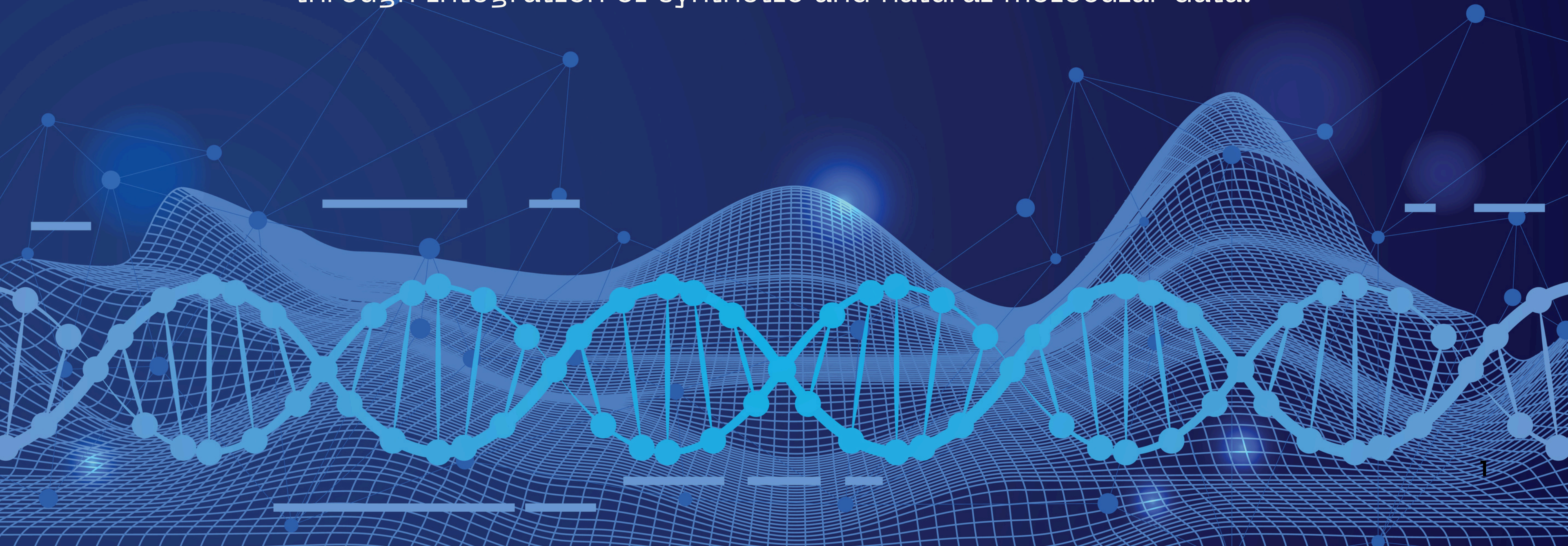


SYNTHETIC MOLECULES AND PROTEIN GENERATION PLATFORM

A comprehensive approach to enhancing pharmaceutical reliability
through integration of synthetic and natural molecular data.



TODAY'S AGENDA

1

Introduction

2

Problem Statement

3

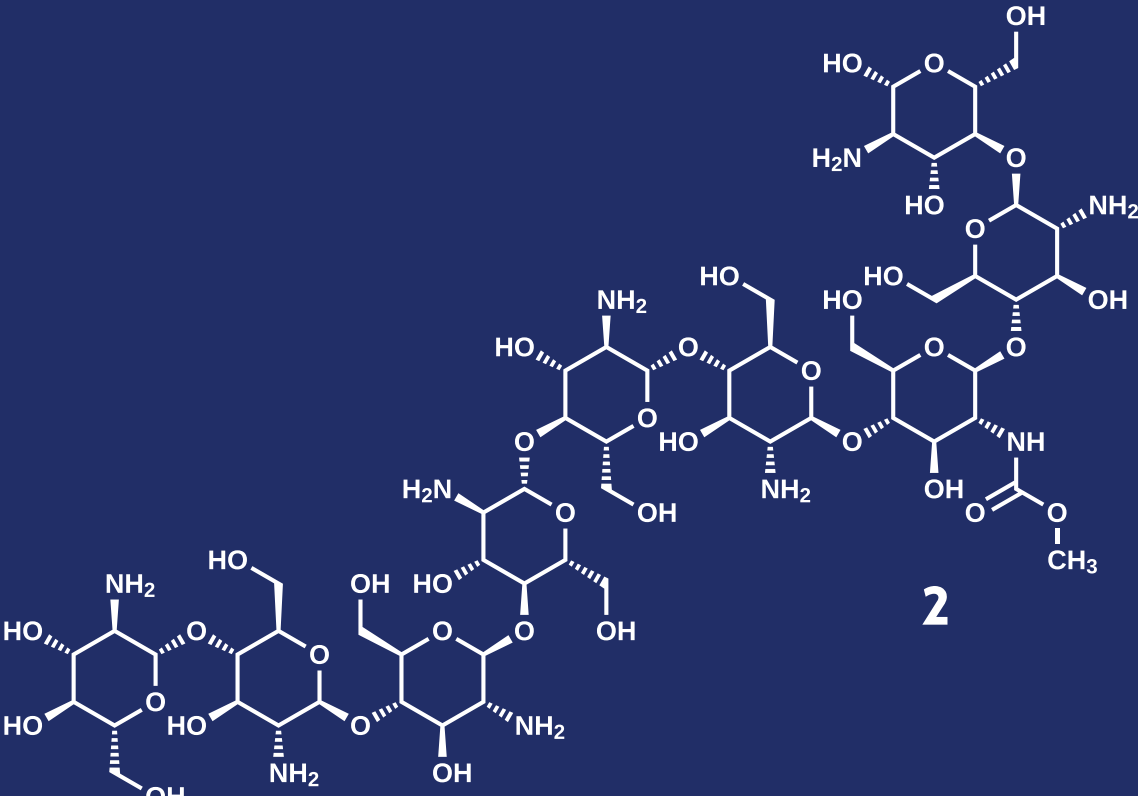
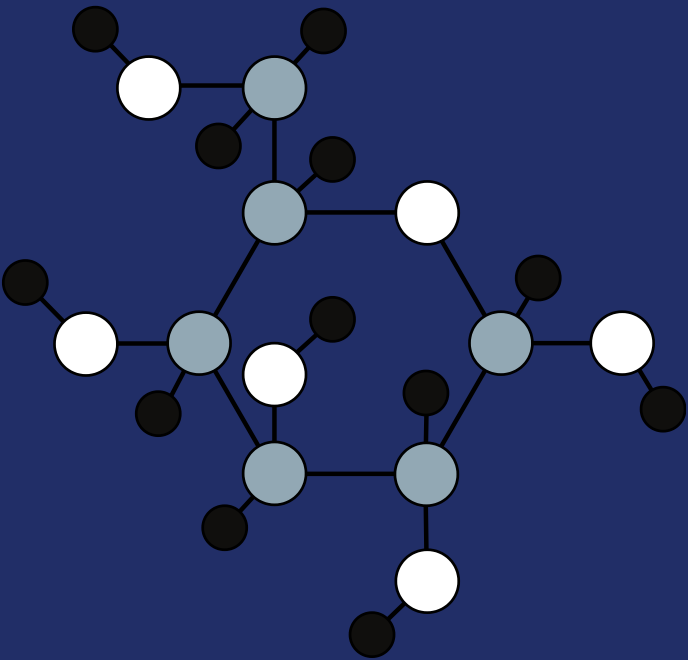
Our Innovative Solutions

4

Our Architecture

5

Our Team



INTRODUCTION

Our platform links synthetic molecules to natural ones, offering insights into risks, side effects, and applications through integrated datasets.

With 3D visualization and a chatbot, users easily access data for faster decisions in pharmaceuticals and biotech...

PROBLEM STATEMENT

- 1 Lack of Predictability:** Synthetic molecules face criticism due to unpredictable behavior and unknown risks.
- 2 Limited Tools:** Existing tools don't integrate synthetic molecules with real-world data effectively.
- 3 Contextual Gap:** There's a lack of platforms linking synthetic molecular structures to natural data, medical records, and real-world applications.

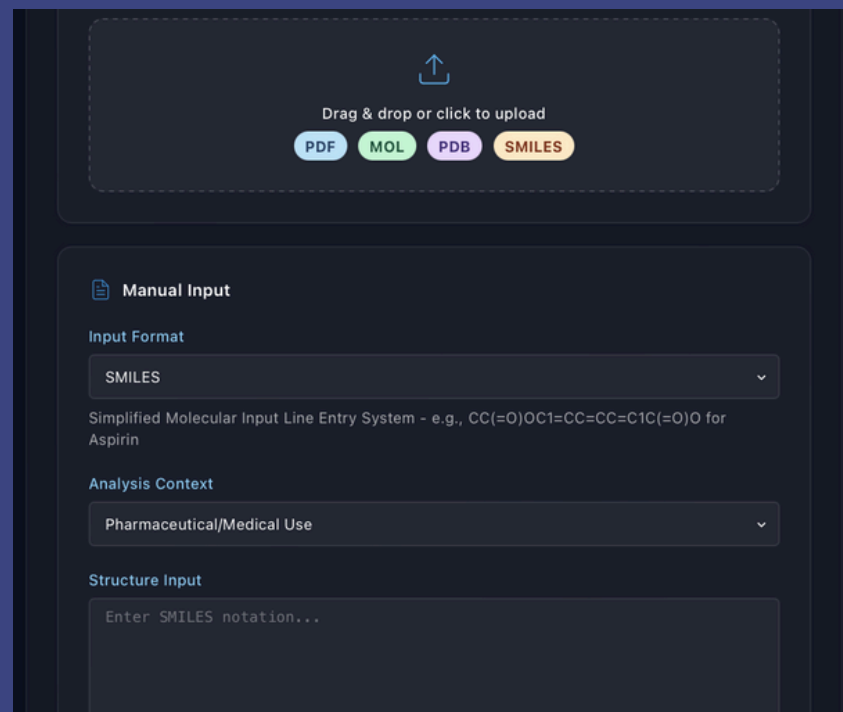


OUR INNOVATIVE PLATFORM



- 1 Input synthetic molecule data in SMILES or 3D formats.
- 2 Run similarity searches against a vast database of natural molecules and proteins.
- 3 Generate actionable reports on risks, side effects, and potential applications.
- 4 Interactive 3D visualization and chatbot support for deeper exploration.

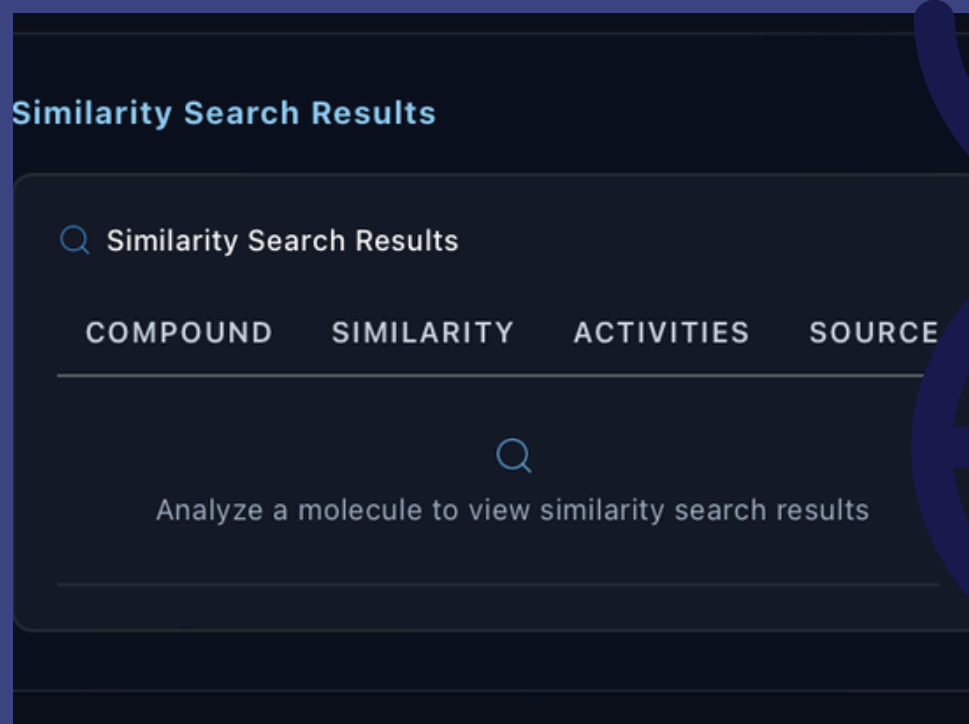
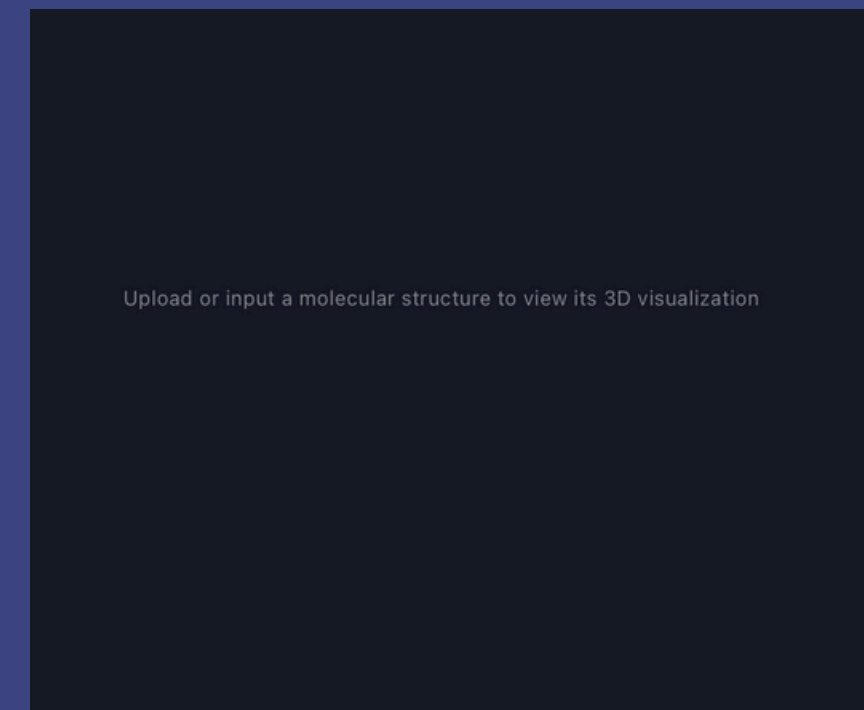
KEY FEATURES OF THE PLATFORM



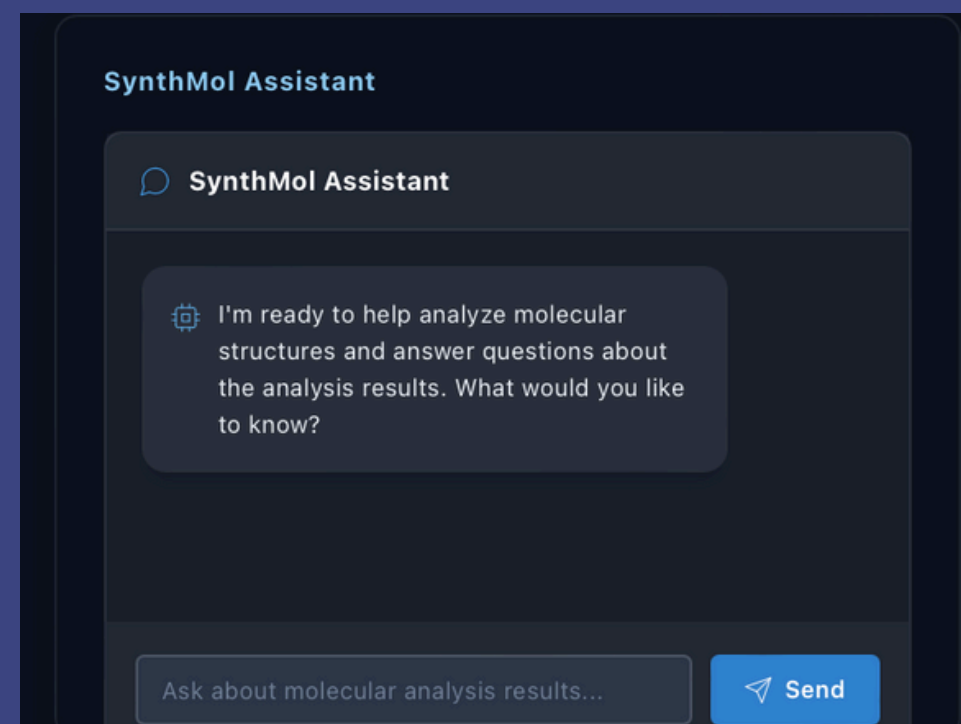
Input Panel: Accepts molecular data in SMILES, MOL, or PDB formats.



3D Visualization: Dynamic visualization of molecular structures using 3Dmol.js.



Similarity Search: Powered by advanced algorithms like Tanimoto similarity and 3D conformational analysis.

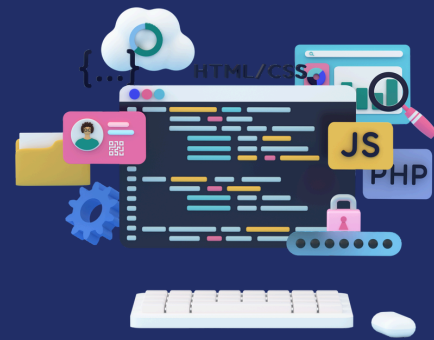


Interactive Chatbot: Trained on molecular and pharmaceutical datasets for follow-up queries.

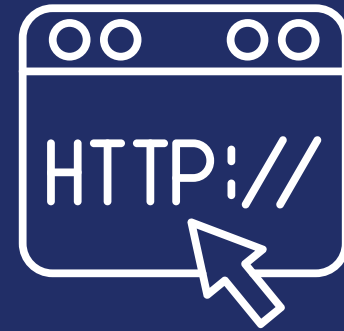


Contextual Analysis: Generates insights tailored to the molecule's intended application (e.g., pharmaceutical, agricultural).

OUR ARCHITECTURE



REACT



HTTP/REST



BACKEND-FASTAPI



RDKIT

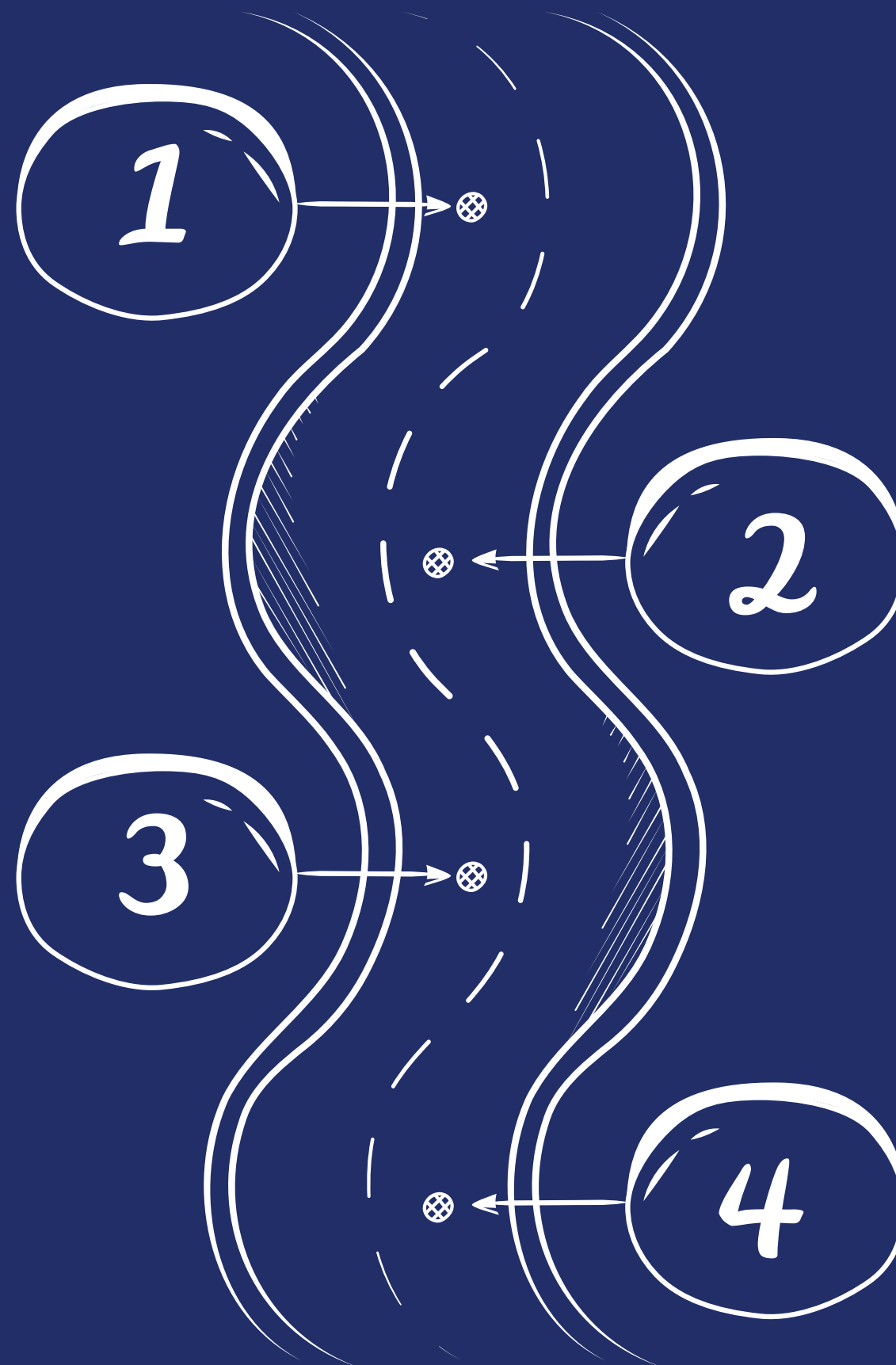
DATA SOURCES

CHEMBL
FDA FARES
PUBCHEM

SCALING FOR THE FUTURE

Expand molecular datasets and integrate real-time updates.

Add integrations with popular R&D and drug discovery tools.



Develop AI-driven predictive models for molecule behavior.

Extend use cases to cosmetics, materials science, and more.

OUR TEAM



Amir Mohammad Farhang



Iftekhar Anwar



Asya Naz Vidinli

THANK YOU !



ANY QUESTIONS?



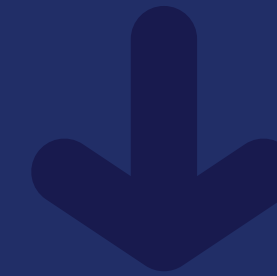
BACKUP>>>>>

MARKET ANALYSIS

Market Estimate: \$50 Billion

<https://www.statista.com/statistics/309466/global-pharmaceutical-industry-research-and-development-expenditure/>

Total Addressable Market



Market Estimate: \$10 Billion

<https://www.efpia.eu/media/rm4kzdlx/the-pharmaceutical-industry-in-figures-2023.pdf>

Serviceable Addressable Market



Market Estimate:

Approximately €34.3 billion in 2022.

<https://www.statista.com/topics/5160/pharmaceutical-market-in-italy/>

Serviceable Obtainable Market

OUR COMPETITORS

1.Cure

- *LinkedIn:* <https://www.linkedin.com/company/cureapp-inc/>
- *Why They're Competitors:* Cure focuses on using AI for personalized medicine, which overlaps with our platform's goal of providing molecular and toxicity analysis to personalize treatments.

2.Imaginalis

- *LinkedIn:* <https://www.linkedin.com/company/imaginalis-srl/?originalSubdomain=it>
- *Why They're Competitors:* Imaginalis leverages AI for diagnostics, which could compete with our platform if it integrates molecular diagnostics with imaging data.

3.Mediwhale

- *Website:* <https://www.mediwhale.com>
- *Why They're Competitors:* Mediwhale uses AI for diagnostic predictions, similar to your platform's goal of predicting toxicity and functionality for molecules.

3.GenomeUp

- *Website:* <https://www.genomeup.com>
- *Why they are a competitor:* Genome Up uses AI to analyze genetic and molecular data, targeting pharmaceutical research and personalized medicine, overlapping with our market focus.

PLATFORM GROWTH & MARKET ADOPTION

YEAR 3: SCALING GLOBALLY

TARGET REVENUE: €1M–€2M.

Focus: Target 150+ global users (startups, mid-size firms, and research institutions).

Details:

- Add advanced 3D molecular visualization tools.
- Launch premium plans (€40/month per user).
- Approach: Sales-Led Growth and Strategic Partnerships.

YEAR 2: MARKET ENTRY

TARGET REVENUE: €250K–€500K..

Focus: Expand to 30–50 paying users (small research labs and biotech startups in Europe).

Details:

- Launch subscription model (€25/month per user).
- Introduce basic AI features and a scalable database.
- Approach: Sales-Led Growth.

YEAR 1: PROOF OF CONCEPT (POC)

**TARGET REVENUE: €0
(VALIDATION PHASE).**

Focus: Partner with 5–8 early adopters (startups and academic institutions) to validate the product's value.

Details:

- Offer free access for 6 months.
- Collect feedback and refine functionality.
- Approach: Channel Partnerships.