41%

Benefits and challenges

Top pain points	
ROI and business case uncertainty	58%
Data quality and availability	51%

Positive outcomes	
Product update and feature release velocity	41%
Greater IT agility	41%
Lower tech debt and security engineering costs	39%

Workforce readiness

Critical skills	
AI/ML literacy	52%
Security & compliance in AI environments	50%
Cloud native	39%

Training priorities	
AI/ML literacy	51%
Security and compliance	44%
Prompt engineering	34%

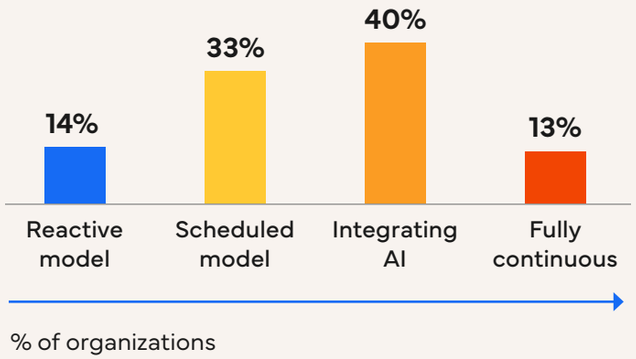
Engagement priorities

Expected evolution of contracts	
Reduction in head count based pricing due to automation	54%
Shared risk/reward models	48%
Value-based contracts tied to KPIs	48%

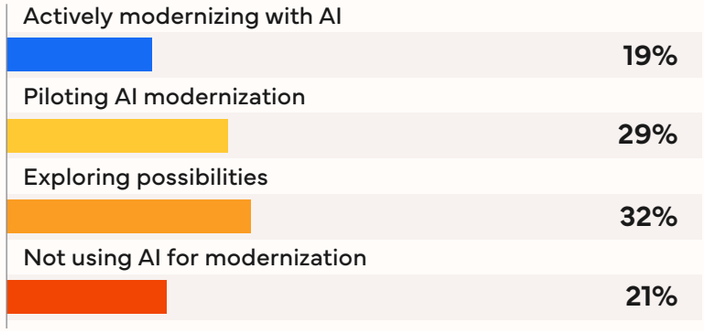
Preferred mechanisms in AI-enhanced contracts	
Innovation milestones	56%
Shared savings models	51%
Performance bonuses	45%

Life sciences

Progress toward continuous modernization



AI for modernization



AI adoption and use cases

Current AI use	
Application delivery pipelines	58%
Data management	42%
Application security	42%

Highest potential	
Automated testing and QA	60%
Automated code review and quality analysis	52%
Predictive maintenance and failure prevention	44%

Benefits and challenges

Top pain points	
Data quality and availability	57%
ROI and business case uncertainty	49%

Positive outcomes	
Product update and feature release velocity	49%
Better IT alignment to business goals	43%
Improved systems maintainability and scalability	39%

Workforce readiness

Critical skills	
AI/ML literacy	52%
Security & compliance in AI environments	49%
Data analysis & observability	40%

Training priorities	
AI/ML literacy	51%
Security and compliance	41%
Data analysis & observability	39%

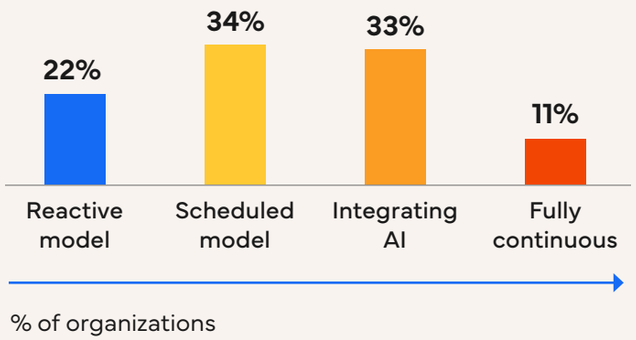
Engagement priorities

Expected evolution of contracts	
Reduction in head count based pricing due to automation	57%
Value-based contracts tied to KPIs	51%
AI performance metrics	43%

Preferred mechanisms in AI-enhanced contracts	
Innovation milestones	57%
Risk sharing for modernization	51%
Performance bonuses	47%

Manufacturing

Progress toward continuous modernization



AI for modernization

Actively modernizing with AI	16%
Piloting AI modernization	27%
Exploring possibilities	29%
Not using AI for modernization	27%

AI adoption and use cases

Current AI use	
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Highest potential	
Automated testing and QA	51%
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Benefits and challenges

Top pain points	
ROI and business case uncertainty	59%
Lack AI expertise in development	46%

Positive outcomes	
Product update and feature release velocity	48%
Greater IT agility	40%
Improved systems maintainability and scalability	36%

Workforce readiness

Critical skills	
AI/ML literacy	52%
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Training priorities	
AI/ML literacy	45%
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Engagement priorities

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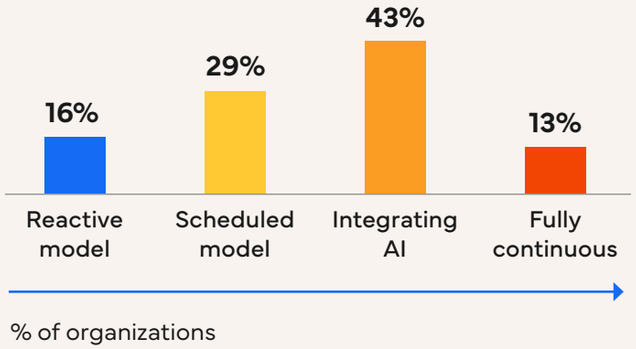
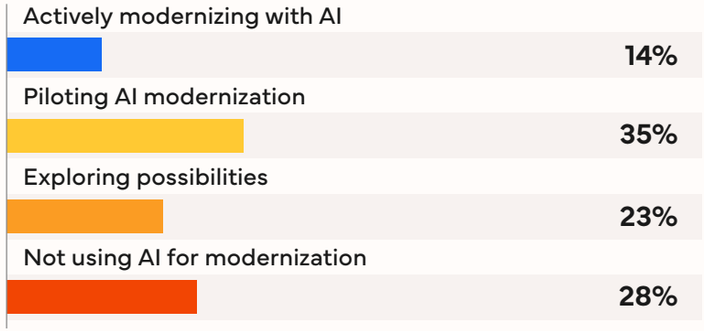
Preferred mechanisms in AI-enhanced contracts	
Innovation milestones	53%
Risk sharing for modernization	47%
Shared savings models	40%

Retail

Progress toward continuous modernization



AI for modernization



AI adoption and use cases

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Data management	38%

Highest potential	
Security vulnerability detection	50%
Automated code review and quality analysis	48%
Automated testing and QA	44%

Benefits and challenges

Top pain points	
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Positive outcomes	
Lower tech debt and security engineering costs	43%
Greater IT agility	42%
Product update and feature release velocity	41%

Workforce readiness

Critical skills	
AI/ML literacy	53%
Data analysis & observability	48%
Security & compliance in AI environments	41%

Training priorities	
Security and compliance	38%
AI/ML literacy	36%
Data analysis & observability	33%

Engagement priorities

Expected evolution of contracts	
Reduction in headcount due to automation	46%
Value based contracts tied to KPIs	45%
AI performance metrics	43%

Preferred mechanisms in AI-enhanced contracts	
Innovation milestones	61%
Performance bonuses	48%
Shared savings models	43%

About the IDC analysts

Jennifer Thomson

AVP Global Services Insights, IDC

Jennifer Thomson leads IDC's Global Services Insights research, providing deep comparative and competitive intelligence on services markets across Europe, the Middle East, Africa, and Asia/Pacific. With more than 25 years of experience, she advises global technology and services providers on how shifts in enterprise technology strategy, AI adoption, and platform modernization are reshaping client demand, operating models, and commercial structures.

More about Jennifer Thomson →

George Mironescu

Associate Research Director, Software Development, Software Delivery, Software Engineering, IDC

George Mironescu leads various software development and engineering research streams, covering areas such as modern application delivery environments, developer and software engineering tooling, software delivery pipelines and practices, cloud native frameworks, emerging technologies and methodologies pertaining to today's and tomorrow's software delivery lifecycle.

More about George Mironescu →

About the IDC analysts (continued)

Dominique Bindels

Consulting Manager, Custom Solutions Europe, IDC

Dominique Bindels is a Consulting Manager at IDC, leading complex custom research and advisory engagements for global technology vendors across cybersecurity, cloud, and AI. He provides market, buyer, and competitive intelligence across Europe and worldwide, helping tech vendors translate shifts in enterprise technology strategy and AI adoption into clear commercial, sales, and go-to-market actions.

More about Dominique Bindels →

Message from the sponsor: Thoughtworks

/thoughtworks

The era of intermittent application modernization is no longer sustainable. For most enterprises, modernizing decades-old IT has always felt like replacing the engine while the plane is in the air: There is no pause button and everyone feels the turbulence. Our research with IDC confirms that this reactive, project-based approach leads to high costs, security vulnerabilities, and significant people impact.

To maintain a competitive advantage, organizations are moving away from risky one-off interventions and toward a model of continuous modernization. Central to this controlled evolution is the integration of AI in operations, which provides the speed and observability needed to rebuild the core systems and data without stopping the business. What determines success is how well leadership, data, processes, and teams are aligned around a platform-driven approach.

The future of IT operations is a human-AI partnership, and Thoughtworks is committed to helping you navigate this journey. We work with teams to replace a project-based mindset with an engine that builds automation, security, and observability directly into your systems. This evolution is powered by AI/works™,our Agentic Development Platform, which maintains live context across code and data to ensure your modernized core never becomes legacy again.

By shifting from headcount reduction toward value-based managed services that focus on shared risk and measurable outcomes, we help you turn daily maintenance into continuous modernization. The result is systems that "grow up" instead of growing old, freeing up the capital you need to fuel your most ambitious innovations.

We hope the insights and 180-day action plan in this report serve as a valuable roadmap for your journey.

Sincerely,

Josh Burks
SVP and Global Leader of Managed Services
Thoughtworks

Discover Thoughtworks' AI-powered managed services

IDC Custom Solutions

IDC Custom Solutions produced this publication.

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International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries. IDC's analysis and insight help IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives.