

ONCOSWITCH — Investor Value Proposition

1. Project Overview

OncoSwitch is an AI-driven biotechnology platform that designs programmable DNA switches for safe and selective gene therapy in oncology. Each switch activates therapeutic genes *only in tumor cells* and remains silent in normal tissue. Our platform unites AI design, high-throughput MPRA testing, and machine-learning optimization into a self-improving loop: every cycle refines accuracy, lowers cost and accelerates discovery.

2. Market Opportunity

- **TAM:** \$63 B (oncology & gene-therapy global market, 2025).
- **SAM:** \$28 B (precision and cell/gene-therapy segment).
- **SOM:** \$2.25 B (addressable market for AI-driven gene-control and licensing).

Focus: Cancer-cell and gene-therapy applications (CAR-T/TCR) and infrastructure markets (platforms, outsourcing, technology transfer).

Why now: The fusion of AI and synthetic biology enables programmable therapies as DNA design becomes faster and cheaper.

3. Problem

Current gene therapies cannot reliably distinguish between cancerous and healthy cells.

Standard viral vectors and promoters lack cell-type specificity, causing unintended gene activation, toxicity, and variable patient outcomes.

4. Solution

OncoSwitch develops AI-engineered DNA switches that precisely control when and where therapeutic genes are expressed.

Our platform integrates artificial intelligence and laboratory validation into a closed learning cycle. Each iteration produces experimentally validated regulatory switches with measurable on/off selectivity — addressing the key barrier of uncontrolled gene expression in cancer therapy.

5. Business Model

Revenue Stream	Description	Avg Deal	Annual Potential
Pilot Projects	8–12 week cycles for partners	\$225 K	≈ \$1.8 M
SaaS Subscriptions	Platform & API access + analytics	\$50 K	≈ \$0.5 M
Licenses	Upfront + milestones ± royalty	\$0.5–1 M	≈ \$1–2 M
Switch Libraries	Ready-made validated libraries	\$50–300 K	≈ \$0.6–0.9 M

7. Traction & Milestones

18-month program (10 experimental cycles):

Phase	Duration	Key Deliverables
Preparation	0–60 days	Platform setup, SOPs, team hiring
AI Model / MPRA	61–135 days	First cycles, data → model training, US provisional patent
MVP & BD Launch	136–180 days	MVP report (methodologies + QC); BD launched (Pilot One-Pager, demo office).
Pilot	6–12 months	Paid pilot project
Licensing & Scale	12–18 months	≥ 2 pilots, ≥ 1 license, PCT filing

8. Investment Proposition

- **Round:** Angel / Pre-Seed — **\$1.1 M target.**
- **Use of funds:** 45 % R&D cycles (10 × \$50 K), 36 % team, 19 % infrastructure + IP + BD.
- **Instrument:** SAFE / convertible note.

- **Expected outcomes:** 5 validated switches, 2 pilots, 1 license, 2 PCT patents.

9. Team

Core Team

- **Malika Gallyamova — CEO** • MSc AI & Computer Science (Birmingham), expert in communications and process management.
- **Vitalii Volkov — Scientific CTO** • MSc AI & Computer Science (Birmingham), Senior Bioinformatician at Genomed.
- **Prof. Dr. Dmitry Mikhailov — Scientific Advisor** • Supervising Professor at Khalifa University, AI Research Expert at United Nations.

10. Vision & Impact

Our mission: “**Smart gene therapy without pain or toxicity.**”

OncoSwitch turns AI and biology into a single learning system that creates precise, safe, human-centered treatments. Each cycle brings medicine closer to a future where therapy is customized, transparent and trustworthy.

“**Intelligence may be artificial — but human life is real.**”