



2022 KPMG U.S. Technology Survey Report

Life sciences industry insights



Charting a path to a brighter future

Few industries have greater promise than the life sciences industry, where cures for devastating diseases like cancer dangle tantalizingly on the horizon. Just in the past year, researchers have identified a handful of patients likely cured of HIV after receiving transplanted stem cells containing a virus-defeating mutation.¹

Although the mutation is rare, these successes have raised hopes that scientists will one day be able to use gene editing to duplicate the mutation and make the treatment widely accessible to all HIV patients.²

While advances like the HIV example point to a bright future for the life sciences industry, capitalizing on the opportunity will require smart use of technology, not just in research laboratories but across business operations.

¹ *Washington Post*, "Longtime HIV patient is effectively cured after stem cell transplant," Mark Johnson, July 27, 2022.

² *Ibid.*

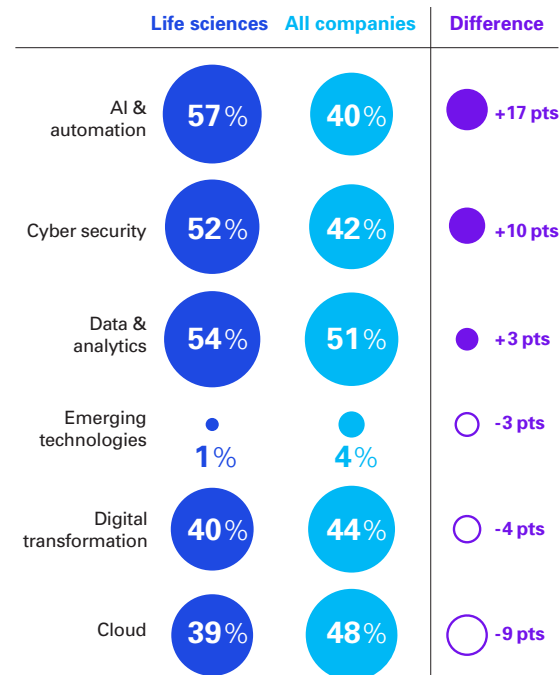
Leading on AI, but lagging in enterprise cloud

Life sciences companies already lead in using a number of advanced technologies, according to the 2022 KPMG U.S. Technology Survey.³

Fifty-seven percent of those represented in the survey report being proactive in progressing against their strategy for artificial intelligence (AI) and automation, for example, versus just 40 percent of companies in all industries.

Figure 1: Leading the way with AI & Automation—but lagging on Cloud

Percentage of organizations proactive in progressing against their strategy and continually evolving in the following areas:



Source: KPMG U.S. Technology Survey Report, KPMG LLP (U.S.), 2022.

Yet life sciences companies as a group are lagging in cloud adoption, with only 39 percent proactive in progressing against their agenda versus 48 percent of all companies. (See Figure 1.) More than their counterparts in other industries, life sciences executives cite security and compliance requirements among their biggest challenges on this front.

These seemingly unaligned findings between how life sciences companies are embracing advanced technologies but falling behind in the march to the cloud may be attributed in part to a bias in the survey audience, which was made up primarily of technology professionals focused on core technology systems.

“Life sciences companies have indeed been slow in putting their core enterprise systems on the cloud, but that’s largely because they’ve been locked into the pace adopted by the providers of their enterprise resource planning systems,” observes Justin Hoss, partner, Technology industry leader, Life Sciences, KPMG in the U.S. “But their business operations have actually been moving fairly quickly with cloud adoption. Life sciences companies are using private cloud platforms to accelerate progress on patient-centric goals like building ecosystems of therapeutics and extracting new healthcare solutions from clinical research.”

³ In May and June 2022, KPMG U.S. surveyed 1,052 U.S.-based, executive-level technology leaders across eight broad industry sectors about the current state of their organization’s digital transformation journey, the challenges they are facing along that journey, and their planned technology investments. This report highlights the most significant differences in the survey findings for the life sciences sector relative to all sectors represented in the survey.



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— Justin Hoss, Partner, Technology Industry Leader, Life Sciences, KPMG in the U.S.

A customer-centered focus for digital transformation

Compared to their peers in other industries, life sciences companies are the most likely to cite amplifying customer centrality among their primary goals for investing in enterprise technology.

A prime example of why this value chain transformation is so critical to this industry is the growing importance of precision medicine, which considers the characteristics of individual patients—their genetics, their

environment, their lifestyle—and then targets them with treatments tailored to their unique makeup.

“Precision medicine is a different beast from a product development perspective,” Hoss says. “It has sweeping implications for how therapeutics will be developed and delivered, and it is requiring that life sciences companies double down on their use of machine learning and other types of artificial intelligence.” (See Figure 2.)

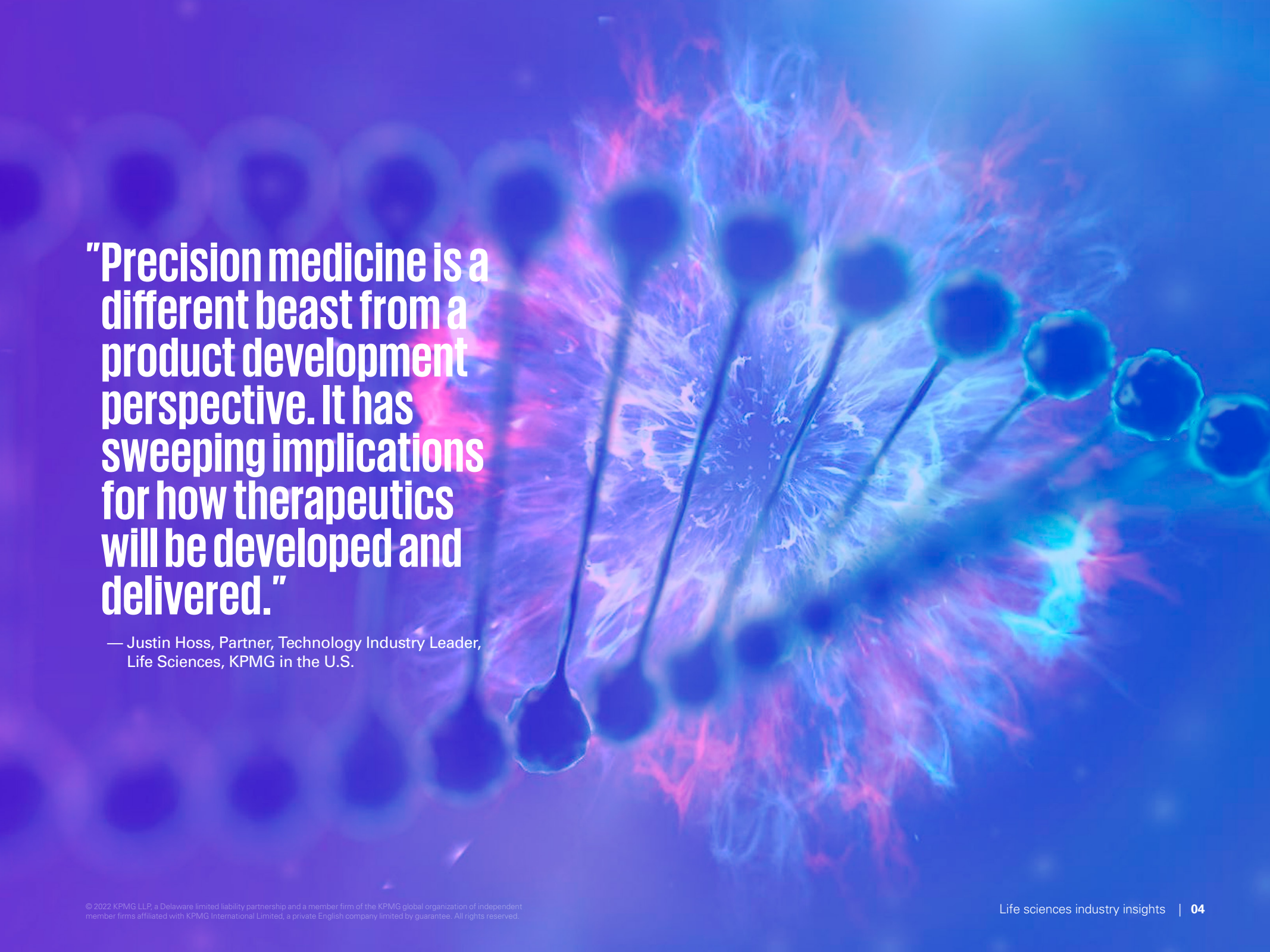
Figure 2: Prioritizing customer centrality when investing in enterprise technology

What is the primary goal for your organization’s investment in enterprise technology?

	Life sciences	All companies	Difference
Amplify customer centrality	58%	46%	+12 pts
Create capacity	22%	21%	+1 pts
Rethink/reduce risk	24%	26%	-2 pts
Accelerate agility	37%	42%	-5 pts
Create new value	17%	22%	-5 pts

Source: KPMG U.S. Technology Survey Report, KPMG LLP (U.S.), 2022.





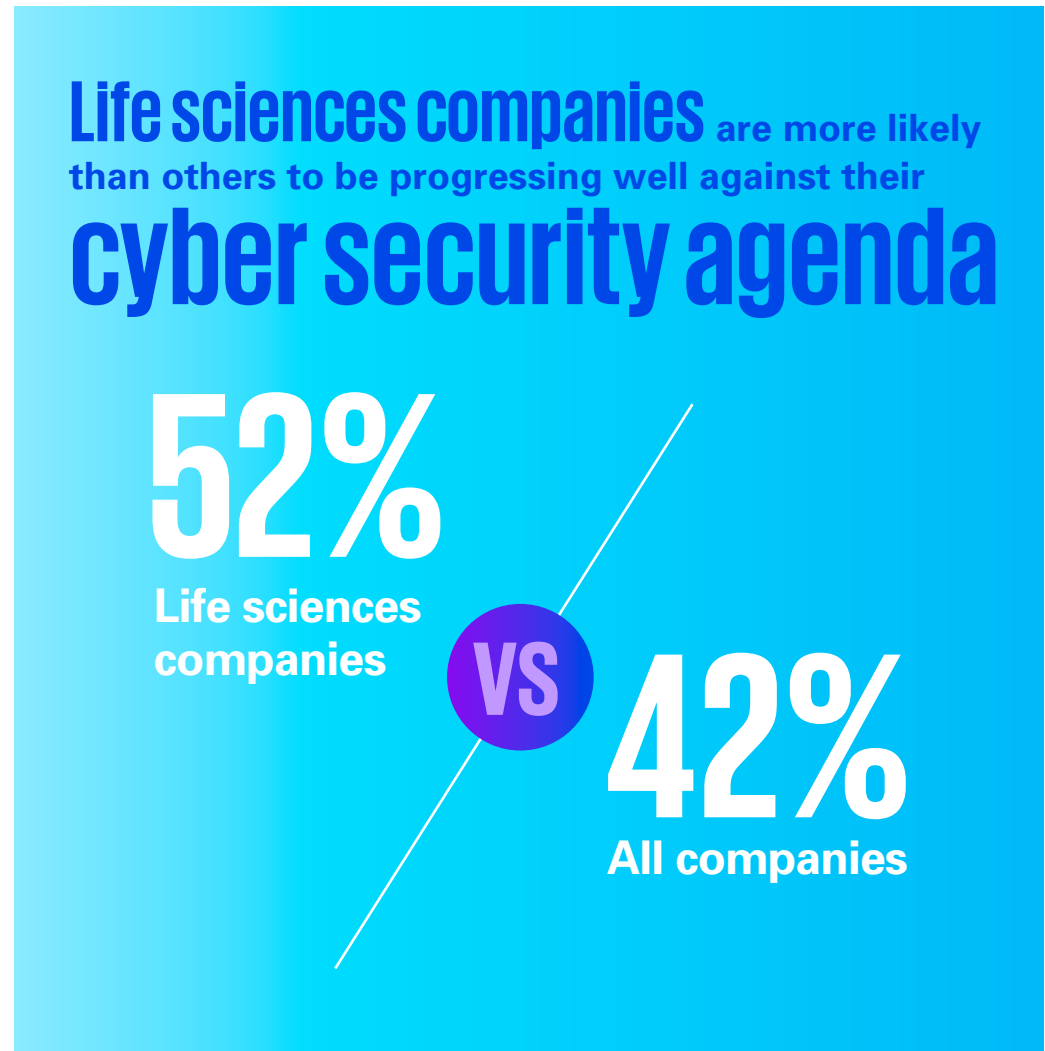
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Cyber security: The nonnegotiable foundation of digital transformation

In addition to their aggressive use of AI, life sciences companies also are more likely than others to be progressing well against their cyber security agenda, with 52 percent doing so versus 42 percent of executives at all companies. That's encouraging because an effective cyber security strategy is increasingly critical to patients and other stakeholders.

"To understand the importance of cyber security in this industry, think again about the precision medicine example," says Hoss. "Precision medicine is highly centered around gene therapies that will be very specific to the individual patient, which means doctors and life sciences companies will have extraordinary insights into their patients, potentially down to their DNA makeup. Or think about a device implanted in a patient's body that's constantly connected to the internet, telling their doctor about their heart rate, their blood pressure and other vital health signs. That's extraordinarily sensitive data linked to an extraordinarily sensitive piece of equipment. If a hacker were able to access that data, it could be used in ways the patient and their doctor wouldn't want it to be used. And if a hacker were able to shut down a pacemaker, say, or a million pacemakers all at once, it could be catastrophic."

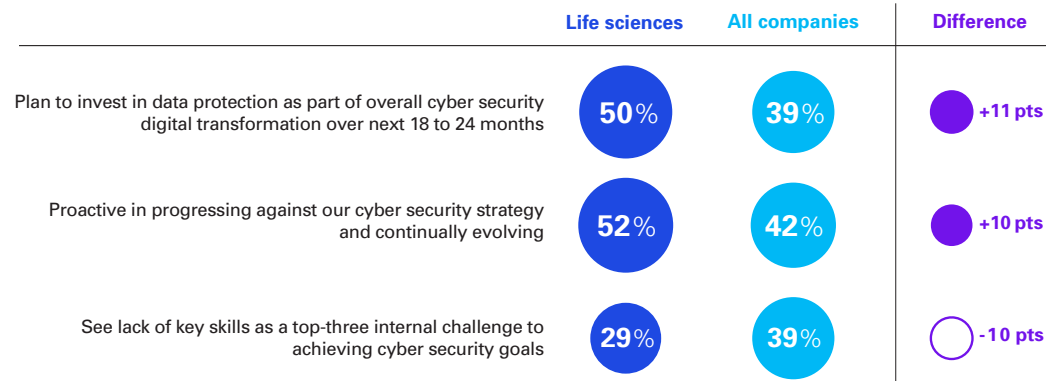


CYBER SECURITY *continued*

Against that backdrop, it's not surprising that life sciences executives are more likely than others to identify the creation of new services based on Internet of Things technology as a top cyber security challenge, with 28 percent citing it as a concern, versus 17 percent of executives at all companies. Similarly, 50 percent of life sciences executives—more than those in any other industry—say their organization is planning to invest in data protection as part of their cyber security digital transformation over the next 18 to 24 months, versus 39 percent of those in all industries. On a positive note, most life sciences companies appear equipped with the talent they need to get cyber security right. Only 29 percent of life science executives cite a lack of skills as a top-three internal challenge to achieving their cyber security goals, versus 39 percent of all executives. (See Figure 3.)

Figure 3: An important focus—and head start—on cyber security

Life sciences companies are leading the way in many areas of cyber security.



Source: KPMG U.S. Technology Survey Report, KPMG LLP (U.S.), 2022.

28%

of life sciences executives identify the creation of new services based on Internet of Things technology as a top cyber security challenge.



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Justin Hoss

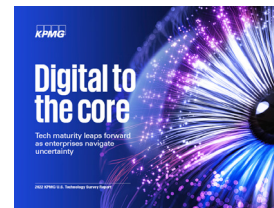
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