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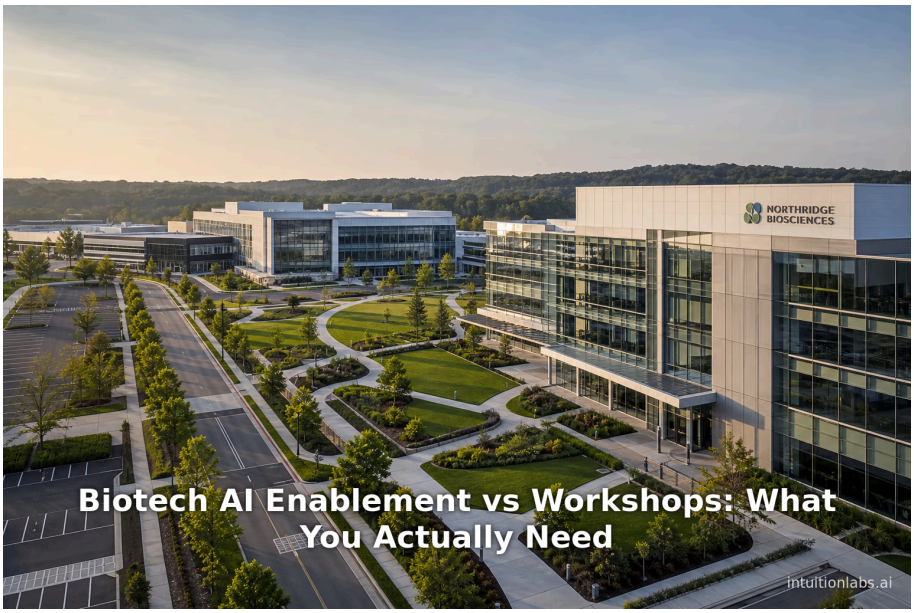
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Biotech AI Enablement vs Workshops: What You Actually Need

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Executive Summary

Biotech and pharmaceutical companies face a structural choice in 2026: how to convert generative artificial intelligence (AI) enthusiasm into durable operating capability rather than a one-time training event that fades within weeks. Industry survey data are unambiguous about the stakes. Only **17%** of life sciences executives describe their organization's AI strategy as "very developed" (www.whitecase.com), even though **74%** call AI "crucial" or "very important" to business strategy (www.whitecase.com). Deloitte's fourth annual Life Sciences

Outlook, based on a survey of 280 biopharma and medtech C-suite executives conducted in August and September 2025, found that just **22%** of surveyed leaders say they have successfully scaled AI, and only **9%** report significant returns on their AI investment despite **78%** expecting AI to play a central role in driving major change in 2026 (www.deloitte.com). This gap between intent and capability is the central problem that both AI enablement programs and one-time AI workshops attempt to solve, though they solve it in fundamentally different ways.

This report examines the difference between comprehensive **AI enablement** (structured, multi-phase programs combining assessment, role-specific training, governance, and ongoing support) and standalone **AI workshops** (single-session or short-format training events), and clarifies which approach fits which organizational need. The distinction matters financially. Market-rate research on 2026 corporate AI training pricing shows half-day workshops running **$2,500 to $8,000**, full-day sessions **$5,000 to $15,000**, and multi-week enablement programs **$15,000 to $50,000 or more** (greenwaytecheducation.com). Enterprise-wide transformation retainers can run into six figures per year (launchready.ai). But the evidence base also shows that price alone does not predict outcomes: retention from an isolated one-day workshop is estimated by one training-cost vendor blog at roughly 30 days before behavior reverts to pre-training patterns (treetopgrowthstrategy.com), while organizations with mature, sustained upskilling programs are estimated by one consultancy (Sakara Digital) to see AI program productivity multipliers of **3 to 5 times** those relying on ad hoc training (sakaradigital.com).

Named case studies illustrate both the scale of investment and the diversity of models being used. **Johnson & Johnson** has, according to a news report (a figure that may since have changed), trained more than **56,000** of its 138,000 employees in a training course "required before any employee is authorized to use the technology" (www.aol.com). **Samsung Bioepis** opened a dedicated "AI Academy" in Songdo, South Korea, delivering at least seven hours of training to roughly 1,000 employees between April and July 2026 (en.sedaily.com). **AstraZeneca** has certified more than **17,000** employees under a Bronze-Silver-Gold framework tied to an ambitious **$80 billion** 2030 revenue target (fortune.com). **Sanofi's** internally built "Concierge" assistant is used by roughly **60,000** employees, about **80%** of its workforce (wdctv.news). **Moderna** achieved a **240%** higher AI-course completion rate than the industry average across its 5,600-person workforce (www.coursera.org). These cases show that leading companies are not choosing workshops or enablement in isolation; they are sequencing both, typically starting with focused workshops for early wins and layering governance, measurement, and sustained support around them.

For biotech and pharma leaders evaluating vendors, the practical guidance in this report is that a single workshop is appropriate for narrow, well-defined skill gaps or rapid proof-of-concept exposure, while full enablement, spanning readiness assessment, role-based training, AI policy and data classification frameworks, and ongoing retainer support, is warranted whenever the goal is organization-wide, compliant, and durable adoption. Regulatory context sharpens this distinction further: the **FDA's** January 2025 draft guidance on AI in drug and biological product development introduces a seven-step, risk-based credibility framework that the agency presents as non-binding recommendations for sponsors; organizations that adopt it should be able to operationalize it, not merely explain it in a slide deck (www.fda.gov), and the **EU AI Act's** high-risk system obligations are scheduled to apply from **2 December 2027** for stand-alone high-risk AI systems and **2 August 2028** for high-risk AI systems embedded in products, following the EU's Digital Omnibus on AI (www.eeas.europa.eu). Gartner separately warns that more than **40%** of agentic AI projects will

be canceled by the end of 2027 due to escalating costs, unclear business value, or inadequate risk controls (www.gartner.com), a warning echoed by MIT's NANDA initiative finding that **95%** of enterprise generative AI pilots fail to produce measurable profit and loss impact (fortune.com). Together, this evidence supports a clear conclusion: workshops alone rarely close the adoption gap in a regulated industry, while structured enablement, calibrated to organizational size and regulatory exposure, is what converts pilot enthusiasm into measured productivity.

Introduction and Background

Biotech and pharmaceutical organizations entered 2026 under intense pressure to demonstrate return on AI investment after three years of exploratory spending. The global market for AI applications in pharmaceuticals is itself a moving target across research firms: Precedence Research pegs the 2025 baseline at **$1.94 billion**, rising to **$18.99 billion** by 2035 (www.precedenceresearch.com), while Fortune Business Insights projects the broader AI in pharma and biotech market to grow from **$8.54 billion** in 2026 to **$154.10 billion** by 2034 (www.fortunebusinessinsights.com), and Mordor Intelligence estimates the AI-in-pharmaceutical market at **$25.7 billion** by 2030 (www.whitecase.com). These figures diverge widely by methodology and scope, a discrepancy this report flags rather than resolves, but the directional signal, rapid multi-year growth from a small base, is consistent across every estimate reviewed. What none of these figures capture is workforce readiness, and that gap is precisely where "biotech AI enablement" as a distinct discipline has emerged.

The term **AI enablement** describes the process of equipping an organization to adopt AI tools effectively and safely, spanning training, policy development, data classification, and ongoing support so that productivity gains persist after the initial rollout. By contrast, an **AI workshop** is typically a single session, ranging from two hours to a few days, focused on hands-on exposure to specific tools and prompting techniques. Both have a place in a biotech company's capability-building toolkit, but conflating them is a common and costly mistake. Deloitte's research shows that **37%** of organizations remain stuck using AI at a surface level, with little or no change to existing processes, even after investing heavily in the technology (cmkselect.com). More than half of business leaders (over **50%**) rank AI literacy and applied AI skills as their top skills priority for 2026, yet only **25%** prioritize role-specific technical or functional skills in the same survey (cmkselect.com), a gap that helps explain why generic training frequently fails to change day-to-day work.

The vocabulary distinction matters because vendors, consultancies, and internal learning teams often use "AI enablement," "AI upskilling," and "AI training" interchangeably in marketing copy, even though the underlying commitments differ enormously in scope and cost. A biotech procurement team evaluating proposals should ask each vendor to specify, in writing, whether the engagement includes a governance and data classification deliverable, a measurement plan beyond attendance tracking, and a defined support period after the initial session ends. Absent those three elements, a proposal labeled "enablement" may in practice be a workshop with a more ambitious name attached.

The regulatory backdrop makes the stakes of getting this wrong higher in life sciences than in most other industries. Life sciences organizations operate under FDA good clinical, laboratory, and manufacturing practice frameworks, HIPAA privacy rules, 21 CFR Part 11 electronic-record requirements, and, for companies with European operations, the EU AI Act's risk-tiered obligations. The FDA's January 2025 draft guidance, "Considerations for the Use of Artificial Intelligence to Support Regulatory Decision-Making for Drug and

Biological Products," proposes, as non-binding recommendations, a risk-based credibility assessment framework for sponsors using AI to generate information supporting regulatory submissions (www.fda.gov). The FDA's risk-based framework itself illustrates why training content, not just tool access, has become a compliance issue. DLA Piper's legal analysis of the January 2025 draft guidance describes a seven-step process: sponsors must define the question of interest an AI model addresses, describe the model's context of use, assess model risk, develop and execute a credibility assessment plan, document results and any deviations, and finally determine whether the model's credibility is adequate for its intended use, with FDA recommending early engagement throughout (www.dlapiper.com). Notably, the draft guidance explicitly excludes AI used purely in early drug discovery or for operational tasks that do not affect patient safety, drug quality, or study reliability, meaning regulatory affairs and quality teams need training that distinguishes which AI use cases trigger this framework and which do not, a distinction a generic AI literacy session is unlikely to cover (www.dlapiper.com).

This report addresses biotech AI enablement broadly (the primary query), while directly answering the secondary questions life sciences leaders are asking in 2026: what AI adoption looks like across the sector, how to build a biotech AI strategy, what AI workshops for pharma actually deliver, how to implement AI in biotech step by step, current AI adoption levels, what enterprise AI enablement means outside life sciences for comparison, and how pharma companies are building AI capability at scale.

Comprehensive AI Enablement Programs

Capabilities

A full AI enablement program is structured around a lifecycle rather than a single event. The most common framework observed across vendors combines four phases: assessing organizational AI readiness (including data classification maturity and existing technology ecosystem), training through role-based workshops, providing ongoing support such as office hours and retainer access, and measuring adoption metrics and return on investment over time (per the publisher's framework description). This assess-train-support-measure cycle recurs, with variations in emphasis, across most enablement vendors in the space, from boutique life sciences consultancies to global systems integrators.

Enablement programs typically include several discrete deliverables beyond training hours themselves:

- **AI readiness assessments**, evaluating current AI maturity, technology stack (often Microsoft 365, ChatGPT Enterprise, or similar ecosystems), team capability, and data classification needs, frequently offered as a free or low-cost entry point to a longer engagement.
- **AI policy and governance frameworks**, covering data classification tiers, acceptable-use guidelines, and compliance guardrails specific to regulated workflows.
- **Role-based curricula**, tailored to distinct functions such as clinical operations, regulatory affairs, medical writing, pharmacovigilance, quality assurance, and commercial teams, since a one-size-fits-all curriculum measurably underperforms.
- **Ongoing retainer support**, such as recurring office hours, workflow refinement sessions, and updates as new AI features or tools are released.

- **Adoption measurement**, tracking usage metrics, time saved, and quarterly reviews to identify new high-value use cases.

McKinsey's research on enterprise gen AI change management reinforces why this lifecycle approach outperforms one-off training: while two-thirds of global companies now use generative AI, employees are already using it roughly three times more than their leaders realize, meaning the barrier is not awareness but structured integration into actual workflows (www.mckinsey.com). McKinsey's related research on domain leadership identifies "N-2 and N-3 executives," those two to three levels below the CEO, as the critical bench of leaders needed to translate AI vision into operational change, a role that pure workshop attendance rarely builds (www.mckinsey.com).

Adoption

Adoption of full enablement programs correlates closely with company size and prior AI maturity. Large pharmaceutical companies with dedicated learning and development budgets have built internal versions of enablement at significant scale. Johnson & Johnson's program combines the mandatory certification course with a separate, more in-depth Digital Bootcamp covering AI, augmented reality, and automation, which "has recorded more than 37,000 cumulative hours of training from more than 14,000 employees" (www.aol.com). Merck's internal "GPTeal" AI chatbot platform now has "more than 50,000 Merck employees... using GPTeal regularly," illustrating how enablement scales from training into daily-use infrastructure, supported by a mix of self-serve digital courses, monthly generative AI webcasts, and software-developer boot camps lasting from half a day to ten days (www.aol.com). Mid-cap biotech and smaller pharma companies, which lack these internal learning organizations, are the primary market for external enablement consultancies, since building an equivalent internal capability from scratch is rarely cost-effective below a certain employee count.

Small and clinical-stage biotech companies represent a distinct adoption pattern: enablement engagements here tend to be compressed, often two to four workshops delivered over a period of weeks rather than a multi-year internal academy, with the goal of establishing baseline competency and data-handling discipline before headcount and budget expand (see the clinical-stage biotech case discussed later in this report).

Strengths and Limitations

The principal strength of full enablement is durability. One vendor, Sakara Digital, estimates a **3 to 5 times** productivity multiplier on AI programs for pharma companies with mature workforce upskilling compared to those relying on ad hoc training (a vendor estimate, not an audited benchmark) (sakaradigital.com). Enablement also embeds governance and compliance from the outset rather than retrofitting it, which matters directly for FDA, HIPAA, and 21 CFR Part 11 exposure. The primary limitation is cost and organizational commitment: multi-month enterprise transformation engagements can run **$75,000 to $250,000** (www.kriv.ai), and annual enablement retainers for leadership teams alone can reach **$96,000 to $250,000** per year (launchready.ai). A Sakara Digital blog post, citing unnamed industry survey data, reports that **67%** of cross-functional governance committees in pharma, a common enablement governance mechanism, reach a "stalled" state within 12 months of formation, underscoring that enablement programs require deliberate design discipline, not just budget, to succeed (sakaradigital.com).

Standalone AI Workshops

Capabilities

A standalone AI workshop is a discrete, time-boxed training session, typically ranging from a **2-hour** introductory format to a **multi-day** intensive, focused on hands-on exposure to specific AI tools such as ChatGPT Enterprise, Microsoft Copilot, or Claude, along with prompt engineering fundamentals. Market-rate pricing in 2026 clusters into recognizable tiers: half-day workshops for teams up to roughly 25 people run **$2,500 to $8,000**; full-day intensives run **$5,000 to $15,000**; and two-day deep dives with take-home workflow-building components run **$10,000 to $18,000** (treetopgrowthstrategy.com) (greenwaytecheducation.com). A life sciences-focused example illustrates the pricing structure concretely: a two-hour "Standard" workshop lists at **$3,500**, and a four-hour "Deep Dive" format with advanced prompt engineering and custom-GPT building lists at **$5,500**, with a custom-priced "Train-the-Trainer" tier for organizations seeking to build internal facilitation capacity (vendor-published list prices).

Workshops in life sciences increasingly differentiate themselves from horizontal, industry-agnostic AI training by embedding regulatory context. A department-specific workshop for clinical operations covers protocol summarization and site-selection research; one for regulatory affairs covers submission drafting and FDA guidance analysis; one for medical writing covers literature review acceleration and clinical study report drafting (the publisher's own positioning, not independent evidence). A four-tier data classification framework (public, confidential, restricted, sensitive or regulated) is a recurring component across life sciences workshop curricula, since determining which data can safely be used with which AI tool is often the single highest-risk decision a life sciences employee makes when adopting a new AI tool.

Adoption

Workshop-format training is the more common entry point across the industry, largely because it requires less budget commitment and organizational buy-in than a full enablement engagement. Statworx's case study with an unnamed "world-leading pharmaceutical company" delivered a **12-hour** specialized data literacy and AI fundamentals training designed to build a common vocabulary between non-technical staff and data scientists (www.statworx.com). Eli Lilly took a related but distinct approach, encouraging AI adoption across its entire workforce and introducing an "AI Games" competition timed to the Summer Olympics in Paris, alongside a 2026 requirement that all senior leaders and managers obtain an AI certification (www.aol.com). Chief Information and Digital Officer Diogo Rau described the resulting culture shift: "We've got a workforce that is embracing AI," adding that employees often stopped him in the office or emailed him to share how they were applying AI to their daily work (www.aol.com).

Strengths and Limitations

Workshops excel at rapid, low-commitment exposure and can produce visible short-term wins that build internal momentum for a larger program. Their primary weakness, reported in vendor and industry commentary, is retention decay. One vendor blog estimates that the practical retention window for a single-

event workshop is roughly **30 days** before participants revert to pre-training behavior, making the per-unit cost of adoption from a cheap standalone workshop often higher than a more expensive cohort-based program (treetopgrowthstrategy.com). Parexel's chief AI and regulatory strategy officer, Tala Fakhouri, described the common failure mode bluntly at the 2026 BIO convention: "The CEO says, 'AI is awesome, I want everyone to use AI, and I want to see ROI.' And then the company rolls out Copilot or Claude and staff are supposed to figure it out. That doesn't work" (seeklabs.com). Gate One's analysis of pharma AI adoption reaches a similar conclusion at industry scale: "Most AI programmes fail not because the technology isn't good enough, but because ways of working don't change" (gateoneconsulting.com).

Internal AI Programs at Large Biopharma Companies

Capabilities

The largest pharmaceutical companies have increasingly built internal enablement infrastructure rather than relying solely on external vendors, though many combine both. Roche expanded its NVIDIA partnership in March 2026 to deploy 2,176 additional NVIDIA Blackwell GPUs, bringing its combined on-premise and cloud GPU infrastructure to more than 3,500 GPUs, described as the largest announced hybrid-cloud "AI factory" in the pharmaceutical industry (www.roche.com). This kind of infrastructure investment is typically paired with internal capability-building programs, since compute without trained users produces limited return. Sanofi took a different internal-build path, developing an internally hosted generative AI companion called Concierge as part of its broader digital and AI strategy (Sanofi) (SEC). In June 2026 Sanofi further announced a partnership with Snowflake to power "Concierge for Field," an AI agent generating pre-call plans for sales representatives in seconds (www.morningstar.com).

Adoption

Adoption metrics at the largest companies now run into the tens of thousands of certified or active users. AstraZeneca has certified more than **17,000** employees under a Bronze-Silver-Gold competency framework mandating that all staff above a certain grade reach at least silver-level certification, part of a broader strategy tied to the company's **$80 billion** 2030 revenue target (fortune.com). AstraZeneca CFO Aradhana Sarin described the shift in employee sentiment: "I think people are really embracing AI and learning and developing their own skills" (fortune.com). Moderna's AI Academy, delivered in partnership with Coursera since early 2023, has generated over **2,600** enrollments in AI-related courses, more than **14,700** learning hours logged across its roughly 5,600-person workforce, and a **400%** year-over-year increase in enrollment (www.coursera.org). Samsung Bioepis is targeting comparable density on a smaller base: approximately 1,000 employees receiving a minimum of seven hours of theory and practice at its dedicated Songdo AI Academy, with a follow-on task force developing customized AI agents for each division (www.koreaherald.com).

Strengths and Limitations

The strength of these internal, well-funded programs is scale and integration with proprietary infrastructure; Sanofi's model, for instance, lets Concierge draw on internal ServiceNow and Workday data alongside company policies and organizational charts, a level of integration a generic external workshop cannot replicate (wdctv.news). The evident limitation is that this model requires capital and internal engineering talent well beyond the reach of most biotech companies: Roche's GPU infrastructure and Sanofi's proprietary platform build represent substantial capital and engineering investments (their cost is not disclosed in the sources cited here), inaccessible to a clinical-stage or mid-cap biotech operating with a constrained budget. For these companies, the relevant comparison is not "build an internal AI Academy" but "external workshop versus external enablement retainer," a decision closer to the pricing bands discussed above.

External Consultancies and Enablement Vendors

Capabilities

A distinct market of external AI enablement and training vendors has emerged to serve companies that lack the scale to build internal academies. These range from horizontal corporate AI trainers with no life sciences specialization to boutique consultancies built specifically around pharma and biotech regulatory context. Iuvo Technologies positions its offering around a "white-glove consulting approach" combining IT expertise with scientific understanding, structured through an AI readiness assessment and strategic roadmapping process (www.iuvotech.com). CREO Consulting offers a two-day, hands-on "AI Innovations Workshop" intended to align leadership, prototype real-world use cases with the client's own data, and produce an actionable transformation roadmap (creoconsulting.com). Aganitha structures its "Agentic AI Adoption Services" around a modular, biopharma-specific stack claiming **75 to 85%** of pharma workflows can be augmented by agents and projecting **3.4 to 5.4%** EBITDA gains within five years of adoption, alongside a claimed **33%** faster technology-transfer timeline with generative AI (www.aganitha.ai). Because these are vendor-published figures rather than independently audited outcomes, they should be read as directional claims rather than verified benchmarks; this report presents them as vendor-stated projections, distinct from the independently sourced adoption and market data cited elsewhere.

Adoption

Adoption of external consultancy models varies by company maturity and budget. TeselaGen's Catalyst practice explicitly targets the "Bench-Tool Disconnect," the observation that internally built tools often fail because they do not fit the actual workflows of bench scientists, a failure mode distinct from, but related to, the training-retention problem workshops face (teselagen.com). Scriptome.AI focuses specifically on small biotechs seeking to "cross the chasm" from AI-naive to AI-enabled without building an internal technical team, reflecting a market segment distinct from the enterprise engagements pursued by AstraZeneca or Sanofi (scriptome.ai).

Strengths and Limitations

External vendors offer speed of engagement and access to cross-industry pattern recognition, since a firm serving multiple biotech clients has visibility into what has and has not worked elsewhere, information a single internal L&D team lacks. The limitation is variable domain depth: a generalist AI trainer without regulated-industry experience may not understand data classification obligations, GxP (good practice regulatory frameworks spanning good clinical, laboratory, and manufacturing practice) validation requirements, or the practical difference between what a medical writer and a clinical operations associate need from the same underlying tool. Buyers evaluating vendors should specifically ask what proportion of the firm's client base is regulated life sciences companies, since compliance guardrails that are "built into every exercise" differ materially from those "mentioned briefly," a distinction one workshop vendor uses explicitly to differentiate itself from generic corporate AI trainers (the publisher's own positioning, not independent evidence).

Feature Comparison

Table 1 below compares the standalone workshop and full enablement models across the dimensions life sciences buyers most often evaluate: cost, duration, regulatory depth, and expected durability of adoption.

Dimension	Standalone AI Workshop	Full AI Enablement Program
Typical duration	2 hours to 3 days	4 to 8 weeks initial rollout, often continuing via annual retainer (treetopgrowthstrategy.com) (launchready.ai)
Typical cost band	$2,500 to $18,000 per engagement (greenwaytecheducation.com) (treetopgrowthstrategy.com)	$15,000 to $250,000 depending on scope, with annual retainers up to $250,000 (www.kriv.ai) (launchready.ai)
Governance and data classification	Often an overview module of 30 to 45 minutes rather than a core deliverable	Dedicated policy and governance workstream, typically a separate deliverable built before or alongside training (the publisher's own positioning, not independent evidence)
Retention risk	High; single-event retention estimated (by one vendor blog) at roughly 30 days (see Standalone AI Workshops discussion above)	Lower; one vendor (Sakara Digital) estimates sustained programs yield 3 to 5 times higher AI program productivity than ad hoc training (sakaradigital.com)
Best fit	Narrow skill gap, single team, proof-of-concept exposure, or the first step before a larger rollout	Organization-wide, compliance-sensitive, multi-department rollout with measurement requirements (the publisher's own positioning, not independent evidence)

The comparison shows the two approaches are not strict substitutes; they occupy different points on the same adoption curve. A workshop is frequently the entry point into an enablement relationship, not a competing alternative to it, since several vendors explicitly structure a free or low-cost readiness assessment as the funnel into a longer paid engagement (the publisher's own positioning, not independent evidence). Life sciences buyers evaluating vendors should treat "workshop versus enablement" less as an either/or purchasing decision and more as a sequencing question: which comes first, and at what point does a company's regulatory exposure and headcount justify moving from the former to the latter.

Performance and Benchmarks

Comparable, audited performance benchmarks for AI enablement outcomes are scarce industry-wide, a limitation this report flags explicitly rather than papering over with vendor claims. Available data suggest the following patterns, each sourced from a specific study or company disclosure rather than a standardized cross-industry benchmark. *Table 2* consolidates the scale and format of the named enablement programs discussed throughout this report, drawn from company disclosures and independent reporting rather than a single standardized survey.

Company	Program Model	Reported Scale	Format
Johnson & Johnson	Mandatory certification plus Digital Bootcamp	56,000+ of 138,000 employees; 37,000+ bootcamp hours across 14,000 employees, per a news report whose figures may have changed (www.aol.com)	Certification required before tool access
Samsung Bioepis	Dedicated on-site AI Academy	Approximately 1,000 employees, minimum 7 hours each (www.koreaherald.com)	April to July 2026 cohort, ongoing task force follow-on
AstraZeneca	Bronze-Silver-Gold tiered certification	17,000+ certified employees (fortune.com)	Mandatory silver-level for staff above a defined grade
Moderna	Coursera-based AI Academy	2,600+ course enrollments, 14,700+ learning hours across 5,600+ employees (see Moderna case study below)	Cohort-based, since early 2023
Sanofi	Internally built "Concierge" assistant	Roughly 60,000 users, about 80% of workforce (wdctv.news)	Deployed daily tool, launched October 2024
Eli Lilly	Voluntary adoption plus senior-leader certification	All employees encouraged; certification mandatory for senior leaders and managers (www.aol.com)	Informal grassroots adoption plus formal milestones

The comparison in Table 2 shows that even among the largest, best-resourced pharmaceutical companies, no single program design dominates: some rely on mandatory certification gating tool access (Johnson & Johnson, AstraZeneca), others on voluntary adoption reinforced by cultural signals (Eli Lilly), and still others on building proprietary daily-use infrastructure rather than a discrete training curriculum at all (Sanofi). This diversity suggests that biotech and pharma leaders should treat these cases as a menu of design choices calibrated to organizational culture and existing technology investment, not as a single best-practice template to copy directly.

On completion and engagement metrics, Moderna's Coursera-based AI Academy recorded a **30%** average increase in knowledge on post-training assessments and a completion rate **240%** above the industry benchmark (www.coursera.org). On workforce-wide scaling, Johnson & Johnson has trained more than 56,000 of its 138,000 employees (www.aol.com), a completion rate of roughly 41%, while AstraZeneca's certification figure of 17,000 employees represents a smaller absolute share of its global headcount but is targeted

specifically at staff above a defined grade level (fortune.com). On organizational maturity, Deloitte's 2026 survey found only **14%** of surveyed executives report full implementation of AI into daily workflows, with another **40%** actively working toward that goal (www.deloitte.com).

At the sector-wide level, GlobalData survey figures cited by PharmaVoice indicate **34%** of pharma companies use AI for specific functions as of mid-2026, with close to **60%** of respondents using AI for discovery and target identification specifically (seeklabs.com). A PwC survey cited in the same reporting found only **15%** of global pharma and life sciences companies feel fully prepared to develop AI business models (seeklabs.com). White & Case's own proprietary survey found **28%** of respondents plan to invest more than $50 million in AI over the next 12 months, up from 22% the prior year, indicating capital commitment is outpacing strategic maturity (www.whitecase.com). Outside life sciences specifically, Menlo Ventures' inaugural State of AI in Healthcare report found **22%** of healthcare organizations have implemented domain-specific AI tools, a sevenfold increase over 2024, with healthcare adopting AI at **2.2 times** the rate of the broader economy (menlovc.com).

Data Analysis and Evidence

The quantitative record on AI enablement and workshop outcomes reveals a consistent tension: capital investment and platform deployment are accelerating faster than workforce readiness or measured business return. This section consolidates the key data points into a coherent picture, cross-referencing figures that sometimes disagree in magnitude but agree in direction.

Skills-gap data explain much of the urgency behind enablement spending. A 2025 global survey of more than 500 pharmaceutical, biotech, and clinical research organization leaders and frontline workers by Parexel found AI "Identified as a Key Area for Continued Workforce Training & Development with 51% of Biopharmaceutical Leaders Naming AI Experts as a Top Role to Fill in Next 3-5 Years," and that **82%** of industry senior leaders believe cross-functional roles will increase, with adaptability and agility called out as the most critical skills needed for the future workforce (newsroom.parexel.com). A separate survey by the UK's Association of the British Pharmaceutical Industry found that "the life sciences industry in the UK is embracing digitalisation, but that is creating a demand for workers with artificial intelligence and data skills that is outstripping the supply of talent," identifying biomedical imaging, bioinformatics, and computational chemistry as newly emerging weak spots in the skills pipeline (pharmaphorum.com). This talent gap is one of the primary drivers cited for building internal capability through enablement rather than relying exclusively on external hiring, since Deloitte's US chief innovation officer Deborah Golden has noted, "When you think about how AI is shifting the balance and the talent requirements, you really need to be able to speak both the language of biology and AI models" (www.aol.com).

On the productivity-potential side, generative AI could save the pharmaceutical industry "tens of billions of dollars each year" through improved productivity within drug development, according to McKinsey research cited in industry reporting (www.aol.com). Set against that potential, Deloitte's 2026 data shows the average cost of bringing a new drug to market now tops **$2 billion**, meaning even modest percentage productivity gains from AI translate into material absolute savings, which is part of why 41% of surveyed biopharma executives cited improving R&D productivity as their top cost-management priority for 2026 (www.deloitte.com).

The gap between spending and results is the throughline connecting nearly every dataset reviewed for this report. Gartner's prediction that more than **40%** of agentic AI projects will be canceled by the end of 2027, attributed to "escalating costs, unclear business value or inadequate risk controls" (www.gartner.com), is corroborated by MIT NANDA's separate finding that **95%** of generative AI pilots fail to produce measurable profit and loss impact, with the report's lead author Aditya Challapally attributing the shortfall to a "learning gap" in enterprise integration rather than model quality (fortune.com). Notably, MIT's research also found that more than half of generative AI budgets are devoted to sales and marketing tools, even though the largest measured ROI came from back-office automation, a resource-allocation mismatch that structured enablement, with its assessment-first methodology, is explicitly designed to correct (fortune.com).

Use-case-level data from White & Case's proprietary survey show adoption is uneven across functions: **88%** of human pharma respondents use AI regularly in R&D, compared with 22% among healthcare providers, while **75%** of all respondents across the full sample use AI regularly for medical purposes such as diagnostics and treatment support (www.whitecase.com). McKinsey's broader cross-industry survey found "more than three-quarters of respondents now say that their organizations use AI in at least one business function," and that "companies with at least $500 million in annual revenue are changing more quickly than smaller organizations" (www.mckinsey.com), a pattern consistent with the internal-academy scale seen at Sanofi, AstraZeneca, and Moderna relative to smaller biotech peers. Within the broader healthcare category, Menlo Ventures found health systems adopting domain-specific AI tools fastest at **27%**, ahead of outpatient providers at **18%** and payers at **14%**, a gradient that plausibly extends to life sciences organizations of different sizes and internal technical capacity (menlovc.com). Looking further ahead, Gartner projects that at least **15%** of day-to-day work decisions will be made autonomously through agentic AI by 2028, up from effectively zero in 2024, underscoring why the enablement curricula built today will need renewal rather than being treated as a completed, one-time deliverable (www.gartner.com).

Governance data reinforce the same conclusion from a different angle. A Sakara Digital blog post on AI steering committees, a common enablement governance artifact, cites unnamed industry survey data indicating that **67%** stall within 12 months, typically as "meetings devolve into status updates, decisions not getting made" (sakaradigital.com). This suggests that even well-resourced enablement programs are not automatically durable; they require the same rigor in governance design that they apply to training curriculum design.

Case Studies and Real-World Examples

Johnson & Johnson: Mandatory Certification at Enterprise Scale

Johnson & Johnson requires all employees to complete a training course "required before any employee is authorized to use the technology," a policy-first approach that differs from the opt-in models many peers use (www.aol.com). According to the cited news report (a figure that may since have changed), more than **56,000** of the company's 138,000 employees have completed the course, and a separate Digital Bootcamp covering AI, augmented reality, and automation has logged more than **37,000** cumulative training hours across more than 14,000 employees (www.aol.com). This case illustrates the "mandatory-first" model of enablement:

certification precedes tool access rather than following it, which forces a baseline of AI literacy and data-handling awareness before any employee can independently prompt a generative AI system with company data.

Samsung Bioepis: A Dedicated Physical AI Academy

In April 2026, Samsung Bioepis announced its first company-wide AI training initiative, establishing a dedicated "AI Academy" training facility at its Songdo, Incheon headquarters. Approximately 1,000 employees are completing a minimum of seven hours of combined theoretical and hands-on instruction between April and July 2026, covering generative AI tool use, job-specific AI model design, and workflow automation (www.koreaherald.com). Notably, the company explicitly frames the Academy as the start of a sustained program rather than a one-time event, forming a dedicated AI task force to develop customized AI agents for each division after the initial training wave concludes (en.sedaily.com). This case is a clear real-world example of a company deliberately choosing the enablement model over a standalone workshop model, citing sustainability as the explicit rationale.

AstraZeneca: Tiered Certification Linked to Financial Targets

AstraZeneca's upskilling program uses a Bronze-Silver-Gold certification framework, with more than **17,000** employees certified as of April 2026 and mandatory silver-level certification for all staff above a defined organizational grade (fortune.com). What distinguishes this case is the explicit link company leadership draws between workforce AI capability and the firm's **$80 billion** 2030 revenue target, set at an investor event in May 2024 when consensus analyst estimates sat around $67 billion (fortune.com). AstraZeneca's own communications state that "over 12,000 employees have participated to date, achieving Bronze, Silver, and Gold-level certifications" in its enterprise-wide AI upskilling and literacy programme launched in 2024 (www.astrazeneca.com), with the company describing the goal as unlocking "exponential potential: faster insights, smarter trials, and medicines that reach those who need them sooner" (www.astrazeneca.com).

Moderna: Cohort-Based Learning Outperforms Industry Benchmarks

Moderna's AI Academy, built on the Coursera platform since early 2023, targets all 5,600-plus employees rather than a subset. The program has generated more than **2,600** enrollments in AI-related courses, a completion rate **240%** above the industry average, and post-training assessments showing a **30%** average increase in knowledge (www.coursera.org). One Moderna learner's testimonial captures the qualitative shift the program aimed to produce: "I took the course GenAI for Everyone and it absolutely left me floored. I said this is going to be part of what we do. We're going to rebuild everything that we do to democratize the power of GenAI to our people" (www.coursera.org).

A Clinical-Stage Biotech's Workshop-First Approach

A documented small-biotech example, published by the vendor with the client's name withheld, illustrates the workshop-entry-point pattern common among smaller life sciences companies: a clinical-stage biotech company engaged an external vendor for two AI workshops covering its cross-functional team; within weeks, employees were independently building AI Projects for daily workflows and running deep-research tools for competitive intelligence and regulatory landscape analysis (vendor-published case study). This case is notable precisely because it worked with a minimal, two-session engagement rather than a full multi-month program, illustrating that workshop-format training can succeed when the organization is small enough that two sessions can reach the entire relevant team, a condition that does not hold once headcount scales into the hundreds or thousands.

Implications and Future Directions

Several structural forces will shape how biotech and pharma companies approach AI enablement and workshops through the remainder of 2026 and into 2027. Regulatory deadlines are the most concrete near-term driver. The EU AI Act's high-risk system obligations are now scheduled to apply from 2 December 2027 for stand-alone high-risk AI systems, with a later date of 2 August 2028 for high-risk AI systems embedded in products, following the EU's Digital Omnibus on AI (www.eeas.europa.eu). Companies with EU operations that have relied on informal workshop-based training without a governance framework should treat the later application dates as time to build a governance framework, including policy and data-classification components, and should confirm their specific legal obligations with counsel. On the US side, the FDA's draft AI guidance remains in draft form as of this writing, but its seven-step credibility framework signals the direction regulators expect sponsors to move, and companies that build internal AI governance capability now will be better positioned when the guidance finalizes (www.fda.gov).

The organizational design question of centralization versus federation is also unresolved industry-wide. ZS Associates' framework identifies AI Centers of Excellence as one archetype competing against a more decentralized "thousand flowers" approach where local teams independently drive use cases (www.zs.com). For mid-cap pharma companies specifically, a realistic AI Center of Excellence budget envelope is roughly **$2 million** annually, a figure well below what large-cap peers deploy but sufficient to establish a functioning governance and coordination layer if scoped correctly (sakaradigital.com).

Talent scarcity will likely intensify enablement demand relative to hiring-based strategies. With **51%** of biopharma leaders identifying AI specialists as a hiring priority against a labor market where demand already outstrips supply (pharmaphorum.com), upskilling the existing workforce through enablement is likely to remain more economically rational than external recruitment for most mid-cap and smaller biotech companies over the next two to three years. Finally, agentic AI, systems that act with greater autonomy than a chat-based assistant, is emerging as the next capability frontier that will require its own enablement wave; Deloitte's 2026 data already shows **30%** of surveyed life sciences executives citing agentic AI as an influential 2026 trend, a new survey category this year (www.deloitte.com), suggesting the workshop-versus-enablement decision made for generative AI chat tools in 2024 and 2025 will need to be revisited again as agentic systems reach production maturity.

Frequently Asked Questions (FAQs)

What is biotech AI enablement? AI enablement in biotech is the structured process of equipping an organization to adopt AI tools effectively and compliantly, typically combining a readiness assessment, role-based training, AI policy and data classification frameworks, and ongoing support, rather than a single training event.

How does AI adoption in life sciences compare to the broader economy? Healthcare and life sciences are adopting AI faster than the general economy; Menlo Ventures found healthcare deploying AI at **2.2 times** the rate of the broader economy, with 22% of healthcare organizations using domain-specific AI tools as of late 2025, a sevenfold increase over 2024 (menlovc.com). However, life sciences companies specifically remain earlier in their journey than health systems, focusing on proprietary model development for drug discovery rather than off-the-shelf tool deployment (menlovc.com).

What should a biotech AI strategy include? Based on the case studies and frameworks reviewed, a coherent biotech AI strategy should include: an honest readiness assessment of current AI maturity and data infrastructure; role-specific rather than generic training curricula, since only **25%** of leaders currently prioritize role-specific skills despite over 50% prioritizing general AI literacy (cmkselect.com); a data classification and governance framework built before or alongside training rather than after; and a measurement plan tracking adoption and time saved rather than completion certificates alone.

Do AI workshops for pharma actually work? Workshops can produce genuine short-term skill gains and are a reasonable entry point, but one vendor blog estimates standalone workshop retention at roughly 30 days before behavior reverts without follow-up support (as discussed in the Standalone AI Workshops section above). Their effectiveness depends heavily on whether they are paired with follow-up support, role-specific customization, and measurement, rather than delivered as an isolated event.

How do you implement AI in biotech step by step? The pattern observed across the case studies in this report is: (1) conduct an AI readiness assessment covering technology ecosystem, data classification maturity, and team capability; (2) develop or adopt an AI usage policy before broad tool rollout; (3) deliver role-specific training, starting with a pilot department or workshop before scaling; (4) provide ongoing support through office hours, retainer access, or an internal center of excellence; and (5) measure adoption, time saved, and return on investment on a recurring cadence rather than a one-time post-training survey.

What does enterprise AI enablement mean outside life sciences, and how does the life sciences version differ? Enterprise AI enablement generally follows the same assess-train-support-measure structure McKinsey describes for cross-industry gen AI change management (www.mckinsey.com). The life sciences-specific version adds regulatory guardrails, including FDA, HIPAA, 21 CFR Part 11, and EU AI Act considerations, built into the curriculum from the outset rather than addressed as a compliance afterthought.

What is pharma AI capability building, and who leads it internally? Capability building in pharma AI typically spans a dedicated AI Center of Excellence or steering committee, functional AI champions embedded in departments such as regulatory affairs and clinical operations, and sustained learning programs. However, a Sakara Digital blog post, citing unnamed industry survey data, reports that **67%** of cross-functional governance

committees in pharma stall within 12 months, indicating that capability building requires deliberate governance design, tight membership, explicit decision rights, and a disciplined meeting cadence, not just an initial charter (sakaradigital.com).

Conclusion

The evidence assembled in this report supports a clear, differentiated recommendation for biotech and pharmaceutical organizations weighing AI enablement against standalone AI workshops. Workshops are appropriate and cost-effective for narrow, well-scoped skill gaps, for a first exposure to AI tools among a single team, or as the deliberate entry point into a longer engagement, particularly for small or clinical-stage biotech companies where a two-session workshop can realistically reach the entire relevant workforce. Full enablement, spanning readiness assessment, governance and data classification frameworks, role-specific curricula, and ongoing measurement, is warranted whenever the goal is organization-wide, durable, and regulation-compliant adoption, and it is the model every large-scale named case in this report, from Johnson & Johnson's mandatory certification to Samsung Bioepis's dedicated AI Academy to AstraZeneca's tiered certification framework, eventually converges on.

The macro data reinforce why the distinction matters financially rather than merely academically. With only 17% of life sciences leaders describing their AI strategy as very developed despite 74% calling AI crucial to business strategy, and with Gartner forecasting that over 40% of agentic AI projects will be canceled by the end of 2027 while a separate MIT study found that 95% of generative AI pilots show no measurable profit-and-loss impact (two different measures, not converging figures), the cost of choosing the wrong format is not merely a wasted training budget but a wasted strategic window. Regulatory developments add context rather than a hard near-term deadline: the EU AI Act's high-risk obligations are now scheduled for 2 December 2027 (stand-alone systems) and 2 August 2028 (embedded systems), and the FDA's draft, non-binding risk-based credibility framework for AI in drug development signals where US expectations may be heading. Biotech and pharma leaders evaluating vendors in the second half of 2026 should treat the workshop-versus-enablement decision as a sequencing question tied to company size, regulatory exposure, and existing AI maturity, rather than a binary choice between a cheap event and an expensive program.

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