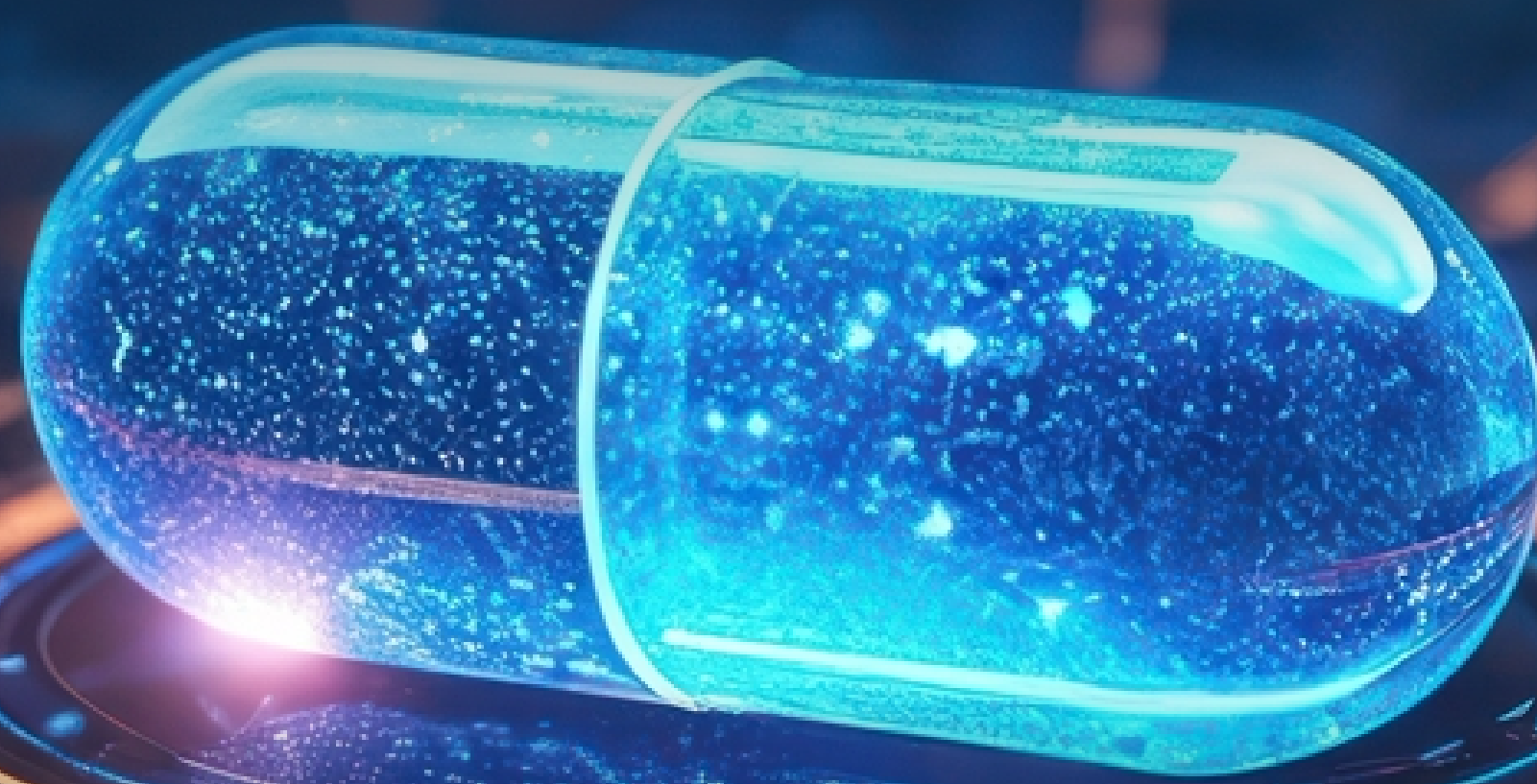


Accelerating Antimicrobial Drug Discovery with AI-powered Drug Repurposing



**GenAI-powered
Drug Repurposing**



**Knowledge Graph
& LLM Insights**



**AI-driven
Candidate Discovery**



**AI-driven
Antimicrobial Adjuvant**

Client Overview

An India-based startup focused on combating Antimicrobial Resistance (AMR) through innovative diagnostics and therapeutics.

The Challenge



The rising incidence of antimicrobial resistance (AMR) and the limited pipeline of new antibiotics demanded a faster approach to therapeutic discovery. The client sought to accelerate drug discovery by identifying promising therapeutic candidates through drug repurposing while reducing the time, cost, and complexity of traditional discovery approaches.

Business Need

An AI-powered platform to analyze biomedical data, identify disease–protein–drug relationships, and rapidly identify repurposing candidates.

A solution that encompasses:

- AI-powered Knowledge Graph for target identification
- AI-Driven Compound Curation
- Automated virtual screening and molecular docking
- Novelty assessment for patentable drug combinations

Solution

Innominds developed a GenAI-powered drug repurposing platform that combines Knowledge Graphs, LLMs, and biomedical data to identify and prioritize promising drug candidates through automated screening and AI-driven analysis.

Key solution components included:

-  **AI-powered Knowledge Graph** for disease–protein–drug mapping
-  **Literature Mining** Scientific evidence from Medical Journals
-  **Automated Screening Suite** for virtual screening, molecular docking, and AI-driven ranking
-  **Integrated Data Curation Engine** combining scientific literature and biomedical databases
-  **Novelty Search Module** for patentability assessment

Value Delivered

The platform enabled the client to accelerate AI-driven drug repurposing by uncovering high-potential therapeutic candidates faster, streamlining research workflows, and reducing the time and effort required for early-stage antimicrobial discovery.

- Identified India's first AI-driven antimicrobial adjuvant
- Delivered experimentally validated candidates aligned with real-world *in vitro* & *in vivo* results
- Reduced early discovery timelines from years to weeks
- Generated patent-pending molecules and novel IP
- Accelerated candidate prioritization with AI-driven screening



Transform Drug Discovery with AI
Discover Faster. Repurpose Smarter. Innovate Better.

Reach out to marketing@innominds.com

