Ainnocence and Phase Advance Enter Industry-First AI Collab to Reduce Drug Development Timeline and Clinical Trial Risk

The collaboration marks a turning point in AI-driven drug design and trial forecasting, de-risking the drug development process for industry and patients.

SAN FRANCISCO, CA, CA, UNITED STATES, January 13, 2026 /EINPresswire.com/ -- Ainnocence and Phase Advance Announce Industry-First AI Collaboration to Transform Drug Development Timelines and Reduce Clinical Trial Risk

Ainnocence, a next-generation AI-driven biotechnology company, and Phase Advance, a pioneering AI company capable of predicting drug performance through Phase 3 clinical outcomes using only discovery-stage data, today announced a strategic collaboration aimed at fundamentally reshaping how new drugs are discovered, evaluated, and advanced into the clinic.

Phase Advance Logo

By integrating Ainnocence's AI-driven drug design platform with Phase Advance's advanced preclinical and clinical trial modeling, the partnership seeks to predict drug performance years earlier than traditional development approaches allow.

The collaboration brings together two complementary uses of artificial intelligence to address the highest-risk transition points in drug development: discovery to preclinical research, and preclinical research to clinical trials. Ainnocence discovers and optimizes novel drug candidates using its proprietary AI-enabled molecular design platform, while Phase Advance employs its proprietary modeling to forecast preclinical and clinical outcomes, including human efficacy,
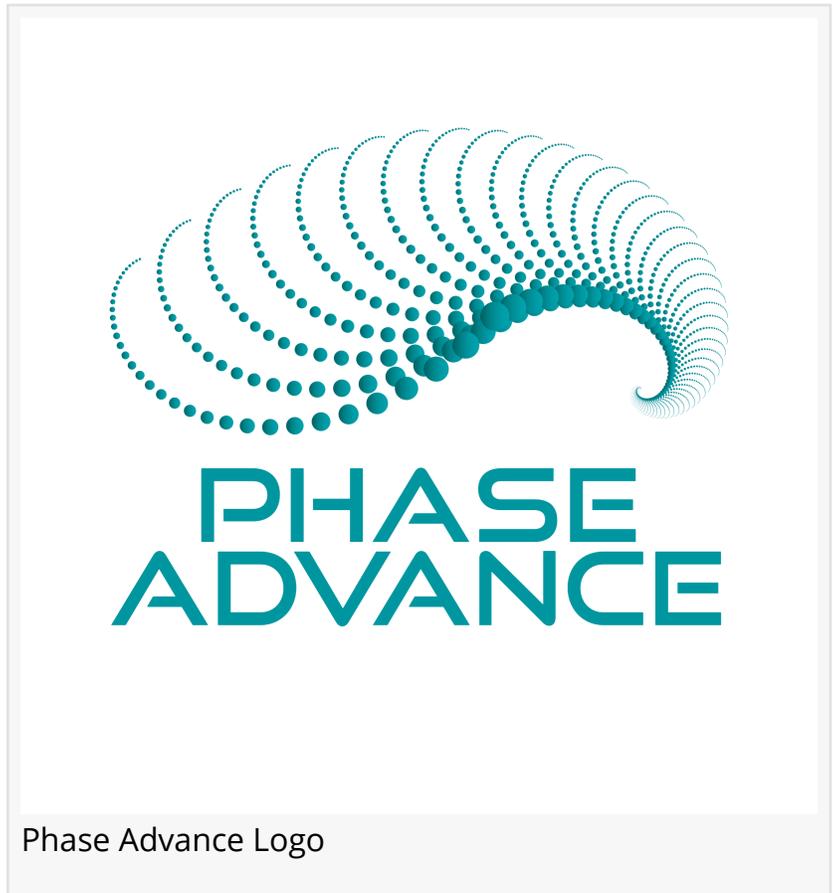
safety, and trial performance.

Together, the companies aim to collapse overall drug development timelines by over 50% and significantly reduce development costs by closing critical gaps where most drug candidates fail.

Across the industry, approximately 95% of newly discovered drug candidates never progress to preclinical research, often due to suboptimal target selection, poor drug-like properties, or early safety and manufacturability challenges. Of the drug candidates that do enter preclinical development, nearly 98% fail to reach or pass Phase 1 clinical trials, largely because traditional animal models are poor predictors of human biology.

Ainnocence Logo
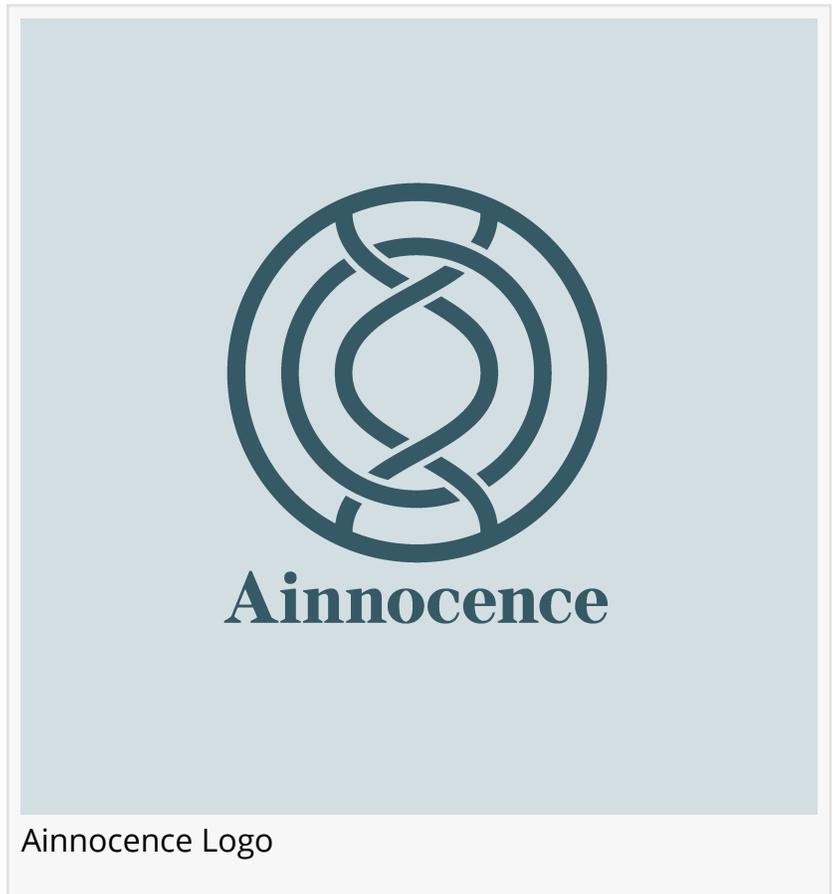
Clinical trials routinely cost millions and expose thousands of patients to experimental therapies, yet many trials fail due to avoidable design flaws or poor patient responses. By generating accurate, early-stage predictions of clinical performance, this collaboration derisks development and reduces potential patient harm.

> Our two companies are applying AI in fundamentally different but deeply complementary ways to address the most costly and failure-prone transitions in drug development."
> *Rachael Sparks, Phase Advance Cofounder & Chief Marketing Officer*

The partnership delivers the stronger predictive insight so that trials can be better optimized and statistically powered with fewer participants, reducing patient risk while still satisfying regulatory requirements. FDA has prioritized such model-informed drug development and digital advancements to improve trial quality and safety.

"Drug development fails most often not because ideas are bad, but because predictions come too late," said Dr.Lurong Pan, PhD, Founder and CEO of Ainnocence. "Our platform is designed to generate high-quality drug candidates from the start. By pairing that with Phase Advance's ability to anticipate how those candidates will behave in humans, we can make far better decisions earlier, when change is still possible and cost-effective."

"By the time most programs fail, enormous resources have already been spent, and patients have already been exposed to risk," said Dr. Tawanda Gumbo, CEO and Co-founder of Phase Advance. "Our mission has always been to bring human-relevant insight forward in time. This collaboration allows us to influence decisions at the moment they matter most, before a molecule ever enters the clinic."

"This collaboration represents an industry first," said representatives from Phase Advance and Ainnocence. "Two companies are applying AI in fundamentally different but deeply complementary ways to address the most costly and failure-prone transitions in drug development. By improving early-stage predictions, we can reduce downstream trial failures, lower patient risk, and bring better therapies to market faster."

The partnership, finalized at the JP Morgan Healthcare Conference, underscores a shared vision: a future where drug development is driven by predictive intelligence rather than late-stage trial and error, enabling better outcomes for patients worldwide.

Dr. Tawanda Gumbo, Phase Advance CEO And Dr. Lurong Pan, Ainnocence CEO

About Phase Advance
Phase Advance is a Texas-based company built on years of research developing predictive models of disease progression across a patient's lifetime. Its platform forecasts human clinical outcomes, including response rates, optimal dosing, and biomarker performance, before drug candidates enter preclinical development. By modeling how therapies behave across diverse patient populations, Phase Advance enables smarter trial designs that are smaller, faster, and more likely to succeed, aligning with emerging regulatory priorities for human-relevant models in drug development.

About Ainnocence
Founded in 2021 and headquartered in California, Ainnocence is a next-generation biotechnology company transforming drug discovery and synthetic biology through AI-based, sequence-first engineering. The company's self-evolving platform evaluates up to 10 billion molecules spanning proteins, antibodies, small molecules, nucleic acids, and chemical formulations within hours to weeks, enabling rapid, multi-objective design across therapeutic, biological, and chemical systems. By reducing R&D timelines and costs while increasing success rates, Ainnocence empowers industry and academic partners to pursue complex biological innovation with greater precision and control.

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