

Digital Backbone for Biotech

How a Venture Firm Streamlined Launching and
Scaling Modern Biotech Companies



At a glance

A Cambridge, MA based venture capital firm built a comprehensive digital platform and operating model to accelerate the launch and growth of biotech companies.



Use Case:

Reducing the number of decisions biotech companies need to make for selecting, procuring, and implementing modern digital technologies to enable their science.



Goal:

Launch biotech companies that are digitally native and enable smooth scaling from startup to enterprise.



Solution:

A comprehensive Digital Backbone with standardized cloud setups, ELNs, data guidelines, automation, analytics tools, preferential pricing, fast access to experts, and shared portfolio resources.

Impact over four years

\$3M+

in cloud savings

~60%

lower scientific
software costs

Zero

cloud security
incidents

700+ member

community of
computational
professionals

The challenge

Launching Digital Biotechs

Biotech companies generate large amounts of data and need digital technologies to power science at scale. Each company in this VC's portfolio went through the process of choosing a tech stack, negotiating with vendors, and finding consultants. This constant re-invention of the wheel led to significant lost time across the portfolio.

Improving Outcomes by Reducing Decisions

The number of technology decisions that need to be made by biotech startups can be overwhelming. Data scientists found themselves responsible for much more than analysis: cloud, cybersecurity, data management, and others.

A strong digital foundation can accelerate biotechs but a patchwork of solutions carries high opportunity costs as employees spend large amounts of time on low-value activities.

The firm needed a better way to support its ventures from day one.

Biotech Venture Capital

The biotech VC field is highly competitive. Over 1000 firms vie for investors, scientific achievements, and returns.

By combining capital formation and allocation with scientific and operational expertise, this VC is able to create and incubate several new companies every year.

Portfolio size:

40+ active companies

Assets under management:

Over \$10B

New companies per year:

6-8



The solution

The Digital Backbone for Science

The firm responded by creating the Digital Backbone for Science, a standardized yet customizable platform that delivers enterprise-grade digital capabilities to early-stage companies.

Four integrated layers

1) Cloud Foundation:

Built on AWS for security, scalability, and speed.

2) Scientific Data Management Standards:

Consistent models, organization, and vocabulary for research data.

3) Automated Data Pipelines:

Streamline the flow of data from lab instrumentation to cloud-based analytics.

4) Data Science Tools:

A suite of custom and commercial software available to all portfolio companies *a la carte*.

It's more than just tech

Vendor negotiations and contracting were handled centrally, yielding preferred pricing and consistent terms.

A vibrant community was established for knowledge-sharing across the portfolio.

Centers of Excellence were created to help portfolio companies with cloud architecture, data stewardship, analytics, and AI engineering.

An operating model following the principles of Nudge theory helped balance standardization with flexibility.

"Modern biotechs must be digitally native from the start and data needs to be treated as a first-class asset to benefit from advanced analytics, ML, and AI. Having a strong foundation is table-stakes."

John Damask

Founder, Amroja LLC

The outcome

Faster companies, improved portfolio observability

The Digital Backbone for Science allows this VC to launch new companies quicker than ever before. Leveraging Infrastructure as Code, it takes less than a day to set up the core technology pillars for digital science. Within a week of inception, companies can generate data at scale and analyze them in AWS.

The Digital Backbone also gives the VC better visibility into their portfolio companies. It can now identify issues before they become problems; usage patterns can be monitored to find areas for improvements; trainings, hackathons, and new tools can benefit everyone.

Portfolio companies now spend more time prosecuting science and less time making technology decisions.

\$3,000,000+

in cloud savings over
four years

60% reduction

in scientific software
costs

Zero

security breaches of
cloud accounts

Faster, smoother

company spinouts
after incubation

New executives and scientific hires consistently offered praise for the solution.

“We are 100% more productive because of the Digital Backbone and team.”

“You saved us \$200,000 this year!”

“I wish all biotech startups had this”

Conclusion

The Digital Backbone demonstrated that even early-stage biotech startups can operate with the confidence of much larger enterprises and focus fully on their scientific missions from the start.



How can Amroja help your business?

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