

20 Data Streaming 25 Report

Moving the Needle on Al Adoption, Speed to Market, and ROI

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Executive Sumary

In the age of AI, real-time data reigns supreme.

In essence, it's the lifeblood that fuels AI. And enabling easy, continuous access to high-quality data—at the right time and in the right format—is pivotal to driving success with AI.

Findings from our 2025 Data Streaming Report:

Moving the Needle on Al Adoption, Speed to Market,
and ROI—where we tap into insights from 4,175 IT
leaders—underpin how data streaming platforms
(DSPs) are foundational to this effort.

89%

of IT leaders see DSPs easing Al adoption by helping them directly address hurdles in the areas of data access, quality assurance, and governance.

4,175

IT leaders providing insights.

86%

prioritizing investments in data streaming.

DSPs drive significant advantages by helping businesses:

97%

break down data silos 84%

achieve faster time to market

84%

increase revenue

82%

enhance customer satisfaction

Overall, DSPs have emerged as essential catalysts for innovation, helping businesses unlock the full value of data.

These kinds of benefits underpin a continued commitment to DSPs. While 86% of IT leaders continue to prioritize investments in data streaming, 64% cite higher investments in DSPs in particular for 2025.

The report also found that almost two-thirds of IT leaders see extensive benefits in processing and governing data closer to its source—i.e., "shifting left" in data integration workflows—including reduced costs and risks (81%).

What's more, DSPs are seen as shift-left enablers.



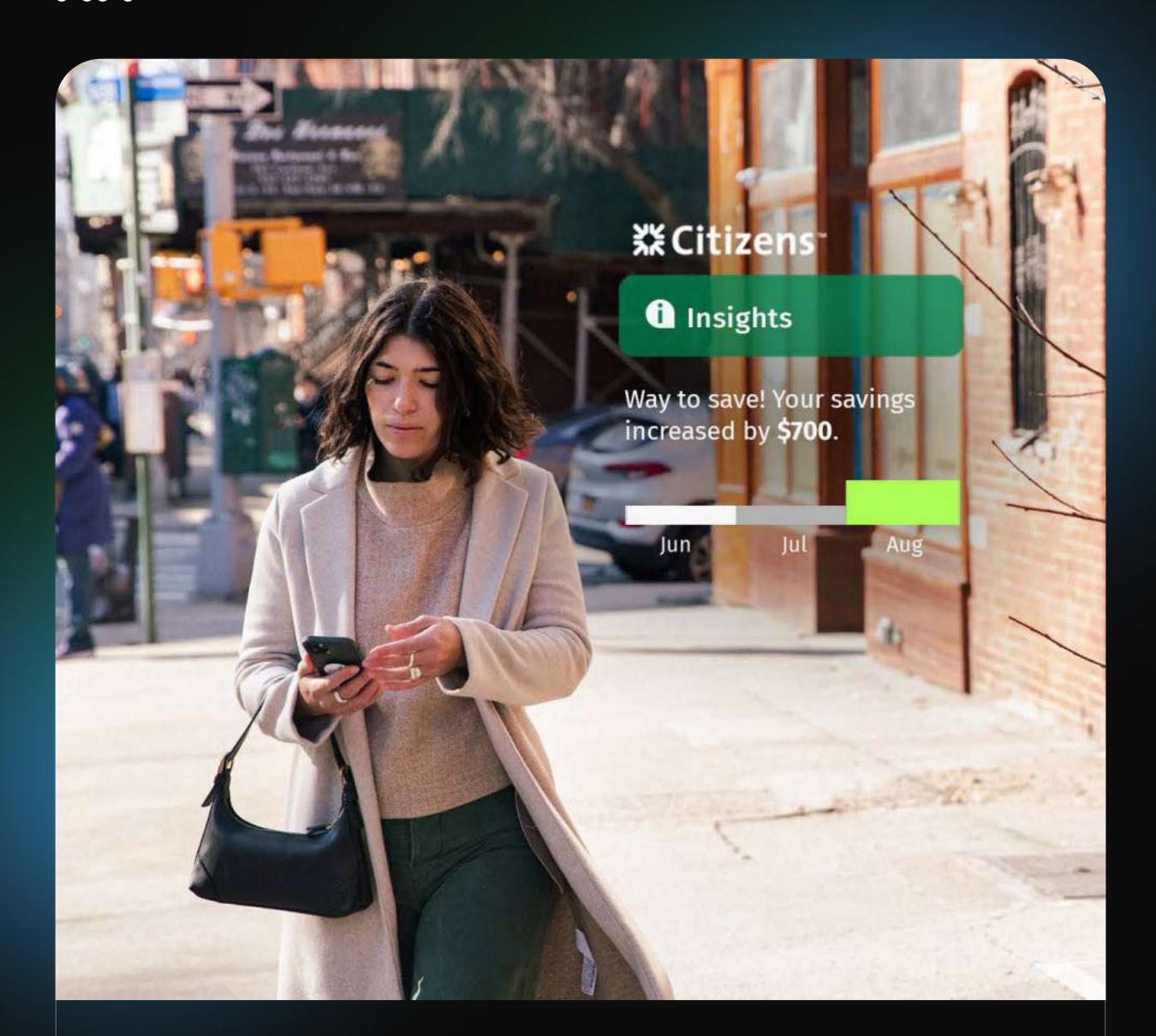
Explore the Report

See how DSPs are powering the next wave of innovation by turning data into real-time value. With standout ROI—44% of IT leaders report an ROI of 5x—and competitive gains, tech leaders already on board are outpacing the rest. Don't get left behind.

Find out how you can make your data work smarter and faster for your business.



XX Citizens®





Where would we be without a data streaming platform? I think we'd be out of business. A data streaming platform makes it easy for us to exchange data between all our point-to-point applications, enabling us to make game-changing decisions in real time. \$95

Sudhakar Gopal

EVP & CIO
Citizens Bank







Real-time data streaming is foundational to delivering hyper-personalized, luxury driving experiences to our customers. MBRDNA's Data Platform leverages Confluent to bring our teams closer to the data and accelerate innovation. 55

Seema Acharya

Software Engineering Manager Mercedes-Benz Research & Development, North America

A Glance at the 2025 Data Streaming Maturity Curve

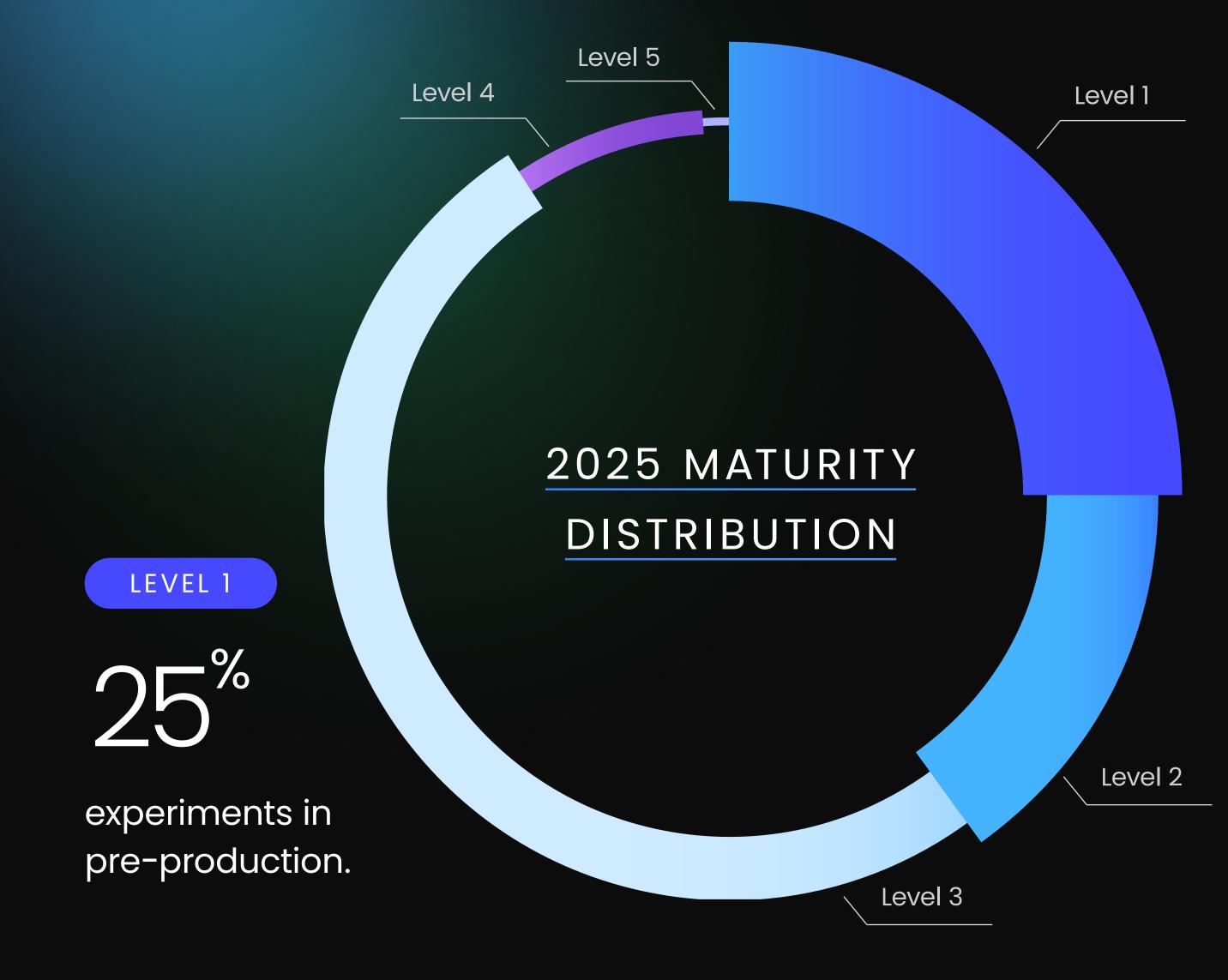
For those new to the report, we incorporated the concept of the data streaming maturity curve into our research in 2023.

Based on our observations, the typical data streaming journey for an organization starts with evaluation or pre-production activity (Level 1) and matures up a curve, ending with data streaming broadly embedded across the enterprise (Level 5).

The 2025 report reveals that the steady data streaming investments coincide with a massive influx of data streaming adopters: 86% of IT leaders highlight investments in data streaming as a top strategic or important priority, and 25% now identify as being in Level 1 (experimenting with data streaming), which is up from just 8% in 2024.



This increase in adoption is linked to two key factors. First, tapping into real-time data has become essential for gaining a competitive edge and has drawn a new cohort into the data streaming arena. Second, robust data streaming platforms—coupled with flexible deployment options—are making the technology more accessible than ever. Businesses can now benefit from real-time capabilities without the deep technical skills and extensive resources that data streaming initiatives once required.



LEVEL 2

15%

projects identified and deployed for noncritical application.

LEVEL 4

8%

several deployments in production for critical systems with data reuse and integrations across business units and a common operating model established.

LEVEL 3

51%

deployments in production for a few critical systems with data and usage siloed across teams.

LEVEL 5

1%

data streaming is a strategic enabler with all qualities of Level 4, plus streams managed as a product.

Explore Key Finding 1

LEVELS 4&5 LEVEL 3

See how many organizations experience 5x ROI from data streaming.

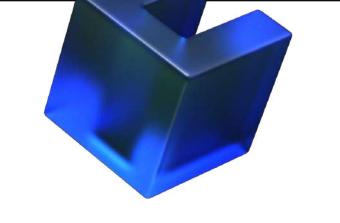
FASTER TIME TO MARKET

AI-DRIVEN PRODUCT/SERVICE INNOVATION

AND MORE!

Zoom in on four specific outcomes in which benefits increase as maturity advances.



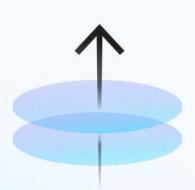






Tech investments are vital for driving innovation and competitive advantage. But IT leaders need to showcase measurable return on investments (ROI) to justify spending and align technology initiatives with broader business objectives.

Our survey results show that data streaming continues to deliver impressive ROI year over year—and drives significant benefits, including smarter operations and faster innovation, across a wide range of business functions and industries.

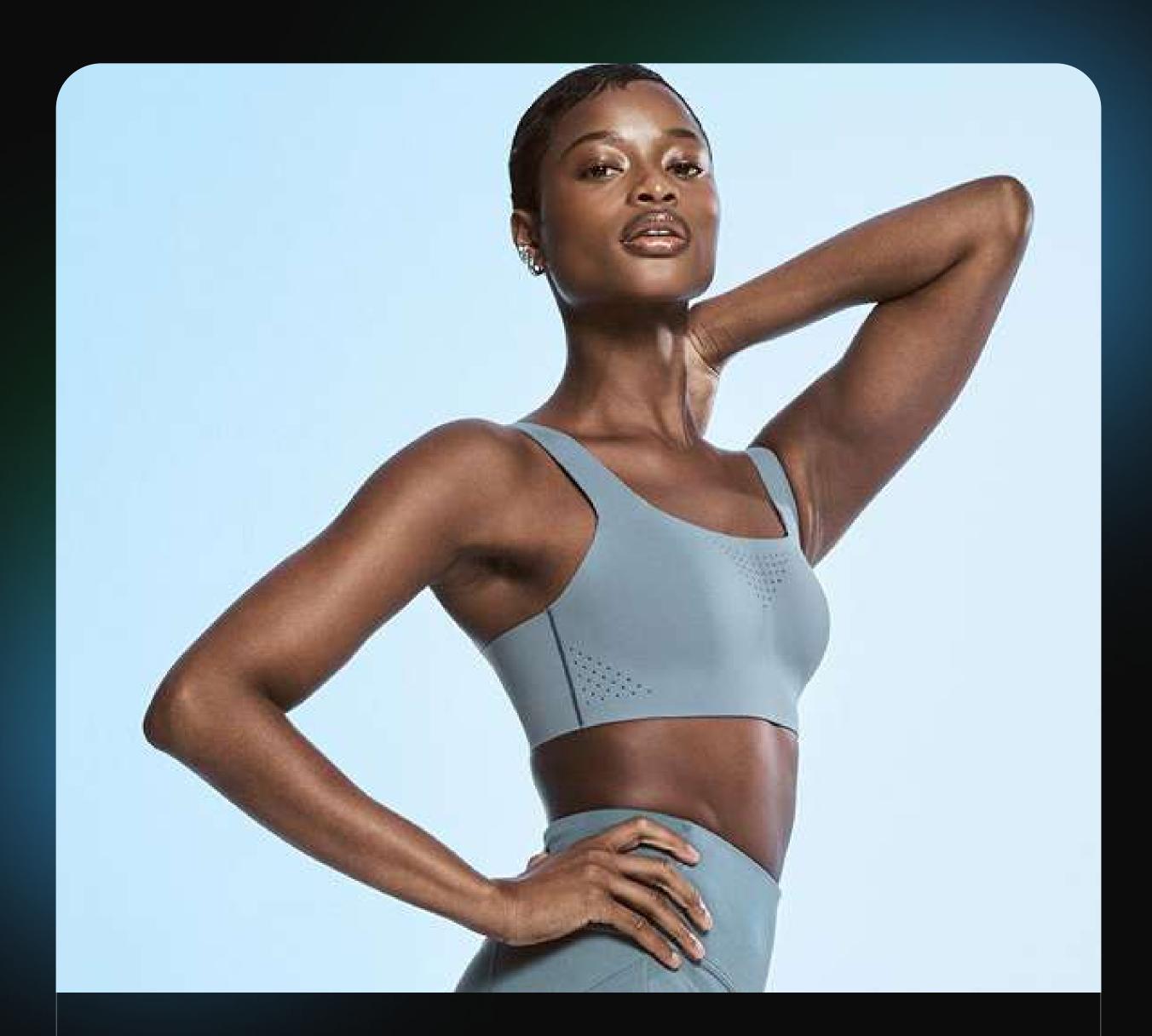


Percentage of IT leaders reporting 5x return on data streaming investments:

2025

2024 **41**%

VICTORIA'S SECRET & CO.

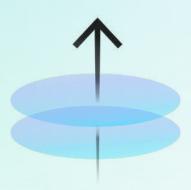


A data streaming platform enables us to project our business decisions pretty quickly rather than having to wait on data or deal with data inconsistencies. We can tap into real-time data and build a matrix out of it so that the other teams can then feed into that data to provide financial metrics, customer metrics, marketing preferences, and personalized recommendations to the customers.

Multifaceted Business Benefits That Unlock ROI

Enterprises report widespread benefits—both achieved and anticipated—across diverse areas, underscoring the strategic value and impact of data streaming as a foundational capability for driving real business value from data.

While customer experience leads as the top benefit (95%), our findings include strong showings for risk management (92%), operational improvements (91%), and innovation initiatives, particularly for artificial intelligence (AI) and machine learning (90%)—demonstrating how data streaming creates value throughout the enterprise.



These benefits increase markedly at each stage of maturity

Percentage of organizations that reduced or expect to reduce time to market:

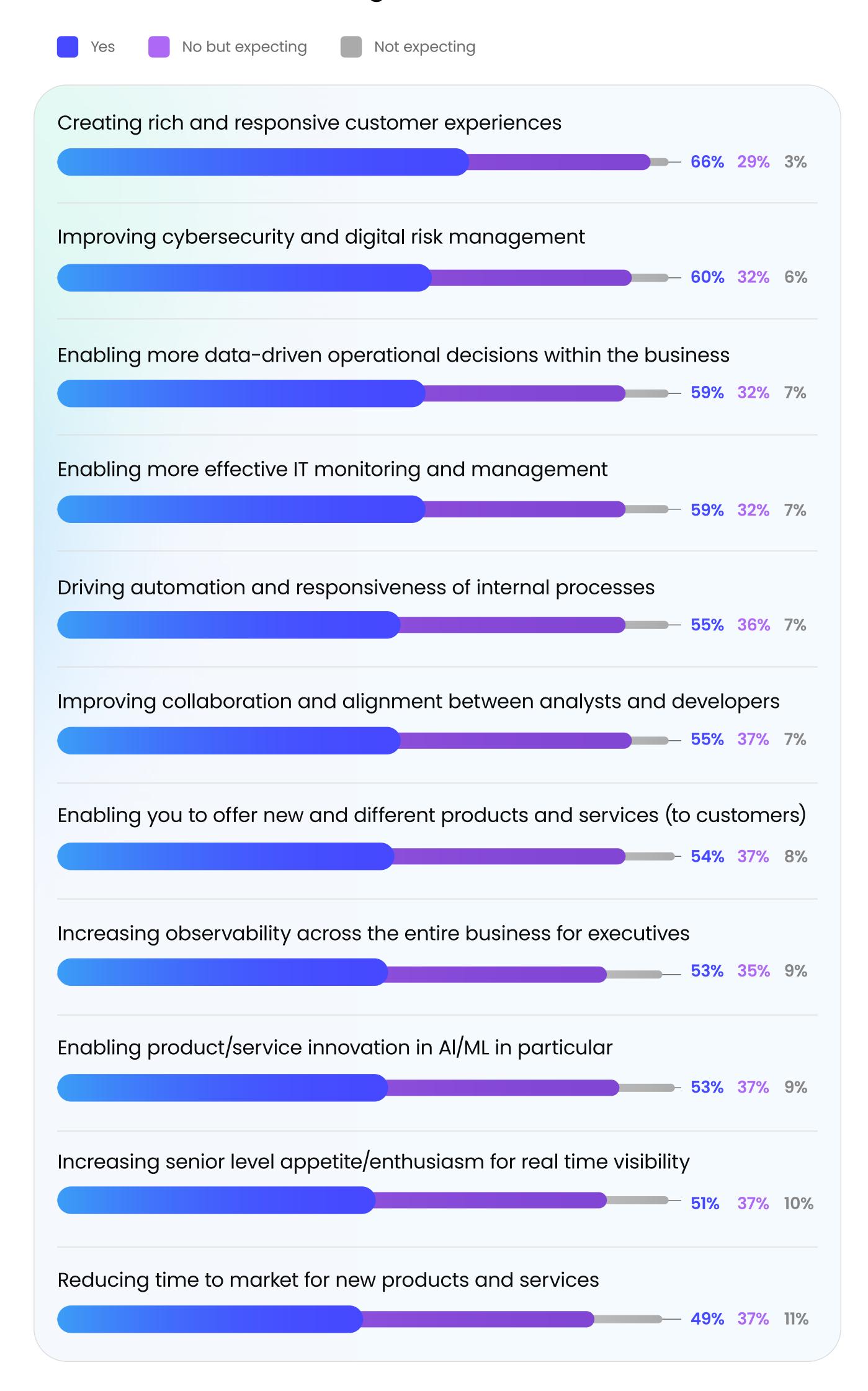
LEVEL 3

88%

IFV/FI 4

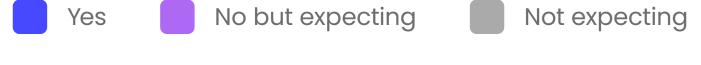
93%

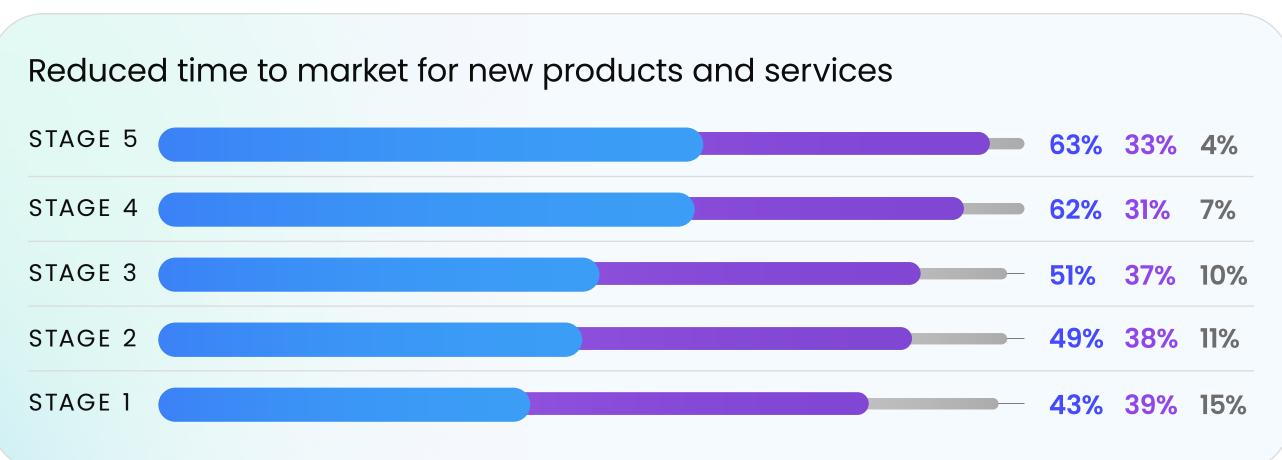
Significant benefits achieved from data streaming activities in the following areas:

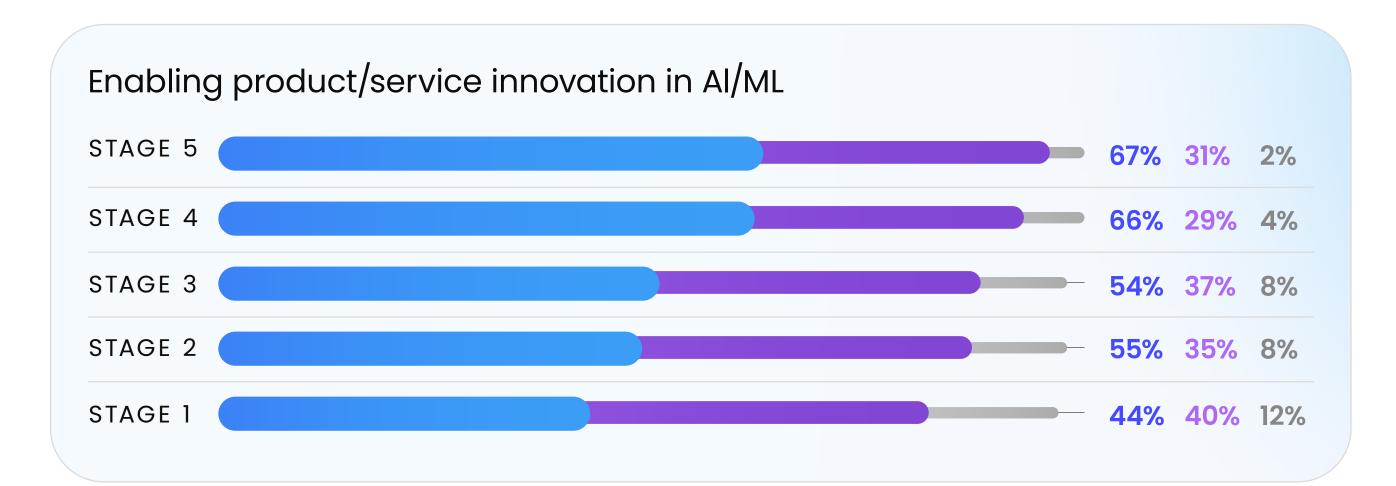


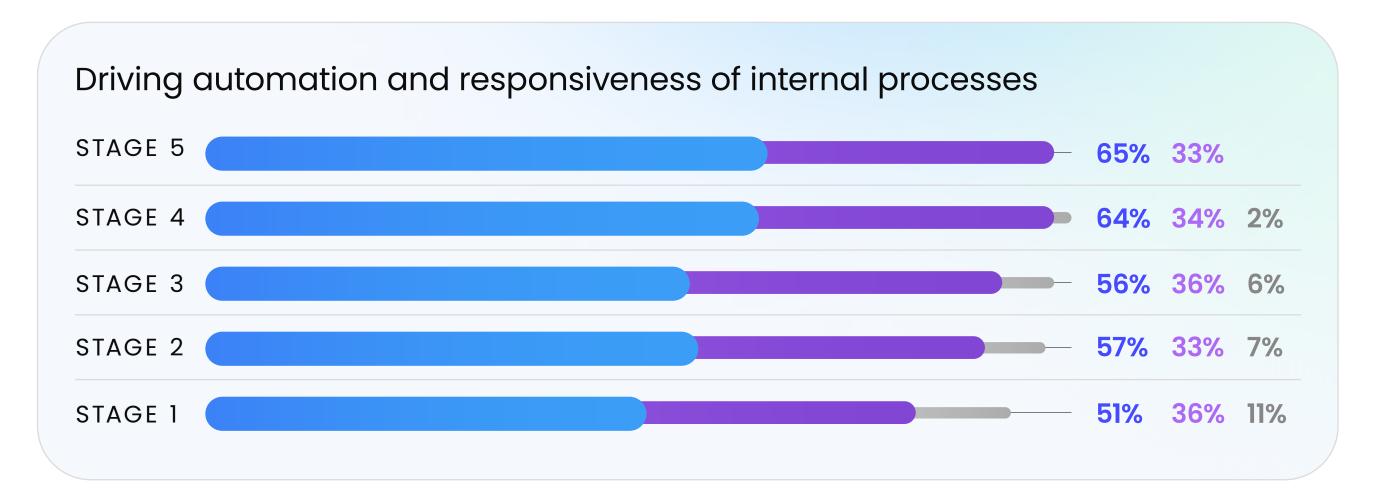
KEY FINDING 1 UNLOCKING ROI

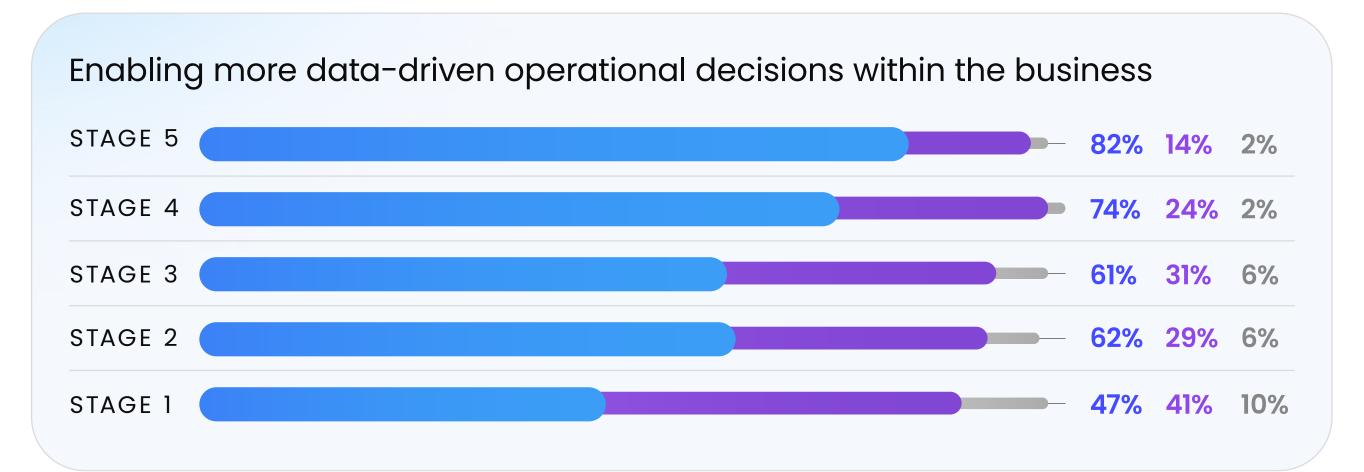
Significant benefits achieved or anticipated in key areas By maturity stage:



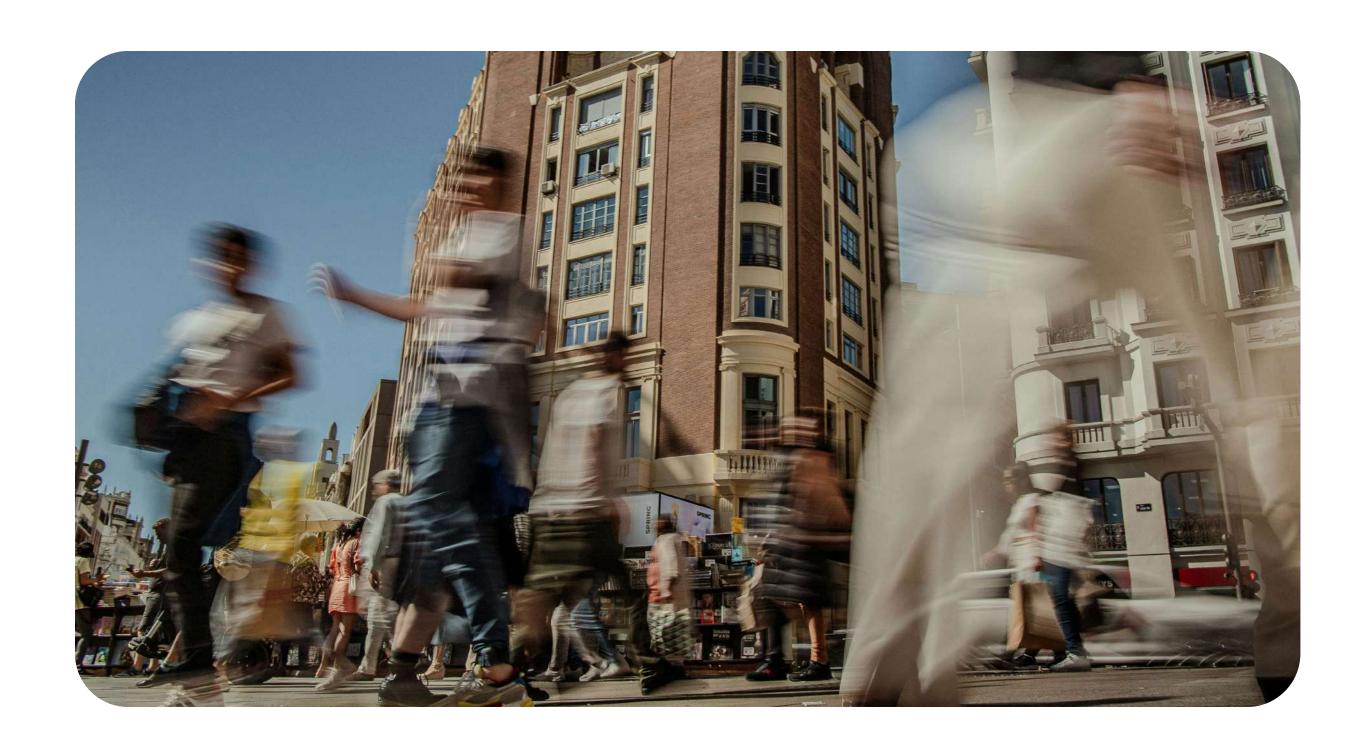








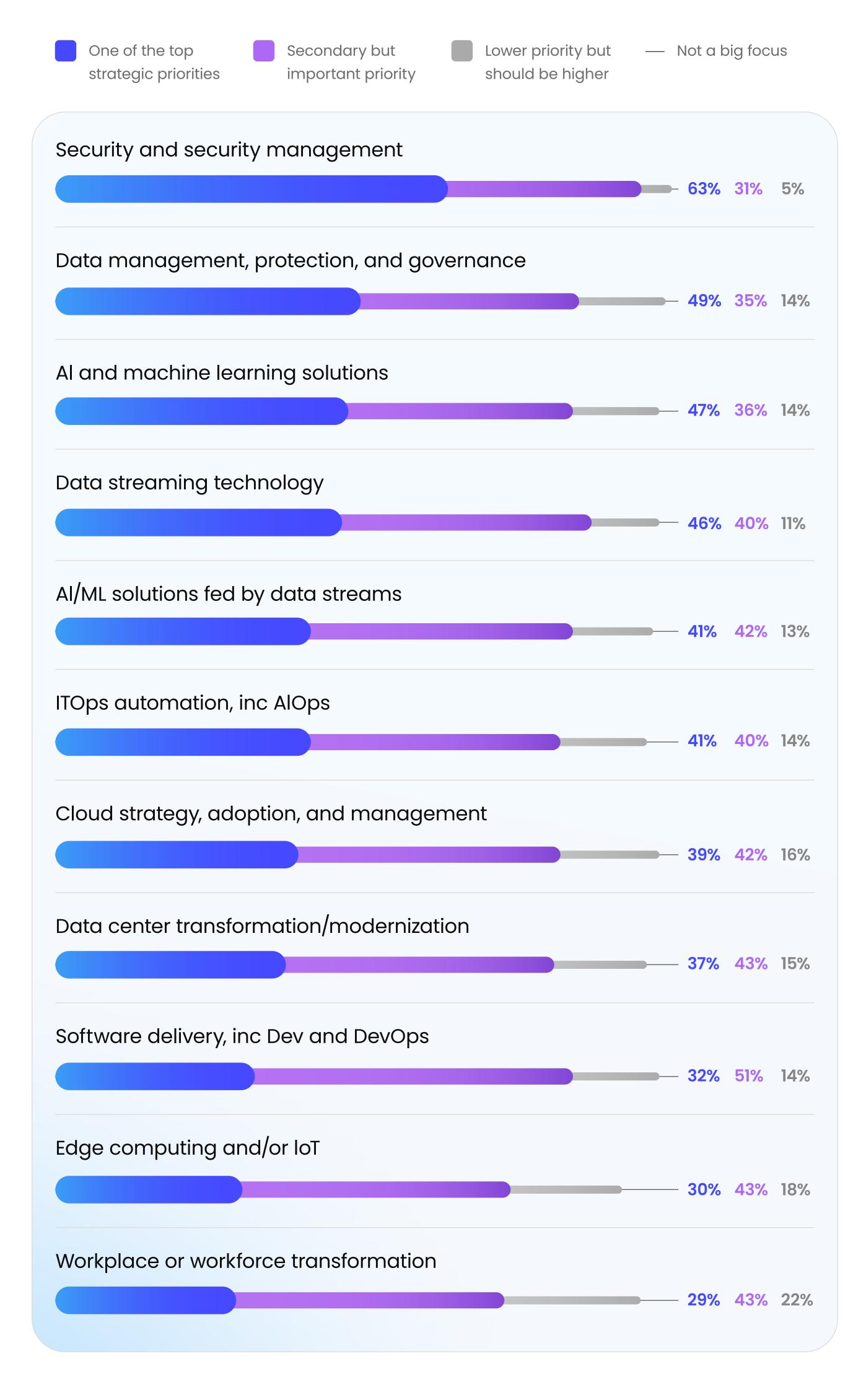
Data Streaming Investments Maintain Momentum

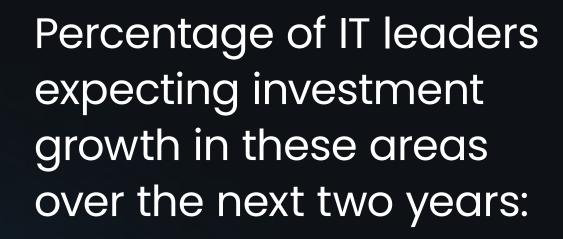


The view of data streaming as a niche capability is long gone. Case in point: Similar to last year, 86% cite investments in data streaming as a top strategic priority or secondary but important priority.

A closer look reveals that data streaming technology has firmly established itself among the top-tier technology priorities for IT leaders for 2025, alongside security (94%), data management and governance (84%), and AI/ML solutions (83%).

Investment focus for 2025:





DATA STREAMING TECHNOLOGIES



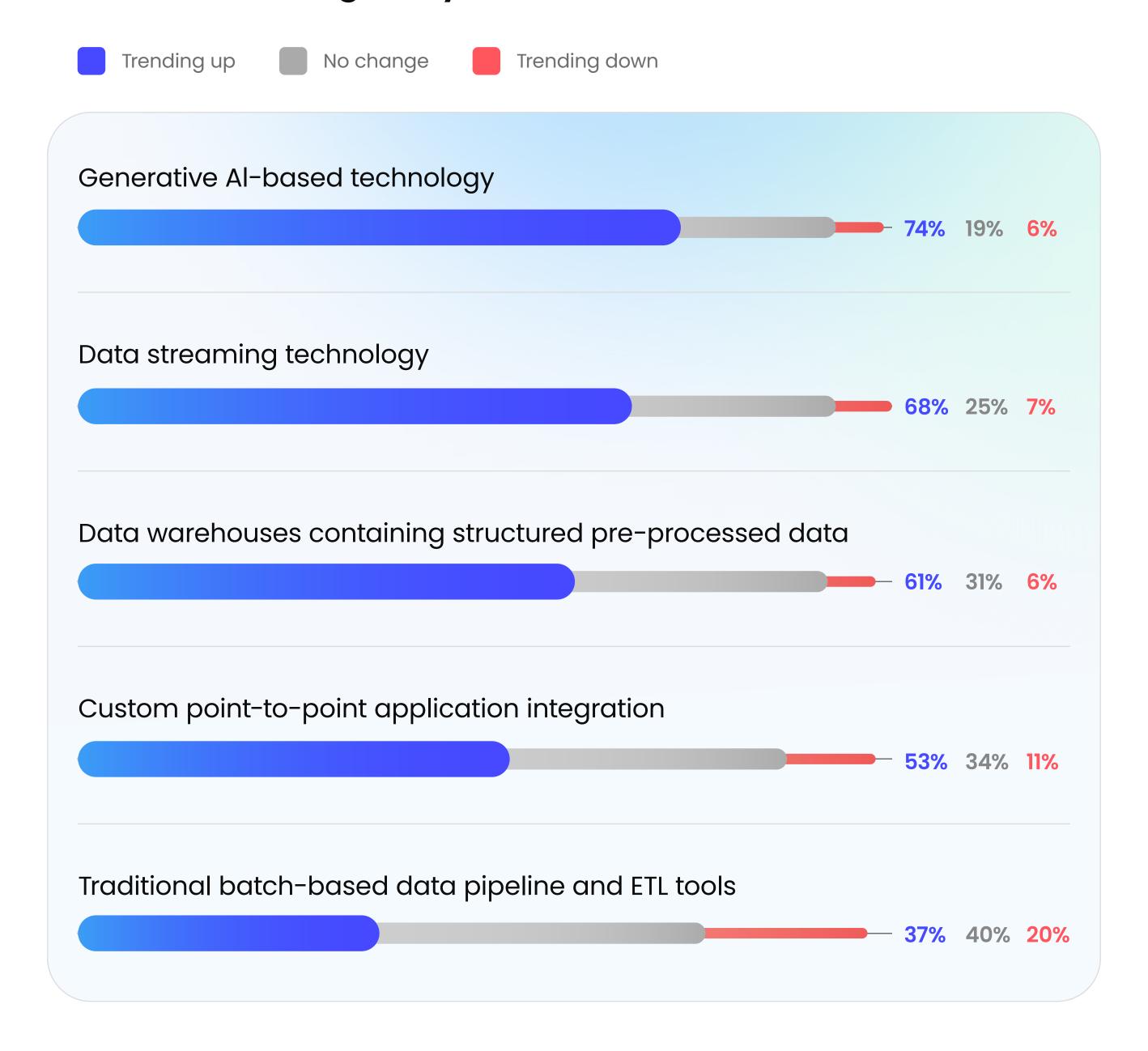
GENERATIVE AI

74%

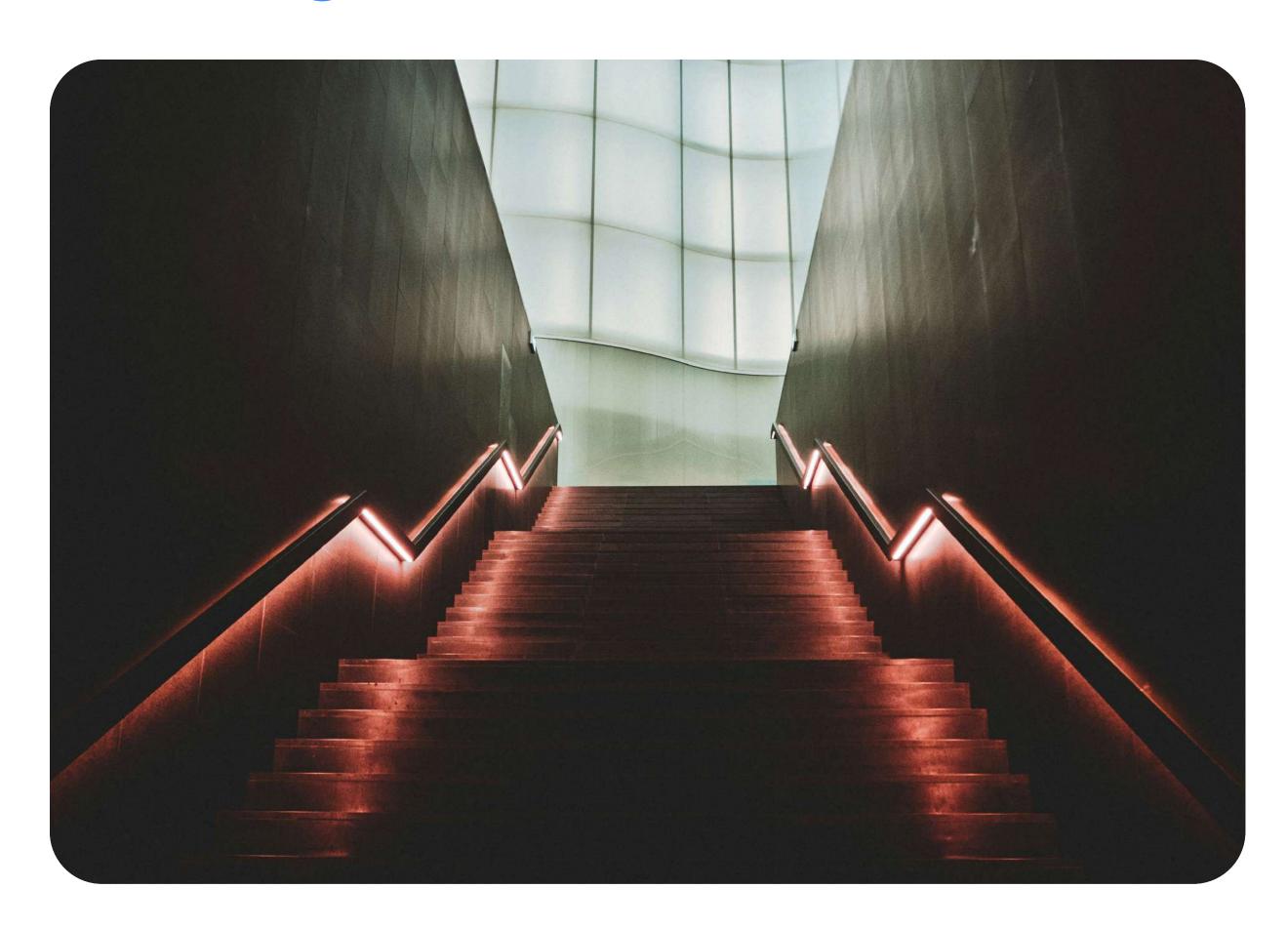


IT leaders expect investments in data streaming technology to continue growing over the next two years—just behind generative AI. This isn't surprising, given how real-time data capabilities are key enablers of the most pressing needs of a successful business, including AI adoption, security, and data management.

Technologies trending up or down over the coming two years:



Greater Maturity Yields Stronger Returns



Maturity in tech adoption ensures that technology investments translate into competitive advantages, allowing businesses to drive innovation and achieve measurable ROI. And similar to previous years, our survey findings underscore a clear correlation between data streaming adoption maturity and the achievement of higher levels of ROI—with companies further along the maturity curve achieving significantly higher ROI.

LEVELS 4&5

LEVEL 3

52%

46%

Percentage of IT leaders who say their companies are achieving or anticipating 5x ROI.

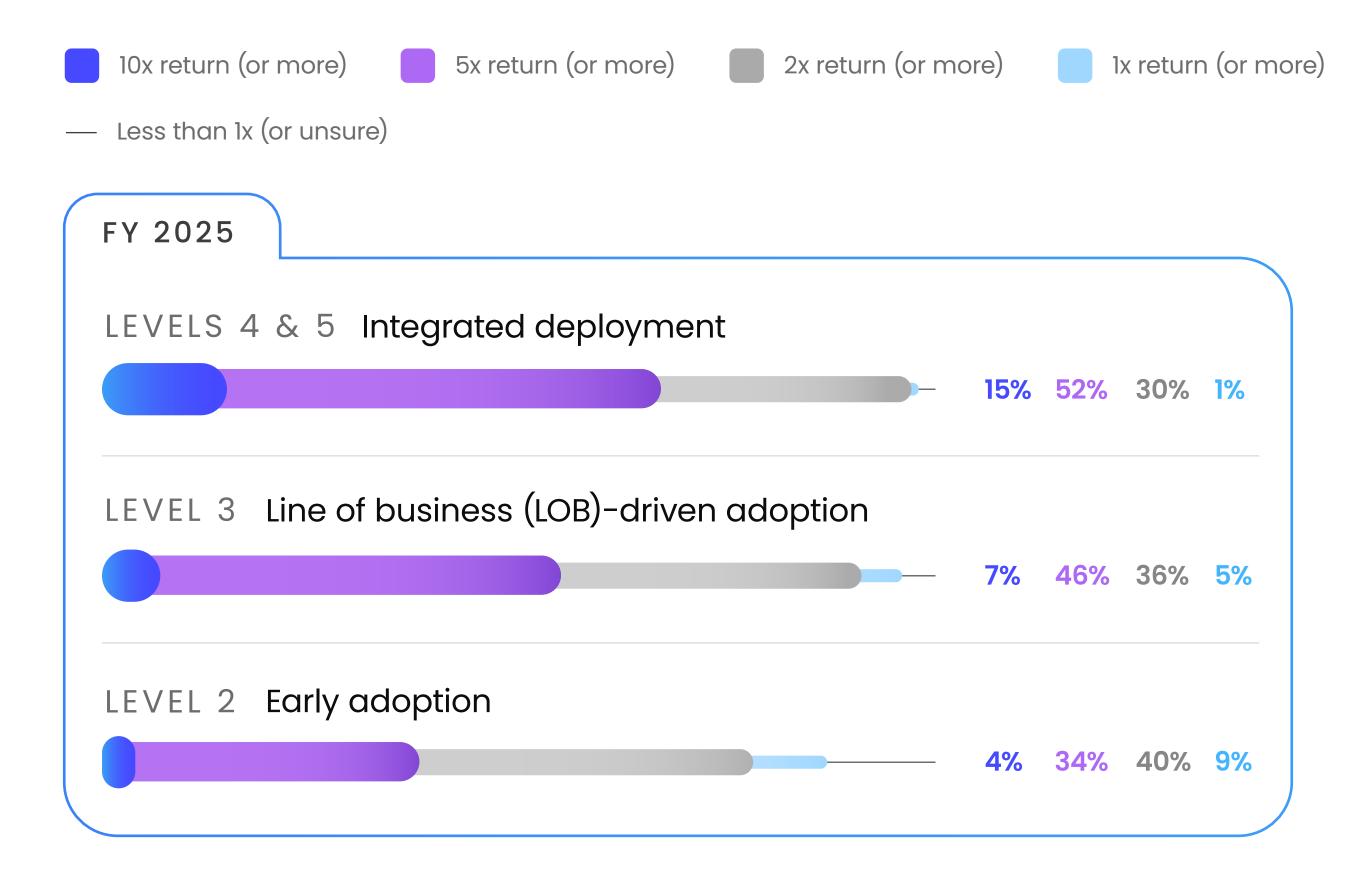
LEVEL 2

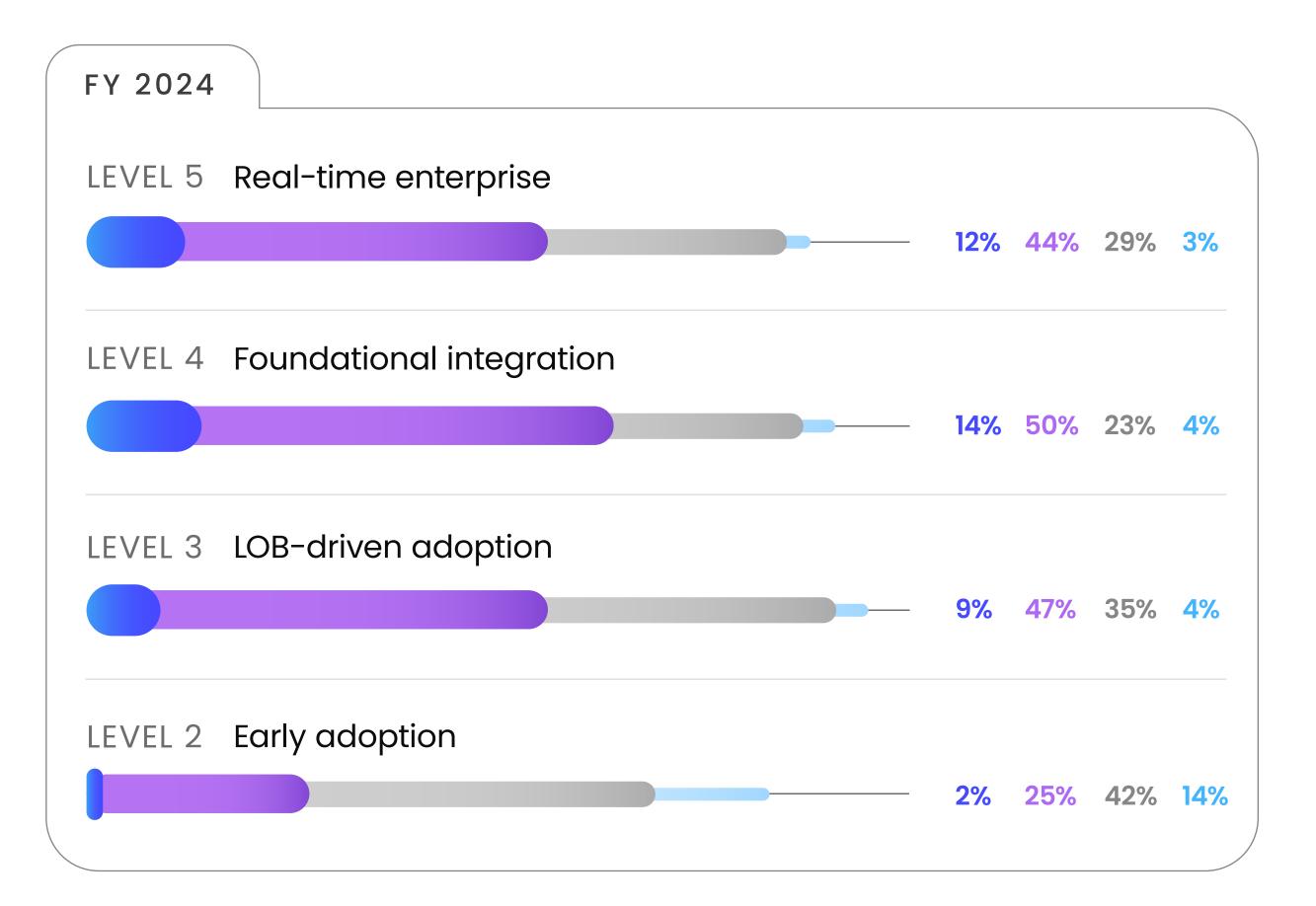
74%

of those in Level 2 say they're achieving or anticipating 2x to 5x ROI compared to 67% in 2024—proving even companies at earlier stages in the maturity curve see excellent ROI results with data streaming.

SACK TO EXPLORE KEY FINDING 1

Overall ROI achieved or anticipated:







Establishing a future-proof data architecture—with capabilities for real-time integration, accessibility, and scalability—has become the bedrock of operational efficiency and future innovation.

But persistent data challenges, including data silos, remain a thorn in the side of ambition and execution. The good news? Data streaming platforms are instrumental to resolving these challenges and driving success by helping businesses build foundations of connected, trustworthy, and discoverable data.



of IT leaders see data streaming platforms as critical or important to achieving their data-related goals—with 90% citing higher or significantly higher investments in DSPs in 2025.

26





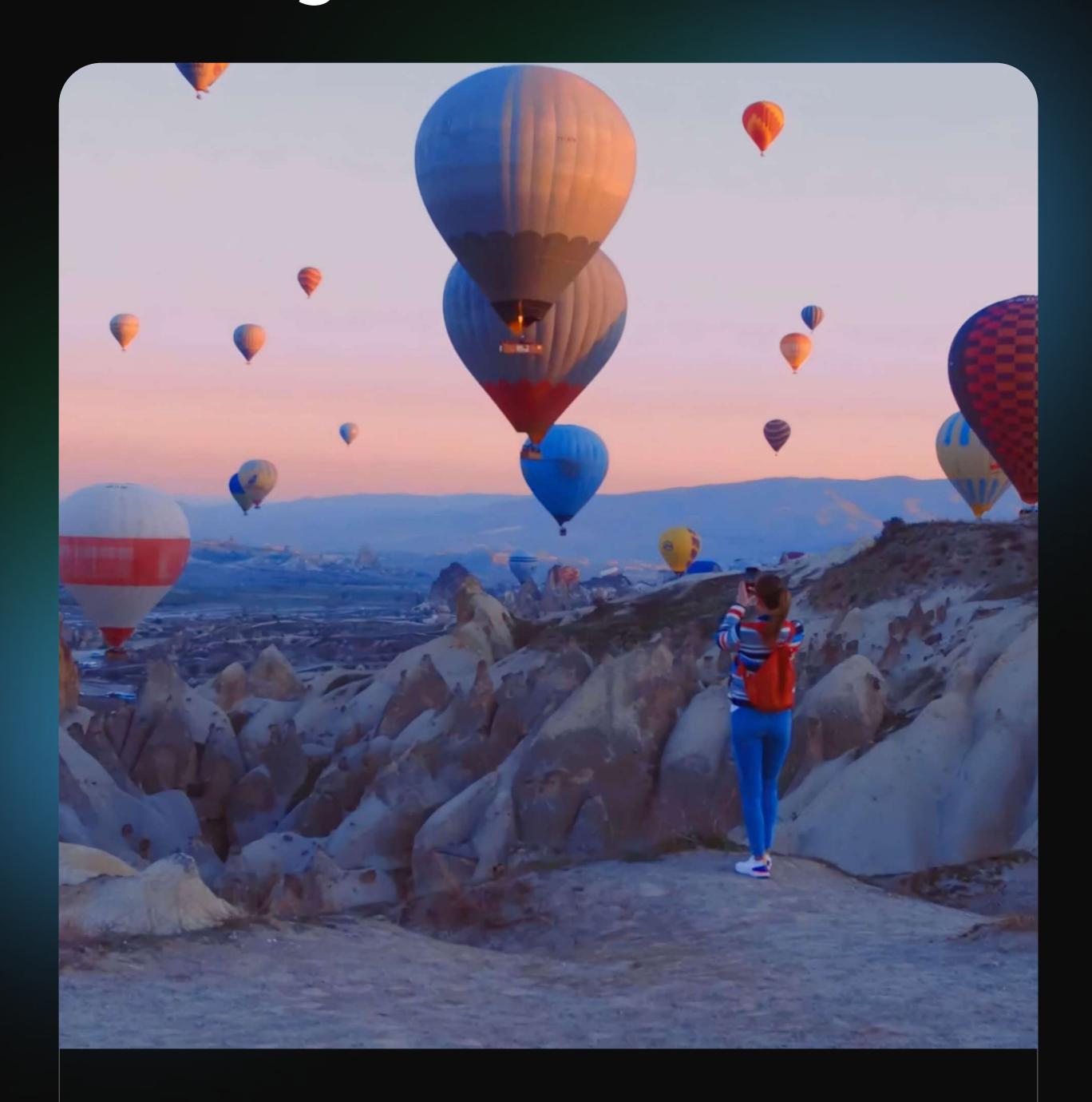


With a fully managed data streaming platform, we can focus on the business needs, like governance and metrics. 55

Akash Agarwal

Data Architect Swiggy

Booking.com





A data streaming platform increases our software engineering velocity. It helps us develop better products faster and more efficiently. \$\sqrt{2}\$

Maxim Foursa

Senior Engineering Manager Site Reliability Booking.com

Accomplishing Business Priorities With Data

Data remains front and center in business conversations, so data-related priorities such as real-time visibility, governance, access for automation, and reusability are top of mind for IT leaders. And data streaming platforms are seen as essential catalysts for advancing these strategic priorities.

89%

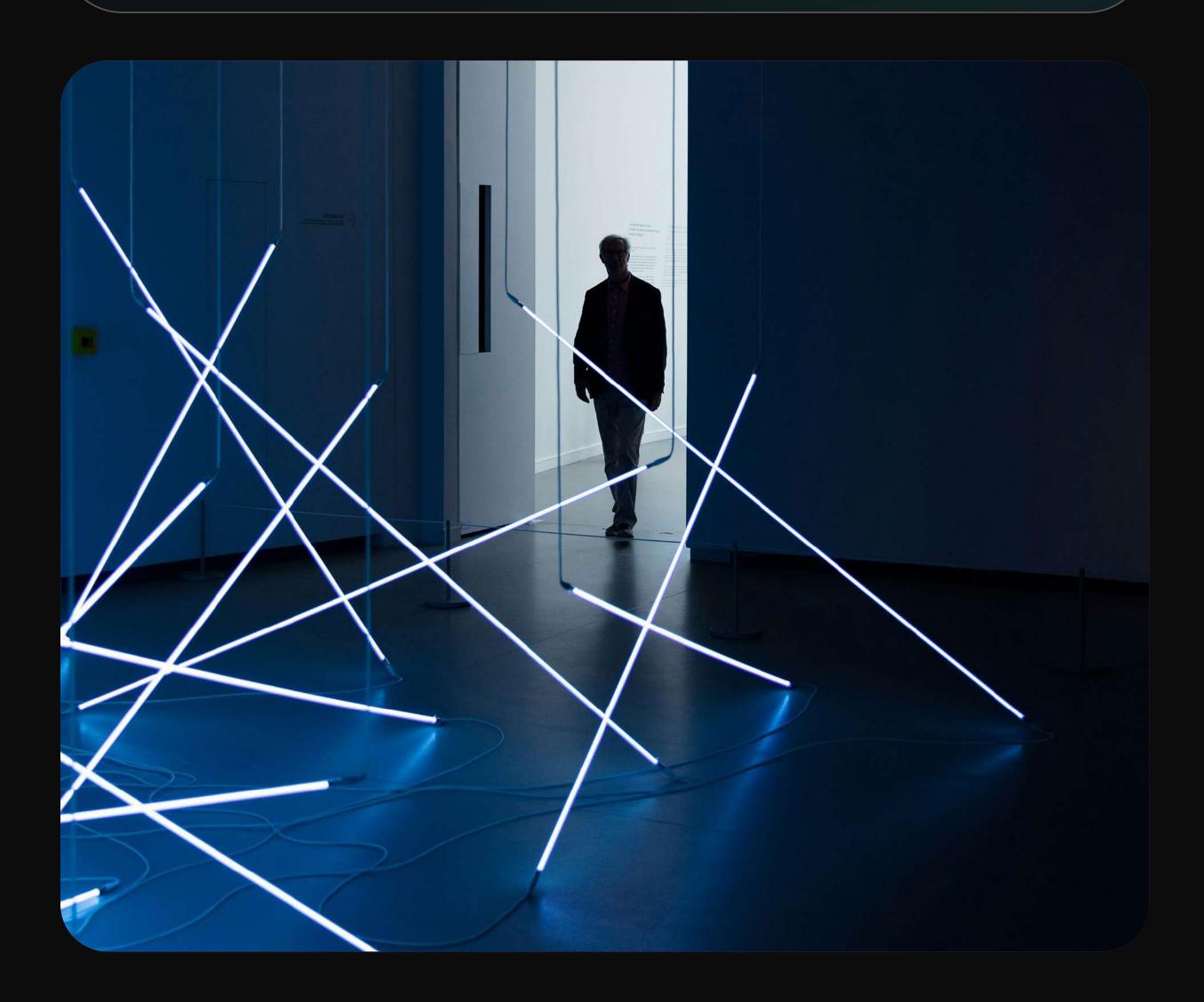
of IT leaders cite continuous and up-to-date business visibility as an extensive or significant priority, 83% see DSPs as a key or important enabler in achieving that visibility.

83%

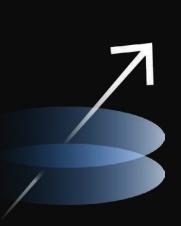
cite easy access and reuse of data for driving diverse use cases as another key priority, and 73% cite DSPs as an enabler.

Driving Al systems

of IT leaders cite effective use of enterprise data to drive Al systems as a priority, with 73% seeing DSPs as enablers.

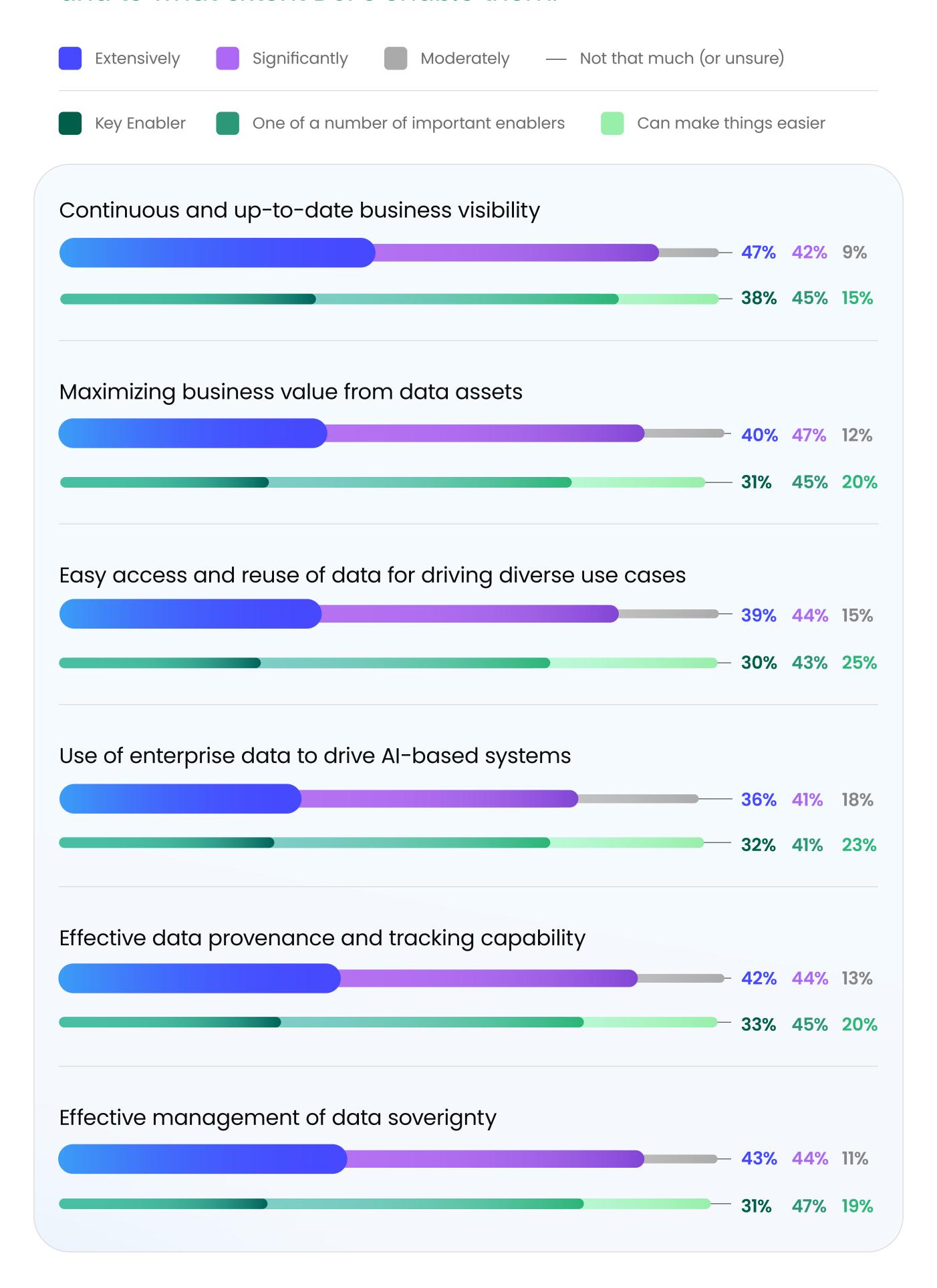


View Key Finding 3 to learn more



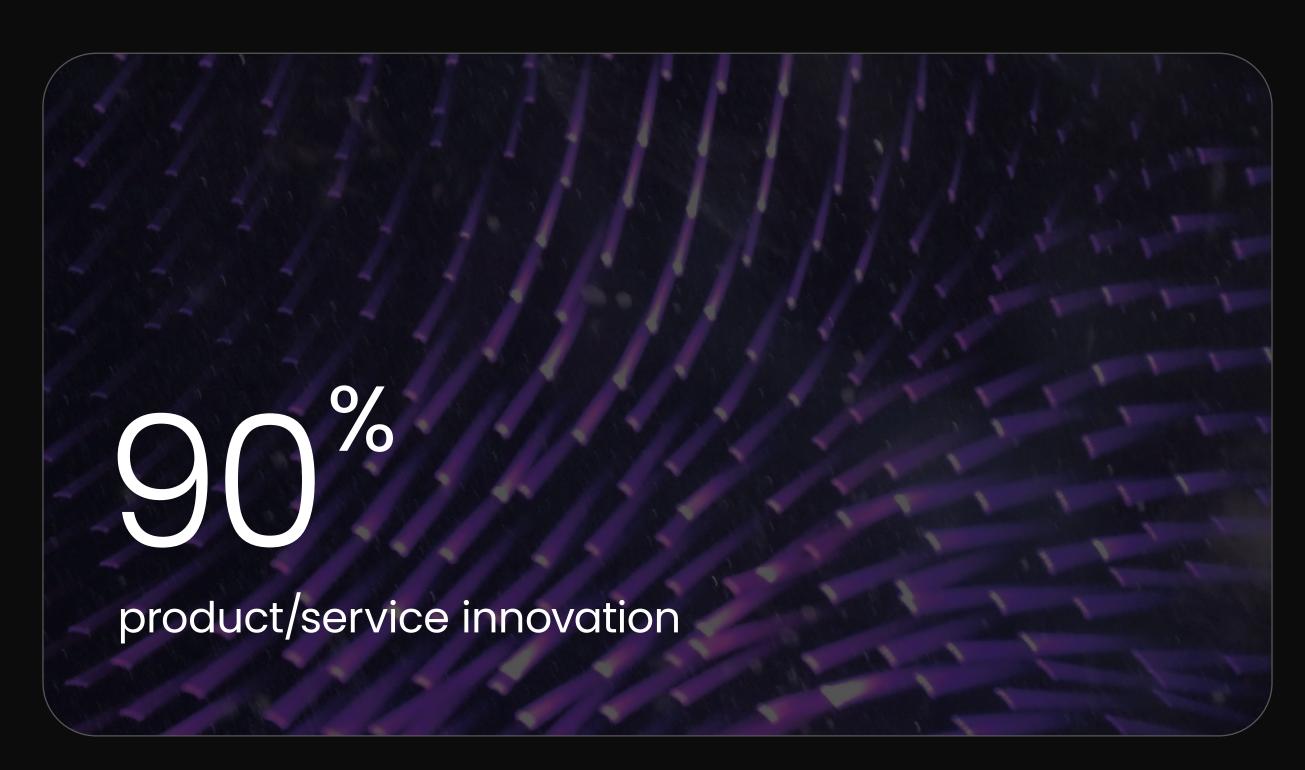
What matters to the business

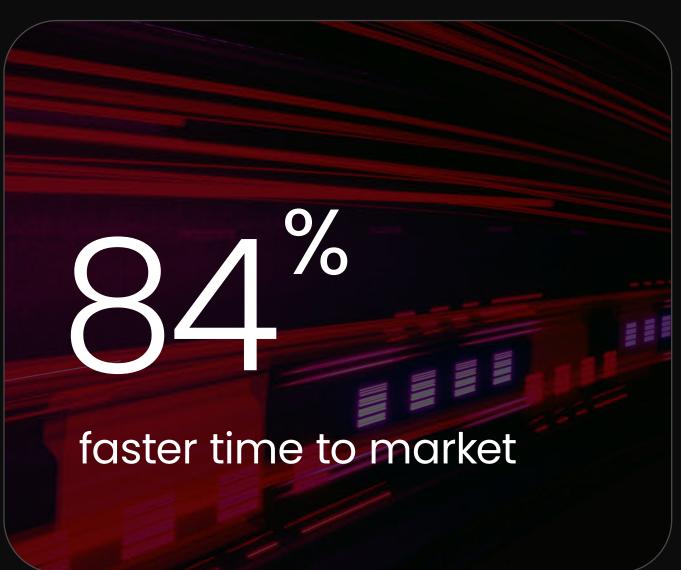
and to what extent DSPs enable them:



It's not just about aligning with business priorities.

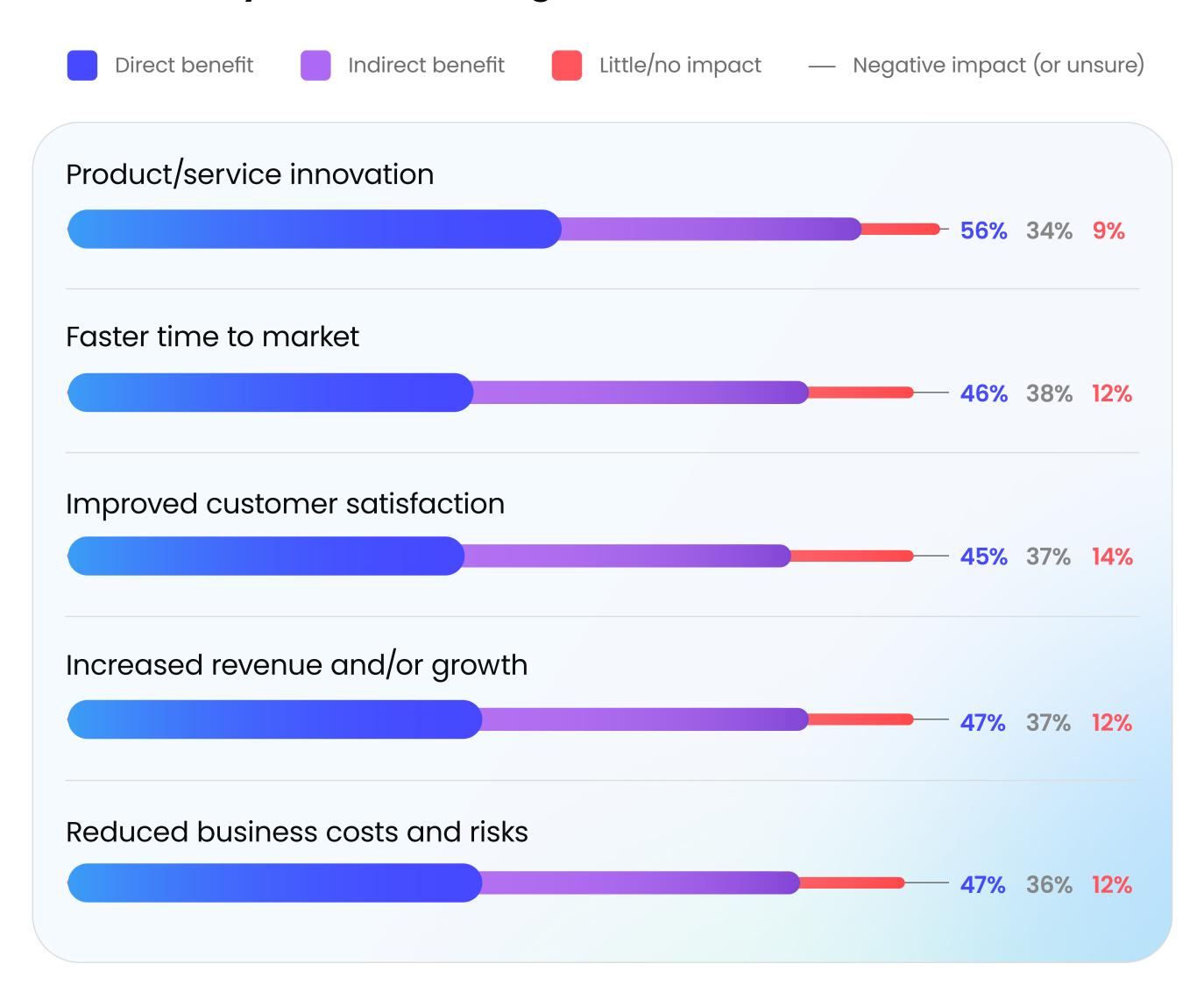
DSPs are seen as a key driver of tangible business outcomes. By enabling data to flow more quickly, freely, and securely throughout the organization, DSPs have direct or indirect impact on:







The impact DSPs on business-level objectives as a result of information flowing more quickly, freely, and safely around the organization:



The Cure for Data Integration Challenges

While modern organizations run on data, businesses continue to face multiple hurdles in leveraging data effectively. What's interesting is, cultural and organizational barriers are nearly as troublesome as the technical ones.

79%

of organizations report five or more challenges—compared to 76% in 2024.

TOP BARRIERS TO SUCCESS:

68% inconsistency in data sources

67% uncertain data quality

63% data silos

63% fragmented ownership of data

62% unwillingness of owners to share data

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Remarkably, data streaming platforms can tackle all of these challenges head-on:

91%

of IT leaders say DSPs help mitigate data silos.

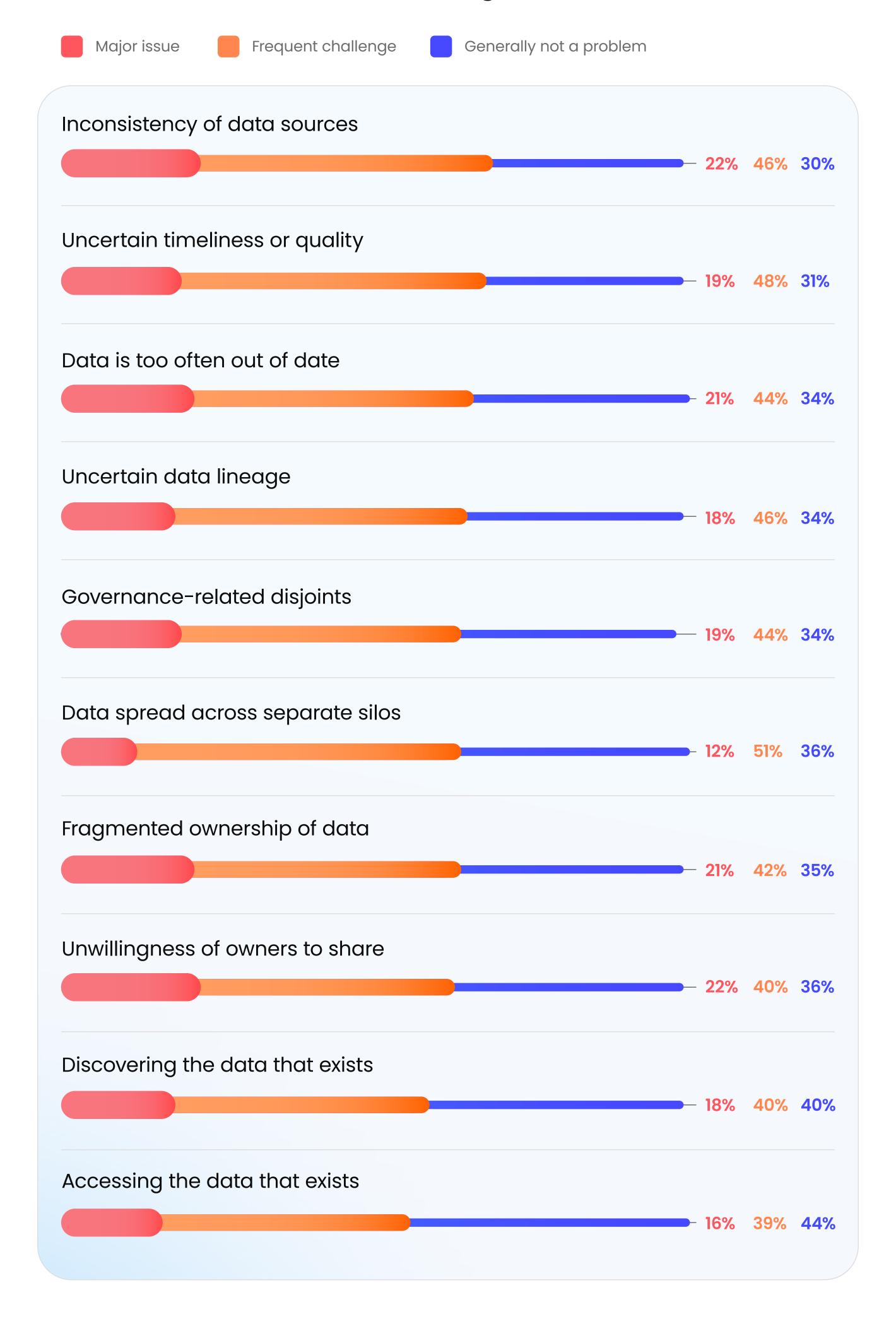
86%

say they streamline access to existing data.

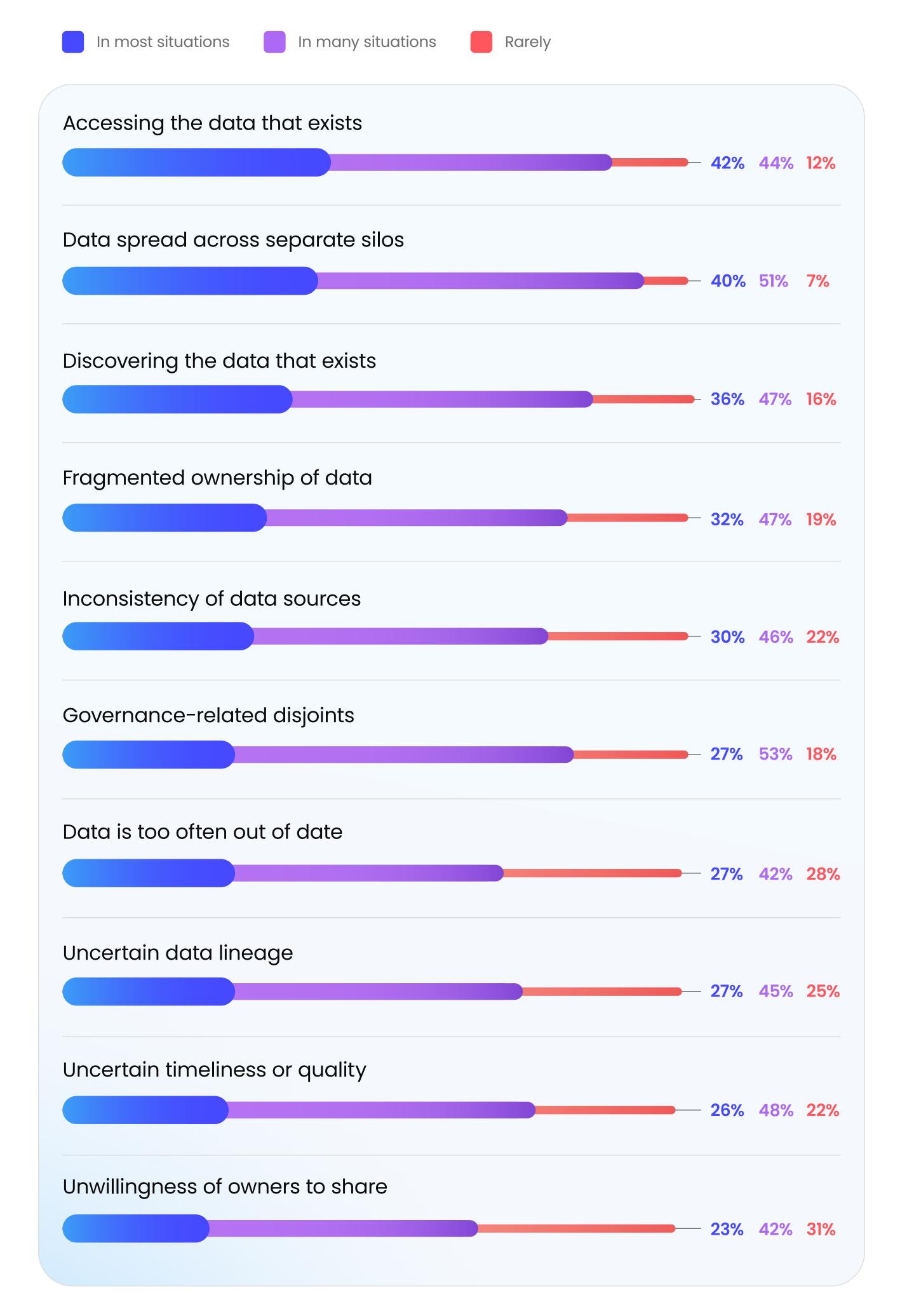
80%

say they address governance-related disjoints.

Common data-related challenges:



The degree to which DSPs can help mitigate these kinds of issues:



Traits That Power Data-Driven Success

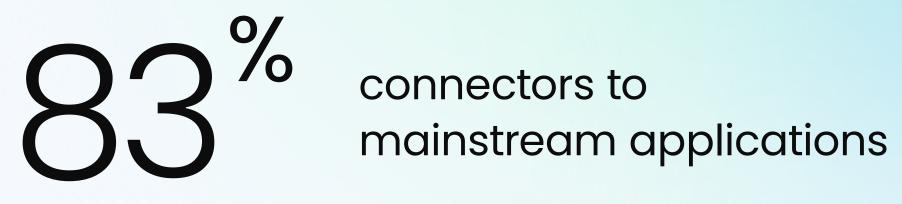


In the previous sections, we uncovered clear indications that IT leaders see data streaming platforms as key to driving business success.

But what makes a good DSP? The short answer is comprehensive functionality.

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Key priorities for IT leaders evaluating DSPs include:



79% governance enforcement

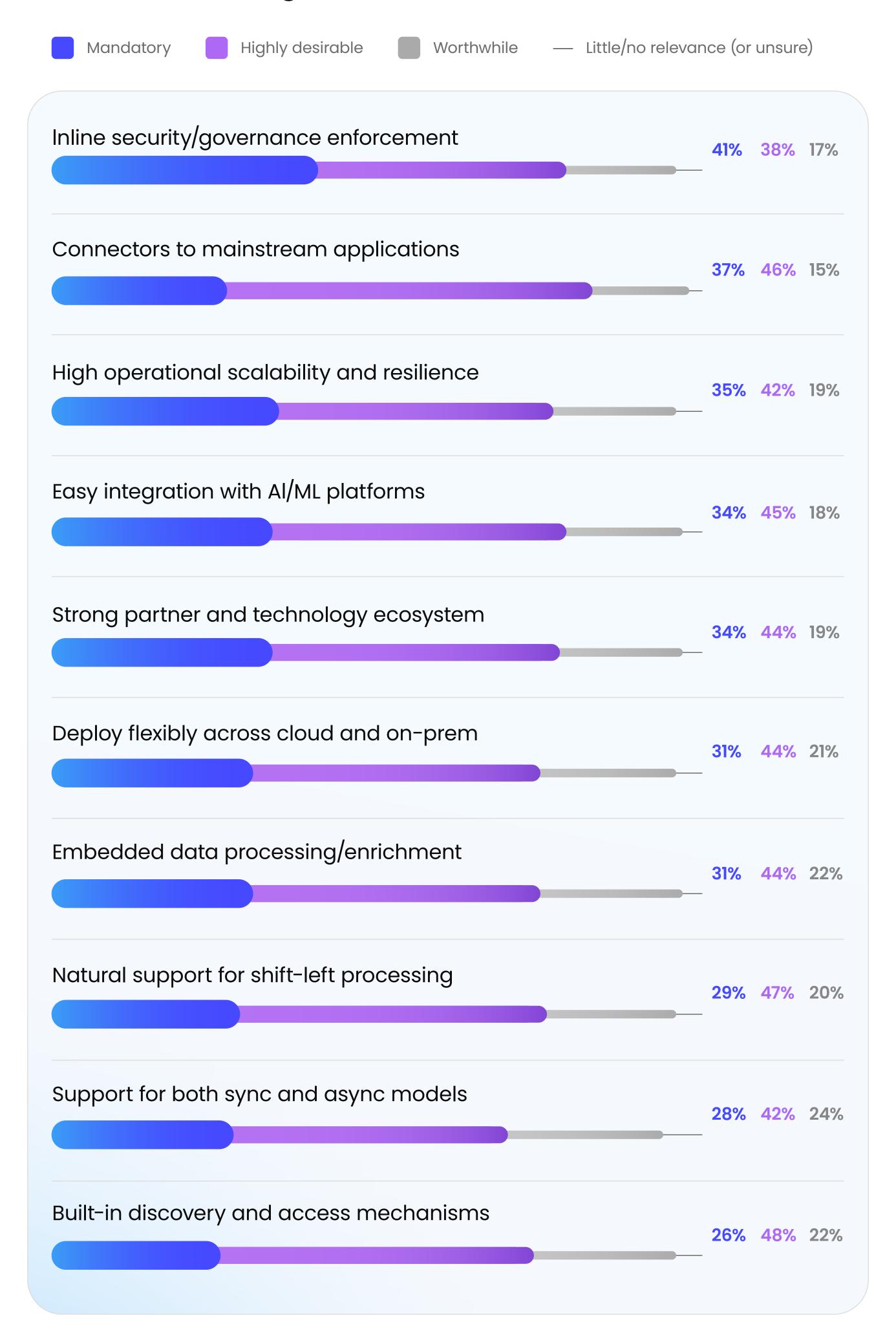
79% Al integration capabilities

75% embedded stream processing

Together, these characteristics reflect a complete data streaming solution that addresses both technical and evolving business requirements.

Having these capabilities integrated into a single platform liberates data teams from unnecessary complexity while accelerating time to value for both existing and new use cases.

What capabilities matter the most when considering a DSP:



Another significant aspect of DSP evolution is that respondents prefer a mix of deployment options.

50%

of IT leaders highlight access to DSPs via public cloud services as a very relevant option.

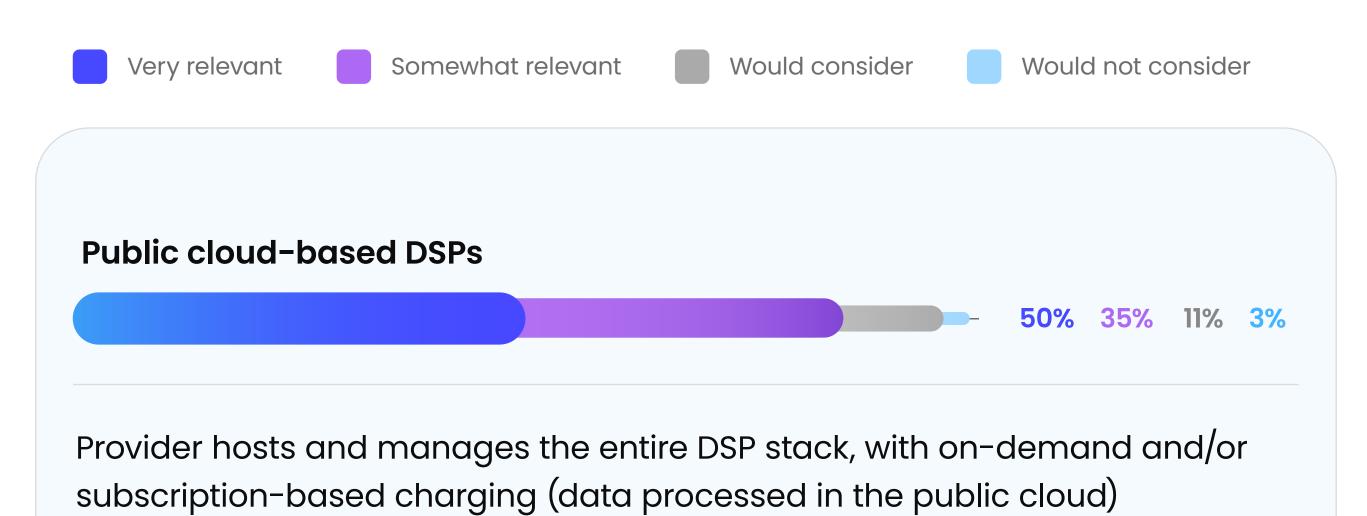
38%

cite preference for self-managed on-premises DSP.

37%

cite preference for Bring Your Own Cloud (BYOC) data streaming. In this model—suited for organizations where multitenant SaaS is a no-go for sensitive applications—you control your data while the provider manages the software stack (as a service) in your private environment.

Relevancy of DSP deployment options:

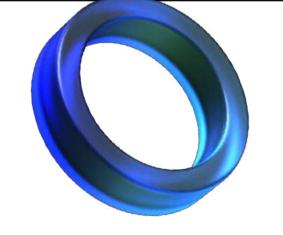




You host and manage the entire DSP stack in your data center or privately hosted environment (data processed in your private environment)



Platform runs on your equipment, but with remote management by the provider and cloud-like charging (data processed in your private environment)





Al momentum is growing. No surprise there, given Al's role in driving tangible business outcomes, from improving productivity to creating new revenue streams. And businesses that recognize data as the linchpin of their Al strategies are on the path to unlocking success. As easy access to reliable, real-time data takes center stage—especially in the world of GenAl—a whopping majority of IT leaders see data streaming platforms as key to translating the potential of Al into measurable business value.

87%

of IT leaders say data streaming platforms will be increasingly used to feed AI systems with real-time, contextual, and trustworthy data.

< BACK TO DRIVING AI SYSTEMS

Notion



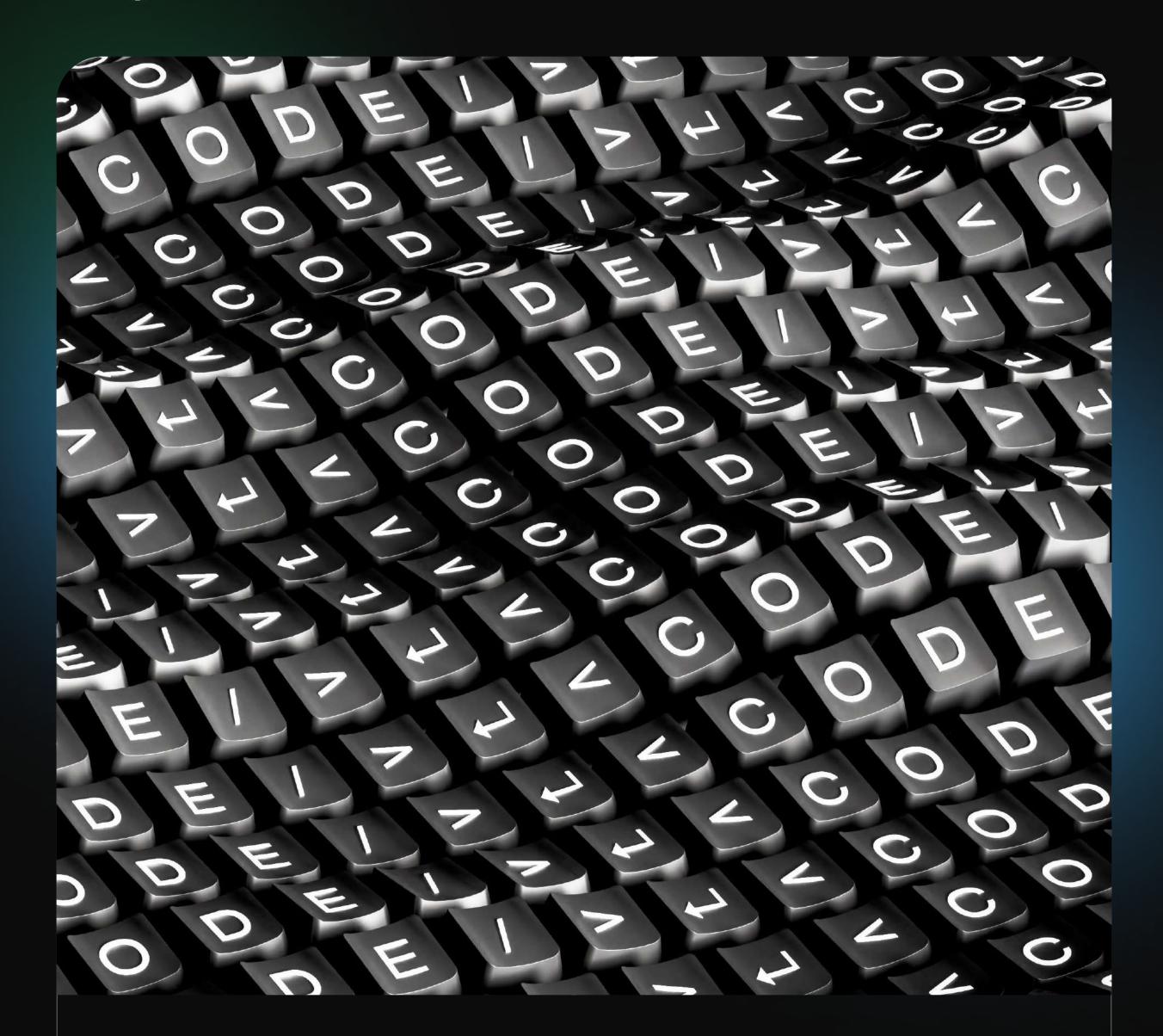


A data streaming platform allows us to stream changes as they happen, ensuring that our Al tools always provide the most relevant and timely information. 22

Ekanth Sethuramalingam

Engineering Lead Notion

Reworkd.



We rely on Confluent's data streaming platform ... to stream GenAl and agentic Al outputs across our architecture for our customers, tracking token usage and enabling accurate billing. Confluent makes it easy for us to iterate quickly and build new Al features in days instead of weeks.

Adam Watkins

Co-Founder & CTO Reworkd Al

Real-Time Data Is Fuel for Al

A closer look into AI momentum reveals widespread adoption and experimentation across multiple domains—but varying levels of maturity.

Case in point:

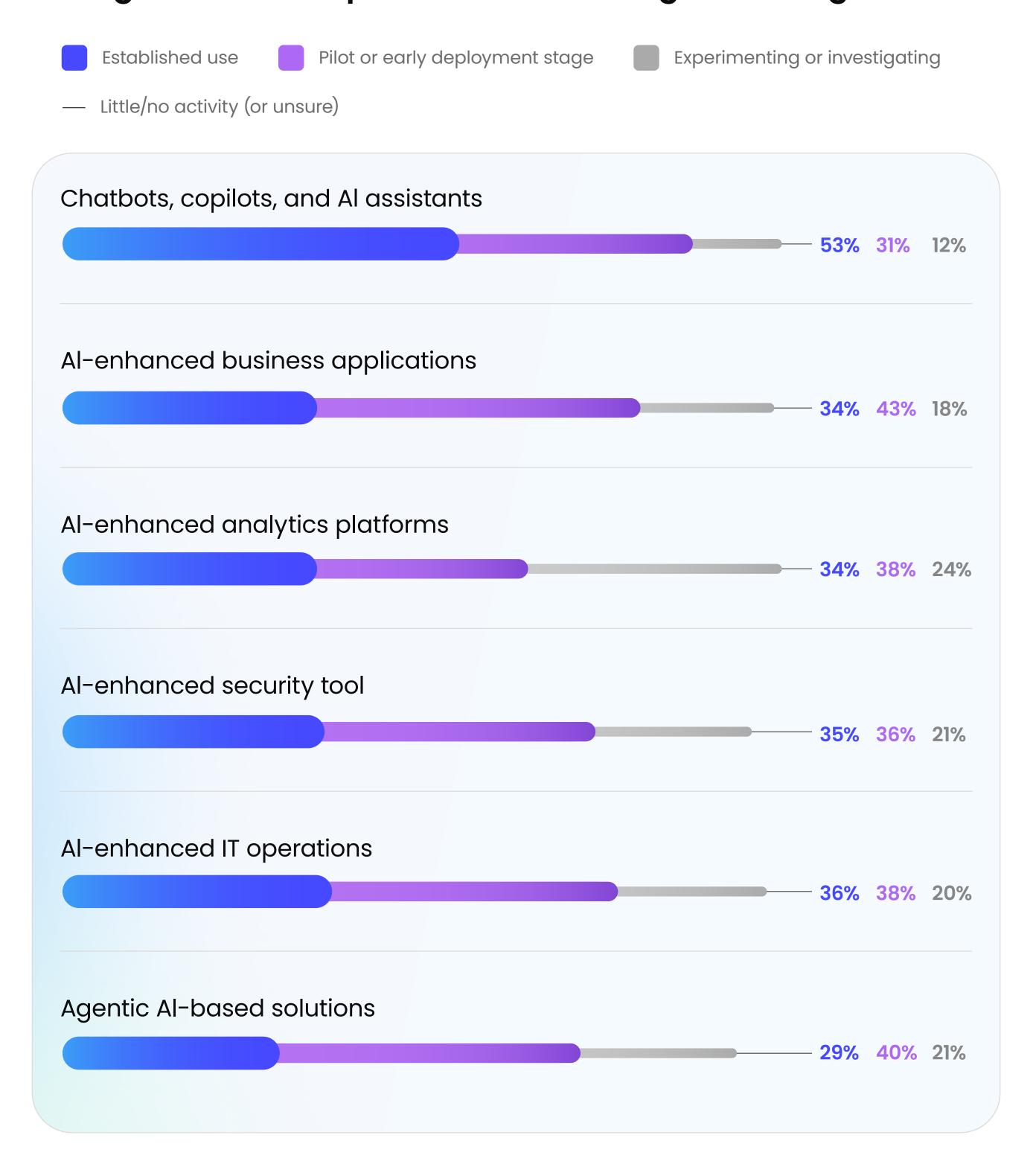
53%

of IT leaders cite established use when it comes to chatbots, copilots, and AI assistants.

9%

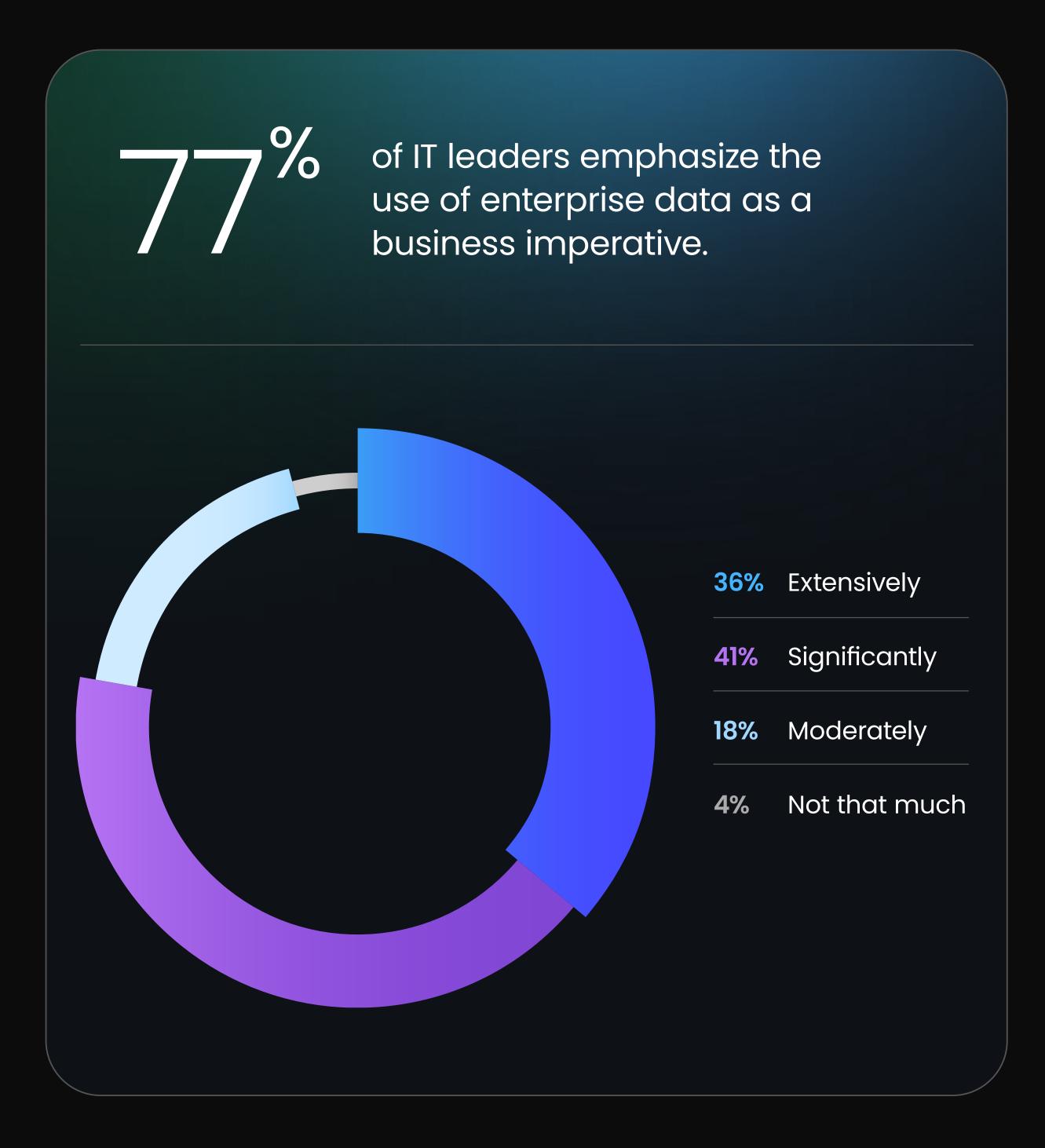
of IT leaders cite established use when it comes to agentic Al-based solutions. However, activity is certainly catching up in slow-moving areas.

Progress with adoption of the following technologies:





With technologies like GenAl driving a surge in demand for continuous data access across businesses, our survey findings reinforce how data is the foundation of Al success. This strong recognition of enterprise data's importance highlights a critical connection: Al systems in a business context are only as good as the data that powers them and how quickly and reliably data can be delivered.



Strongly agree

43%

Somewhat agree nor disagree

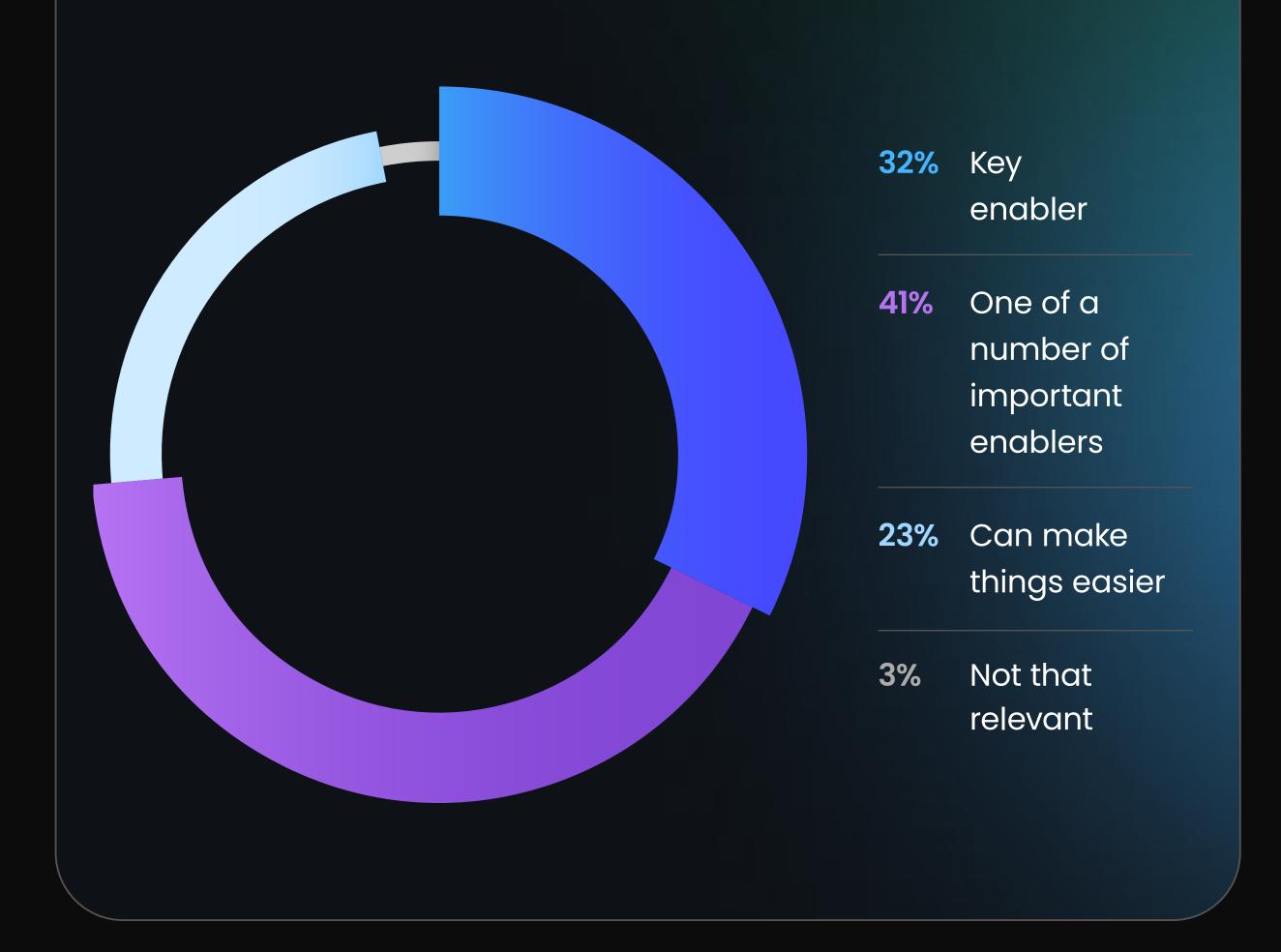
19%

Somewhat disagree

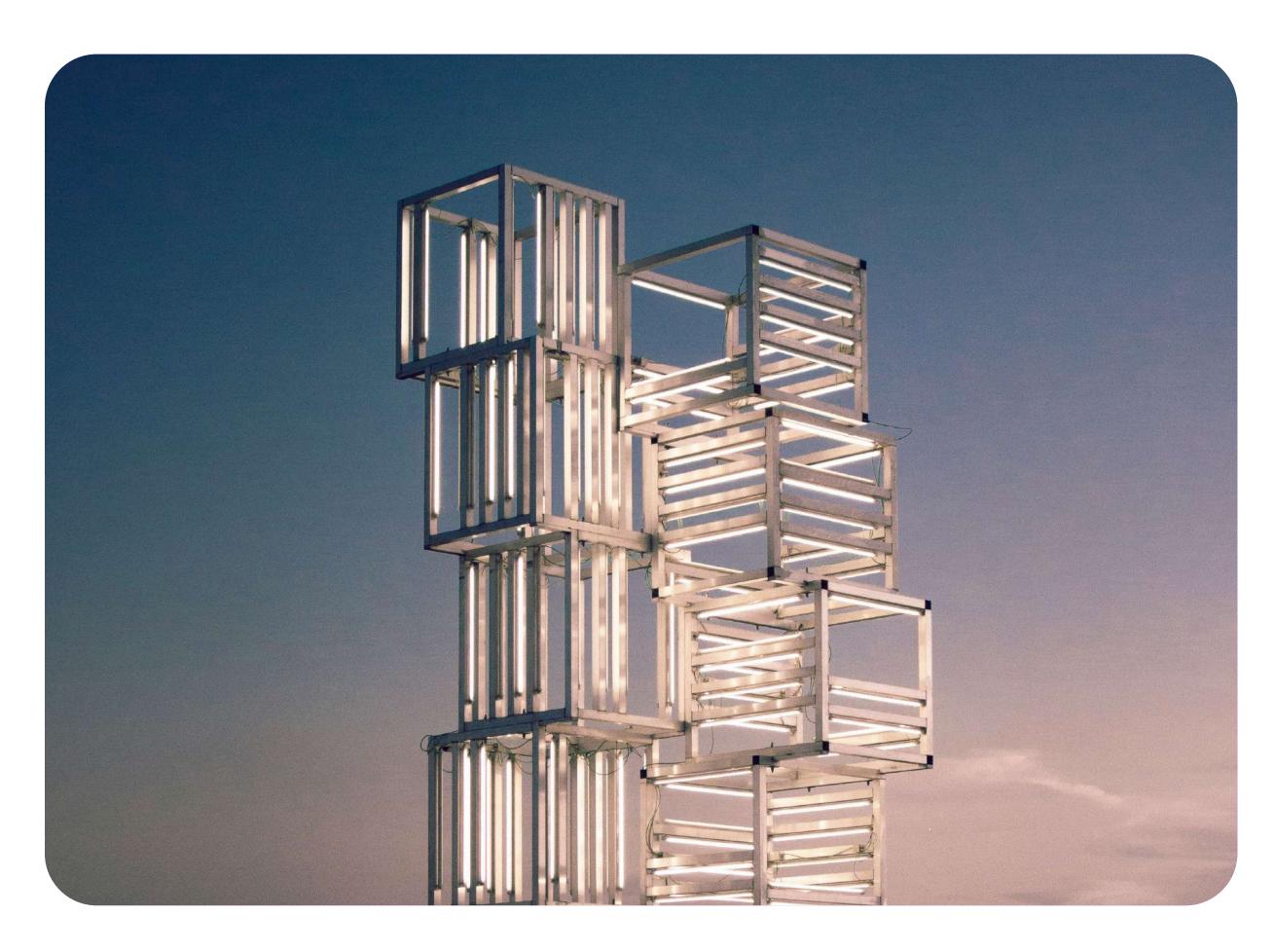
3%

73%

of IT leaders cite DSPs enabling use of enterprise data to drive Al-based systems.



Al Roadblocks Still Get in the Way



While AI offers tremendous opportunities for businesses, enterprises are too often held back by disconnected systems that fail to deliver the right data, in the right format, at the exact moment it's needed.

Our survey findings show that every organization faces its own mix of challenges—with 73% of IT leaders highlighting three or more challenges, compared to 70% in 2024.

68%

cite fragmented ownership of data across disparate systems as a major issue or frequent challenge.

65%

cite limited ability to seamlessly integrate new data sources.

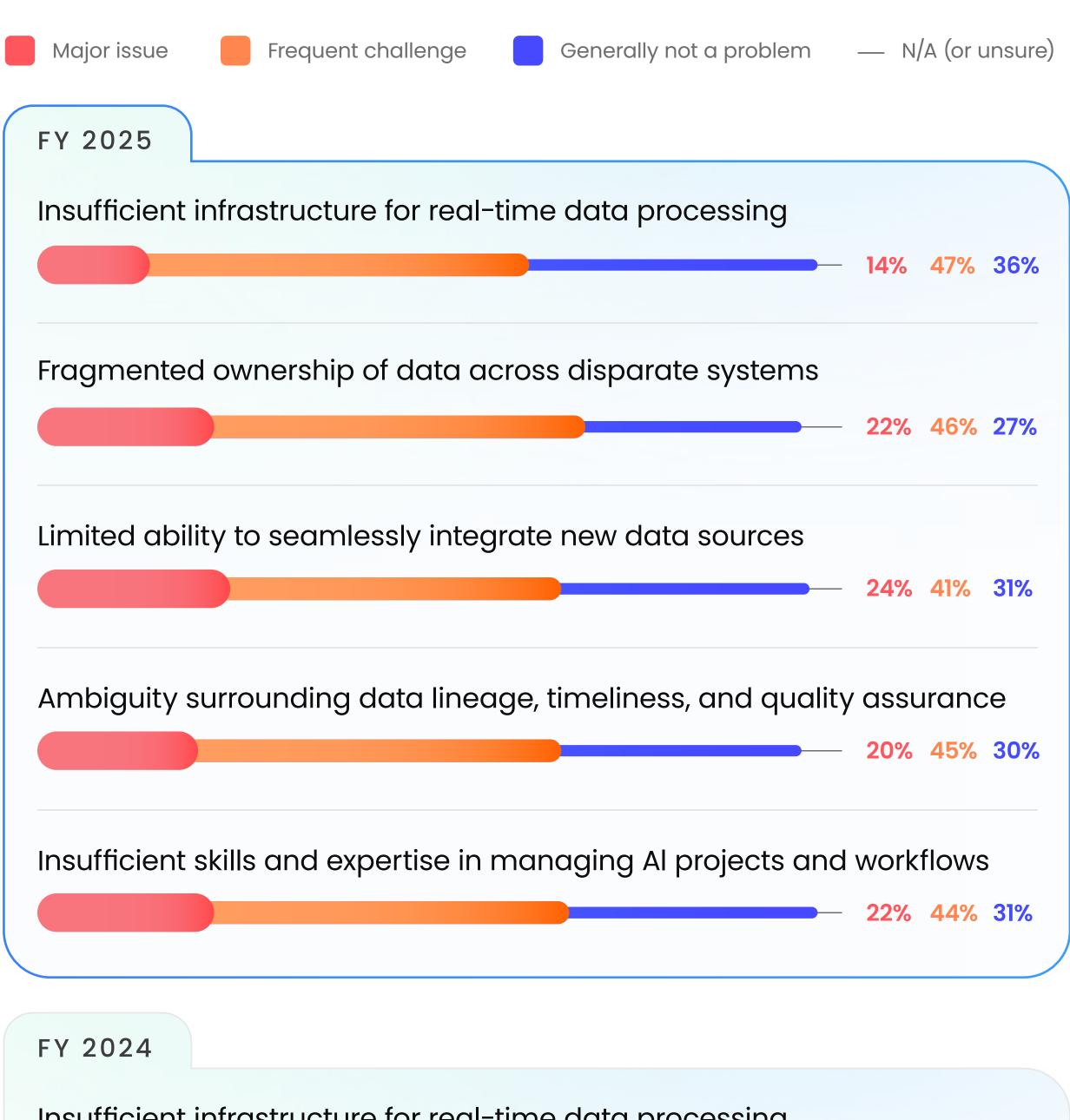
61%

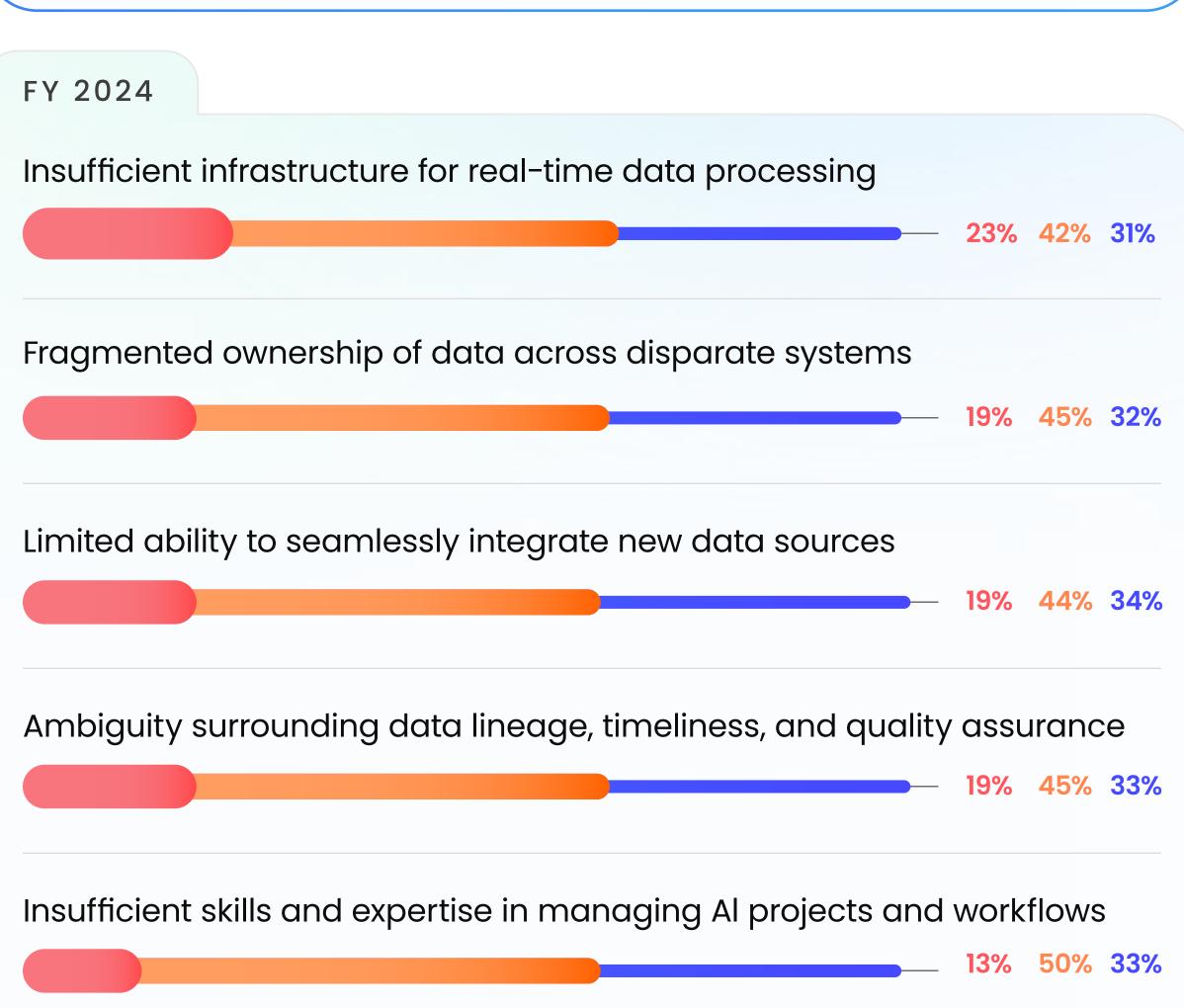
cite insufficient infrastructure for real-time data processing.

Skills shortages (66%) are also preventing organizations from working toward their AI goals. Failure to address these challenges will result in operational bottlenecks and increased complexity, undermining the potential benefits of AI.

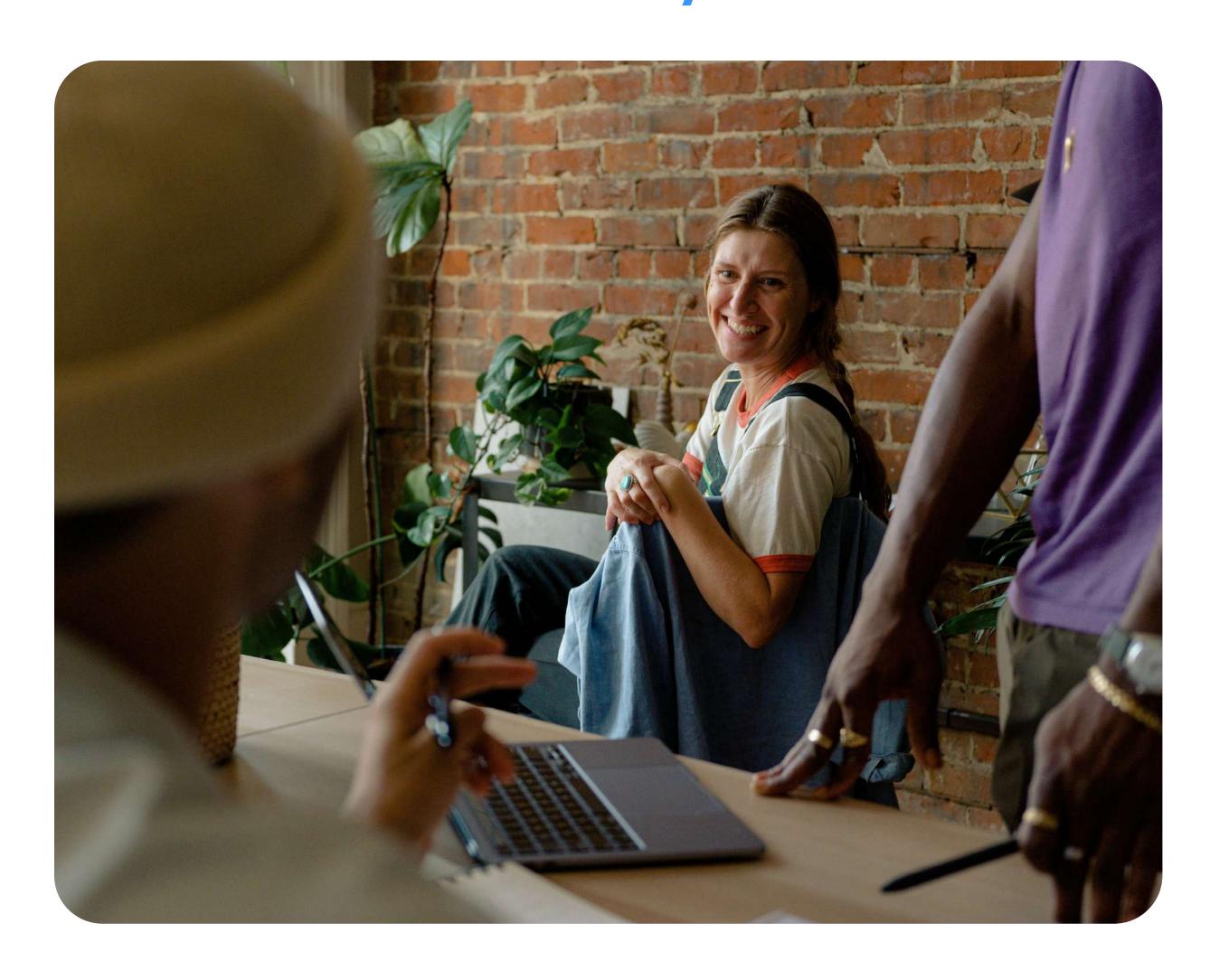
AI ROADBLOCKS

Challenges when it comes to accelerating Al/ML adoption:





DSPs Propel Progress With Data Access and Reusability



The good news? Data streaming platforms are accelerating AI adoption by allowing businesses to tap into continuously enriched, trustworthy data streams—enabling them to quickly build and scale AI applications. In fact, 89% of IT leaders see DSPs ease AI adoption extensively or to a degree.

Organizations clearly recognize that DSPs help them directly tackle the data challenges that constrain Al operationalization, particularly in areas related to:

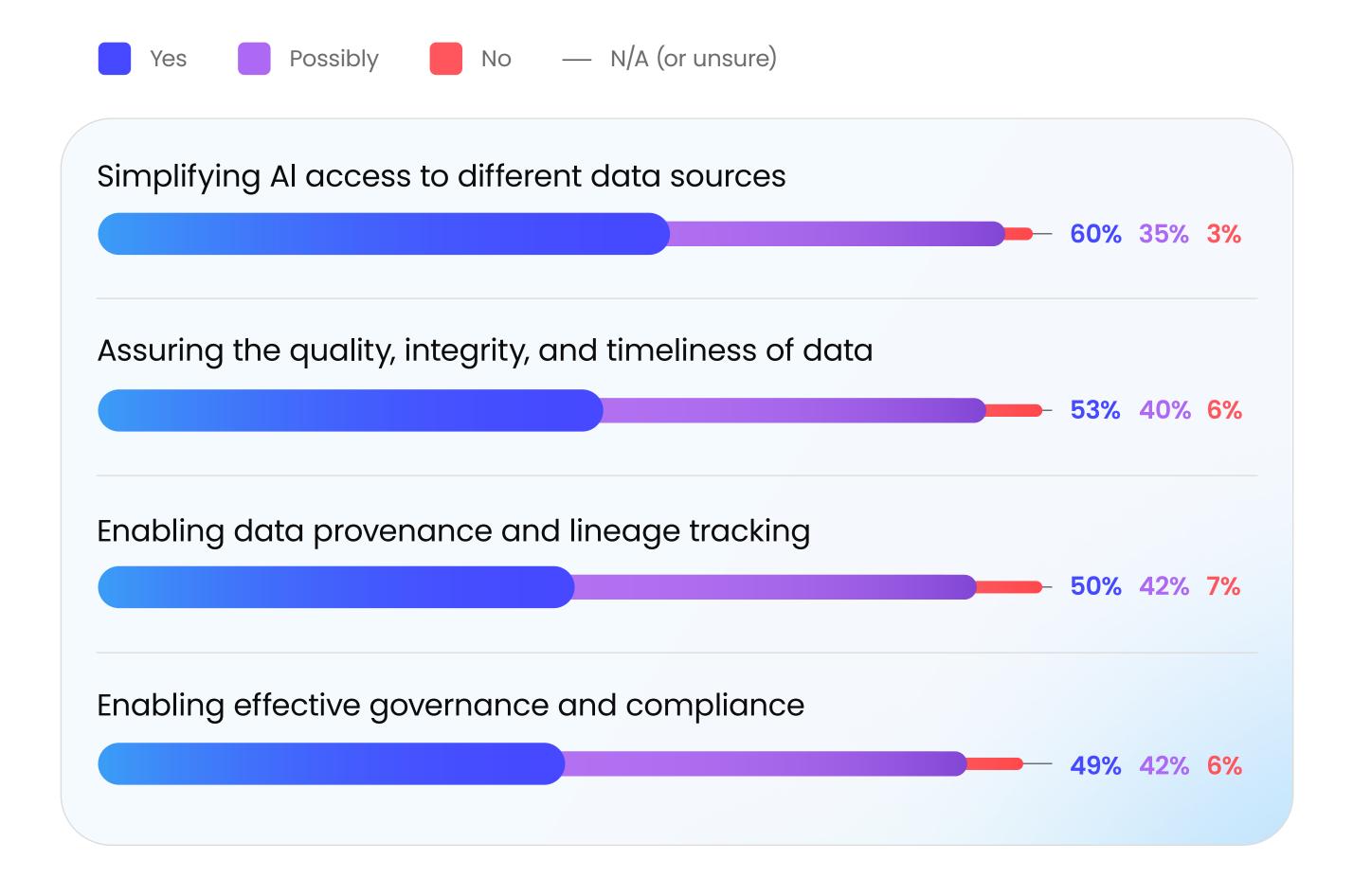




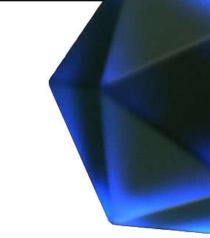
40%
data governance

Notably, the specific benefits attributed to DSPs—simplified data integration, data quality validation, data lineage tracking, and data governance—correspond directly with the core requirements for building trustworthy AI systems that deliver consistent business value.

DSPs are easing the path to enterprise-level Al adoption in the following ways:

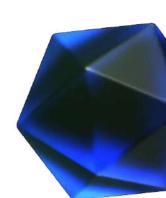






Shifting Left to Maximize Data Value

The concept of shifting left—which originated in software development as the practice of moving testing to earlier in the development process—applies seamlessly to the realm of data integration. In this context, it means embedding data processing, quality checks, and governance closer to the data source. The result? Faster, easier access to reliable data where it's needed across the organization—without wasteful and costly reprocessing of bad data.



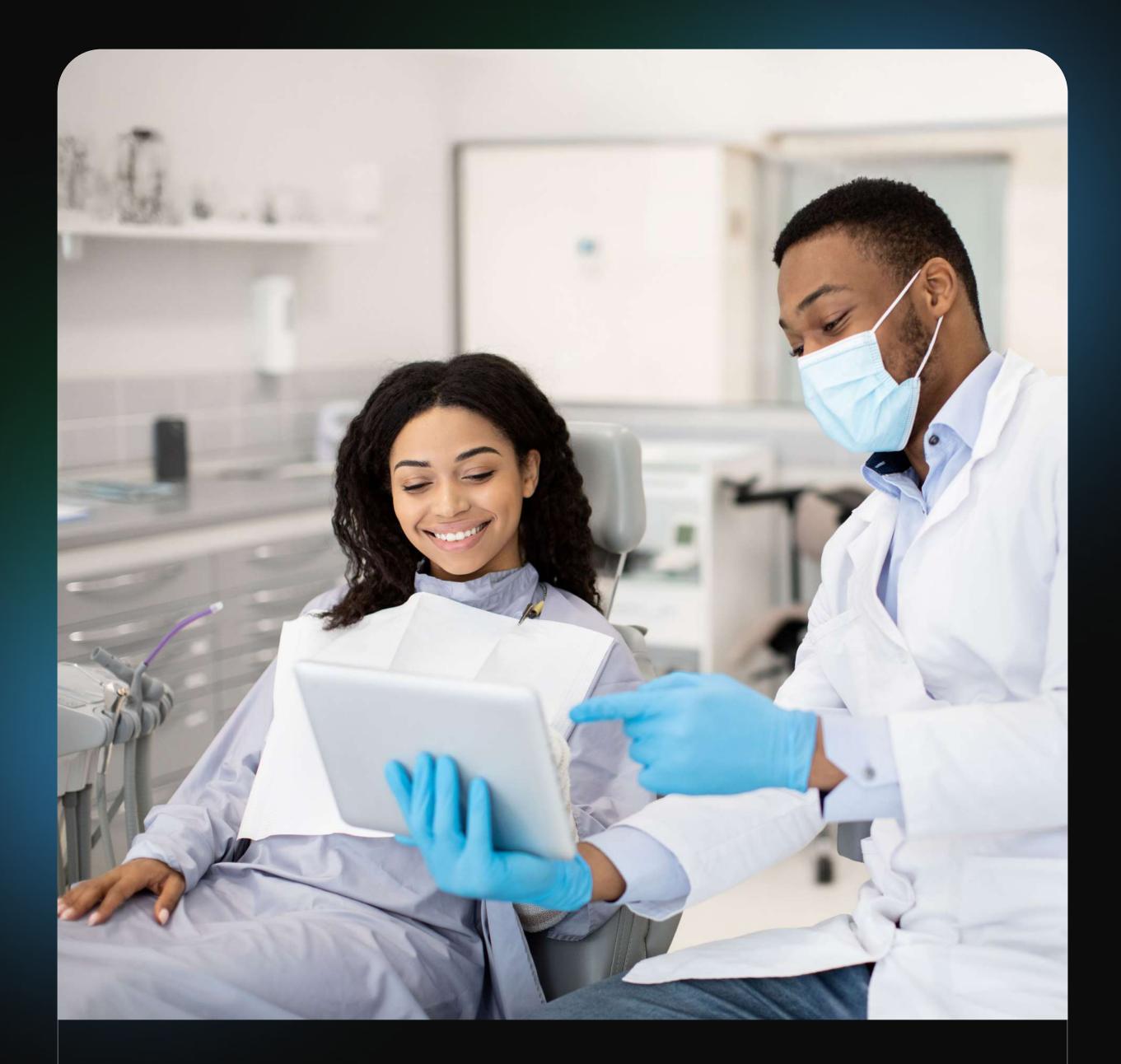
74%

of IT leaders are very familiar or have a good working knowledge of shifting left in data integration.

66%

of IT leaders foresee extensive benefits of shifting left, including reduced costs and complexity.

I HENRY SCHEIN



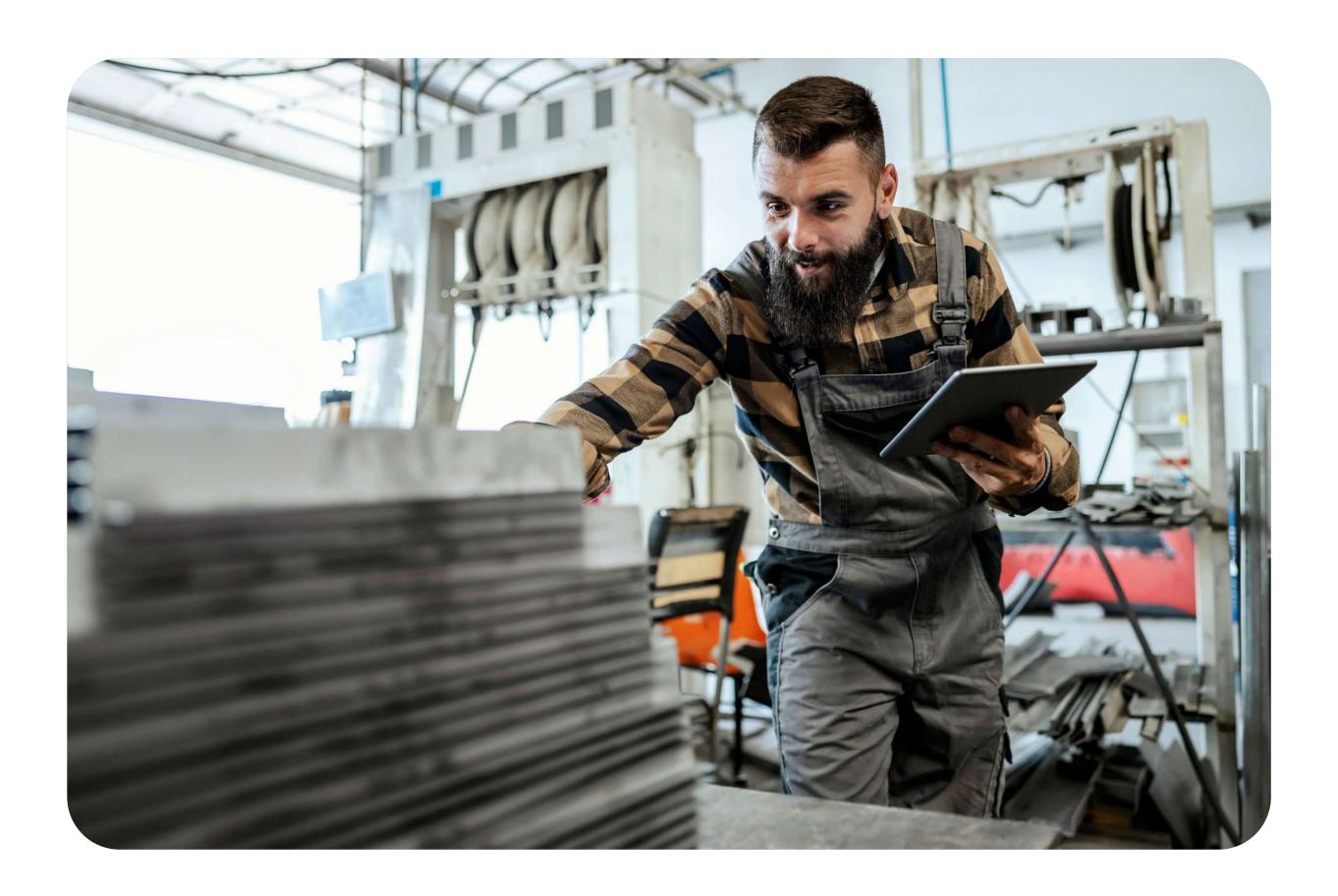


Confluent helped us shift left on our data—giving teams full ownership of their data from source to output. Now it's clean, validated, and production-ready upstream, reducing rework and accelerating delivery. 99

Chris Kapp

Software Architect Henry Schein One

A Swiss Army Knife of Benefits



The ultimate goal of shifting left is to provide clean, reliable, secure, and timely access to important data, treating it as a first-class building block for services, analytics, and AI capabilities.

By embedding data processing and governance earlier in the data life cycle, shifting left accelerates self-service data access and discovery, enabling faster business decisions, innovation, and growth. It also reduces complexity and costs by eliminating duplicate data pipelines, processing overhead, and data storage inefficiencies.

93%

of IT leaders highlighted at least four potential benefits of embracing a shift-left approach to data integration.

MAJOR OR SIGNIFICANT BENEFITS:

87%

improved data quality and reduced data processing costs for operational workloads

86%

improved data quality and reduced data processing costs for analytical workloads

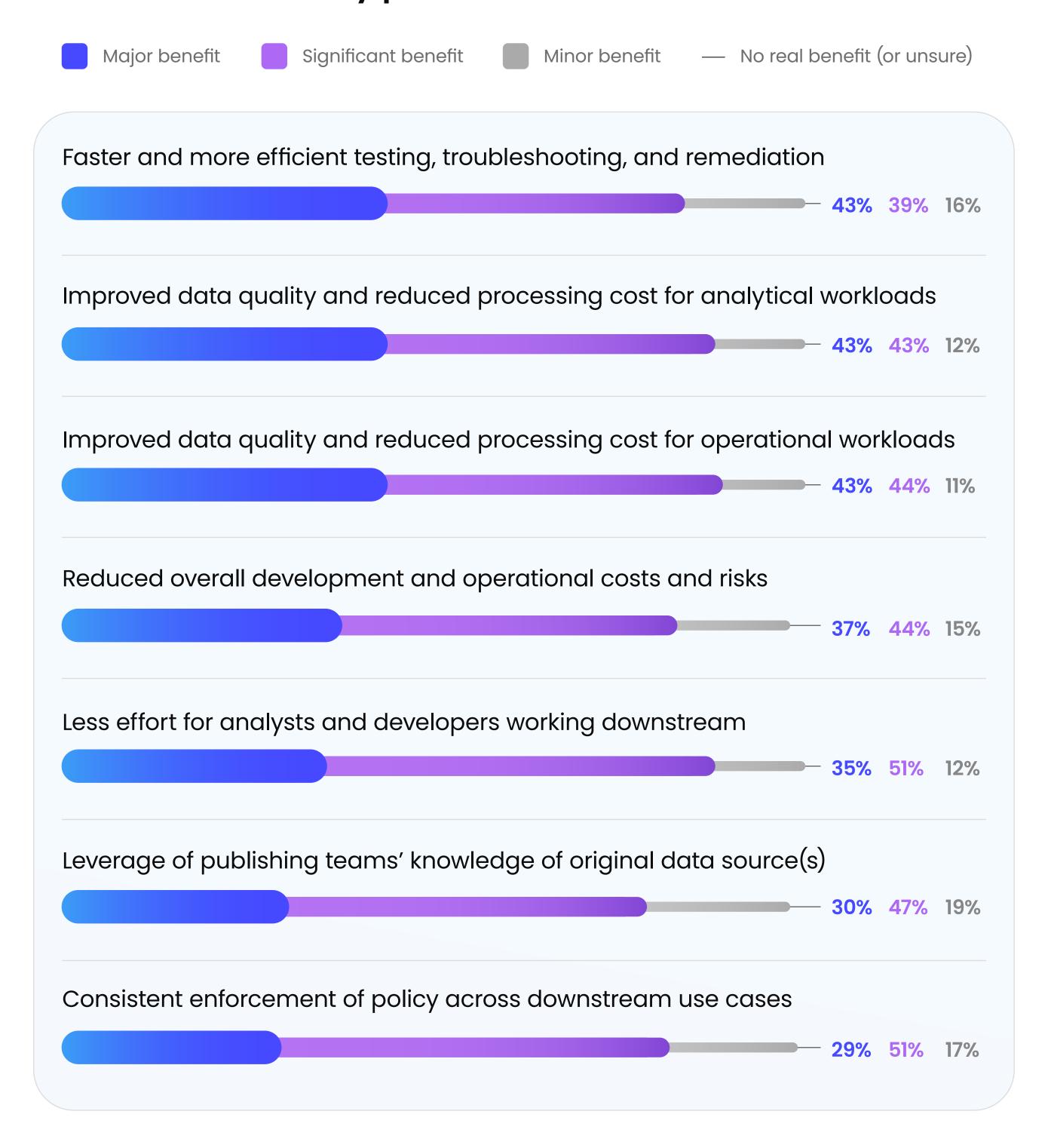
86%

reduced effort for downstream consumers

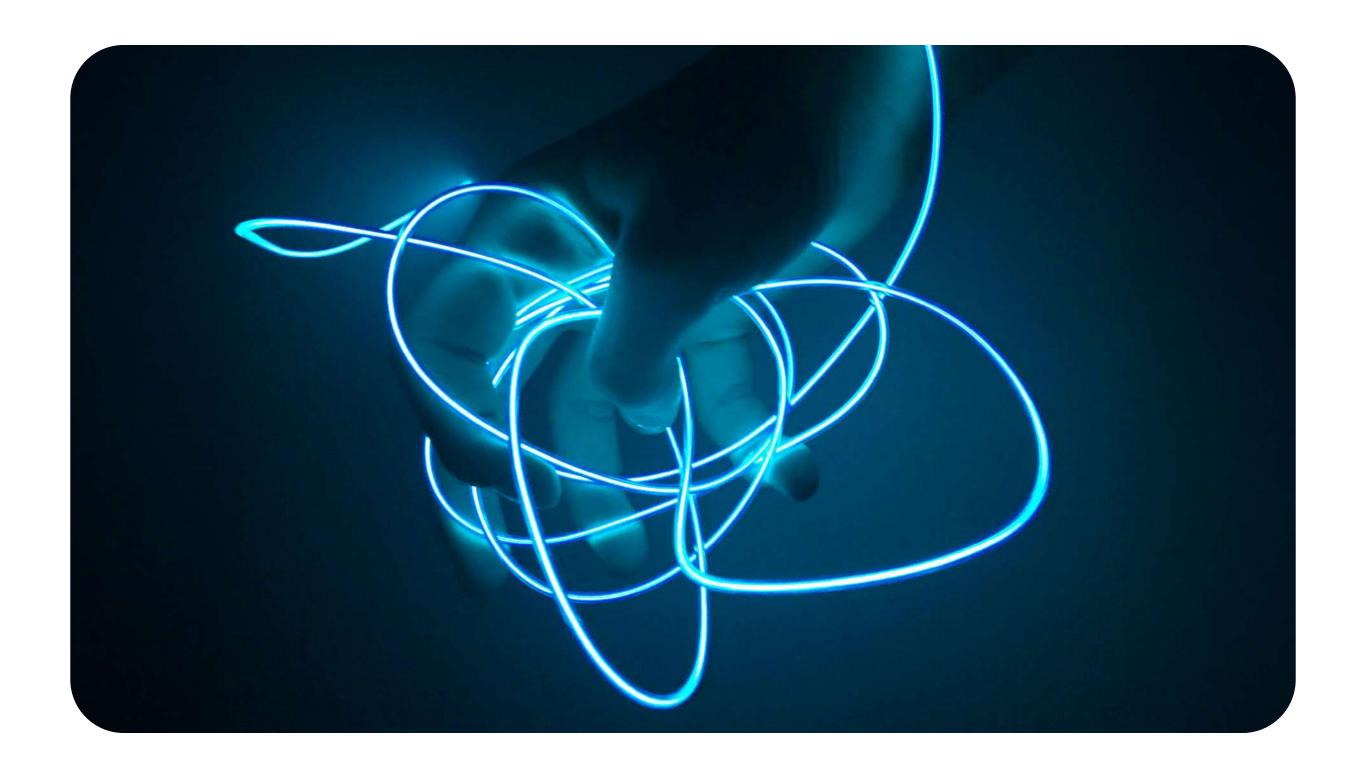
81%

reduced overall development and operational costs and risks

Potential benefits of shifting left, i.e., moving processing and policy enforcement upstream in the data delivery process:



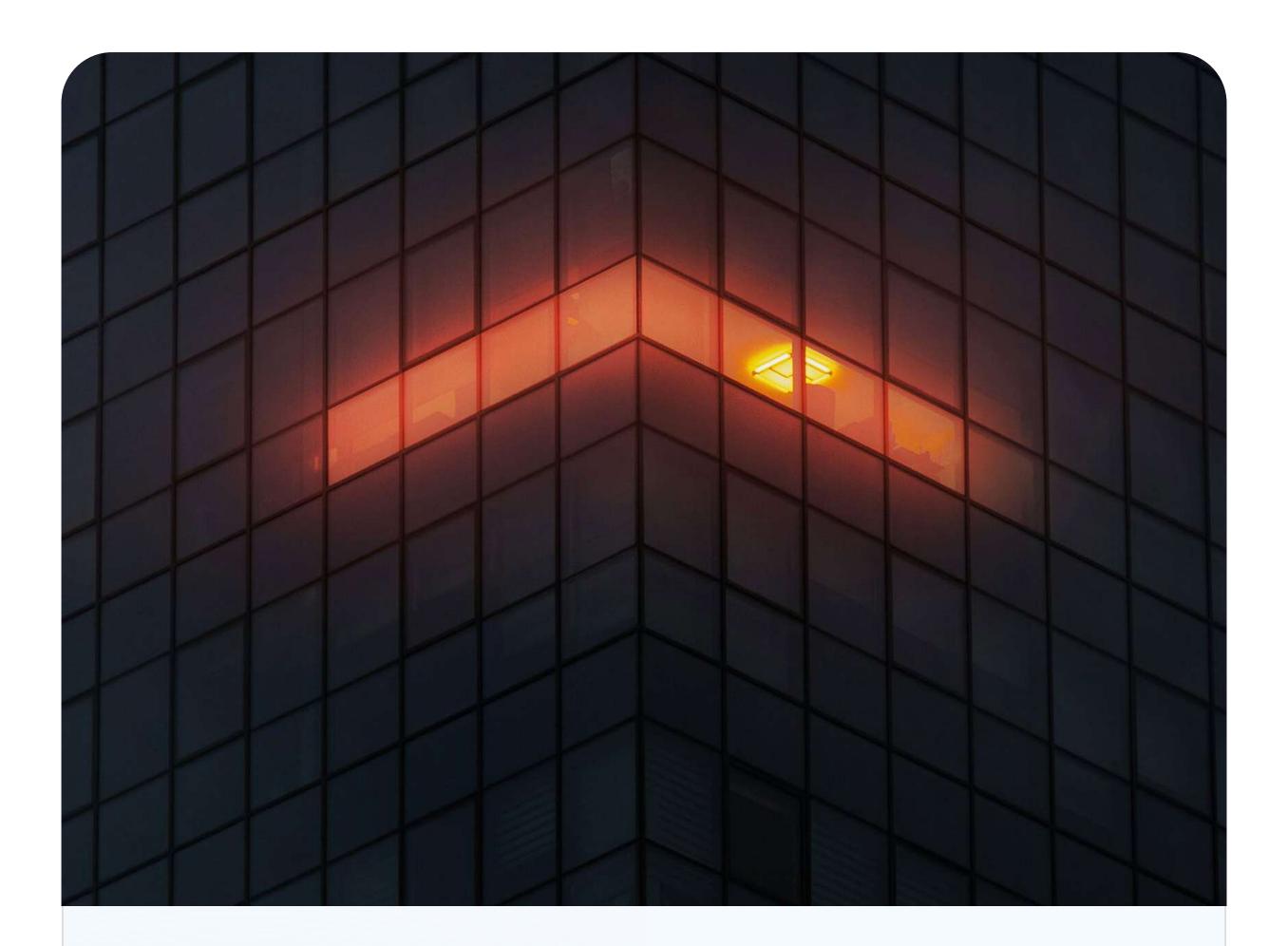
Untangling Data Mess With Data Products



But in a world of tangled, messy data systems—created by the growing sprawl of point-to-point integrations that have emerged in an effort to connect operational and analytical data estates—enabling seamless and timely access to data is easier said than done.

This is exactly where data streaming platforms shine—by making shared data discoverable, reliable, and secure so that other teams can confidently use it for a variety of valuable use cases.

By facilitating timely access to reliable data sets, shifting left ultimately provides businesses with the foundation for building data products—trustworthy data sets, purpose—built to share and reuse across multiple teams and services—so that they can accelerate innovation and bring applications to market faster.



For example, in financial services, data streams from accounts and payments can first be used to build a fraud detection system. Those same data products can then be reused to power a customer payment notification system for a banking application.

84%

of IT leaders say data products enable more confident data sharing across business units.

83%

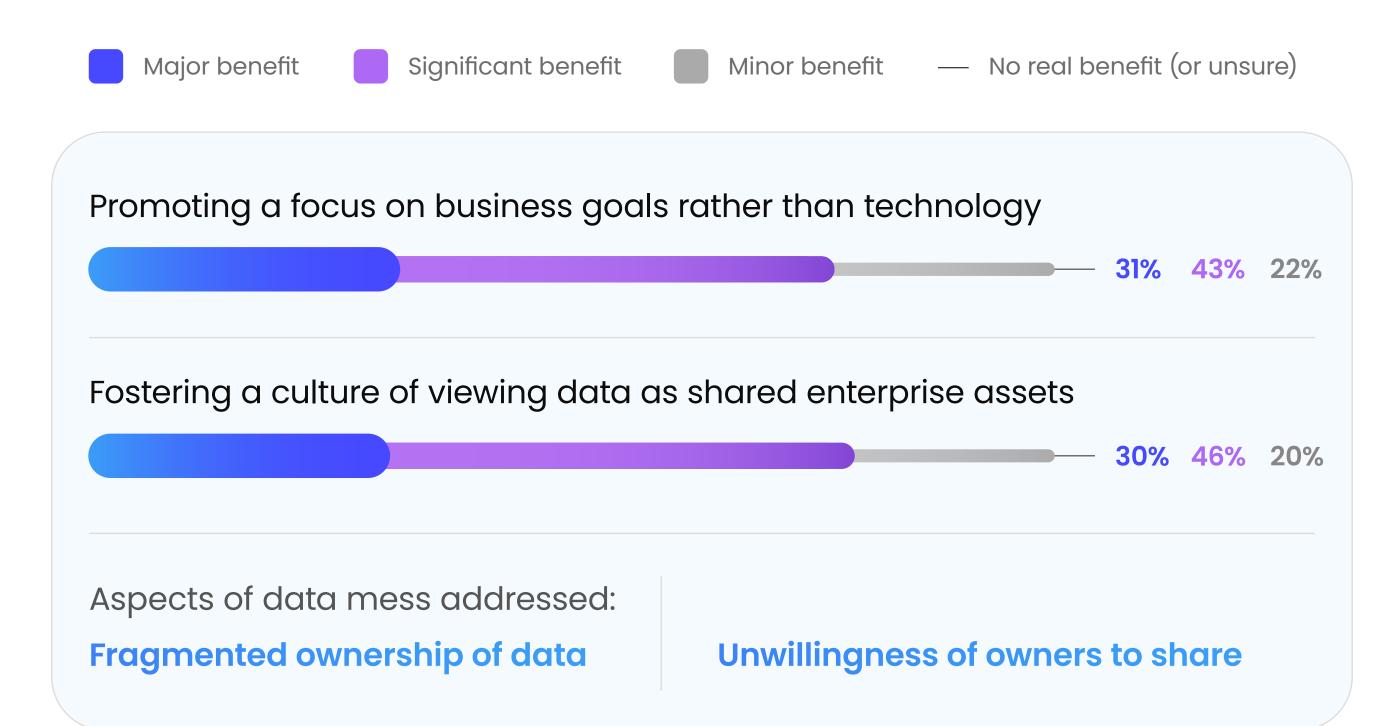
say data products enable more robust risk management.

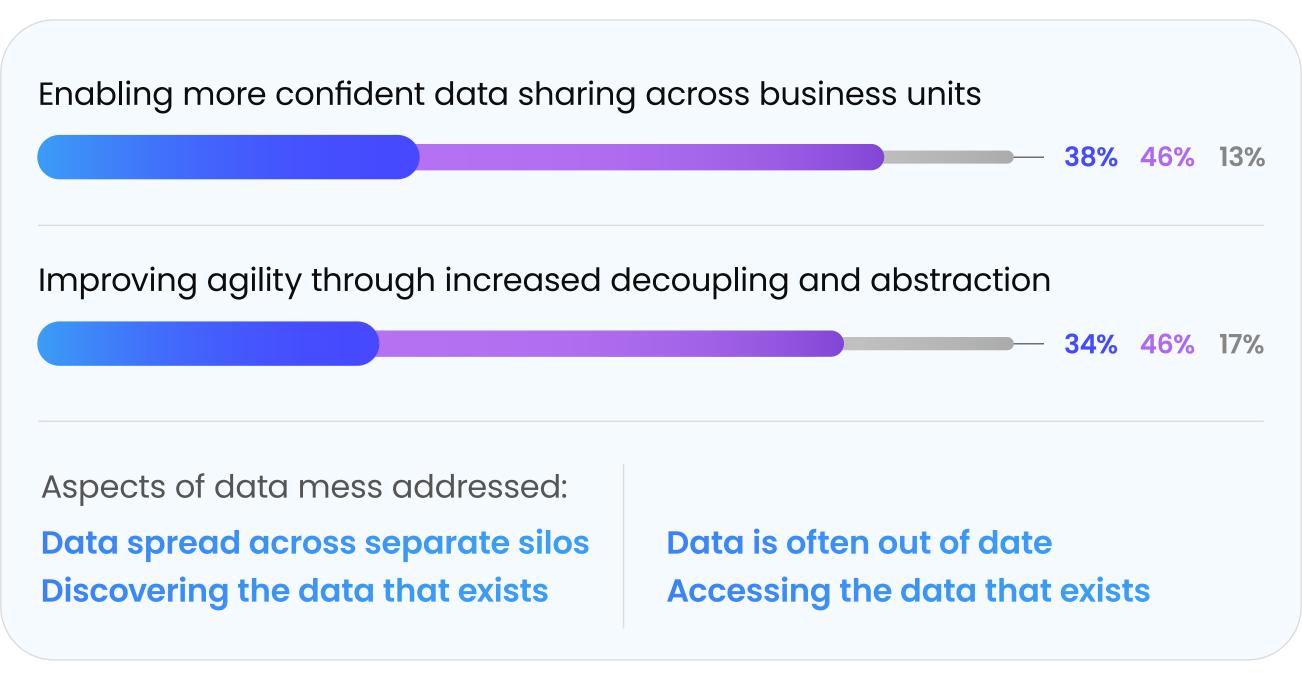
76%

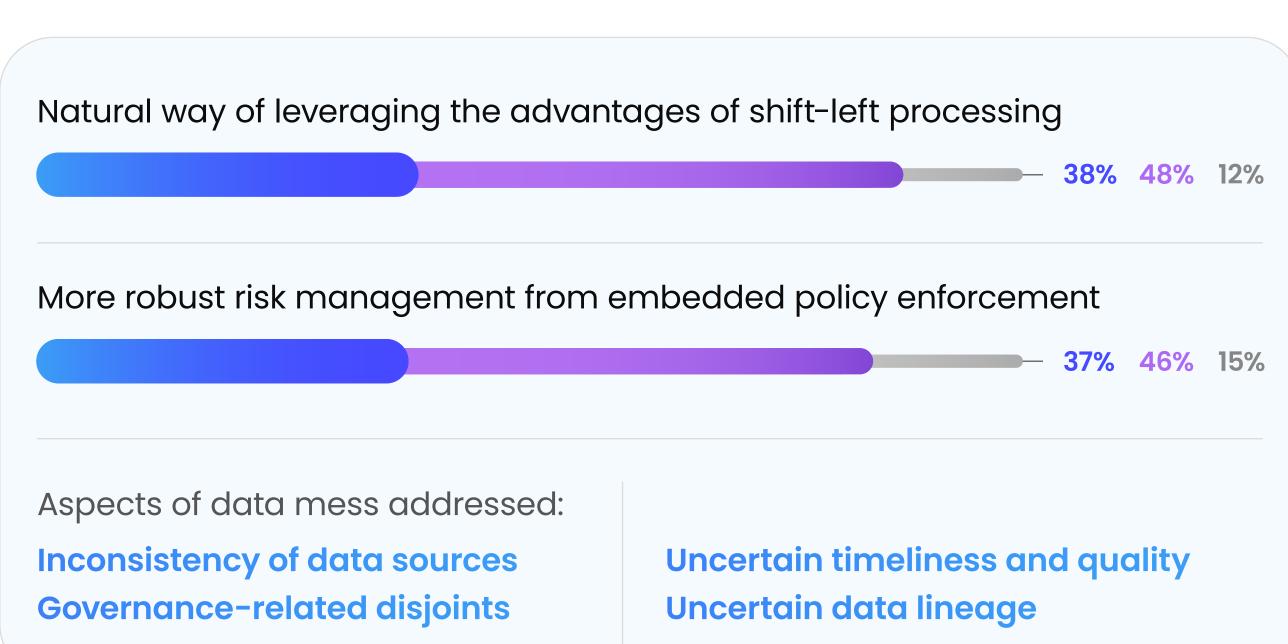
say they help foster a culture where data is viewed as a shared enterprise asset.

Each of these benefits can also address several challenges created by data mess, including data silos and governance-related challenges.

Potential benefits of publishing streams as data products:







Data Streaming Platforms Enable Shifting Left



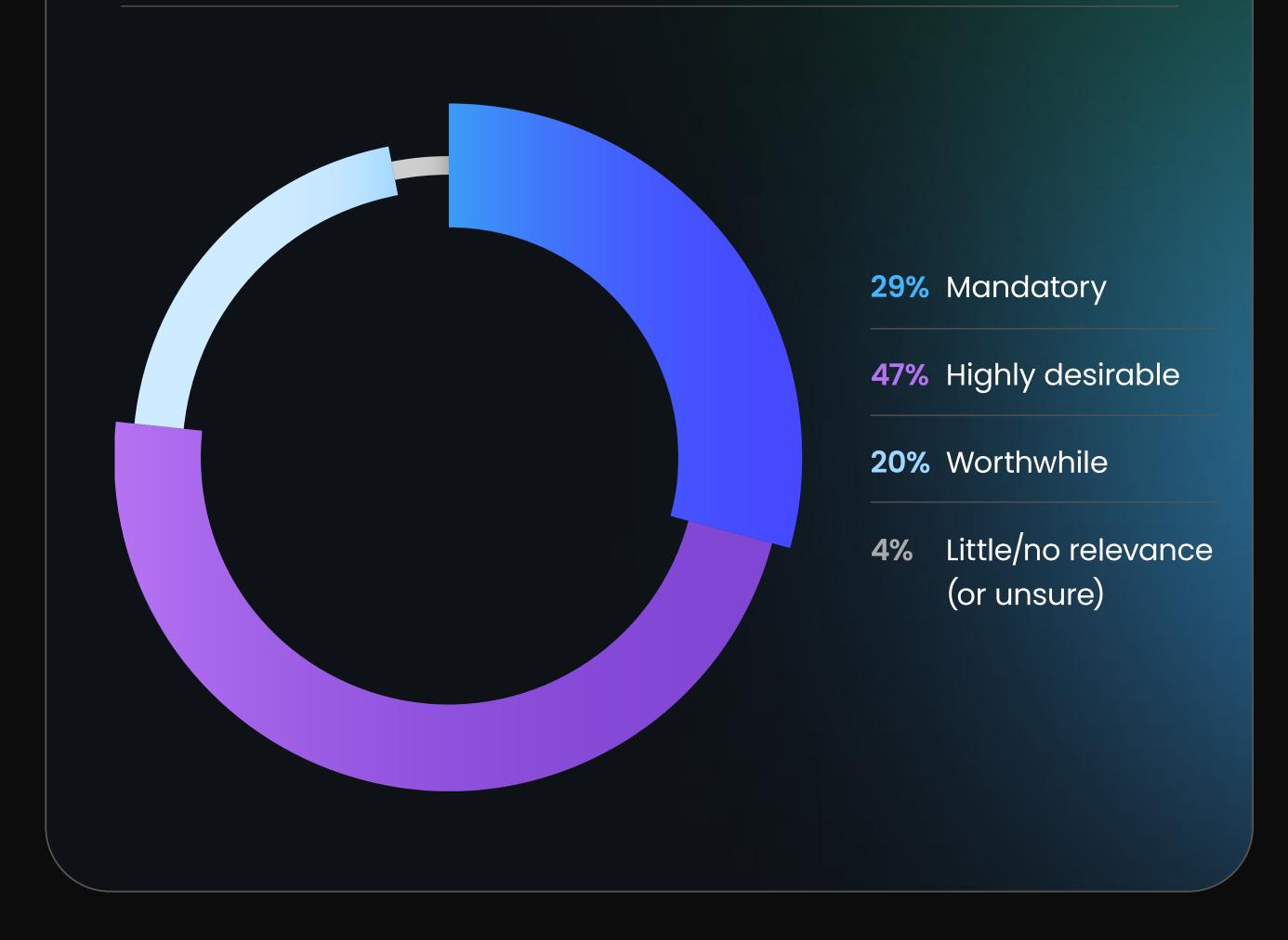
That's because organizations need an integrated DSP with the core capabilities highlighted in Key Finding 2 in order to unlock the widely acknowledged benefits of shifting left in a streaming context.

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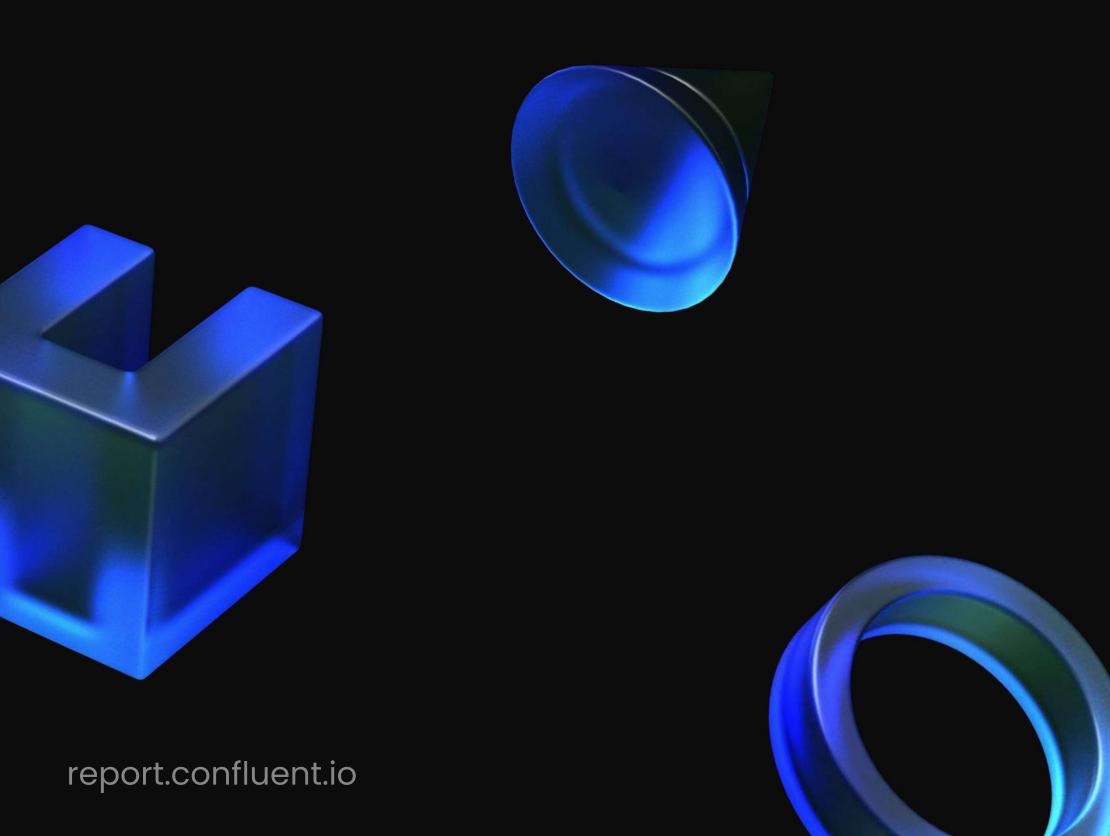
Data streaming platforms not only connect and stream data across a vast ecosystem of technologies and environments but also enable continuous, in-stream processing and governance of that data. This creates a world where shifting left is possible by ensuring unified, simplified, and secure data access across both operational and analytical systems—helping businesses accelerate time to market for innovative new applications.

How much a natural support for shift-left processing matters when considering a data streaming platform:



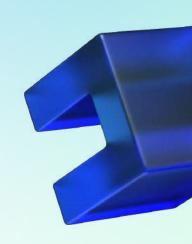
Take Your Data Streaming Game to the Next Level

No matter where you are on your data streaming journey, keep in mind that **technology alone is no silver bullet**. Real success—moving up the maturity curve—requires both the right tools and meaningful cultural and organizational changes.



70

Here's a checklist to ensure a holistic foundation that drives the desired business benefits with data streaming:



START WITH SECURING BUY-IN

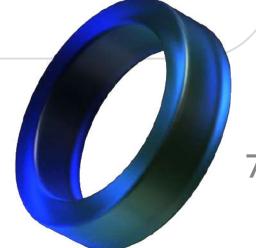
To successfully implement any new technology, you need buy-in from a range of key stakeholders. A solid business case is often required to ensure that stakeholders care enough to champion change across an enterprise.

OUTLINE REQUIRED CAPABILITIES

This includes budget, desired expertise, and change management strategies to drive increased adoption.

CREATE A ROADMAP

Define your current situation and target state. Set the North Star for achieving an enterprise-wide data streaming platform and chart a clear course with manageable milestones.

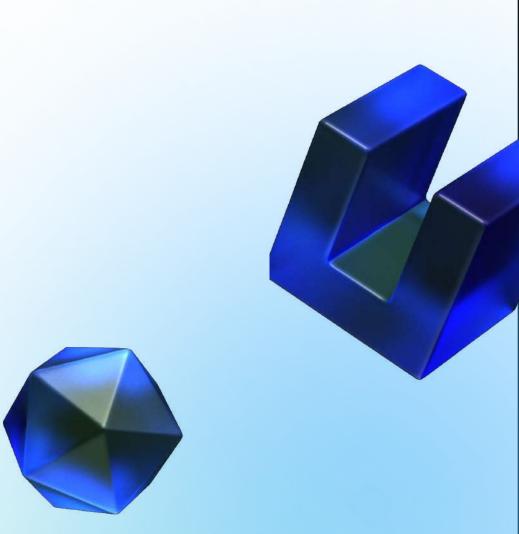


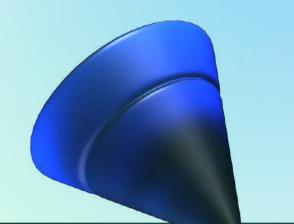
TRACK METRICS AND ROI

The business case should have well-defined key success metrics, such as increasing revenue, decreasing costs, and managing risk. Continue to measure and report progress while identifying new opportunities along the way.

SHOWCASE PROOF POINTS

Highlight real-world examples of where your data streaming initiatives are delivering value and making a difference to the business.







Use Confluent to Your Advantage

No matter where you are on your data streaming journey, Confluent has you covered. That's why organizations worldwide—including Citizens Bank, Notion, Swiggy, Booking.com, and Victoria's Secret—are leveraging Confluent's complete data streaming platform to unlock the full value of their data, no matter where it resides.

By empowering users to stream, connect, govern, and process data continuously in real time, Confluent enables businesses to realize the vision of AI, bring new applications to market faster, deliver exceptional customer experiences, and simplify data-driven back-end operations.

Interested in learning more about data streaming and how Confluent powers businesses to unlock limitless use cases?

WE'VE GOT YOU COVERED:

Explore the go-to hub for data streaming platforms—and the value it unlocks.

Read the <u>ebook</u> to see how data streaming platforms help you conquer your data mess and get back to innovating.

Watch the <u>webinar</u> to learn how shifting left can help you maximize data value.

Methodology

Research sample size: For the fourth installment of our annual Data Streaming Report, we teamed up with Freeform Dynamics and Radma Research to gather responses from 4,175 IT leaders who are familiar with data streaming and whose experience ranges from beginner to advanced.

Job titles: Survey respondents hold various strategic and leadership positions, including those in C-suite roles, directors, vice presidents, managers, senior contributors, and senior consultants, in companies with 500 or more employees.

Industries at a glance: Respondents represent a variety of industries, including technology, financial services, government/public, manufacturing, healthcare, media/entertainment, nonprofit, professional services, research/education, retail, transportation/logistics, travel/hospitality, and utilities/telecom.

Geographical distribution: The pool of respondents spans 12 countries, including the United States, Canada, Australia, France, Germany, India, Indonesia, Japan, Singapore, Spain, the United Arab Emirates, and the United Kingdom.

DEFINITION

Data streaming platform

Before we dive deeper, let's define a data streaming platform. It's a robust platform built with all the tools you need to turn your data into real-time, ready-to-use assets—so your teams can move faster and innovate smarter.

SACK TO EXECUTIVE SUMMARY

