KPMG Global tech report 2026:

Life Sciences

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Foreword

This report provides a snapshot on technology adoption, investment, and value realization within the Life Sciences sector. The research is based on a global survey of 124 Life Sciences tech function leaders in large and mid-sized pharmaceutical, biotechnology and medical device companies; as well as product distributors, and contract research organizations.

The findings suggest the sector has progressed beyond experimentation into broad adoption of core technologies. Investment remains measured, with organizations prioritizing stability and compliance over rapid expansion. Overall, the sector remains in the early phases of maturity and value realization, with most benefits concentrated primarily towards operational efficiency rather than transformational growth.

The results also highlight a gap between technology ambitions and the actions required to deliver them. Our data shows that, although the industry has demonstrated the effectiveness of digital technology and is enabling returns on investment, challenges remain in securing funding, establishing governance, and achieving large-scale implementation.

To optimize operations and support a more collaborative, innovative, and patient-focused future, Life Sciences companies should make more decisive technology moves that rebalance risk — away from adoption and compliance, towards scale, speed, and value capture.

We hope the perspectives shared in this report support informed decision-making in a rapidly evolving landscape.

Liz Claydon
Global Head of Life Sciences and
Global Head of Deal Advisory
KPMG International

Key findings

What Life Sciences technology function leaders are saying about…

Technology adoption and maturity

have integrated AI agents into workflows, products, and services

75% trust AI outputs for strategic and operational decisions

Low maturity reported in enterprise data management, cloud infrastructure and technology sourcing and vendor management

Investments

Most are balancing

maintenance of existing systems with capability upgrades

97% allocate less than 1% of annual revenue to digital technology

A mix of build-and-buy is their preferred model for capacity building

Value realization

Nearly half (48%) are achieving significant value realization on their technology investments, yet 93% report digital initiatives generate less than 1% of annual revenue —

highlighting a scale/value capture gap

Life Sciences

significantly trails other industries

in scaling XaaS, Web3, VR/AR/XR, digital twins and AI/automation

Technology adoption and maturity

Organizations in the sector are advancing digital transformation with a deliberate and structured approach that emphasizes stability, compliance, and measured innovation over rapid disruption. When asked about their organizations' approaches to adopting new technologies, more than half (52 percent) of respondents identify as fast followers, meaning they adopt new technologies only after they have been validated by early adopters. At the same time, 35 percent say they are innovators, indicating a substantial minority is willing to lead and experiment early.

Adoption by technology category

Core technologies such as AI, cybersecurity, and data analytics have been widely adopted, while immersive and emerging technologies are progressing more slowly. For example, 44 percent report no action being taken in the area of VR/AR/XR/spatial computing.

Others are facing scaling roadblocks or are only in the strategy visioning phase with the following tech:

58%
Advanced simulation/ Digital twins

54%
Web3

52%
Edge computing

51%
Post-quantum computing

AI adoption

AI adoption is now a baseline expectation across the sector with nearly half (48 percent) of organizations strategically integrating the technology into core business functions. Operational adoption is high, with 87 percent indicating that AI agents are being integrated into workflows, products, and services.

While AI adoption is widespread, a key constraint is the ability to fund, support and scale AI consistently across the enterprise. Our research finds that 44 percent of Life Sciences organizations report limited maturity in funding, supporting or scaling AI and automation — suggesting that many AI initiatives risk remaining localized, bespoke or pilot-bound without stronger platform, governance and change disciplines.

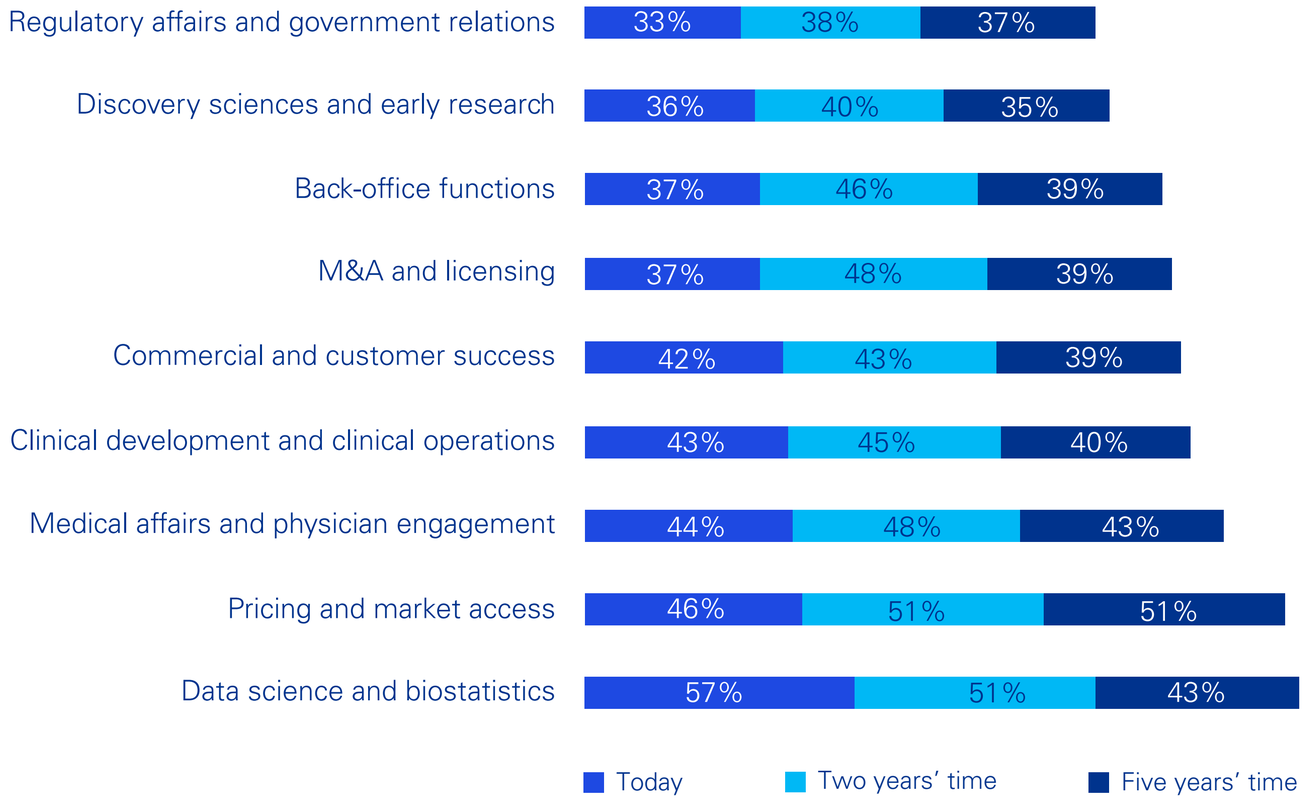
To get a deeper view on where the technology is being used in the sector we asked respondents about their organization's AI capabilities today, and in the future.

Our research shows that AI adoption is shifting from limited analytics-focused applications and experimental deployments to embedded capabilities. Initially concentrated in areas such as data science, biostatistics and commercial functions, adoption is expanding into back-office operations and strategic domains such as M&A and licensing, as well as regulatory affairs and government relations. It should be noted that expediting the implementation of AI into back-office operations can help organizations achieve quick efficiency gains.

Over the next five years, AI use is anticipated to transition from standalone initiatives to business-as-usual workflows, with sustained emphasis on pricing and market access, data science and biostatics, and medical affairs/physician engagement. Advances will continue to unfold in key areas such as precision medicine and patient stratification, clinical trial acceleration, and enterprise performance improvement/optimization. This trajectory reflects a sector-wide commitment to scalable AI integration — balancing innovation with governance and compliance priorities. Effective adoption of AI to meet current and future demands is grounded in enterprise-wide AI approaches. A sentiment that is well understood in the sector with two thirds of respondents (66 percent) saying that their organizations have well-defined, enterprise-wide AI strategies.

Three quarters of respondents (75 percent) trust AI outputs for strategic and operational decisions. This trust is driving a hybrid workforce model where AI augments rather than replaces human roles. Hiring strategies increasingly include AI-native positions, while upskilling remains critical as some employees struggle with rapid technological change. Investments in agentic AI and digital workforce expansion signal a clear move toward automation, with permanent staff slightly reduced and external contractors declining.

AI capabilities in Life Sciences: Now and the future



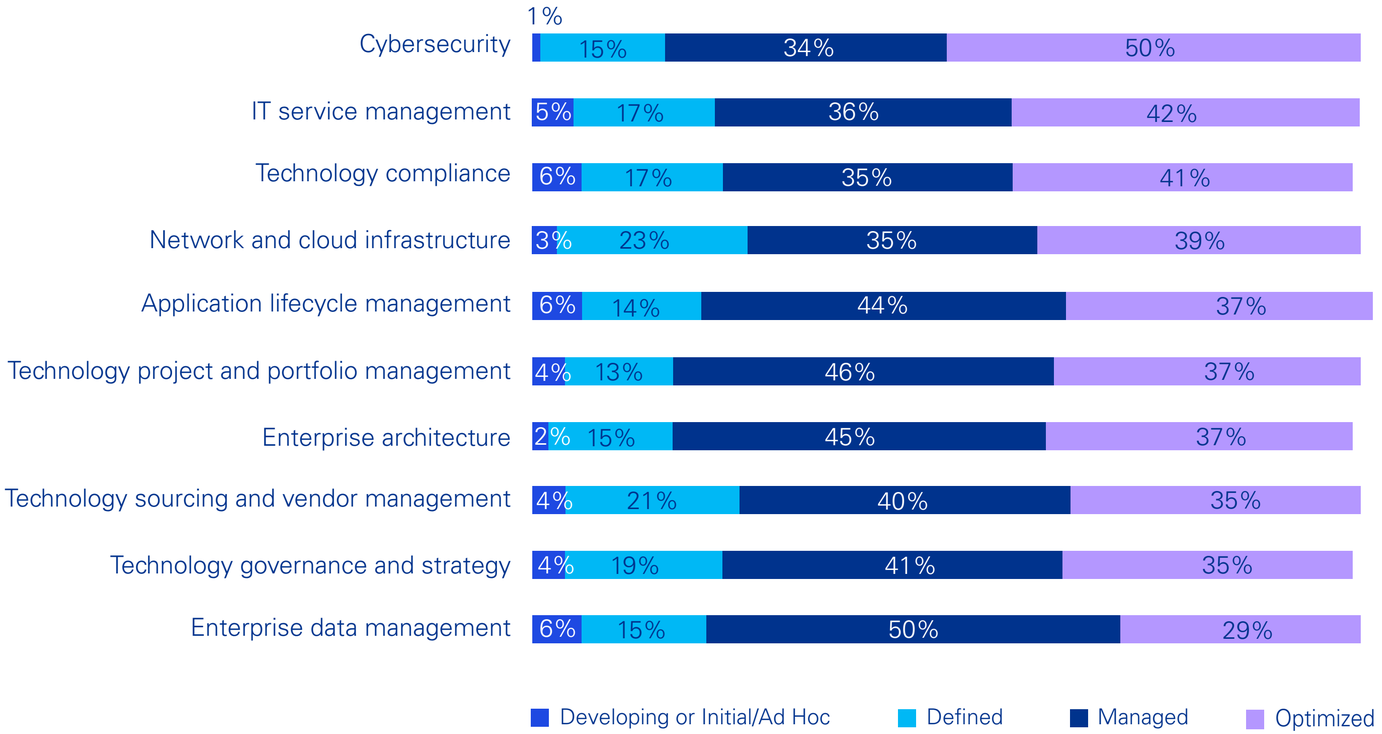
Q: In what areas is your organization using these AI capabilities today, and in what areas do you predict you will be using AI in two years' time, and in five years' time?
Source: Global tech report 2026: Life Sciences

Technology function maturity

To obtain a snapshot of maturity across core technology functions, executives across all Life Sciences company types sampled were asked to rate their organization's maturity across a five-stage scale. This analysis reveals that organizations in the sector exhibit a maturity curve heavily weighted toward the managed and optimized stages.

When looking at this maturity scale, one should view managed maturity as capable but constrained, because ultimately, this maturity stage is inadequate in the Intelligence Age. Managed maturity indicates disciplined processes and governance, but it can also mask a plateau. As AI becomes embedded into regulated end-to-end value streams, organizations should progress toward optimized maturity: continuous improvement, instrumented operations and reusable platforms that allow capabilities to scale reliably across functions, markets and partners.

Core technology function maturity



Lower maturity → **Higher maturity**

Developing or Initial/Ad Hoc:
Some processes are defined, but execution is inconsistent/Processes are informal, undocumented, and reactive.

Defined:
Processes are documented and standardized across teams

Managed:
Processes are monitored, measured and actively managed

Optimized:
Processes are continuously improved through innovation, automation and best practices

Q: Which of the following best describes your organization's maturity across the following core technology functions?
Source: Global tech report 2026: Life Sciences

The low maturity finding in enterprise data management is concerning because data that is siloed and of inconsistent quality can increase the risk of bias or error. Data maturity is also a gating factor for AI scaling, digital twins, ecosystem platforms and regulatory-grade traceability.

The finding related to cloud infrastructure is also an issue because low maturity in this area reduces competitiveness by restricting access to technologies like AI, digital twins, edge and quantum computing.

Lower maturity in technology sourcing and vendor management can hinder ability to address organizational technical debt and compound inefficiencies, risks, higher maintenance costs, lack of compliance, and decreased competitiveness in the market.

All of these maturity gaps matter because they are multiplier constraints. Weak enterprise data management and cloud foundations limit not only today's operational efficiency gains, but also the ability to scale advanced capabilities such as digital twins, ecosystem data sharing and compliant-AI deployment across regulated workflows. Low maturity in the areas of technology sourcing and vendor management and cloud infrastructure also often leads to many Life Sciences organizations paying considerably more for cloud services, due largely to their lack of centralized management.

> **"Low maturity in enterprise data management and cloud infrastructure is a direct constraint on precision medicine and MedTech growth. You can't reliably connect devices, real-world evidence, and genomics without enterprise-grade data governance and infrastructure."**

Kristin Ciriello Pothier
Principal US and Americas Region
Life Sciences Sector Leader and Global Deal Advisory and Strategy Leader
Healthcare and Life Sciences
KPMG in the US

Key takeaway

While many Life Sciences companies demonstrate strength in managed and optimized technology functions, foundational gaps in enterprise data management, cloud infrastructure and technology sourcing and vendor management should be addressed to settle tech debt and unlock greater impact as scaling and integration accelerate.

Technology investment

Our research finds the industry strongly believes in the strategic value of technology, but its appetite to invest aggressively is limited. Investment behavior is disciplined, conservative, and tightly governed rather than expansionary.

The vast majority of organizations (97 percent) allocate less than one percent of annual revenue to digital technology (behavior that matches the cross-sector average). This suggests that improving outcomes will depend as much on how investment is governed and operationalized — platform reuse, scalable delivery models and clear value ownership — as on the absolute size of budgets.

97% of Life Sciences companies allocate less than one percent of annual revenue to digital technology

Life Sciences organizations are pursuing a balanced technology-investment strategy. Maintenance budgets are stable, enabling innovation and compliance without excessive costs.

Growth spending is targeted at incremental upgrades and capability enhancements, maintaining operational and regulatory stability. Transformation investments are measured, emphasizing controlled disruption over radical change. Overall, modernization and efficiency are being advanced cautiously, preserving the reliability of validated systems. Our findings also show that cybersecurity, AI and automation, and data and analytics are top investment priorities in the next 12 months, with over one-third of companies in the sector planning budget increases exceeding 10 percent in these core areas.

Capacity building

Organizations in the sector are leaning toward investment in hybrid strategies — balancing internal expertise with external partnerships for flexibility and innovation. A mix of build-and-buy is the preferred model by nearly half of organizations (45 percent), reflecting cost-efficiency and speed. Internal R&D investment remains significant (40 percent), underscoring a commitment to proprietary innovation, while buying from external providers is least-favored (15 percent), suggesting reliance on internal or hybrid models for strategic control.

Companies are recognizing the critical advantages of build-and-buy partnerships with strong external partners amid the proliferation of new technologies and the reality that they cannot efficiently possess critical new capabilities and skills in-house.

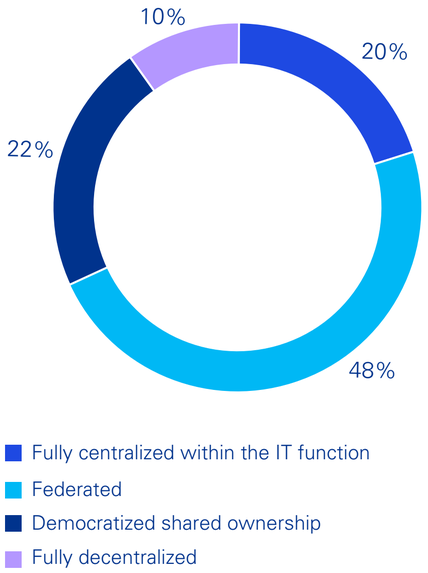
As budgets grow, companies should update operating models to ensure progress in AI, automation, edge and quantum computing, and XaaS. Simply boosting investment is insufficient; evolving delivery and governance is necessary for increased maturity.

> **“The Life Sciences industry is moving beyond the old ‘build or buy’ dilemma. Now, organizations are partnering with niche, hyper-focused firms to accelerate value — buy or borrow proven solutions and wrap minor enhancements on top of them with AI to address their unique challenges, rather than waiting for technology to fully mature or settling for one-size-fits-all SaaS.”**
>
> **Anand Sekhar**
> **Principal Advisory and Head of Life Sciences Technology, Data and AI**
> **KPMG in the US**

Decision-making

Our findings show that technology decision-making in the sector typically relies on a federated governance model — particularly in planning investments, enforcing policies, monitoring performance and selecting technologies and suppliers. Full centralization is common in compliance-critical areas such as talent strategy and supplier selection, while democratized ownership appears mainly in operational tasks. Fully decentralized decision-making remains minimal.

Decison making approach for prioritizing and planning technology investments



Q: How is responsibility for the following technology-related decisions and activities structured within your organization? Prioritizing and planning technology investments
Source: Global tech report 2026: Life Sciences

> **A federated hub-and-spoke governance model is working effectively for many companies today. Each domain within the business has the flexibility to make decisions efficiently, while at the same time complying with the organization's central governance standards and requirements."**

Bent Dalager
Partner and Head of Innovation and NewTech
KPMG in Denmark

Key takeaway

Balanced portfolios while safe, spread capital thinly across many initiatives. Organizations should commit to fewer bolder technology bets — but back them harder. Life Sciences companies do not need to become reckless to be bold. By consciously rebalancing risk and investment models — companies can move away from broad, cautious participation to selective, scaled leadership in the technologies that matter most. There is also clear value in adopting hybrid decision making models.

Value realization

Foundational platforms and AI technologies are contributing meaningful operational improvements in the sector, though their impact is often moderate. Emerging technologies are being adopted steadily but are not yet central to value creation. Scaling is the bottleneck. Simply put, the value story in Life Sciences is increasingly a scaling story. Many organizations report meaningful returns from digital and AI, yet the contribution to overall enterprise value remains small for most. This is consistent with a value plateau: foundational platforms create material efficiency gains, but breaking into more-transformative outcomes requires industrialized scaling (integration, validation, change adoption) and targeted bets on advanced capabilities.

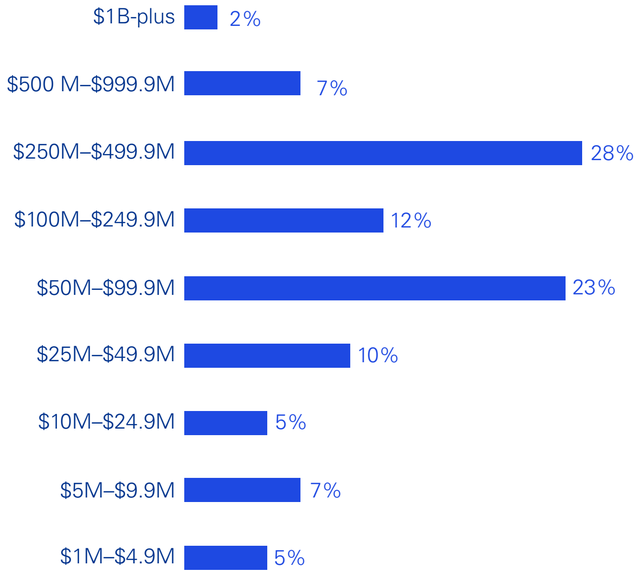
Nearly half (49 percent) of Life Sciences organizations report high-tier returns exceeding US$100 million from digital technologies, with most in the $250–$499.99 million range.

Based on analysis of typical annual investments in digital technology, almost half (48 percent) are achieving significant returns on their investments.

When it comes to understanding where this value is being realized, most organizations (62 percent) are deriving a substantial share of digital value from foundational and core technology platforms, positioning them as critical enablers rather than mere infrastructure. However, their impact tends to plateau at mid-range levels, signaling the need for advanced technologies to achieve transformative outcomes.

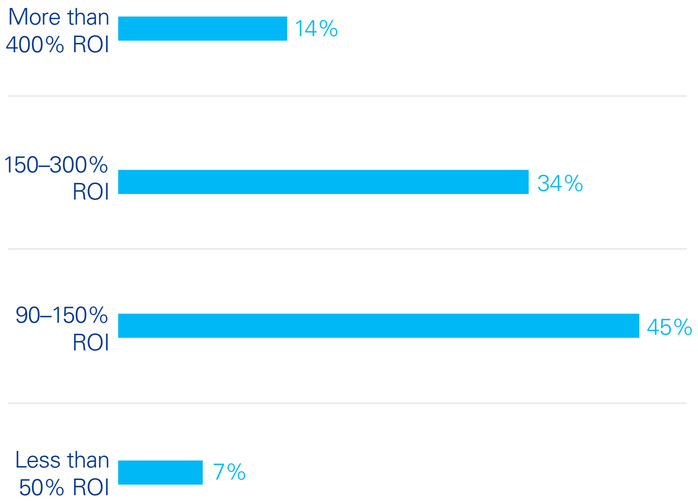
AI and intelligent technologies are emerging as major contributors to digital value in Life Sciences organizations, illustrating that AI has moved beyond experimentation and is now a core driver of transformation, delivering measurable impact across operations and decision-making. Emerging technologies contribute moderately to digital value in Life Sciences, suggesting steady adoption but also highlighting structural and regulatory constraints limiting higher impact.

Financial value achieved through digital technology (USD)



Q: Thinking about your organization's technology investments, specifically investments in digital technology, please estimate the following in USD ($): The total financial value your organization realized from digital technologies over the past 12 months
Source: Global tech report 2026: Life Sciences

Total financial vlaue realized from digital technology as a portion of typical annual investment in digital technology

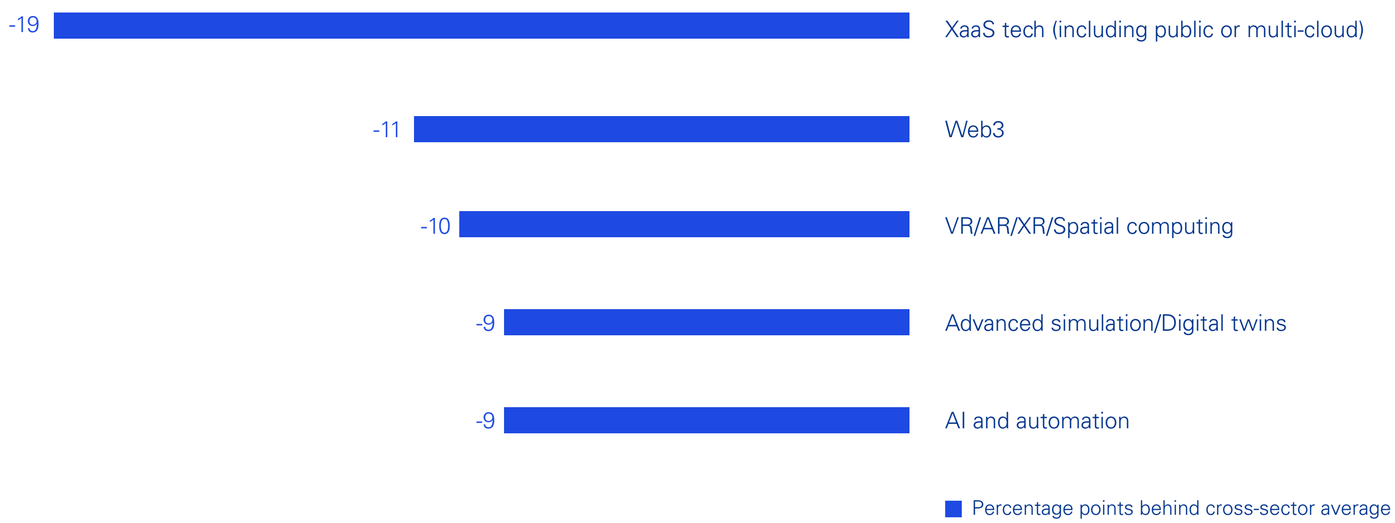


Q: What is the total financial value realized from digital technologies over the past 12 months as a proportion of typical annual investment in digital tech?
Source: Global tech report 2026: Life Sciences

Scale/value gap

While nearly half of Life Science organizations are achieving significant value realization, 93 percent report digital initiatives generate less than one percent of annual revenue, highlighting a scale/value capture gap. A number of factors appear to be limiting value realization. These include:

Life Sciences profoundly trails other industries in scaling of the following technologies:



ROI driven scaling is hard to sustain in the sector due to legacy systems, integration complexity, compliance friction and other factors. This is problematic because the ability to industrialize and scale technology across enterprises is where real value is created.

> **“Companies that continue to remain in isolated pilot phases without enterprise-wide strategies, risk prolonged experimentation and failure to realize value. Challenges with scaling tend to be linked to an absence of organizational buy in, a path to expansion for critical cases, and clear change management planning.”**
>
> **Joseph Zaccaria**
> **Advisory Managing Director, Life Sciences Strategy**
> **KPMG in the US**

93% report digital initiatives generate less than one percent of annual revenue

Governance and operating models: In Life Sciences balanced technology portfolios, federated decision-making and risk-first governance tend to dominate. While these models reduce downside risk, they also slow cross-functional value realization. Federated models can be effective when they combine domain agility with enterprise guardrails. For example, centralized ownership of shared platforms (data, cloud, AI tooling), risk controls, and vendor strategy can coexist with federated ownership of use-case delivery — helping organizations move faster without increasing compliance or model-risk exposure.

Overall, our research finds most value realized today is operational, not transformational. Most organizations are seeing mainly efficiency gains, not the platform or ecosystem-level value that would allow Life Sciences companies to not only optimize their current operations but also embrace a collaborative, innovative, and patient-focused future.

“The future of Healthcare lies in harnessing data-driven insights and agile technologies to deliver personalized treatments and solutions—overcoming legacy barriers is not just a technical challenge, but a strategic imperative for the Life Sciences sector.”

Michael Krajecki
Partner, Advisory,
KPMG Lighthouse Center of Excellence for Data and Technology
KPMG in the US

Key takeaway

Life Sciences can materially improve value realization by shifting from building capabilities to scaling outcomes, concentrating investments, funding scaling initiatives, clarifying ownership, and governing for speed within trust.

Recommendations

01 **Fill in foundational gaps:** Evaluate current technological infrastructure and operational capabilities to identify existing gaps.

02 **View cloud/XaaS modernization as a "prerequisite program":** Consider cloud migration and optimization vital for overall organizational transformation. Prioritizing this approach helps ensure that technology infrastructure meets modern standards, and prevents AI, digital twins, edge computing, and other emerging capabilities from being built on weak foundations. This strategy also creates infrastructure that can handle new needs and support future innovations.

03 **Optimizing maturity:** Transition core platforms from a project delivery approach to a product operating model. For areas where maturity is categorized as "managed," reassign key capabilities — including data platform, integration, cloud, and AI platform — to dedicated product teams that maintain roadmaps, service-level agreements, adoption metrics, and drive continuous improvement. This process helps to ensure that "managed" matures into "optimized" without unnecessary bureaucracy.

04 **Adopt pragmatic "buy platform, build differentiation" capability strategies:** Our findings show an industry preference for hybrid capabilities. Organizations can operationalize this through buying commodity capabilities (cloud, tooling, baseline models/services) while building differentiating assets (data products, fine-tuned models, workflow integration).

05 **Decision making:** Adopt hybrid decision-making models that combine the speed and relevance of federated decisions with the scale and value capture of enterprise control. Pre-approved, trust-by-design governance models can also help organizations execute more quickly.

06 **Scaling:** There are a number of things Life Sciences companies can do to bridge the disparity between technological ambitions and actual achievements. First, establish a scaling mandate by creating a hard rule: no new AI/digital pilots unless there's an agreed path to production (platform, funding, owner, KPIs). Second, identify a small number of priority value streams and ringfence funding within the broader tech budget to fund the hard, unglamorous work of scaling (integration, validation, change management, regulatory readiness).

07 **Rebase digital investment using ROI evidence:** Re-evaluate and re-allocate digital spending based on clear and measurable return on investment (ROI) metrics. Analyze financial or strategic impact of current digital initiatives and investments, determine which ones generate the desired value, and then adjust the allocation of resources toward projects or technologies that demonstrate better ROI.

Methodology

The insights in this report were derived from the KPMG Global Tech Report 2026, a survey of 2,500 technology leaders from 24 countries across eight industries: life sciences, healthcare, automotive, consumer and retail, energy, financial services, government, industrial manufacturing, and tech and telecom. Survey respondents represented organizations with annual operating budgets or revenues above US$100 million and included a diverse group of technology leaders, such as chief data or digital officers, CIOs, CTOs, CISOs, chief AI officers and others.

About the Life Sciences respondents

These Life Sciences insights are based on the views of

124 Life Sciences technology function leaders.

Organizational representation

50%

Pharmaceuticals or biotechnology

32%

Medical devices

18%

Life Sciences product distributors or contract research organizations

Organizational revenue

76%

of respondent organizations had revenues of between US$1 billion and US$9.9 billion.

14%

reported revenues of between US$10 billion and $50 billion.

Seniority level

56%

C-Suite, Department Head, EVP, SVP or VP level

44%

Managing Director, Director or Senior Manager level

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Leveraging cutting-edge technologies like GenAI, robotics, machine learning, avatars, IoT, chat/voice, and quantum computing, Bent helps Life Sciences companies and organizations in other sectors to automate processes, enhance decision-making, create personalized experiences, improve efficiency, and unlock innovative business opportunities.

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