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Enterprise AI Maturity Index for Life Sciences

2026

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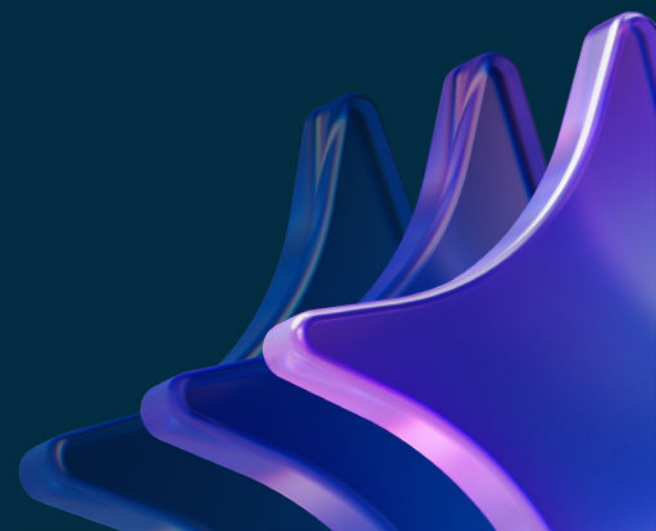

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Everyone bought AI. Few built for it.

Is life sciences ready for the speed agentic AI demands?

Life sciences runs on patience: decade-long R&D cycles, rigorous validation, and complex regulatory pathways. But the speed of AI adoption is compressing those timelines in ways the industry has not experienced before.

In this, our third annual AI Maturity Index, ServiceNow and NVIDIA surveyed more than 4,500 executives and employees across 19 countries to understand how organizations deploy AI and where they get stuck. The life sciences picture is striking: maturity scores surged over the past year, climbing faster than nearly any other industry.

Yet beneath that momentum, a critical gap is forming between AI ambition and operational reality. Most firms apply AI to automate a single task, like a faster literature review or a chatbot for procurement questions. That's not agentic AI. That's AI as a tool.

The leaders do something different. They have moved to agentic AI: AI agents that sense, decide, and act across entire workflows, from research and discovery to clinical trials, manufacturing and quality control, and the long path to bringing a treatment to market safely. These agents don't just respond to prompts. They investigate, orchestrate, and adapt, with multiple agents working in concert to drive processes that used to require weeks of human coordination.

But deploying AI agents without governing them isn't a strategy. It's a risk. The organizations pulling ahead are those that run their agents through an AI Control Tower: a centralized layer that supervises every agent action, enforces compliance guardrails, maintains audit trails, and keeps a human in the loop for the decisions that matter most. In a regulated industry, an AI agent that cannot be explained or audited does not scale. It creates liability.

This report brings together ServiceNow's view of how work actually moves across an enterprise and NVIDIA's view of what is technically possible with agentic AI today. It is a rare pairing of perspectives on where this industry stands, where AI agents are already delivering results, and what separates the organizations that are scaling from those that are stuck.

In this industry, time isn't just money. It's patients waiting on treatments that could change their life.

Cedric Parent

GVP, Global Industries Go-to-Market
ServiceNow

The gap between AI ambition and execution

Life sciences has made strong advances in AI maturity and dramatically increased AI investments—this industry is committed and on par with the most mature sectors. The question now is whether life sciences firms are built for what comes next.

To find out, we partnered with ThoughtLab to survey 400 life sciences executives and 166 employees across biotechnology, pharmaceutical, and medical technology companies.

We measured AI progress across seven pillars: vision and leadership, management and culture, data modernization, AI governance, talent and skills, AI-enabled workflows, and driving value from AI. Full methodology details are available in the appendix.

A small group made a different bet. Early.
While most organizations deployed AI into existing infrastructure and moved fast, a handful paused to ask a harder question: Are we building something that will scale or something that will break? That distinction is now showing up in the results—and the gap is widening. The organizations pulling ahead aren't those with the most advanced models. They're the ones with the infrastructure to execute reliably at scale.

We call them Pacesetters, and what they do differently is a roadmap for others.
They represent 24% of this study's life sciences firms. They are defined by orchestration, connected data, and governance built before deployment, not after. This report shows how they got there and what others can do to follow.

Life sciences firms are bolting AI onto broken infrastructure

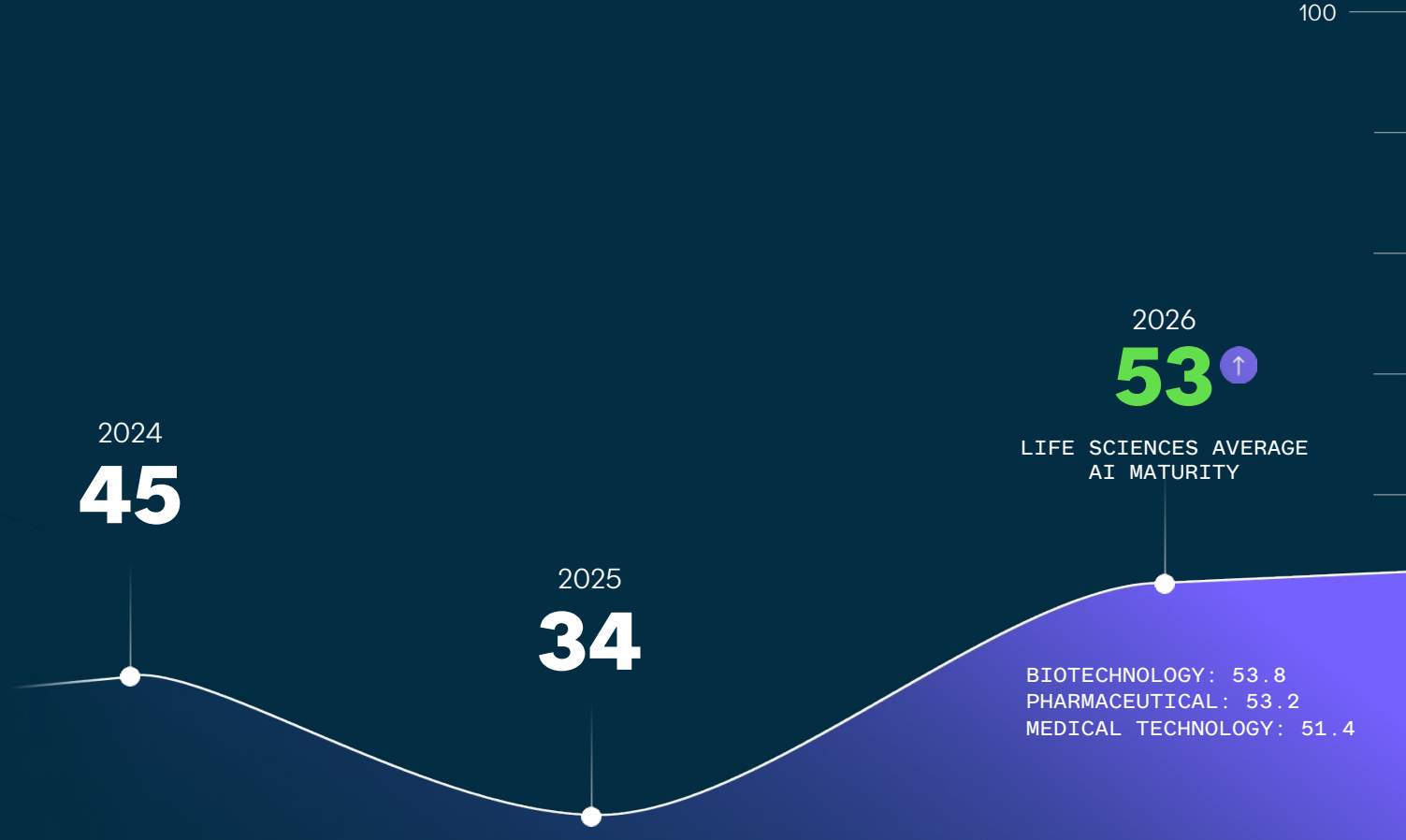
- **Investment is outpacing infrastructure.**
  While spending on AI jumped to 107% with another 75% increase expected this year among life sciences firms, most still struggle with inadequate data accuracy & access and almost half struggle with legacy systems. The money is moving. The architecture isn't.

- **Agentic AI is everywhere. Autonomous work is not.**
  Fifty-eight percent of life sciences firms have moved beyond piloting agentic AI, but only 14% have made meaningful progress building autonomous, multistep workflows. Most are paying for a capability they haven't unlocked.

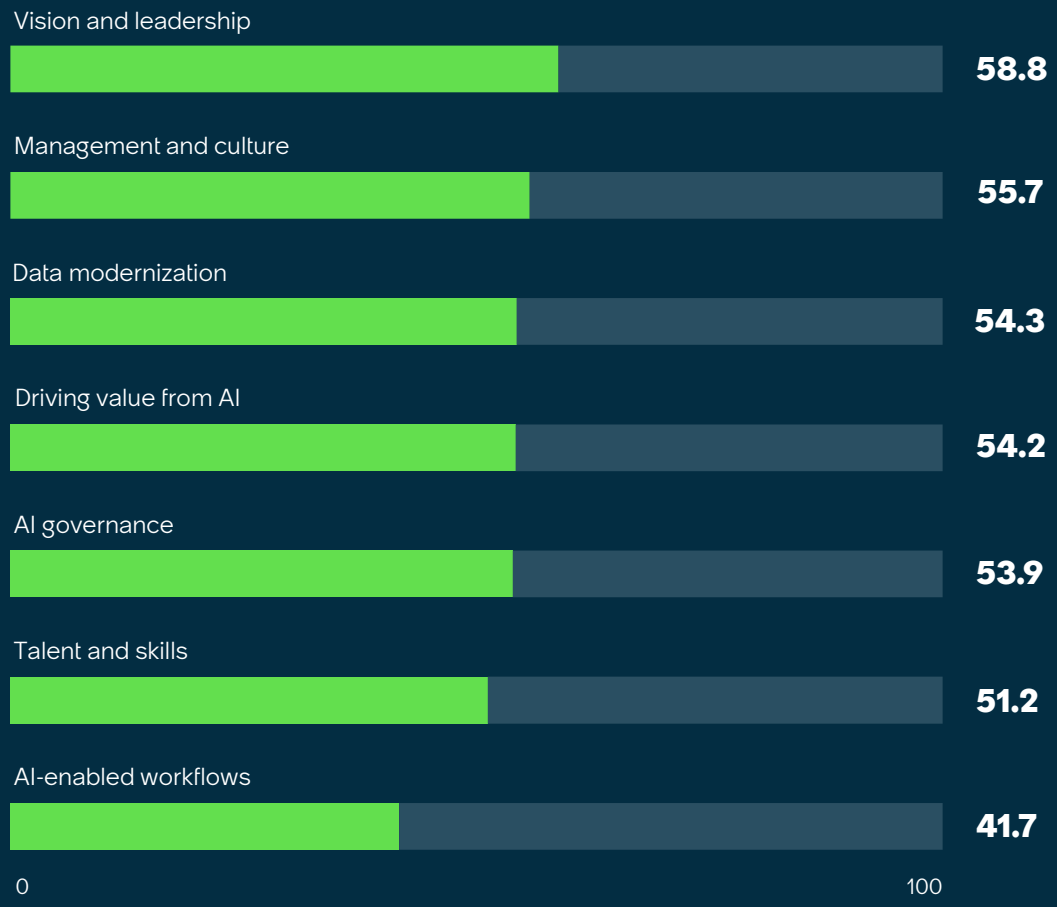
- **Confidence is masking an execution gap.**
  Overall, AI maturity rebounded to 53 out of 100. But AI-enabled workflows score is 41.7—the lowest of all seven pillars. The ambition is real. The infrastructure to execute it isn't.

Underneath the confidence, chaos is growing

AI maturity rebounds. Execution at scale lags.



Average pillar scores for life sciences firms



The maturity pillar scores reveal a clear gap for life sciences firms: while vision, leadership, culture, governance, and data modernization are all strengthening, AI-enabled workflows lag. The industry is racing ahead with AI without integrating and reinventing the processes required for enterprise-wide transformation.

The workflow deficit

Tamara Elias, MD, VP, Global Healthcare and Life Sciences GTM at ServiceNow, explains why this gap persists. "AI maturity has jumped, but a lot of that is because we finally understand where AI actually fits in life sciences. The applications that generate real value almost always trace back to workflow orchestration," she says. "Systems can surface a great insight, but if nothing is built to act on it, that insight just sits there. The companies pulling ahead figured out how to connect AI discoveries to workflows that actually run at scale. That is where the value shows up."

Regional and sector differences

Given the need to embed AI in patient-facing devices, where safety, validation, and integration are paramount, Medtech firms are slightly behind biotech and pharma companies in AI maturity. "Medtech is more complicated because it translates AI into a physical connection with a patient," according to Vishal Mehta, Area VP, Global Head of Life Sciences Go-to-Market at ServiceNow.

AI spend surges. So does the pressure to deliver.

Life sciences companies are no longer treating AI as a side bet. They are spending more aggressively than the all-industry average, and, crucially, they are beginning to see stronger returns from that commitment. The surge in investment signals a growing conviction that AI can compress the path from discovery to delivery while also improving day-to-day work across the enterprise.

"Life sciences executives are now leaning in and taking ownership around AI strategies across the business, not just with their words, but with their wallets," says Rory Kelleher, Senior Director of Global Business Development for Healthcare and Life Sciences at NVIDIA. "That's because they are now seeing the proof points in their results."

He points to AI-powered molecular design as a prime example. "A year ago, we had companies using AI for antibody design seeing a hit rate of less than one percent," he says. "These days, many are seeing a 30% hit rate on antibody design programs. That's a massive leap in a relatively short amount of time. AI is not only improving results but shortening what would have been a nine-month process to more like two weeks."

These kinds of results show that in life sciences, AI is paying off. And these gains extend beyond strategic advantage, helping employees do this work faster, with more time for high-value, high-reward tasks.

Revenue spent on IT by 2027

Up from 14% in 2025

17%

YoY increase in AI as % of revenue

2025 → 2026

107%

ROI on AI

Increase to 179% by 2028

142%

Survey-reported projection

The foundation has cracks

With a mission to improve and save lives, life sciences firms often focus more on using AI to transform science, rather than their operating systems. Indeed, our research shows that many life sciences firms are failing to build the IT, data, and governance foundations needed for AI success. But it's a key problem that an integrated platform is designed to solve.

Nearly three-quarters of companies point to weak data accuracy, access, and management as a major barrier. More than half struggle with regulatory complexity, while many also cite transparency concerns, privacy and security risks, legal exposure, and integration with legacy systems.

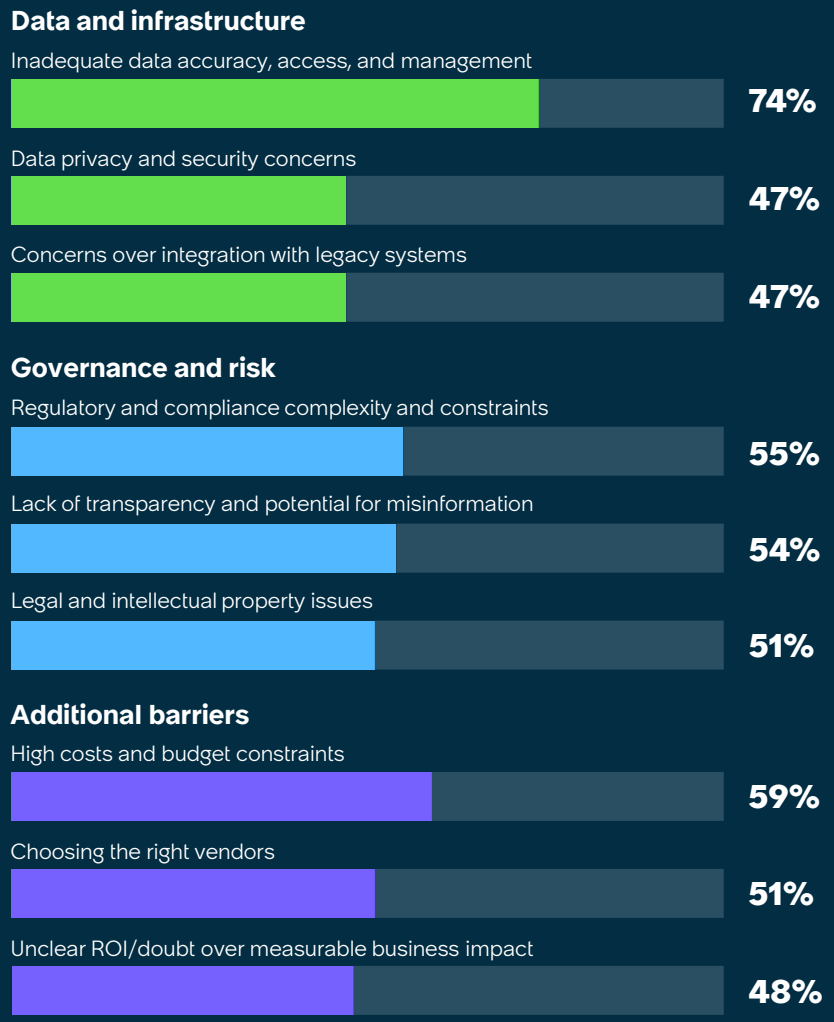
Elias explains that for years, many life sciences organizations relied on manual processes and limited technology intervention, often because regulatory obligations encouraged caution and reinforced legacy habits. "This industry has always defaulted to silos, and data privacy is usually the justification. But the real friction is not about data. It is between functions. Even when one department has clean data and strong controls, value breaks down at the handoff to the next system or team."

As a result, many companies are now trying to scale advanced AI on top of workflows, systems, and governance structures that were never designed for seamless integration or end-to-end visibility.

Says Mehta: "If you haven't built proper data governance and stewardship into the foundation, it will follow you everywhere and undermine everything you're trying to do."

As AI scales, cracks become chasms

WHERE MOST LIFE SCIENCES FIRMS GET STUCK



The workflow gap is the real AI story in life sciences

Life sciences has moved faster on AI than almost any other industry. The investment is real, the ambition is real, and the maturity scores show it. But our research surfaces a pattern that should give every executive pause: vision and governance are strengthening, and AI-enabled workflows are lagging further behind than any other pillar.

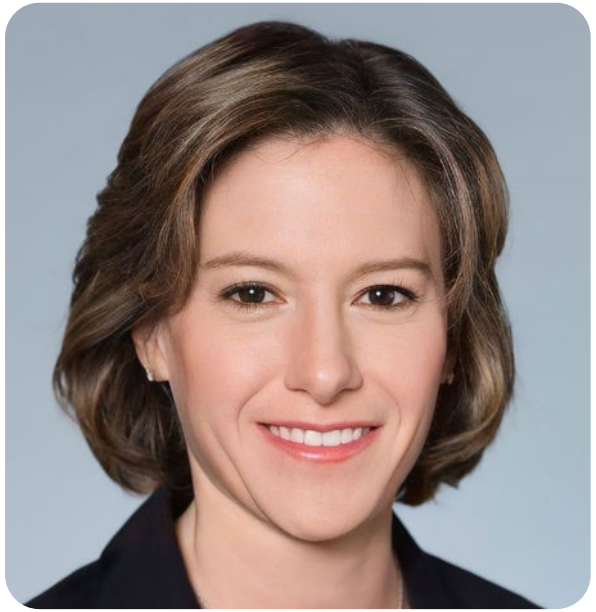
That gap matters more in this industry than it might anywhere else. A clinical trial site drops out not because the trial management system failed, but because finance didn't pay on time.

A quality signal gets missed not because no one was watching, but because the data never crossed from one system to the next. The breakdown happens between functions, not within them. And that is exactly where most AI investments stop short.

The companies pulling ahead have figured out that AI creates value when it moves across legal, clinical, finance, safety, and supply chain, not when it optimizes each function in isolation. That difference shows up starkly in the data: 56% of Pacesetters use agentic AI to run autonomous, multistep workflows, compared to just 1% of everyone else.

They are not just automating existing work. They are redesigning how work gets done across the enterprise, with AI and human teams operating together on a unified platform.

That is the shift this research is pointing to. The question for every life sciences organization is not whether to invest in AI. It is whether the foundation you are building on can actually connect those investments into outcomes that scale.



Tamara Elias, MD

VP, Global Healthcare and Life Sciences GTM
ServiceNow

Automating yesterday's work vs. reinventing tomorrow's

Early AI success in life sciences

AI is no longer confined to a handful of scientific use cases in life sciences. It now spans the value chain, from discovery and development to manufacturing, supply chain, commercialization, and market activation.

According to Elias, life sciences firms are seeing AI's clearest gains and most exciting use cases in research and discovery, where firms can use AI in a more controlled way before the work touches patients.

However, firms are also making meaningful AI progress outside of the lab. Mehta finds manufacturing promising because it is more deterministic and driven by standard operating procedures. Elias likewise recommends that companies expand their focus to automate manual processes connected to quality control, supply chain, vendor coordination, and HR onboarding.

Gains across the value chain

Kelleher cites clinical development and trials as a key area, which takes a huge proportion of management time and investment. "AI foundation models will have a meaningful impact on trial design and selection of patients that are likely to respond to a therapy, driving down costs and accelerating the delivery of lifesaving medicines to patients," he says. He agrees with Mehta that manufacturing is a critical area, particularly as demand ramps up for big drugs such as GLP-1s, which affect huge swaths of patients.

But real advantage comes when those use cases stop acting as isolated wins and begin to reduce friction between functions. "Most companies are still automating within each function," says Mehta. "As they start automating cross-functionally, they will unlock significantly more potential."

Key life sciences use cases	AI adoption
Research and discovery	
Preclinical development	**70%**
Drug discovery	**67%**
Development and clinical	
Clinical trials	**47%**
Risk, security, and compliance	**42%**
Manufacturing	
Quality control and inspection	**54%**
Manufacturing and production	**46%**
Recycling and end-of-life management	**38%**
Supply chain and logistics	
Procurement and supply chain management	**54%**
Distribution and delivery	**44%**
Commercialization and markets	
Marketing and demand generation	**57%**
Commercialization and market access	**52%**
Market and competitive intelligence	**51%**
Sales	**42%**

AstraZeneca

Eliminate time-consuming tasks, focus on saving lives

AstraZeneca has a bold ambition: to find remedies for rare diseases that impact millions of people but currently lack available treatments. Not only is the company taking on some of the world's most difficult pharmaceutical challenges, but AstraZeneca is also committing to aggressive goals: by 2030, it aims to have launched 20 new medicines.

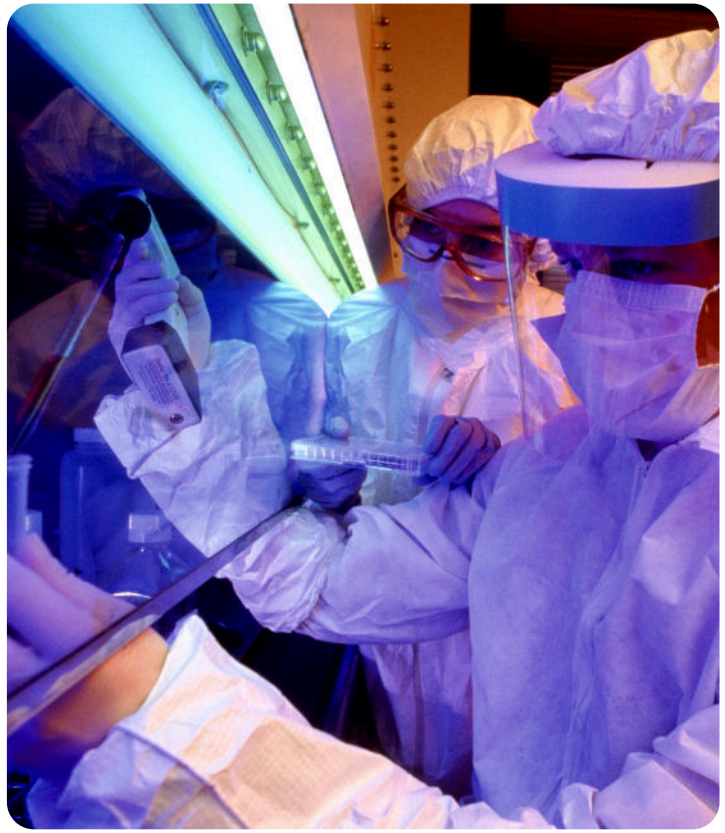
To do this, it needs to help its researchers and managers save time on logistical and administrative tasks, which can enable them to put more hours into their life-saving work. For example, bringing just one new medication to market can require millions of test tubes during the development phases. AstraZeneca discovered that employees were handwriting supply orders in a notebook, a process that took up to 30 minutes each time.

The company worked to design an AI-powered, end-to-end equipment and supplies selection and ordering system, enabling orders to be completed in just a few seconds, with cumulative time savings estimated to be as high as 30,000 hours. "The AI platform plays a crucial role in giving back valuable time to our researchers and scientists by streamlining their workflows and enhancing efficiencies," says Cindy Hoots, Chief Digital Officer and CIO, AstraZeneca. "AI is permeating everything we do, it's how we will get medicines to patients faster."

Employee onboarding

AstraZeneca's ambitious goals for 2030 also include the recruitment of more than 20,000 new employees. However, getting these new hires on board and up to speed presents many challenges, costing more than 50 hours each of management time. "We found that managers were spending more than 50 hours onboarding employees," explains Jackie Crockford, VP of Global Business Services at AstraZeneca. "So, if we can remove 10% of that time by automating some of the more transactional elements rather than the human elements, we will save over 90,000 hours."

To support these aspirations, AstraZeneca developed an application on its AI platform to streamline the onboarding experience with personalized portals for each new hire, enabling strong productivity from day one. "Onboarding new colleagues is a critical moment," says Crockford. "Putting AI to work for every single employee is helping us get work done more efficiently and more effectively."



Agentic AI is everywhere. Autonomous work is not.

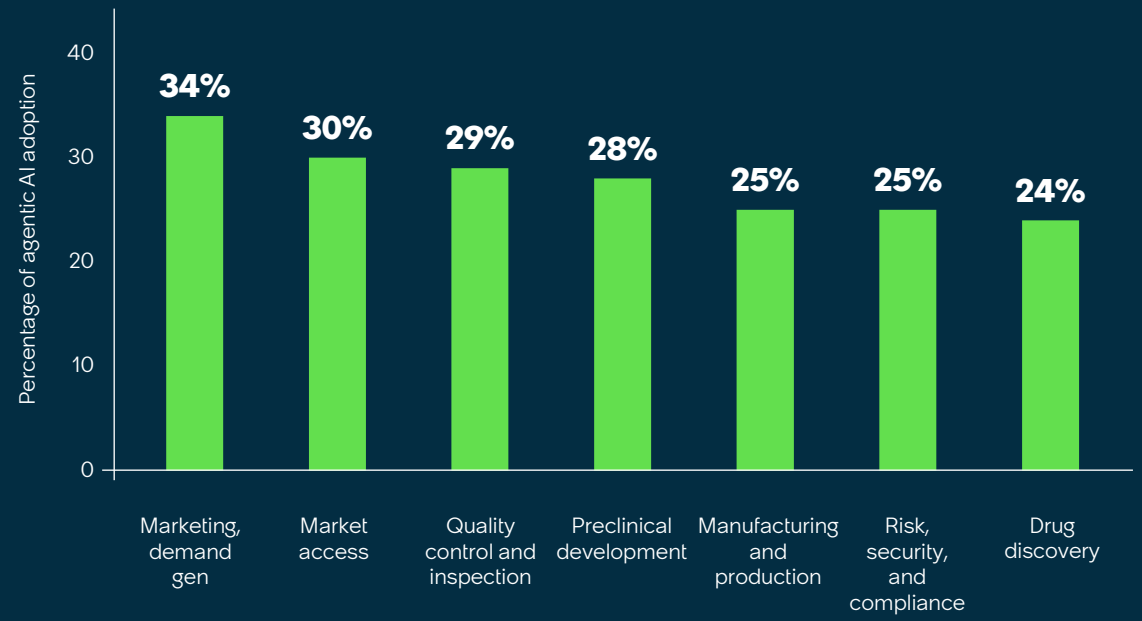
58% of life sciences firms now use agentic AI, but typically just to assist employees. Only a handful have made significant progress in taking advantage of its capability to drive autonomous, multi-step workflows. Many companies are comfortable letting agents assist with tasks. Far fewer are prepared to redesign work so those agents can operate across systems, decisions, and handoffs.

Where agents are gaining ground

The adoption pattern is revealing. Agentic AI is furthest ahead in commercial activation, market access, quality control, and preclinical development, domains where processes are often more structured, repeatable, and measurable. It is much less developed in areas such as market intelligence, clinical trials, supply chain, and sales, where fragmented ownership and more complex dependencies make autonomy harder to operationalize.

Although life sciences firms need to be cautious with autonomous activities, Mehta argues that they must go further with agentic AI. "The real value is not by automating your existing processes," he says. "When agents remain trapped inside a function, the payoff is mostly incremental efficiency. When they move across legal, finance, clinical, safety, and supply chain, the value of agentic AI is compounded."

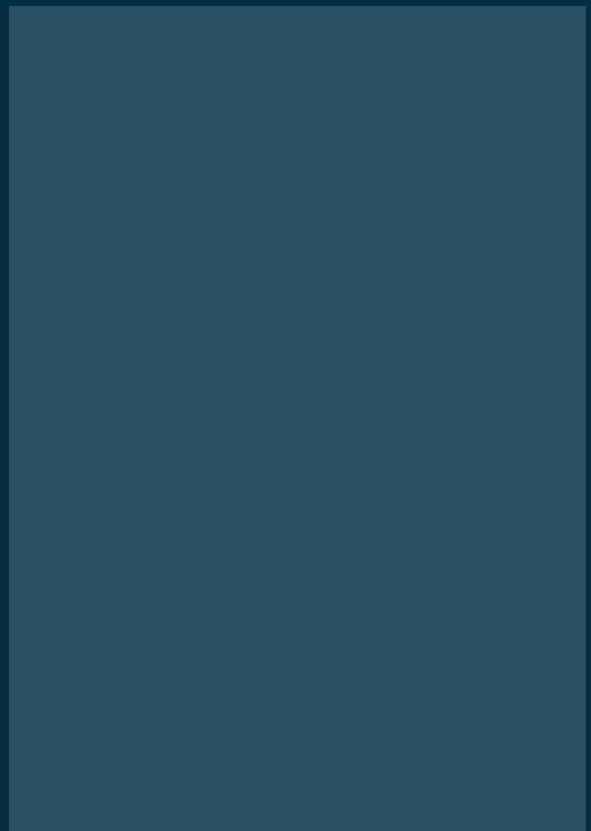
Top agentic AI initiatives for life sciences firms



Most are paying for a capability they haven't yet unlocked

58%

of life sciences firms are using agentic AI



ONLY

14%

have made significant progress using agentic AI to create autonomous, multistep workflows

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Where agentic AI is already delivering

Research and discovery

AI-driven drug discovery sped up the process of identifying molecules, cutting down R&D timelines and lowering development costs.

Senior AI Scientist, Saudi Arabia

Clinical trials

We used predictive AI to quickly rank global trial sites based on their performance and patient availability, which removed delays and made enrollment move faster.

Director, Japan

Quality control and inspection

We used applied AI in automated quality control for prosthetic components, minimizing defects and improving reliability.

Chief Customer Experience Officer, Germany

Commercialization and market access

A virtual assistant was added as a paid feature to help customers use, maintain, and troubleshoot medical devices, creating a new source of revenue for the company.

Director, US

Supply chain

We used AI models to optimize demand forecasting and inventory management, reducing stockouts and wastage, especially for temperature-sensitive medicines.

Sr. AI Engineer, Singapore

Market and competitive intelligence

AI-enabled market intelligence improved targeting of strategic research collaborations.

Senior Manager, Switzerland

Accelerating drug discovery

We're seeing agentic AI start to take hold across the value chain in life sciences. In the early discovery space, this includes the concept of 'AI scientists', where large language models (LLMs) and agentic systems can now generate hypotheses, design experiments, execute those experiments in a robotic lab, and analyze the data from those experiments.

They would then inform their supervisors about the next hypothesis and experiment that they could run based off the analysis of that data. This 'closed-loop' discovery process; a combination of LLMs steering the process and foundation models doing 'in silico' testing and then using the lab for validation, is compressing timelines and improving the quality of outputs and potential development candidates.

These 'AI scientists' are taking what was six months worth of work for a human team and doing it overnight at a PhD-level of capability. They are now being used in clinical development not only for molecular design, but also for biomarker strategy, target validation, and other areas.

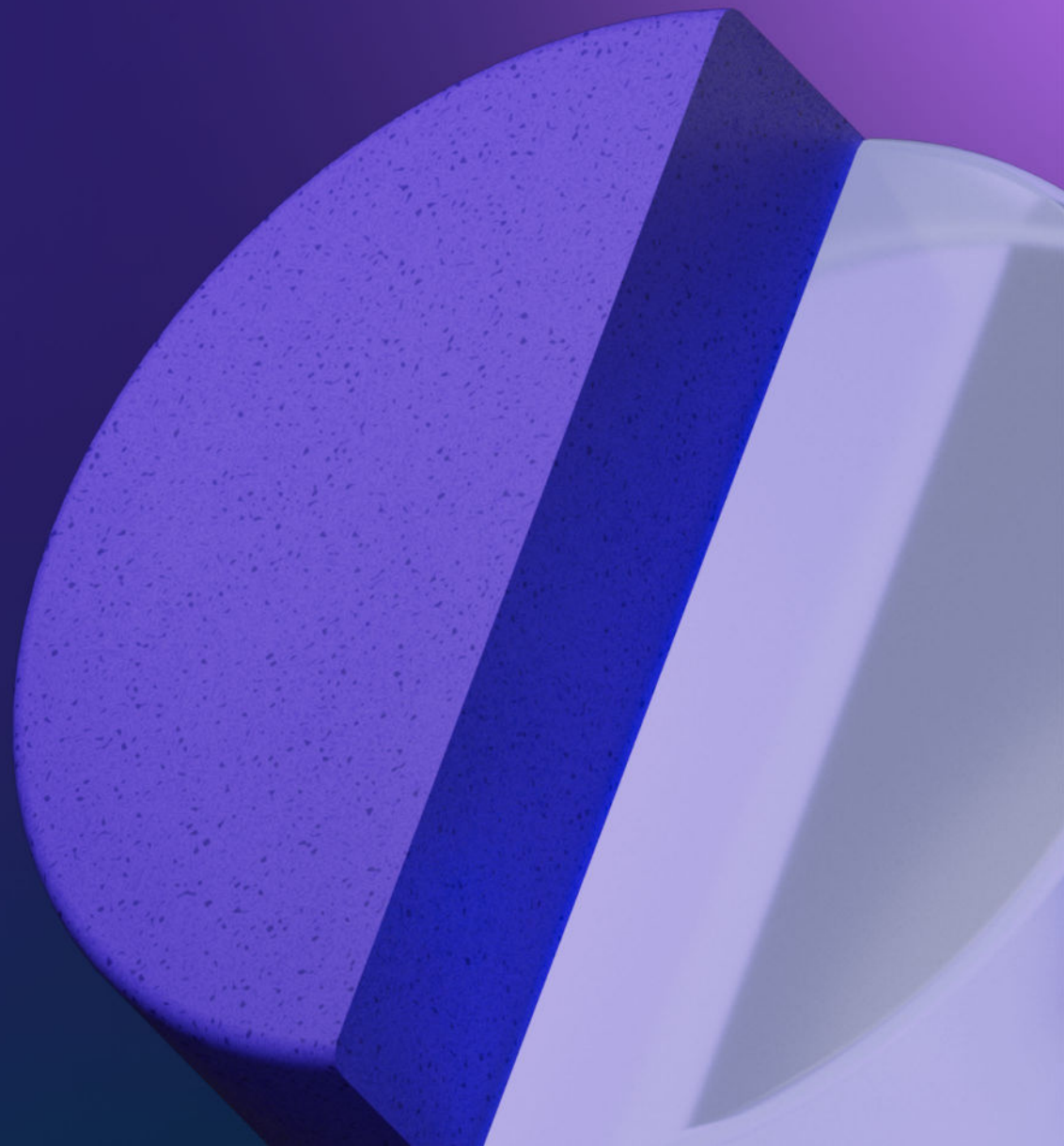
These developments will have an incredible impact on the productivity of the life sciences ecosystem. Agentic AI will also make it possible for companies, research institutes, and philanthropic organizations to pursue a wide range of unmet needs.

Agentic AI will be a big win for patients, including rare disease patients, cancer patients, and heart disease patients. There won't be a therapeutic area that isn't meaningfully impacted by artificial intelligence.

Rory Kelleher

Senior Director of Global Business Development for Healthcare and Life Sciences, NVIDIA

Reinvention starts here



Embracing the revolution

Vishal Mehta suggests that the industry is using AI to make fundamental changes that weren't previously possible. "Life sciences has been chasing digital transformation for years without fully capturing the automation benefits, and that was even before AI entered the picture. There's still significant optimization work left to do. AI is now creating real urgency to finish that work, and in some cases, find ways to address the complexity in legacy systems that's been slowing things down."

With so much to gain, it's no surprise that 65% of life sciences firms with over $10B in revenue want to become AI-first organizations. "Life sciences is at the forefront of the AI revolution," says Mehta. "It has all the right ingredients needed to drive AI at scale: dense documentation, deeply structured data, scientifically trained talent, and a business culture used to long-horizon bets."

4.58 employee work hours saved per week, reducing stress and improving morale

65% of life sciences firms with over $10B in revenue want to become AI-first organizations

59% of life sciences firms say AI will allow them to deliver greater value to customers

48% of life sciences firms believe that scalable AI platforms will drive agility and resilience

Pacesetters aren't just AI enabled. They're AI first.

Every year, a group pulls ahead in the study. We call them Pacesetters
This year's analysis reveals that 24% of life sciences firms are Pacesetters. These elite firms have an average maturity score of 77, vs. a score of 45 for others, and above the global Pacesetter average of 74 for all industries. What defines them is how they see AI fitting into their enterprise. While most organizations deploy AI into existing structures, Pacesetters build their organizations around AI.

End-to-end orchestration drives business reinvention
Pacesetters treat orchestration as the foundation. They implement integrated platforms that connect data, workflows, and governance across the entire enterprise, so that AI doesn't just assist people, it completes work end to end. That structural choice is what separates an organization with a lot of AI tools from one that is genuinely AI-first. And for Pacesetters, that structure includes their people. The organizations pulling ahead are redesigning how humans and AI work together, not just how technology is deployed.

What Pacesetter status delivers

Pacesetters achieve higher ROI

197%
AVERAGE ROI IN TWO YEARS

155%
AVERAGE ROI TODAY

Exponential impact compared to others

6.4x
More likely to use AI to improve or create new products, services, and revenue channels

3.6x
Better at reducing risk

3.3x
Greater ability to scale

2.8x
Increased market share

Five strategies separating Pacesetters from the rest of life sciences firms

The gap between where most life sciences firms are and where Pacesetters operate is wide, but it is closable. The research reveals key strategies that define how leading firms are pulling ahead.

1. Set the vision. Bring everyone with you.
2. Control your data. Unleash your AI.
3. Move beyond automation. Start orchestrating.
4. Build the workforce your AI strategy demands.
5. Accelerate governance. Close the chaos gap.

LESSON 1

Set the vision. Bring everyone with you.

"Setting up a vision and motivating your workforce is easier for life sciences firms because of the industry's impact on humanity," says Mehta. "Connecting AI to outcomes that can improve a million patients' lives resonates with people much more than saying we can drive efficiencies."

Life sciences Pacesetters turn that moral clarity into disciplined practice. 83% build an AI mindset that reimagines how work is done, more than double the rate in other industries. According to Mehta, "Leading organizations aren't just adding AI on top of existing roles, they're using it as a reason to rethink how humans and AI agents work together across the entire value chain."

Turning AI vision into life sciences culture

Pacesetters work hard to bring everyone along. Most set a shared AI vision beyond cost-take-out and efficiency and communicate that vision widely across the enterprise. Since AI innovation is in constant revolution, they also create processes for adapting and refining their AI strategy and vision.

This is easier said than done. "Change management is still the hardest part for life sciences firms. The companies out front are the ones that push AI change all the way through the organization, so people actually start working alongside agents instead of just talking about the possibility," Elias says. "That is what gets people to rethink how they do their jobs, not at the margins, but fundamentally."
The result is a culture where AI is understood as both a scientific accelerator and humanitarian mission, making it far easier to get the buy-in from researchers, clinicians, scientists, and front-line staff.

Pacesetters commit at every level

1. **Build an AI mindset that reimagines how work is done**
   83% of Pacesetters vs. 33% of others
2. **Communicate AI vision widely across the organization**
   76% of Pacesetters vs. 30% of others
3. **Create processes for adapting and refining AI strategy**
   75% of Pacesetters vs. 11% of others
4. **Set a shared strategic vision for AI transformation beyond cost take-out and efficiency gains**
   72% of Pacesetters vs. 18% of others
5. **Integrate technology and business strategies**
   71% of Pacesetters vs. 30% of others

LESSON 2

Control your data. Unleash your AI.

In life sciences, the difference between AI ambition and AI performance often comes down to data. "Data is the fuel for AI, and there is no scarcity of data in life sciences," says Mehta.

The problem is that abundant data can still be fragmented, inconsistent, poorly governed, or detached from operational ownership. That is why so many AI initiatives look promising as pilots but then struggle once executives try to extend them across the enterprise.

Pacesetters make their data AI ready
What sets Pacesetters apart is not that they have more data. They make it AI-ready by establishing strong data governance and ownership and implementing processes and tools for gathering and cleaning data. Not only do they prepare their data for AI, they use AI to prepare their data, according to Elias. "You no longer need to manually tag every piece of data in your ecosystem. AI handles that now, which removes one of the biggest friction points in getting data AI-ready at scale."

Ownership creates trust
"You need to have clear data ownership and process ownership," Mehta says. Without that, no one knows which records can be trusted, who is accountable for quality, or how to resolve problems when AI outputs are challenged, he explains. Pacesetters understand that data connection and readiness is key to establishing this trust and accountability.

Pacesetters have AI-ready data

1. **Use AI to improve data migration, creation, and management**
   76% of Pacesetters vs. 10% of others
2. **Implement tools to collect and track data in real time**
   75% of Pacesetters vs. 9% of others
3. **Set up robust data governance, compliance, security and privacy systems**
   74% of Pacesetters vs. 16% of others
4. **Create processes to clean, tag, and standardize data**
   72% of Pacesetters vs. 11% of others
5. **Set up policies for data ownership and control**
   72% of Pacesetters vs. 21% of others

LESSON 3

Move beyond automation. Start orchestrating.

The life sciences firms gaining real ground in AI transformation not only automate more work, they use AI to orchestrate. Pacesetters streamline and integrate workflows with AI across business functions and departments, while replacing fragmented legacy systems with modern, connected systems. In stark contrast to other firms, 56% use agentic AI to create autonomous, multi-step workflows.

By taking these steps, Pacesetters supercharge results across the enterprise, according to Elias. "Automation speeds up a step. Orchestration redesigns the process. That distinction matters more than most organizations realize, and it is the gap that separates the companies seeing incremental gains from the ones seeing enterprise-wide results."

Where value is lost in life sciences

Integrated workflows are critical for life sciences firms, where speed to market requires faster approvals and handoffs and minimal accountability gaps. Mehta gives an example: "A clinical trial site may drop out not because of flaws in the trial management system, but because finance fails to pay it on time. The breakdown happens between systems, not within one."

According to Mehta, the industry has always operated in silos because of compliance and privacy issues. "The real friction has been between functions. Pacesetters remove that friction with AI."

Pacesetters close the workflow gap

1. **Automate and optimize workflows with AI**
   69% of Pacesetters vs. 17% of others
2. **Streamline and integrate workflows across business functions**
   69% of Pacesetters vs. 3% of others
3. **Replace fragmented legacy systems with an integrated platform**
   64% of Pacesetters vs. 6% of others
4. **Explore and implement AI initiatives across a wide range of departmental workflows**
   63% of Pacesetters vs. 3% of others
5. **Use agentic AI to create autonomous and multi-step workflows**
   56% of Pacesetters vs. 1% of others

LESSON 4

Build the workforce your AI strategy demands.

Pacesetters know that they cannot orchestrate AI transformation across workflows with a workforce organized for a pre-AI world. That is why they craft strategies to attract, hire, and retain AI talent, while retraining scientists, clinicians, and other staff to work alongside AI agents. They also think ahead by building long-term HR plans and talent pipelines with universities to support the future of work.

A sector with unusual strengths

An AI strategy around people is especially important in life sciences because of the industry's human capital advantages. Mehta notes that the sector is filled with "scientists, data statisticians" and other highly trained professionals, making reskilling "not a big uplift" compared with many other industries. Pacesetters understand, however, that without a workforce strategy, role clarity, training, and long-term planning, even highly capable employees can become bottlenecks in a faster-moving AI environment.

Reimagine work

For Elias, Pacesetters not only reskill their people; they also reimagine their work. "Every part of the value chain needs its job architecture rethought for a world where agents are doing real work. You have to go back to first principles," she says. "Take a function like quality. What does that role actually look like now? How does a manager coordinate a team that is part human, part digital? Tweaking job descriptions at the margins will not get you there. The work itself has to be redesigned."

Pacesetters invest in their people

1. **Develop strategies to attract, hire, and retain AI talent**
   77% of Pacesetters vs. 9% of others
2. **Provide tailored, ongoing AI training and upskilling programs**
   70% of Pacesetters vs. 4% of others
3. **Develop talent development programs with universities and other partners**
   69% of Pacesetters vs. 5% of others
4. **Assess AI skills across the organization**
   64% of Pacesetters vs. 12% of others
5. **Build long-term HR plans to support AI strategy, including identifying roles and skills needed for the future of work**
   64% of Pacesetters vs. 4% of others

LESSON 5

Accelerate governance. Close the chaos gap.

Because AI touches sensitive patient data, regulated workflows, and life-and-death decisions, any misstep can trigger severe regulatory and business consequences. Rather than seeing this as a reason to go slow, Pacesetters design AI so that every agent, workflow, and data integration is traceable, auditable, and explainable to regulators, which, in turn, gives staff the confidence to move faster.

Guardrails that enable speed

That is why Pacesetters are far more likely than others to prioritize AI governance. They create AI centers of excellence and oversight committees to provide guidance and control. They embed trust and transparency into AI processes and install systems to track and manage governance and compliance. To ensure the quality of AI models, they implement AI testing, auditing, and risk assessment processes.

Good governance enables life sciences teams to scale AI, including agentic AI, while staying inside the boundaries of trust, compliance, and patient safety. "AI agents need to work within policy guidelines and regulations, and a human in the loop will always be important," cautions Kelleher.

Mehta agrees: "Without clear guardrails, shadow AI finds its way into critical processes and creates real regulatory exposure. The organizations moving fastest are the ones that have closed the governance gap so they can move with confidence instead of getting frozen by risk."

Pacesetters prioritize governance

1. **Create an AI center of excellence to provide guidance, standards, and support and ensure responsible use of AI**

   73% of Pacesetters vs. 13% of others

2. **Embed trust and transparency into AI processes**

   72% of Pacesetters vs. 13% of others

3. **Establish an AI oversight committee to guide, monitor, and control AI use**

   70% of Pacesetters vs. 6% of others

4. **Install a system to manage and track governance and compliance initiatives**

   69% of Pacesetters vs. 11% of others

5. **Implement AI testing, auditing, and risk assessment processes**

   68% of Pacesetters vs. 7% of others

Your AI roadmap

Experimenter
Testing AI approaches and running pilots in individual departments. Building the strategy and plans needed to scale.

23%
Surveyed

Scaler
Moving from plans to implementation. Building IT foundations and cross-functional collaboration to deploy AI across the organization. Most are still working through siloed systems and fragmented workflows.

53%
Surveyed

PACESETTER

Advancer
Strong foundations in place. Scaling AI enterprise-wide and beginning to optimize with agentic AI, with full business reinvention still ahead.

18%
Surveyed

PACESETTER

Transformer
Reinventing business models, products, and services through widescale AI execution. AI is central to strategy, operations, and value creation.

6%
Surveyed

Build your roadmap. Accelerate AI maturity.

AI maturity is a journey that is not strictly linear. Life sciences firms move forward as their foundations strengthen and sometimes step back as technology, regulation, and business priorities shift. What matters is knowing where you are, because your next move depends on it.

Plan your next move

Experimenter

The immediate challenge for experimenters is to stop confusing activity with progress, according to Mehta. He says the last year brought a wave of experimentation, but also frustration with delayed ROI and stalled momentum for firms in the earlier stages of implementation. Too many got trapped in "analysis paralysis."

"Firms need to get past experimentation and start to move forward more boldly." That means choosing use cases with enterprise relevance, putting governance guardrails in place, and refusing to let promising pilots remain isolated science projects.

Mehta advises experimenters to focus on pilots aligned to key organizational goals and supported by the needed data infrastructure. "You will only be able to scale pilots that have enough executive sponsorship, which is why you need goal alignment," he says.

Elias argues that these don't have to be the most high-profile use cases. "Medical writing is a good place to start. It is one of the first areas where leading companies automated meaningful work and actually improved the output, not just the speed," she says.

Scaler

For Scalers, the imperative is to attack fragmentation before it hardens. "You cannot skip steps. If your workflows, data, and ownership structures are still fractured across functions, you have to fix that foundation before autonomous workflows can succeed," Elias says. "In life sciences, manufacturing, R&D, and compliance have each built their own ways of operating, and that independence is intentional. It gives each function room to make its own calls. The goal is not to strip that out. It is to bring consistency to the shared processes without undermining the autonomy that matters."

To attack this problem, Scalers should start by harmonizing workflows, data, and systems for shared business services within the enterprise, such as procurement and supply chain, finance, HR, legal and regulatory. "While some capabilities might need to be different for manufacturing and research, for these common services, firms should not maintain different ways of doing things that aren't related to the core competencies of the business functions," says Mehta.

Pacesetter

Mehta argues that Pacesetters should stop asking how to optimize inherited processes and start asking what an AI-native life sciences company would do differently. "Pacesetters are the companies that are poised to disrupt the market," says Mehta. "They need to take another look at their processes because AI has made things possible that they couldn't do before. Reimagining and reinventing their processes is what will catalyze this disruption."

Elias points out that Pacesetters are at the stage where they need to activate their autonomous workflows across different functions, and if they haven't already, start to model those workflows in an integrated platform approach. "Organizations need a strategy that ties their AI investments together, not one that bolts them on function by function. If you cannot flip the switch and activate an autonomous workflow across the enterprise, you are leaving most of the value on the table."

Kelleher advises Pacesetters not to rest on their laurels: "This work never ends; you must always be trying to find ways to reinvent your company. So double down."

Put AI to work for life sciences

You've seen where the industry stands. The maturity gap is closing fast. Leaders who act now will define the next era of drug development, clinical operations, and patient outcomes. The question isn't whether to invest in AI maturity, it's how fast you can move.

Let's build your roadmap together.

Let's Connect

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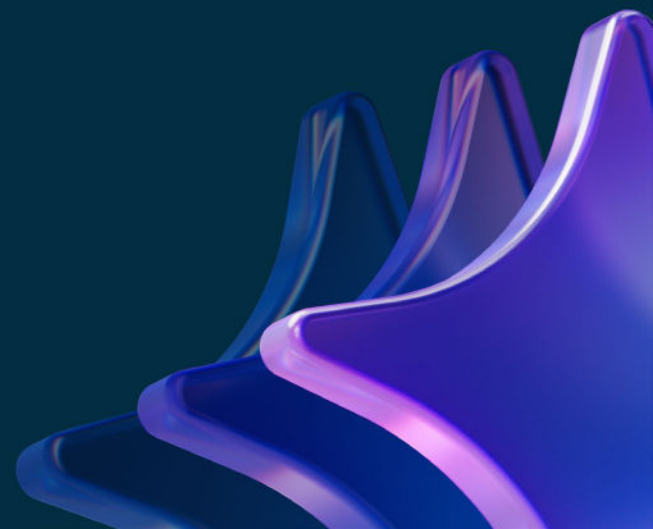
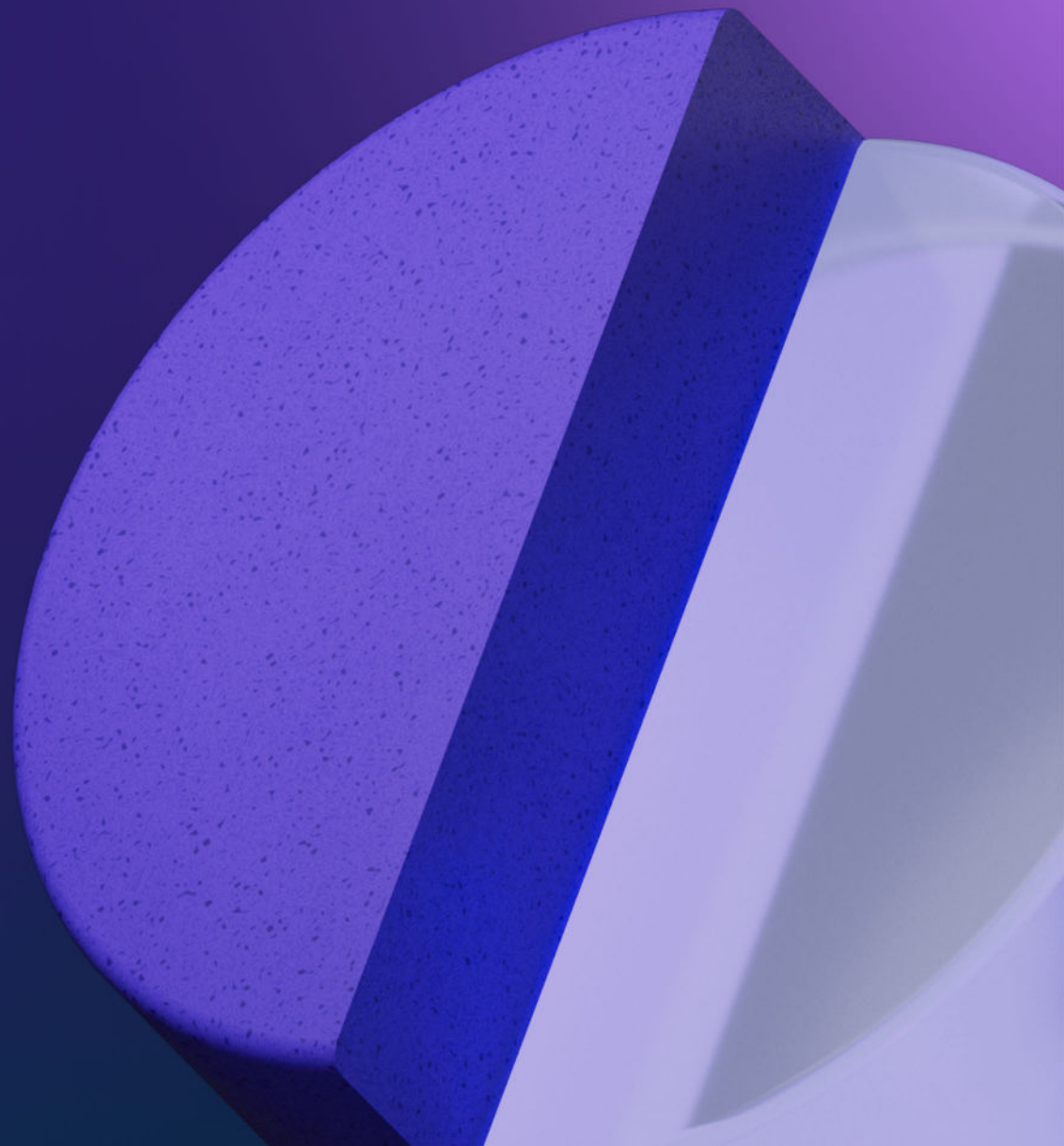


Appendix



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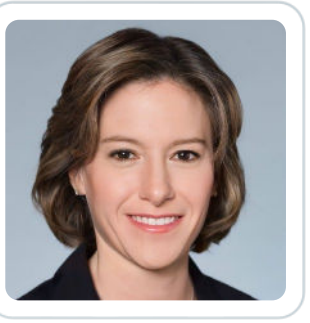

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Life sciences report research background

This life sciences-focused report is drawn from ServiceNow's third annual Enterprise AI Maturity Index, which included a survey of 4,500 executives and 2,000 employees across 19 countries and 12 industries.

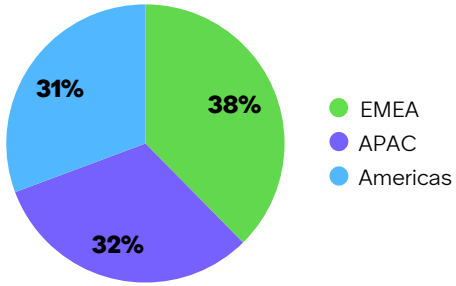
The analysis is based on responses from 400 life sciences executives and 166 life sciences employees, divided roughly evenly among biotechnology, pharmaceutical, and medical technology companies. Most companies surveyed have less than $10 billion in annual revenue.

ServiceNow's maturity index measures AI progress across seven pillars: vision and leadership, management and culture, data modernization, AI governance, talent and skills, AI-enabled workflows, and value from AI. We determined scores for each pillar based on a series of detailed questions and averaged them to arrive at an overall score.

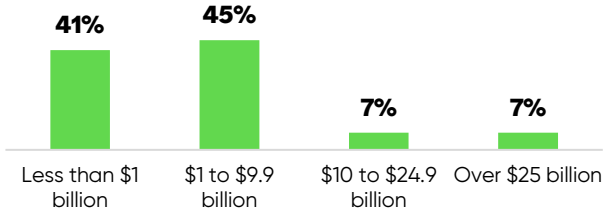
How life sciences stacks up

Life sciences firms are among the most advanced in AI adoption. With an AI maturity score of 52.8, the sector now sits just behind consumer goods and telecoms, and ahead of technology and insurance. Life sciences firms are now broadly deploying AI in areas such as research and development and quality control.

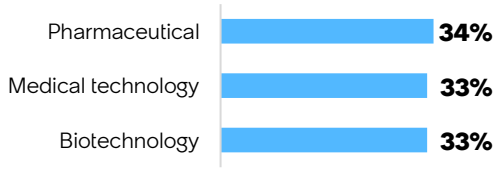
By region



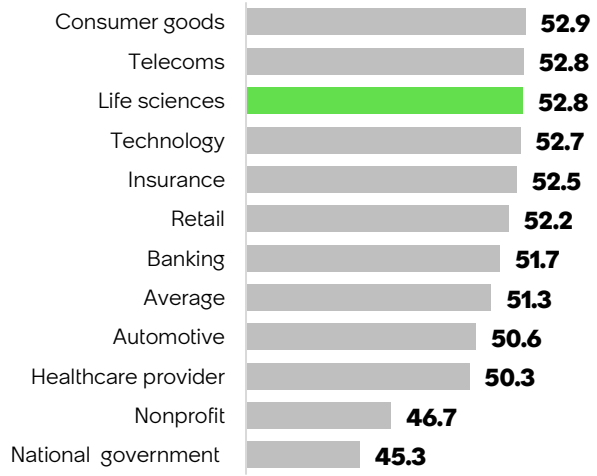
By revenue size



By subsector



Maturity score vs other sectors



Enterprise AI maturity index survey demographics

Regions and countries

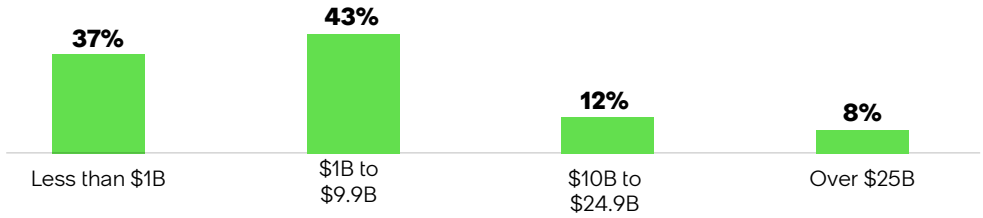
Americas	**1,400**	**825**
Brazil	200	75
Canada	200	150
Mexico	150	75
U.S.	850	525
APAC	**1,400**	**530**
Australia	350	85
India	350	250
Japan	300	100
Singapore	200	60
South Korea	200	35
EMEA	**1,700**	**625**
Belgium	100	35
France	250	85
Germany	250	85
Italy	150	70
Netherlands	150	35
Saudi Arabia	150	15
Spain	150	85
Switzerland	150	35
UAE	100	15
UK	250	185

Industry

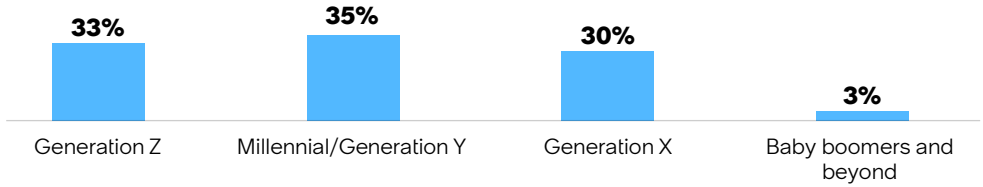
Automotive	325	74
Banking	450	318
Consumer goods	325	100
Government	425	118
Healthcare provider	400	152
Heavy manufacturing	200	86
Insurance	400	107
Life sciences	400	166
Nonprofit	350	202
Retail	400	199
Technology	425	317
Telecommunications	400	161

Respondents ● Executives (4,500) ● Employees (2,000)

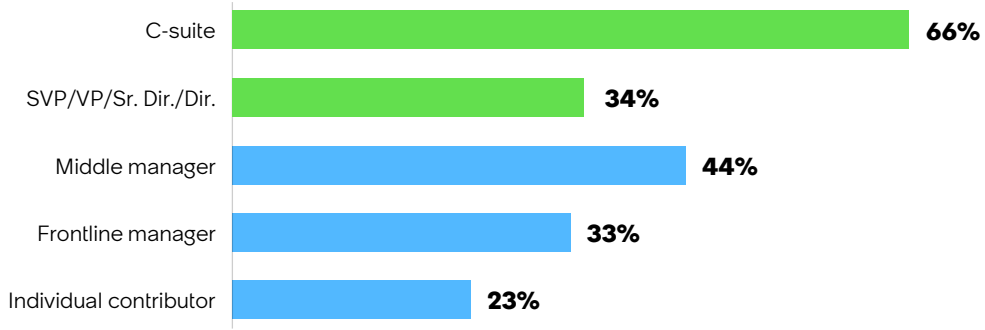
Revenue



Age



Role



AI index methodology

Updated AI Maturity framework

For 2026, we expanded the framework from five to seven pillars and refocused existing pillars to reflect new strategies and solutions.

1. **AI vision, strategy, and leadership:** Expanded to include setting a shared vision for AI transformation beyond efficiency gains and selecting AI projects based on ability to drive strategic outcomes.
2. **Management and culture:** New pillar measuring progress in establishing AI leadership teams, partner ecosystems, innovation centers, and enterprise-wide culture.
3. **AI governance:** Refocused to cover responsible AI use, oversight teams, regulatory compliance, and embedding trust and transparency into AI processes.
4. **Data modernization:** New pillar gauging progress on data quality, security, privacy, and compliance; data integration and standardization; and real-time data capture.
5. **AI-enabled workflows:** Refreshed to include agentic AI creating autonomous, multistep workflows and entirely new workflows not possible before.
6. **Talent and skills:** Updated to address AI's impact on the future of work, including long-term HR planning and managing AI agents and humans together.
7. **Driving value from AI:** Refocused from investment to value creation: new products, services, and business models, with sharper focus on performance metrics.

Calculating pillar scores

Each of the pillars was supported by a question asking respondents to gauge progress across sub-pillars, scored as follows:

0 = No progress

1 = Evaluating and building support

2 = Testing and developing plans

3 = Finalizing plans and starting implementation

4 = Scaling widely across the organization

5 = Fully implemented with significant results

Each pillar score was calculated by averaging its sub-pillar scores (range: 0 to 5).

Determining overall index score

All pillars were weighted equally. The overall score was calculated by averaging the pillar scores, dividing by 5, and multiplying by 100 to produce a 0 to 100 scale. Respondents were assigned to one of five categories based on overall score:

Evaluator: 1 to 19

Experimenter: 20 to 39

Scaler: 40 to 59

Advancer: 60 to 79

Transformer: 80 to 100

PACESETTERS

Less than 1% were Evaluators, so it was not included in the AI roadmap section.

Identifying Transformers

Respondents scoring 80 or higher were classified as Transformers only if they agreed with two or more statements about how their organization has driven strategic transformation through AI. Those scoring 80 or higher but agreeing with fewer than two statements were classified as Advancers.

ServiceNow (NYSE: NOW) is the AI control tower for business reinvention. The ServiceNow AI Platform integrates with any cloud, any model, and any data source to orchestrate how work flows across the enterprise. By unifying legacy systems, departmental tools, cloud applications, and AI agents, ServiceNow provides a single pane of glass that connects intelligence to execution across every corner of business. With more than 75 billion workflows running on the platform each year, ServiceNow helps organizations turn fragmented operations into coordinated, autonomous workflows that deliver measurable results.

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