

Zymos

A self-funding Enzyme-as-a-Service platform powering the circular polymer economy

Kurmanbek Mukhambetov

mukhkurmanbek@gmail.com

Model: Dual-Track Flywheel
(Profitable IT services fund
DeepTech R&D).

Core Tech: AI-driven protein
generation (ProteinMPNN +
RFdiffusion).

Stage: In-silico prototyping &
Academic validation

PROBLEM

The Polyolefin Crisis

460M Tons

Global Plastic Produced Annually

91%

Sent to Landfills, Incinerated, or Leaked

Mechanical Recycling is Broken

Traditional shredding degrades polymer quality with every cycle. It is highly intolerant to contamination and cannot process mixed waste streams.

The Molecular Bottleneck

Polyolefins (PP/PE) represent the bulk of global waste, but their carbon-carbon bonds are chemically inert. We are using 20th-century physical force to solve a molecular problem

The Enzyme Studio: Engineering Biological Software

In-Silico Design



The Virtual Lab



Molecular
Breakdown

Using **ProteinMPNN** and **RFdiffusion** to generate optimized sequences 1,000x faster than traditional R&D

A **Zero-CapEx** engine. Decoupling design from execution by outsourcing validation to a global network of Tier-1 CROs

Engineering oxidative enzymes to crack the carbon-carbon bonds of **Polyolefins (PP/PE)**—the "un-recyclable" 91%.

BUSINESS MODEL

The Dual-Track Flywheel

TRACK B: AUDIT & RESCUE EAAS

Immediate, high-margin cash flow from computational dataset rescue services.

TRACK A: THE VIRTUAL LAB

Zero-CapEx operations utilizing AI design and outsourced CRO validation

THE R&D FIREWALL

10% gross revenue and 50% net profit automatically funneled to discovery

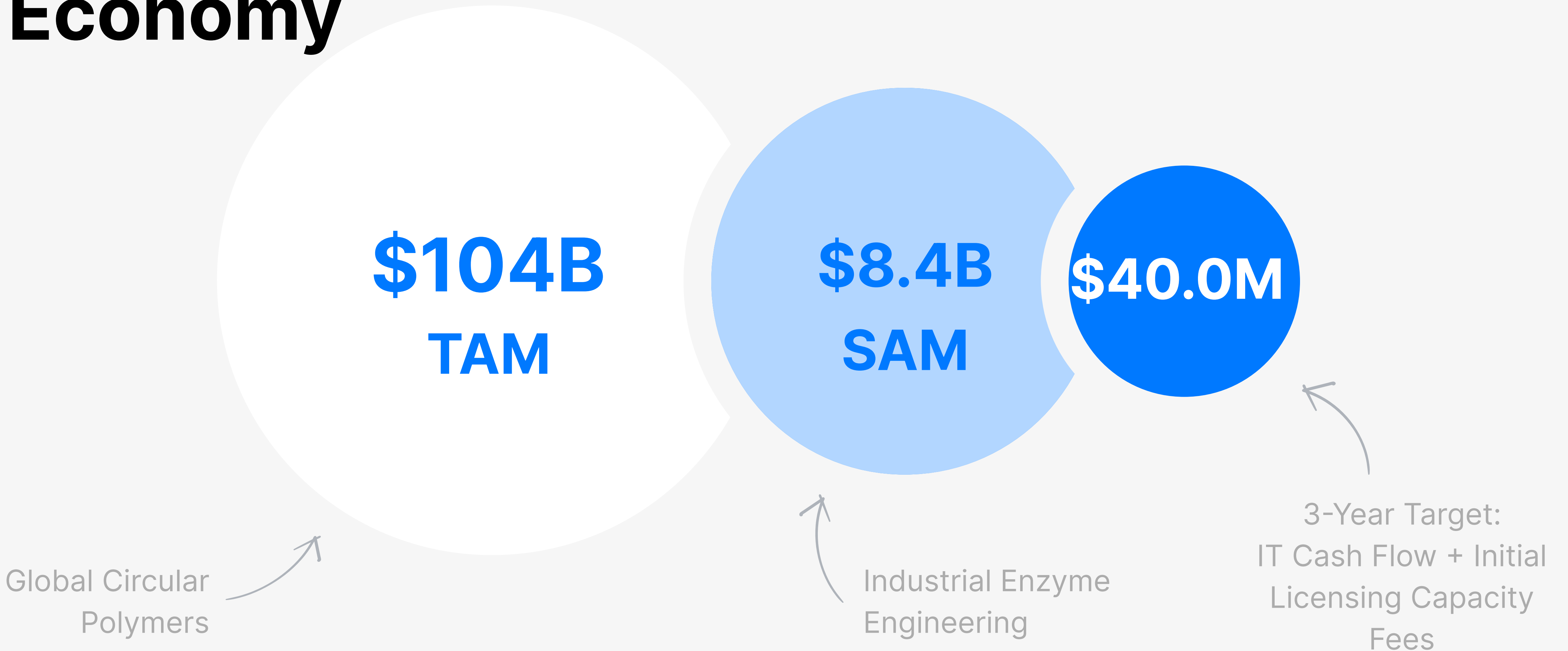
MONETIZATION: IP LICENSING

High-margin upfront capacity fees coupled with recurring backend royalties



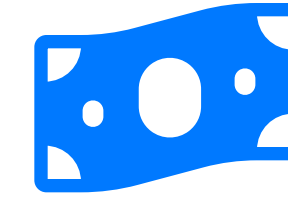
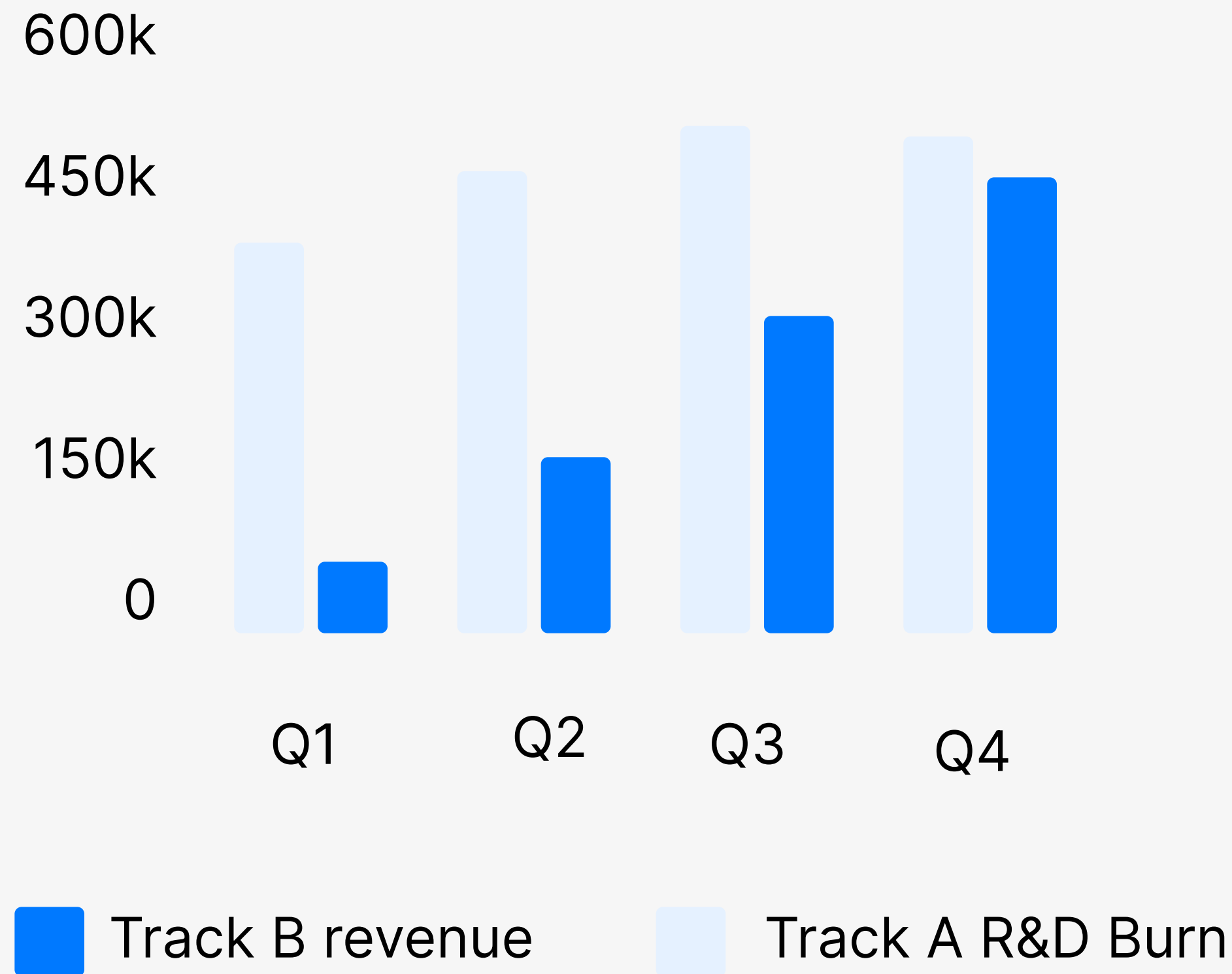
MARKET OPPORTUNITY

Capturing the Circular Economy



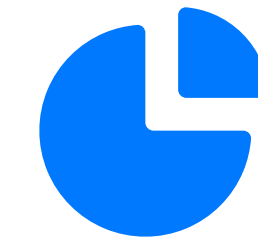
FINANCIALS

Pre-Seed Unit Economics: The Dual-Track Flywheel



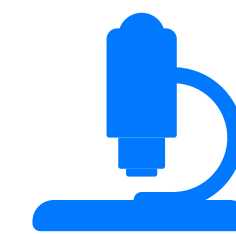
\$150/hr

AUDIT RATE (Standard academic/
commercial bioinformatics consulting
rate)



80-90%

GROSS MARGIN (Powered by
0% VAT & optimized cloud
compute)



<\$30k

VIRTUAL LAB CYCLE (Cost for
a complete physical validation
of 50 AI-designed VARIANTS)

COMPETITION

Comparison

	CARBIOS	EVOLUTIONARY SCALE	FIOS GENOMICS	ZYMOS
Zero-CapEx Virtual R&D		○	○	○
High-Margin Service Revenue			○	○
Proprietary Enzyme IP	○	○		○
Jurisdictional Tax Arbitrage				○

THE ASK

Pre-seed round

 **\$1.5M — CRO High-Throughput Screening**

Finances the physical synthesis, expression, and functional assay testing of thousands of AI-generated variants.

 **\$1.0M — Remote R&D Team**

Funds a globally distributed, world-class team of computational biologists to direct AI algorithms

 **\$0.5M — Scale-Up & Pilot Validation**

Focusing on paid ads and investing in SEO

Raising

\$3M

Target: Validated Lead Candidate and Provisional Patent Application in 18 Months.

TEAM & EXPANSION

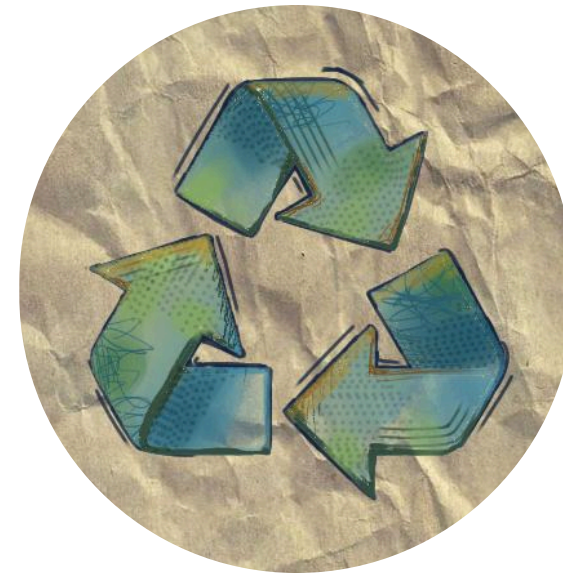
Founder-Market Fit & Our Hiring Roadmap



FOUNDER & CEO

Kurmanbek Mukhambetov

Biomedical engineer (KSTU). Accelerate Prosperity Incubator Alumnus (2026). Hands-on operational experience in a cell culture laboratory



LEADERSHIP & TRACTION

Resource Management

Raised \$14k & led 250+ people (Trashworks). Top 5% Global Climate Science Olympiad.

KEY HIRES (Q3 2026)

Remote R&D Team

\$1.0M allocated to hire a distributed team of PhD bioinformaticians to scale AI pipelines

STRATEGIC OPS

CRO Network

Managing the 'Virtual Lab' by orchestrating global CROs for high-throughput DBTL cycles

SUMMARY

Competitive advantages



\$42B

Market Demand

Surging demand for bioinformatics services fuels our self-sustaining, dual-track discovery engine



80-90%

Gross Margins

Track B dataset rescue cash flow immediately subsidizes Track A R&D burn



<\$30K

Virtual Lab Cycle

Zero physical wet lab CapEx. Complete physical validation of 50 AI-designed variants for under \$30,000



\$3.0M

Pre-Seed Ask

100% deployed to IP generation. Secures an 18-month runway to a validated lead candidate