VARIATIONAL AI

a company proudly supported by

cqdm

VARIATIONAL AI, A PROMISING YOUNG STARTUP

Founded in 2019, Variational AI is ushering in a new era in small-molecule drug discovery through generative artificial intelligence (AI). Its mission is to accelerate and improve the efficiency of drug discovery for its partners, helping bring new treatments to patients faster. Powered by its Enki™ platform, Variational AI designs novel, targeted, and synthesizable therapeutic molecules *in silico*, reducing reliance on the long and costly cycles of traditional chemistry. From oncology to other therapeutic areas with significant unmet needs, the company puts its platform to work on programs designed to explore new chemical spaces and accelerate the development of innovative therapies.

CQDM, A FACILITATOR OF PHARMACEUTICAL PARTNERSHIPS

CQDM quickly recognized the unique potential of Variational AI, both in its technology and its generative AI approach. Recognizing the complementary strengths of both organizations, CQDM brought Variational AI and Merck together, drawing on a deep understanding of their shared interests and strategic objectives. This strategic connection helped launch promising collaborations and accelerate the development of new therapeutic solutions.

LAUNCH OF THE COLLABORATION BETWEEN MERCK AND VARIATIONAL AI THROUGH A CQDM-SUPPORTED PROJECT

In November 2023, Variational AI and Merck launched a small-molecule design initiative with total co-funding of over $900,000 CAD, with CQDM helping bring the parties together and structure the project.

CAD $900,000

The project leverages Enki™, Variational AI's generative AI platform, to rapidly generate structures aligned with a target product profile (TPP). Variational AI proposes *in silico* candidates, while Merck handles synthesis and experimental evaluation to validate the most promising compounds.

The project validates Enki™'s potential on a particularly demanding challenge: identifying compounds active against two target proteins while avoiding six off-target proteins, according to strict novelty and synthesizability criteria. This collaboration makes it possible to explore new chemical spaces and advance the development of innovative therapies.

KEY RESULTS AND PROJECT IMPACT

In 2025, the project results confirm the robustness of Enki™ under real-world conditions. Compounds meeting the target specifications are identified, including both molecules already present in Merck's portfolio and new classes proposed by Variational AI, with profiles aligned with the TPP criteria. Beyond this validation, the approach helps shorten certain design steps, guide synthesis efforts more quickly, and confirm the effectiveness of generative AI in designing selective, synthesizable molecules. The project strengthens Variational AI's credibility with a global pharmaceutical leader and demonstrated that a startup can collaborate with a major pharma company. It also helps pave the way for new projects, securing CAD $7.5M in additional venture funding from the Merck Global Health Innovation Fund.

STRATEGIC PARTNERSHIP WITH MERCK AND ADVANCES IN ONCOLOGY

Building on the results achieved during the project, the collaboration between Variational AI and Merck reaches a new level in September 2025 with the signing of an expanded oncology agreement based on the use of Enki™. The agreement covers two targets, grants Merck exclusive rights, and could generate up to CAD $480M, a major milestone that confirms the platform's potential.

FROM A STARTUP TO AN INDEPENDENT GLOBAL STRATEGIC PLAYER

> 500 molecules generated

across all projects combined, using Enki™.

> CAD $8M

in additional oversubscribed funding to accelerate the deployment of the technology.

9 strategic partnerships

with biotechs and global pharma companies, across Canada and internationally.

Company growth

expanded workforce, a strengthened team, and enhanced development capabilities.

These successes demonstrate how partnering with major pharmaceutical companies can play a pivotal role in helping a Canadian biotech scale, strengthen its capabilities, and deliver significant scientific and economic impact.