White Paper, sponsored by Kyndryl | August 2023

REGION FOCUS: WORLDWIDE

IT Operations Automation Maturity Improves with an Implementation Partner

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Executive Summary

Enterprises today operate between the convergence of fast-changing business and technology environments and tightening IT budgets. This combination piques interest in automation to improve efficiency, reduce costs, and enable faster innovation of the IT operations team.

This IDC white paper presents the findings from a global survey on IT operations. The survey highlights the current state of IT automation adoption and its impact on the digital business, emerging trends, challenges, and the critical role of implementation partners.

High Adoption of IT Automation

The survey revealed a high adoption of IT automation, which is unsurprising given that automation has been a part of the modern IT landscape for over a decade. One of the key drivers behind the more recent adoption is the rise of software-as-a-service (SaaS) models, which have made it easier for organizations to embrace automation. Businesses can quickly implement automation tools without significant up-front capital costs or on-premises infrastructure requirements by leveraging cloud-based automation platforms. However, one downside of this widespread adoption is the proliferation of tools. Organizations tell IDC they have four or more automation tools, leading to increased training costs, complexity, and missed opportunities to expand IT automation. The challenge lies in selecting and standardizing suitable tools that meet an enterprise's requirements—only then can IT maximize automation's benefits while minimizing unnecessary complexity.

Organizations leverage automation to streamline routine tasks, improve scalability, enhance security measures, and accelerate time to market for their products and services.

IT Automation for Current Digital Business Benefits

The survey found usage for IT automation across various digital business use cases. Organizations leverage automation to streamline routine tasks, improve scalability, enhance security measures, and accelerate time to market for their products and services. Adopting automation enables businesses to stay competitive in an increasingly digitized and agile market. Better-performing applications and agile deployment of new IT environments are essential to digital business models.

Emerging Use Cases: FinOps and AI

IDC found that financial operations (FinOps) and artificial intelligence (AI) are the two most likely emerging use cases for IT automation in the next two years. FinOps automation streamlines financial processes, such as budgeting, cost allocation, and resource optimization, ensuring greater financial transparency and accountability. AI automation, on the other hand, empowers businesses to leverage machine learning (ML) algorithms for advanced analytics, intelligent decision making, and predictive capabilities.

Edge and Containers: The Future of IT Automation

Although not highly reported as current use cases, IDC projects tremendous growth for containers and edge environments. Companies should plan for growth in IT automation for edge computing and containerization in the next two to three years. As organizations embrace edge computing and container technologies to enhance scalability, flexibility, and performance, automation will play a vital role in managing and orchestrating these environments effectively.

Maturity Levels and Paybacks

The survey also included the maturity levels of enterprises in their automation journeys. Self-reported rankings suggest that only half of the organizations surveyed consider themselves at a high maturity level, indicating room for improvement in automation implementation. However, the actual maturity levels may be lower if performed by an independent external firm. Only 20% of respondents reported being at the highest maturity level. The paybacks of IT automation were found to be broad and deep. Organizations typically experience a return on investment (ROI) within less than 12 months, showcasing the tangible benefits that automation brings to businesses in terms of cost savings, increased productivity, improved quality, and enhanced customer experience.

Companies should plan for growth in IT automation for edge computing and containerization in the next two to three years. As organizations embrace edge computing and container technologies to enhance scalability, flexibility, and performance, automation will play a vital role in managing and orchestrating these environments effectively.

Challenges and the Role of Implementation Partners

The survey identified that selecting the right partner is critical for overcoming implementation barriers, ensuring smooth deployment and best practices, and achieving business outcomes. Most successful companies with high levels of mature automation practices reported using an implementation partner, with 70% of these enterprises using one. When considering implementation partners, enterprises place a high value on long-term support and managed services. Interestingly, the cost of a partner was not commonly used in selecting a vendor.

Automation Maturity

Despite the high levels of adoption, IDC found the maturity and variety of use cases within the enterprises surveyed varied greatly. IDC developed the following levels and definitions of IT automation maturity and asked companies to self-evaluate themselves:

- **Level 1: Beginner**
  Limited automation with manual scripts as needed
- **Level 2: Managed**
  Standards existing across IT, scripting for highly repetitive tasks
- **Level 3: Predictive**
  Automated provisioning within IT, scripting across most IT teams
- **Level 4: Optimized**
  Full automation, including infrastructure as code and automatic incident resolution
- **Level 5: Innovator**
  Automation across all IT, including workflows and life-cycle automation, in effect providing autonomous operations

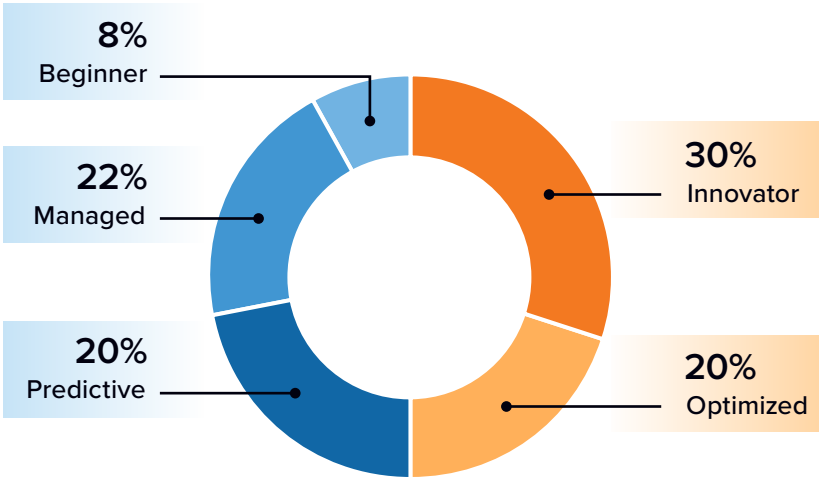
As shown in **Figure 1** (next page), IDC found that only 50% are at the top two maturity levels, level 4 or level 5. This maturity level leaves ample room for improvement for many enterprises. IT and line-of-business respondents both gave similar answers. It is important to note that a nonpartial outside agency might rate the same company differently based on broader experiences with other environments.

FIGURE 1

IT Automation Maturity

How mature is your organization's IT operations automation today?

Maturity is evenly split between high (4 and 5) and low (1, 2, and 3) levels.



IT and line-of-business users ranked their companies similarly.

- **Beginner (Level 1)** — Limited automation with a few manual scripts in some areas
- **Managed (Level 2)** — Standards across IT, scripting for highly repetitive tasks
- **Predictive (Level 3)** — Some automated provisioning within IT, scripting across most teams
- **Optimized (Level 4)** — Full automation includes codified infrastructure, use of repositories, automatic incident resolution, and autonomous IT for day 2 operations
- **Innovator (Level 5)** — Automation across all IT, including workflows and life-cycle automation

Note: Data is managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes. n = 285, Base = respondents that indicated they use one or more IT operations automation solutions including on premises and in public cloud; Source: IDC's *Kyndryl Red Hat Ansible Automation Survey,* March 2023

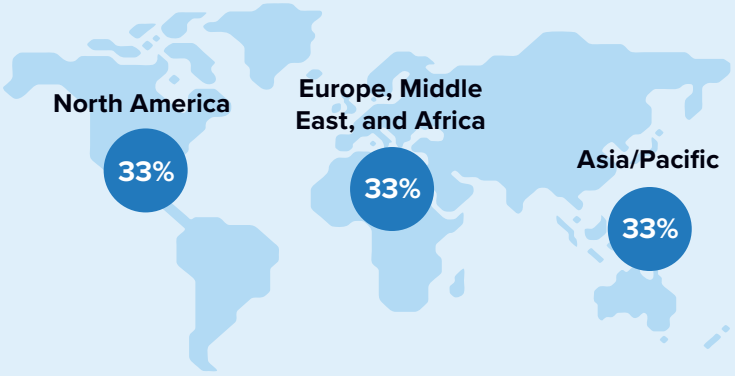
METHODOLOGY AND SURVEY DETAILS

This global survey covered 6 countries: the United States, Canada, the United Kingdom, Germany, Japan, and Australia. The survey included a wide range of over 9 industry verticals and is detailed in **Figure 2** (next page). The survey targeted larger enterprises, with 84% of the 311 companies having more than 5,000 workers. The survey required a director or above job level in IT or a line of business who influenced the IT automation decision area.

FIGURE 2

Survey Details (Sample size = 311)

REGION



IT FUNCTION

- 36% IT management
- 31% IT infrastructure
- 27% Cybersecurity
- 2% Data management or analytics
- 2% Applications/software
- 2% Technical support
- 0% Other IT/technical roles

KNOWLEDGE/AUTHORITY

Decision maker or influencer for IT operations automation

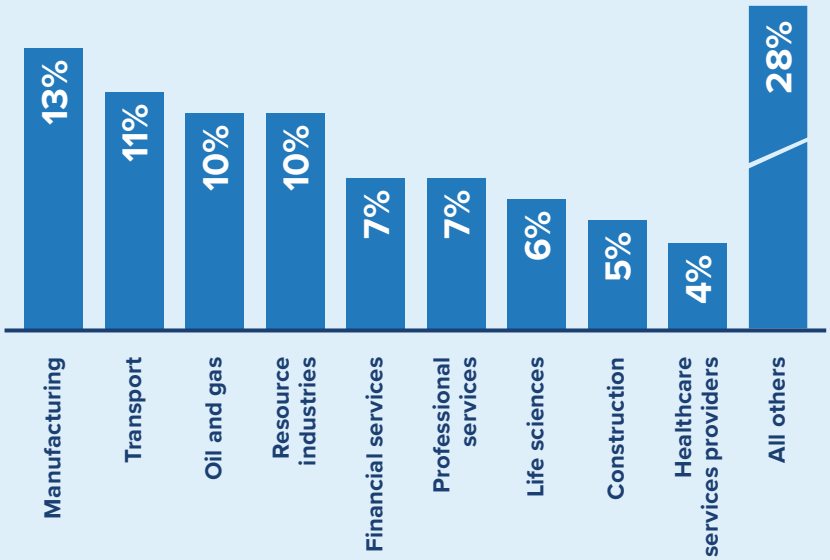
C-Level	Vice President	Director
11%	24%	65%

COMPANY SIZE (by number of employees)

500–999	1,000–2,999	3,000–4,999	5,000–9,999	10,000+
0%	2%	14%	44%	40%

84%

INDUSTRY SECTOR



PRIMARY PERSONA

In This White Paper

This white paper focuses on three domains: use cases and adoption, IT automation benefits, and partners' value. The customers surveyed by IDC reported current and future plans in each domain, giving valued insights into how IT automation can positively impact today's digital enterprise.

Use Cases and Adoption

IT often starts automation projects with quality assurance or test environments to build confidence before moving into production and other customer-facing applications/infrastructure, as shown in **Figure 3** (next page). At a macro level, IDC sees rapid growth in edge and Internet of Things (IoT)-related transactions. However, this is not a common area of automation today. Enterprises should consider expanding into these areas earlier to lower costs while improving customer experience and resiliency.

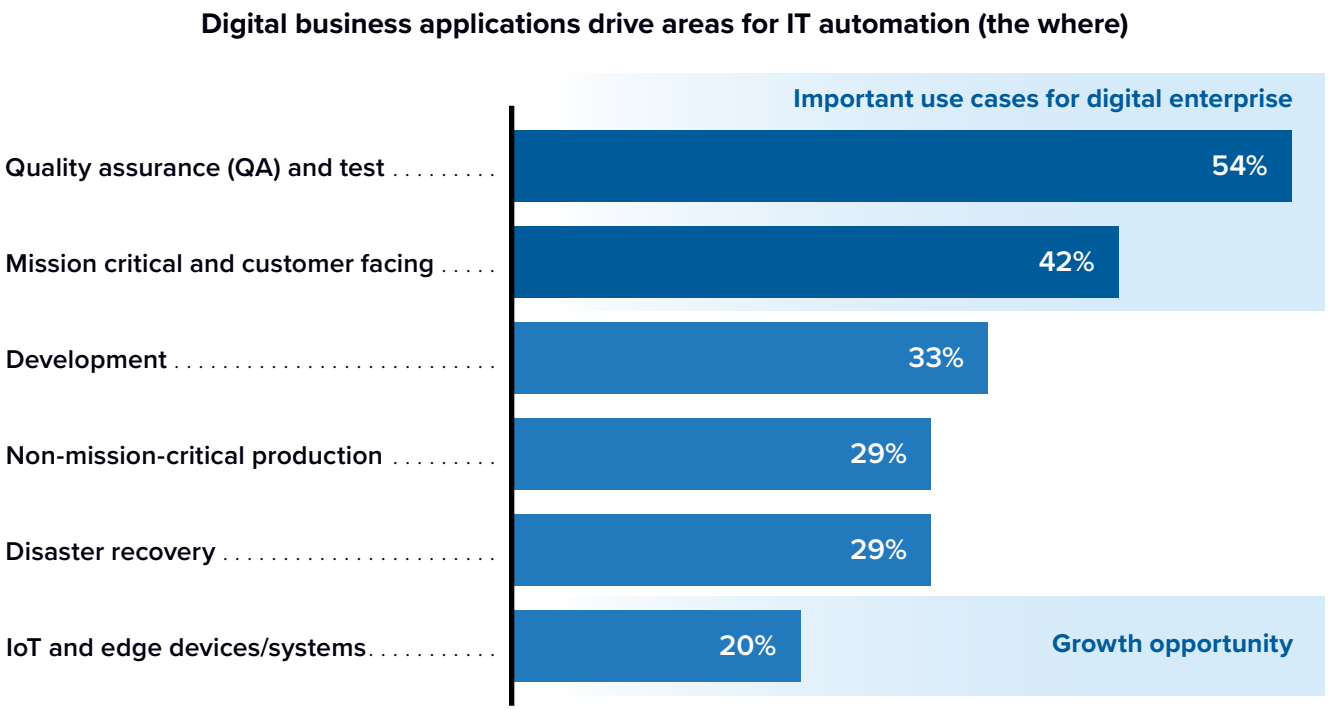
Most companies have adopted some form of IT automation, with 92% reporting it. The average enterprise has 4.5 automation tools in production. This surprisingly high number of solutions to support can add complexity. With tight IT budgets in 2023, this is an opportunity to consolidate to one or two automation platforms to save maintenance and reduce future training costs. Companies often select niche automation tools to do a specific task. Other tools are gained through acquisition,

especially niche networking or container automation, but were never rationalized post-acquisition. Today, modern IT automation solutions can handle nearly every infrastructure task, and tool consolidation should be considered.

FIGURE 3

IT Automation Use Cases Expanding

Which of your organization's IT systems are supported by IT operations automation?



Note: Data is managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes.
n = 285, Base = respondents that indicated they use one or more IT operations automation solutions including on premises and in public cloud;
Source: IDC's *Kyndryl Red Hat Ansible Automation Survey,* March 2023

Benefits of IT Automation

While edge and IoT were not the most common use cases, **Figure 4** (next page) shows that enterprises implementing automation in these environments showed the highest return area with a 32% improvement in efficiency after project completion. This reasoning is likely due to the remote nature of edge locations with limited IT staffing and savings from sending out remote support personnel. The other fast-growing area of containers was just slightly behind at 30% efficiency improvement. Containers are expected to grow exponentially by 2025, with over 6.5 billion estimated containers to manage for IT operations teams. Automation may soon become mandatory to keep pace with this growth in cloud-native applications.

Business Benefits

responded that they **increased revenue** and ...

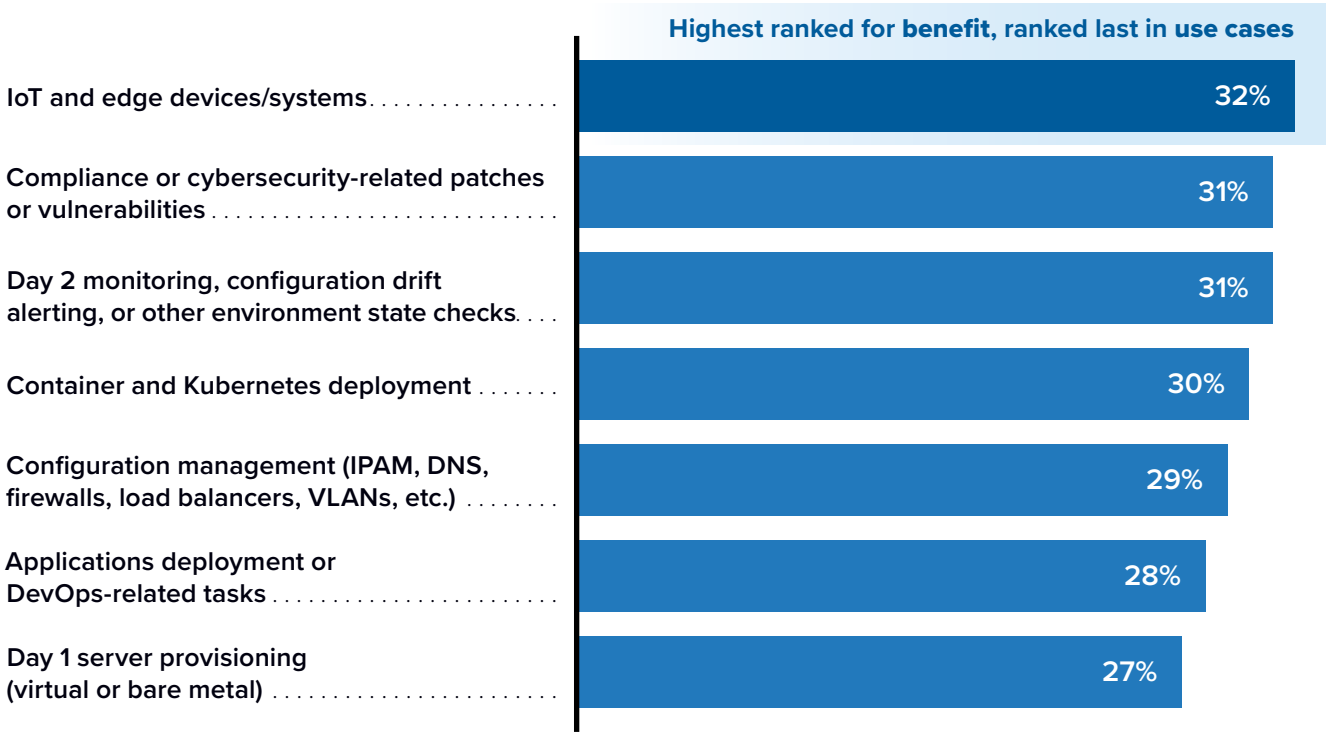
had **improved customer experience** after IT automation implementation.

Kyndryl customers reported **10% higher benefits** for both categories.

FIGURE 4

Expanding Areas of IT Automation Provide Business Benefits

What percentage improvement in IT operations efficiency has your organization seen with IT operations automation in the following areas, if any?

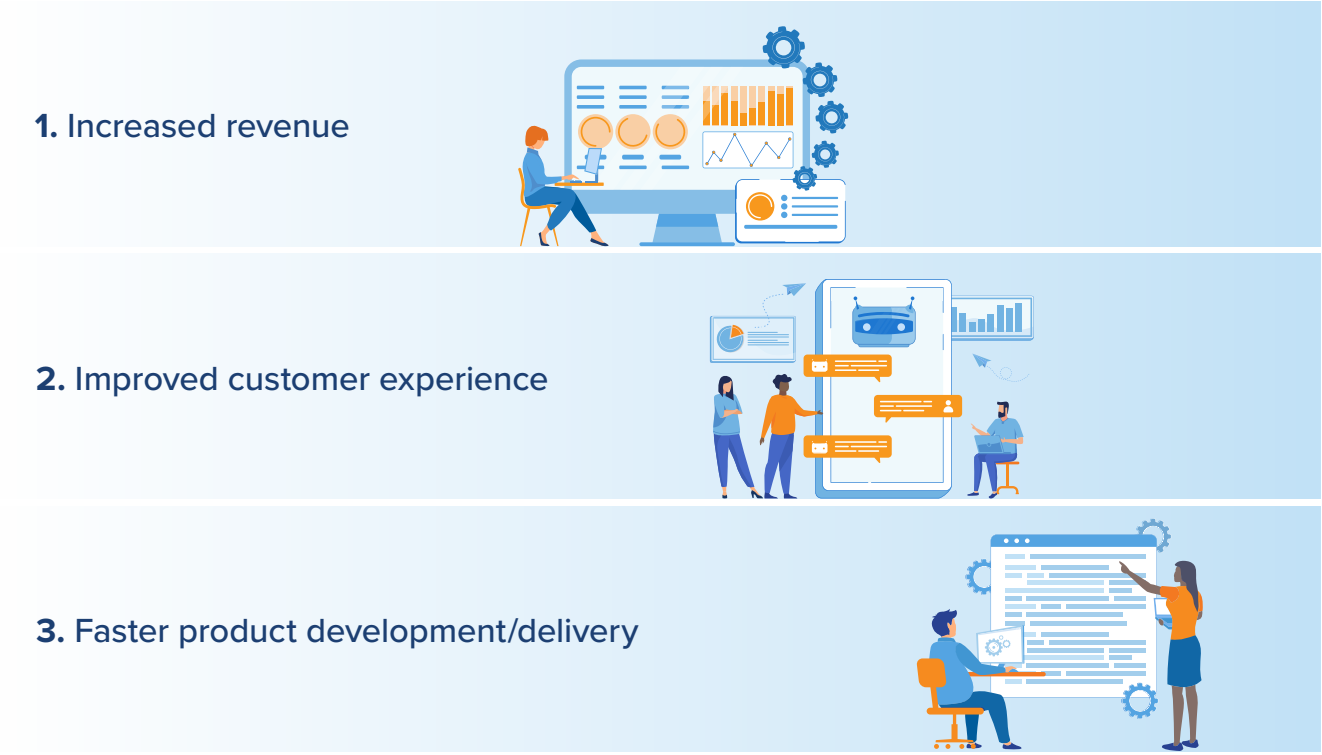


Note: Data is managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes.
n = 285, Base = respondents that indicated organization using IT operations automation in areas; Source: IDC's *Kyndryl Red Hat Ansible Automation Survey,* March 2023

IT automation's most significant business benefits are increased revenue, improved customer experience, and faster product development/delivery (**see Figure 5,** next page). These benefits can be seen through faster product innovation and rollouts. Automation can assist IT in patching and resolving incidents faster. This better resiliency shows up in customer satisfaction scores such as Net Promoter Score (NPS) and other Customer Satisfaction Score (CSAT).

FIGURE 5

Line-of-Business Benefits of Automation



Source: IDC, 2023

Value of Partners

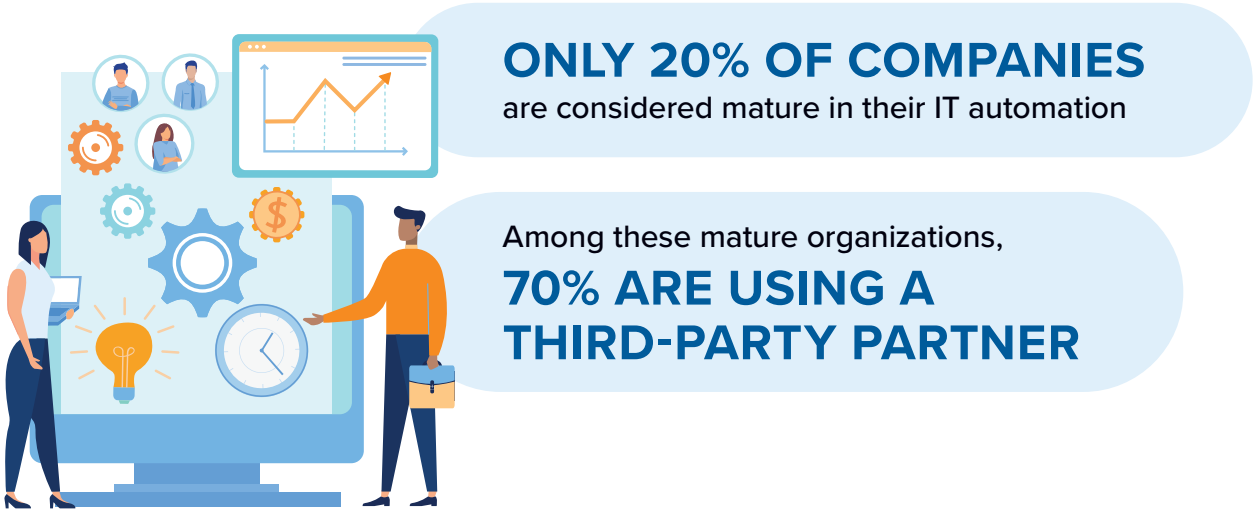
IDC found that many enterprises use an implementation partner during the initial project planning and implementation. In fact, 58% of companies reported using an implementation partner for IT automation. An implementation partner that is well versed in best practices for a specific IT automation solution and retains experienced consultants can help an enterprise avoid roadblocks, ensuring a successful project.

IDC did additional analysis comparing enterprises that used implementation partners with companies that reported the highest level of maturity. Overall, only 20% of companies using IT automation have reached a mature, optimized status (seen **Figure 6,** next page). However, 70% of those optimized (mature) organizations reported using a partner. This higher-than-average use of partners

within mature IT automation enterprises demonstrates the value the right partner can provide beyond project planning. The right partner can remove barriers to successful implementation and dramatically improve maturity levels. A higher level of maturity can drive more comprehensive business benefits across broader company use cases.

FIGURE 6

Higher Levels of IT Automation Maturity Are Driven by the Use of a Valued Partner



Source: IDC's *Kyndryl Red Hat Ansible Automation Survey,* March 2023

Many companies told IDC they wanted a partner that offered managed services after the initial implementation. By letting a third-party manage their IT automation, enterprises can reap the benefit of automation without hiring difficult-to-find skills in a competitive marketplace. Therefore, the benefits of selecting a valued implementation partner are numerous. A partner that offers managed services is preferred and can help enterprises keep their environment up to date and deliver value without burdening internal staff.

Situation Overview

In today's world, digital enterprises must possess the speed and agility to thrive in the post-pandemic era. Agile methodology and a digital-first approach have proven beneficial for businesses in the rapidly changing landscape. The pandemic has further emphasized the need for speed as IT teams quickly transitioned to cloud-based solutions to cater to remote employees. However, inflation in the supply chain has put pressure on IT budgets in 2023, with 70% of businesses reporting that their budgets remain stagnant or have decreased. As a result, investments in high-yield projects such as IT automation are at the top of many IT departments' priorities.

The pandemic forced IT to be more agile than ever while migrating countless workloads to the cloud while provisioning new resources faster than ever due to the unlimited capacity of public cloud providers. These new business and workplace models often involved engaging with multiple cloud providers and implementing web services. Furthermore, the increased use of containers and Kubernetes orchestration for new cloud-native applications has increased the complexity for IT shops. Containers' provisioning and ongoing cost management can be challenging for even the most mature IT teams.

In the past, frontline IT operations employees' reluctance hindered IT automation's acceptance. They were apprehensive about being replaced by automation tools, just as many in the IT industry feared outsourcing in earlier decades. Management could have better explained the advantages of automation to infrastructure and operations teams. This resulted in lower adoption rates.

Software-as-a-service has made IT automation easier to manage and thus increased adoption rates of automation. Major IT automation vendors moving their products to the cloud in the form of SaaS has been a lifeline to many enterprises. The SaaS model leaves the heavy lifting of installation and standing up new environments to the vendor. In addition, enterprises can enjoy reduced "time to value" by reducing start-up times from weeks or months to just a day in many cases. SaaS delivery gives enterprises access to features faster by leaving upgrades and maintenance to the vendor. IT teams can focus on using the tool and sharpening their delivery of business value rather than day-to-day maintenance.

Previously, many IT automation solutions had long and expensive implementations. For example, some automation frameworks require dedicated on-premises environments that need daily efforts by staff to maintain and operate. This significant up-front investment gives pause to many small and medium-sized businesses. Large enterprises may have the resources for these significant investments, but the extended lead times negatively impact return on investment and payback time. To negate these challenges, enterprises often turn to an implementation partner

The SaaS model leaves the heavy lifting of installation and standing up new environments to the vendor. In addition, enterprises can enjoy reduced "time to value" by reducing start-up times from weeks or months to just a day in many cases.

to decrease time to value and help IT avoid known issues with new implementations. Many partners offer managed services post-implementation to keep the IT automation environment up and running, which reduces the workload on internal IT staff while providing all the benefits of IT automation to the enterprise.

The past concern about being replaced with automation gives way to the need to manage growing complexity with fewer trained engineers. Creating a positive work-life balance is essential to retaining valued employees.

Reducing the workload on internal IT operation teams is essential as IT faces skill issues and lingering job openings—the long lead times to fill open head count burden the remaining workforce. In addition, the latest technologies, like data analytics and automation, have significant skill set gaps among current employees. The past concern about being replaced with automation gives way to the need to manage growing complexity with fewer trained engineers. Creating a positive work-life balance is essential to retaining valued employees. Cybersecurity firefighting can negatively impact employee morale, so it is a prime target for automation. Recent examples of weaknesses in the software supply chain required IT to drop everything to identify and remediate the vulnerability or risk a breach.

Another driver of IT automation is to build the foundation for IDC's autonomous operations. As part of a company's digital infrastructure, IT cloud operations management and automation working seamlessly with artificial intelligence (AI) is what IDC calls autonomous operations. IT automation must rapidly and consistently provide "day 1" infrastructure to support new projects. In addition, automation is essential to deploy fixes and cybersecurity vulnerability patches promptly. Cloud operations management solutions provide critical "day 2" reporting and monitoring of the environment's health. Event-driven automation uses AI to apply preapproved playbook solutions to known issues and proactively solve incidents before customers notice. This self-driving capability is becoming a requirement of many digital businesses. Autonomous operations enable highly resilient and scalable infrastructure management with integrated security. Digital infrastructure is the foundation to empower intelligent and self-healing operations, including on-premises software, cloud services, and functionality embedded in hardware, infrastructure-as-a-service solution, and public cloud service platforms.

IDC believes tight IT budgets, cloud complexity, workforce challenges, cybersecurity, future autonomous operations, and more accessible SaaS with managed service models will combine to make the next 12–18 months of tremendous interest in the adoption of IT automation.

Future Outlook

Enterprises plan to continue to invest in IT automation to improve their public cloud environments. As shown in **Figure 7** (next page), enterprises believe that FinOps automation and artificial intelligence are critical areas for the growth of their IT automation for the next two years. While generative AI garners high levels of recent news coverage, machine learning and AI have been increasing for several years in monitoring and automation platforms.

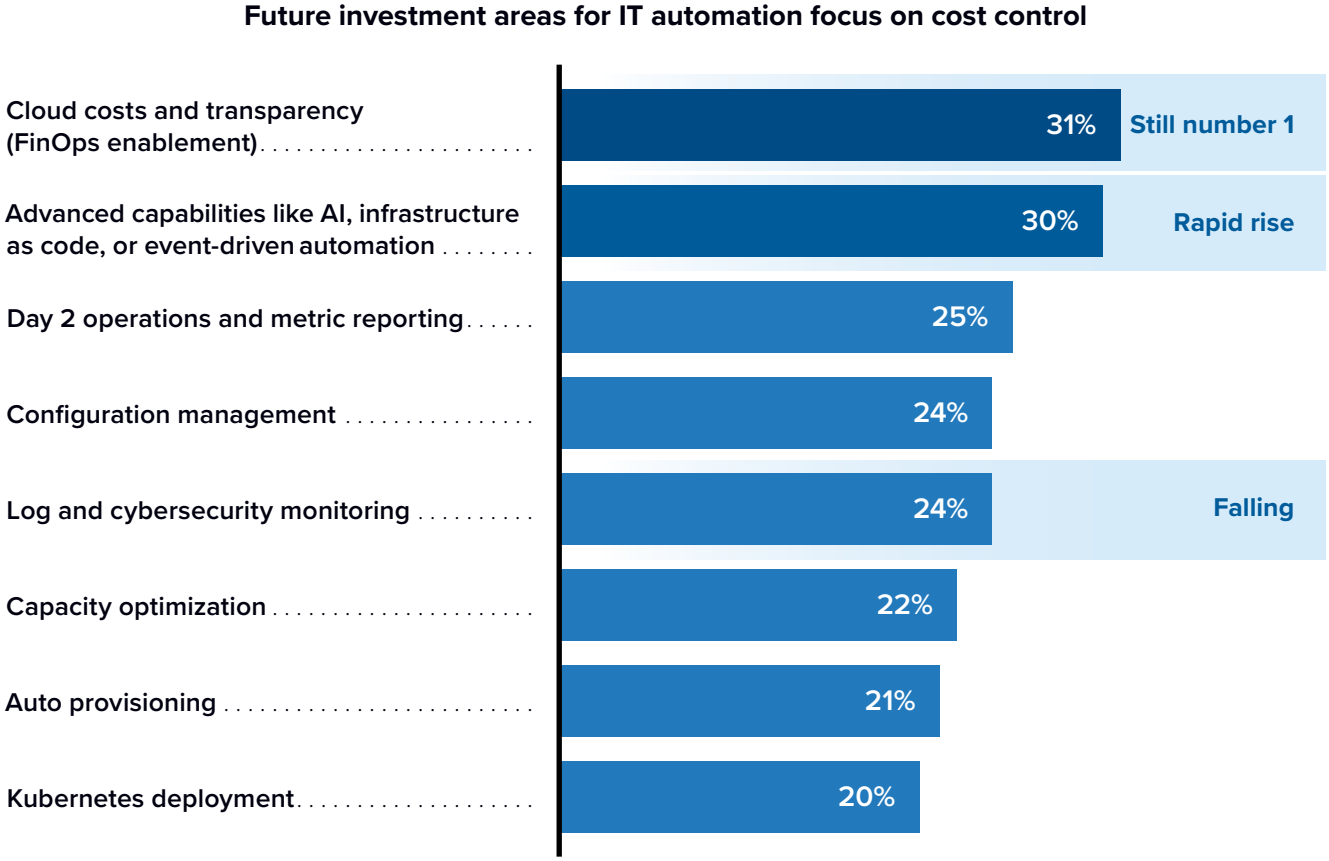
These capabilities allow for real business value, including filtering of false positives, anomaly detection, and proactive responses to reduce mean time to recover (MTTR). Further:

- Hybrid cloud will remain common over the next two years, with less than half of the new servers created in the public cloud.
- Edge and containers show exponential growth in the next two years.
- Artificial intelligence continues improving automation platforms' capabilities with better anomaly detection and event-driven responses.

FIGURE 7

Future of IT Automation

Thinking about your organization's IT budget in the next two years, what are the top two areas of investment for IT automation in your public cloud?

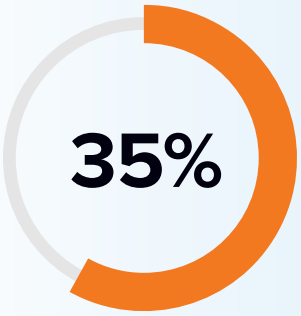


Note: Data is managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes. Multiple dichotomous table; totals will not sum to 100%. n = 197, Base = respondents that indicated they use two or more IT operations automation solutions in public cloud or both public cloud and company operated datacenters; Source: IDC's *Kyndryl Red Hat Ansible Automation Survey,* March 2023

Challenges and Opportunities

A robust implementation partner is critical to overcoming challenges and growing the maturity of IT automation.

Every IT automation implementation or expansion project runs into its share of challenges. Finding the right implementation partner was ranked in this survey as the biggest challenge (see **Figure 8,** next page). A partner can assist in navigating these challenges, keeping the project on track and within budget.

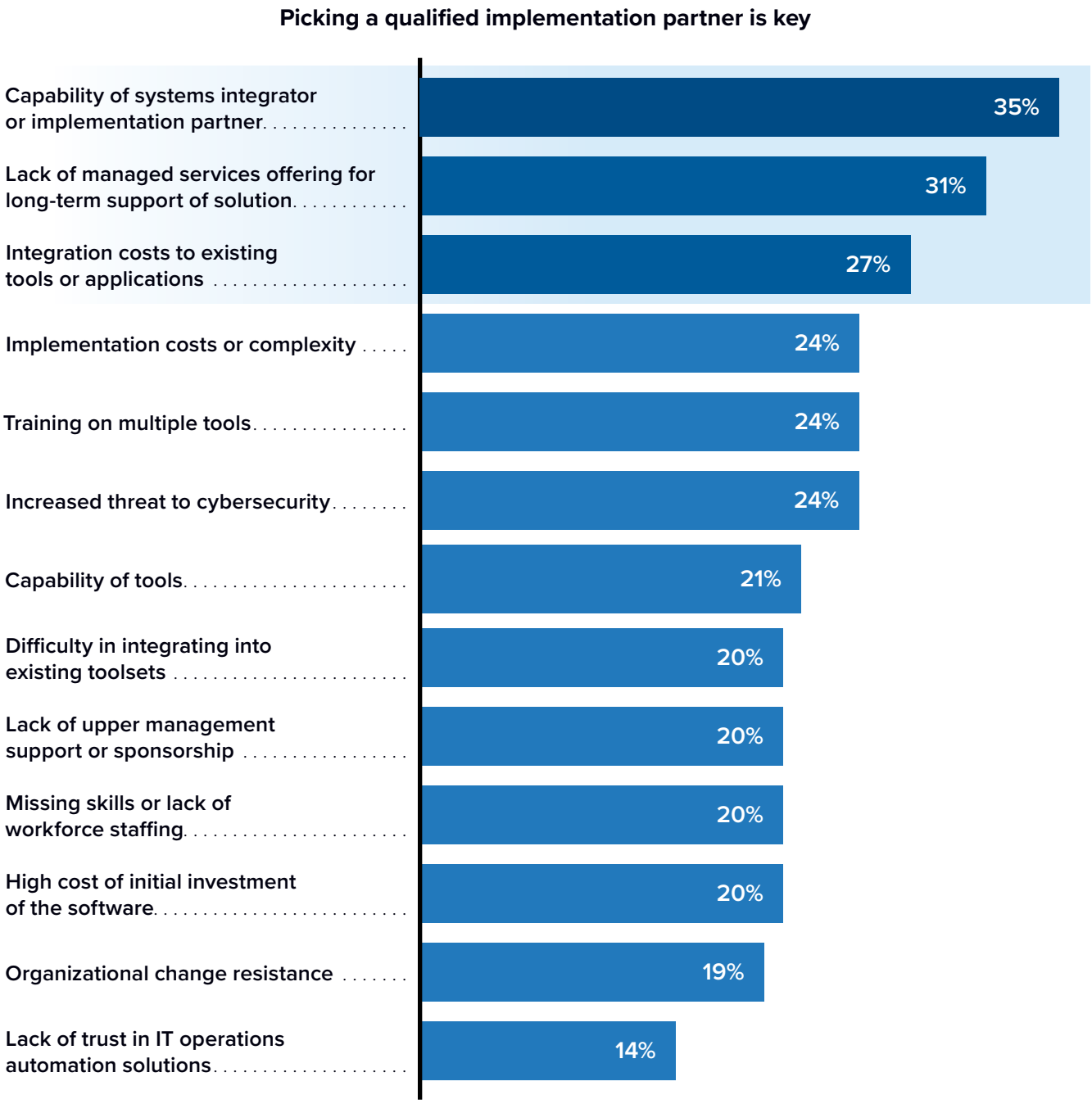


of respondents said **finding a systems integrator or implementation partner** with the right capability was the biggest challenge to IT automation.

FIGURE 8

Challenges of IT Automation Implementations

What are the three biggest challenges in implementing a new IT automation solution?



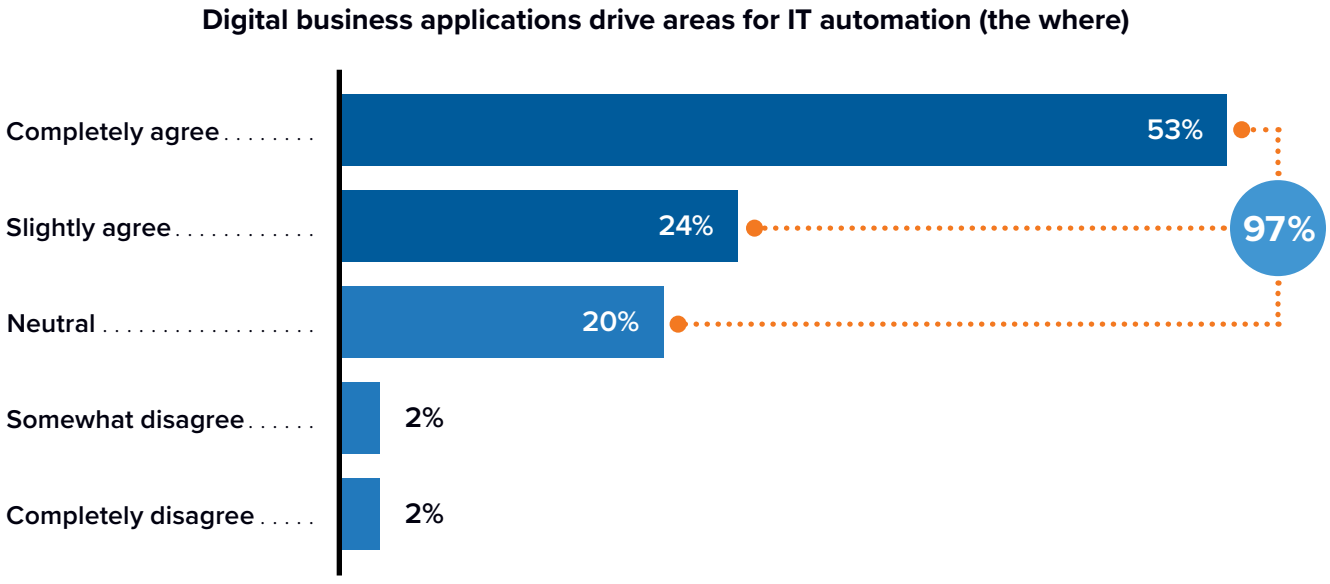
Note: Data is managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes. Multiple responses were allowed; totals will not sum to 100%. n = 285, Base = respondents that indicated they use two or more IT operations automation solutions including on premises and in public cloud;
Source: IDC's *Kyndryl Red Hat Ansible Automation Survey*, March 2023

IDC recommends that enterprises communicate early and often at all organizational levels. Effective communication throughout the organization is essential to driving adoption. Executives need buy-in from all levels, and the goals of each phase must be clearly outlined, answering questions and addressing concerns. It is essential to overcome employee concerns by demonstrating how employee's daily toil is reduced and the work-life balance improved. A partner offering post-implementation managed IT automation services was also highly ranked in the survey, which reduced the load on infrastructure and operations teams (see **Figure 9**). These services can also free operations by allowing them to focus on expanding automation use cases instead of maintaining the back-end environment of the automation solution.

FIGURE 9

Many Enterprises Looking to Managed Services Offerings

How much do you agree/disagree with the following statement? I am more likely to select an implementation partner that can also offer long-term managed services for my IT automation software.
(Scale: 1 = Completely disagree, 5 = Completely agree)



Note: Data is managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes.
n = 311, Base = all respondents; Source: IDC's *Kyndryl Red Hat Ansible Automation Survey,* March 2023

Conclusion and Recommendations

The results of this survey are clear. Enterprises are seeing a wide range of business benefits from deploying IT automation. The maturity levels of IT automation vary greatly. Many enterprises are using partners to assist in implementing and expanding their use of automation; when partners are utilized, companies are more likely to achieve higher maturity levels. IDC believes these higher levels result in better business results.

IDC recommends that IT leaders consider the following:

- IT automation should be prioritized as an essential investment, even with tight IT budgets. The return on investment and ability to address workforce skills and work-life balance will keep it at the top of the IT investment list.
- Tool consolidation and standardization of multiple IT automation tools can reduce costs and simplify future training needs.
- Picking a capable implementation partner is crucial to maturity, which drives higher business benefits.
- Use cases for IT automation are growing; IT leaders should look beyond on-premises datacenters to automate their public cloud and edge locations. Edge and containers are expected to impact operations support costs soon.
- Managed services are becoming a more common requirement, so selecting partners that can do both effectively is essential. Managed services will reduce maintenance and effort to maintain the IT automation infrastructure so operation teams can focus on delivering new automation.

About the IDC Analyst

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Jevin is Research Vice President, Intelligent CloudOps Market service at IDC where he covers infrastructure as code/GitOps infrastructure Automation, cloud cost transparency, DevOps, hybrid/public/multi cloud management platforms, and edge management.

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