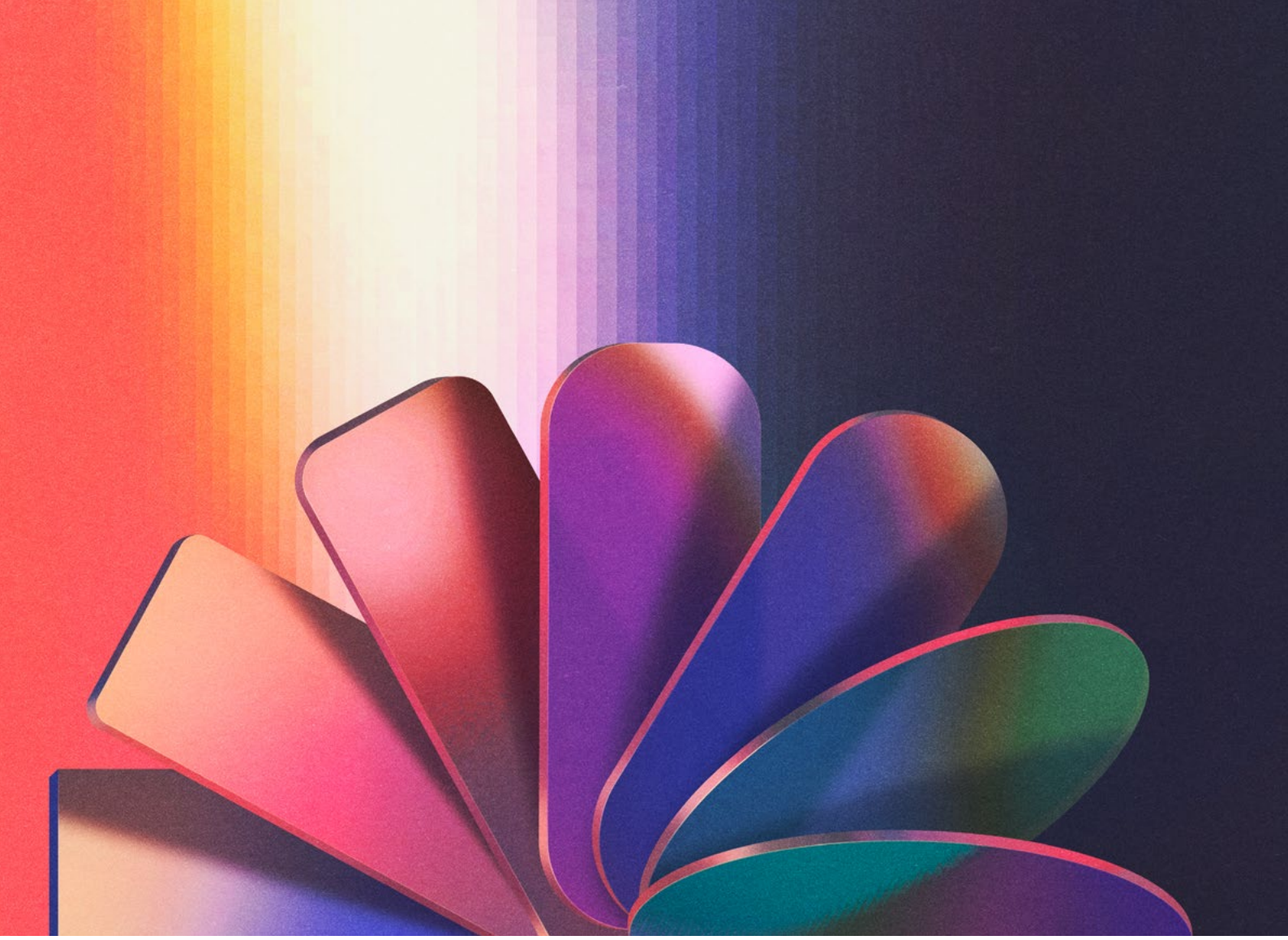


The seven characteristics of leading AI-native startups in Healthcare & Life Sciences

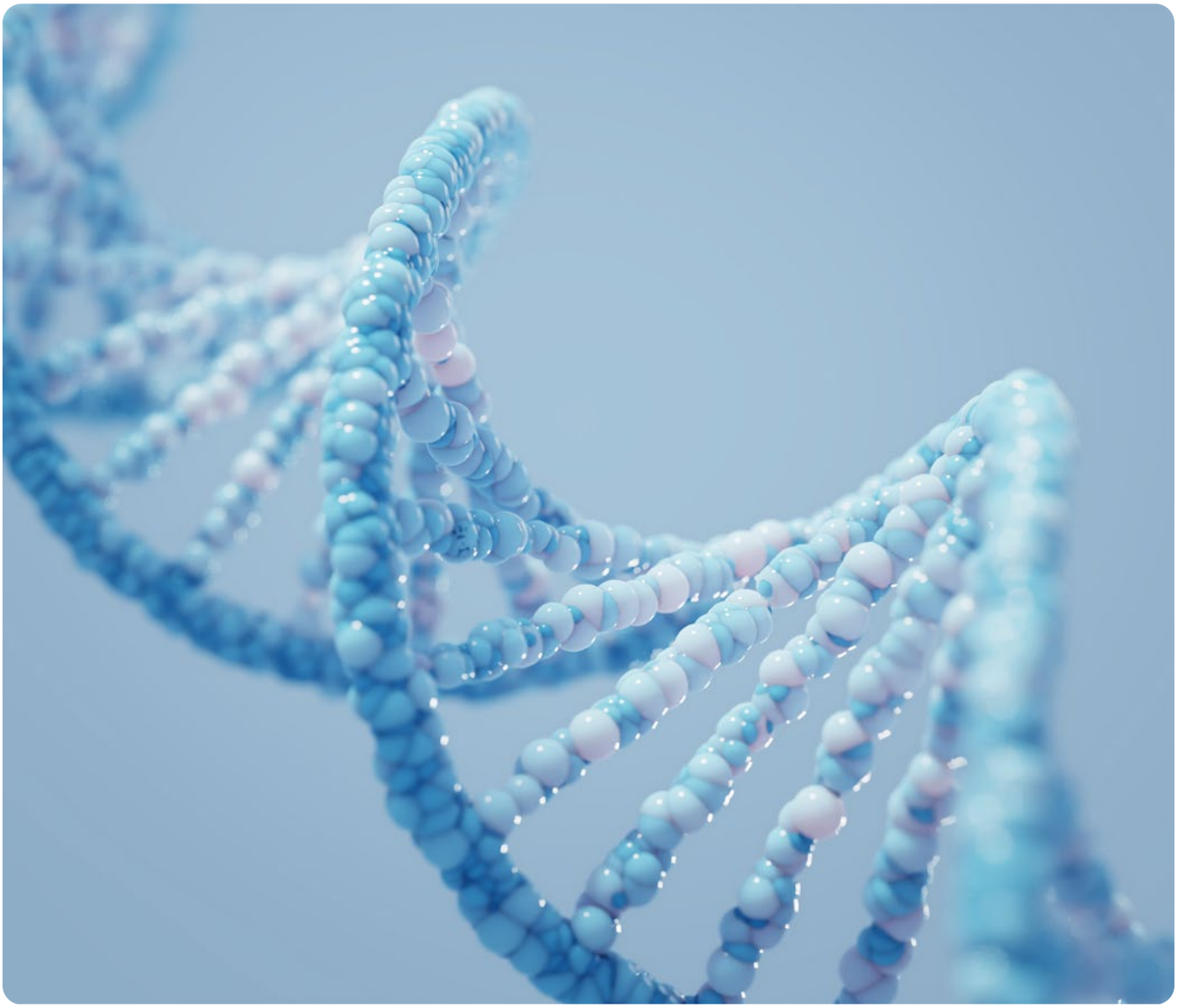
How startups can lead Europe forward and create lasting value with AI

AI has changed what it takes to build a Healthcare & Life Sciences company. Frontier models are available off the shelf, development cycles have collapsed from years to months, and a working prototype can be stood up in days. But as building gets faster, it stops being what sets a company apart. The advantage now lies in the gap between what AI can do and what an organization actually captures from it.

Drawing on interviews with leading investors, operators, and AWS specialists, this report examines where that advantage comes from. The answer is consistent across TechBio and HealthTech: not in the AI itself, but in what a company builds around it: proprietary science and data, scientific and clinical evidence, workflow integration, trusted relationships, and the ability to learn continuously from every experiment, deployment, and customer.

We set out what has changed for Healthcare & Life Sciences startups, identify the seven characteristics that distinguish the companies best positioned to lead, and close on Europe's structural opportunity: the strengths that make it fertile ground for AI-native leaders, and what it will take to capture more of the value it creates.

> "AI is changing our lives where we need it most: an earlier diagnosis, a new treatment, more time with the people we love. But realizing that potential depends on trust, the one thing AI cannot shortcut. Europe has the scientific and technological talent to become a leader in this global transformation. The leaders who make the greatest difference will be those who build AI-native companies, designed to earn trust systematically, scale their advantage, and bring innovation to patients sooner.
>
> **Daniel Rabina**
> EMEA Lead, Healthcare & Life Sciences Startups, AWS



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SECTION 1

What's changed for Healthcare & Life Sciences startups?

AI is changing the rules of Healthcare & Life Sciences. As frontier models become more accessible and capable, the ability to develop at speed no longer sets a company apart—it is an expected capability. For founders and investors, the challenge is how startups can create lasting value from the IP they build.

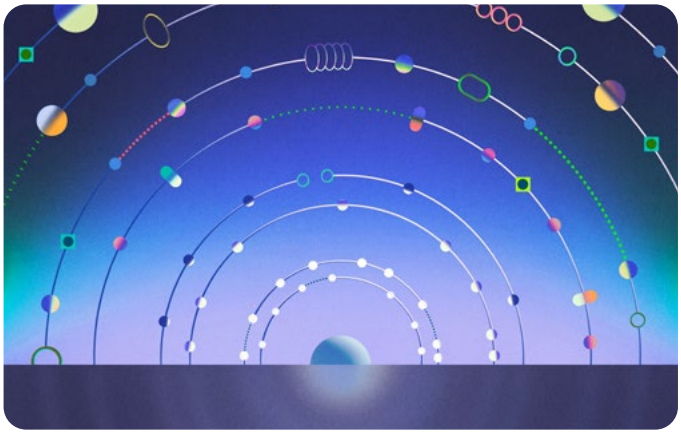
What defines an AI-native startup?

An AI-native company is designed around AI from the outset. The technology is embedded in its core product, operations, and the way it creates value, rather than added later as a feature or tool. AWS research finds that AI-native startups report average annual revenue growth of 156%, compared with 65% for startups overall, and 55% generate more than $400,000 in revenue per employee. They are reaching billion-dollar valuations in around 3.5 years—half the time it took before generative AI. And 19% are building in Healthcare & Life Sciences.[1]

Yet the industry's ability to use AI is lagging behind what AI is capable of doing. Only 22% of life sciences leaders have successfully scaled AI, and just 9% are seeing measurable business impact.[2] That is the gap where competitive advantage will be won—by putting AI into production and operational workflows, not just proving it works in a pilot.

In combination with accessible, flexible cloud infrastructure, AI can compress development cycles to the point where a working prototype can be spun up in days. That access is now a given: through platforms like Amazon Bedrock, startups can reach the leading frontier models as managed services, and the providers behind that access keep widening it, with AWS deepening its collaboration with leading frontier developers including Anthropic and OpenAI.[3,4] As AI technology becomes more accessible, founders must also show what they have validated, learned, or commercialized with the speed that AI provides. The source of lasting value is moving to other assets and capabilities that are more difficult to replicate and that compound over time through continuous learning—and these vary, as we explore next.

> "AI is reshaping how we invest in digital life sciences. Building a product has never been faster or cheaper. But the hard part hasn't moved: integrating into care pathways, generating evidence, driving adoption, clearing regulation, and finding who will actually pay. AI compresses the cost of creation, not the cost of trust. That is where value will be built, and where we focus as investors.
>
> **Samantha Jérusalmy**
> Partner, Elaia



TechBio: AI moves the industry from assets to asset factories

AI is changing how scientists approach biology itself. Researchers once relied mainly on observation and experimentation. Now they can increasingly model, predict, and design biological systems before they enter the laboratory. And as the cost of AI falls, scientific questions that were previously too costly, time-consuming, or commercially risky to pursue are becoming viable. Biology is shifting from a process of discovery to one of engineering.

The economics of drug development show the size of the opportunity. Bringing a drug to market can take 10–15 years[5] and cost around $1.3 billion,[6] while only 13.8% of programs achieve approval.[7] A 10% reduction in the average cost of bringing a single drug to market would represent approximately $130 million in potential savings. AI can create value across that whole lifecycle, from discovery and clinical trials to evidence generation, manufacturing, and commercialization.

Examples show that the front of the pipeline is already compressing. Researchers at Memorial Sloan Kettering Cancer Center used Amazon Bio Discovery, an AI-powered research platform, to design nearly 300,000 antibody candidates and select 100,000 for laboratory testing—cutting a process that could have taken up to a year to just weeks.[8]

AI is giving rise to companies that combine software, deep technology, and biotechnology. Instead of individual therapeutic assets, many are building repeatable discovery platforms—or 'asset factories'. A single candidate might become a successful product or it might fail. A platform that repeatedly designs and discovers new assets can deliver greater long-term value.

So instead of asking, "How valuable is this one-off asset?", leaders are increasingly asking, "How reliably will I create the next one?"

NONCLINICAL STAGE

- Target discovery
- Hit generation
- Lead identification
- Animal testing
- FDA IND submission

↓

CLINICAL STAGE

- Phase 1
- Phase 2
- Phase 3

→ FDA NDA/BLA application

↓

MARKETING AND POSTMARKETING STAGE

- Market launch
- Phase 4

> "Rather than buying the new antibody, I'd rather acquire access to the antibody factory. The real value is not just in one successful asset, but in the ability to repeatedly create new ones.
>
> **Dr. Javier Nunez-Vicandi**
> Principal – Digital Medicine Strategy, Sofinnova Partners

> "Rather than having to do manual design of molecules, you can do hundreds of thousands of them in minutes or hours. The problem is it still needs to be tested in a wet lab, in a setting where you put something in a cell and you see what happens. So we haven't removed that bottleneck completely yet.
>
> **Dr. Rowland Illing**
> Chief Medical Officer and Director of Healthcare & Life Sciences, AWS

Lab-in-the-loop in action

Computational models generate and prioritize candidates. Labs test them. The results feed back into the models, so each cycle improves the next round of prediction. Cloud infrastructure connects computational and experimental data, and purpose-built services (such as AWS HealthOmics and Amazon Bio Discovery) support multimodal biological data and agentic research workflows.



HealthTech: AI is moving from assistance to action

AI is expanding the opportunity in healthcare from automating individual tasks to coordinating entire workflows. As growing demand for care collides with global workforce shortages and rising costs, this is a timely shift that already changes how HealthTech companies are built and create value.

The first wave of healthcare AI largely focused on individual tasks, from documentation and scheduling to clinical decision support. Agentic AI is now connecting those tasks and automating significant volumes of repetitive manual work, particularly in clinical operations.

Automation opens larger pools of value

The value of a healthcare AI solution used to be weighed simply against the cost of another software tool. Now, as AI starts to automate and coordinate entire workflows, its value can be measured against a more significant metric: the cost of labor and operations.

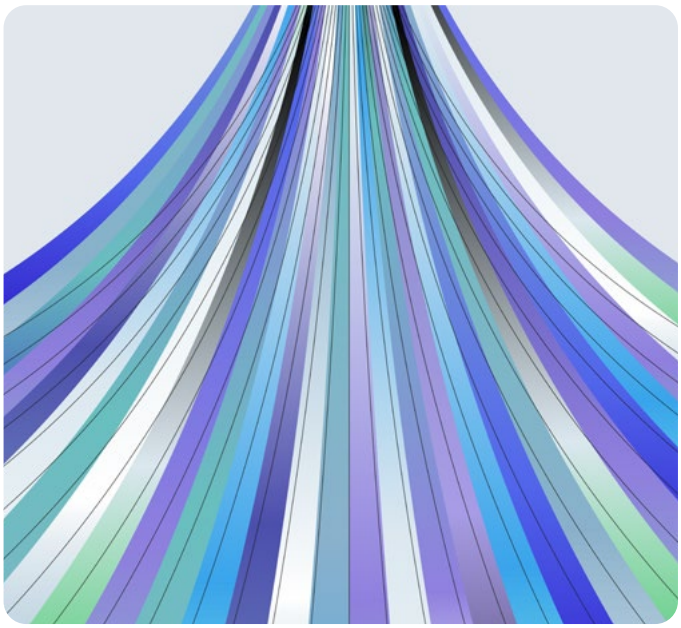
Around $1 trillion is spent on US healthcare administration each year, much of it on labor.[9] Research cited by AWS estimates that AI adoption by payers could generate savings equivalent to 5–10% of healthcare spending,[1] and health systems have reported AI-driven annual cost reductions ranging from $20 million to more than $100 million.[9] HealthTech companies are already securing long-term adoption by addressing these large, existing cost pools.

> "Many health systems have traditionally purchased novel technologies from IT budgets, but the biggest opportunity sits in their labor budgets, which are far larger. When a hospital can't hire the nurses it needs, that labor spend has to go somewhere, and AI can now compete for it. Because these decisions touch the workforce and not just the tech stack, they come under the review of new AI committees, and while the sales process may be slower, startups get a bigger piece of the pie.
>
> **Dr. Gal Noyman Veksler**
> Partner, LionBird

Increasingly, healthcare buyers want AI to do more than just assist medical teams. They want it to automate and coordinate entire workflows. 57% say they are inundated by AI companies selling point solutions, and 42% are consolidating the AI vendors they work with.[10] The opportunity for HealthTech startups is to solve one important problem well and prove their value, so they can then build trust and expand into other parts of the workflow.

But selling into major healthcare organizations shouldn't be underestimated. The barrier is often not the technology, but the complexities of implementation, trust, and change management. Clinicians need evidence that a solution is clinically worthwhile; management needs evidence that it is economically worthwhile. Only 46% of healthcare executives trust AI to support clinical decisions, with 77% overriding its recommendations more than half the time. Stronger clinical validation is the biggest driver of trust, cited by 67%.[10]

> "The opportunity for HealthTech startups is to solve a problem that really matters to healthcare providers, prove the value they deliver, and earn the trust to expand into other parts of the workflow. That's how a point solution becomes a platform.
>
> **Sofia Guerra**
> Partner, Bessemer Venture Partners



AI governance is key to trust

Building AI solutions is only the beginning. The hardest part is managing them in production, reliably and at scale. 61% of healthcare organizations surveyed by Bessemer and Bain have kept half or fewer of their internally developed AI solutions actively maintained and in use.[10]

As AI moves from assisting people to acting on their behalf, that challenge becomes a discipline of its own: AI governance, covering the controls, monitoring, and accountability that make an autonomous system safe to trust. In some industries, governance can be treated as a compliance afterthought. In Healthcare & Life Sciences it is part of the product, because it is what turns a capable model into one a scientist or clinician will act on and a regulator will accept. The leaders build it in from the first line of code across three fronts.

1. Trustworthy outputs—can the result be believed and acted on?

- **Explainability.** A scientist, clinician, or operator will rarely act on an output they cannot understand. An AI agent has to show its reasoning—what it based a decision on and why—in terms the user can follow and challenge, or the recommendation is ignored no matter how good it is.
- **Confabulation and bias.** A model can produce a confident but wrong output that misleads a clinician or carry bias from non-representative data so that a system safe for one population is less safe for another. Guarding against both, through guardrails and representative data, is fundamental where the output affects a patient.

2. Safe operation—does it hold up in the real world, over time?

- **Data privacy and security.** Healthcare & Life Sciences runs on the most sensitive data there is. Protecting it by design across the whole lifecycle—in how it is collected, stored, used for training, and exposed in outputs—is a precondition for trust, not a later step.
- **Reliability and drift.** An agent has to deliver the same quality of output across every workflow, user, and edge case, and keep doing so as data, workflows, and models change. That requires continuous monitoring and maintenance that most organizations lack the capacity to provide.
- **Validating autonomous behavior.** Healthcare and Life Sciences risk-mitigation processes were not designed for AI agents that make decisions using probabilistic and general-purpose models. As failures can cause serious harm to patients, companies need to find an agent's failure modes in a real context before it reaches its users.

3. Accountability—who answers for what it does?

- **Oversight and accountability.** 'Human in the loop' is the default safeguard, but it is also a barrier: if users remain responsible for a system they didn't design or control, many will choose not to use it. This is especially relevant for healthcare settings, where even administrative decisions can directly affect patient health.
- **Auditability.** Buyers need a clear record of what an agent did and why, backed by evaluations that run day by day, workflow by workflow, and user by user. That record enables a company to attribute outcomes, get paid for them, and give regulators evidence they can audit.

> "AI is really good at helping you build an MVP very quickly. You have an idea, you set it up, and it works. But when you deploy an agent across your entire infrastructure, will it deliver quality and fidelity every time? Making sure it won't break over time requires expertise, trust in its compliance and security, and maintenance. That's what has proven difficult for a lot of internally built tools.
>
> **Sofia Guerra**
> Partner, Bessemer Venture Partners

The evolving regulatory landscape

In HealthTech, Europe's regulatory framework is still catching up with AI. A CE mark enables market access for clinical AI but doesn't guarantee adoption. For many HealthTech companies, the path to scale looks closer to this:

01
REGULATORY APPROVAL

02
EVIDENCE / HEALTH TECHNOLOGY ASSESSMENT (HTA)

03
REIMBURSEMENT

04
PROCUREMENT

05
ADOPTION

There are friction points at each stage. Most European countries do not yet have clear reimbursement pathways for AI, although Germany and France have developed some mechanisms. The overlap between the Medical Device Regulation (MDR) and the EU AI Act creates uncertainty. And notified bodies, which assess whether medical devices meet EU requirements, have limited capacity to assess clinical AI.

Regulation is also starting to redistribute responsibility. Instead of resting with the healthcare provider who makes the final call, it is moving toward a model where developers are accountable for model design, training data, and updates; AI providers for service reliability; healthcare institutions for procurement and monitoring; and regulators and payers for assessing evidence and setting incentives. If this can be achieved, it will increase confidence across the system.

> "Right now, the healthcare professional at the end of the chain is responsible for everything, because they make the final call. Saying there's a 'human in the loop' is supposed to solve everything, but that's a huge barrier to innovation.
>
> **Dr. Ricardo Baptista Leite**
> CEO, HealthAI

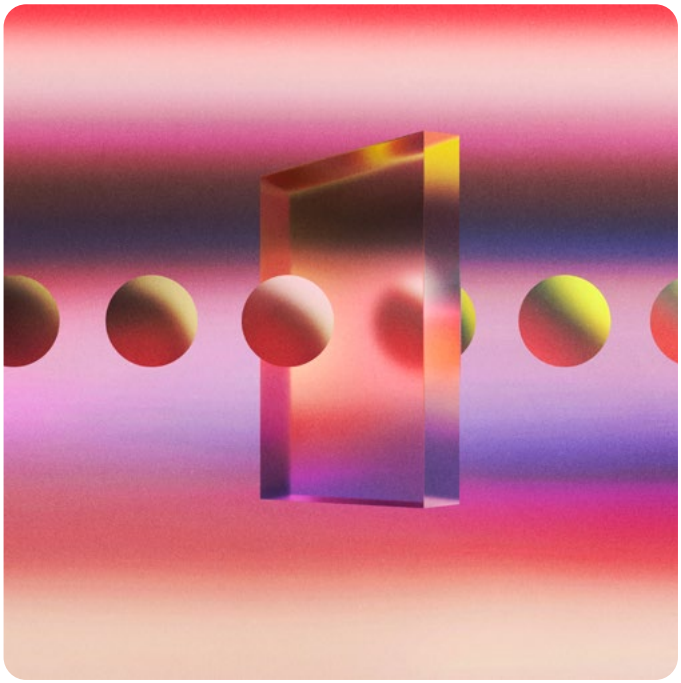
In TechBio, regulators are starting to set the pace. As AI moves into preclinical and clinical development, value can only be created if regulators accept new approaches to evidence and trials. The World Economic Forum notes that regulation and data governance increasingly decide whether scientific advances translate into value.[11] There are early signs of progress: more than 60 AI-designed drugs are now in clinical trials, although none designed entirely by AI has yet been approved.

Alongside binding regulation, voluntary standards are starting to fill the gap, such as ISO 42001 and the NIST AI Risk Management Framework for governing AI systems, and the AI Governance Alliance (AIGA) framework for aligning with the EU AI Act. These give companies a recognized way to demonstrate responsible, well-governed AI as the regulatory landscape continues to evolve.

In the US, the FDA has gone further, challenging the industry to replace animal models in preclinical studies, use virtual patients in clinical trials, and shorten trial approval times. Replacing animal testing could be especially significant. If digital twins could confirm safety and toxicity well enough, the cost of reaching the clinic would fall sharply.

From what's changed to who will lead

AI has made building easier, but everything else remains hard. That's where companies win or lose. Section 2 sets out seven characteristics shared by AI-native leaders who turn those constraints into competitive advantage.



SECTION 2

The seven characteristics of leading AI-native startups in Healthcare & Life Sciences

The next generation of Healthcare & Life Sciences startups are building and evolving much faster than those that went before. Their ability to learn continuously allows them to scale earlier and create compounding value. Here are seven characteristics that set the leaders apart.

01
They know their edge when large enterprises are building AI internally

TechBio startups ultimately need to create value for pharma and biotech companies, as customers, partners, co-developers, or eventual acquirers. HealthTech startups need to win over health systems and payers, medical device giants, and large technology vendors. Yet those enterprises are building substantial AI capabilities themselves. Eli Lilly's Cortex AI platform, for example, has grown from a single model in 2023 to 52 models and approximately 34,000 users in 2026.[2]

So why don't enterprises simply build everything in-house? Because startups still have advantages that are hard for large organizations to match:

- **Speed.** Large organizations often make decisions slowly. Startups can test, learn, and change direction in the time it takes to approve one project.
- **Flexibility.** Buyers decide what to build or buy project by project. Startups can adapt to each buyer's data, systems, and priorities, and slot in where internal teams can't.
- **Focus.** Many internal AI projects stall because teams lack the bandwidth to maintain them across every edge case and compliance requirement. A startup dedicated to one problem has that focus.
- **Talent.** Some startups can attract world-class AI talent more effectively than large pharma companies, because novel ideas get acted on faster.
- **Conviction.** Startups can pursue what pharma won't, such as new biology, overlooked indications, or untouched markets, and become the source of assets pharma later buys.

> "Prototypes are becoming extremely cheap. They cost you minutes and a handful of tokens. But how fast can you actually validate those prototypes in the market? Can you still create value if we swap models in and out? Make sure you're protected by that: have your own data, your own evaluations, your own traces, and be able to iterate on them. That in itself will create the next level of IP.
>
> **Dr. Razvan Ionasec**
> Head of Healthcare EMEA, AWS



As frontier models improve, the line between build and buy keeps moving. Startups need to know where it sits for each buyer:

In TechBio, the answer depends on what the company is really building. Some startups build the model—a foundation model or generative system whose edge is scientific leadership or deep integration into pharma workflows. Others build the asset factory—a discovery platform where computational models, usually with a lab, run in a continuous loop, each cycle sharpening the next and generating candidates as a by-product. And others build the asset itself—using AI to reach biology faster, but remaining a therapeutics business where, in the end, the drug has to work.

Each has a different edge, and the strongest founders are clear about which one they are, because it determines the team they need, the capital they raise, and the deal they can strike with pharma. A startup that reaches biology an incumbent cannot—through a proprietary loop or a differentiated asset—gets licensed, partnered with, and renewed. One that merely matches what pharma can now build in-house gets bought once, if at all.

In HealthTech, the 'build vs. buy' question plays out across different buyers: health providers, payers, IT vendors, device companies, and increasingly the patient directly. Wherever an incumbent could build the AI itself, internally developed AI usually doesn't survive production. Their IT functions are not built to keep models reliable, monitored, current, and audit-ready. That is the current startup's structural edge: the ability to develop, deploy, maintain, and stand behind AI use in a way an internal team can't. A single enterprise only ever learns from itself, while a startup learns across all its customers. Every workflow it solves and every edge case it hits travels to the next deployment, so it arrives at each new buyer already better than any tool that buyer could make on its own. That cross-customer flywheel is something no incumbent building for itself can replicate.

The question for a startup, then, is where to point that edge. The test is no longer what the AI can do, but what an incumbent would struggle to build, sustain, and learn across: work that is workflow-shaped, regulated, and maintenance-heavy. If an enterprise IT team could stand it up and run it alone, the startup is building a feature, not a company. The move that currently wins is 'land and expand': land a single wedge that works, earn the workflow or the patient relationship, then expand from inside—until the product is embedded in how care is delivered and switching away costs more than staying.



02

They build value that goes beyond AI

As powerful models become off-the-shelf tools, AI alone can no longer set a company apart. A useful test: if the underlying model were swapped for another, would the company be worth as much? The companies that pass that test are usually the ones building what a model cannot carry away—trust, data, evaluations, and operational expertise—so they can adopt better models without losing what makes them valuable.

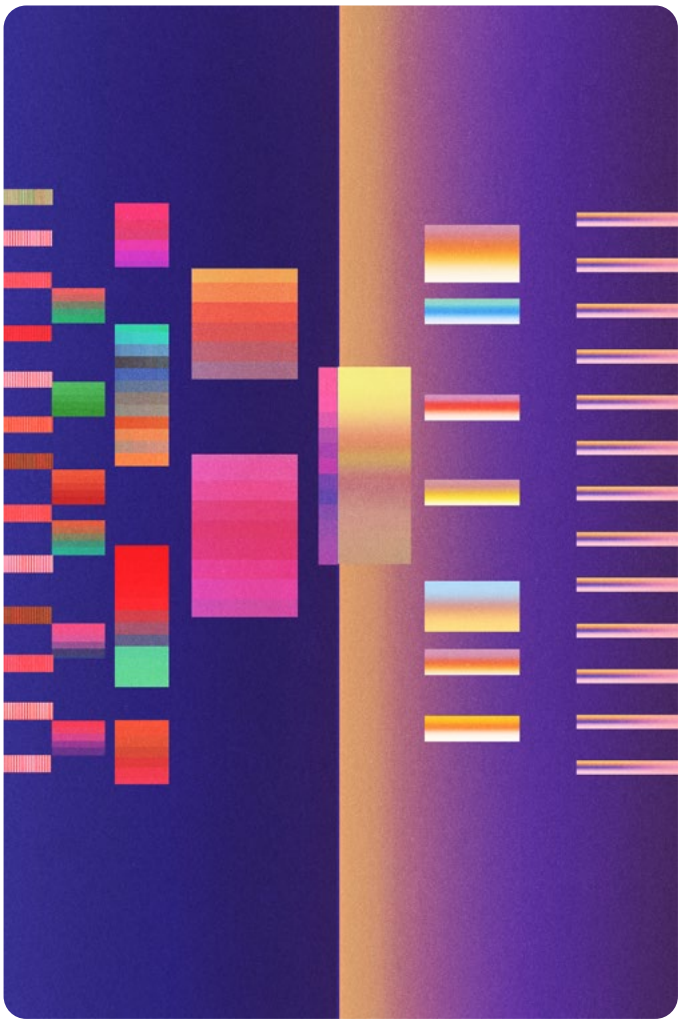
The leaders build these resources systematically, focusing on the ones that are hardest to replicate and that strengthen over time: from the proprietary datasets a company starts with to the traces, evaluations, feedback, and institutional knowledge it generates in real-world use. The most defensible companies turn these into a continuous, value-creating feedback loop.

In TechBio, the loop typically runs between AI and the lab, each experiment sharpening the next and compounding into proprietary platforms, data, and knowledge a competitor can't buy. Regulatory position deepens it: compliance and clinical evidence built into the product raise a barrier every new entrant must also clear, which a general-purpose model can't replicate.

> "More Phase 2 programs are now being killed by competition due to target crowding than by scientific failure. As AI drives candidate production at scale, the edge moves downstream to proving new biology in ways rivals can't.
>
> **Alex Brunicki**
> Co-founder & General Partner, Backed VC

In HealthTech, the loop runs through deployment—each implementation generating clinical, operational, and administrative information that compounds into trust a competitor cannot shortcut. The leaders usually win on two major things, neither of them the model itself: the validation evidence that earns clinician trust, and the integration work of fitting into existing healthcare systems and workflows. Because every customer is local and different, they build the product to adapt rather than rebuild it each time. And above all, they meet users and buyers early and build with them from the start. Every deployment deepens the company's understanding of the need, and that is what the loop compounds.

> "The winners have a very sticky product. They have the trust of patients and clinicians, because you need everyone on board, and very strong partnerships. And they are really good at building brands. As brands are starting to matter a lot in healthcare, especially on the consumer side.
>
> **Johannes Blaschke**
> Partner, Calm/Storm Ventures



03
Their learning loop gets stronger through use

AI-native companies create feedback loops in which experiments, deployments, and usage generate data that improves their science or product. In TechBio, the loop runs between AI and the lab; in HealthTech, it runs through deployment and adoption. Either way, the value lies in exactly what each cycle captures:

- **Traces and logs.** Every action an AI agent takes in production creates a record that becomes institutional knowledge and a source of IP.
- **Evaluations.** A company's own tests of how its models perform in real contexts let it measure improvement and switch models with confidence.
- **Failure data.** Outputs labeled correct or incorrect by experts, and experiments that didn't work, show the system where it goes wrong.
- **Biological insight.** Lab results, particularly from human biology, feed back into computational models and build datasets that are hard to replicate.
- **Real-world and workflow data.** Clinical and operational data from live use shows how clinicians actually work and where a product creates friction.

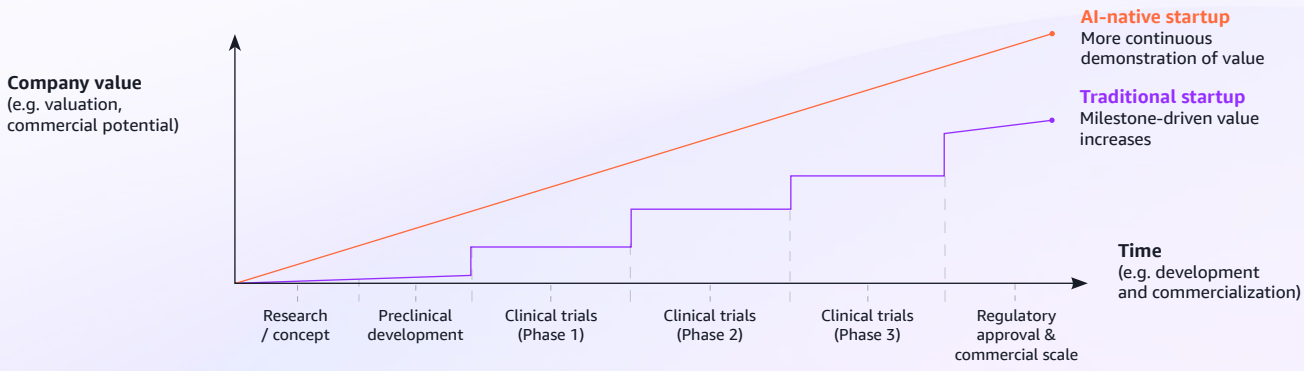
> "The most interesting value in AI applied to TechBio is in companies that are able to build a learning engine. At first, it was only companies using AI in silico, only doing predictions. If you don't check your predictions with the ground truth of biology, it is useless. What is really powerful is a proprietary asset you can check to validate your prediction and generate new data, which then feeds back into your model. The model gets smarter, makes another prediction.
>
> **Benjamin Belot**
> Partner, Kurma Partners

AI development used to be linear: collect data, build a model, deploy it. Now production data flows straight back into the next version, so the advantage goes to companies that complete each cycle fastest and can prove they are genuinely learning. Proprietary loops are also becoming more valuable, as AI developers that relied on public data seek partnerships with biology and lab automation companies.

Traditionally, Healthcare & Life Sciences companies have gained value in steps, with their valuations rising as they pass major scientific, clinical, or regulatory milestones. AI-native companies build value more continuously: faster development, platform performance, customer adoption, recurring commercial activity, and continuous learning all provide evidence of progress between those milestones.

Two paths to value in Healthcare & Life Sciences

AI-native startups can demonstrate value more continuously over time, while traditional startups typically see value increase in steps as key milestones are reached.



Traditional startup
Milestone-driven, step function

- Value typically increases at discrete points as key scientific, clinical, and regulatory milestones are achieved.
- Each milestone reduces risk and can lead to a step change in valuation.
- Longer timelines and higher development risk.

AI-native startup
More continuous, linear progression

- Value can be demonstrated more continuously through platform development, real-world evidence, adoption, partnerships, and early commercial traction.
- Progress is less dependent on a single milestone event.
- Can reach meaningful value earlier.

04

Their value grows faster than the cost of delivery

AI makes building faster, but the cost of delivering an AI product—tokens, compute, inference—can rise with usage. As a startup's AI does more, whether by taking on more of a workflow or creating value that did not exist before, it can also cost more to run. The question that separates the leaders is whether the value they deliver grows faster than the cost of delivering it—and they engineer both sides.

On the cost side, the economics are moving in the founder's favor: inference costs have fallen roughly 75% in the last 18 months and continue to drop.[9] Yet most companies have not captured that—by one estimate, 95% of enterprise AI still runs on the most expensive models.[9] Matching the model to the task alone has cut inference costs by 60–80%.[10]

The deeper point is that cost discipline is an engineering choice, made continuously rather than once. The leaders decide where AI is worth deploying at all—automating the high-volume, repeatable work where the return is clear. They match the model to the task, running lean models for routine work and reserving frontier or complex models for the heavy tasks that justify the cost. They treat prompts, caching, and routing as code—versioned, tested, and optimized—so unit costs fall as usage climbs. And they design for the maturity curve from the start, knowing that early on the real cost is data, integration, and governance, and that compute and tokens only become the margin lever at scale.

On the value side, the mechanism is the learning loop. Each deployment, project, or experiment feeds back into the product, so the same model delivers more with every cycle: better model results in TechBio; better outcomes and tighter workflow fit in HealthTech. Value compounds while the marginal cost of serving the next customer falls.
A deeper shift happens when AI does not only take over work that already existed, but when it creates value that was not possible before. In TechBio, that means reaching biology no one could previously explore, hypotheses too costly or complex to pursue, and targets and designs human-led research would never have found. In HealthTech, it means care that could not be delivered at scale before, such as continuous monitoring and personalized decisions, and work that no workforce had large enough capacity to do. The strongest companies are not just automating the old world more cheaply; they are creating a new one.

> "We think it's the first opportunity we have to really collapse the cost of healthcare. And we believe that from a financial perspective, owning that cost collapse can be really attractive.
>
> **Dr. Javier Nunez-Vicandi**
> Principal – Digital Medicine Strategy, Sofinnova Partners

As cost and value structures change, business models are shifting to align revenue with how value is delivered, and to share risk. Usage-based pricing carries margin risk if AI costs grow faster than expected. The leaders find creative business models and price for the value they create, not the software they ship. And they structure it in a way their buyers can easily digest—attached to concrete budget buckets, metrics, and tasks—so a buyer can measure its ROI and decide how much of it is worth paying to an external vendor.

In TechBio, the shift is from selling individual assets toward commercializing platforms and models that spread risk across several programs. This means one failure doesn't sink the business. Deals are being struck at earlier stages of asset development, where startups grant large enterprises access to their technology for co-development rather than a full M&A. The business model has adjusted to match: milestone payments are becoming a common structure, with or without revenue sharing, typically involving an upfront payment plus large future milestones tied to success, so risk is shared and weighted to outcomes. The tricky part is agreeing in advance how much of the outcome the startup's technology contributed and deriving its share from that.

In HealthTech, the shift is toward service, usage, and outcome-based pricing, which aligns well with the growing trend toward value-based care models. The leaders keep their pricing model flexible, so it can adjust to the evolving use cases a buyer might apply their AI to. Pricing can, for example, divide the value across different tasks or modules and share the risk accordingly. Outcome-based models require prior agreement on what is measured, over what period, how much can be attributed to the technology, and who carries the risk. This makes them more complex and still rare to see.

> "Outcome-based pricing is compelling in theory, but in practice it hits three hurdles. You need to agree on the outcome itself. You need to agree on attribution: was it the AI, or something else the hospital changed? And the measurement cycle is long, but a startup needs cash now. The model only works if those three questions are settled upfront in the contract.
>
> **Samantha Jérusalmy**
> Partner, Elaia

05
They prepare for scale earlier

The pace of AI lets a company reach customers faster, so the question of how to scale arrives earlier than it used to. The leaders don't treat scale as a later phase. They design for it from the start, because in Healthcare & Life Sciences the hardest parts of scaling lie beyond the science and the model. They lay the groundwork early, on several fronts at once:

- **Trust.** AI made the product faster to build, while trust still takes time to earn. The leaders respond by making it repeatable rather than winning it one customer at a time. This requires standard governance and reusable evidence, so each new use of their technology clears the bar faster than the last. The sharpest discipline is in the contract itself: settling trust-based terms before the pilot starts, so a successful pilot converts into an agreement, instead of dying in months of renegotiation.
- **Go-to-market.** Because the technology arrives sooner, the commercial motion has to be ready sooner too. Leaders map their buyer, budget, sales cycle, and the evidence that unlocks it well before they need to. In Healthcare & Life Sciences, where those cycles are long and multi-stakeholder, starting early is what enables them to move the moment the technology is ready.
- **Channel partners.** AI did not shorten the procurement and deployment processes with large buyers. Leaders close that gap through collaborations with technology and distribution partners—becoming enterprise-ready, connecting into customer environments, and reaching big buyers through co-selling—and they build those relationships early, before they are urgently needed.
- **Funding.** AI shortened the time it takes to build, but scaling in this industry is still capital-intensive and the milestones are still far apart. Company roadmaps have tighter milestones now, and funding rounds need to adjust to the faster achievements expected in each one. Leaders plan their fundraising and runway against the next real inflection point—a POC, a first commercial contract, a clinical readout, a regulatory clearance—rather than the next 18 months.
- **Architecture.** AI lets founders validate the science first and worry about everything else later. This is a trap to avoid, because they then discover that scalability, compliance, integration, security, and governance are the real barriers to enterprise partnerships. Leaders build for those requirements from the outset, so the product can meet a bigger, more regulated customer without being torn down and rebuilt. Compute itself is now a resource to plan around, not one founders can assume: demand for AI capacity is outrunning supply, which is why major cloud providers are investing at record scale. AWS alone has committed over $200 billion in capital in 2026 to build it.[13] The leaders design to use that capacity efficiently and secure access early, rather than hitting the constraint as they scale.

In TechBio, companies can develop their science and early assets in Europe, then look globally for clinical development, capital, and commercial reach. This is because the biology is the same across markets, and expansion is largely a question of where the buyers are located.

In HealthTech, scale is harder won. Healthcare systems differ even within a single country in how technology is integrated, bought, and paid for—so success in one market does not guarantee success in the next. Beyond adapting the product to local systems and rules, what adoption really turns on is relationships and local credibility—which is why the leaders invest in them early.

> "Negotiate what the contract looks like before the pilot starts. Ideally, you have an automatic flip-over: if the pilot meets an agreed endpoint, such as a clinical outcome or a cost saving, contracting follows automatically. Otherwise you face months of negotiation, you lose momentum, the hospital's priorities change, and the pilot dies.
>
> **Dr. Andrew Elder**
> Deputy Managing Partner, AlbionVC

> "Healthcare organizations, from pharma to providers, suffer from the sin of 'not invented here,' so even phenomenal AI can meet internal pushback and has to break through psychological barriers. Your commercial strategy should be built on strong champions, your fluency in healthcare's language, and a unique ability to build engaging products all team members will love.
>
> **Dr. Gal Noyman Veksler**
> Partner, LionBird

06

Their whole business keeps pace with AI

AI changes the bottlenecks inside a company. It accelerates some things dramatically: discovery, design, and building the product. But it leaves others moving at their old speed: the commercial work, the biology, the clinical testing, the approvals, and the organizational change needed to turn a capability into value.

The result is a gap between what a company can now create and what it can actually absorb and deliver. Leaders recognize that the binding constraint has moved from capability to capacity, and they build the rest of the business to keep pace with the part that AI sped up.

- **Flexible teams.** The skill AI rewards most is the ability to adapt as the technology changes underneath you. The best technical leaders today are not the ones who know one stack or one science cold, but the ones who keep re-learning and rebuilding as better models and modalities arrive every few months. They are committed to what they build, not how, so swapping out the underlying technology is routine rather than disruptive. The strongest founding teams pair that adaptability with someone who comes from the customer's world, because keeping pace with AI is as much an organizational skill as a technical one.
- **Parallel progress.** AI has compressed the build, so the old habit of advancing IP, regulatory, clinical, and commercial work in sequence now wastes the very time AI saved. The leaders run these tracks in parallel wherever they can, so each one informs the others. The slower tracks start early enough to keep pace with the faster ones, and the company reaches each milestone as a whole rather than one function at a time.
- **Designing for where regulation is heading.** Regulation is still catching up with AI, so the leaders don't design only for today's rules. They anticipate where the rules are going, including how responsibility will be distributed and how approval and monitoring regimes for AI will take shape. They build so that a shift in the framework means an adjustment, not a rebuild. In practice, this mainly means building and monitoring within established risk-management standards now, so it's easier to adapt as new rules arrive. Keeping pace with AI means keeping pace with the rules chasing it.
- **Carrying the customer's capacity.** Often the sharpest capacity gap is not the startup's but the customer's: many healthcare buyers cannot deploy, integrate, and monitor AI on their own. The leaders bring that capacity with them, so a customer's friction in absorbing the technology does not become the ceiling on the company's growth.

The capacity gap also looks different by domain. In TechBio, it's physical and scientific: wet-lab throughput, biological validation, and clinical timelines that no model can shorten. That's why the leaders fund the company to reach a genuine scientific milestone, rather than letting slow partnering cycles consume the runway. In HealthTech, it's organizational: integration, procurement, change management, and the clinician trust that adoption depends on. That's why the leaders bring the deployment capacity their customers lack.

> "Two years ago, a great CTO was someone with deep technical expertise. Today, it's someone who can continually adapt as AI evolves, embrace new technologies, and rethink how things are built. The mission stays the same, but the way you achieve it can change completely.
>
> **Andrea Zitna**
> Partner, Speedinvest



07

They think creatively about the path to exit and liquidity

The leaders build for uncertainty, because the path to liquidity for AI-native startups in Healthcare & Life Sciences is still being written—and that is exactly where their creativity shows. With the technology itself increasingly commoditized, the acquisition premium sits more and more in the moats around it: validated assets, proprietary data, embedded workflows, the team, distribution, and the platform.

The field of acquirers is widening around them: pharma companies facing patent cliffs, frontier AI companies arriving as both acquirers and competitors, integrators and consolidators assembling platforms, and financial investors entering earlier. With no settled playbook for how any of these convert to cash, the leaders engineer the company around a path to liquidity rather than a single type of acquirer, while also leaving room for opportunities that haven't emerged yet.

The traditional exit routes in Healthcare & Life Sciences were narrow: an IPO or acquisition by a larger incumbent. The leaders no longer treat these as the only destinations, and much of their advantage lies in the alternatives they keep open.

In TechBio, rather than holding out for a single trade sale, the leaders turn the exit into a funding strategy. They sell or license assets early for non-dilutive capital, extending runway and retaining ownership along the way. Their creativity is in what they build to sell, which is not just a molecule but an asset factory—a repeatable platform that keeps producing new ones. That reframes the acquisition question from "how valuable is this one-off asset?" to "how valuable is our ability to make the next one?"—and widens the field of potential acquirers.

In HealthTech, where digital health is broadly consolidating into bigger platforms, the leaders build so they can own a whole vertical, be acquired into a platform, or become a platform themselves. They keep every path live and position themselves for acquirers who were never in this market before: IT vendors, hyperscalers, frontier AI companies, and integrators looking to package the best technology for their customers.

Across both domains, the leaders keep their moat valuable to several liquidity paths at once rather than betting on one. They are just as deliberate about where liquidity sits geographically. With late-stage capital and public exits still concentrated in the US, many European leaders design a transatlantic path from day one rather than hitting that constraint late. The result is a path to liquidity they choose, rather than one chosen for them.

These characteristics apply to AI-native leaders everywhere, but Europe brings its own strengths and constraints to each of them. In Section 3, we look at what this means for Europe's ability to capture the value it creates.

> "The more you can own the asset yourself, the greater leverage you have with any pharma company. Whether you fund the development through asset partnerships that provide non-dilutive capital, a founder who raises exceptionally well, or other revenue streams such as data sharing and AI, assets will always be critical.
>
> **Alex Brunicki**
> Co-founder & General Partner, Backed VC

> "Big tech companies and CDMOs want to be the integrators for the future of the industry. They'll be like Bosch for the auto industry. Car companies don't want to buy AI from every startup; they'd rather buy from a Bosch they trust, which does the due diligence and brings them the best technology.
>
> **Mati Gill**
> Founding CEO, AION Labs

SECTION 3

Europe's structural opportunity

Europe has many of the ingredients that AI-native leaders need: world-class science, deep technical talent, rich health data, and a regulatory system that builds trust. The challenge is how to turn those strengths into companies that scale. AI lets companies scale sooner, so the choice between staying local and going global arrives early, and how leaders answer it decides how much of the value they create stays in the region.

Where Europe is strong

European universities, research institutions, and clinical expertise are among the best in the world, and AI-native company formation is significant across the region: Israel leads world rankings with the highest percentage of AI-native startups (31%), followed closely by the US (30%), France (28%), the UK (23%), and Germany (22%).[1]

Engineers with experience at leading US technology companies are returning to build companies in Europe. Talent is often more loyal and less expensive than in the US, so capital raised in Europe can go further. And while Europe can't match the US for access to horizontal global AI products, it can lead in vertical, domain-specific AI, where the advantage comes from science, data, and conviction in new biology or connections with local stakeholders and regulatory compliance.

Europe offers advanced public health systems, leading academic medical centers, deep health data, and government funding—exactly the conditions in which scientific talent innovates. Changes to health data usage may create a further source of value for European companies. The European Health Data Space (EHDS) intends to make health data easier to use across borders for research and innovation, including AI. Secondary-use rules will apply to most health data from 2029, extending to remaining categories like genomic data from 2031.

Where Europe is constrained

For HealthTech, the biggest constraint is fragmentation. Different regulation, reimbursement, procurement, guidelines, and buying structures across countries make scaling slower and more costly. A company may prefer to scale in one large market (typically the US) rather than set up separate commercial organizations in Germany, France, and Italy.

Regulation is both an asset and an open question. Europe's high standards build trust, as Section 1 described. But in TechBio, the FDA is visibly encouraging new approaches to preclinical testing and clinical trials. Europe's advantage will depend on keeping high standards while making the path through evidence, approval, and reimbursement more standardized and predictable.

Capital is the third constraint, and it shapes the path to exit described in characteristic 7. Growth-stage capital and later-stage liquidity remain concentrated in the US, including public markets such as Nasdaq. In HealthTech, the gap is most visible from Series B onward. In TechBio, it starts earlier: US-based investors are more willing and able to fund the large, higher-risk early rounds needed to reach scientific and clinical inflection points. There are signs of change. US funds are increasingly investing in European companies, drawn by talent and more attractive entry valuations, and private equity is entering at earlier stages.

> "European investors take on the hardest part: backing founders when the science is unproven and the risk is highest. But when the best of those companies hit their inflection point and need serious capital to scale, it often isn't available here, and US funds step in to capture most of the value. I don't want Europe to keep being an accelerator for the US.
>
> **Andrea Zitna**
> Partner, Speedinvest

What are the routes to scale?

In practice, European companies are taking different routes to global scale, depending on where they can best build evidence, access customers, and secure capital. Founders and investors consider which route to take early, rather than just assuming a strong position in one European market will naturally translate into wider growth later on.

The three typical routes are:

- European validation followed by US commercialization
- European R&D with US sales or global pharma partnerships
- Expansion across selected European markets

The leaders decide early how and when they intend to scale and raise for it deliberately. If the ambition is global, they engage US investors from the outset, building the relationships, structure, and evidence those funds expect well before the round they need them for, rather than hitting the follow-on gap at Series B and scrambling across the Atlantic late.

Europe's opportunity

Europe is strong at generating research and innovation but has struggled to turn it into companies that achieve global commercial scale.[12]

AI is now raising the stakes. Scientific excellence may well start in Europe. The question is whether Europe's talent, health data, and regulatory credibility can carry that into global markets, or whether the commercial value will be captured elsewhere. The answer is not by making regulation lighter, but by creating a more connected and predictable journey from innovation to scale.

> "Europe has no shortage of innovation. We have talented people and companies developing remarkable technologies. The opportunity is to create the conditions that allow those innovations to reach patients, attract investment and scale internationally. That's how Europe can turn its strengths into a lasting competitive advantage.
>
> **Dr. Ricardo Baptista Leite**
> CEO, HealthAI



CONCLUSION

Leading what comes next

While AI has made it faster than ever to build a Healthcare & Life Sciences company, the startups that succeed must tackle the complexities that sit further downstream.

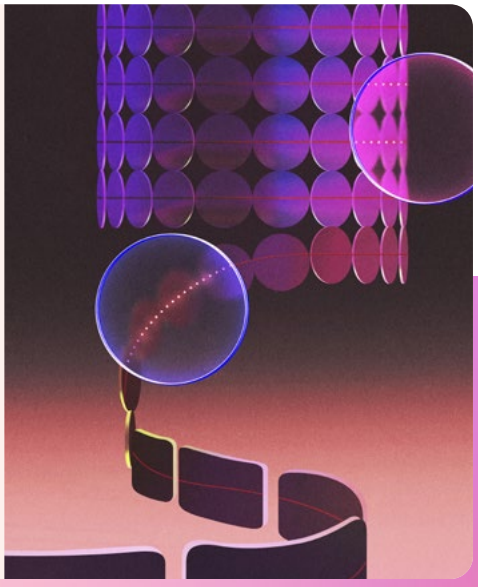
Europe has many of the ingredients to produce these companies. Capturing more of the value they create will depend on founders, investors, healthcare systems, and technology partners working together to turn innovation into lasting scale.

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Alex Brunicki
Co-founder & General Partner,
Backed VC

Early-stage investor in breakthrough technologies across manufacturing, compute, healthcare, and life sciences, with a particular interest in AI and robotics in therapeutic development. He also co-runs Generation Bio, a biotech founder community spanning London, Boston, and San Francisco.



Andrea Zitna
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Leads Speedinvest's Health & Bio team, backing companies at pre-seed and seed. She was previously part of the founding team at women's health company Elvie, helping scale it from an early-stage startup into a global business.



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Healthcare & Life Sciences investor and former neurosurgeon. His experience spans clinical practice, venture investing, and health data, with investments across digital health, diagnostics, AI, and therapeutics.



Benjamin Belot
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Partner in the HealthTech and TechBio team at specialist European investor Kurma Partners. He invests across AI, diagnostics, MedTech, and technologies at the intersection of computing and biology.



Daniel Rabina
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Leads AWS's Healthcare & Life Sciences startup and VC partnerships across EMEA. He previously helped shape Israel's national digital health strategy, supporting $300M in R&D collaboration between startups and healthcare organizations, and has served as Chief Innovation Officer at Assuta Medical Centers and Venture Partner at Alive.



Dr. Gal Noyman Veksler
Partner, LionBird

Partner at LionBird, an early-stage venture capital firm that backs the best founders at the intersection of healthcare and AI and has built the most active digital health portfolio in the US and Israel corridor across four funds. She leads LionBird's Rings community of senior healthcare budget holders. A former neuroscientist and AI healthcare operator, she focuses on longevity, mental health, women's health, and AI for pharma.



Dr. Javier Nunez-Vicandi
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Invests in startups working at the intersection of AI, computation, and bio/health at Sofinnova Partners, where he also co-leads the firm's internal AI platform. A former NHS clinician, he was previously part of the early team at Heal Capital and invested in healthcare, biotechnology, and automation at M Ventures.



Johannes Blaschke
Partner, Calm/Storm Ventures

Partner at Vienna-based Calm/Storm Ventures, an early-stage HealthTech investor with more than 80 portfolio companies. A former paramedic, he has also worked as a consultant and as an investor at Speedinvest and Oxford Sciences Enterprises.



Mati Gill
Founding CEO, AION Labs

Leads AION Labs, the venture studio founded by four global pharmaceutical companies, AWS, and the Israel Biotech Fund. He works at the intersection of pharma R&D, AI, startup creation, and commercialization. Mati is also Chairperson for Life Sciences and Health, The Israel Export and International Cooperation Institute (IEICI).



Dr. Razvan Ionasec
Head of Healthcare EMEA, AWS

Leads AWS's healthcare business across EMEA, working with ministries of health, providers, payers, and startups on AI adoption, enterprise transformation, and commercialization. An AI scientist by training, he holds a PhD in computer science.



Dr. Ricardo Baptista Leite
CEO, HealthAI

Medical doctor working across global health, health systems, and science-based policymaking. He is also Founder and President of the UNITE Parliamentary Network, Chair of the NOVA Center for Global Health, and a Core Member of the UK National Commission on the Regulation of AI in Healthcare.



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Invests in Healthcare & Life Sciences companies from seed through growth, with particular expertise in HealthTech, AI, and scaling healthcare businesses. Her background spans healthcare investing, strategy, and life sciences entrepreneurship.

1. AWS, Engines of Growth, June 2026
2. AWS, 2026 Life Sciences Symposium keynote
3. Amazon, Amazon and Anthropic deepen strategic collaboration, 2026
4. Amazon, AWS and OpenAI announce strategic partnership, 2026
5. Chatterjee B, Steiner R, Kaul G, Industry Perspective - What does Industry Need to Accelerate Drug Product and Process Development?, January 2024
6. Journal of the American Medical Association, Estimated Research and Development Investment Needed to Bring a New Medicine to Market, 2009-2018, March 2020
7. Oxford Academic, Estimation of clinical trial success rates and related parameters, April 2019
8. AWS, Introducing Amazon Bio Discovery, AWS for Industries blog, April 2026
9. AWS, You CAN Manage, Forecast, and Evaluate AI Costs, AWS Executive in Residence Blog, June 2026
10. Bessemer Venture Partners and Bain & Company, The 2026 Healthcare AI ROI Scorecard, September 2026
11. World Economic Forum, Strategic Choices in the Age of AI: Shaping the Future of Life Sciences, May 2026
12. European Commission, The Future of European Competitiveness (the Draghi Report), September 2024
13. Amazon, AWS AI investment on Q4 2025 earnings call, April 2026