

AI for drug development:

Machine learning will help the pharmaceutical industry advance its drug pipelines faster and more cost-effectively

Artificial Intelligence (AI) has a history in drug development about a decade long—but experts believe we're just scratching the surface of possibility. In fact, bringing more AI-driven drugs to market will validate the use of the technology, expedite the process and optimize the way we develop or repurpose drugs.



\$2 billion to bring a drug to market

Technology is driving efficiency as the average cost to bring a drug to market has dropped every year for the last three years—but there's still a long way to go¹



5 years

Experts believe COVID-19 accelerated the trend of using of AI in drug discovery by as many as 5 years²



150 drugs driven by AI

Dozens of small-molecule drugs are currently in development from biotech companies using an AI-first approach (15 already in clinical trials)³



The AI-fueled drug pipeline has been expanding at an

annual growth rate of almost 40%



3x faster with AI

AI can accelerate the time to identify preclinical candidates to between 12-18 months, compared to the three to five years typically required³



95% of drugs fail

The success rate for drug development can be less than 5%⁴



2% improvement = \$50 billion in value

A 2% increase in the speed of preclinical and phase-one drug development could equate to an additional \$50 billion in value for the biopharma industry.⁴

New platform combines AI and the human element

PeDAL, from Predictive Oncology, is a unique combination of AI technology, drug response data and a biobank of over 150,000 tumor samples for 137 tumor types, complete with a wet lab for streamlined drug/tumor prediction evaluation.

[Click here to learn more](#)

¹<https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/life-sciences-health-care/Measuring-the-return-of-pharmaceutical-innovation-2021-Deloitte.pdf>

²<https://www.mckinsey.com/industries/life-sciences/our-insights/how-digital-helps-a-life-sciences-leader-move-at-light-speed>

³<https://www.bcg.com/publications/2022/adopting-ai-in-pharmaceutical-discovery>

⁴<https://www.cnbc.com/2022/08/06/ai-powered-drug-hunters-are-nearing-a-pivotal-stage-in-their-development.html>