**MuleSoft**

MULESOFT RESEARCH

# Top 7 Trends Shaping Digital Transformation In 2023

# Executive Summary

**TREND 01**

## Investment in automation will surge as companies aim to do more with less.

Amidst rising economic uncertainty, leading enterprises will increasingly move beyond isolated use cases of automation to accelerate digital transformation and drive efficient growth to better navigate the disruption.

**TREND 02**

## Composability will be a core pillar of business strategy to drive innovation and agility.

Agility will become a major factor in an organization's ability to adapt to rapidly changing market demands. More businesses will prioritize composability – which will allow their teams to reuse existing capabilities – shortening the time to value.

**TREND 03**

## Non-technical users will use low/no-code tools and automation to accelerate transformation.

Giving business technologists the right tools will be the key to circumventing IT bottlenecks and speeding up transformation. These tools will enable them to drag and drop digital capabilities and data that allows them to automate processes and create new services.

**TREND 04**

## Organizations will invest in total experience (TX) strategies to drive greater customer and employee loyalty and advocacy.

Combining customer (CX) and employee (EX) experience initiatives will be essential to increase revenue and retain scarce talent so they can deliver more agile and resilient business outcomes.

**TREND 05**

## Organizations will increasingly automate data-driven decision intelligence to reduce the huge costs of wasted opportunities.

As part of their composable strategy, organizations will focus more attention on creating a data fabric to reduce wasted business opportunities that stem from poor or untimely decisions by unlocking value from siloed data.

**TREND 06**

## Cybersecurity defenses will become more layered and integrated to protect from increasing threat complexity.

As organizations continue to focus on accelerating transformation, we'll see investments in distributed architectures and edge technologies grow. This will lead to increased security risk, which organizations will need to mitigate through emerging cybersecurity mesh approaches, underpinned by universal API management.

**TREND 07**

## Sustainability will drive ongoing IT investments.

Organizations will increasingly realize that data-driven insights and improved integration across supply chains helps deliver business value through more efficient and sustainable ways of working, which support the global effort to reduce carbon emissions.

# Executive Letter

Change in the digital landscape were not blips on the radar brought on by the pandemic. Adapting to changing customer needs faster and driving more efficient growth will be big agenda items for CXOs going into 2023.

A key new trend – sustainability – is on the rise. Moving forward, sustainability will be a part of more digital transformation initiatives. Organizations are working at setting up quick and easily repeatable extraction of data to measure their current carbon footprint, a task that can involve substantial complexity.

Powering new, friendlier, employee- and customer-centric ways of working will be critical in 2023. Multidisciplinary teams that blend technology and other types of domain expertise will be more common, and will increasingly use automation in a governed way: composability and integration are central in tomorrow's transformation initiatives.

Leading companies are getting ahead of these trends and turning them into opportunities. With composability as their superpower, they are set to break away from the competition.

**Paolo Malinverno**

VP, Strategy and Innovation
MuleSoft

## TREND 01

# Investment in automation will surge as companies aim to do more with less.

The shock of the pandemic may be behind us, but a different set of challenges lie ahead. Business uncertainty remains high, driven by surging inflation, rising energy costs, growing labor shortages, and geopolitical conflict. Against this backdrop, business leaders will increasingly look to digital transformation and automation initiatives to drive efficient growth, enhance productivity, and generate much-needed cost savings.

According to Deloitte,[1] over half (53%) of organizations have started implementing robotic process automation (RPA), a figure expected to increase to 72% over the next two years. IDC found that 79% of organizations using RPA saw a reduction in errors, and many of those same respondents also reported improvements in process efficiency.[2]

However, to drive significant impact in 2023, organizations must move beyond the isolated use cases of automation that are implemented through RPA initiatives. The underlying automations are often brittle and lack a mechanism for governance and security, which limits their potential to scale across the enterprise.

Instead, organizations must move toward more strategic, enterprise-wide automation or hyperautomation initiatives. Many are already

doing so: research shows that 80% will have hyperautomation on their technology roadmap in the next 24 months.[3]

Aside from driving revenue growth, optimizing costs, and helping to reduce risk, hyperautomation can help deliver transformative digital products and capabilities by freeing staff to work on higher value activities.

Gartner® forecasts that, by 2024, hyperautomation will allow organizations to lower operational costs by 30%.[4] By 2025, Gartner predicts the market for hyperautomation software will hit nearly $860 billion.[5]

To realize this potential, integration and composability will continue to be essential ingredients for any digital strategy in 2023. By exposing digital assets as packaged business capabilities (PBCs) through APIs and event handling interfaces, organizations can easily connect the data they require from disparate enterprise systems and bring it together where it's needed most. This enables them to unlock data and functions that have previously sat in silos to power hyperautomation initiatives – enabling bots to trigger the right action at the right time, across any system, to deliver the best outcomes for the business.
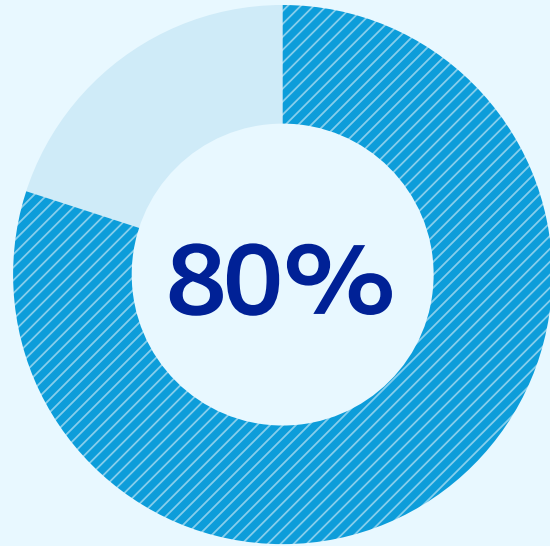
**67%**
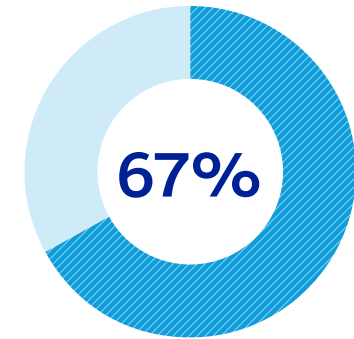
67% of organizations have mostly or fully automated their IT operations and introduced it across other business functions.[6]

**31%**
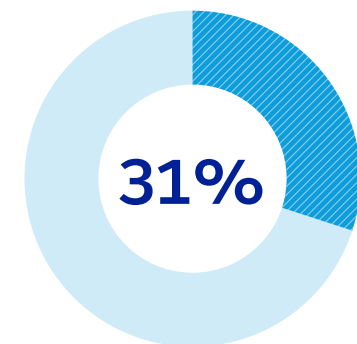
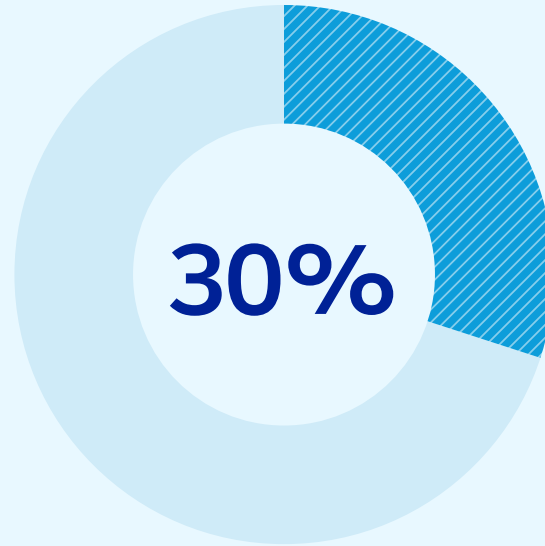31% of organizations plan to invest in RPA, compared to only 13% a year ago.[7]

**BY THE NUMBERS**

**80%**

**30%**

**$860 B**

80% of organizations will have hyperautomation on their roadmap in the next 24 months.

Hyperautomation will allow organizations to lower operational costs by 30% by 2024.

The hyperautomation market is expected to hit $860 billion by 2025.

Learn more about the benefits and importance of hyperautomation. Read blog.

## TREND 02

# Composability will be a core pillar of business strategy to drive innovation and agility.

Agility is essential to successful digital transformation. It enables organizations to innovate at speed and scale to create the seamless, connected experiences that their customers and users crave. In the post-pandemic world where market conditions are changing rapidly, agility can help organizations pivot as needed.

However, for more established organizations, their legacy technology can hinder digital agility. The data needed to create seamless digital experiences often resides across multiple systems. The average organization now uses 976 different applications,[8] but many of these systems are poorly connected.

The same research shows that the resulting data silos are a barrier to creating integrated user experiences for 90% of organizations. Additionally, two-thirds (66%) of IT leaders believe data or systems integration projects take too long, and 69% of them say they are too expensive.[9]

That's why a composable enterprise strategy is becoming more popular across the globe. By 2023, Gartner predicts that 60% of mainstream organizations will list becoming a composable enterprise as a strategic objective and will use an increasing number of PBCs to achieve this goal.[10]

PBCs reimagine data sources as a network of reusable capabilities that can be composed, decomposed, and recomposed by anyone in the business to create innovative new experiences. By combining this approach with hyperautomation technologies – including low/no-code tooling – organizations can alleviate IT delivery capacity restraints and speed up the rate of innovation.

This approach gives organizations the flexibility they need to adapt with agility to changing market demands in the pursuit of customer loyalty and growth in 2023 – and to do so in a cost-effective and strategic manner.

**Packaged business capabilities (PBCs) are software components representing a well-defined business capability, functionally recognizable as such by a business user. According to Gartner, a PBC is a bounded collection of a data schema and a set of services, APIs, and event channels.**
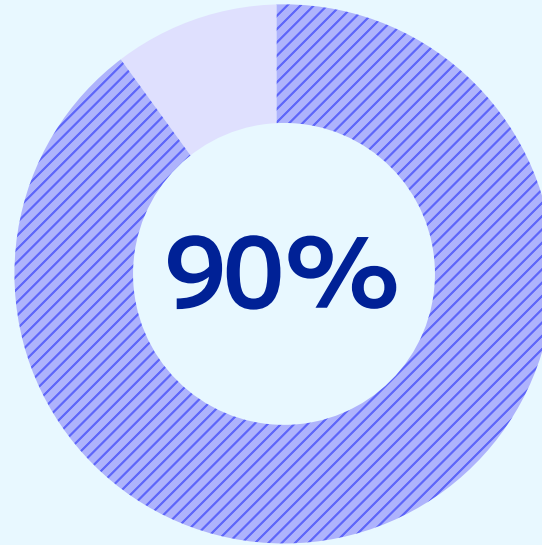
# 80%
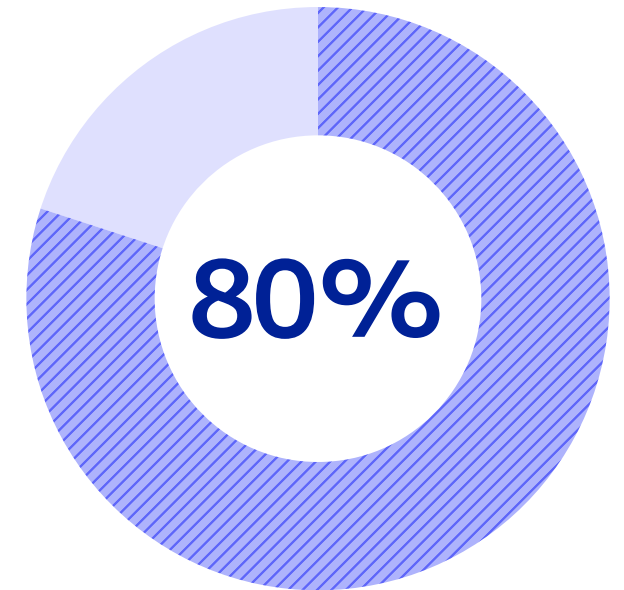
**By 2023 organizations that have adopted a composable approach will outpace competition by 80% in the speed of new feature implementation.[11]**

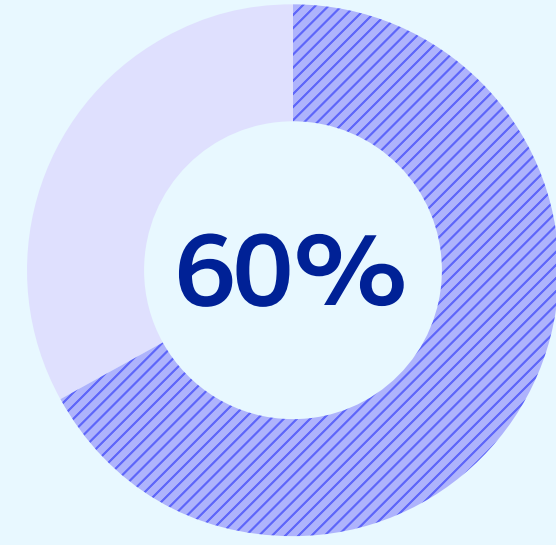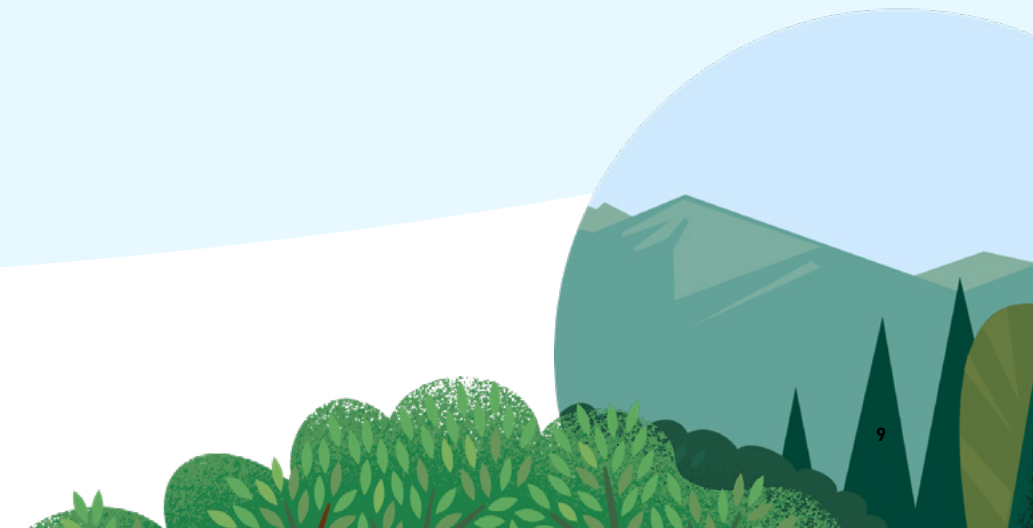**BY THE NUMBERS**

**976**

The average organization uses 976 different applications.

**90%**

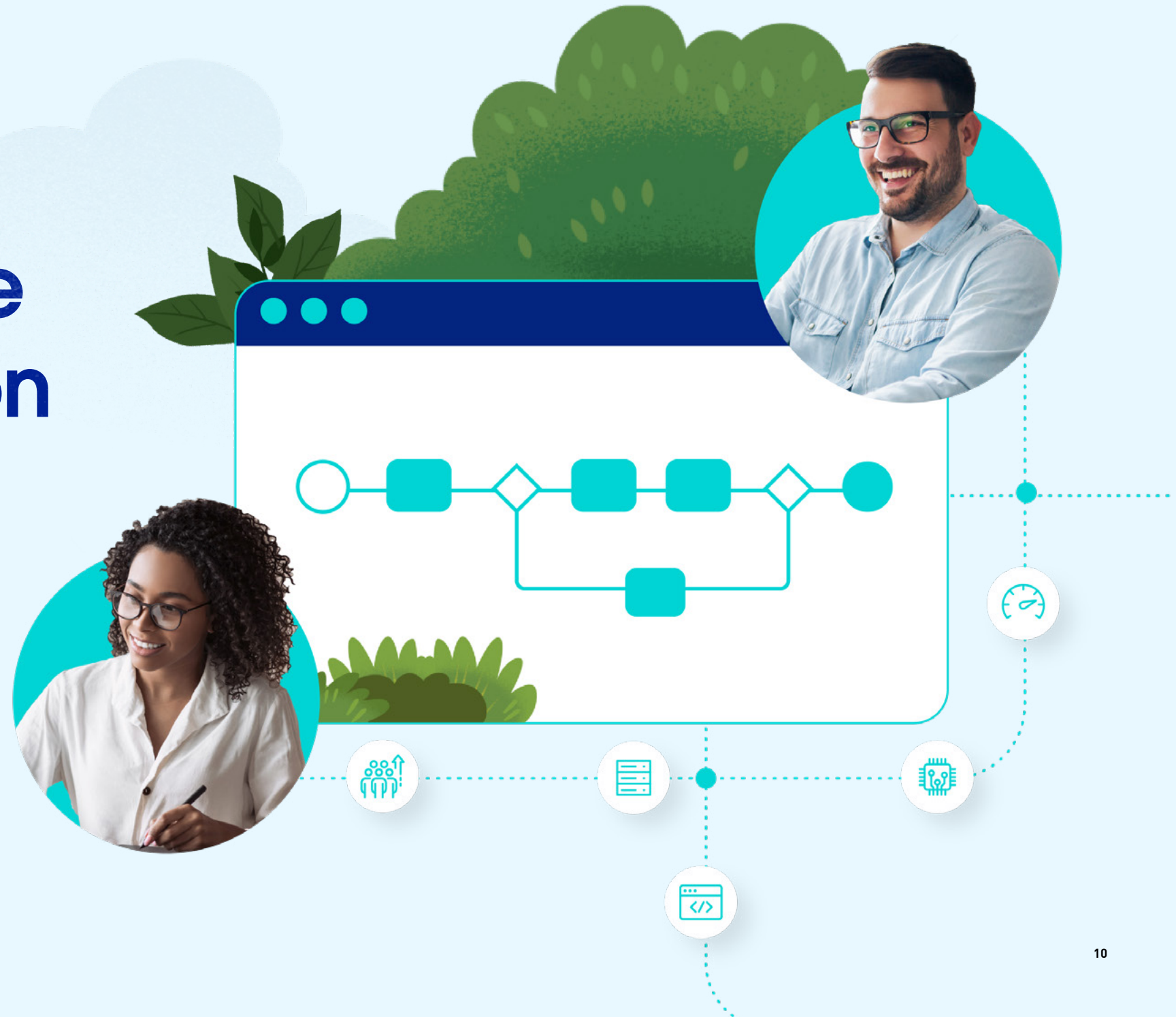Data silos are a barrier to creating integrated user experiences for 90% of organizations.

**60%**

60% of mainstream organizations will list becoming a composable enterprise as a strategic objective.

## TREND 03

# Non-technical users will use low/no-code tools and automation to accelerate transformation.

IT departments have come under intense pressure in recent years. As the demand for digital transformation soared to support remote working and innovative customer outreach during the pandemic, IT teams struggled.

The number of projects IT was asked to deliver in 2021 increased by 40% on average, a significant jump from a staggering 30% the previous year.[12] Even with extra budget, IT has largely been unable to keep up with the growing demands of the business. On average, more than half (52%) of projects weren't delivered on time last year.[13]

Yet customers have come to expect seamless digital experiences in more aspects of their daily lives, and business leaders are looking to technology-led innovation to drive efficient growth at a time of rising macroeconomic pressure.

However, the IT talent needed to drive these initiatives is in shorter supply than ever, and that's unlikely to change in the years ahead. Research has found that the vast majority of organizations (93%) say the "Great Resignation" has made it more difficult for their IT teams to retain skilled developers.[14] The next big challenge for organizations will be to find a way to overcome the IT skills and delivery gaps in a managed and secure way.

To overcome these challenges, a modern integration and composability strategy will be needed where even more digital assets are exposed as PBCs through APIs and design templates. Low/no-code tools must be rolled out across the workforce, empowering a larger cohort of business technologists to reuse these capabilities in their own digital projects. This approach creates a win-win scenario: organizations can tap into the power of their knowledge workers to accelerate digital transformation – but in a way that enables IT to retain governance and control.

To drive further success, in 2023 we'll see more organizations create fusion teams that combine business and technology experts. Equipped with the right tools, business technologists are free to innovate with the oversight of the IT department to mitigate any cyber or compliance risk.

More than two-thirds (69%) of organizations have already created (or are in the process of rolling out) fusion teams, and 22% plan to do so within the next 12 months.[15]

This should give organizations a serious boost: IT departments that empower their business users in this way are 2.6 times more likely to accelerate their digital business transformation, according to Gartner.[16] Enterprises are catching on: over half (55%) already have a "very mature" or "mature" strategy enabling business users to integrate apps and data sources powered by APIs – and that's only likely to increase.[17]
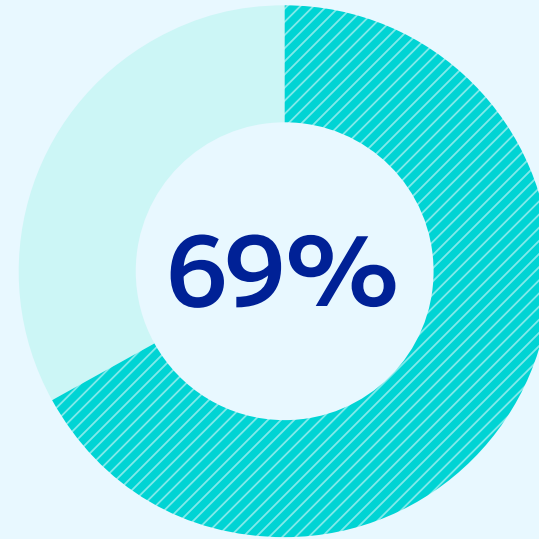
## 52%
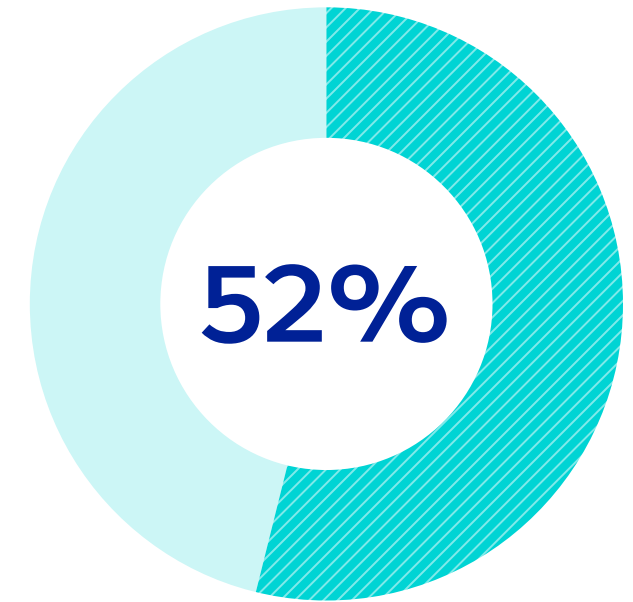
52% of projects weren't delivered on time last year.[13]

**BY THE NUMBERS**

**93%**
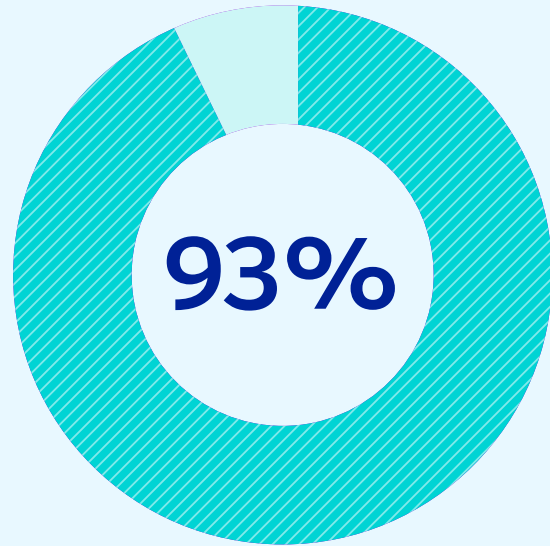
93% of organizations say the "Great Resignation" has made it more difficult for their IT teams to retain skilled developers.

**69%**

69% of organizations have already created fusions teams or are in the process of rolling them out.

**2.6X**

IT teams that empower business users are 2.6X more likely to accelerate their digital business transformation.

See how IT leaders are addressing the skills gap in the organization. Download report.

**TREND 04**

# Organizations will invest in total experience (TX) strategies to drive greater customer and employee loyalty and advocacy.

In the face of growing business uncertainty, many organizations are looking to recession-proof their business by delivering seamless customer experiences that will drive growth, safeguard revenues, and ensure customer loyalty.

However, they've now realized that the employee experience is equally critical to their success.

In order to drive innovation, these organizations must attract the right people, which is becoming increasingly difficult in this scarce talent landscape. Research reveals that many senior IT leaders are now measured on employee experience (46%), which is almost as high as those measured against customer experience (48%).[18]

In 2023, an increasing number of leading organizations will look at total experience (TX) as a means of improving the journeys of both customers and employees, particularly in the areas where they intersect. This strategy will create superior shared experiences and drive additional business value by reusing existing technology investments that are foundational to key customer and employee experience initiatives.

By 2026, Gartner predicts that 60% of large enterprises will use TX to transform their business

models to achieve "world-class customer and employee advocacy levels." By 2024, organizations providing a total experience will outperform competitors by 25% in satisfaction metrics for both CX and EX.[19]

To support this push, organizations are focusing on integration and automation strategies designed to connect the systems and processes that support experiences across the enterprise. The goal is to deliver customer, employee, and partner experience innovation from a single unified platform with strong governance guardrails and a simple low/no-code user interface.

With a composable approach driven by packaged business capabilities (PBCs), organizations can draw together disparate sources of customer and enterprise data to overcome integration challenges and reduce the reliance on manual processes to deliver the experience their users crave.
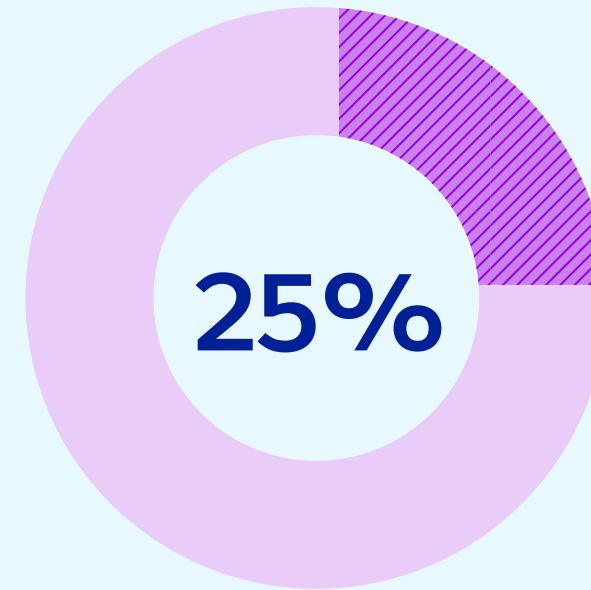
**BY THE NUMBERS**

**Employee experience**

**46%**

**Customer experience**

**48%**

Senior IT leaders are now measured on employee experience, in addition to customer experience.

**25%**

By 2024, organizations providing a total experience will outperform competitors for CX and EX metrics by 25%.

**Learn how to automate anything and empower everyone to create digital experiences.** Read more.

## TREND 05

# Firms will increasingly automate data-driven decision intelligence to reduce the huge cost of wasted opportunities.

Every business executive wants to make well-informed, data-driven decisions. That's why an increasing number of organizations are putting a premium on enterprise intelligence.

According to IDC, enterprise intelligence can help improve financial, employee, customer, and offering outcomes – driving digital resilience, agility, and innovation in the process. In fact, 60% of organizations that scored highest on its enterprise intelligence index scale experienced major improvements in decision making. That's compared to just 1% of those with poor enterprise intelligence.[20]

The challenge for organizations is that the data needed to generate actionable intelligence is often locked away in enterprise silos. It could be down to cultural or structural reasons, or because of poor integration of critical IT systems. Whatever the cause, data silos have proven to be a major challenge for 90% of organizations for the past three years, creating a roadblock to innovation.[21]

That challenge is exacerbated by legacy, point-to-point integrations that are created using custom code. These are complex, time-consuming, and expensive to build and manage, all of which impede business agility.

Organizations must instead take a modern, composable approach to integration that paves the way to creating a data fabric that connects data across platforms and between business users. By embedding analytics into this data fabric, organizations can automate decision making, helping them dynamically improve data usage and cut data management efforts by 70%, accelerating time-to-value.[22]

McKinsey estimates that the average S&P 500 company wastes $250 million per year due to poor decision making.[23] With enterprise data volumes set to explode over the coming years, creating a single source of truth for intelligent decsion-making in an automated, streamlined way will be a priority for organizations keen to carve out a competitive advantage in 2023.
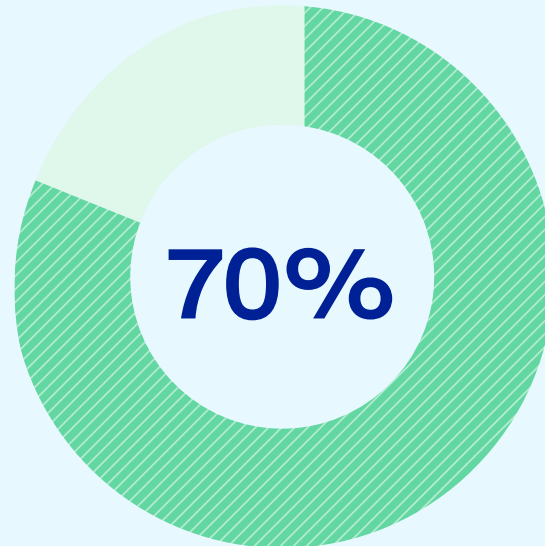
## 80%
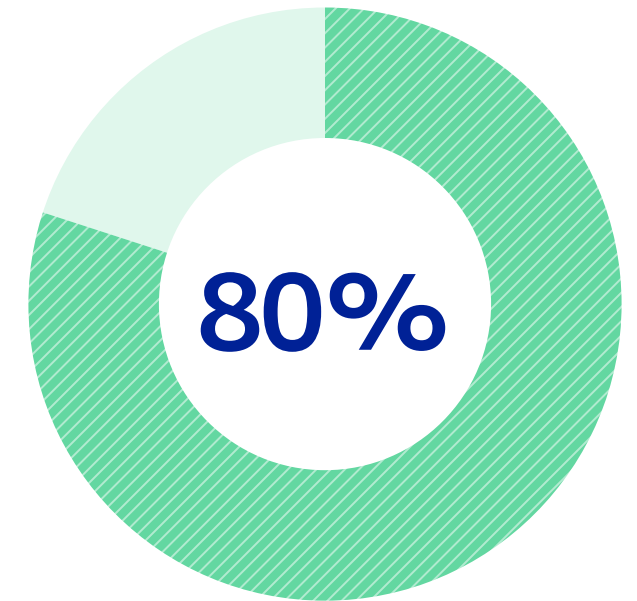
**Almost 80% of organizations in some industries will be digitally dependent by 2023 – leading to a massive increase in the data flow within industry ecosystems.[24]**

**BY THE NUMBERS**

**90%**

**70%**
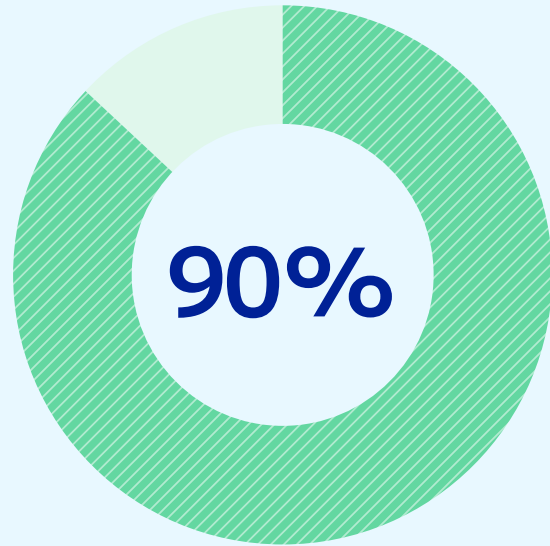
**$250 M**

Data silos are a major challenge for 90% of organizations.

Organizations can cut data management efforts by 70% with a data fabric embedded with analytics.

The average S&P 500 company wastes $250 million per year due to poor decision making.

**TREND 06**

# Cybersecurity defenses will become more layered and integrated to protect from increasing threat complexity.

Digital transformation has been a priority for CIOs for more than a decade. However, during the the pandemic it took on new urgency, as organizations scrambled to support remote working, make more efficient business processes, and create new ways to engage online with their customers. In practice, this meant significant investments in cloud computing, containers, and microservices, which provided the digital agility needed to innovate quickly. As of 2021, most organizations have a multi-cloud (92%) and hybrid cloud (80%) strategy.[25]

Now that the immediate pandemic-related drivers are fading, those same organizations are looking for new opportunities to create a competitive advantage and enhance business efficiencies in 2023 and beyond.

For many, edge computing has emerged as a significant investment priority. This offers the potential to deliver faster insights by conducting analytics where data is created, rather than transmitting it back to a central repository for processing. Worldwide spending on these capabilities is forecast to reach nearly $274 billion by 2025, according to IDC.[26]

However, these accelerating trends have created a new headache: how to securely manage critical systems and data with the increased complexity of highly distributed IT environments. One solution is to follow the cybersecurity mesh approach advocated by Gartner, which it describes as "a flexible, composable architecture that integrates widely distributed and disparate security services.[27]" By 2024, Gartner predicts organizations adopting a security mesh architecture will reduce the financial impact of security incidents by an average of 90%.[28]

The ability to manage connections, APIs, compositions, and automation bots from a single administration interface will be a central component of a successful security mesh in 2023. These lightweight platforms are designed to work across any architecture or application type – whether they reside in a public cloud provider's data center, an on-premises system, or out at an edge device.

With universal API management capabilities, organizations can add security and compliance guardrails to integration projects in the form of centralized governance rules. That means they can enforce security policies and access privileges irrespective of the underlying cloud or on-premises environment, which is a central piece of the security mesh approach.

**BY THE NUMBERS**

## $274 B

Spending on edge computing technology forecast to reach $274 billon by 2025.

See how your organization can benefit from universal API management. Read more.

**TREND 07**

# Sustainability will drive ongoing IT investments.

Environmental sustainability is among the biggest challenges facing society today. Given that our world is increasingly built on software, IT strategies are critical when it comes to meeting the ambitious goals being laid down by governments and businesses. Some 90% of technology leaders recognize sustainability as a key IT objective in their organization today and expect budgets to increase by 10-20% over the next three years.[29]

Separate research reveals that of the 80% of CEOs who intend to invest in new or improved products this year and next, environmental sustainability is the third-biggest driver,[30] just behind functional performance and overall quality. Business leaders also realize that meeting sustainability goals isn't just the right thing to do for the planet, it can also help reduce operational costs, attract the best talent, and differentiate their business as a green crusader.

The big question is how technology can support these efforts. An essential first step is to gain insight into enterprise data across disparate systems via a single source of truth so that it can be used to drive better decisions.

This is where connectivity is so important to the discussion. By using a composable enterprise strategy to unlock and integrate data and applications and applying automation and analytics to derive insight, organizations can create smart solutions to sustainability challenges – and they can do so faster and more efficiently than if they used legacy point-to-point integrations.

For example, a manufacturer might consider integrating its supply chain applications with those of upstream and downstream partners. In doing so, the organziation can share operational data with the other companies it relies on to ensure they can collaboratively reduce any waste by reducing inefficiencies in the process. For example, manufacturers can prevent unnecessary journeys to collect goods that are not yet ready for distribution or supplies that have been held up elsewhere in the delivery chain.

This can best be achieved by leveraging composable integration that breaks down traditional data silos and enables more seamless automation and analytics-derived insight. Small gains in efficiency like these can add up to a big win for a more sustainable planet.
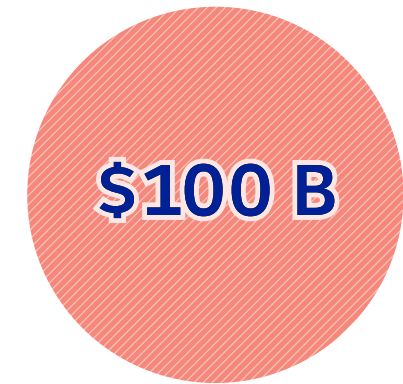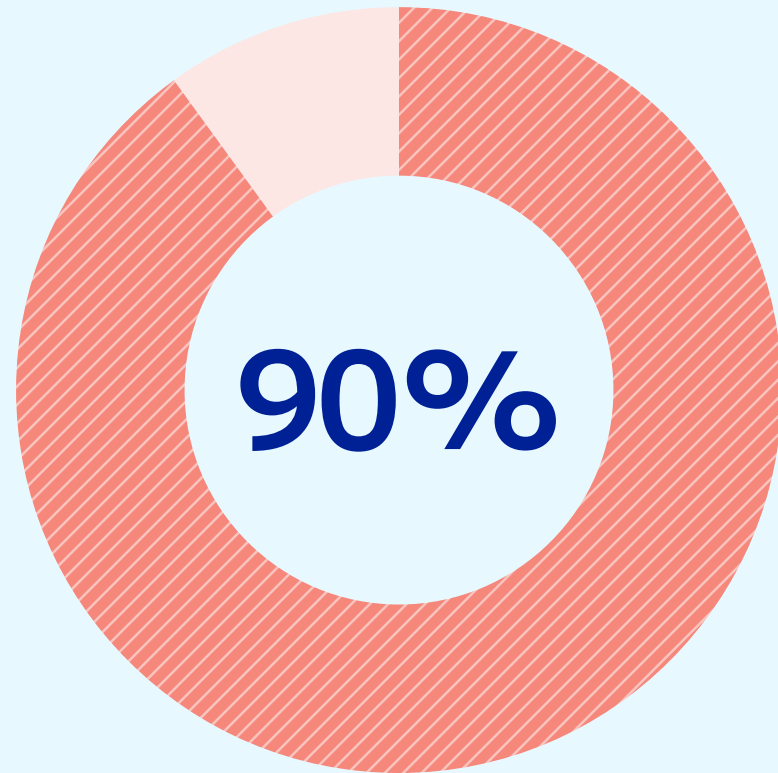
**$100 B**

Digital spending on environmental sustainability will account for almost $100 billion of IT spending in Europe over the next five years.[31]

**14%**
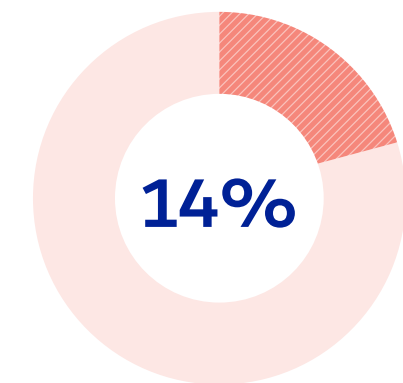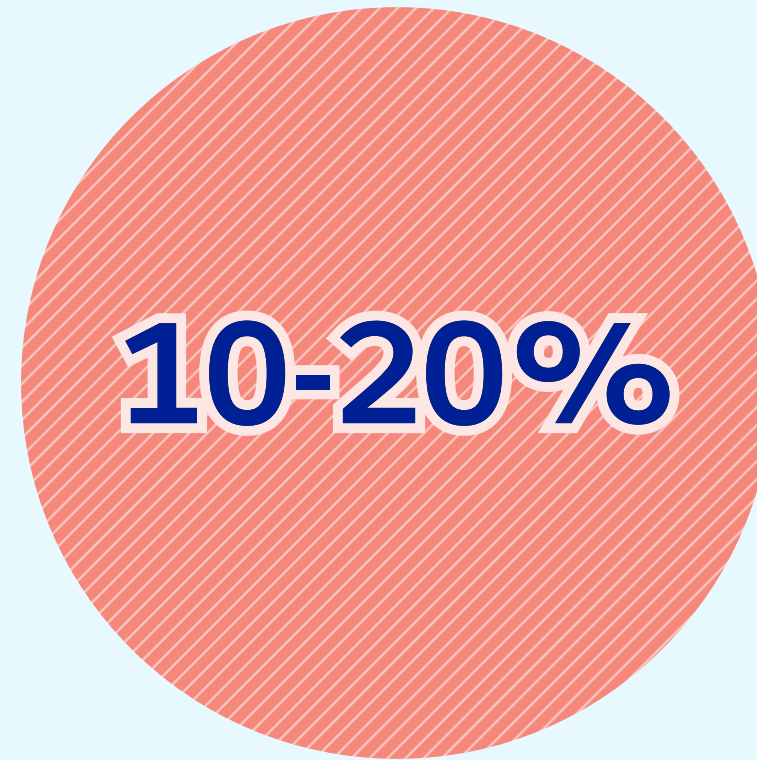
ICT will account for nearly 14% of the world's carbon emissions by 2040, up from just 1.5% in 2007.[32]

**BY THE NUMBERS**

**90%**

90% of leaders recognize sustainability as a key IT objective today in their organizations.

**10-20%**

Sustainability-focused budgets expected to increase by 10-20% over the next three years.

# References

1. Deloitte: The robots are ready. Are you? Untapped advantaged in your digital workforce

2. UiPath: A Robot for Every Worker: Are We Ready for a People-First Automation Mindset?

3. Salesforce: New Research Shows Automation Demand Surged in More Than 90% of Companies

4. Gartner Press Release, "Gartner Forecasts Worldwide Hyperautomation-Enabling Software Market to Reach Nearly $600 Billion by 2022," April 28, 2021.

5. Gartner: "Forecast Analysis: Hyperautomation Enablement Software, Worldwide," March 22,2021.

6. MuleSoft: IT Leaders Pulse Report 2022

7. MuleSoft: 2022 Connectivity Benchmark Report

8. MuleSoft: 2022 Connectivity Benchmark Report

9. MuleSoft: IT Leaders Pulse Report 2022

10. Gartner: Innovation Insight for Composable Modularity of Packaged Business Capabilities, 16 Feb 2022

11. Gartner: Use Gartner's Reference Model to Deliver Intelligent Composable Business Applications, 16 Feb 2022

12. MuleSoft: 2022 Connectivity Benchmark Report

13. MuleSoft: 2022 Connectivity Benchmark Report

14. Salesforce: New Research Shows How to Keep Developers Happy Amid the 'Great Resignation'

15. MuleSoft: IT Leaders Pulse Report 2022

16. Gartner: "The Rise of Business Technologists," March 29, 2022

17. MuleSoft: 2022 Connectivity Benchmark Report

18. MuleSoft: IT Leaders Pulse Report 2022

19. Gartner: "The Total Experience Strategy for Better Retail Digital Interactions"

20. IDC: "IDC's Future of Intelligence 2022 Predictions", November 8, 2021

21. MuleSoft: 2022 Connectivity Benchmark Report

22. Gartner press release: "Gartner Identifies the Top Strategic Technology Trends for 2022," October 18, 2021

23. McKinsey: Three keys to faster, better decisions

24. IDC blog: "Future of Industry Ecosystems: Shared Data and Insights", January 6, 2021

25. Flexera: 2021 State of the Cloud Report

26. IDC press release: "New IDC Spending Guide Forecasts Double-Digit Growth for Investments in Edge Computing," January 13, 2022

27. Gartner: "Gartner Top Strategic Technology Trends for 2022"

28. Gartner: "Top Strategic Technology Trends for 2022: Cybersecurity Mesh"

29. Coeus Consulting: CIO & IT Leadership Survey 2022

30. Gartner press release: "Gartner Survey Reveals Significant Shifts in CEO Thinking on Sustainability, Workforce Issues and Inflation in 2022," May 18, 2022

31. IDC: "Sizing the European Market Opportunity Behind IT Investments in Environmental Sustainability," February 2022

32. Deloitte: The CIO's call to action: Driving an environmentally sustainable tech agenda to accelerate organizational change

# MuleSoft®