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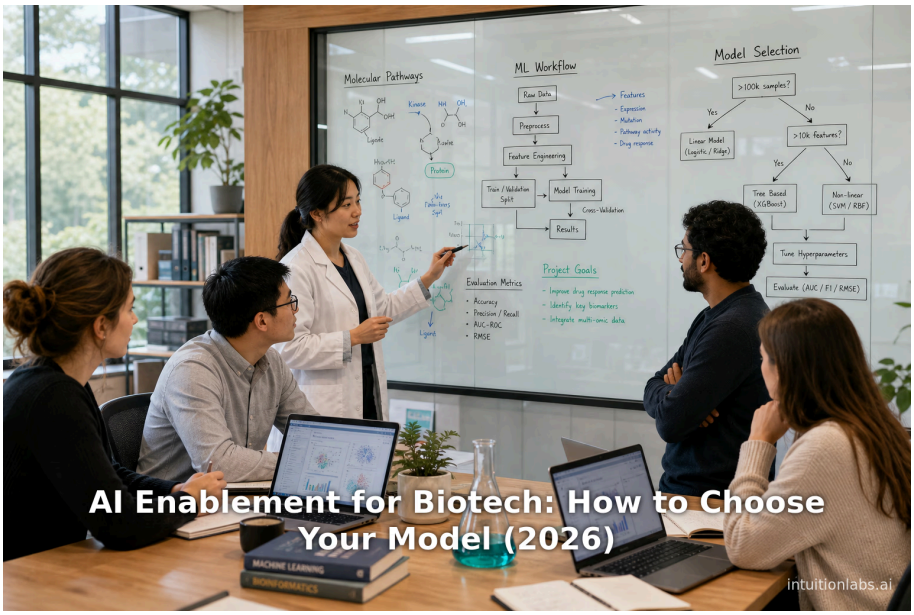
INTUITIONLABS / RESEARCH & PRACTICAL GUIDANCE

AI Enablement for Biotech: How to Choose Your Model (2026)

> Build practical AI for pharma and biotech with IntuitionLabs. We help life-science teams turn complex information and workflows into useful software, governed knowledge systems and AI tools.

Published by IntuitionLabs · 2026-06-29 · ai enablement biotech · biotech ai consulting · life sciences ai strategy · internal ai team · ai consulting for life sciences · biotech ai implementation · pharma ai consulting firms · big four vs boutique consulting · ai drug discovery consulting

Original article: https://intuitionlabs.ai/articles/ai-enablement-for-biotech-models



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Executive Summary

Biotech and pharmaceutical companies choosing an artificial intelligence (AI) enablement partner in 2026 face a crowded field spanning global systems integrators, elite strategy houses, specialist life-sciences boutiques, and the option of building an internal team instead. The urgency is real: 85% of top-ranked pharmaceutical companies now call AI an "immediate priority," up from 70% across the broader industry, according to a Define Ventures survey of C-suite executives published via Fierce Pharma in July 2025 (www.fiercepharma.com). Yet execution lags ambition: Deloitte's 2026 life sciences outlook, based on a survey of biopharma and medtech executives, found only 22% of life sciences leaders have successfully scaled AI and just 9% report significant returns on that investment (www.deloitte.com).

This report examines the enablement models available to biotech organizations: global generalist consultancies (Accenture, Deloitte, the Big Four), elite strategy firms with AI arms (McKinsey QuantumBlack, BCG X), life-sciences-specific technology platforms (IQVIA, ZS Associates), boutique AI and digital-health consultancies, hands-on AI enablement and training providers, and the build-it-yourself internal AI team. Each model trades off cost, speed, domain depth, and organizational buy-in differently, and the "right" choice depends heavily on company size, regulatory maturity, and whether the goal is a one-time platform deployment or durable internal capability.

The financial stakes are large. McKinsey's Global Institute estimates generative AI could unlock $60 billion to $110 billion in annual economic value for pharmaceutical and medical-product companies (www.mckinsey.com), while AI/ML drug-discovery partnerships and licensing deals totaled $43.4 billion in potential value across 114 transactions in 2025 alone, more than triple the $11.8 billion recorded in 2024, according to DealForma's year-end review (dealforma.com). Broader technology consulting spending is following suit: Gartner's January 2026 forecast put worldwide AI spending at $2.52 trillion in 2026, a 44% year-over-year increase (www.gartner.com); Gartner's September 2026 forecast has since raised that figure to $2.7 trillion, a 49.5% increase (www.gartner.com).

Big Four and global systems integrators like Accenture bring scale, integration muscle, and cloud partnerships, having been named a Leader in Life Sciences R&D AI in Clinical Trials for 2025 and in the IDC MarketScape for pharmacovigilance technology and consulting services (www.accenture.com). Strategy houses like McKinsey QuantumBlack lead on enterprise-wide transformation roadmaps but carry premium price tags. Life-sciences data platforms such as IQVIA, which has filed more than 100 AI-related patents and deployed 150-plus intelligent agents across client environments, offer embedded, domain-specific AI but tie clients to a single ecosystem (www.iqvia.com). Boutique consultancies, often founded by former pharma executives or technologists, compete on domain depth and agility within a life sciences consulting market sized at $38.02 billion in 2026 and forecast to reach $59.64 billion by 2031, a 9.42% compound annual growth rate (www.mordorintelligence.com).

Building an internal AI team offers the most durable competitive advantage but requires committing to AI infrastructure costs of $200,000 to $2 million-plus annually plus specialist compensation of $200,000 to $500,000-plus per hire (xenoss.io), in a market where 2026 base pay for AI engineers already runs $145,000 to $310,000, with senior engineers in San Francisco and New York reaching $400,000-plus in total compensation once equity is included (www.kore1.com). For most mid-size biotechs, the evidence points

toward a hybrid model: use enablement partners and training providers to build internal fluency and governance quickly, reserve costly custom builds for genuinely differentiating R&D capabilities, and treat vendor platforms as infrastructure rather than strategy. This report details the tradeoffs across each model, presents a feature comparison matrix and adoption benchmarks, and profiles six case studies, some of which are illustrative of AI enablement choices rather than enablement engagements, to ground the decision in evidence rather than vendor claims.

Introduction and Background

Artificial intelligence has moved from experimental pilot to boardroom mandate across the biotechnology and pharmaceutical sectors. A survey conducted by ICON, published via Clinical Trials Arena, found that 49% of pharmaceutical and biotechnology companies now employ AI and big data in their research programs, a 10-percentage-point increase from ICON's 2019 survey (www.clinicaltrialsarena.com). The pressure to adopt AI is compounding: drug development still typically requires a decade or more and $1 billion to $2 billion per approved therapy, a cost structure that has stagnated even as the top 50 pharmaceutical companies alone spent an estimated $167 billion on R&D in 2022, up almost 60% over the preceding decade, according to the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) (www.ifpma.org).

For an organization deciding how to bring AI capability in-house, "AI enablement" spans several distinct activities: strategic assessment of AI readiness, hands-on workforce training, policy and governance development, custom model or agent deployment, and system integration with regulated infrastructure such as electronic lab notebooks, laboratory information management systems (LIMS), and Veeva Vault. Under the U.S.Food and Drug Administration's (FDA) first draft guidance on AI in drug development, released in January 2025, sponsors now have a risk-based credibility assessment framework for evaluating AI models used in regulatory submissions (www.fda.gov), which has further formalized the compliance burden that any enablement partner must navigate.

Confidence in navigating this environment varies sharply by geography. Deloitte's 2026 outlook found 90% of biopharma leaders in surveyed European and Asian countries reported "positive" or "cautiously positive" expectations for the coming year, with only 2% anticipating a decline, while just 56% of U.S.-based biopharma leaders expressed a positive or cautiously positive outlook and 27% remained negative or uncertain (www.deloitte.com). That confidence gap shapes how aggressively organizations in different regions pursue AI enablement spending, with more cautious U.S. biopharma leaders more likely to demand faster, more measurable returns from any AI enablement partner before committing to a multi-year engagement.

Against that backdrop, a market of consulting and enablement options has proliferated. At one end sit the Big Four and global systems integrators, which built out dedicated life sciences AI practices over the past three years. At the other end sit boutique consultancies, often founded by former pharma scientists, technologists, or operators, betting that deep domain expertise beats generalist scale. In between sit elite strategy firms with dedicated AI arms, life-sciences data and technology vendors offering embedded AI platforms, and a growing cohort of fractional and independent AI advisors who charge $1,000 per hour with a $100,000 project floor for GxP-compatible, audit-defensible engagements (paul-okhrem.com).

A parallel and increasingly common option is not hiring an outside firm at all, but building AI capability internally: hiring machine learning engineers, provisioning GPU infrastructure, and running training programs to raise the AI fluency of existing scientific and operational staff. Roughly 40% of pharma leaders now say they plan to blend internal and external AI efforts, while 30% each favor primarily in-house or primarily external-first strategies, according to the Define Ventures survey (www.fiercepharma.com). This report evaluates each of these enablement models on their capabilities, adoption evidence, and strengths and limitations, then synthesizes practical guidance for biotech leaders deciding where to place their AI enablement bets in 2026.

Big Four and Global Systems Integrators

Capabilities

The Big Four accounting-and-advisory firms (Deloitte, PwC, EY, KPMG) alongside large technology consultancies such as Accenture, IBM, and Cognizant maintain some of the largest life sciences practices in the industry, spanning strategy, systems implementation, and managed services. Consulting is elemental to the Big Four's business model: it produces almost half of global revenue for EY, KPMG, and PwC, and nearly two-thirds of Deloitte's fees, according to Bloomberg Tax reporting on the segment (news.bloombergtax.com). Accenture, one of the most visible of this group in life sciences AI, entered a collaboration with Salesforce to build artificial-intelligence and data capability into Salesforce's Life Sciences Cloud, contributing what Accenture describes as "complementary tools and methodologies" that help clients test-drive the platform (www.fiercebiotech.com).

In drug discovery specifically, Accenture has made direct investments to extend its AI capability: a late-2024 investment, through Accenture Ventures, in **1910 Genetics**, whose multimodal AI platform combines federated learning with wet-lab and computational data streams for target identification, biopharma partner collaboration, and molecule design (newsroom.accenture.com). By 2025 Accenture had also been named a Leader in the Everest Group's Life Sciences Digital Services PEAK Matrix assessment and a Leader in the Everest Group's Veeva Services PEAK Matrix assessment, in addition to its clinical-trials AI recognition (www.accenture.com).

Adoption

Adoption among biopharma R&D leaders of Big Four and systems-integrator engagements tracks the broader AI-adoption curve documented across this report: sponsors are increasingly willing to let a single systems integrator touch clinical operations tools, commercial CRM data, and AI model deployment simultaneously, the exact enterprise-wide integration work that Deloitte Digital also joined the Salesforce Life Sciences Cloud initiative to provide, alongside Accenture (www.fiercebiotech.com).

Strengths and Limitations

The core strength of this group is scale: a single systems integrator can staff dozens of consultants across strategy, data engineering, and change management simultaneously, and can absorb enterprise-wide rollouts that a boutique firm could not resource. The tradeoff is cost. Large-firm engagements may also involve longer

minimum commitments, making them a poor fit for smaller biotechs that need to move on a single, narrowly scoped use case.

Elite Strategy Firms and Their AI Arms

Capabilities

McKinsey, Boston Consulting Group (BCG), and Bain built dedicated AI-focused units, respectively **QuantumBlack** (AI by McKinsey), **BCG X**, and Bain's analytics practice, to complement traditional strategy work with data science and engineering delivery. QuantumBlack Labs alone offers more than 20 AI products and 140-plus use-case accelerators tailored to specific industries, including life sciences (www.mckinsey.com). McKinsey's Life Sciences Practice, working jointly with QuantumBlack, authored the widely cited estimate that generative AI could generate $60 billion to $110 billion a year in economic value for pharma and medical-product industries, derived from a bottom-up analysis of 63 individual generative AI use cases mapped across five domains: research and early discovery, clinical development, operations, commercial, and medical affairs (www.mckinsey.com).

Adoption

McKinsey's own late-summer-2024 survey of more than 100 pharma and medtech leaders found that all respondents had experimented with generative AI, and 32% had taken steps toward scaling it, but only 5% had realized AI as a competitive differentiator generating consistent, significant financial value (www.mckinsey.com). The same survey identified an "ambiguous, shortsighted, or nonexistent" enterprise gen AI strategy as the top scaling barrier: about 75% of respondents said their organizations lack a comprehensive vision or intentionally designed roadmap for gen AI with clearly defined success measures (www.mckinsey.com). Only 6% had conducted a formal skills-based talent assessment to guide their gen AI workforce strategy (www.mckinsey.com). McKinsey's researchers documented a concrete instance of this gap: one life sciences company attempting to use gen AI to draft regulatory documents discovered that its prompt engineers required an entirely different skill set than its existing data science staff possessed, a talent mismatch the firm had not anticipated when it launched the initiative (www.mckinsey.com).

Strengths and Limitations

Strategy firms excel at framing enterprise-wide roadmaps and securing C-suite alignment, which McKinsey's own research finds is a prerequisite for successful digital transformation (www.mckinsey.com). Their typical limitation is scope: engagements are structured around enterprise-wide roadmaps, so a narrowly scoped project may be better served elsewhere. Fees at this tier are also the highest in the market, and engagements are typically structured for organizations with the budget and organizational complexity to justify enterprise-scale transformation work rather than a single departmental pilot.

Life-Sciences-Specific Technology and Data Platforms

Capabilities

A distinct category from pure consulting is the life-sciences data and technology vendor that layers AI directly onto its existing platform. **IQVIA**, the largest contract research and healthcare-data company in the sector, launched **IQVIA.ai** in March 2026, a unified agentic AI platform built on NVIDIA Nemotron, NeMo Agent Toolkit, and Dynamo, combined with IQVIA's proprietary "Healthcare-grade AI" data assets (www.iqvia.com). By the March 2026 launch, IQVIA had filed more than 100 AI-related patents and deployed more than 150 intelligent agents across internal teams and client environments, with 19 of the top 20 pharmaceutical companies incorporating IQVIA agents into their workflows (www.iqvia.com). **ZS Associates**, a pharma-focused analytics and commercial-operations firm, similarly runs an annual chief digital and information officer (CDIO) survey to track scaling patterns among pharma and biotech technology executives.

Adoption

ZS's October 2025 CDIO outlook survey, conducted by The Harris Poll on ZS's behalf among 115 technology executives at pharmaceutical and biotechnology companies (62% at CDIO, CIO, or CTO level; 36% representing companies with over $30 billion in annual revenue), found that 61% of respondents plan to work with external partners to develop AI solutions, and 58% take a "trust-first" approach embedding governance throughout the AI lifecycle (www.zs.com). Top growth goals cited by respondents were accelerated discovery (52%), patient engagement (43%), portfolio diversification (36%), and ecosystem partnerships (31%) (www.zs.com).

Strengths and Limitations

The advantage of platform vendors like IQVIA is depth: their AI capabilities are trained on decades of proprietary clinical, commercial, and real-world data. The limitation is lock-in. Adopting a platform-embedded AI model ties a biotech's workflows to that vendor's data model, pricing structure, and roadmap, which is a materially different commitment than a time-boxed consulting engagement and can complicate later efforts to build proprietary, differentiated internal capability.

Boutique and Specialist Life-Sciences AI Consultancies

Capabilities

A distinct tier of smaller, specialized consultancies has emerged to serve pharma and biotech clients who want deep domain expertise without the overhead of a global systems integrator. These firms are frequently founded by former pharma executives, scientists, or regulatory specialists, and typically bundle AI strategy and implementation, digital clinical trial design, regulatory and quality-compliance guidance, and data infrastructure planning into a single engagement (intuitionlabs.ai, first-party description). The technology consulting market broadly is projected to surpass $400 billion in global revenue in 2026, and within that, life sciences and pharmaceutical consulting is among the fastest-growing segments, with Source Global Research projecting roughly 10% annual growth in 2026 for pharma and life sciences consulting specifically (intuitionlabs.ai, first-party summary of third-party projection).

Some specialist consultancies focus narrowly on compliance-first AI strategy: one such firm markets itself as helping "regulated companies build an AI roadmap grounded in scientific workflows, compliance reality, and measurable value," explicitly building Computer Software Assurance (CSA), 21 CFR Part 11, and quality management system considerations into every recommendation rather than treating them as an afterthought. Others, such as independent fractional AI advisors, position themselves around audit-defensibility, priced at $1,000 per hour with a 100-hour minimum and a $100,000 project floor for engagements that can run from a single focused workstream to a full fractional Chief AI Officer mandate (paul-okhrem.com).

Adoption

Adoption of boutique consultancies tracks a broader trend documented by Business Insider: founders of these new specialized firms often come directly from the traditional consulting realm and have used that background to identify gaps in the incumbent delivery model (www.businessinsider.com). One founder of an AI-powered advisory platform noted that "99.9% of businesses could really never afford McKinsey or any of the MBBs," framing the boutique and AI-augmented advisory tier as addressing an underserved segment of the market (www.businessinsider.com). The global life sciences consulting market overall was sized at $38.02 billion in 2026, with a forecast to reach $59.64 billion by 2031, a 9.42% compound annual growth rate driven partly by a roughly 2.8-percentage-point CAGR contribution from the surge in AI and generative AI implementation projects specifically (www.mordorintelligence.com).

Strengths and Limitations

Boutique firms compete on personalized engagement, technical depth in a specific niche (pricing strategy, regulatory-first governance, or a particular therapeutic area), and pricing flexibility that larger firms rarely offer, including outcomes-based or contingency models. One boutique cost-reduction consultancy, for example, operates entirely on a "we don't find savings, we don't get paid" model and reports identifying more than $8

billion in aggregate client savings since its 2008 founding (www.businessinsider.com). The limitation is scale: a boutique of a dozen to a few hundred consultants cannot staff a simultaneous, enterprise-wide rollout across ten therapeutic areas the way a Big Four firm can, and clients evaluating boutiques must do more due diligence on regulatory track record since these firms lack the brand-name assurance of an established player. Larger consultancies have also begun acquiring specialized AI boutiques outright to close this capability gap: Accenture completed its acquisition of Faculty, a UK-based applied-AI firm, in March 2026, bringing more than 400 AI-native professionals in-house and installing Faculty's co-founder as Accenture's chief technology officer (newsroom.accenture.com).

Hands-On AI Enablement and Training Providers

Capabilities

A narrower category of provider focuses specifically on workforce-level AI enablement rather than strategic consulting or platform deployment: hands-on training, policy development, and ongoing support designed to move an organization from AI-curious to AI-productive. This model typically follows a four-step framework: assess current AI readiness and data classification needs, train staff through role-specific hands-on workshops, provide ongoing support through office hours and retainers, and measure adoption metrics and time saved. The publisher's own workshop-based enablement pricing, which this report does not treat as a market-wide benchmark, runs from $3,500 for a 2-hour standard session to $5,500 for a 4-hour deep-dive session covering advanced techniques such as custom GPTs, multi-step workflows, and live-coached exercises. Deliverables at this tier commonly include department-specific training (clinical operations, regulatory affairs, commercial, medical writing, and data science), AI usage policy and data classification framework development mapped to FDA, HIPAA, 21 CFR Part 11, and EU AI Act requirements, and post-workshop retainer support for workflow refinement. Cost-containment priorities differ by sub-sector in ways that shape which training curriculum an enablement partner should emphasize: Deloitte's 2026 survey found 41% of biopharma leaders cited improving R&D productivity as their top cost-management priority, while 47% of medtech leaders instead prioritized AI-driven operational efficiency, and biopharma and medtech leaders alike (29% and 31% respectively) plan to use AI tools or training specifically to improve workforce productivity (www.deloitte.com).

Adoption

The rationale for this model is grounded directly in the talent and change-management gaps identified by the larger surveys above: McKinsey found that only 6% of life sciences organizations had conducted a skills-based talent assessment for gen AI (www.mckinsey.com), and Deloitte's 2026 outlook found that while 78% of biopharma and medtech leaders expect AI to play a central role in driving major organizational change, only 14% report full implementation of AI tools into daily workflows, with another 40% still working toward that goal (www.deloitte.com). This "we bought the license but never adopted the tool" gap, sometimes called "pilot purgatory" in industry commentary, is what training-focused enablement providers are explicitly built to close.

In terms of first-party positioning, this is the domain in which the publisher of this report, IntuitionLabs, an adjacent life-sciences and AI consultancy and a self-described Veeva X-Pages Partner founded in 2023 and based in San Jose, California (intuitionlabs.ai, first-party), operates: its AI enablement service line pairs a free AI readiness assessment with role-specific workshops priced at $3,500 for a 2-hour standard session and $5,500 for a 4-hour deep-dive format that includes live coaching on custom GPTs and multi-step workflows (intuitionlabs.ai, first-party listed pricing). The firm reports having published more than 800 in-depth industry articles and describes itself as 100% focused on life sciences (intuitionlabs.ai, first-party).

Strengths and Limitations

Training-focused enablement is comparatively low-cost, fast to deploy (weeks rather than the quarters typical of strategy or systems-integration engagements), and directly addresses the talent and change-management gap that repeatedly surfaces as the leading barrier to AI value realization in the McKinsey, Deloitte, and ZS survey data cited above. Its limitation is scope: training and policy work builds organizational fluency and governance discipline but does not, on its own, build or integrate a custom AI system, so it is typically most effective as a complement to, not a replacement for, either an internal engineering build or a vendor platform deployment for organizations that need bespoke technical capability.

Building an Internal AI Team

Capabilities

The alternative to any external enablement model is building AI capability entirely in-house: hiring machine learning engineers and data scientists, provisioning GPU infrastructure, and constructing proprietary pipelines tailored to a company's specific scientific or operational data. Recursion Pharmaceuticals illustrates a hybrid version of this path: the AI-driven biotech, which had already deployed an Nvidia-powered supercomputer called BioHive-2 to accelerate drug discovery, agreed in August 2024 to buy smaller AI-drug-discovery rival Exscientia for $688 million in an all-stock deal, treating internal build and external consolidation as complementary rather than either-or choices (www.reuters.com).

Adoption

Cost is the central constraint on the build path. A total-cost-of-ownership breakdown of enterprise AI spending estimates AI infrastructure alone, GPU clusters, auto-scaling, and multi-cloud hosting, at $200,000 to $2 million-plus annually, with data engineering consuming a further 25% to 40% of total AI spend, and talent acquisition for specialized engineers commanding $200,000 to $500,000-plus in compensation per specialist (xenoss.io), and 2026 compensation data shows the talent market has only tightened further: the senior AI engineer median in the broader U.S. market loads at $22,000 to $38,000 per month, and the average is 6-plus months from sourcing to first commit, up from 4 to 5 months in 2024 (www.futureproofing.dev) (www.kore1.com). Average time-to-hire for a qualified senior AI engineer runs six-plus months in 2026 (www.futureproofing.dev), a delay that can be decisive for a biotech racing a well-funded, AI-native competitor.

Strengths and Limitations

The strength of the build path is durable, proprietary competitive advantage: an internally built model trained on a company's unique biological or chemical datasets cannot be replicated by a competitor licensing the same third-party vendor platform. The corresponding risk is execution: biotech and biomedical data is famously heterogeneous, often "scattered in isolated, noninteroperable silos making it difficult to find and access," according to a peer-reviewed analysis of federated learning for medical data sharing in drug development (www.preprints.org), and integrating that data under a single internally maintained architecture is a non-trivial, multi-year engineering effort that smaller biotechs often underestimate. The clearest signal that pure build-it-yourself is losing ground even among well-resourced players: Noetik, a San Francisco AI biotech that builds foundation models trained on human tissue data to predict cancer clinical outcomes, announced a five-year licensing partnership with GSK worth $50 million upfront on a subscription-based framework in early 2026, which its CEO described as "one of the first true foundation model licensing deals in biotech" (www.genengnews.com), a structure that represents a third option between building and buying: effectively leasing trainable AI infrastructure that a company then fine-tunes on its own proprietary data without carrying the full internal engineering burden.

Feature Comparison

Table 1 below summarizes the six enablement models discussed above across the dimensions biotech leaders most commonly weigh when selecting a partner: typical cost structure, time to initial value, regulatory depth, and the primary risk each model carries. Except where a source is linked, the cost and time-to-initial-value ranges in the table are the author's illustrative estimates rather than figures reported in the cited surveys.

Model	Typical Cost Structure	Time to Initial Value	Regulatory/GxP Depth	Primary Risk
Big Four / global systems integrators (Accenture, Deloitte)	Enterprise retainers; multi-quarter engagements, with cost ranges that are an unsourced, illustrative estimate and vary widely by scope	3 to 6+ months	High, dedicated life sciences compliance practices	Cost and scope: enterprise-scale engagements may exceed the needs of narrowly scoped projects
Elite strategy firms (McKinsey QuantumBlack, BCG X)	Premium day rates; enterprise-wide transformation scope	2 to 6+ months for roadmap; longer for scaled deployment	Moderate to high via life sciences practice specialists	Premium pricing; enterprise-wide scope may exceed the needs of a single-use-case project
Life-sciences data/tech platforms (IQVIA, ZS)	Platform subscription plus implementation fee	1 to 3 months for platform-native use cases	Platform-dependent; built on IQVIA's clinical and commercial data assets	Vendor lock-in; workflows tied to one data ecosystem

Model	Typical Cost Structure	Time to Initial Value	Regulatory/GxP Depth	Primary Risk
Boutique/specialist AI consultancies	$1,000/hr independent advisors to project-based boutique fees, often $100K+ floors (paul-okhrem.com)	4 to 12 weeks	Variable; strong when founder has direct regulatory/pharma background	Limited surge capacity for enterprise-wide rollouts
AI enablement / training providers	IntuitionLabs's own listed workshop pricing of $3,500 to $5,500 per workshop (not an independent market benchmark); retainer add-ons	2 to 8 weeks	Regulatory-compliance coverage (e.g., FDA, HIPAA, 21 CFR Part 11, EU AI Act) varies by provider and should be verified in due diligence	Builds fluency, not custom technical systems on its own
Internal AI team (build)	$200K to $2M-plus annually in infrastructure, plus $200K to $500K-plus per specialist hire (xenoss.io)	6 months to 2+ years	Fully controlled but must be built from scratch	6-plus month average AI engineer time-to-hire (www.futureproofing.dev); data-silo integration risk

No single row in Table 1 is categorically "best." A large, well-capitalized pharma company running a multi-year enterprise transformation has different constraints than a 40-person Series B biotech that needs its clinical operations team fluent in AI-assisted document drafting within a quarter. The consistent theme across every independent survey cited in this report, McKinsey's, Deloitte's, and ZS's alike, is that strategy and technology procurement are rarely the bottleneck; talent readiness, data infrastructure, and organizational change management are. That argues for weighting enablement and training investment more heavily than most biotechs currently do, regardless of which primary vendor model a company ultimately selects for the technical build.

Performance and Benchmarks

Quantifying the return on AI enablement investment specifically, as opposed to AI deployment generally, remains an early-stage exercise industry-wide, but the available data points to a consistent pattern: value concentrates among organizations that pair external capability with disciplined internal adoption, not among those that simply purchase a platform license.

Genpact, an operations-focused consultancy, launched an internal initiative called "Client Zero" to test AI solutions on its own 800-plus-client operations before rolling them out externally, and reported trimming nearly $40 million from its own operating expenses as a direct result before offering the same playbook to clients (www.businessinsider.com). In pharma operations specifically, a Microsoft customer case study found that Syneos Health, a clinical research organization, "reduced our site-activation cycle time by upwards of 10%" in 2024 using Azure OpenAI Service, after deploying its generative AI analytics solution over nine months, according to Syneos Health chief operating officer Michael Brooks (www.microsoft.com).

At the enterprise-value level, PwC's Strategy& practice projects that pharma companies which fully industrialize AI use cases across their organizations "have the potential to double today's operating profits," unlocking an estimated additional $254 billion in operating profits worldwide by 2030, including $155 billion in

the United States alone, assuming a high degree of AI industrialization (www.strategyand.pwc.com). Deloitte's 2026 data suggests, however, that organizations further along the AI maturity curve are meaningfully more optimistic about their own financial performance than laggards, reinforcing that the enablement gap, not the technology itself, is what separates the 9% of firms reporting significant AI returns from the remaining 91% (www.deloitte.com).

Independent providers with a longer track record cite similar magnitude: one AI-driven cost-reduction boutique reports having identified more than $8 billion in cumulative client savings since 2008, operating on a contingency, "no savings, no fee" model that removes upfront-cost risk for the client entirely (www.businessinsider.com).

Platform-vendor benchmarks reinforce the pattern that scale and trust compound over time rather than appearing immediately. ZS's CDIO survey found that accelerated discovery was the top growth goal cited by 52% of pharma and biotech technology executives, ahead of patient engagement at 43%, portfolio diversification at 36%, and ecosystem partnerships at 31% (www.zs.com). IQVIA's march toward its March 2026 IQVIA.ai launch followed a similar multi-year trust-building arc: the company began its NVIDIA collaboration more than a year before launch and had already deployed over 150 intelligent agents and filed over 100 AI-related patents by the time 19 of the top 20 pharmaceutical companies had begun incorporating its agents into their workflows (www.iqvia.com). Taken together, the benchmark data supports a straightforward conclusion: measurable AI return on investment in biotech is driven less by which vendor tier a company selects and more by whether that engagement is paired with sustained internal adoption discipline, governance, and workforce training, the precise gap the training-and-enablement tier of the market exists to close.

Data Analysis and Evidence

Table 2 below summarizes headline findings from the major industry surveys cited throughout this report, spanning 2024 through early 2026, to show how sentiment and adoption evolved over roughly eighteen months.

Survey (Sponsor, Date)	Sample	Key Finding
ICON / GlobalData, via Clinical Trials Arena (2024)	~100 pharma/biotech professionals, Europe/North America	49% employ AI/big data in research, up from 39% in ICON's 2019 survey; only 13% have a comprehensive AI program fully implemented (www.clinicaltrialsarena.com)
ZoomRx (2024)	200+ industry professionals	83% called AI "overrated," yet more than 50% reported "some" or "several" use cases in production
McKinsey (late summer 2024)	100+ pharma/medtech leaders	32% scaling gen AI, only 5% realized it as a competitive differentiator (www.mckinsey.com)
Define Ventures, via Fierce Pharma (mid-2025)	Dozens of C-suite executives, 16 of top 20 pharmas	85% of top Big Pharmas call AI an "immediate priority" (www.fiercepharma.com)
ZS CDIO Outlook, via Harris Poll (October 2025)	115 pharma/biotech technology executives	61% plan external AI partnerships; 68% cite poor data governance as the top failure cause (www.zs.com)

Survey (Sponsor, Date)	Sample	Key Finding
Deloitte Center for Health Solutions (2026 outlook)	Biopharma and medtech executives, global	Only 22% have successfully scaled AI; 9% report significant returns (www.deloitte.com)

Read across the six surveys in *Table 2*, a consistent narrative emerges: reported enthusiasm for AI has risen sharply since 2024, but the share of organizations that have actually scaled AI into daily production workflows has moved far more slowly, and in several surveys has stayed roughly flat in the low double digits. That gap between stated priority and measured execution is the central evidence base for this report's argument that enablement, not procurement, is the binding constraint on AI value in biotech.

The quantitative picture of AI enablement demand in biotech and pharma is unambiguous in direction, even where absolute figures vary by source and methodology. On adoption intensity: a ZoomRx survey of more than 200 industry professionals in 2024 found 83% of respondents labeled AI as "overrated," yet more than 50% acknowledged their companies already had "some" or "several" use cases in production (www.fiercepharma.com). Sentiment shifted markedly by mid-2025: the Define Ventures survey of C-suite executives, drawn from six months of interviews including representatives from 16 of the top 20 ranking pharma companies, found 70% of pharma leaders viewed AI as an "immediate priority," rising to 85% among the top-ranked Big Pharmas specifically, with more than 80% of respondents increasing AI budgets either "somewhat" or "significantly" (www.fiercepharma.com).

Capital deployment reinforces the urgency. Global healthcare AI investment surpassed $18 billion in 2025, accounting for approximately 46% of all healthcare-sector investment tracked by Silicon Valley Bank's 17th annual Healthcare Investments and Exits report (www.svb.com). Within that total, venture financing specifically directed at AI-driven drug discovery and biotech platforms rose to approximately $11 billion across 348 deals in 2025, up from $8.9 billion across 264 deals in 2024 (dealforma.com). Aggregate AI/ML drug-discovery R&D partnership and licensing deal value reached $43.4 billion across 114 deals in 2025, roughly 3.7 times the $11.8 billion recorded across 84 deals the year before (dealforma.com). M&A activity in the same category climbed to $12.3 billion across 99 transactions in 2025, versus $3.2 billion across 34 deals in 2024, headlined by Siemens' $5.1 billion acquisition of Dotmatics and GE HealthCare's $2.3 billion purchase of Intelerad (dealforma.com).

Deal-level detail illustrates how far pharma is willing to bet on external AI partnerships rather than exclusively internal builds. Novartis expanded its collaboration with Monte Rosa Therapeutics on AI-designed molecular glue degraders in a deal worth $120 million upfront and up to $5.4 billion in milestones (dealforma.com), while AstraZeneca committed $110 million upfront and up to $5.2 billion in milestones to a research collaboration with China's CSPC Pharmaceutical Group (dealforma.com). Takeda's early-2026 partnership with Iambic Therapeutics, covering an AI-driven drug-discovery platform plus a protein-receptor interaction prediction model, could be worth more than $1.7 billion (www.biopharmadive.com).

Regulatory and governance developments underpin all of the above deal-making. The FDA's January 2025 draft guidance established the first formal, risk-based credibility assessment framework governing AI models used to support drug and biological product regulatory submissions (www.fda.gov). Governance concern is rising in tandem with adoption: Deloitte's 2026 survey found 30% of respondents cited agentic AI, defined as AI systems acting autonomously to make decisions and perform tasks, as an influential 2026 trend, a category

added to the survey for the first time this year, reflecting how quickly the frontier of concern has moved from basic generative tools to autonomous agents (www.deloitte.com). ZS's CDIO survey similarly found that 58% of pharma and biotech technology executives take a "trust-first" approach, embedding governance throughout the AI life cycle rather than bolting it on after deployment (www.zs.com).

Overall AI spending trends set the backdrop against which enablement budgets are decided. Gartner's January 2026 forecast (since superseded by its September 2026 forecast of $2.7 trillion in total 2026 AI spending, so the January segment figures here are dated) put worldwide AI infrastructure spending at $1.37 trillion for the year, more than half of the $2.52 trillion total AI spending figure, as technology providers continued building out AI foundations rather than enterprises buying discrete new AI projects (www.gartner.com). Gartner analyst John-David Lovelock characterized 2026 as a year in which AI adoption is "fundamentally shaped by the readiness of both human capital and organizational processes, not merely by financial investment," and predicted AI would "most often be sold to enterprises by their incumbent software provider rather than bought as part of a new moonshot project" (www.gartner.com). For a biotech evaluating enablement spend against that backdrop, the readiness-over-investment framing is directly relevant: outspending competitors on AI infrastructure buys little if the organization cannot absorb the resulting tools into daily workflows.

Case Studies and Real-World Examples

IQVIA.ai: Platform-Native Enablement at Enterprise Scale

IQVIA's March 2026 launch of IQVIA.ai illustrates the platform-vendor model of AI enablement in its most mature form. Built on NVIDIA's Nemotron and NeMo Agent Toolkit and layered atop IQVIA's proprietary clinical, commercial, and real-world data assets, IQVIA says the platform is designed to operate "securely and in alignment with healthcare regulatory, privacy and quality standards," which is the vendor's own statement and not a regulator finding or endorsement (www.iqvia.com). Prior to launch, IQVIA had already deployed over 150 intelligent agents into internal teams and client environments and had 19 of the top 20 pharmaceutical companies incorporating those agents into their workflows (www.iqvia.com). This case demonstrates the reach a data-native platform vendor can achieve when embedded AI is layered onto an IQVIA's existing data infrastructure, though it also illustrates the lock-in tradeoff: adopting IQVIA.ai means routing agentic workflows through IQVIA's proprietary architecture rather than an internally controlled stack.

Novartis and Anthropic: A Pharma CEO Enters AI Governance

In April 2026, Anthropic appointed Novartis CEO Vas Narasimhan to its board of directors, a move Fierce Pharma characterized as evidence that "the link between the pharmaceutical industry and Silicon Valley deepens" (www.fiercepharma.com). Narasimhan may be the first pharmaceutical executive to join the governing body of a major AI developer (www.fiercepharma.com). Novartis has separately made AI-related bets on Isomorphic Labs, Schrödinger, Flagship Pioneering's Generate:Biomedicines, and UK biotech Relation Therapeutics, and Narasimhan has stated Novartis's goal is to cut the time between target selection and first clinical studies in half, from roughly four years to two, while simultaneously raising the probability of program

success (www.fiercepharma.com). This case illustrates a distinct enablement pathway: governance-level engagement with an AI developer directly, rather than through a consulting intermediary, as a mechanism to shape how frontier AI models are trained and deployed for healthcare use cases.

Moderna: Merging Technology and Talent Functions

Among the pharma and biotech organizations ZS surveyed for its 2026 CDIO outlook, Moderna stood out for taking one of the boldest organizational steps toward AI-era readiness: merging its information technology and human resources departments into a single function, a restructuring ZS cited as an example of companies "taking bold steps toward the workforce of the future" (www.zs.com). The move reflects a broader finding from the same survey: 68% of pharma and biotech leaders say that neglecting data quality and governance early is the main reason AI initiatives fail, and technology and data capabilities, talent and skills, and business decision-making were cited as being under roughly equal pressure to change, at 61%, 58%, and 56% of respondents respectively (www.zs.com). This case illustrates that even a well-capitalized AI-forward biotech treats the talent and organizational-structure problem as being as consequential as the technology procurement decision, reinforcing the case for treating enablement and change management as first-class workstreams rather than an afterthought bolted onto a platform purchase.

Sanofi and Snowflake: Agentic AI in Commercial Operations

In June 2026, Sanofi launched "Concierge for Field," an AI sales-agent tool built on Snowflake Cortex AI, designed to prepare the company's global field representatives for physician visits by surfacing prioritized call plans, prescribing history, and engagement summaries in a single conversational interface (www.fiercepharma.com). Sanofi's chief digital officer, Emmanuel Frenehard, described the underlying strategic shift: "We are building AI directly on our data and reinventing how the company runs, from R&D to manufacturing to commercial. This is how Sanofi becomes the first biopharma powered by AI at scale" (www.fiercepharma.com). The Concierge for Field tool is part of a wider agentic deployment across R&D, procurement, IT, HR, and field sales at Sanofi (www.fiercepharma.com). This case shows a large pharma electing a technology-platform partnership model (Snowflake) for enterprise-wide agentic rollout, rather than a consulting-led transformation, reflecting the "buy the infrastructure, build the workflows internally" hybrid discussed earlier in this report.

Insitro: A Pure-Play AI Drug Discovery Model

Founded in 2018 and based in South San Francisco, Insitro represents the pure-play AI drug-discovery company model rather than an enablement consultancy: it uses machine learning to analyze large datasets of chemical and biological markers, and has signed development deals with Eli Lilly and Bristol Myers Squibb targeting metabolic diseases, neurological conditions, and degenerative disorders (apnews.com). Insitro CEO Daphne Koller has framed the company's differentiator as its ability to "unravel the underlying complexity of heterogeneous diseases and identify new intervention modes" for specific patient subpopulations, rather than attempting a single universal therapeutic hypothesis (apnews.com). Insitro's structure, blending computer

scientists directly with medical researchers under one roof, illustrates the deepest form of the "build" model: rather than buying AI capability or hiring a consultancy to layer it onto existing operations, the entire organization is architected around integrated computational and biological expertise from inception.

Xaira Therapeutics: Venture-Scale AI Platform Building

Xaira Therapeutics launched in April 2024 with more than $1 billion in committed capital co-led by Arch Venture Partners and Foresite Capital, the largest investment in Arch's 39-year history and one of the largest venture-backed biopharma raises since 2010 (www.axios.com). Xaira's board includes former FDA Commissioner Scott Gottlieb and Nobel laureate Carolyn Bertozzi, illustrating how heavily capitalized AI-native biotechs are recruiting regulatory and scientific credibility directly onto their governance structure rather than outsourcing that function to an external advisor (www.axios.com). This case represents the most extreme version of the internal-build enablement model: rather than a legacy pharma company purchasing external capability, Xaira built its entire drug-discovery platform from a blank slate, funded specifically to combine machine learning, data generation, and therapeutic development under a single roof (www.fiercebiotech.com). Xaira is one of several venture-scale AI-native platforms that pharma has chosen to partner with rather than replicate internally in early 2026: Eli Lilly struck a collaboration with Chai Discovery, an AI-driven biologics company that had just closed a $130 million Series B at a $1.3 billion valuation, alongside a separate $1 billion partnership with Nvidia to build a co-innovation AI lab, while GSK partnered with Noetik and Pfizer partnered with Boltz, a newly launched AI research firm (www.genengnews.com). Google DeepMind spinout Isomorphic Labs, the developer behind AlphaFold 3, separately announced a partnership with Johnson & Johnson, its third major pharma partnership after prior deals with Eli Lilly and Novartis, while continuing to keep its own models proprietary rather than licensing them the way Noetik does (www.genengnews.com).

Implications and Future Directions

Several structural trends are likely to reshape how biotech and pharma companies select AI enablement partners over the next 18 to 24 months. First, the gap between AI investment and realized AI value, still only 9% of Deloitte's surveyed life sciences leaders report significant returns despite 78% expecting AI to drive major organizational change (www.deloitte.com), will push more procurement budget toward the training and enablement tier of the market rather than toward additional strategy documents or platform licenses alone. Organizations that have already purchased AI tooling but have not yet operationalized it may be a market opportunity for hands-on enablement providers.

Second, the foundation-model licensing structure exemplified by the GSK-Noetik deal, in which pharma pays a recurring subscription for access to a trainable model rather than acquiring a company outright (www.genengnews.com), is likely to proliferate as a middle path between build and buy, giving mid-size biotechs access to trainable, fine-tunable AI infrastructure without the multi-year internal engineering commitment that a pure build requires. Third, regulatory formalization will continue to raise the compliance bar for every enablement model: the FDA's risk-based credibility assessment framework is a first draft, not a final destination, and non-U.S. regulatory change is already a factor for European and multinational biotechs: one in two non-U.S. respondents (51%) to Deloitte's 2026 survey pointed to national regulatory changes, such as the EU AI Act (www.deloitte.com). Cybersecurity concern tied to AI deployment is compounding this pressure:

Gartner's own market breakdown (from its January 2026 forecast, since superseded by later forecasts, so these segment figures are dated) shows worldwide AI cybersecurity spending nearly doubling, from $25.9 billion in 2025 to $51.3 billion in 2026, faster growth than almost any other AI spending category it tracks (www.gartner.com), a signal that enablement partners will increasingly be expected to fold AI-specific security review into governance workstreams rather than treating it as a separate line item.

Fourth, consolidation is likely to continue reshaping the boutique tier: as large consultancies acquire specialized AI firms to close capability gaps, similar to Accenture's completed acquisition of Faculty (newsroom.accenture.com), independent boutiques with strong regulatory or scientific pedigrees will increasingly become acquisition targets rather than permanent standalone players, which biotech buyers should factor into any multi-year engagement decision. Finally, agentic AI adoption, cited by 30% of Deloitte's 2026 respondents as an influential trend for the first time this year (www.deloitte.com), is likely to become the dominant enablement use case discussed in vendor proposals over the next two years, shifting the skills gap from prompt engineering toward agent orchestration, tool integration, and autonomous-system governance, a shift that will require most enablement providers, regardless of tier, to retool their own training curricula.

A further implication concerns procurement structure itself. As pharma and biotech technology leaders grow more comfortable distinguishing infrastructure spend from enablement spend, RFPs are likely to unbundle what used to be single, monolithic "AI transformation" engagements into separate tracks: a technical build-or-buy decision, a governance and policy workstream, and a workforce-training workstream, each potentially sourced from a different provider. ZS's CDIO survey data supports this direction, showing that technology and data capabilities, talent, and business decision-making are seen as needing change in roughly equal measure rather than one dominating the others, which argues against a single vendor being asked to own all three simultaneously. Biotech data, digital, and technology leaders evaluating proposals in 2026 should expect, and in many cases request, this kind of unbundling, since it both controls cost and creates accountability for outcomes at each stage rather than diffusing responsibility across one large, multi-year statement of work.

The talent market itself is also likely to remain the binding constraint on the build path for at least the next several years. With average time-to-hire for a qualified senior AI engineer running six-plus months in 2026 and total compensation packages at leading AI labs reaching $277,000 to $295,000 (divogue.net), smaller and mid-size biotechs without the brand recognition of a large pharma employer will continue to face real disadvantages competing for scarce machine learning talent against both Big Tech and well-funded AI-native biotechs like Xaira. This dynamic is likely to keep external enablement and training partnerships structurally necessary, not merely a stopgap, for a meaningful share of the industry even as the overall AI talent pool grows.

Frequently Asked Questions (FAQs)

What does "AI enablement" mean for a biotech company? AI enablement covers the full set of activities required to move an organization from purchasing or building AI tools to actually using them productively: readiness assessment, hands-on workforce training, policy and governance development, and ongoing support, distinct from the underlying software or model development itself.

Should a biotech hire a big consulting firm or a boutique specialist for AI strategy? The evidence favors matching firm size to project scope. Enterprise-wide, multi-year transformations with substantial budgets are typically better served by Big Four or systems-integrator scale, backed by recognitions such as Accenture's 2025 Leader status in Life Sciences R&D AI in Clinical Trials (www.accenture.com); narrowly scoped, compliance-sensitive, or founder-led biotechs often get more responsive, domain-specific guidance from a boutique or independent advisor, particularly given that boutique founders frequently bring direct pharma or regulatory operating experience (www.businessinsider.com).

Is it cheaper to build an internal AI team or hire a consultant? According to a vendor blog's estimates, building internally requires committing to $200,000 to $2 million-plus annually in AI infrastructure costs plus $200,000 to $500,000-plus per specialist hire (xenoss.io), against a workshop-based enablement engagement priced by the publisher of this report at $3,500 to $5,500 per session plus retainer support (intuitionlabs.ai; first-party listed pricing, not an independent market benchmark and not directly comparable with an annual build budget) or, per one advisor's own published pricing, a fractional advisory engagement at $1,000 per hour with a $100,000 project floor (paul-okhrem.com). Building is more expensive upfront but yields durable, proprietary capability; buying or hiring is faster to value but may not produce competitive differentiation.

How long does it take to see results from an AI enablement engagement? Training and workshop-based enablement can show measurable adoption changes within weeks, since providers in this tier typically run pre/post confidence assessments and 30-day adoption follow-ups (intuitionlabs.ai, first-party description of its own workshop metrics). As the author's illustrative estimates rather than sourced benchmarks, strategy engagements from larger firms typically take 2 to 6 months to produce a roadmap, and scaled technical deployment, regardless of vendor tier, commonly takes 6 months to 2 years given data-integration and regulatory validation requirements.

What regulatory frameworks govern AI use in biotech and pharma? In the United States, the FDA's January 2025 draft guidance establishes a risk-based credibility assessment framework for AI models used in regulatory submissions (www.fda.gov). In Europe, the EU AI Act imposes additional obligations on high-risk medical AI systems; separately, one in two non-U.S. respondents (51%) to Deloitte's 2026 survey pointed to national regulatory changes, such as the EU AI Act (www.deloitte.com). Data-handling regulations including HIPAA and 21 CFR Part 11 also apply to any AI system touching patient or manufacturing quality data.

Is AI drug discovery consulting different from general AI enablement? Yes. AI drug-discovery consulting and platform partnerships (Insitro, Xaira, IQVIA's R&D-focused agents) target the scientific discovery process directly, developing or licensing models for target identification and molecule design. General AI enablement, by contrast, focuses on organizational readiness: training staff, building governance policy, and integrating AI into existing operational and commercial workflows. Most biotechs need both, typically sourced from different providers.

Do most biotechs prefer internal AI teams or external partners? The data suggests a blend rather than a clear preference. ZS's CDIO survey found 61% of pharma and biotech technology executives plan to work with external partners to develop AI solutions (www.zs.com), and the Define Ventures survey reported by Fierce Pharma found 40% of pharma leaders plan to blend internal and external efforts, with the remainder split evenly between primarily in-house (30%) and external-first (30%) strategies. Deloitte's 2026 survey, by contrast, found that accelerated digital transformation was cited by nearly half of surveyed life sciences

executives (48%) as a trend expected to substantially affect their organizations; that is context on priorities, not evidence of a sourcing preference (www.deloitte.com). Most organizations pursue both paths simultaneously rather than choosing one exclusively.

What is the market size for AI spending relevant to biotech enablement decisions? Gartner's January 2026 forecast (since superseded by its September 2026 forecast of $2.7 trillion in total 2026 AI spending, so these segment figures are dated) projected that worldwide AI software spending would reach $452.5 billion in 2026, up from $283.1 billion in 2025, while the broader AI services category (which includes consulting and enablement engagements) is projected to grow from $439.4 billion to $588.6 billion over the same period (www.gartner.com). Within that broader spending envelope, the life sciences consulting segment specifically is a small but fast-growing slice, sized at $38.02 billion in 2026 and growing at a 9.42% CAGR (www.mordorintelligence.com).

Conclusion

No single AI enablement model wins across every biotech use case. Big Four and global systems integrators offer the scale to run enterprise-wide transformations but at premium cost. Elite strategy firms bring boardroom credibility and enterprise-wide roadmapping, also at premium cost; separately, McKinsey's survey found that only 5% of surveyed pharma and medtech leaders had realized gen AI as a competitive differentiator despite widespread experimentation, an industry-wide gap rather than a finding about any one provider type. Life-sciences data and technology platforms like IQVIA offer deep, domain-specific embedded AI capability but tie an organization's workflows to a single vendor's architecture. Boutique and specialist consultancies compete effectively on domain depth, agility, and pricing flexibility, filling a market gap increasingly recognized even by the large firms racing to acquire them. Hands-on AI enablement and training providers address what nearly every independent survey cited in this report identifies as the actual bottleneck: talent readiness and organizational change management, not technology availability. Building an internal AI team remains the path to durable, proprietary competitive advantage, but it demands significant capital, a multi-month hiring runway in a talent market where senior AI engineers command loaded compensation of $22,000 to $38,000 per month, and disciplined data-infrastructure investment that many organizations underestimate.

For most biotech and pharma organizations weighing these options in 2026, the evidence points toward a layered approach rather than a single winner-take-all vendor choice: use platform vendors or consultancies for infrastructure and technical capability that would be inefficient to build internally, reserve genuine build investment for the handful of use cases that constitute true scientific or competitive differentiation, and prioritize workforce enablement and governance training throughout, since that is where the data consistently shows the widest gap between AI investment and AI value realized. Adjacent advisory partners with deep life-sciences domain grounding, working alongside a company's existing technology partners such as Veeva, cloud providers, and platform vendors, can help an organization sequence these choices without overcommitting to any single vendor's roadmap prematurely.

Source links

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Our AI enablement services cover readiness assessments, use-case selection, governance and policies, team workshops, adoption measurement and ongoing advisory support. We help organizations structure the information layer behind AI: source material, context, permissions and maintained knowledge that make generated answers useful and reviewable. Private LLM inference and hosted AI options support teams evaluating how to operate AI with appropriate control over their data and infrastructure.

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