



Artificial Intelligence for Drug Discovery

Q1 2025



www.deep-pharma.tech



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Introduction

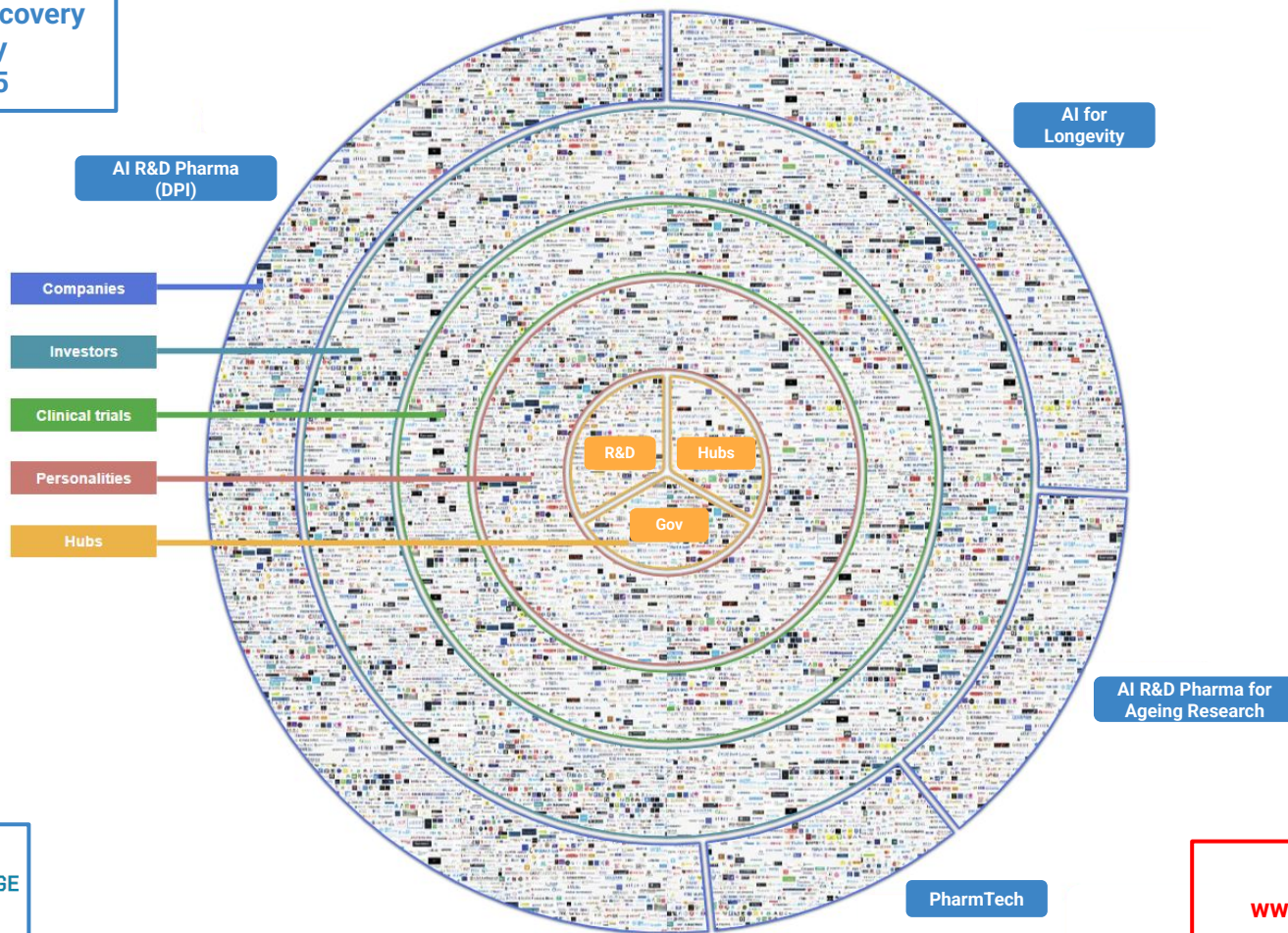
This 122-page **"Artificial Intelligence for Drug Discovery Landscape Overview Q1 2025"** report represents the eleventh issue of market analytics focused on the Artificial Intelligence (AI) application in the pharmaceutical research industry.

The primary goal of this series of reports is to give a complete picture of the industry environment in terms of AI usage in drug discovery, clinical research, and other elements of pharmaceutical research and development. This overview highlights recent trends and insights in the form of helpful mind maps and infographics and gauges the performance of prominent players who shape the industry's space and relationships. It can help the reader comprehend what is going on in the sector and potentially predict what will happen next.

Since the last edition, data has been significantly updated to reflect the fast-paced market dynamics and an overall increase in pharmaceutical AI investment and business development activities. The listings of AI-biotech businesses, biotech investors, and pharmaceutical organizations have been expanded to reflect the pharmaceutical industry's rising interest in sophisticated data analytics technology.

Alongside investment and business trends, the report also provides technical insights into some of the latest AI applications and research achievements.

AI in Drug Discovery
Industry
Q1 2025



Companies – 3800
Investors – 4900
Clinical trials – 5000
Personalities – 750
Hubs – 600



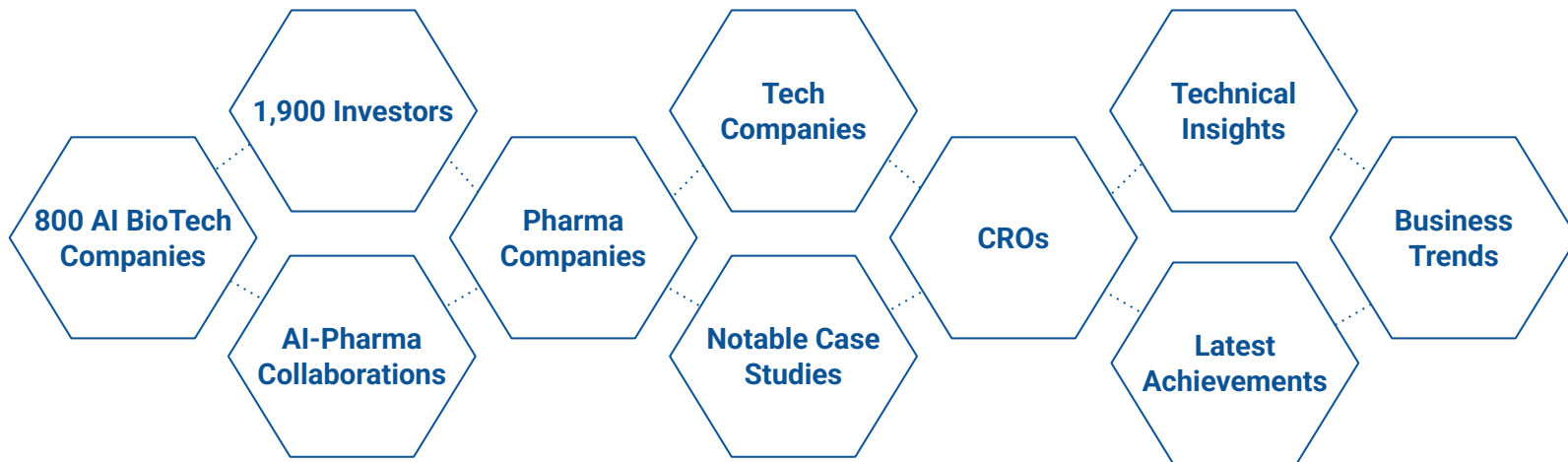
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Report at a Glance

This **122-page “Artificial Intelligence for Drug Discovery Landscape Overview”** report marks the installment in a series of reports on the topic of the Artificial Intelligence (AI) application in pharmaceutical research industry that DPI have been producing since 2017.

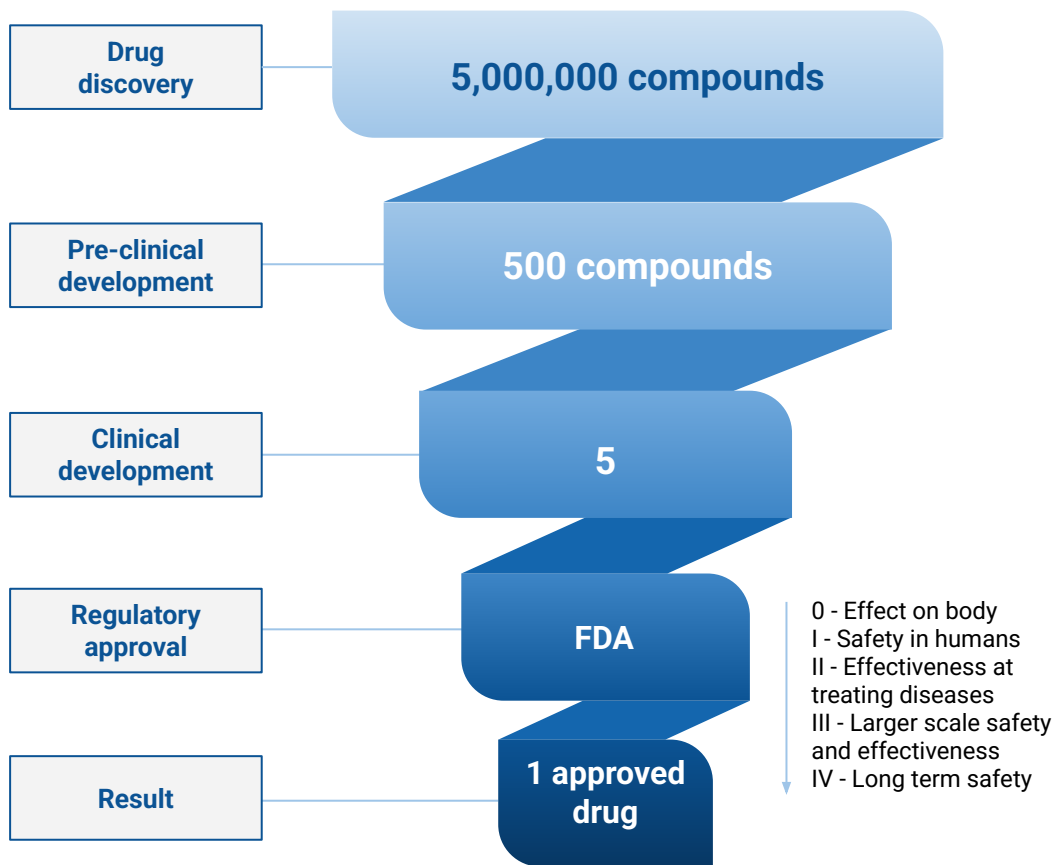
The main aim of this series of reports is to provide a comprehensive overview of the industry landscape in what pertains adoption of **AI in drug discovery, clinical research and other aspects of pharmaceutical R&D**. This overview highlights trends and insights in a form of **informative mind maps and infographics** as well as benchmarks the performance of key players that form the space and relations within the industry. This is an overview analysis to help the reader understand what is happening in the industry nowadays and possibly give an idea of what is coming next.

Alongside investment and business trends, the report also provides technical insights into some of the latest achievements in the AI application and research.



Introduction to AI in Drug Discovery

Pharma Efficiency: Challenges



10 years + \$2.6 bln = 1 new drug

It takes on average over 10 years to bring a new drug to market. As of 2014, according to Tufts Center for the Study of Drug Development (CSDD), the cost of developing a new prescription drug that gains market approval is approximately \$2.6 billion. This is a 145% increase, correcting for inflation, compared to the same report made in 2003.

The pharmaceutical industry is in a terminal decline, and the returns on new drugs that do get to market do not justify the massive investments that Pharma currently puts into R&D anymore.

The solution to this problem comes from three key strategies:

- evolution of business models towards more collaboration and pipeline diversification early
- **implementation of AI as a universal shift towards data-centric drug discovery**
- discovery of new therapeutic modalities (biologics, therapies, etc.)

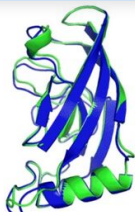
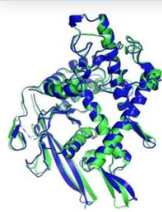
Notable Breakthroughs in AI for Pharma



Deep Genomics AI-driven platform predicted novel target and **oligonucleotide candidate for Wilson disease** in under 18 months.



DeepMind's AlphaFold learns to **predict protein's 3D shape from its amino-acid sequence**, a 50 year-old grand challenge in biology.

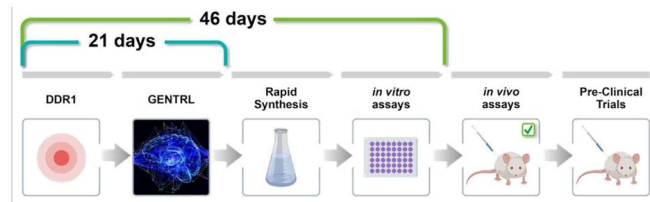


■ Experimental Result
■ Computational Prediction

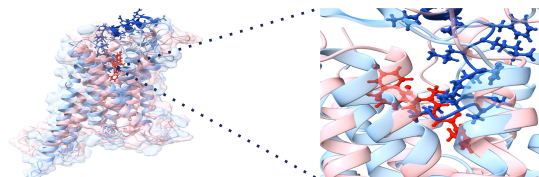


Insilico Medicine
英科智能

Insilico Medicine applied generative adversarial network-based system GENTRL for rapid identification of potent **DDR1 Kinase inhibitors** within 21 days.



Peptilogics developed generative AI to predict peptides that bind to arbitrary proteins, even given only a protein's primary sequence, unlocking peptide drug design for established and novel targets.

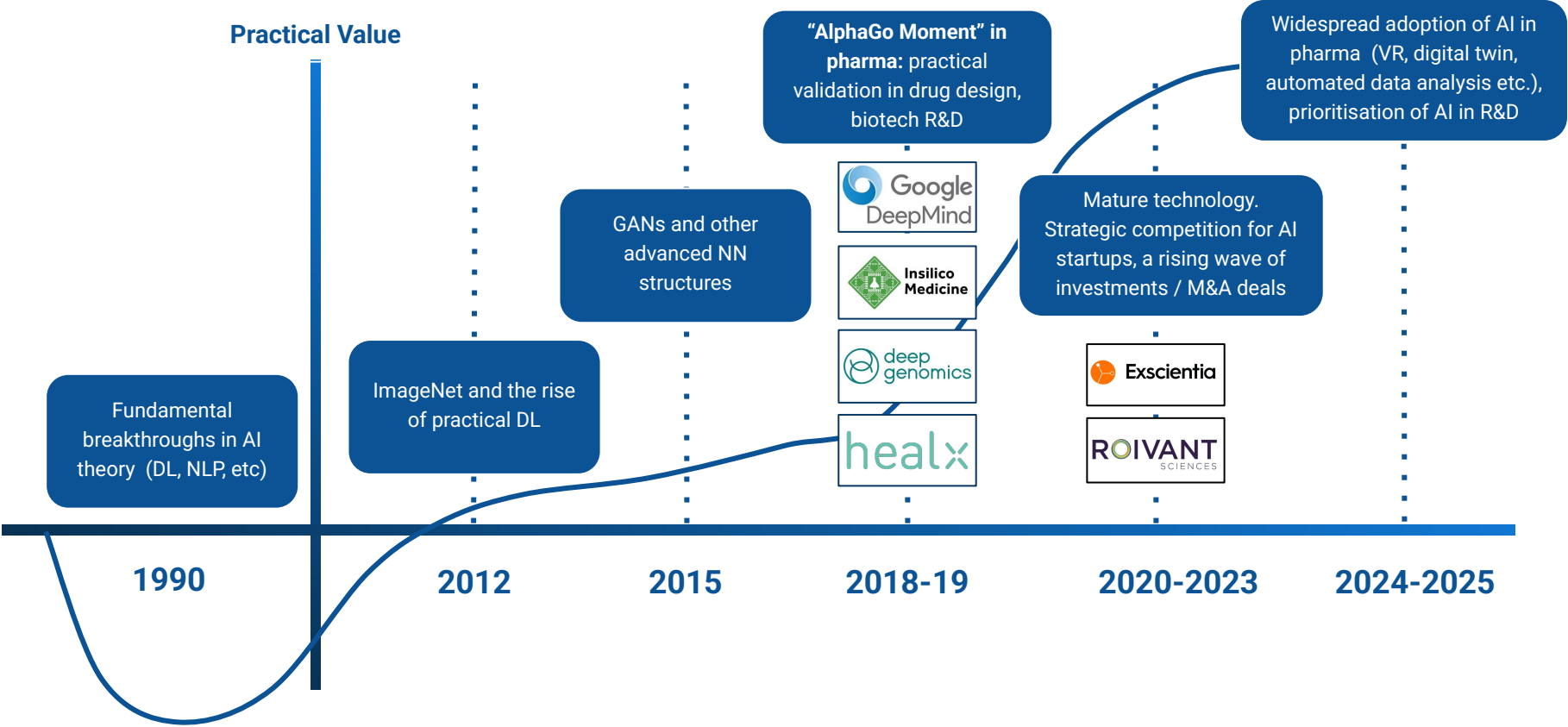


2019

2020

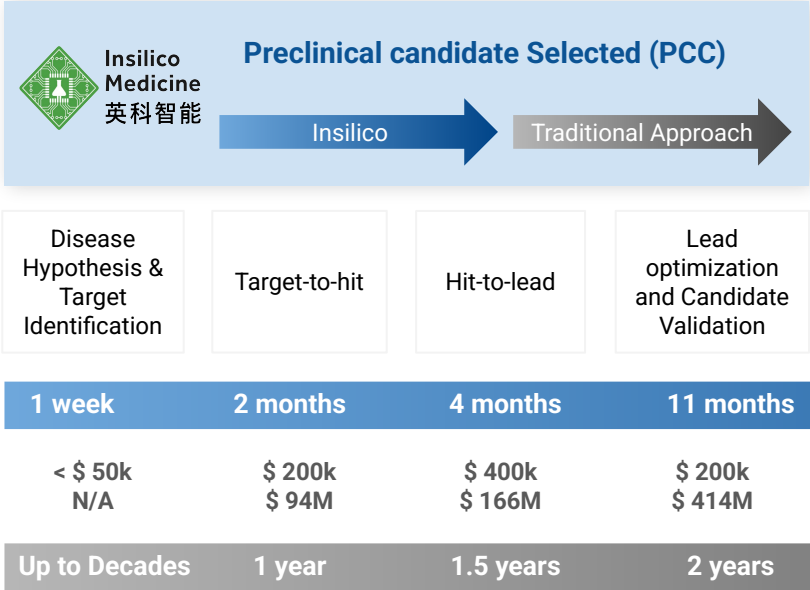
2021

Pharma's "AlphaGo Moment"



Technological Advancements Defining the Market

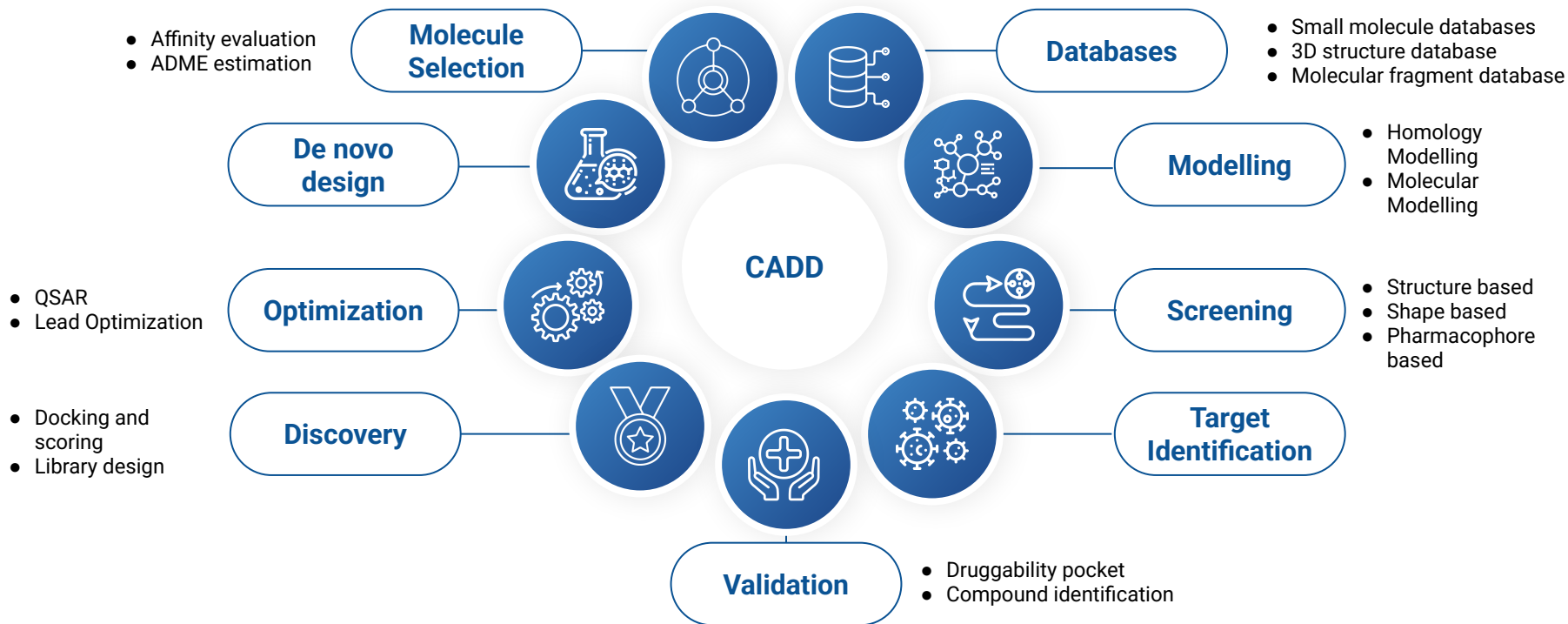
Insilico Medicine achieved industry-first fully AI-based Preclinical Candidate. Initial hypothesis was build via DNN analysis of omics and clinical datasets of patients. After that company used its AI PandaOmics engine for target discovery, analyzing all relevant data, including patents and research publications with NLP algorithms. In the next step Insilico has applied its generative chemistry module (Chemistry42) in order to design a library of small molecules that bind to the novel intracellular target revealed by PandaOmics. The series of novel small molecules generated by Chemistry42 showed promising on target inhibition. One particular hit ISM001 demonstrated activity with nanomolar (nM) IC50 values.



Nov 12th, 2024 – Insilico Medicine (“Insilico”), a clinical-stage generative artificial intelligence (AI)-driven biotechnology company, today announced positive topline results from the Phase IIa trial of ISM001-055, the novel drug candidate developed in-house using generative AI to target TNIK (Traf2- and NCK-interacting kinase) for the treatment of idiopathic pulmonary fibrosis (IPF). The results demonstrate that ISM001-055 is safe, well-tolerated, exhibits a favorable pharmacokinetics (PK) profile, and has encouraging clinical efficacy as measured by improvement in forced vital capacity (FVC) at 12 weeks.

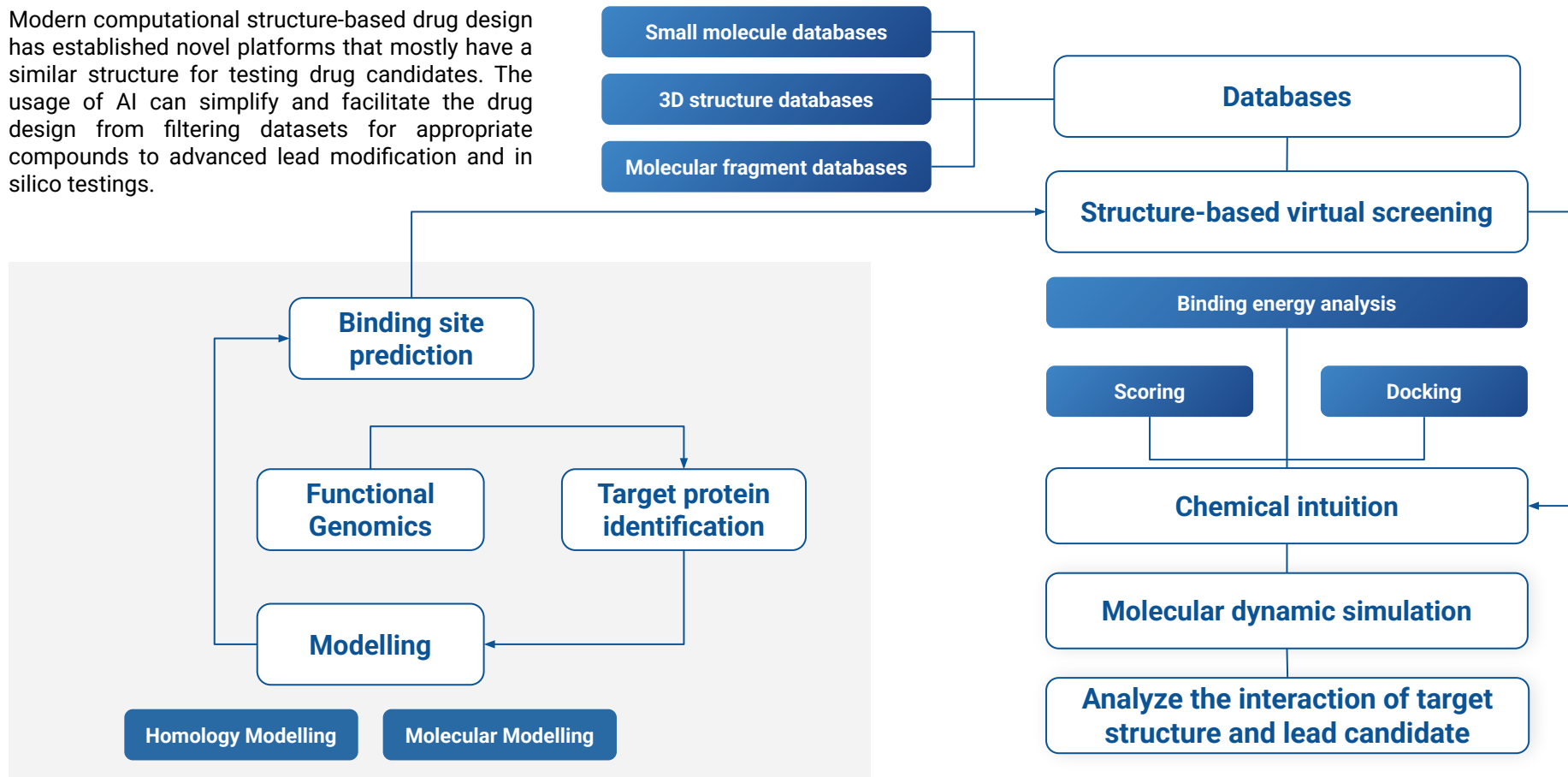
Computer-Aided Drug Design

Today's task for the pharma industry is to create a cheap and effective solution for drug development, companies apply various computational methods to reach that goal. **Computer-aided drug design (CADD)** is a modern computational technique used in the drug discovery process to identify and develop a potential lead. CADD includes computational chemistry, molecular modeling, molecular design and rational drug design.

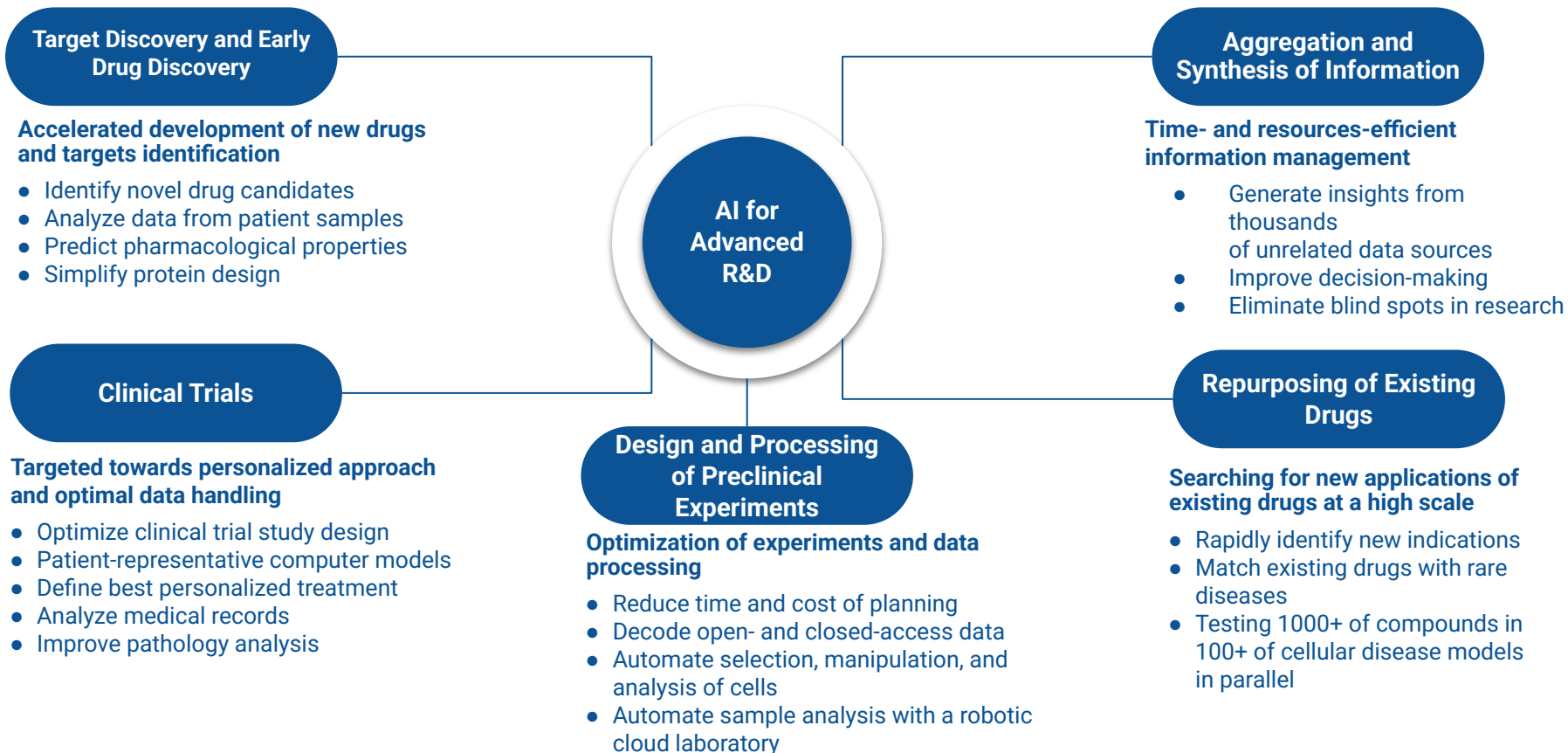


Computer-aided Drug Design

Modern computational structure-based drug design has established novel platforms that mostly have a similar structure for testing drug candidates. The usage of AI can simplify and facilitate the drug design from filtering datasets for appropriate compounds to advanced lead modification and in silico testings.



Application of AI for Advanced R&D to Address Pharma Efficiency Challenges

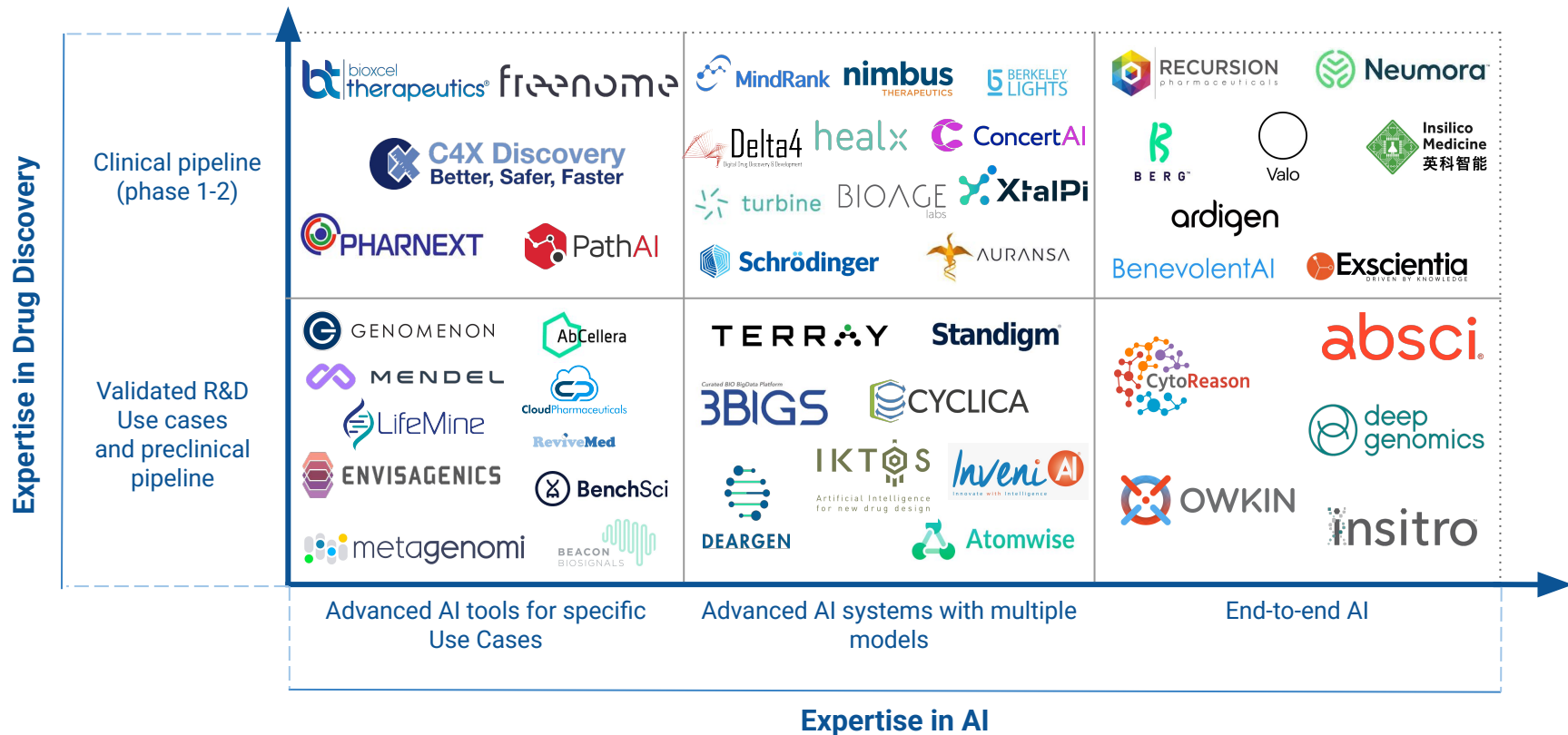


AI in Drug Development: Leaders

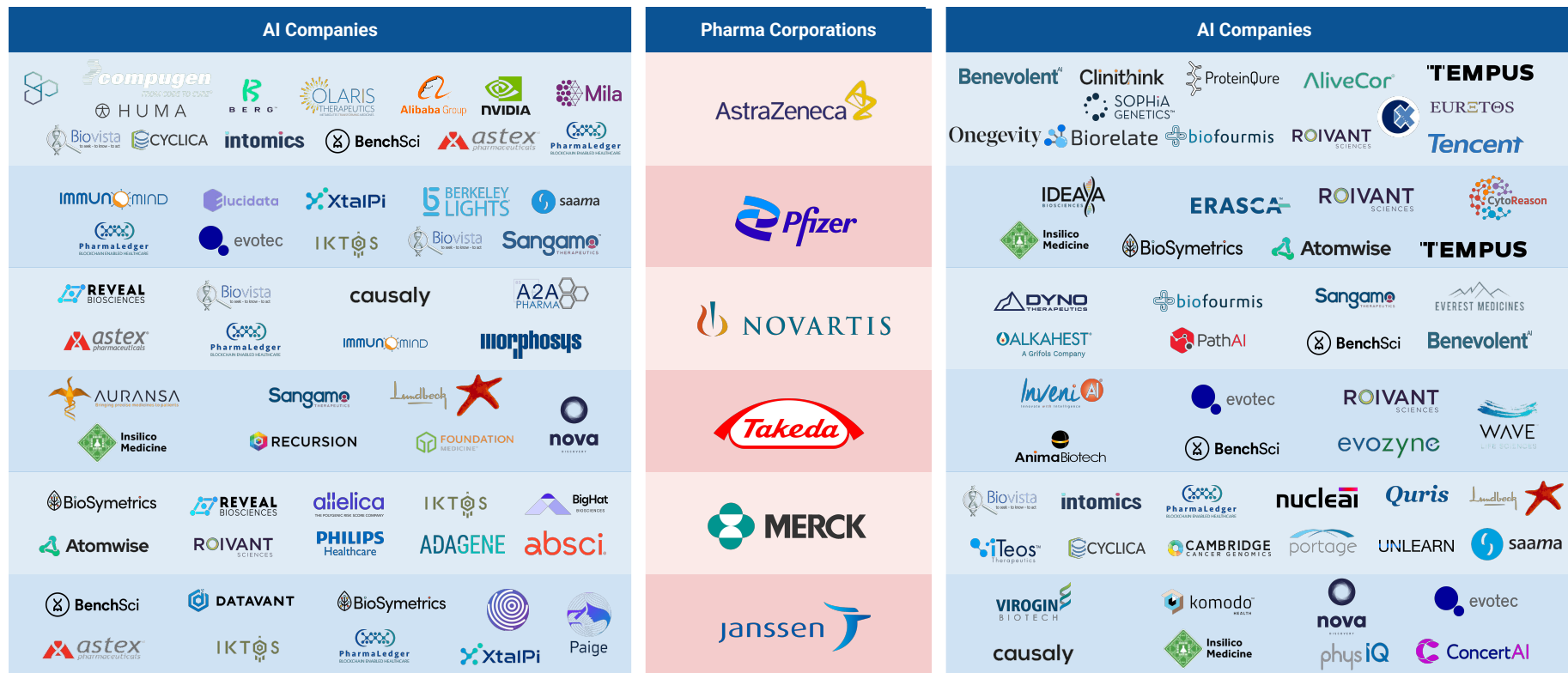
50 Leading Companies in AI for Drug Discovery Sector

1	3BIGS	18	Cytoreason	35	MindRank AI
2	Abcellera	19	Deargen	36	Neumora therapeutics
3	Absci	20	Deep Genomics	37	Nimbus Therapeutics
4	Ardigen	21	Delta 4	38	Numerate
5	Atomwise	22	Envisagenics	39	Owkin
6	Auransa	23	Exscientia	40	PathAI
7	Beacon Biosignals	24	freenome	41	Pharnext
8	BenchSci	25	Genomenon	42	Recursion Pharmaceuticals
9	BeneloventAI	26	Healint	43	ReviveMed
10	Berg	27	Healx	44	Schrodinger
11	Berkeley Lights	28	Iktos	45	Standigm
12	Bioage labs	29	Insilico Medicine	46	Terray Therapeutics
13	BioXcel Therapeutics	30	Insitro	47	Turbine
14	C4X Discovery	31	InveniAI	48	Valo Health
15	Cloud Pharmaceuticals	32	LifeMine Therapeutics	49	Xtalpi
16	ConcertAI	33	Mendel.ai	50	Zephyr AI
17	Cyclica	34	Metagenomi		

Comparison of Top-50 Leading AI for Drug Discovery Companies Expertise in Drug Discovery R&D



Selected Pharma AI Deals



Note: the central column (red) defines the pharmaceutical corporations and side columns (blue) defines AI companies that have collaborations with pharma companies from the central column.

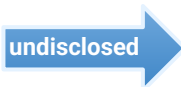
Selected Pharma AI Deals

AI Companies	Pharma Corporations	AI Companies
BenchSci Researchably Exscientia astex pharmaceuticals ROIVANT SCIENCES Exscientia BenchSci proqentec CloudPharmaceuticals Mila Generate: Biomedicines GeneTech BenchSci Neumora GNS HEALTHCARE IDEAYA BIO SCIENCES e-therapeutics biotx.ai BERKELEY LIGHTS evotec PathAI PharmaLedger BenchSci tetrascience LUMEN BIOSCIENCE causaly EVEREST MEDICINES gritstone BenchSci insitro Kite A GILEAD Company precisionlife driving precision medicine BenchSci ConcertAI Roche evotec insitro Exscientia ENVISAGENICS BenchSci OWKIN PathAI sirenas SCHRÖDINGER	SANOFI BAYER gsk Boehringer Ingelheim AMGEN Joff novo nordisk abbvie GILEAD Roche Bristol Myers Squibb Lilly	Atomwise Exscientia EASEMED CONTROL PharmaLedger BERG Insilico Medicine EURETOS turbine zebra MEDICAL VISION Quibi VIRGIN BIOTECH BioSymetrics WINTERLIGHT AnimaBiotech HotSpot Therapeutics PatchAI IONIS FABRIC GENOMICS PIXYL Medial EarlySign Wisecube Reverie Labs AURANSA METIS THERAPEUTICS Exscientia FOUNDATION MEDICINE HUMA DIP PharmaLedger AnimaBiotech evotec AbCellera VERGE GENOMICS Atomwise BenchSci Biologic Design Genesis Therapeutics strateos REVEAL BIOSCIENCES TRANSCENTA SCHRÖDINGER CYCLICA BERKELEY LIGHTS PharmaLedger HUMA evotec turbine DIP KEBOTIX Google Quantum AI lifebit evotec NuMedii 3i Genialis turbine zebra MEDICAL VISION Quibi EURETOS WINTERLIGHT AnimaBiotech HotSpot Therapeutics PatchAI IONIS FABRIC GENOMICS PIXYL Medial EarlySign Wisecube Reverie Labs AURANSA METIS THERAPEUTICS Exscientia FOUNDATION MEDICINE HUMA DIP PharmaLedger AnimaBiotech evotec AbCellera VERGE GENOMICS Atomwise BenchSci Biologic Design Genesis Therapeutics strateos REVEAL BIOSCIENCES TRANSCENTA

Note: the central column (red) defines the pharmaceutical corporations and side columns (blue) defines AI companies that have collaborations with pharma companies from the central column.

10 Most Recent Acquisitions of AI in Drug Discovery Companies

March 2025  LexisNexis®
RISK SOLUTIONS



HUMAN API

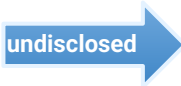
 InstaDeep™

\$440M

BIONTECH

January 2025

February 2025



OKRA

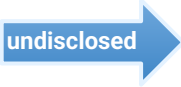


\$29M

CERTARA

January 2025

February 2025



trials.ai

nimbus
THERAPEUTICS

\$4B



December 2024

January 2025

Paradigm

\$200M



AMPLION

undisclosed



September 2024

January 2025

CAMBRIDGE
COGNITION

\$7M



PeerWell

undisclosed



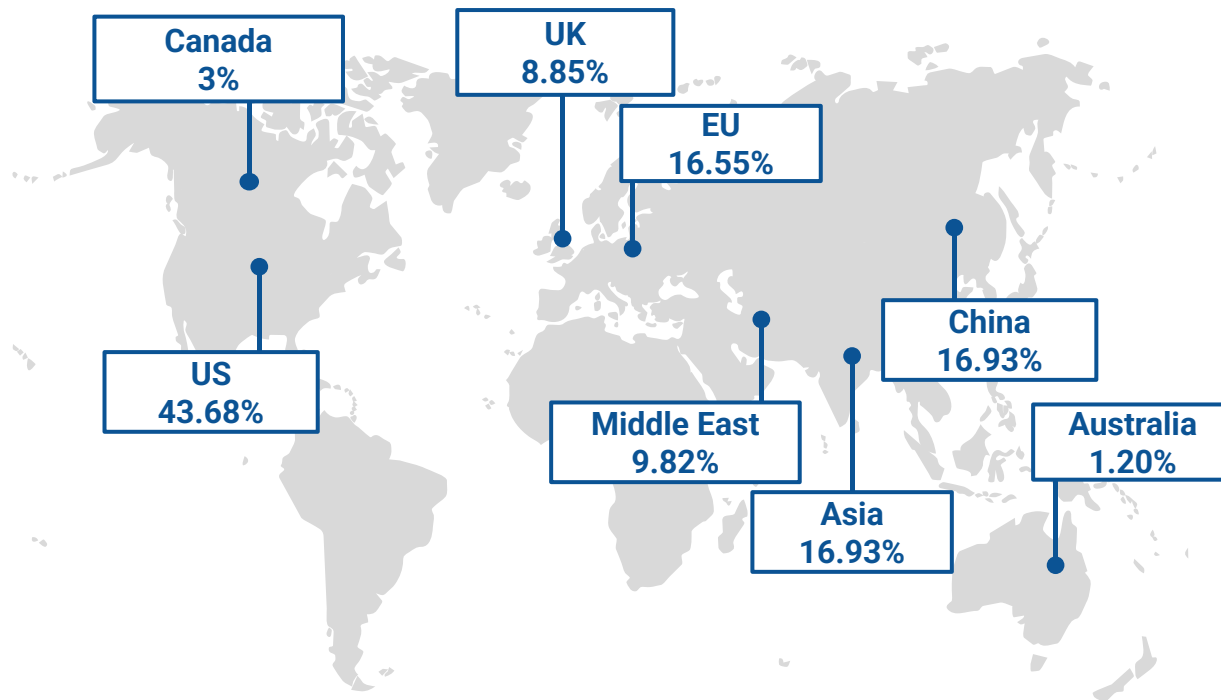
June 2024

50 Leading Investors in AI for Drug Discovery Sector

1	Casdin Capital	18	RA Capital Management	35	Amgen Ventures
2	Y Combinator	19	Invus	36	Entrepreneur First
3	Creative Destruction Lab (CDL)	20	SoftBank Vision Fund	37	Founders Fund
4	GV	21	Andreessen Horowitz	38	Polaris Partners
5	National Science Foundation	22	Sequoia Capital China	39	Merck Global Health Innovation
6	Section 32	23	T. Rowe Price	40	Lilly Asia Ventures
7	Perceptive Advisors	24	Lux Capital	41	Lifeforce Capital
8	Alexandria Venture Investments	25	ZhenFund	42	Logos Capital
9	EASME	26	General Catalyst	43	Felicis Ventures
10	MassChallenge	27	OrbiMed	44	B Capital Group
11	ARCH Venture Partners	28	Foresite Capital	45	Redmile Group
12	AME Cloud Ventures	29	DCVC	46	Venture Kick
13	Khosla Ventures	30	WuXi AppTec	47	New Enterprise Associates
14	National Institutes of Health	31	SOSV	48	Tencent
15	Techstars	32	Obvious Ventures	49	Biotechnology Value Fund
16	Bill & Melinda Gates Foundation	33	Alumni Ventures	50	5Y Capital
17	F-Prime Capital	34	8VC		

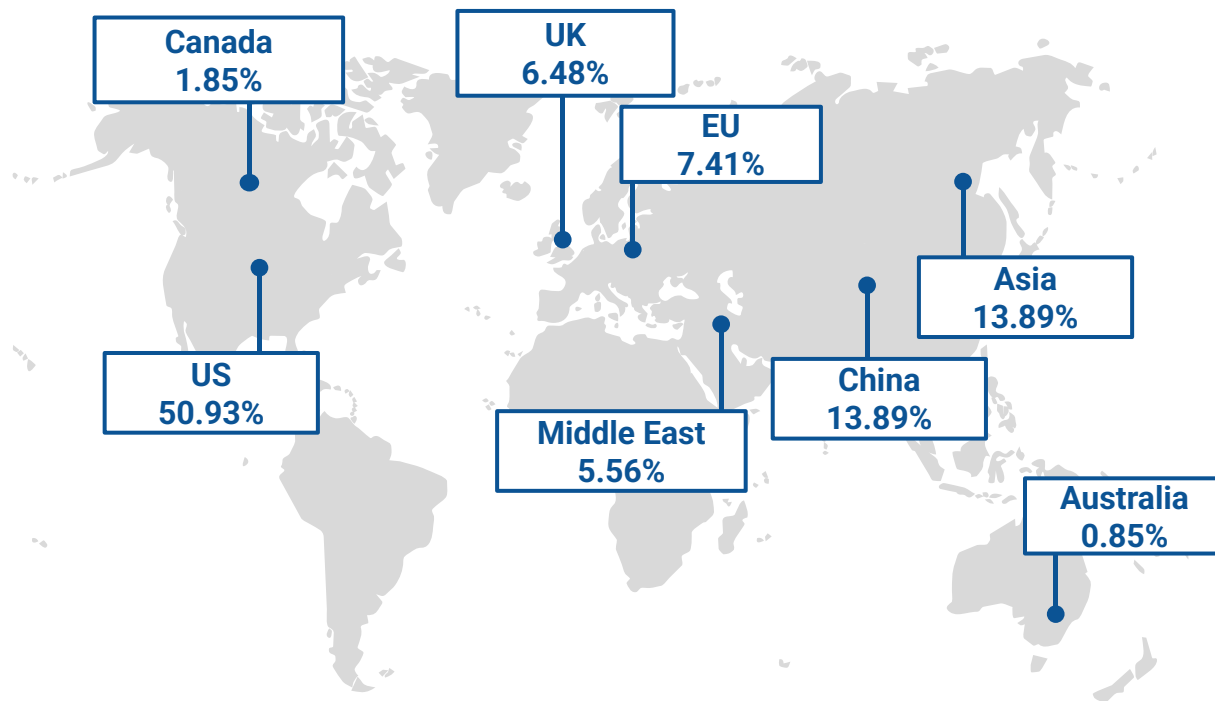
AI in Drug Development: Geographical Coverage

3900 AI Companies: Regional Proportion



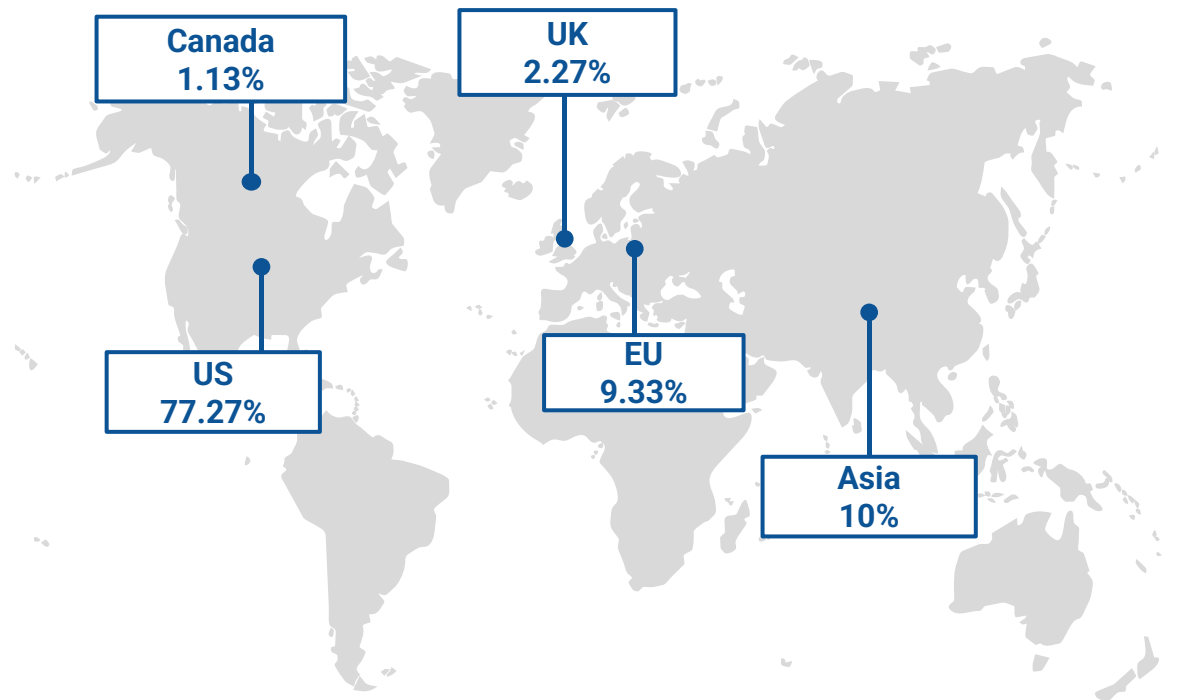
The US is still firmly in the lead regarding its proportion of AI for Drug Discovery companies. Interestingly, Asia and the Middle East continue to expand usage of AI technologies in the Pharmaceutical Industry. The ratio of companies that use AI for Drug Development in the UK and European countries is decreasing compared to the Asian market. The Asia-Pacific region continues to aggressively increase the number of AI for Drug Discovery Companies, particularly in China, and this tendency will probably maintain.

5000 Investors: Regional Proportion



The United States continues to lead the rest of the world in terms of artificial intelligence for companies and funds that invest in Drug Discovery. This is reasonable, given that more than a half of the world's AI for Drug Discovery companies have their headquarters in USA. Comparing with previous periods of 2024, we can observe significant growth of the number of investors in Asia, especially in China. The United States, Europe, China and UK are leaders by the number of investors in AI in Drug Discovery companies.

50 Leading Investors: Regional Proportion



The United States continues to lead the rest of the world in terms of artificial intelligence for companies and funds that invest in Drug Discovery. This is reasonable, given that more than a half of the world's AI for Drug Discovery companies have their headquarters in USA. We can observe significant growth of the number of investors in Asia, mainly in China. The USA, the UK, Canada, and EU remain to be leaders by the number of investors in AI in Pharma companies.

AI in the Global Context

Europe Actively Explores AI Applications for Drug Discovery

In Europe, the European Medicines Agency (EMA) has announced plans to use AI to improve the efficiency of its work, including the assessment of new drug applications. The UK's National Health Service (NHS) is also exploring the use of AI to improve patient care, including the development of personalized medicine.

US is a Main Player in AI Industry

In the beginning of AI implementation, US was a pioneer and then the main player with the greatest number of companies using AI to force R&D, research centres and institutes, and investments. The US Food and Drug Administration (FDA) has also established a program to explore the use of AI in regulatory science.

Asia Invest in AI in Drug Development Activity

In Asia, Japan and South Korea are also investing in AI for drug development. Japan's Ministry of Economy, Trade, and Industry has established a program to promote the development of AI-based drug discovery technologies, and South Korea is investing in AI research and development through its national program, "AI Korea."

China Plans to Become the World AI Leader by 2025

The National Development and Reform Commission, China's top economic planning body, has identified AI in the pharmaceutical industry as a key area for development under its "Made in China 2025" plan. This plan aims to make China a global leader in advanced manufacturing, including the development of AI-based technologies.

Business Activity: Overview

Business Activity

The business activity has been increasing in the pharmaceutical AI space over **2024 - 2025**, judging by an increased number of transactions and partnership announcements in this period.

The most significant deals and collaborations in include:



Valo Health announced the final closing of its Series B at \$300M, including a \$110 million investment from Koch Disruptive Technologies (KDT). This brings the overall funding of Valo to over \$450M to accelerate the creation of life-changing drugs.



Amgen — **Mila** partnership that permits Amgen to expand its knowledge of AI and deep learning by interacting and engaging with experts in Mila's unique ecosystem.



Exscientia sealed a \$5.2B deal (biggest deal of A.I.) to expand an ongoing collaboration agreement with **Sanofi** to include 15 new molecules.



Anumana, **Janssen** and **Mayo Clinic** have developed ECG-based Pulmonary Hypertension (PH) Early Detection Algorithm which will help doctors identify pulmonary hypertension early, a condition that is progressive and life-threatening.



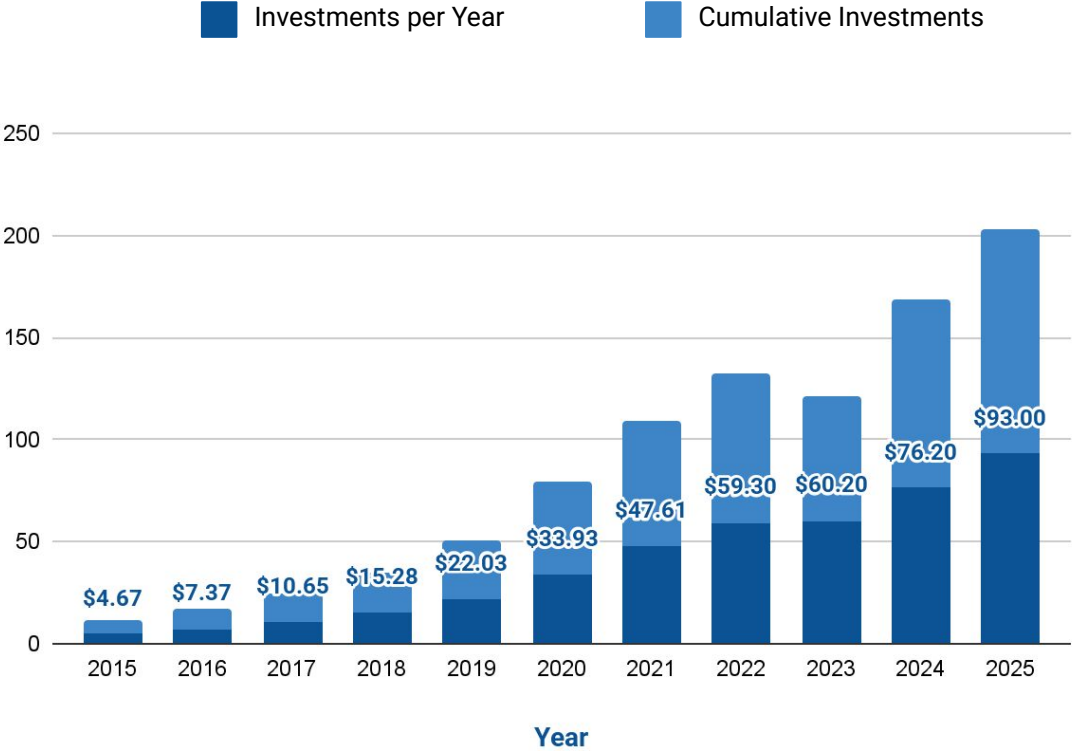
Microsoft and **Novo Nordisk** signed a contract to expedite the company's drug discovery process.



Tempus is collaborating with **Pfizer** to use Tempus' artificial intelligence platform to advance cancer drug discovery and development.

Dynamics of Investments in AI in Drug Development

AI in Drug Development Investments Dynamics



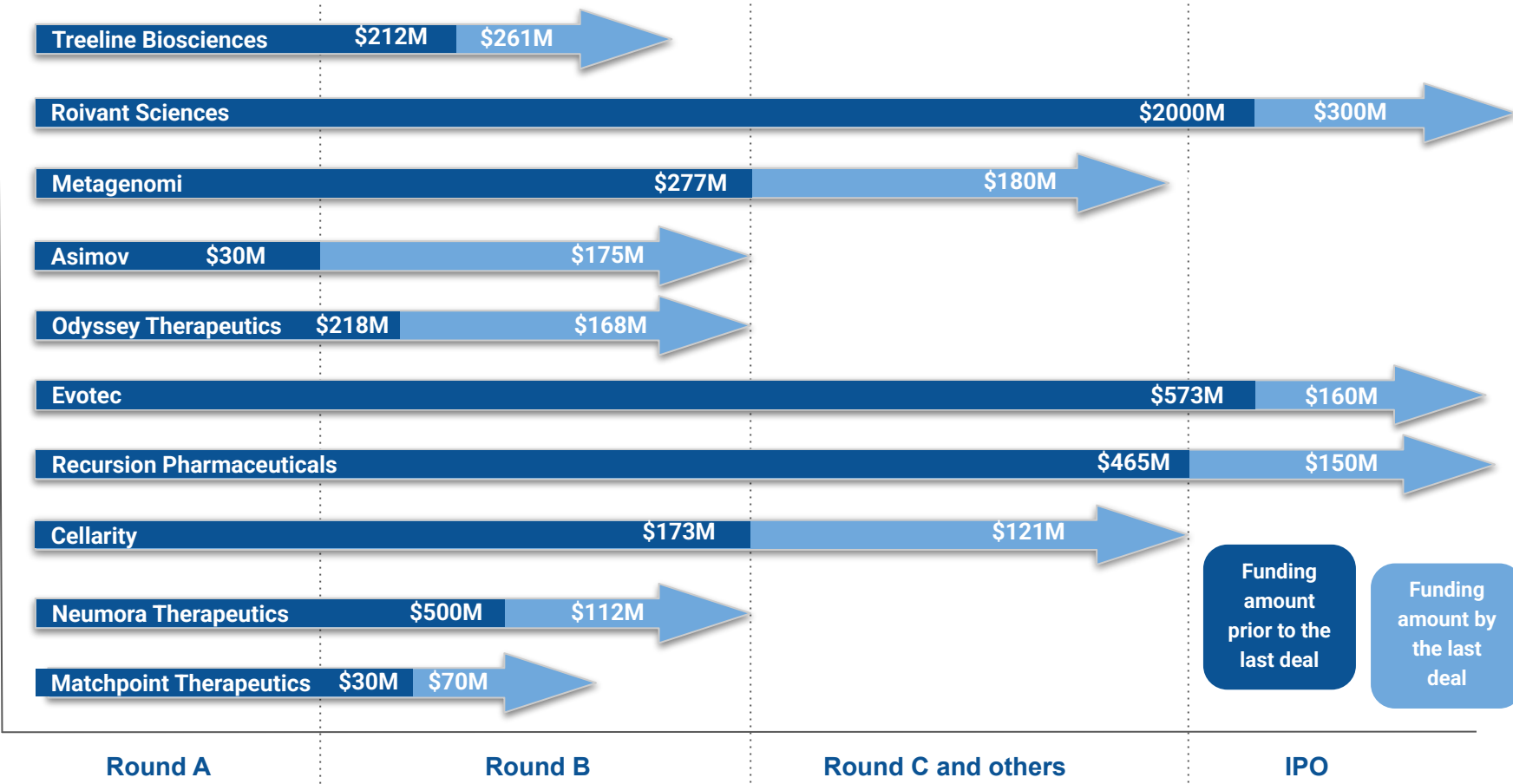
There has been a substantial increase in the amount of capital invested in AI-driven pharma companies **since 2015**. During the last 10 years, the annual amount of investments in **800** companies has increased significantly, reaching a cumulative total of **\$93 billion** as of March 2025. The most rapid growth was in 2021, when the annual investment in AI in Drug Development companies was **\$13.68 billion**. We can suggest that the COVID-19 pandemic was the catalyst for this rapid growth. However, due to the global economic recession, the investments in AI in Drug Development companies in 2024 did not experience the same high growth rate as in previous years (**\$14.18 billion** in 2024 compared to **\$13.68 billion** in 2021). By March 2025, the total investments in AI in Drug Development companies have reached **\$93 billion**, with an estimated annual investment of **\$16 billion** in 2024.

Top-10 AI-Driven Publicly Traded Companies by Market Capitalization in 2025

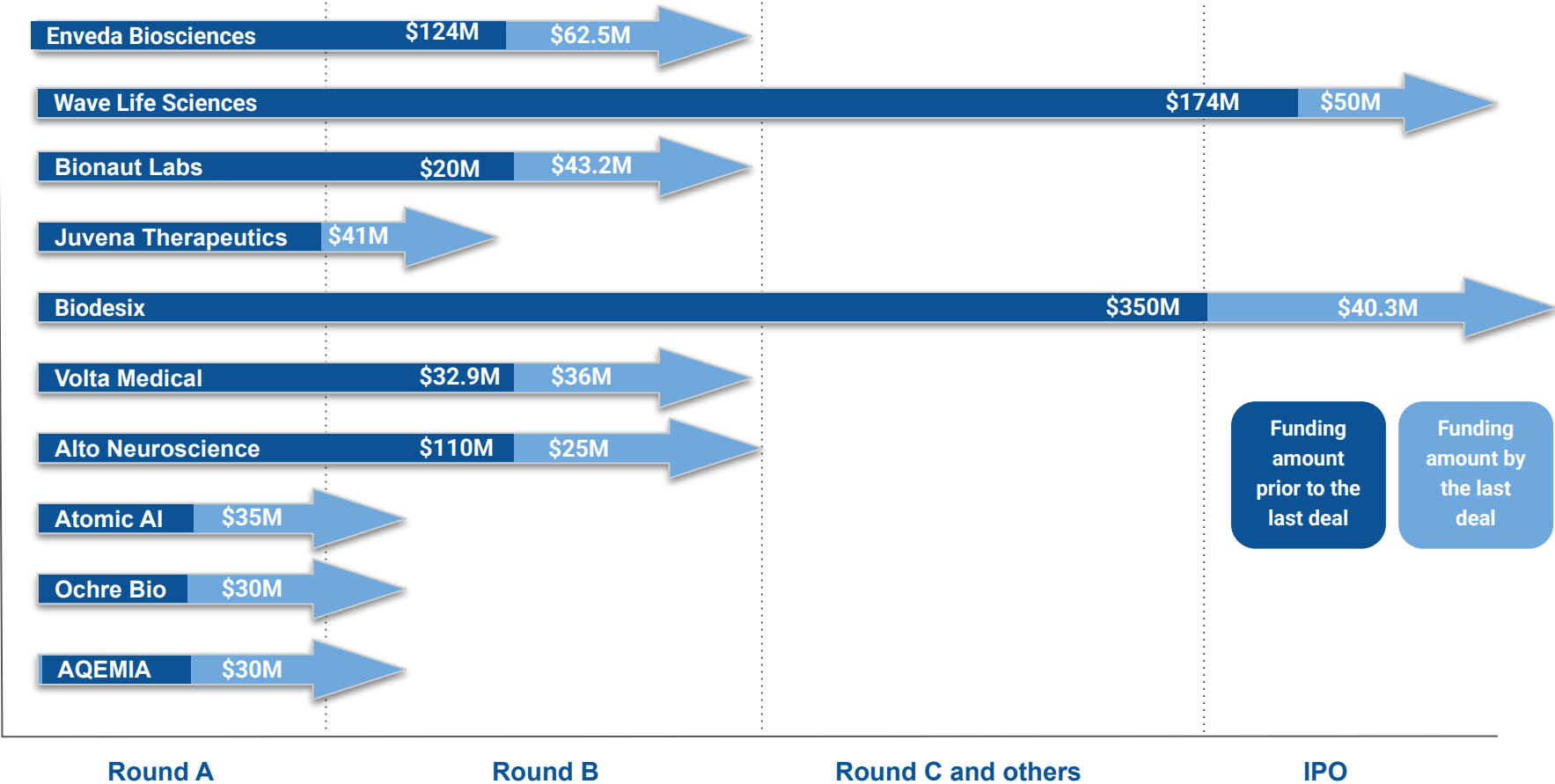


The chart represents the top-10 public companies that ended up in Deep Pharma Intelligence portfolios according to their market capitalization in 2025. The Top-3 companies by Market Capitalization in 2025 are **Eli Lilly and Company (\$2.8B)**, **Johnson & Johnson (\$2.7B)** and **Merck & Co., Inc. (\$2.3B)**. All of them belong to different areas of Drug Development, such as **End-to-End Drug Development**, **Early Drug Development** and **Clinical Development**, highlighting that **utilization of AI increase gradually in most of the areas of Drug Discovery**.

Leading Companies by Amount and Stage of Funding Raised by 2025

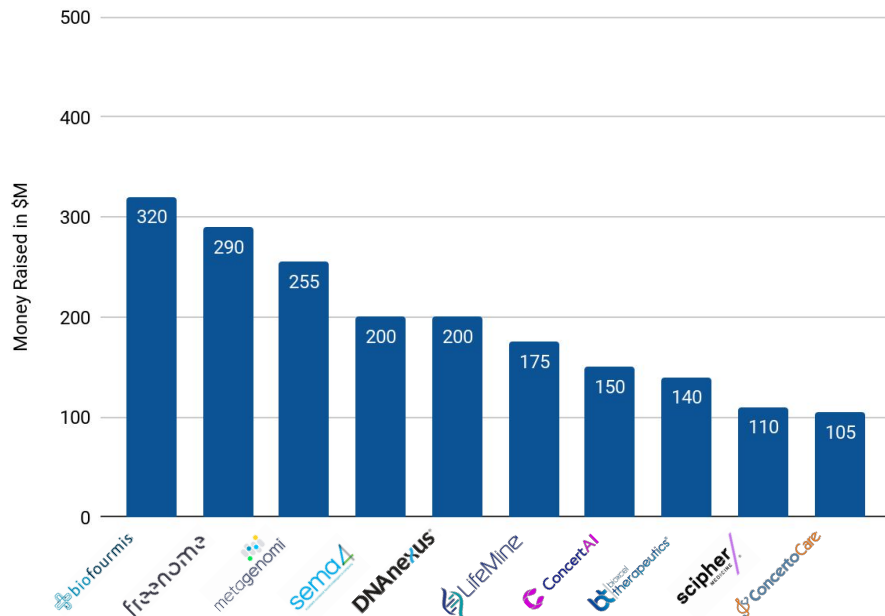


Leading Companies by Amount and Stage of Funding Raised by 2025

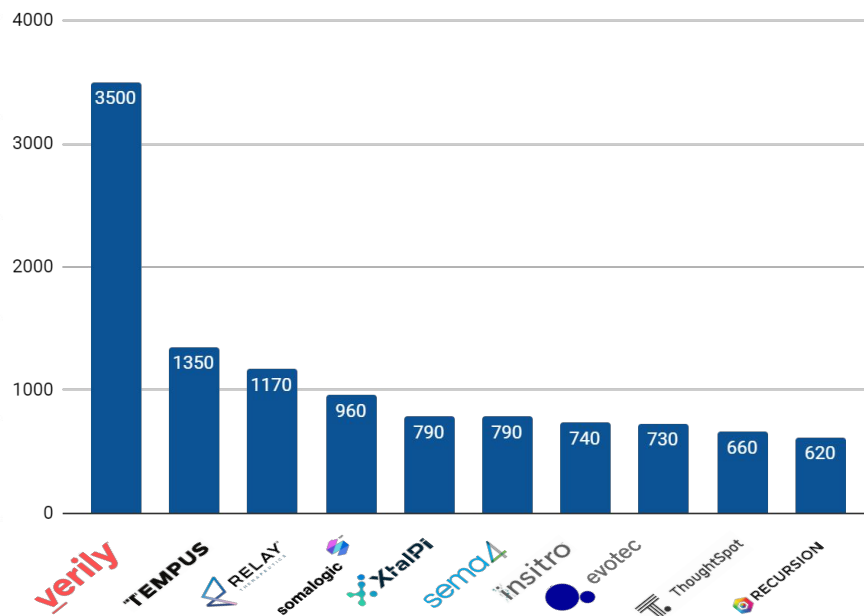


Top 10 Funded Companies in Q4 2024 vs Q1 2025

Top 10 Funded Companies in Q4 2024



Top 10 Funded Companies in Q1 2025



To visualise yearly trends, the charts represent the **top 10 funded companies in Q4 2024 and Q1 2025**. The observed central tendency is the decrease in investments in Q1 2025 compared to Q4 2024. The most significant raised investment in **Q1 2025** was in **Verily** company, which raised **\$3.5B**, while in **Q4 2024**, **Neumora** raised **\$320M**. The **average investment in Q4 2024** was **\$49.7M**, while in **Q1 2025**, it was **\$37.7M**. Additionally, the number of assets is almost two times smaller in 2024 (**27 investments in Q1 2025 to 49 investments in Q4 2024**).

Major Observations for Q1 2025: Key Business Takeaways



The global COVID-19 pandemic heated up the interest in BioTech and drug discovery sectors and catalysed AI development. During 2021, we have observed over 150 medium and large funding rounds for AI in Drug Development companies with an average investment of **\$64.7M**. As of beginning of 2025, the interest in AI in drug development appeared to reach a plateau. In Q1 2025, there were over **28 investments** in AI in Drug Development companies with an average investment of **\$38M**.



In Q1 2025, only **1 company that use AI for DD reached IPO status**. USA-based BullFrogAI closed its IPO on 14th of February. There is a huge recession comparing to 2021 year, when 10 companies reached IPO. The global downturn might be the reason for this.

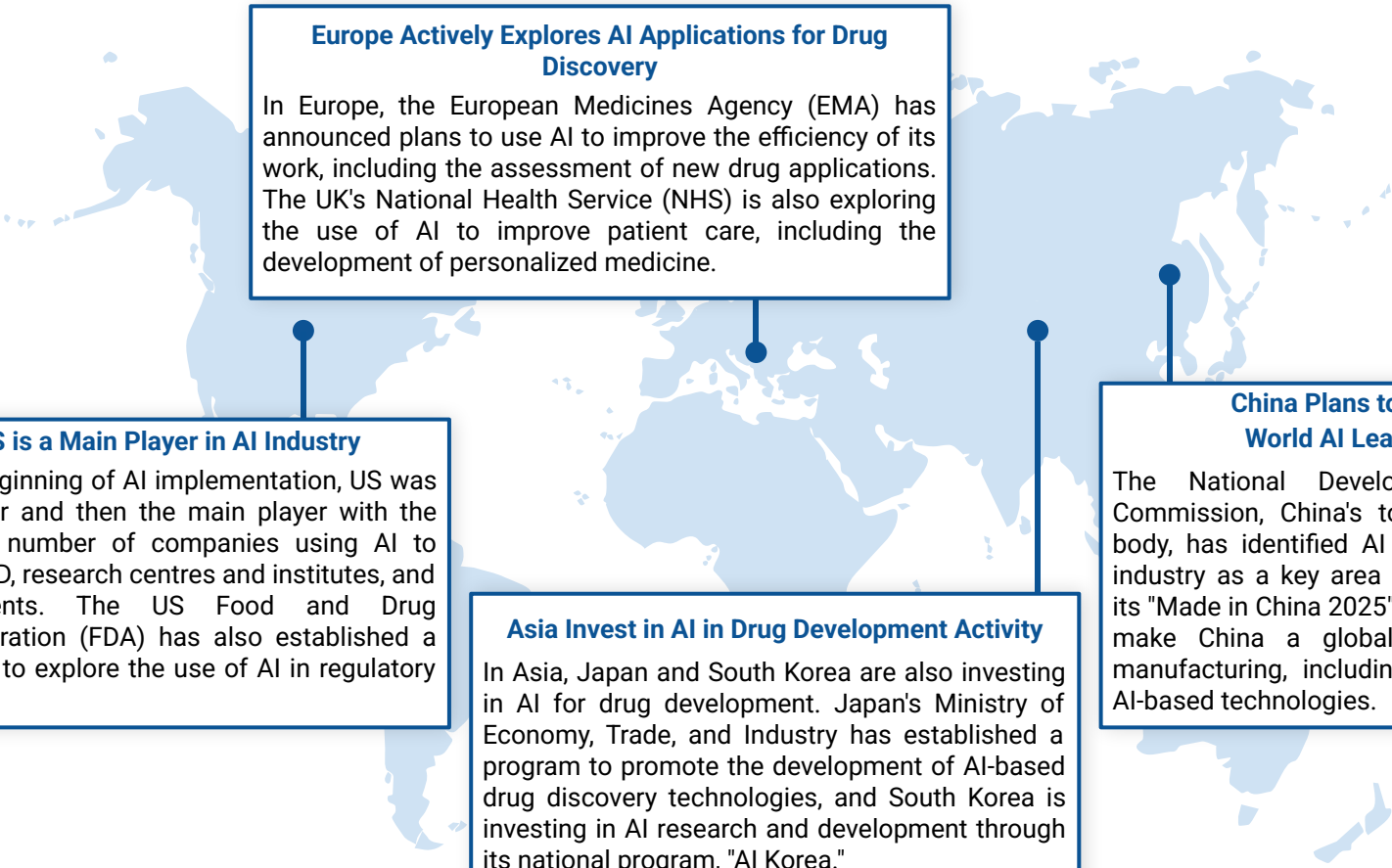


When some of the companies complete IPOs in the nearest future, it will attract a **significant number of non-biotech investors to enter the Life Sciences sector**. The prospects of this trend are already vivid: big tech companies enter partnerships with both innovative start-ups and pharma companies to consolidate resources, mainly in personalized medicine, cell and gene therapy, and molecule prediction software. Some of these companies even open subsidiaries harvesting AI in Drug Design (like Isomorphic Labs from Google).



The growing industry traction, reflected in the increasing number of R&D partnerships between big pharma and CROs with AI start-ups, is a sign that the market is maturing for rapid increase in M&A activity in the nearest future. Despite the global downturn, the AI in Drug Development sector seems to be stable.

AI in the Global Context



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The National Development and Reform Commission, China's top economic planning body, has identified AI in the pharmaceutical industry as a key area for development under its "Made in China 2025" plan. This plan aims to make China a global leader in advanced manufacturing, including the development of AI-based technologies.

50 Leading Investors in Pharmaceutical AI

50 Leading Investors in AI for Drug Discovery Sector

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4	GV	21	Andreessen Horowitz	38	Polaris Partners
5	National Science Foundation	22	Sequoia Capital China	39	Merck Global Health Innovation
6	Section 32	23	T. Rowe Price	40	Lilly Asia Ventures
7	Perceptive Advisors	24	Lux Capital	41	Lifeforce Capital
8	Alexandria Venture Investments	25	ZhenFund	42	Logos Capital
9	EASME	26	General Catalyst	43	Felicis Ventures
10	MassChallenge	27	OrbiMed	44	B Capital Group
11	ARCH Venture Partners	28	Foresite Capital	45	Redmile Group
12	AME Cloud Ventures	29	DCVC	46	Venture Kick
13	Khosla Ventures	30	WuXi AppTec	47	New Enterprise Associates
14	National Institutes of Health	31	SOSV	48	Tencent
15	Techstars	32	Obvious Ventures	49	Biotechnology Value Fund
16	Bill & Melinda Gates Foundation	33	Alumni Ventures	50	5Y Capital
17	F-Prime Capital	34	8VC		

Major Observations for Q1 2025: Key Business Takeaways



AI is increasingly being used in drug development to speed up the process, reduce costs, and improve success rates. AI can help identify potential drug candidates, predict their efficacy and toxicity, and optimize clinical trials. As a result, pharma companies and CROs are seeking out partnerships with AI companies to take advantage of their expertise and technology. **AstraZeneca** is a leader in collaborations with AI companies, till the **beginning of 2025 year**, the company had more than **27 collaborations**.



Big Pharmaceutical companies are very interested in the growth and development of AI companies. This interest can be observed not only in the high amount of collaboration between pharmaceutical companies and AI companies but also in the **direct investments of big pharma in AI companies**. Investors are attracted by the prospect of building platforms that speed up and cut the cost of the drug development process, and the opportunity to partner with large pharmaceutical firms that do not have all the necessary skills in-house.



Even though in **Q2 of 2024** top companies by investment **XtalPi** (\$0,79B), **Insitro** (\$0,74B) and **ThoughtSpot** (\$0,68B) operate in **Early Drug Development** field, by the beginning of 2025 happens diversification of leaders by total investments that covers not only Early Drug Development like **Charles River** (\$1,5B), but also other fields like **End-to-End Drug Development** (**Relay Therapeutics**, \$1,17B), **Clinical Development** and **Data Processing** (**Tempus**, \$1,35B). The market is gradually growing in all Drug Discovery oriented entities and this trend would probably sustain.



The investment strategy changed in 2024. In 2023, the most significant investments came to innovative new companies with promising ideas, such as Neuromora Therapeutics and Insitro, in both were invested \$400M in 2023. In 2024, investors preferred more mature companies with ready-to-go solutions or drugs that are already entered the latest phases of clinical trials, such as Biofurmus (\$320M) and Freenome (\$290M).

Top-50 AI in Pharma Investors



San Francisco

BVC
San Francisco, California, US

Founders Fund
San Francisco, California, US

Foresite Capital
San Francisco, California, US

DCVC
San Francisco, California, US

Obvious Ventures
San Francisco, California, US

Lifeforce Capital
San Francisco, California, US

Amgen Ventures
San Francisco, California, US

Redmile Group
San Francisco, California, US

Biotechnology Value Fund
San Francisco, California, US

Logos Capital
San Francisco, California, US

Manhattan Beach

B Capital Group
Manhattan Beach, California, US

New York

OrbiMed
New York, New York, US

Bill & Melinda Gates Foundation
New York, New York, US

Perceptive Advisors
New York, New York, US

Invus
New York, New York, US

Casdin Capital
New York, New York, US

Lux Capital
New York, New York, US

Menlo Park

Andreessen Horowitz
Menlo Park, California, US

Felicit Ventures
Menlo Park, California, US

Khosla Ventures
Menlo Park, California, US

New Enterprise Associates
Menlo Park, California, US

Illinois

ARCH Venture Partners
Chicago, Illinois, US

Mountain View

Y Combinator
Mountain View, California, US

GV
Mountain View, California, US

Palo Alto

AME CCloud Ventures
Palo Alto, California, US

Alexandria Venture Investments
Pasadena, California, US

Massachusetts

MassChallenge
Boston, Massachusetts, US

RA Capital Management
Cambridge, Massachusetts, US

General Catalyst
Cambridge, Massachusetts, US

Polaris Partners
Boston, Massachusetts, US

F-Prime Capital
Cambridge, Massachusetts, US



Other States

Merck Global Health Innovation Fund
Whitehouse, New Jersey, US

Alumni Ventures
Manchester, New Hampshire, US

SOSV
Princeton, New Jersey, US

National Science Foundation
Alexandria, Virginia, , US

T. Rowe Price
Baltimore, Maryland, US

Section 32
San Diego, California, US

National Institutes of Health
Bethesda, Maryland, US

Techstars
Boulder, Colorado, US



Creative Destruction Lab (CDL)
Toronto, Canada



Venture Kick
Schlieren, Zurich, Switzerland



Beijing

ZhenFund
Beijing, China

Sequoia Capital China
Beijing, China

Shanghai

WuXi AppTec
Shanghai, China

Lilly Asia Ventures
Shanghai, China

5Y Capital
Shanghai, China

Tencent
Shenzhen, China



EASME
Brussels, Belgium



SoftBank Vision Fund
London, England, The UK

Entrepreneur First
London, England, The UK

Top-50 Investors in AI Companies

INVESTORS		INVESTMENTS OVERALL	AI FOR DRUG DISCOVERY COMPANIES	INVESTED IN
	Casdin Capital	207	28	Absci, Alector, Arzeda, Asimov Beacon Biosignals, Celsius Therapeutics, Character Biosciences, Dyno Therapeutics, Exai Bio, Exscientia, Fabric Genomics, Flatiron Health, Foundation Medicine, Gritstone Oncology, Imagen Technologies, Insitro, Lunit, Paige, Recursion Pharmaceuticals, Relay Therapeutics, Sema4, ShouTi, SomaLogic, Structure Therapeutics, Treeline Biosciences
	Y Combinator	5,193	27	1910 Genetics, Arpeggio Bio, Athelas, Atomwise, BrainKey, Cambridge Cancer Genomics, CloudMedx, Coral Genomics, Darmiyan, Endpoint Health HistoWiz, Gen1E Lifesciences, iLabService, Known Medicine, Menten AI, Nabla Bio, Notable Labs, Ochre Bio, Persephone Biosciences, PostEra, Qventus, Reverie Labs, Segmed, Strateos, Synkrino Biotherapeutics, Verge Genomics, WhiteLab Genomics
	Creative Destruction Lab	745	24	A.I. VALI Inc., Altis Labs, Atomwise, BenchSci, biotx.ai, Deep Genomics, DeepCure, DeepLife, Entropica Labs, Epistemic AI, Juvena Therapeutics, Kheiron, Kuano, Kyndi, Menten AI, NetraMark, Nostos Genomics, Optina Diagnostics, OrganoTherapeutics, Phenomic AI, ProteinQure, Valence Discovery, Winterlight Labs
	GV	1,029	21	Alector, Arrakis Therapeutics, BlackThorn Therapeutics, Celsius Therapeutics, DNAnexus, Dyno Therapeutics, Flatiron Health, Foundation Medicine, Freenome, Gritstone Oncology, IDEAYA Biosciences, Imagen Technologies, Insitro, LifeMine Therapeutics, Owkin, Relay Therapeutics, Schrödinger, Strateos, Treeline Biosciences, Ultromics, Viz, ZappRx
	National Science Foundation	4,321	19	Acelot, ADM Diagnostics, Arzeda, Bioz, bioSyntagma, Canomiks, Cloud Pharmaceuticals, Dascena, Data2Discovery Inc, Elucid, Health Technology Innovations, Kintsugi, Nabla Bio, Prenosis, Splintellx, Strados Labs, TeselaGen, VeriSIM Life
	Section 32	104	19	Alector, Arbor Biotechnologies, BigHat Biosciences, Celsius Therapeutics, Emerald Cloud Lab, Exai Bio, Freenome, Glympse Bio, Juvena Therapeutics, Notable Labs, Nucleai, Olaris, Relay Therapeutics, Scipher Medicine, Sema4, Strateos, Unlearn.AI, Veralox Therapeutics, Verge Genomics
	Perceptive Advisors	227	17	Absci, Achilles Therapeutics, Alector, Biodesix, Black Diamond Therapeutics, Champions Oncology, DNAnexus, Freenome, Icosavax, IDEAYA Biosciences, Landos Biopharma, Neuron23, Relay Therapeutics, Saama, Sema4, Soma Logic, Twin Health
	Alexandria Venture Investments	214	17	Arrakis Therapeutics, BlackThorn Therapeutics, Celsius Therapeutics, Deep Genomics, Fountain Therapeutics, GNS Healthcare, Gritstone Oncology, IDEAYA Biosciences, Immunai, Insitro, LEXEO Therapeutics, LifeMine Therapeutics, Matchpoint Therapeutics, Neuromora Therapeutics, Odyssey Therapeutics, Ozette Technologies, Terray Therapeutics, Veralox Therapeutics
	EASME	3,677	16	Acellera, Brainomix, Castor, CellPly, Cydar Medical, Cytox, Genialis, Genome Biologics, InterAx Biotech Ltd, Iris.ai, Kheiron, MedAware, Mind the Byte, OmicX, Optellum, Quibim
	MassChallenge	3,035	16	Agamon, Canomiks, ChemAlive sA, Clemedi, Glamorous AI, Kintsugi, MedAware, Neuroelectrics, OrganoTherapeutics, ReviveMed, Scailyte, SimplicityBio, Simply Speak, Strados Labs, Therny, Vyasa Analytics

Top-50 Investors in AI Companies

INVESTORS	INVESTMENTS OVERALL	AI FOR DRUG DISCOVERY COMPANIES	INVESTED IN
 ARCH Venture Partners	448	15	Arbor Biotechnologies, BlackThorn Therapeutics, Elephas, Erasca, Generate Biomedicines, Genuity Science, Glympse Bio, Hangzhou Just Biotherapeutics (Just China), Insitro, LifeMine Therapeutics, Lodo Therapeutics, Neumora Therapeutics, Transcenta, Treeline Biosciences, Vilya
 AME Cloud Ventures	291	15	Asimov, Atomic AI, Atomwise, Auransa, BigHat Biosciences, BIOAGE LABS, Cambridge Cancer Genomics, Endpoint Health, Freenome, January AI, Molecule.one, Recursion Pharmaceuticals, Strateos, Viz, Zephyr AI
 Khosla Ventures	1,076	14	Arpeggio Bio, Anagenex, Atomwise, BIOAGE LABS, Bionaut Labs, CHARM Therapeutics, Deep Genomics, Fountain Therapeutics, Gen1E Lifesciences, Known Medicine, Menten AI, Ochre Bio, Scipher Medicine, ThoughtSpot
 National Institutes of Health	678	14	bioSyntagma, Charles River Laboratories International, Coral Genomics, Dascena, Envisagenics, Evaxion Biotech, Genomenon, PostEra, Recursion Pharmaceuticals, Sangamo Therapeutics, SEngine Precision Medicine, Simulations Plus, Virvi
 Techstars	5,424	13	Avalon AI, Canomiks, Cedience, Deep 6 AI, EVQLV, First Ascent Biomedica, Generable Inc., HelixAI, Kintsugi, Kumuda, Sopris Health, The Collaboratory, Valence Discovery
 Bill & Melinda Gates Foundation	231	12	Adapsyn Bioscience, Atomwise, Cyclica, Evotec, Exscientia, Foundation Medicine, Icosavax, Novartis, Recursion Pharmaceuticals, Schrödinger, SomaLogic, Takeda
 F-Prime Capital	408	11	Adagene, BenchSci, Castor, CHARM Therapeutics, Elucidata, Insilico Medicine, Neuromora Therapeutics, Notable, Owkin, Peptone, Wellframe
 RA Capital Management	317	11	Achilles Therapeutics, Black Diamond Therapeutics, Bristol Myers Squibb, Everest Medicines, Freenome, Frontier Medicines, Icosavax, ITEos Therapeutics, Metagenomi, Nimbus Therapeutics, Wave Life Sciences
 Invus	188	11	Achilles Therapeutics, Black Diamond Therapeutics, Erasca, Engine Biosciences, ITEos Therapeutics, LEXEO Therapeutics, LifeMine Therapeutics, Neumora Therapeutics, Recursion Pharmaceuticals, Schrödinger, Valo Health
 SoftBank Vision Fund	221	11	Biofourmis, Datavant, Deep Genomics, Exscientia, Insitro, Neuron23, Neumora Therapeutics, PatSnap, Relay Therapeutics, Roivant Sciences, XtalPi

Top-50 Investors in AI Companies

INVESTORS	INVESTMENTS OVERALL	AI FOR DRUG DISCOVERY COMPANIES	INVESTED IN
 Andreessen Horowitz	1,370	11	Asimov, Aria Pharmaceuticals, BigHat Biosciences, BIOAGE LABS, Dyno Therapeutics, Erasca, Flatiron Health, Freenome, Human API, Genesis Therapeutics, Insitro
 Sequoia Capital China	982	11	Adagene, Deep Intelligent Pharma, Exai Bio, Insilico Medicinem, METIS Therapeutics, HiFiBiO, NeoX Biotech, PatSnap, Transcenta, XtalPi, Yitu Technology
 T. Rowe Price	318	11	Arbor Biotechnologies, Cleerly, Generate Biomedicines, Genesis Therapeutics, Generate Biomedicines, Insitro, Odyssey Therapeutics, Sema4, SomaLogic, Tempus, Freenome
 Lux Capital	438	10	Anagenex, Auransa, Alife, Dyno Therapeutics, Enveda Biosciences, Gandeeva Therapeutics, LabGenius, LatchBio, Recursion Pharmaceuticals, Strateos
 ZhenFund	770	10	AccutarBio, BioBeats, Deep Intelligent Pharma, HistoWiz, Meliora Therapeutics, Spring Discovery, uBiome, Xbiome, XtalPi, Yitu Technology
 General Catalyst	1,152	10	Athelas, Beacon Biosignals, CHARM Therapeutics, LatchBio, Odyssey Therapeutics, OM1, PathAI, Spring Discovery, Swoop, ThoughtSpot
 OrbiMed	597	10	AbCellera, Achilles Therapeutics, Alector, CHARM Therapeutics, Crown Bioscience, Erasca, Insilico Medicine, Odyssey Therapeutics, Treeline Biosciences, XtalPi
 Foresite Capital	143	10	Aetion, Alector, DNAnexus, Generate Biomedicines, Insitro, LifeMine Therapeutics, Odyssey Therapeutics, Relay Therapeutics, SomaLogic, Wave Life Sciences
 DCVC	475	10	AbCellera Biologics, Asimov, Atomwise, Auransa, Enlithic, Freenome, HealthMode, Recursion Pharmaceuticals, Strateos, Unlearn.AI
 WuXi AppTec	40	10	Arrakis Therapeutics, Drug Farm, DNAnexus, Engine Biosciences, Insilico Medicine, Insitro, Schrödinger, Strateos, Verge Genomics, WuXi AppTec

Top-50 Investors in AI Companies

INVESTORS		INVESTMENTS OVERALL	AI FOR DRUG DISCOVERY COMPANIES	INVESTED IN
	SOSV	2,504	9	A2A Pharmaceuticals, Galactica Biotech, Gatehouse Bio, Guided Clarity, Machine Medicine Technologies, Mendel.ai, Stelvio Therapeutics, Strados, Synthace
	Obvious Ventures	147	9	Achilles Therapeutics, Anagenex, ConcertoCare, Dyno Therapeutics, Gandevea Therapeutics, Inato, LabGenius, Medable, Meliora Therapeutics, Recursion Pharmaceuticals
	Alumni Ventures	1,278	9	Emerald Cloud Lab, Glympse Bio, Scipher Medicine, Juvena Therapeutics, Notable Labs, Olaris, Strateos, Unlearn.AI, Veralox Therapeutics, Verge Genomics
	8VC	408	9	Atomic AI, BigHat Biosciences, Coral Genomics, Immunai, Model Medicine, Notable, ProteinQure, PathAI, Unlearn.AI
	Amgen Ventures	108	9	Aetion, Alector, BigHat Biosciences, Celsius Therapeutics, Gandevea Therapeutics, Genuity Science, GNS Healthcare, Neumora Therapeutics
	Entrepreneur First	382	9	AarogyaAI, Cinference, DeepLife, Entropica Labs, Exogene, GTN, Nostos Genomics, Sparrho, Vinehealth
	Founders Fund	825	9	AbCellera Biologics, Datavant, DeepMind, Emerald Cloud Lab, Freenome, Notable Labs, Peptilogics, Roivant Sciences, Strateos
	Polaris Partners	668	9	Alector, BlackThorn Therapeutics, Dyno Therapeutics, Engine Biosciences, Freenome, Genuity Science, Neumora Therapeutics, OM1, PathAI
	Merck Global Health Innovation Fund	86	8	Absci, Antidote.me, OpGen, PathAI, PreciseDx, Strata Oncology, Turbine, Verge Genomics
	Lilly Asia Ventures	172	8	Alector, Crown Bioscience, Gritstone Oncology, Hangzhou Just Biotherapeutics (Just China), Insilico Medicine, ShouTi, Structure Therapeutics, Transcenta

Top-50 Investors in AI Companies

INVESTORS		INVESTMENTS OVERALL	AI FOR DRUG DISCOVERY COMPANIES	INVESTED IN
	Lifeforce Capital	52	8	Character Biosciences, Clover Therapeutics, Enveda Biosciences, Notable Labs, Ochre Bio, PostEra, TARA Biosystems, Verge Genomics
	Logos Capital	93	8	Arbor Biotechnologies, Biomea Fusion, Black Diamond Therapeutics, Neumora Therapeutics, Nimbus Therapeutics, Odyssey Therapeutics, SomaLogic, Freenome
	Felicitas Ventures	590	7	BIOAGE LABS, Genesis Therapeutics, Juvena Therapeutics, LabGenius, PicnicHealth, ProteinQure, Spring Discovery
	B Capital Group	189	7	Aetion, Atomwise, HiFiBiO, HotSpot Therapeutics, Insilico Medicine, Notable Labs, PicnicHealth
	Redmile Group	150	7	Absci, Achilles Therapeutics, Foundation Medicine, Gritstone bio, Neuron23, Wave Life Sciences, SomaLogic
	Venture Kick	1,289	6	MindMaze, SimplicityBio, InterAx Biotech Ltd, Retinai, Scailyte, Clemedi
	New Enterprise Associates	2,106	6	Aetion, Black Diamond Therapeutics, Champions Oncology, Median Technologies, Tempus, Vertex Pharmaceuticals
	Tencent	751	6	Arpeggio Bio, Atomwise, Brainomix, iCarbonX, PatSnap, XtalPi
	Biotechnology Value Fund	47	6	Black Diamond Therapeutics, Evotec, Gritstone bio, IDEAYA Biosciences, Nimbus Therapeutics, Relay Therapeutics
	5Y Capital	276	6	AliveX Biotech, Galixir, METIS Pharmaceuticals, NeoX Biotech, Xbiome, XtalPi

Big Pharma's Focus on AI

AI and Pharma Collaborations in 2024

Bayer, Aalto and **HUS** expanded collaboration to apply artificial intelligence to support clinical drug trials



Takeda and **Evozyne** will create novel gene therapies for up to four rare disease targets. The deal worth up to **\$400 million**



AstraZeneca obtains a second pulmonary fibrosis target with a partnership with **BenevolentAI**



Jan 2024

Feb 2024

Mar 2024

Apr 2024

May 2024

Jun 2024

Amgen collaborated with **Generate Biomedicines** to create protein therapeutics for five clinical targets. **Amgen** will pay potentially up to **\$1.9 billion** in this collaboration for a novel AI driven platform



Elix announced a research partnership with **Shionogi** on the validating retrosynthetic analysis utilizing data from Shionogi.



Aqemia and **Sanofi** will work together on a number of initiatives in cancer, a major therapeutic area for Sanofi, to design and find new medicines.



AI and Pharma Collaborations in Q3 2024 - Q4 2024

Sanofi focuses on using **Atomwise's** AtomNet platform to conduct small molecule research on up to five therapeutic targets.



Roche announces **PathAI** collaboration for artificial intelligence-based digital pathology applications for improved patient care.



Cyclica Inc and **SK Chemicals** announced an AI-driven drug discovery and development partnership to develop therapies across a range of disease areas.



Jul 2024

Aug 2024

Sep 2024

Oct 2024

Nov 2024

Dec 2024

Roche and **EarlySign** expand partnership to include AI-powered lung cancer diagnosis.



The AI partnership between **Bayer** and **Exscientia**, which saw the two parties search for cardiovascular and cancer targets came to an end.



Insilico Medicine signs strategic research collaboration with **Sanofi** worth up to **\$1.2B**. AI platform **Pharma.AI** will be used to advance drug development candidates for up to six new targets.



AI and Pharma Collaborations in Q1 2024

Boehringer Ingelheim and **3T Biosciences** announced a strategic collaboration and licensing agreement to discover and develop next-generation cancer therapies.



Jan 2024

Jan 2024

Huma Therapeutics Limited and **Bayer** partnered to develop the Bayer Aspirin Heart Risk Assessment.



Feb 2024

Feb 2024

Viz.ai collaboration with **Bristol Myers Squibb** to Enable Earlier Detection and Management of Suspected Hypertrophic Cardiomyopathy (HCM).



Bristol Myers
Squibb

Feb 2024

Mar 2024

Bayer and **Google Cloud** announced a joint effort to accelerate Bayer's quantum chemistry calculations to drive early drug discovery via machine learning.



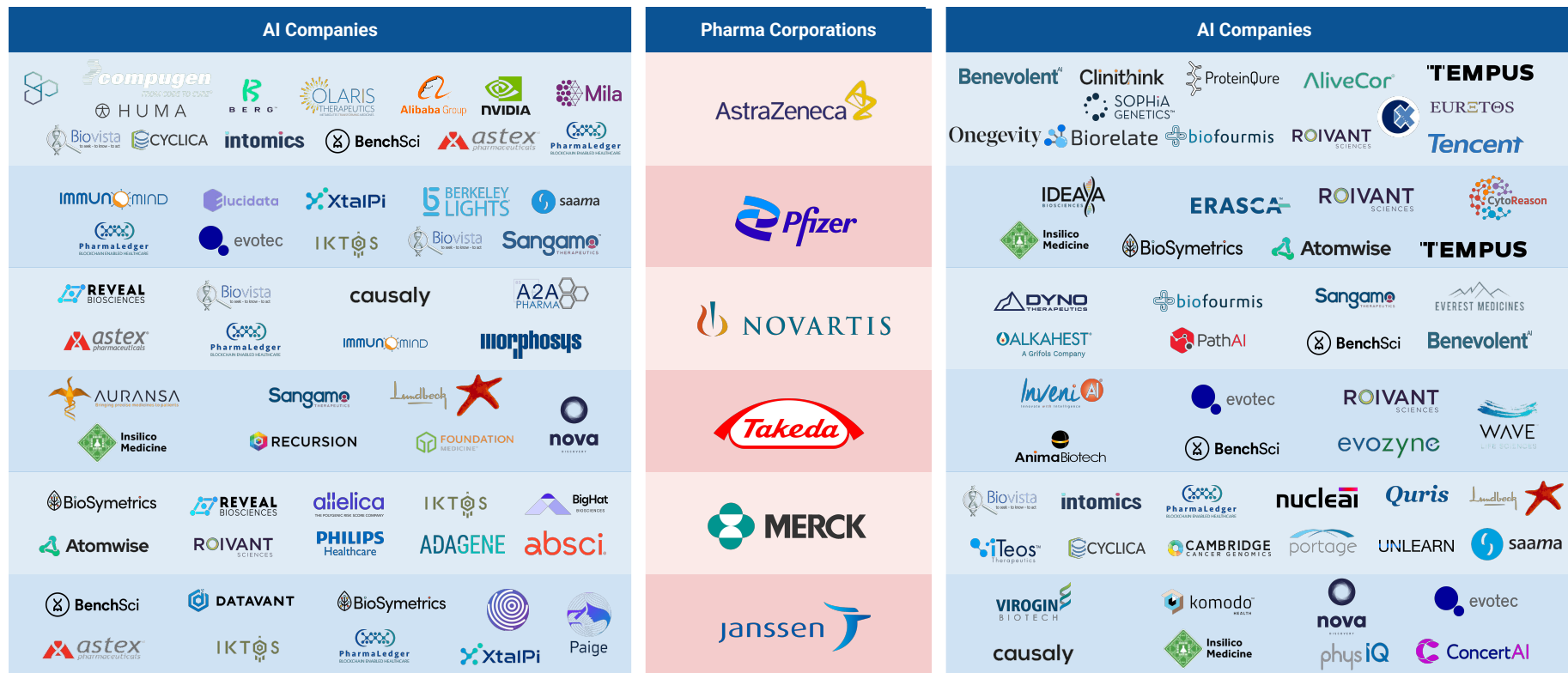
VinBrain partnered with **Microsoft** to expand AI-based healthcare services in Vietnam.



Tempus is collaborating with **Pfizer** to use Tempus' artificial intelligence platform to advance cancer drug discovery and development.

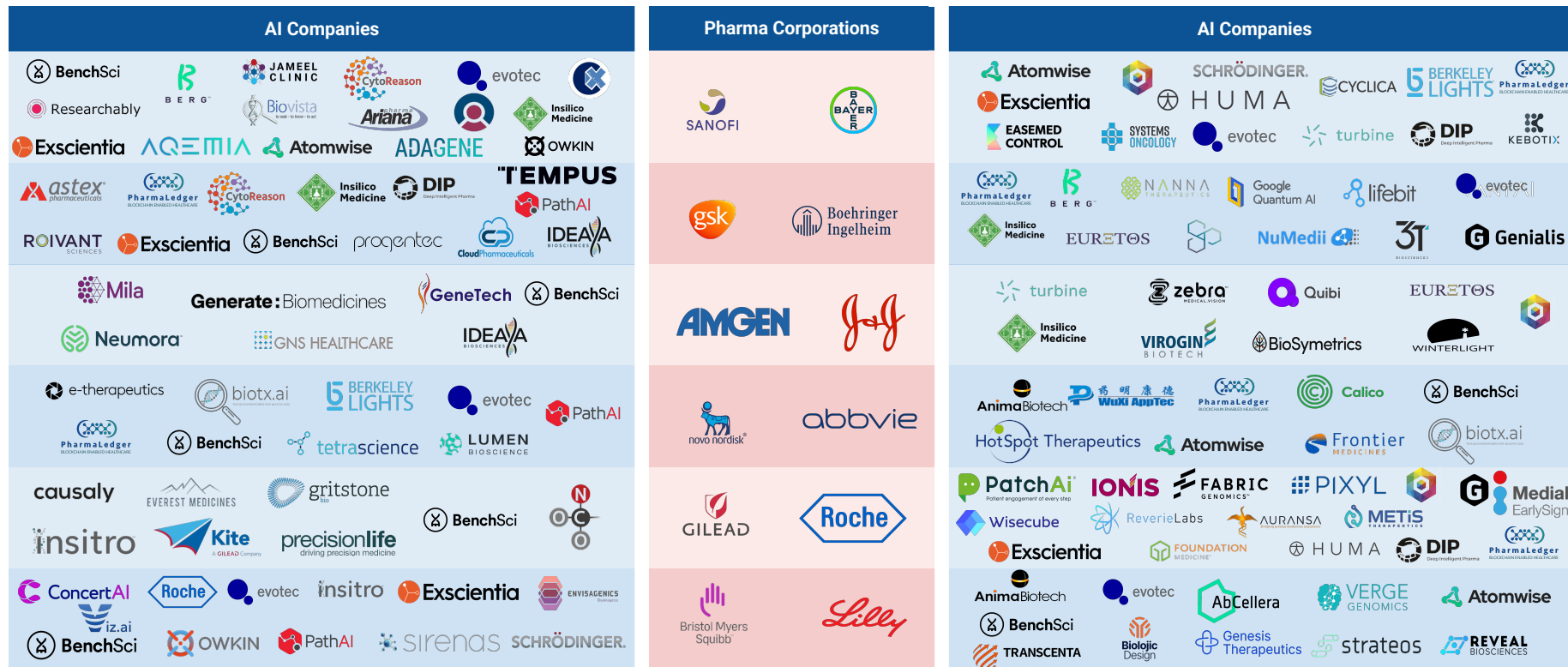


Selected Pharma AI Deals



Note: the central column (red) defines the pharmaceutical corporations and side columns (blue) defines AI companies that have collaborations with pharma companies from the central column.

Selected Pharma AI Deals



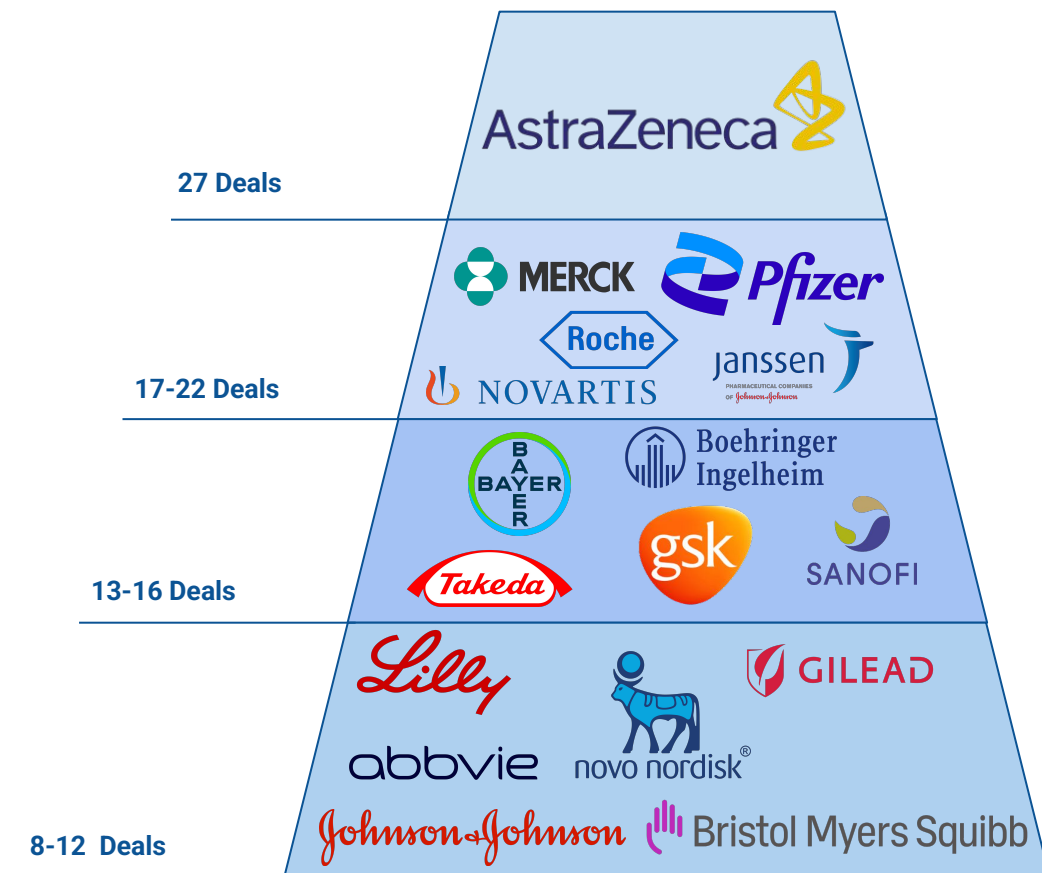
Note: the central column (red) defines the pharmaceutical corporations and side columns (blue) defines AI companies that have collaborations with pharma companies from the central column.

Big Pharmas' AI-focused partnerships till Q4 2024

In this report we have profiled **800 actively developing AI-driven biotech companies**. A steady growth in the AI for Drug Discovery sector can be observed in terms of substantially increased amount of investment capital pouring into the AI-driven biotech companies (**\$48.19B in HY 2024** against **\$126.4B in HY 2024**), the increasing number of **research partnerships between leading pharma organizations and AI-biotechs, and AI-technology vendors**, a continuing pipeline of industry developments, research breakthroughs, and proof of concept studies, as well as exploding attention of leading media and consulting companies to the topic of AI in Pharma and healthcare.

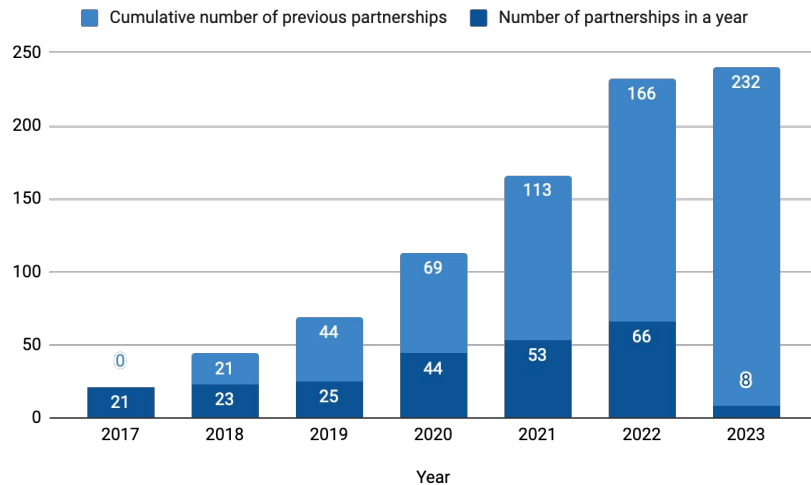
Some of the leading pharma executives increasingly see AI as not only a tool for lead identification, but also a more general tool to boost biology research and identify new biological targets and develop novel disease models.

The main focus of AI research for today is still on small molecules as a therapeutic modality.



A Growing Number of Collaborations Involving AI for Drug Discovery

Increasing number of partnerships between Big Pharma and AI Companies over the last 6 years



The rising interest of the big pharma companies towards AI-driven biotech startups is a major driver for the area to become more attractive for investors, since the industry is becoming well-suited for successful exit strategies in future.

Summarizing industry observations over the last five years, we can observe a fundamental shift in perception of top executives at leading pharmaceutical organizations about the need of advanced AI technologies. Since 2017, there has been an obvious shift in the perception from skepticism and cautious interest, all the way to a realization of a strategic role AI has to play in the emerging “data-centric” model of innovation. This change in perception was underpinned by a number of factors:

- a wave of proof-of-concept studies and research breakthroughs in a wide range of AI application use cases
- a number of commercial successes and successfully reached milestones, involving AI as a central element of research
- substantial advances in democratizing AI technology, where machine learning and deep learning algorithms become available at scale to non-AI experts
- decent increase in the overall understanding of AI “mechanics”, due to increasing efforts in the education and professional development with a focus on AI-driven tools and approaches

Pharmaceutical companies of all sizes start competing for AI-expertise, talent, and partnerships. In this report we summarize some of the most high-profile such collaborations, involving top-20 pharma giants. Even though, we can see a clear uprising trend in the number of collaborations, focused on AI-drug design, and other aspects of data mining and analytics.

Corporation and AI-companies Participating in the Pharma AI Deals

Pharma Partners



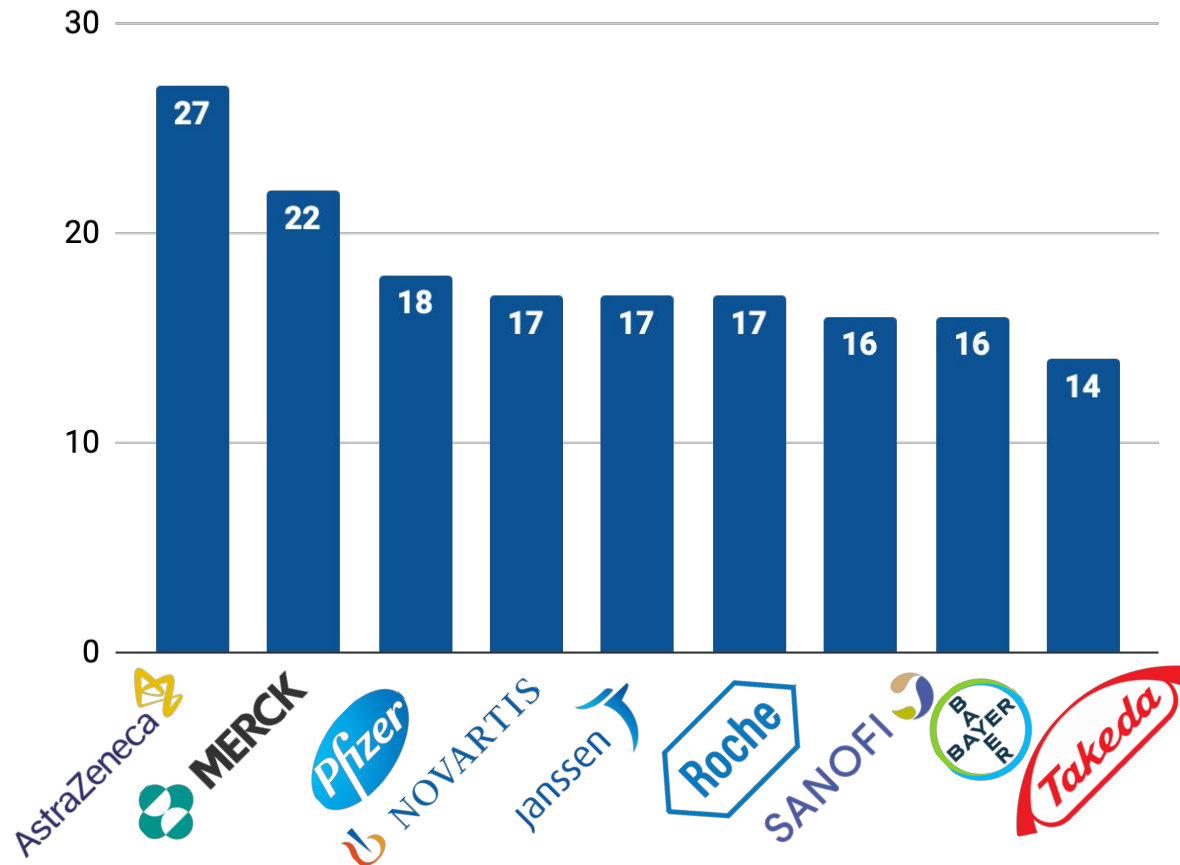
AI and Biotech Partners



Tech partners

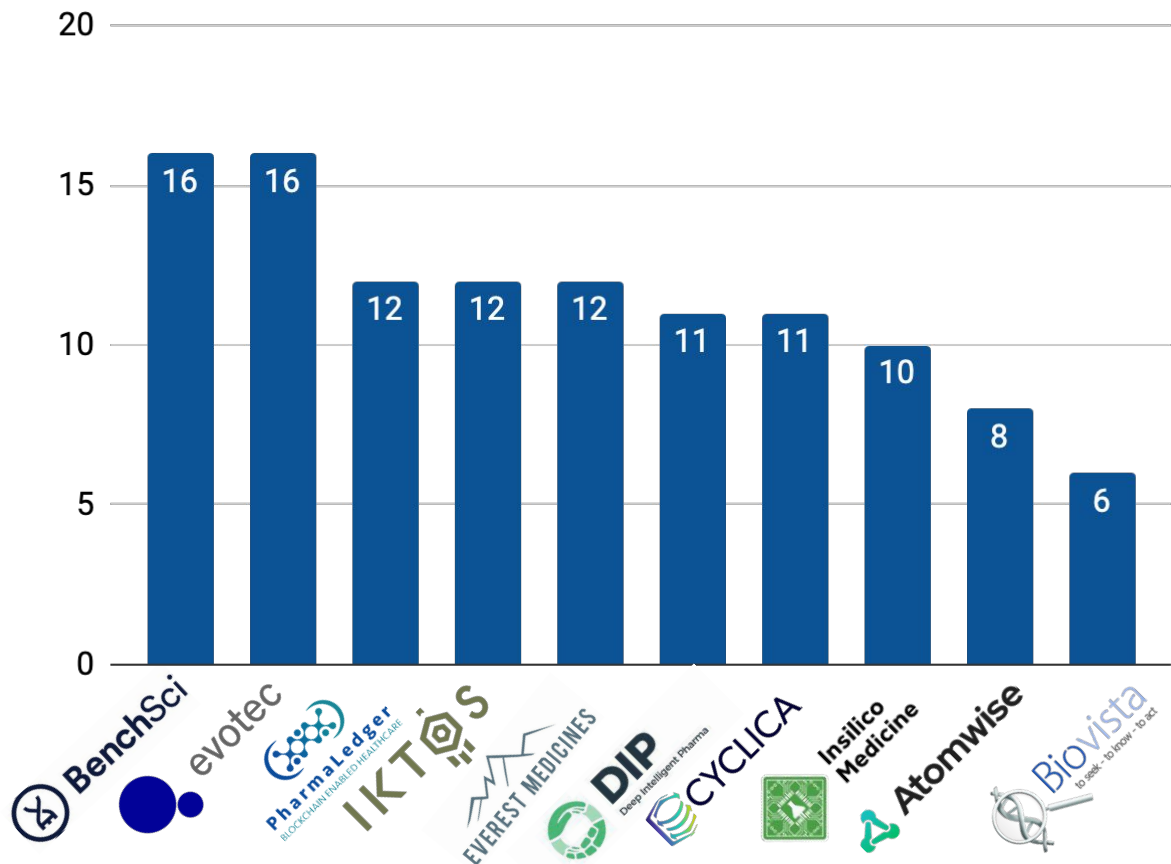


Leading Pharma Corporations by the Number of Pharma AI Deals in Q1 2025



- The leading Pharma players by the amount of major industry partnerships are **AstraZeneca** and **Merck**.
- These companies demonstrate increasing commitment to probing the grounds in the AI space — by investing into internal programs, as well as partnering with external AI vendors to pilot programs in drug discovery and other research areas.
- The most common type of deals are **true partnerships** and **saving the costs deals**.
- The leading big pharma brands are increasingly open to partnerships with AI startups and corporations to get competitive edge, and mitigate **the problem of declining R&D efficiency**.

Top-10 AI and Tech Partners by Number of Major Pharma AI Deals in Q1 2025

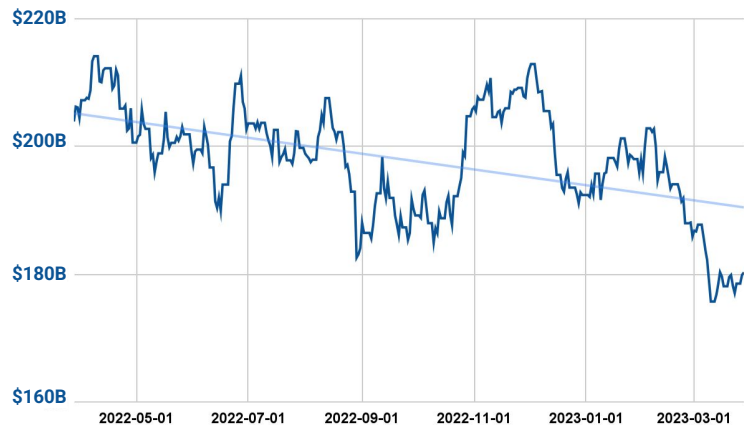


- The leading AI players by the amount of major industry partnerships are **BenchSci, Evotec, PharmaLedger, and IKtos.**
- **The biggest number** of AI in Drug Discovery deals were conducted by **BenchSci and Evotec.**
- The companies are **early drug development** and **end-to-end**, AI-driven pharma-technology companies that accelerate drug development by proprietary **platform across biology, chemistry and clinical development.**
- All of the deals were categorized as the ones aiming at **saving costs and increasing operational efficiency** due to the character of the services provided.

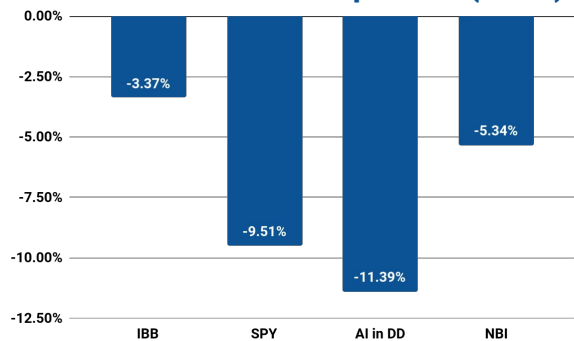
AI in Pharma Publicly Traded Companies

AI in Pharma Publicly Traded Companies

Cumulative Capitalization of Publicly Traded AI-in-Drug Development Companies in Q1 2025, \$ Billion



Markets Growth Comparison (Y-t-Y)



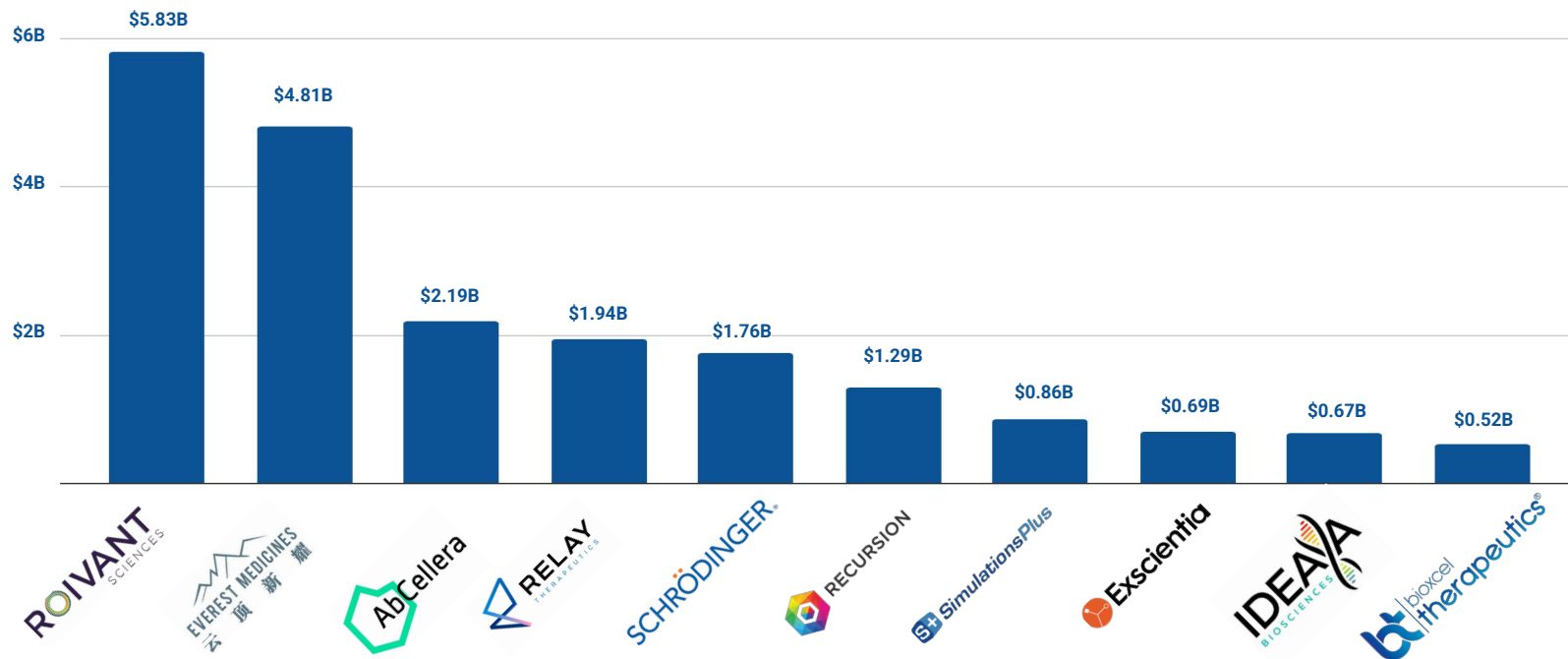
Despite the crisis and high volatility, AI in Drug Development publicly traded companies **reached \$180B of cumulative capitalization as of March 20, 2025**. 42 AI in Drug Development companies were taken for this analysis, one of them Bullfrog AI has closed its IPO in Q1 2025.

Overall, the AI in drug development industry has demonstrated slight fall in cumulative market capitalization during past month. The reason for that could be **increased competition** in the AI for Drug Development space that could lead to a decrease in market share and hence, market capitalization.

It's essential to measure the performance of publicly traded AI in Drug Development companies via comparison with significant market benchmarks such as iShares Biotechnology ETF (IBB), YTD NASDAQ Biotechnology Index (NBI), and S&P 500 gained solid.

AI in the Drug development industry falls rapidly compared to the other benchmarks. The cumulative capitalization of publicly traded AI-in-DD companies went down only by -11.39%, while other indexes fell to maximum -9.51%.

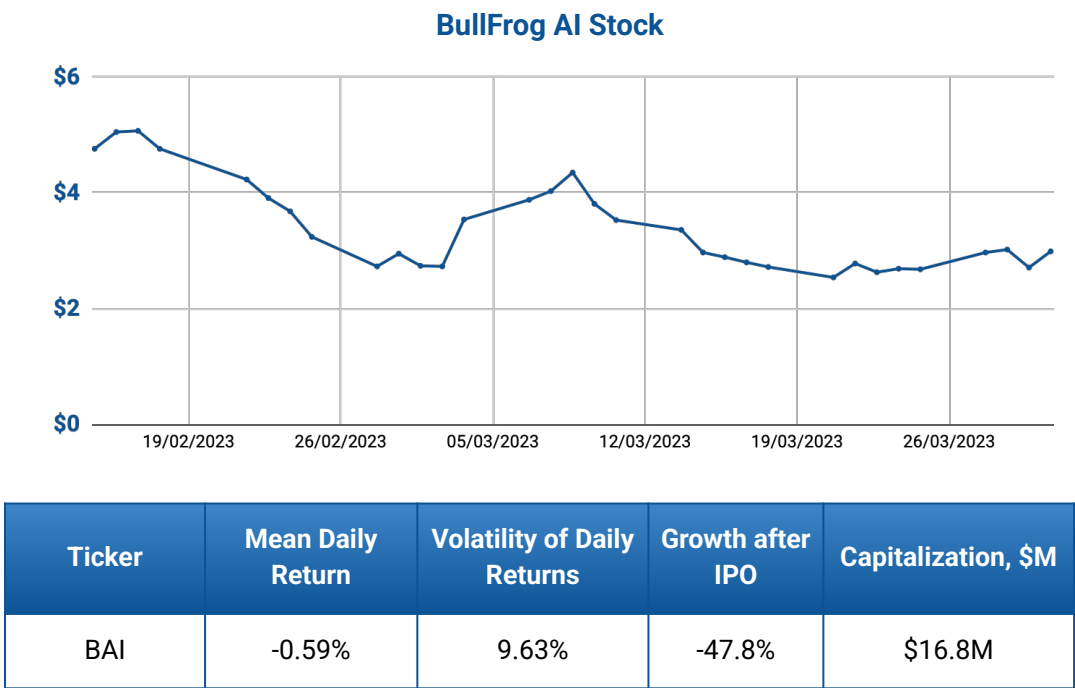
Top-10 AI-Driven Publicly Traded Pharma Companies by Market Capitalization in Q1 2025



The chart presents the **Top-10 AI-driven drug discovery** public companies arranged by market capitalization as of end of March 2025. **Roivant Science**, Switzerland-based healthcare company focused on applying technology to drug development holds the first place with **\$5.83B** of market capitalization which keeps rising.

AI in Pharma IPOs in 2024

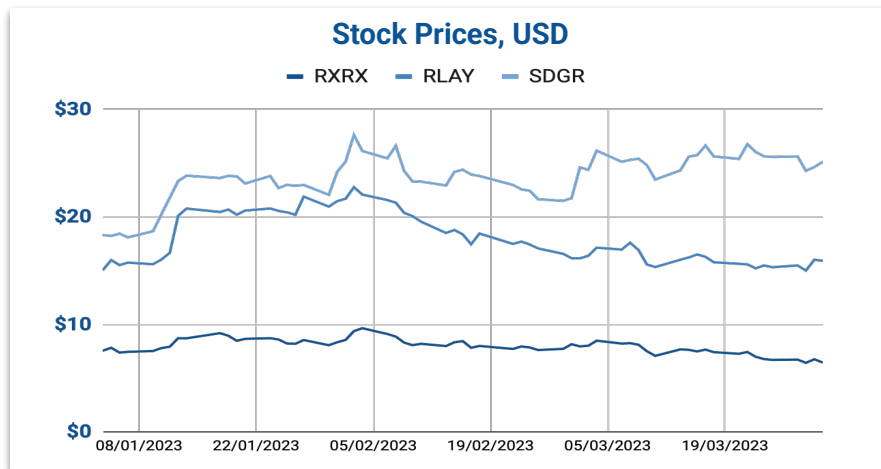
In Q1 2025, BullFrog AI has successfully closed IPO. The IPO took place in the US. BullFrog AI is a developer of an artificial intelligence platform intended to help companies in clinical development. Their stock opened with \$6.50 in its Feb 14, 2025 IPO. Major adverse market events in 2024-2024 did not significantly affect AI in pharma sector. The industry’s features remain to play a designative role in the overall market volatility.



BullFrog AI is an investor-backed company determined to become the undisputed leader in precision medicine. Its mission is to find the link between therapies and patients and improve their lives. Using their proprietary technology platform, they aim to predict which patients will benefit from which medications, effectively improving clinical outcomes and eliminating the problem of trial-and-error prescriptions. They have an exceptional team of life science industry leaders, AI technologists, scientists, physicians, and advisors determined to help BullFrog AI revolutionize drug development. Through their partnership with one of the most prestigious research institutions in the world, they take pride in technology innovation by staying on the cutting edge of AI.

Top AI in Pharma Best-Promising Companies in 2024

Schrödinger, Recursion Pharmaceuticals and **Relay Therapeutics** constitute the group of promising companies selected for analysis. They are new to the market (their IPOs closed in 2020). Therefore, their future might change significantly. Moreover, they have decent multi-target pipelines of novel therapeutics to address unmet medical needs. The companies are expected to translate their proprietary insights and technical solutions into effective therapeutics. Currently, the companies have a firm market position and thus receive high expectations from investors.



Name	Country	Funding Amount, \$M	IPO Date	Capitalization, \$B	Valuation at IPO, \$M	IPO Share Price, \$	Current Share Price, \$	EV/ EBITDA	Net Income, \$M
Schrödinger	USA	567.2	02.05.2020	1.831	819	17.00	26,33	-10.5X	-124.800
Recursion Pharmaceuticals	USA	615.4	17.07.2020	1.285	1355.2	19.00	6,67	-3.36X	-211.74
Relay Therapeutics	USA	1200.0	16.07.2020	1.879	1736	20.00	16,47	-3.05X	-183,734

AI in Pharma Corporations Financials

Company	Capitalization \$M	Mean Daily Return	Volatility of Daily Returns	Average Monthly Return	IBB Beta	S&P 500 Beta	Enterprise Value (EV)	EBITDA	Gross Profit Margin	EV/EBITDA
AbCellera Biologics	\$2,111.6M	-0.04%	3.98%	1.65%	0.1331	-0.0075	\$1,307.4M	\$244.4M	64.09%	5.35X
Alector	\$523.9M	-0.22%	4.40%	-3.60%	0.1893	0.0906	-\$145.6M	-\$132.1M	-57.48%	1.1X
BenevolentAI	\$304.3M	-0.50%	4.38%	-11.91%	-0.1740	0.0186	\$154.9M	-\$223.0M	100%	-0.7X
BullFrogAI	\$16.8M	-0.59%	9.63%	N/A	0.0267	0.0051	\$18.2M	\$0.6M	-	28.4X
Everest Medicines	\$657.7M	-0.53%	6.24%	-2.65%	0.2064	0.2017	\$439.8M	\$187.0M	64.75%	2.3X
SOPHiA GENETICS	\$305.8M	-0.16%	6.67%	-12.32%	0.1565	0.1115	\$143.9M	-\$86.5M	65.71%	-1.7X

Market capitalization growth of AI-driven Pharma corporations exceeds that of the entire market and general BioTech Industry indices represented as S&P 500 index and IBB, respectively. The difference is that compared to the general market, the AI-driven pharma market segment is more volatile.

The distribution of the returns in the segment of AI-driven pharma companies is right-skewed, which differentiates it from the vast majority of stock indices and segments

Large

Medium

Low

AI in Pharma Corporations Financials

Company	Capitalization \$M	Mean Daily Return	Volatility of Daily Returns	Average Monthly Return	IBB Beta	S&P 500 Beta	Enterprise Value (EV)	EBITDA	Gross Profit Margin	EV/EBITDA
Evotec	\$3,393.6M	-1.92%	6.64%	-10.42%	0.2098	0.1596	\$3,035.6M	\$54.1M	20.59%	56.06X
Exscientia	\$683.3M	-0.32%	6.69%	-9.11%	0.1137	0.1163	\$90.6M	-\$193.3M	-22.31%	-0.47X
Recursion Pharmaceuticals	\$1,285.1M	-0.33%	5.47%	-1.07%	0.1745	0.0167	\$786.2M	-\$234.0M	-411.94%	-3.36X
Relay Therapeutics	\$1,879.0M	-0.17%	5.24%	1.11%	0.2269	0.0907	\$937.9M	-\$306.8M	100%	-3.05X
Renalytix AI	\$100.8M	-0.16%	6.62%	-19.26%	0.1782	0.1159	\$78.9M	\$52.9M	25.80%	-1.49X
Roivant Sciences	\$5,445.5M	-0.62%	4.59%	-5.27%	0.1204	0.0274	\$4,869.3M	-	-1094.02%	-
Schrödinger	\$1,831.5M	0.02%	4.36%	0.18%	0.0779	0.0924	\$1,496.9M	-\$142.5M	55.83%	-10.5X

Market capitalization of some AI in Pharma corporations (such as Schrödinger) exceeds more than **\$5B** whereas other companies are priced in the range of dozens of millions of dollars - the difference in the valuation is immense. There is no strong correlation between operating margin or net income and market capitalization - the valuation of the corporations still being unprofitable can exceed billion of dollars.

Selling shares to investors allows them to maintain their cash burn ratios on an acceptable levels.

Large

Medium

Low

AI for Advanced R&D: Applications and Use Cases

Notable AI Breakthroughs

Dec 2018

DeepMind built the **AlphaFold platform** to **predict 3D protein structures** that outperformed all other algorithms. AlphaFold won the **CASP13 competition**, where it could most accurately predict the shape for 25 of the 43 proteins without using previously solved proteins as templates.

Jan 2020

Mendel Recruit proprietary platform **increases patient enrollment for clinical trials by 24-50%**. It applies AI algorithms that combine the recognition of scanned documents with **natural language processing** of clinical records and automated clinical reasoning.

Jan 2020

A new drug candidate, DSP-1181, created using the **Exscientia Centaur Chemist Artificial Intelligence platform**, began clinical study. The drug was developed together with **Sumitomo Dainippon Pharma** for the treatment of an **obsessive-compulsive disorder**. It was advanced to Phase 1 clinical trials.

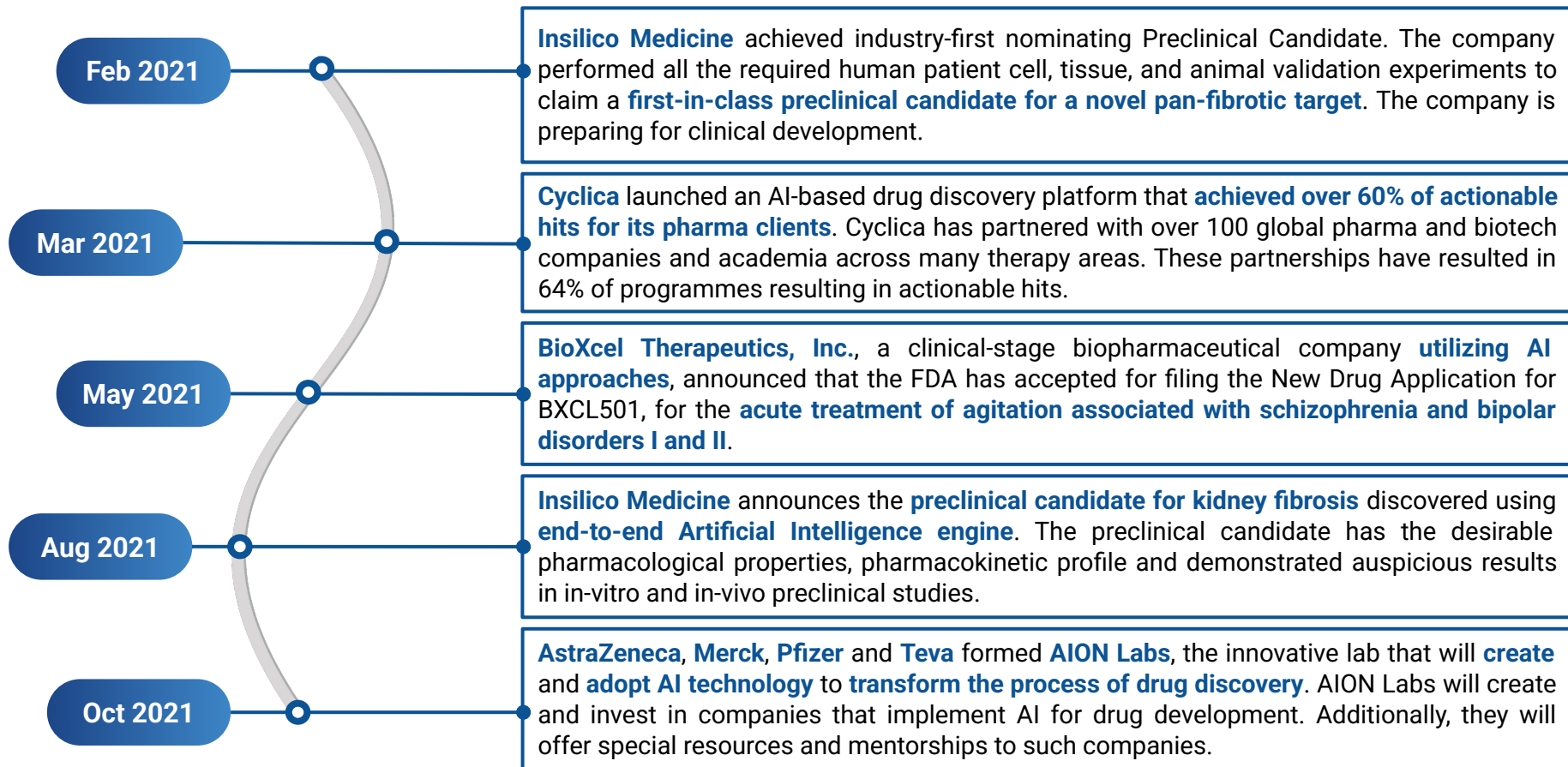
Sep 2020

Aladdin has built a platform for the **early diagnostics of Alzheimer's disease and COVID-19**. Disease Diagnosis platform uses **AI** and **multimodal data**, including biomarkers, imaging, blood samples, medical records, etc.

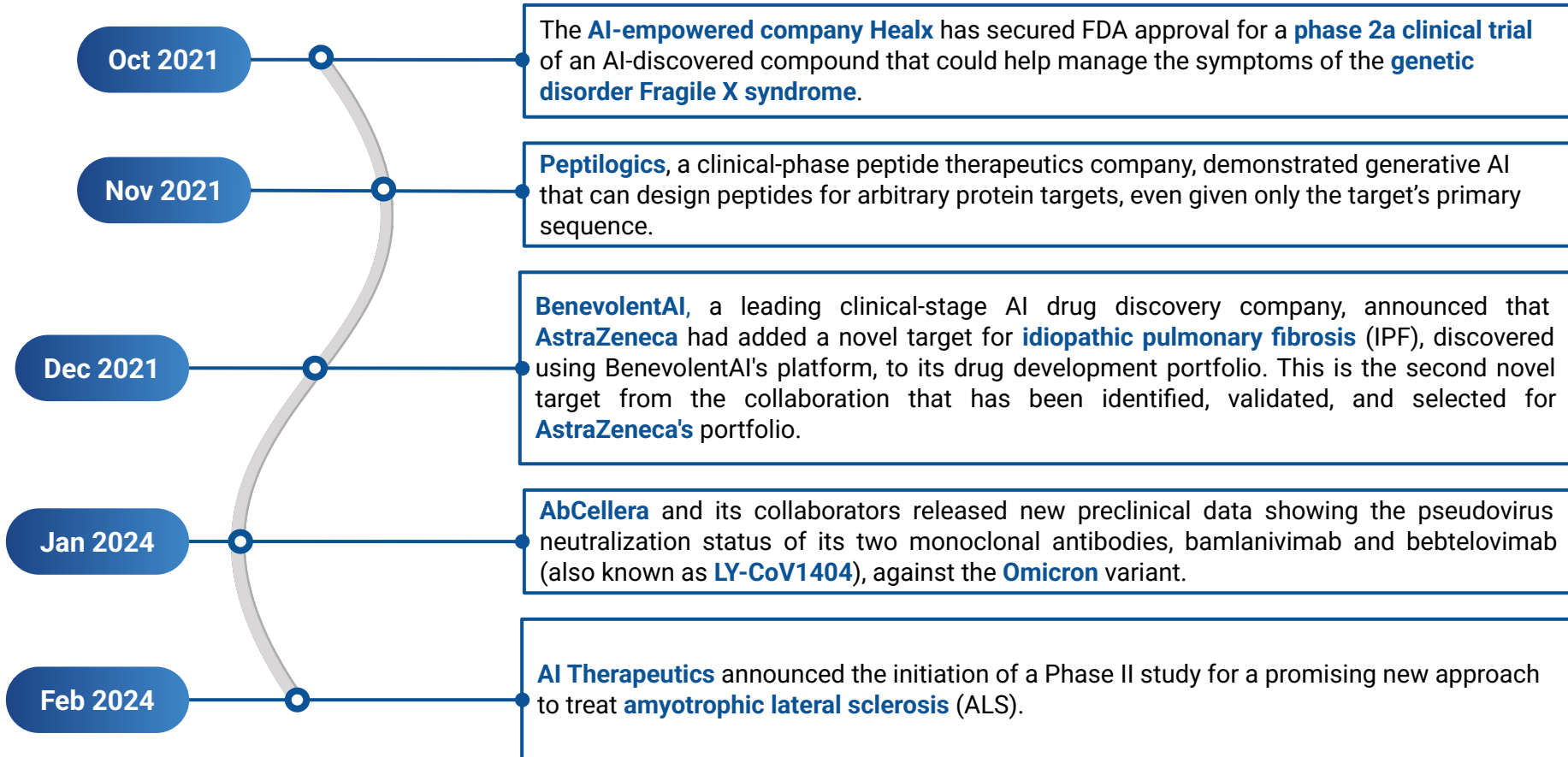
Sep 2021

MELLODDY — the '**Machine Learning Ledger Orchestration for Drug Discovery**' group — was created by ten pharma companies to **develop ML models** without sharing data. MELLODDY leverages the world's most extensive collection of small molecules with known biochemical or cellular activity to provide more accurate predictive models and **improve drug discovery efficiency**.

Notable AI Breakthroughs



Notable AI Breakthroughs



Notable AI Breakthroughs

Mar 2024

The US FDA has officially approved **Niramai Health Analytix's** first product, which is used to provide an **innovative radiation-free, non-touch, accurate breast cancer screening solution**. A breast thermography tool aids medical professionals in reviewing, measuring, and analyzing thermally relevant indications in the breast region

Apr 2024

The purchase of **TARA Biosystems**, a biotech business focused on cardiovascular illness, by **Valo Health** has created the **first vertically integrated platform for the development of cardiovascular drugs**. The combination of TARA's unique human 3D tissue engineering technology and Valo's Opal Computational Platform™ allows Valo to revolutionize the research and development of drugs for cardiovascular diseases.

May 2024

The FDA has given Breakthrough Device Designation to **Anumana, Inc.**, an AI-driven health technology firm from **nference, Inc.**, for its **AI-enhanced, ECG-based Pulmonary Hypertension (PH) Early Detection Algorithm**. The algorithm is a precise, screening tool for earlier diagnosis of patients with pulmonary hypertension.

Jun 2024

Aizon wins the 2024 Artificial Intelligence **Breakthrough Awards** Program's "**Best AI-based Solution for Manufacturing**" Award.

Jul 2024

The FDA's gave **Biogen** and **Eisai's** follow-up to the Alzheimer's disease medication Aduhelm priority review status. The businesses are aiming for a quick assessment of their anti-amyloid medication lecanemab, which can replace the contentious Aduhelm.

Notable AI Breakthroughs

Oct 2024

Two additional novel **AI-generated targets** for chronic kidney disease and idiopathic pulmonary fibrosis discovered using the **Benevolent Platform™** selected to enter **AstraZeneca's** drug discovery portfolio.

Nov 2024

Amgen, Astellas, AstraZeneca, Bayer, Boehringer Ingelheim, GSK, Janssen, Merck, Novartis, and Servier all agreed to share drug discovery data through the **MELLODDY** platform, but not directly with each other or with Owkin. Substra is the software that made this possible. Instead, an **AI studied each dataset** the business had in turn to learn, retaining no actual data but a great deal of aggregate impressions.

Nov 2024

PatSnap, a global leader in innovation intelligence, launched **Eureka today**, an artificial intelligence (AI) powered solution that makes intellectual property (**IP**) **more accessible for Research and Development (R&D) engineers**. Eureka optimizes searches, technical insights, competitor monitoring, and collaboration for organizations.

Dec 2024

MindRank Announces U.S. FDA Clearance of IND Application for **MDR-001**, a Novel GLP-1 Receptor Agonist for the Treatment of **Type 2 Diabetes and Obesity**.

Dec 2024

Owkin is open sourcing **Substra**, its **Federated Learning (FL) software**, to allow researchers and developers to collaboratively train ML models without the data leaving its source.

Notable AI Breakthroughs

Jan 2025

Evozyne revealed AI model, developed in collaboration with **NVIDIA**, that the pharmaceutical industry can use to design therapeutic proteins. The model, called the **Protein Transformer Variational AutoEncoder (ProT-VAE)**.

Jan 2025

BigHat Biosciences, Inc., announced the successful completion of the first stage of a previously undisclosed research collaboration and licensing agreement with **Amgen** applying BigHat's platform for multi-objective optimization of a next-generation antibody.

Feb 2025

BenchSci has launched **a new AI software** that aims to expedite preclinical phase drug development pipelines by extracting biological insights underlying disease. The **end-to-end SaaS** (software as a service) platform, **ASCEND**, enables the discovery of biological connections, reduces unnecessary experiments, and uncovers risks at early stages.

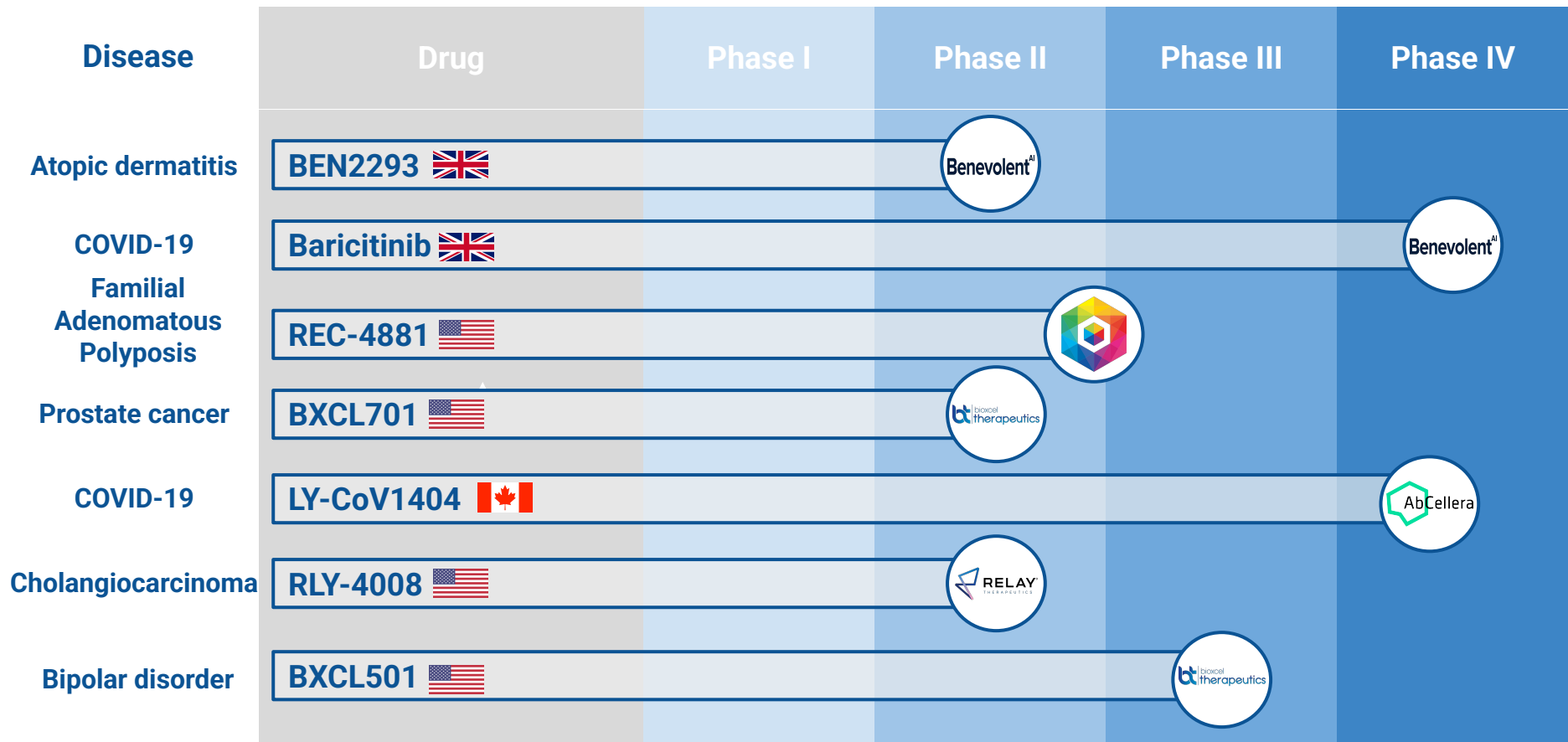
Feb 2025

Insilico Medicine Announces IND Approval of Oral 3CLpro Inhibitor **ISM3312** for COVID-19.

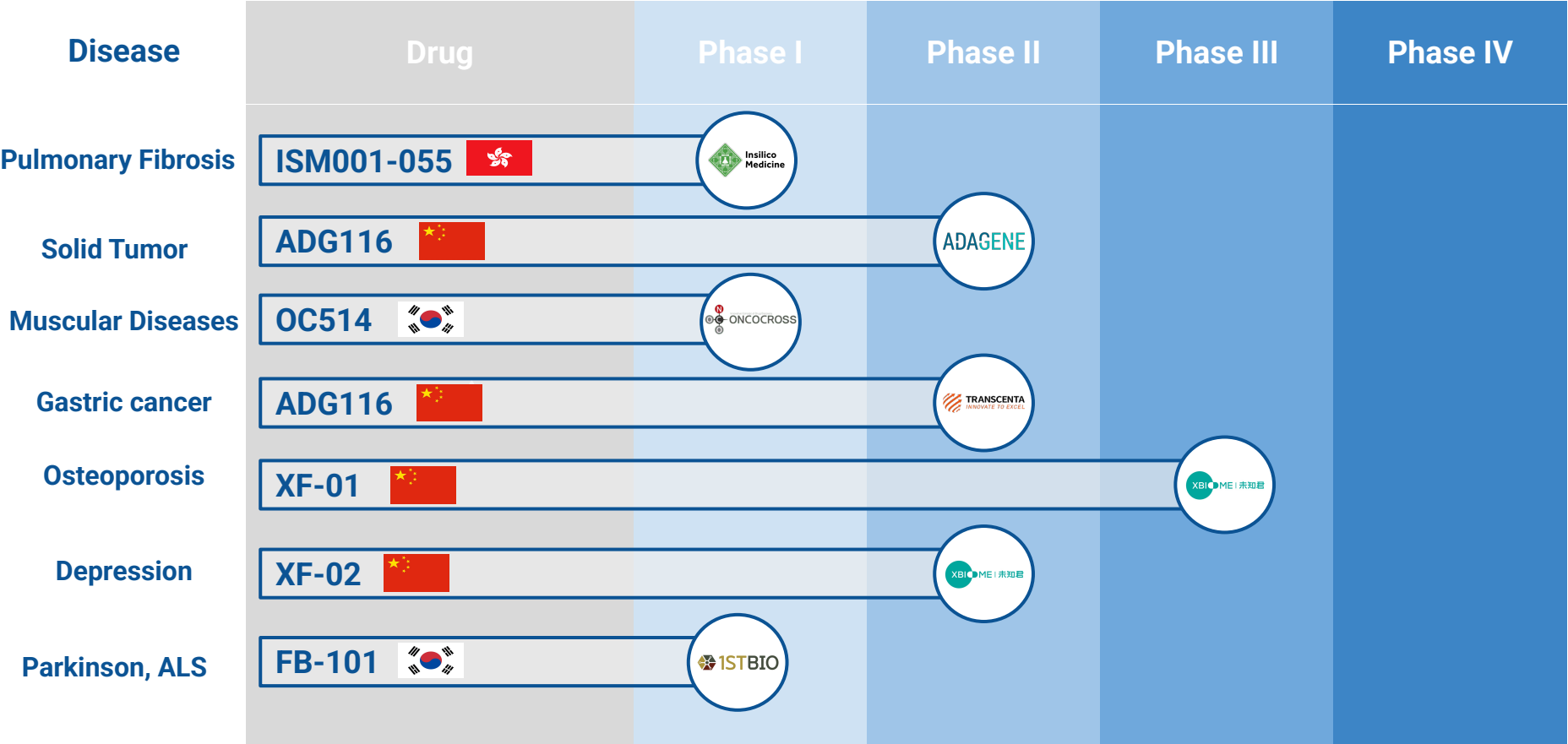
Mar 2025

Mitsui & Co., Ltd. is collaborating with **NVIDIA** on **Tokyo-1** – an initiative to supercharge the nation's pharmaceutical leaders with technology, including high-resolution molecular dynamics simulations and generative **AI models for drug discovery**.

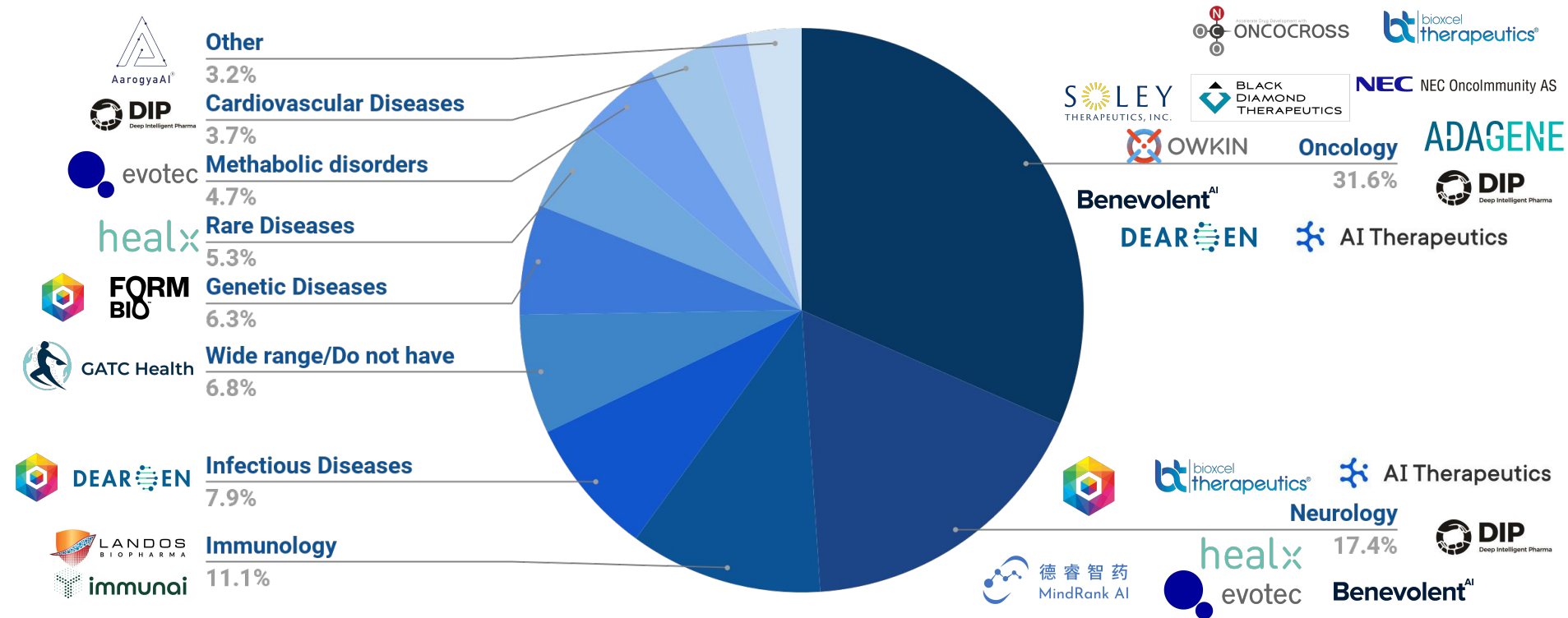
Drug Candidates Designed by AI: Global



Drug Candidates Designed by AI: Asia



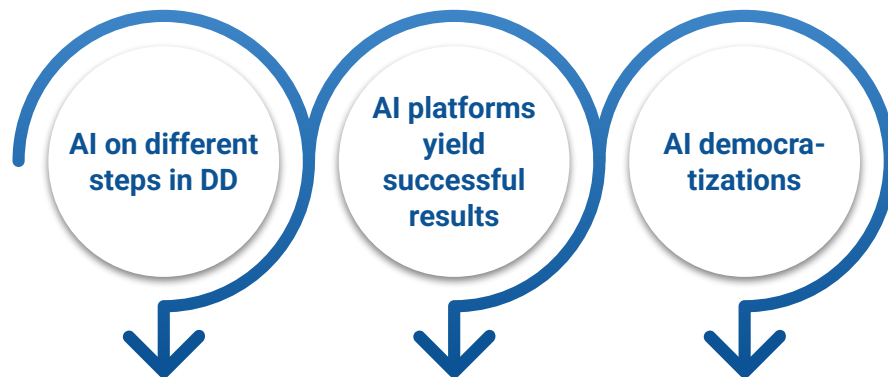
End-to-end Drug Development Companies by Therapeutic Focus



The chart presents distribution of **100 End-to-end drug development companies** by their **therapeutic focus**. **Oncology**, **Neurology** and **Immunology** are the most popular areas for AI-based drug development among end-to-end companies. You also can see examples of the companies that develop drugs in these areas.

Key Technology Takeaways

1. AI is regarded by some top executives at big pharma (**GSK and others**) as **a tool to uncover not only new molecules, but also new targets**. Ability of deep neural networks to build ontologies from multimodal data (e.g. “omics” data) is believed to be among the most disruptive areas for AI in drug discovery, alongside with data mining from unstructured data, like text (using natural language processing, NLP).
2. There is **a considerable trend for “AI democratization”** where various machine learning/deep learning technologies become available in pre-trained, pre-configured “of-the-shelf” formats, or in relatively ready-to-use formats – via cloud-based models, frameworks, and drag-and-drop AI-pipeline building platforms (for example, KNIME). This is among key factors in the acceleration of AI adoption by the pharmaceutical organizations – where a non-AI experts can potentially use fairly advanced data analytics tools for their research.
3. **Proof-of-concept projects keep yielding successful results** in research studies, and in the commercial partnerships alike. For example, companies like Recursion Pharmaceuticals, Insilico Medicine, Deep Genomics, and Exscientia achieved important research milestones using their AI-based drug design platforms.



AI is used not only for drug design, but also target identification.

Many AI-designed drugs showed successful results in research studies and even clinical trials.

Ready-to-use AI platforms for DD became available and can be used by non-AI experts.

Obstacles That Still Remain

There are several challenges and obstacles to the adoption of artificial intelligence (AI) in drug development. These include:

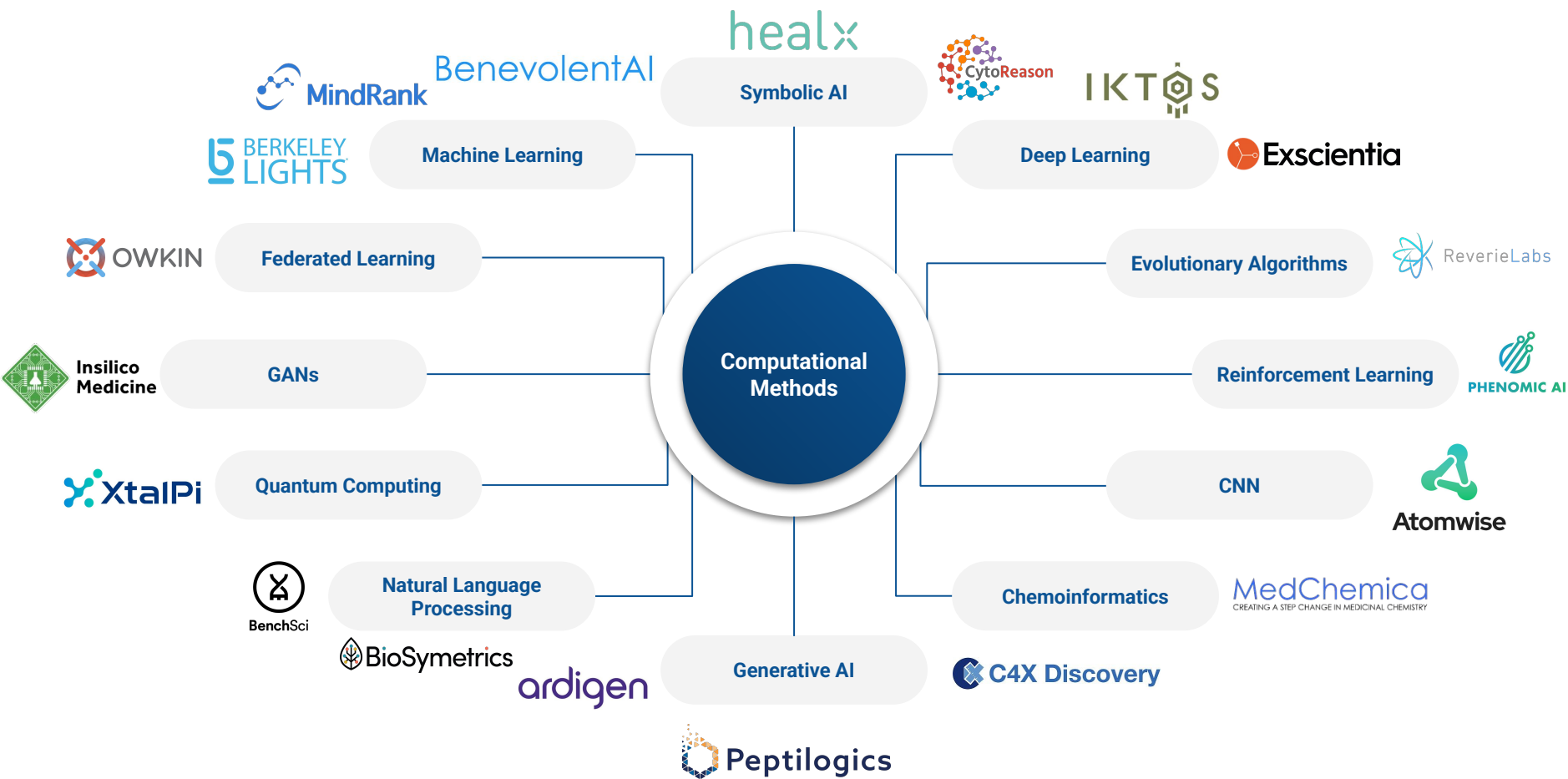
1. **Data quality and availability:** AI algorithms require large amounts of high-quality data to be effective. However, the pharmaceutical industry has historically struggled with data silos, which can make it difficult to access and integrate data from multiple sources.
2. **Regulation:** The regulatory environment for AI in drug development is still evolving. Regulators such as the US Food and Drug Administration (FDA) and the European Medicines Agency (EMA) are working to establish guidelines for the use of AI in drug development, but these are still in the early stages.
3. **Lack of understanding and expertise:** Many pharmaceutical companies and researchers may not have the necessary expertise in AI to effectively utilize it in drug development. This can make it difficult for these organizations to adopt and integrate AI into their processes.
4. **Ethical concerns:** There are also ethical concerns surrounding the use of AI in drug development, including issues related to bias in data and algorithms and the potential for AI to replace human decision-making.

AI in Biotech Challenges



Computational Methods Used by the Most Advanced AI Companies

Computational Methods Used by the Most Advanced AI Companies



Computational Methods Used by the Most Advanced AI Companies

Company	Computational methods used	Technology Abstract
 ardigen	Bioinformatics, Deep Learning, Machine Learning, NLP	Ardigen is active in the field of laboratory information management systems, biological and clinical data analysis, Big Data integration , as well as custom application development .
 Atomwise	Machine Learning, Deep Learning (Convolutional neural networks), Chemoinformatics	AtomNet is the first drug discovery algorithm to use a deep convolutional neural network . It has already explored questions in cancer, neurological diseases, antivirals, antiparasitics, and antibiotics.
 BenchSci	NLP, Deep Learning, Machine Learning	Decodes open- and closed-access data on reagents such as antibodies and present published figures with actionable insights.
BenevolentAI	Machine Learning, Deep Learning, Symbolic AI, NLP	Evolved from text mining and semantic linking into knowledge graphs to tackle complex multifactorial diseases, identify novel targets, small molecule drug discovery and patient stratification.
 BioSymetrics	NLP, Deep Learning, Machine Learning	Process raw phenotypic, imaging, drug, and genomic data sets . Allows researchers to integrate rapid analytics and machine learning capabilities into existing business processes.
 C4X Discovery	Machine Learning, Deep Learning, Chemoinformatics, Bioinformatics	C4X innovative DNA-based target identification platform (Taxonomy3(R)) utilises human genetic datasets to identify novel patient-specific targets.

Computational Methods Used by the Most Advanced AI Companies

Companyz	Computational methods used	Technology Abstract
	Machine Learning, Deep Learning, symbolic AI, chemoinformatics, bioinformatics	CytoReason's access to unmatched proprietary and public data, combined with cutting-edge machine learning technologies, creates their unique biological models of disease, tissue and drug.
	Machine Learning, Deep Learning, bioinformatics	Euretos provides direct access to the cloud based discovery platform via user friendly application and also allows integration of company proprietary data and public data in a secure environment.
	Machine Learning, Deep Learning, Bioinformatics, Chemoinformatics	The company uses ML for predicting ADME, novelty, synthetic accessibility, pharmacology of molecules.
	Machine Learning, NLP, Symbolic AI, Chemoinformatics, Bioinformatics	Healx AI platform uses natural language processing to extract disease knowledge from published sources and to complement biomedical databases and proprietary, curated data.
	Machine Learning, Deep Learning, Cheminformatics	Iktos has invented and is developing a technology based on DL for ligand-based de novo drug design , focusing on multi parametric optimization (MPO)
	Deep Learning, GANs, GANs + Reinforcement Learning, Symbolic AI, Machine Learning, Chemoinformatics, bioinformatics	Comprehensive DL pipeline. Biology: Signaling pathways, DNNs for target ID and HTS analysis. Chemistry: GANs-RL for novel molecule generation.

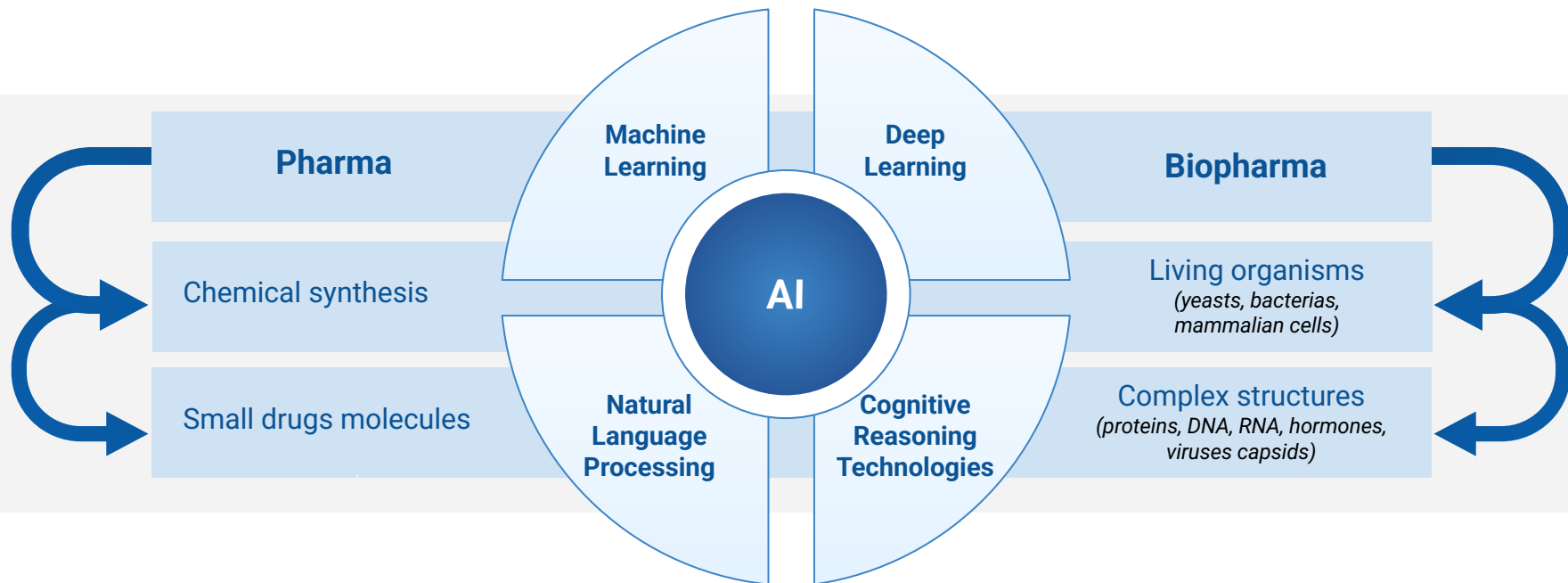
Computational Methods Used by the Most Advanced AI Companies

Company	Computational methods used	Technology Abstract
 MindRank	Few-Shot Learning, Machine Learning, Deep Learning	MindRank aims to use machine learning to design and develop small molecule drugs with desirable preclinical efficacy and safety profiles.
 NURITAS	Deep Learning, Bioinformatics	Predict the therapeutic potential of food-derived bioactive peptides. Allows researchers to: cost-effectively develop highly targeted treatments for specific diseases from natural food sources.
 OWKIN	Machine Learning, Federated Learning	Owkin combines the expertise in biology and machine learning to fuel precision medicine.
 Peptilogics	Generative AI, Deep learning, Bioinformatics, Cheminformatics, Computational biophysics, Quantum chemistry	Peptilogics' Nautilus platform combines generative AI, predictive models, computational biophysics, quantum chemistry , and purpose-built supercomputing to produce multiparameter-optimized leads for diverse targets and therapeutic areas.
 STRUCTURA BIOTECHNOLOGY	Machine Learning (stochastic gradient descent and branch-and-bound maximum likelihood optimization)	The cryoSPARC System™ enables high-throughput structure discovery of proteins and molecular complexes from cryo-EM data with help of machine learning.
 XtalPi	Machine Learning	XtalPi's ID4 platform provides accurate predictions on the physiochemical and pharmaceutical properties of small-molecule candidates for drug design, solid-form selection , and other critical aspects of drug development.

10 Notable R&D Use Cases of AI Application in Biopharma

Introduction to Most Innovative R&D Approaches of AI in Biopharma

Biopharma utilizes living organisms (such as yeasts, bacteria, and mammalian cells) which are capable to produce complexly structured products such as proteins, hormones, RNA and DNA products, and virus capsids. Whereas Pharma relies on a classical chemical synthesis producing small drug molecules. However, both industries may benefit from AI-driven applications. To develop new small drug molecules or biologically-derived products, AI-driven data processing serves as a tool that allows minimising time consuming biological testings while helping to select the most promising products to test.



How Datafoundry Brings AI/ML to Life Sciences and Healthcare industry



Datafoundry is a company that offers a wide range of **AI/ML solutions** for the **life sciences and healthcare industry**. They leverage the power of artificial intelligence and machine learning to help organizations **improve patient outcomes, accelerate drug discovery, and streamline clinical workflows**.

DataFoundry is at the forefront of the AI/ML revolution in the life sciences and healthcare industry, and their innovative solutions have the potential to **transform the way healthcare is delivered and managed** in the future.

The company focus on building AI/ML capabilities for digital transformation(**DF Digitalise AI**), and AI driven innovation in specific applications (**DF mSafety AI & DF mSignal AI**).

Key Solutions

DF mSafety AI

AI/ML & Automated Safety Management



It is a **cloud-based platform** that uses the power of AI/ML and automation to deliver efficiencies and a great user experience in **Safety Case Management** and **Signal Detection** for **Drugs, Cosmetics, Neutraceutical** and **Medical Devices**.

DF mSignal AI

Automated Safety Signal Management



It is a powerful **signal management system** that leverages advanced algorithms to automate **critical safety data analysis**. This solution offers great user experience, allowing effectively monitor, manage and analyze safety signals.

DF Digitalize AI

Data Digitalization and Analytics Solutions



It is an **Intelligent Document/Data Processing** solution that can ingest data from multiple structured and unstructured sources, curate this data and make the data fabric available for process automation and rich analytics, across the value cycle.

What Datafoundry Solutions Can Do for Your R&D

DF Digitalize AI



Integrators/Connectors to ingest data from various enterprise systems

Managed professional services for end-to-end implementation



Extract data from unstructured documents and flat files using 99.5 % accurate OCR and NER models.

A team of experts drawn from Datafoundry and our partner ecosystem



Provide the data as a curated, structured repository for insights and analytics

Built upon a compliant framework to assure data integrity & privacy

Intelligent Solution that ingests and digitizes data from multiple sources, to create a curated and structured data warehouse for deployment of composable applications and analytics, for **business critical decisions**.

DF mSafety AI

DF mSafety AI is the solution to **address your key challenges in Safety Management** – from case intake and triage through medical review and regulatory submission.



Automate Case Intake & Triage



Auto Narrative Generation



Signal & Risk Management



Seriousness Prediction



Case Compliance Alerts



Casualty Assessment



Literature Monitor for Safety

DF mSignal AI

DF mSignal AI is a **modular, scalable** and **secure signal management system** that can be integrated with leading safety databases.



Integration with the most Regulatory Databases



Real-time Monitoring of Drug-Event combinations



In-built QC Feature to approve/reject a signal report



Uses Advanced Data Mining Algorithms



Networks for Higher Accuracy in Signal Detection



Configurable Alert Thresholds



Store Statistical Results and Track Signal Review



Subset Statistical Results



Insightful Graphical Presentation and Analytics

Most Innovative R&D Approaches of AI in Biopharma. Antiverse

Antiverse is a new type of antibody discovery company accelerating drug development. The Antiverse platform exists at the intersection of structural biology, machine learning and medicine to enable breakthroughs to happen more quickly and cost-effectively.

Antiverse **prevents diversity loss** during amplification to uncover more diverse and rare antibodies.

Traditional in vitro screening:

10^{10} antibodies



3 amplification rounds



10 antibodies

Antiverse discovery:

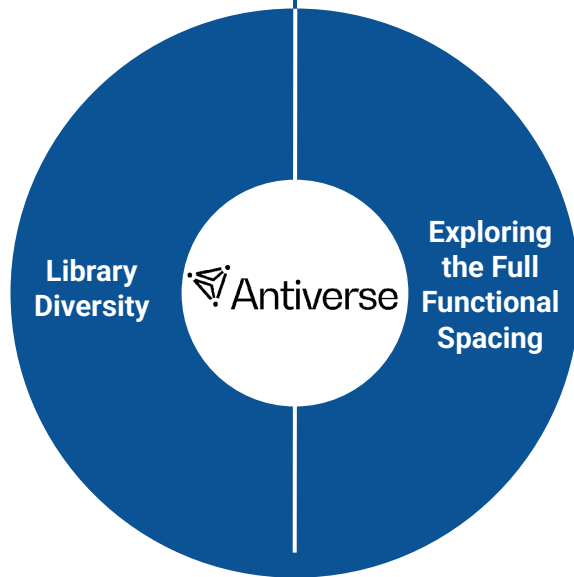
Antigen-antibody database



AI-augmented screening



96 antibodies



Antiverse **provides more candidates** by analysing NGS data, clustering on multi-dimensional space, and selecting based on sequential and structural grouping. The generative module **offers new sequences** and gives you options that haven't even been considered.

Antiverse AI-Augmented Discovery:

Antigen-antibody database

Recovery Module

Generative Module

96 antibodies

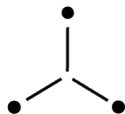
How Antiverse Engineers the Future of Drug Discovery



Antiverse is recognized as one of the top biotech startups in the UK with our antibody discovery service already in use by big pharma. The main feature of the company is **10x Diversity with AI-Augmented Drug Discovery**.

Existing antibody discovery methods are well-developed and often effective at discovering binders. But when there is a need to find the best possible candidate, or when finding a suitable candidate is hard with current methods, the options are **limited** and often **costly**.

Antiverse uses **next-generation sequencing (NGS)** to extract more data from existing workloads. The **AI-Augmented Drug Discovery platform** and trained models analyse the statistics gained from thousands of experiments. These outputs are compared against known data in order to select best candidates.



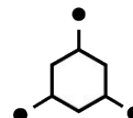
Target Selection

Antiverse provides targeted options in order to focus on testing safely once there are too many antibody-antigen binding options.



Binder Recovery

Antiverse can help to find sufficient potential binders that can be missed by conventional methods.



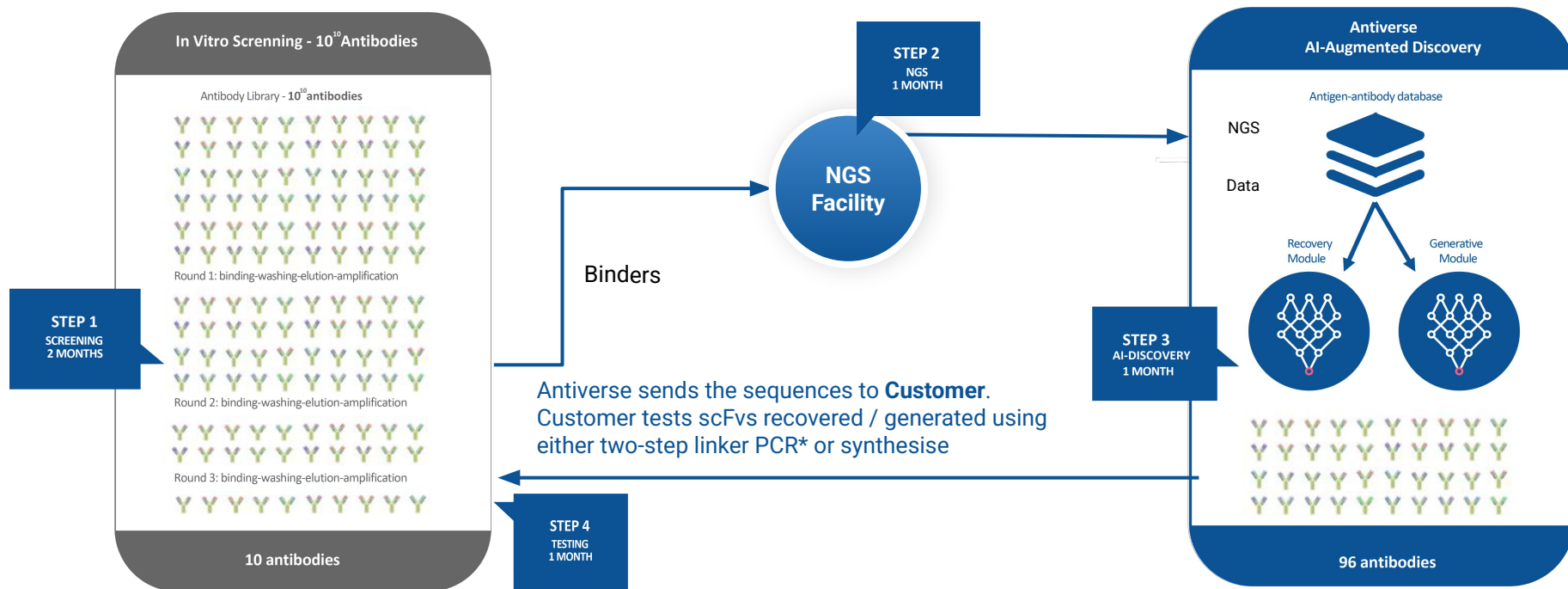
Binder Customisation

Antiverse can generate new binder variants that will be sufficient for clients purposes.

How Antiverse Uses AI in R&D

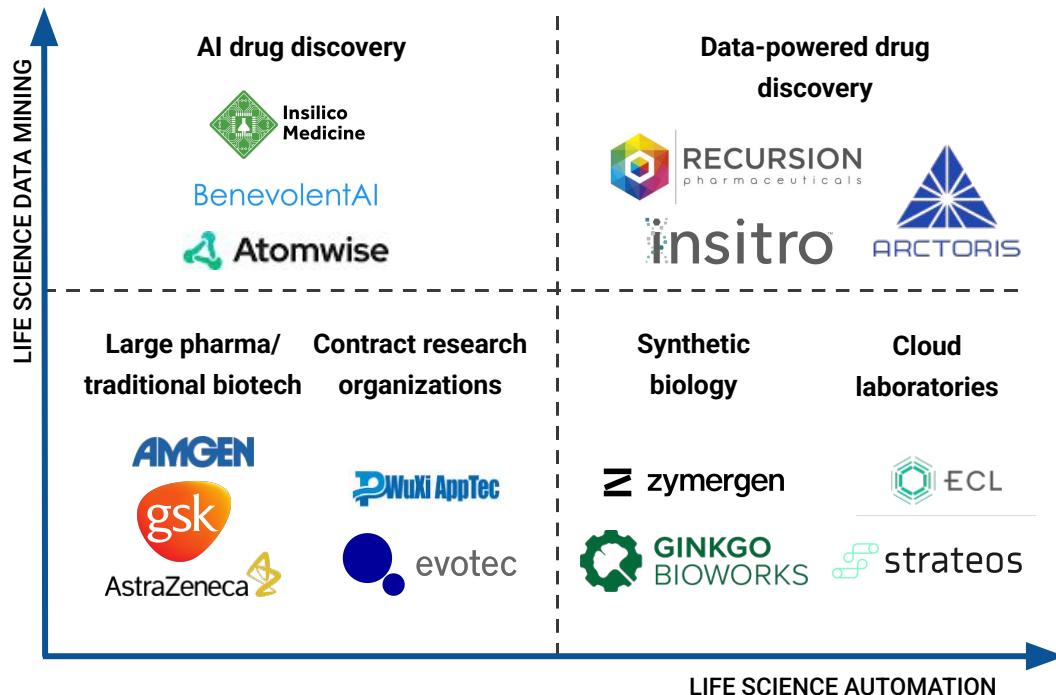


The **Antiverse AI-ADD** system found each and every cluster identified by other methods, plus more. These additional clusters contained rare and unique sequences.



The Drug Discovery Ecosystem is Evolving Rapidly - And Data is at the Core.

Drug discovery is undergoing massive and rapid change - the rise of Artificial Intelligence and Machine Learning for Drug Discovery and the evolution of robotics-centric companies in the biomedical research space has enabled a new generation of companies to emerge: **data-powered drug discovery companies** that combine automation and data science.



Arctoris is one of them: a biotech platform company with operations in Oxford, Boston, and Singapore, leveraging its **fully automated platform** for drug discovery.



The company was founded by an oncologist and a medicinal/ synthetic chemist, with the goal to accelerate the discovery and development of new therapies by harnessing the power of technology and combining it with deep industry expertise.

The **core thesis** of the company is that better data leads to better decisions, and that in order for drug discovery programs to develop and meet the next milestone faster and with higher chance of success, the underlying data must be rich, reliable, and reproducible. According to Arctoris, **the status quo is no longer enough**: in order to develop the best drugs, industry leaders have to rethink how they can improve their decision-making, powered by better data.

Having developed a suite of proprietary technologies across robotics and data science/ AI/ ML, Arctoris is a leader in this **new and rapidly evolving field**.

How Do Robotics and AI/ ML Synergize in Drug Discovery?

The greatest challenge in AI-driven and ML-powered drug discovery is access to well structured, fully annotated, reproducible and robust data. **Arctoris** leverages the power of robotics to generate vast amounts of **ML-ready data that enable better decisions** - thereby significantly accelerating timelines from target to hit, lead, and candidate.

INDUSTRY-STANDARD DATA GENERATION & PROCESSING



- Widespread lack of reproducibility
- Unclear reagent and cell line provenance
- Inconsistent use of methods & protocols
- Human error & variability
- Only collection of high-level results data
- Highly fragmented file & storage systems

ARCTORIS-ENABLED DATA GENERATION & PROCESSING

- Strict adherence to automated protocols
- Fully verified reagents and cell lines with complete audit trails
- Reproducible results data in standardized structure
- Additional collection of rich research meta-data
- Secure & convenient data storage & access
- Advanced assay performance monitoring

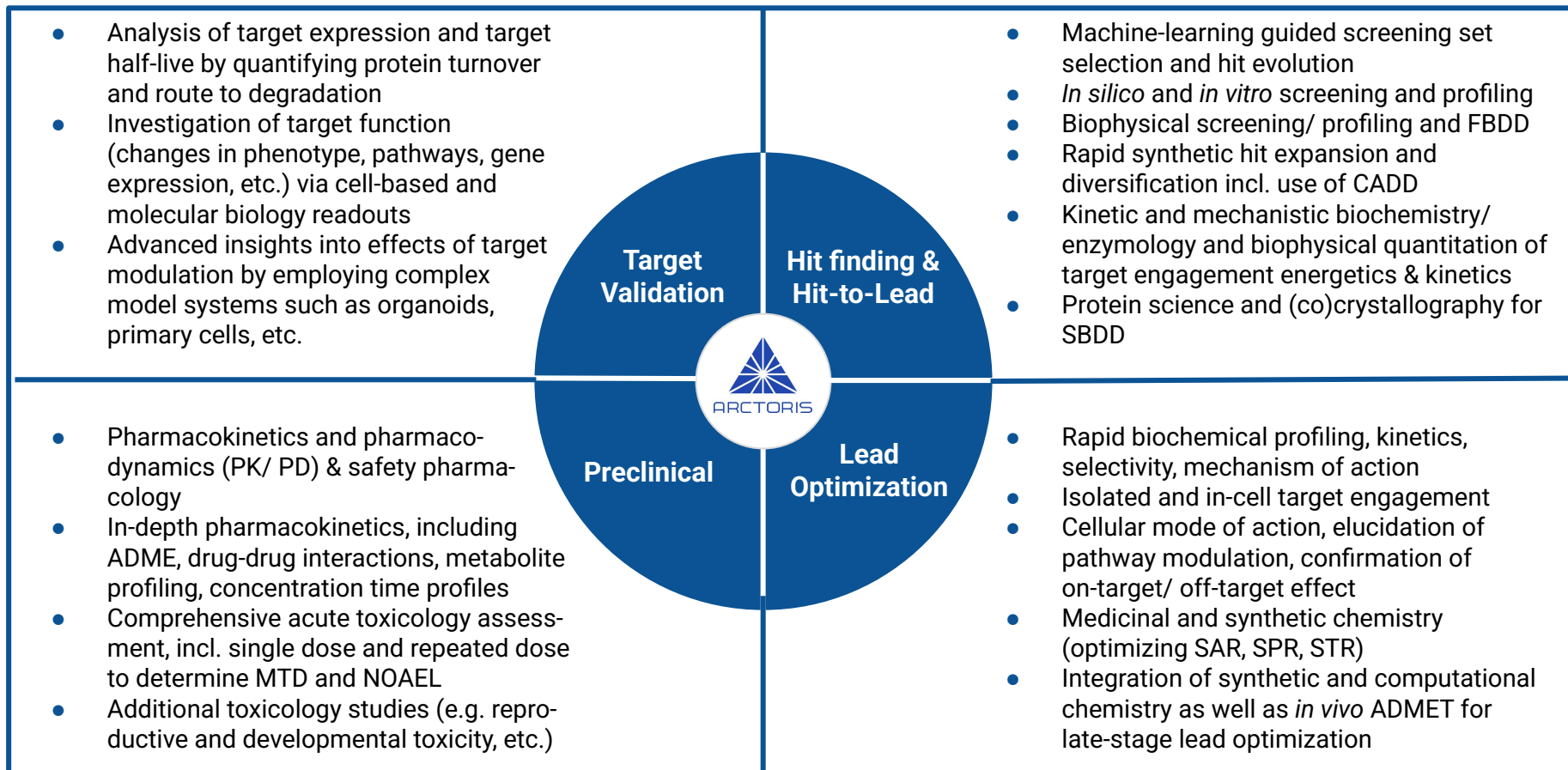
Both quality and speed are achieved by combining precision robotics with a unique data science platform and world-class drug discovery expertise from biotech and pharma veterans.

Arctoris tracks all experimental outputs in full depth, including the capture and analysis of extensive metadata – temperature, humidity, CO₂, reagent provenance and batch ID among many others. At the same time, the platform enables automated QA/ QC processing, applying statistical tools to ensure full reliability and validity of all results.

Thereby, **Arctoris** ensures **superior data to be generated in accelerated timeframes**, leading to better decisions taken earlier - in human-powered but especially in AI/ ML-driven programs, thanks to training of AI models with the best possible data.

Taken together, **Arctoris** has developed a **unique technology platform** based on robotics and data science that powers drug discovery programs both in the company's internal pipeline and in partnerships with biotech and pharma companies worldwide.

The Arctoris Platform: Leveraging Robotics & Data Science from Target to Candidate.



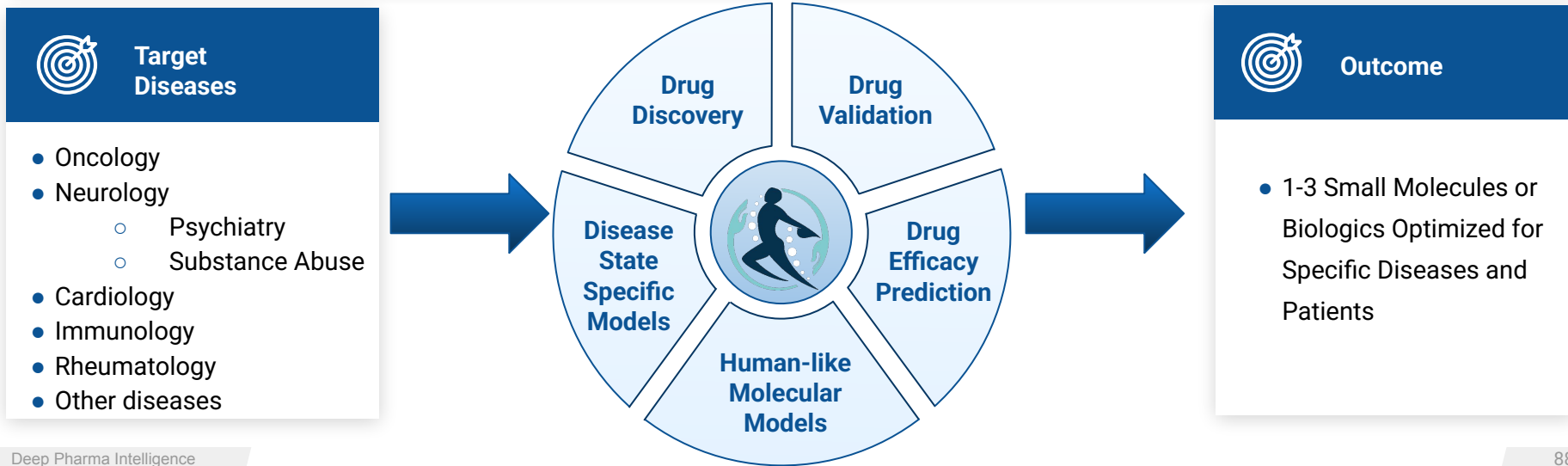
De-Risking and Accelerating Drug Discovery & Development for Improved Success in Biopharma. GATC Health



GATC Health

GATC Health has an unprecedented technology that will lower costs and accelerate the drug discovery and development process to create better and safer drugs, faster. The company delivers highly efficient services for pharma companies reducing the risk in the drug discovery process. GATC Health develops **an end-to-end drug development cutting-edge AI-based platform** with capabilities that include: earlier disease detection, identification of the disease biology, creation of new drug and therapeutic solutions, simulation of in-silico clinical trials and providing a feedback loop for in-vitro and in-vivo testing.

GATC's Platform combines massive volumes of disease-specific data and proprietary AI solutions to replicate human biology's billions of interactions for rapidly and accurately discovering and validating novel drugs. This is a revolutionary approach to drug discovery that can address nearly any condition, disease or disorder; while drastically improving costs, efficiency and time for clinical development.



How GATC Health Uses AI in R&D

Diagnostic Biomarker Discovery

- Diagnostic biomarkers are discovered on a dataset.
- Biomarkers are mathematically assessed for causal and effect impacts.
- Validated causal biomarkers and pathways are simulated and evaluated by AI-assisted database models and human expertise.
- A final set of treatment targets emerges.

Drug Compound Discovery

- Identifies the causal relationship between the biomarkers and the disease to illuminate insights into the disease.
- AI-assisted compound discovery is used to produce a set of novel treatment compounds.
- The targets and compounds are prioritized and documented for pre-clinical testing.

Pre-Clinical De-Risking of Drug

- Develop new therapeutics using in-silico and in-vivo clinical studies with more comprehensive analysis.
- Ensure higher levels of success as the drug progresses through FDA trials.
- Eliminate majority of the risk and cost associated with treating the disease.

GATC Health Time to Drug Discovery



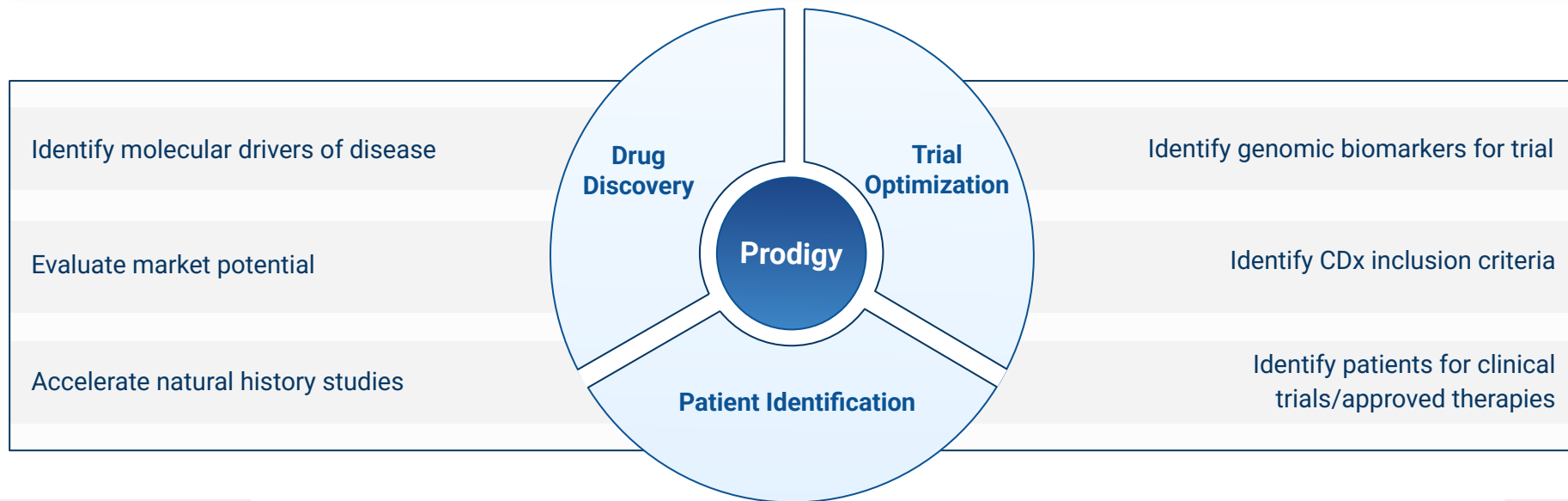
Most Innovative R&D Approaches of AI in Biopharma. Genomenon



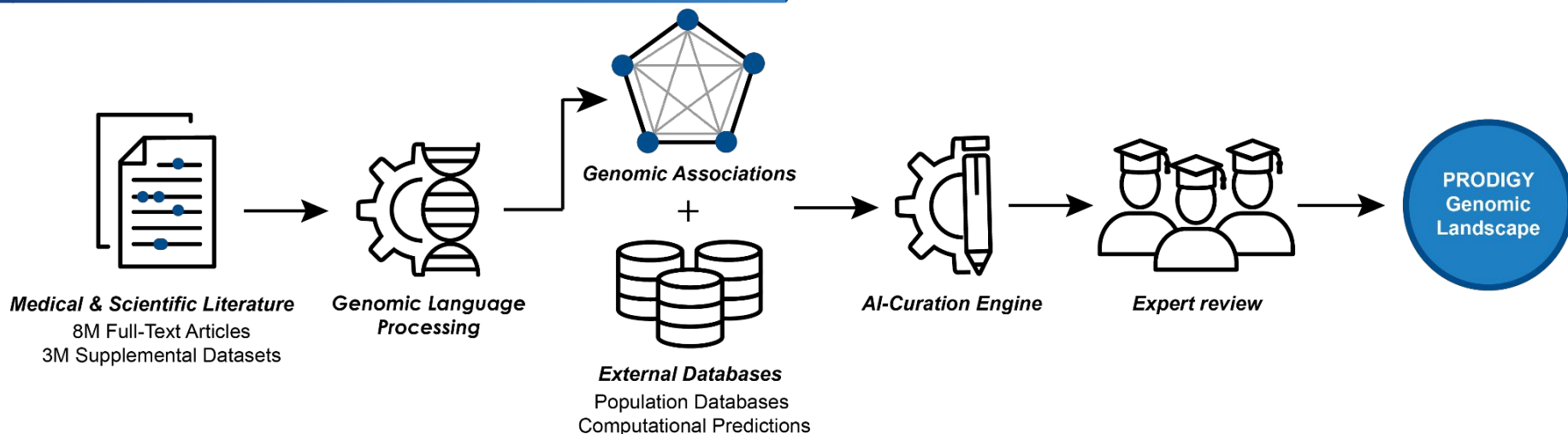
Genomenon is an AI-driven genomics company that organizes the world's genomic knowledge to accelerate the diagnosis and development of treatments for genetic disease.

Genomenon's **Prodigy™** Genomic Landscapes deliver a profound understanding of the genetic drivers and clinical attributes of any genetic disease and support the entire drug development process, from discovery to commercialization.

Genomenon's main focus therapeutic areas are **rare diseases**, **genetic diseases**, and **hereditary** and **somatic cancers**.



How Genomenon Uses AI in R&D



Genomenon's **Prodigy™ Genomic Landscapes** use a unique combination of proprietary **Genomic Language Processing (GLP)** and **expert, scientific review** to provide an evidence-based foundation for all stages of the drug development process. These landscapes can be completed at the disease, gene, variant, or patient level, and are maximally comprehensive as a result of GLP. Genomic Landscapes are also rapidly produced using an **AI-assisted curation engine** that expedites manual review of the data indexed by GLP.

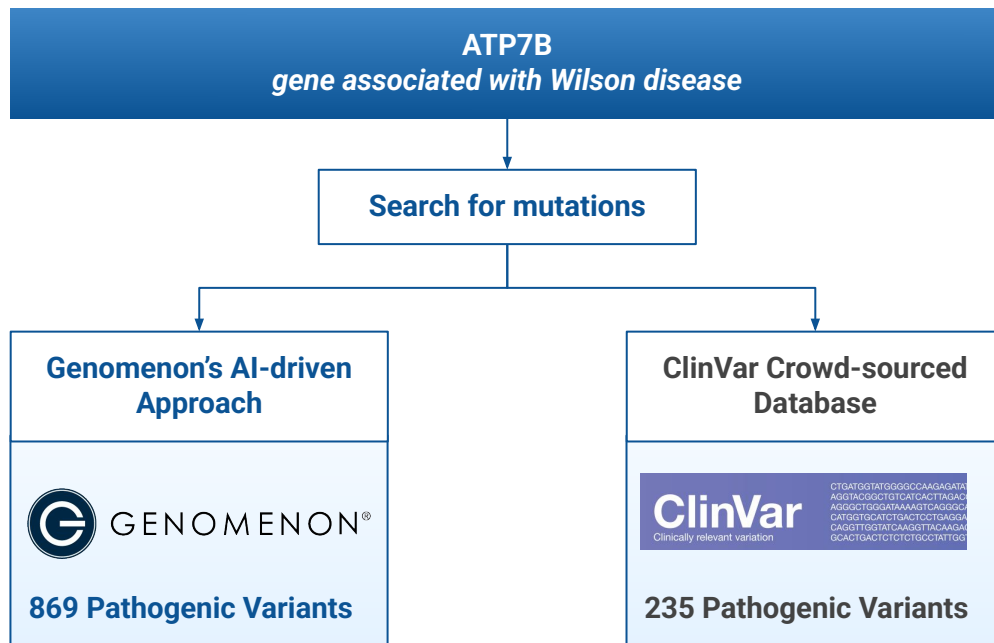
Genomic Language Processing (GLP) is a novel technology that systematically extracts and standardizes **genomic and clinical information** from the medical and scientific literature. Designed specifically to recognize this complex genomic information, GLP provides superior sensitivity compared to traditional methods, finding more variants and subsequently, more patients. **Genomenon's database**, built using GLP, currently contains over **14.8 million variants, 8.8 million full-text articles, and 3 million supplemental datasets**.

How Genomenon Uses AI in R&D

In collaboration with **Alexion**, AstraZeneca's Rare Disease group, **Genomenon applied its AI technology to help accelerate the genetic diagnosis for rare disease patients**. Genomenon's novel combination of AI-powered Genomic Language Processing and expert review **identified significantly more pathogenic variants associated with Wilson disease**.

Genomenon's AI-driven approach **identified 3.7x more evidence-supported, pathogenic/likely pathogenic variants for ATP7B** – a gene associated with Wilson disease – **compared to the crowd-sourced database, ClinVar**. This significantly expands the resources available to healthcare providers to make more informed diagnostic decisions.

With greater adoption of Mastermind, we predict that the substantial increase in the number of known, disease-causing variants **will improve the diagnosis of people living with Wilson disease by improving the ability to interpret genetic testing results**.



Genomenon's AI-driven approach identified 3.7x more evidence-supported, pathogenic/likely pathogenic variants for ATP7B than ClinVar.

We predict that this **will improve the diagnosis of people living with Wilson disease** by improving the ability to interpret genetic testing results.

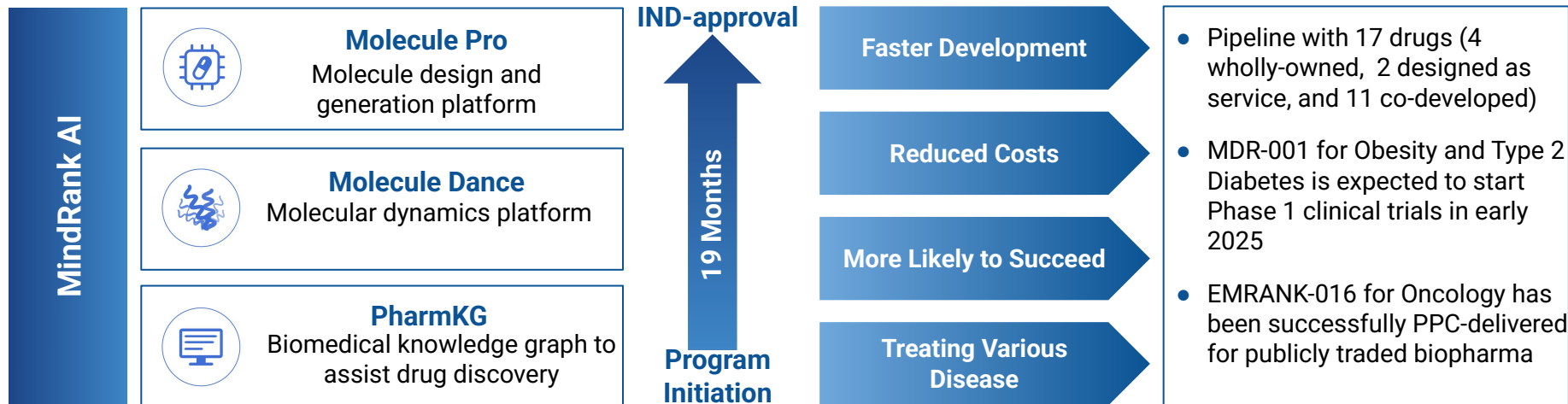
Most Innovative R&D Approaches of AI in Biopharma. MindRank AI



MindRank

MindRank AI is an artificial intelligence (AI)-empowered drug discovery company. By leveraging its proprietary AI platforms, the company aims to accelerate the drug discovery process and deliver small molecule drugs with desirable potency, efficacy and safety profiles. **Molecule Pro** is a molecule design and generation platform, **Molecule Dance** is a molecular dynamics platform to simulate protein movements, and **PharmKG** is a biomedical knowledge graph to assist with drug discovery.

The company has a team of scientists with extensive experience in small molecule drugs R&D and technological innovation, and their proprietary AI solution has been recognized as one of the top AI breakthroughs in the biopharma industry.

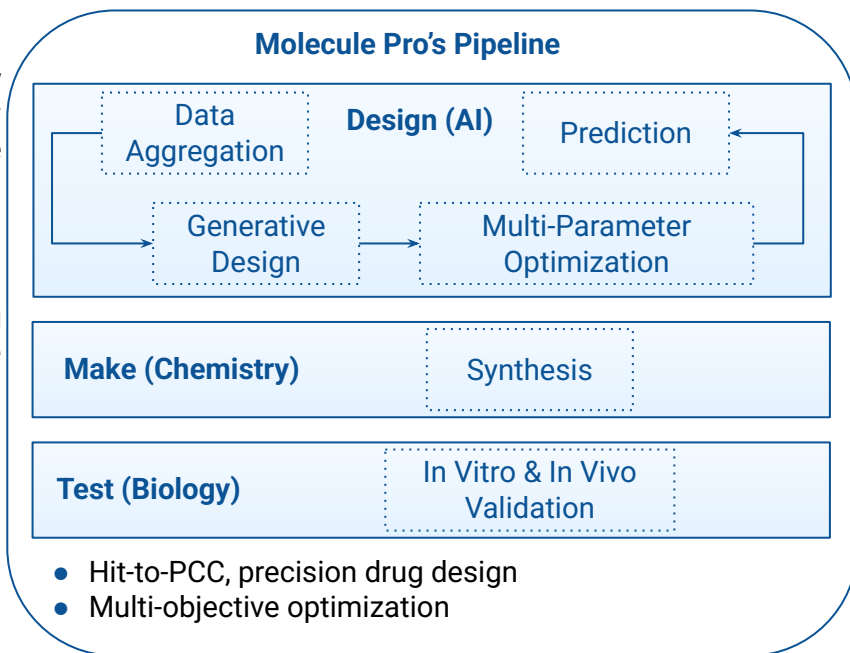


How MindRank AI Transformed the Drug Development Process

- PharmKG** is a biomedical knowledge graph that helps to accelerate drug discovery by providing information about the relationships between diseases, genes, proteins, and small molecules. It can be used to generate potential targets hypothesis for drug development.
- Molecule Dance** is a molecular dynamics platform that performs docking /FEP and simulates the movements of proteins, helping to understand how proteins may interact with molecules and how they might be targeted by drugs. This information can be used to design and optimize small molecule drugs that are more likely to bind to the target proteins.
- Molecule Pro** is a platform for designing and generating small molecule drugs. It uses ML to generate molecules according to the pocket 3D structure and predict the ADME/T properties and PK of potential drug candidates, with the goal of identifying molecules that are more likely to be effective and successful in treating a specific disease.

- Target Discovery
- Information Extraction
- Customized project database construction

- Protein structure prediction & simulation
- Docking and free energy perturbation (FEP)



PharmKG

Molecule Dance / Molecule Pro

Target Identification and Selection

Hit Discovery

Hit-to-Lead

Lead Optimization

Preclinical

IND-enabling

MDR-001: Completed in 19 Months

Key Advantages of MindRank AI

The company has obtained **US IND approval** for obesity and diabetes drug in **just 19 months** after the program initiation and successfully delivered an **oncology drug with best-in-class potential** to a public company.

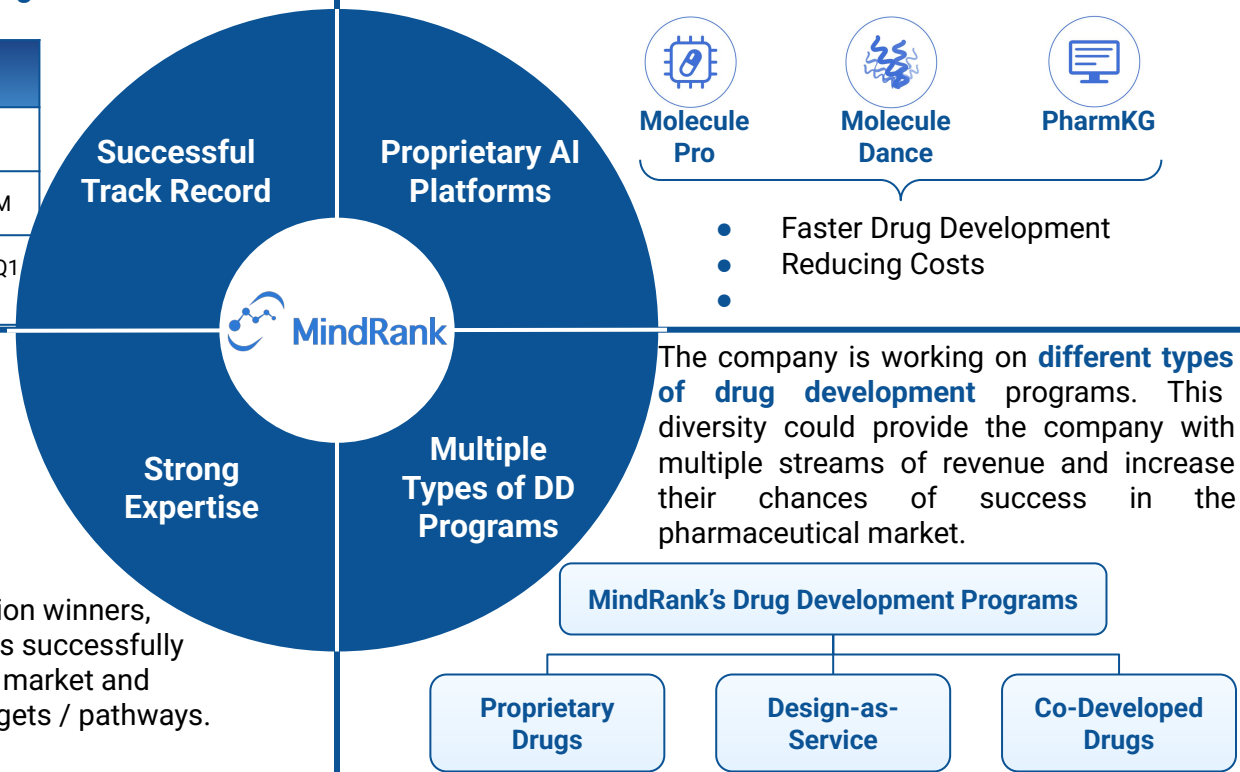
Drug	EMRANK-016	MDR-001
Target	Allosteric Inhibitor	GLP-1RA
Indication	Oncology	Obesity and T2DM
Status	PCC-delivered	Phase 1 starts in Q1 2025

The **company's team of scientists** has extensive experience in small molecule drugs R&D and technological innovation, which gives them a strong foundation for developing new drugs.

MindRank's Team:

- The team consist of global AI competition winners, experienced **medicinal chemist** who has successfully designed and developed drug on to the market and **biologists** who has discovered drug targets / pathways.

MindRank has **three proprietary AI platforms** that are designed to assist in the drug discovery process.



The company is working on **different types of drug development** programs. This diversity could provide the company with multiple streams of revenue and increase their chances of success in the pharmaceutical market.

How ONCOCROSS Utilizes AI and Transcriptomics for Drug Development



ONCOCROSS, a leading biotech company in Korea, utilizes an **AI platform** to identify new disease indications for new drug candidates or existing drugs based on a **transcriptome database** and is collaborating with leading global/Korean pharmaceutical companies and hospitals. The company strives to develop treatments for intractable and rare diseases both in the **oncology** and **non-oncology space**.

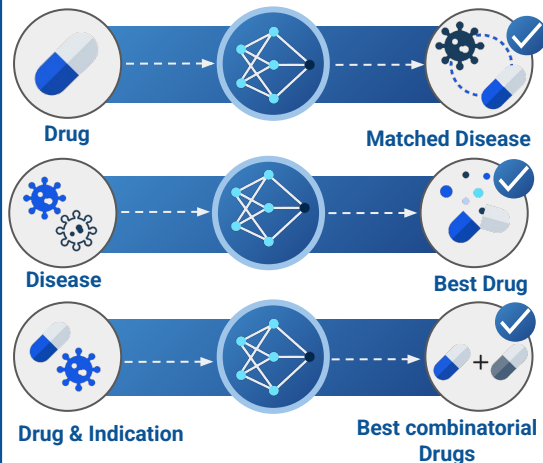
The company developed **ONCO AI Park** (**ONCOCROSS Artificial Intelligence Platform Ark**) - an Artificial Intelligence platform for drug development and predictions that includes several AI solutions.

Gene Expression Pattern Analysis Instead of analyzing single target, single pathway, with single hypothesis, they analyse entire set of gene expression pattern	Traditional Approach 	Gene Expression Pattern Approach 
Medically Curated Database They have unrivalled quality transcriptome database that is curated by medical doctors and pharmacists at Oncocross	 Patients 100,000+  Chemicals 25,000+  Cancer Prognosis 74,000+  Disease Type 410+  Cancer Types 42+	
Pharmacophysiological & Pathophysiological Evidence Guided Drug-Disease Pairing AI Platform performs comparative analysis at transcriptome levels of cells and human biopsy and blood samples	Pharmaco Patho	

How ONCOCROSS Utilizes AI and Transcriptomics for Drug Development

RAPTOR AI™ (RNA expression-based **A**nti-symmetrical **P**airing **T**ool for **O**n-demand **R**esponse **AI**) is transcriptome-based disease and drug-screening platform.

- Scoring anti-symmetry of diseases and drugs using various algorithms, and integrating them to search optimal disease or drug.



RAPTOR AI™ solution

Indication Expansion

predict additional indication of a clinical stage drug candidate in Phase I, II or III

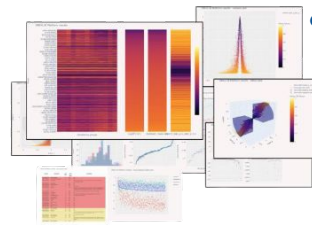
Rescue Drug

predict the optimal indication of a drug candidate that has failed in Phase II or III

Combination

predict a partnering drug that can improve the efficacy

- Database with hundreds of disease cohorts and tens of thousands of chemical data.



- The platform has accurate gene expression alteration scoring system for drug or disease. Comparative analysis is performed at the transcriptome level to predict the optimal drug-disease pair.
- Scoring anti-symmetry with integrating various cell line-based experimental results via cell-tissue similarity. Cell-tissue similarity-based integration method is necessary for accurate prediction, as drug effect data are derived by cell line, and disease effect data are from human tissue.
- The company has validated internally and in partnership:

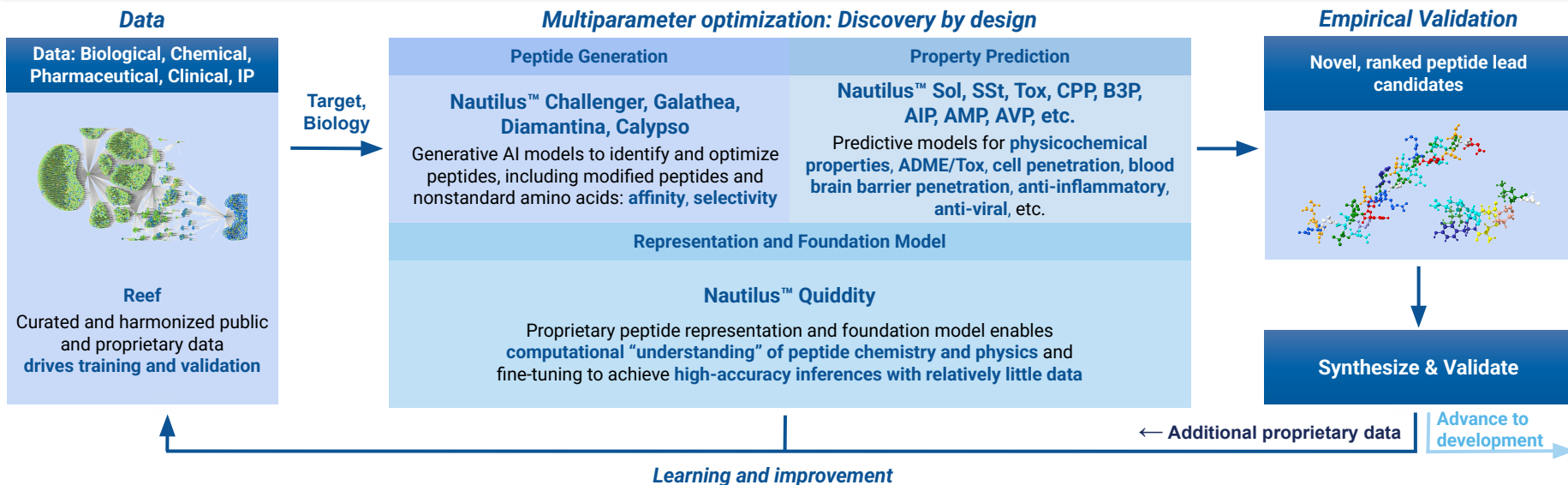
8	Internal pipelines
8	Partnered pipelines
1	Global clinical trial in Phase I
2	Phase IIa IND
1	Investigator initiated trial

Most Innovative R&D Approaches of AI in Biopharma. Peptilogics



Peptilogics engineers peptide therapeutic candidates to radically improve the treatment landscape for patients with life-threatening diseases. Uniting biological and pharmaceutical expertise, novel artificial intelligence algorithms, computational biology, and purpose-built supercomputing, Peptilogics is advancing an extensive therapeutic pipeline and accelerating discovery efforts at a pace and scale that was previously impossible.

Peptilogics' Nautilus™ platform combines **generative AI and a suite of predictive models** to produce **multiparameter-optimized leads** for a **broad range of targets and therapeutic areas**.



Nautilus™ is being used for: **internal programs, partnered programs, and focused peptide library generation**

Most Innovative R&D Approaches of AI in Biopharma. Peptilogics

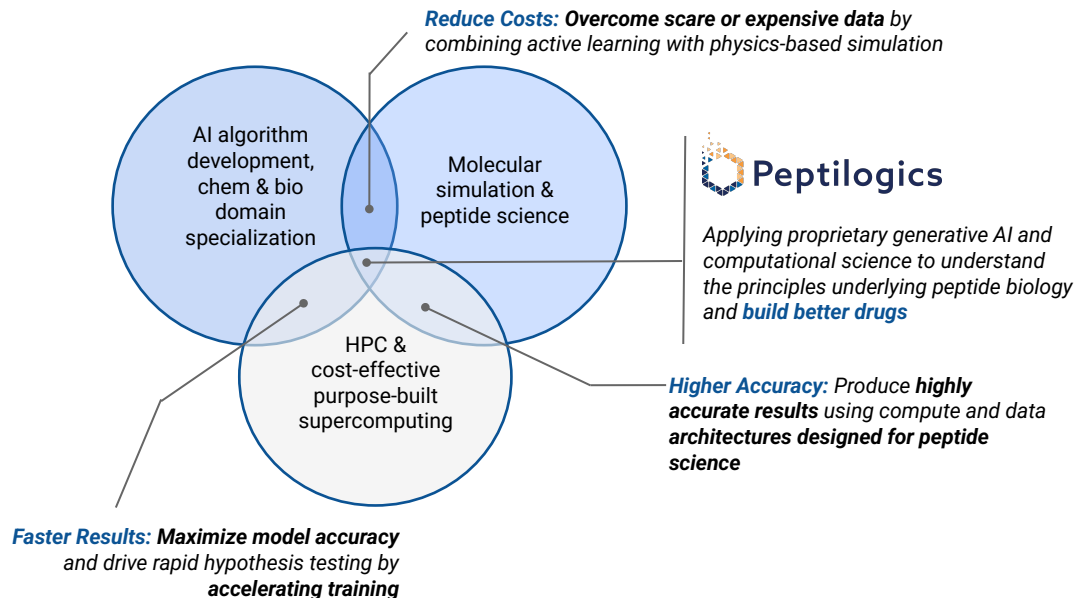


Peptides offer advantages over small molecules and biologics. Relative to small molecules, peptides can achieve higher selectivity and safety. Relative to biologics, peptides can more easily reach intracellular targets and cross the blood-brain barrier, and they can be manufactured at reasonable cost to broaden access. With Nautilus™, Peptilogics is enabling peptide generation including high diversity to explore novel chemical space.

Advantages of Nautilus™

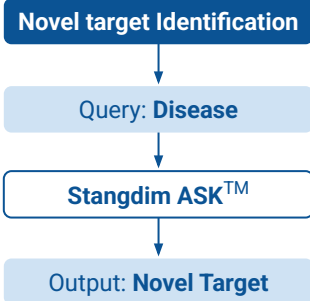
- **Go beyond just identifying binding hits:** encode an expanding list of pharmaceutical properties from the outset
- **Target-agnostic, therapeutic area-agnostic models** that can be applied to both **established and novel targets**
- **Access diverse chemical space** through proprietary algorithms and in-house, purpose-built supercomputing
- **Generate effective peptides in specific (tunable) size ranges and complexities**, including **nonstandard amino acids** and **cyclic and branched peptides**
- **Interpretable models** (where possible)
- **Validate peptide properties and provide rich data** for iterative learning through wet-lab synthesis and assays
- **Surpass high-throughput screening** through biologically informed, multiparameter design of pharmaceutical properties

Nautilus™ expands on principles demonstrated for the human-designed PLG0206, which is now in Ph1b.

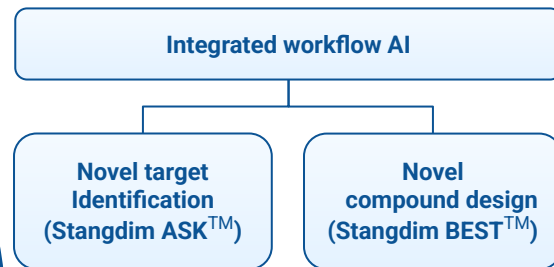


How Standigm Accelerates Drug Discovery using AI

Standigm's AI solution **Standigm ASK™** provides **novel targets** perfectly fit to a customer's research context within two weeks.



Standigm's optimized workflow **AI system** can generate **multiple First-in-Class** compounds within seven months.



Standigm has an exceptional reservoir of ready-made in-house **therapeutic assets**, which are as attractive as to meet customer's pipeline needs.

Therapeutic areas of assets:



Cancer



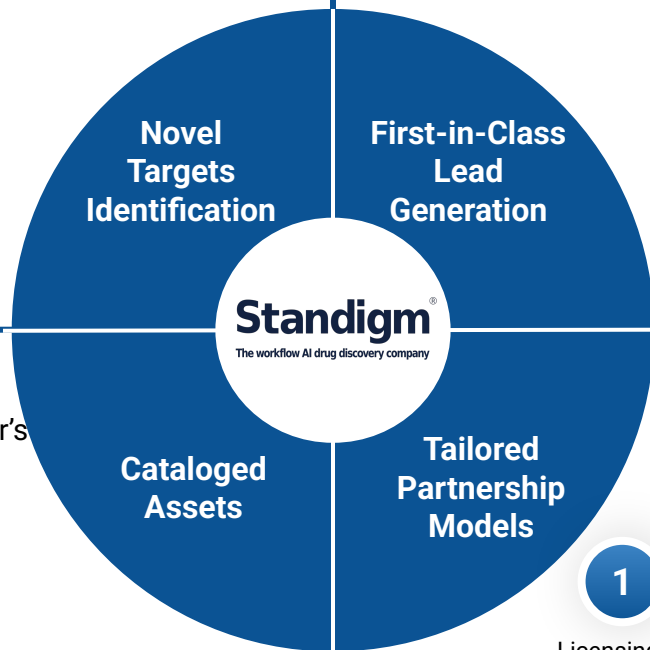
Parkinson's Disease



NASH

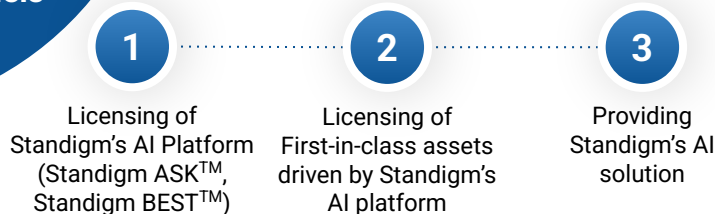


Mitochondrial Disease



Standigm has **tailored partnership models** perfectly fit to a customer's needs, from licensing of AI platform and assets to AI solution providing.

Standigm's partnership models:



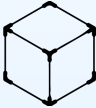
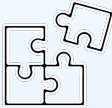
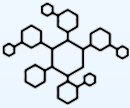
How Standigm Accelerates Drug Discovery using AI

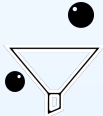
Standigm®

Standigm is a workflow AI-driven drug discovery company headquartered in Seoul, South Korea and subsidiarized in Cambridge, UK. Standigm has proprietary AI platforms encompassing novel **target identification to compound design**, to generate commercially valuable drug pipelines. The company has established an early-stage drug discovery workflow AI to generate First-in-Class lead compounds within seven months. o date, Standigm is running 42 in-house or collaborative pipelines for drug discovery using the workflow AI technology. One of the company's pipelines is expected to enter a pre-clinical stage in 4Q 2021.

Standigm BEST™ is a novel **compound generation platform**, which can investigate lead compounds whenever target or ligand information is lacking or enough.

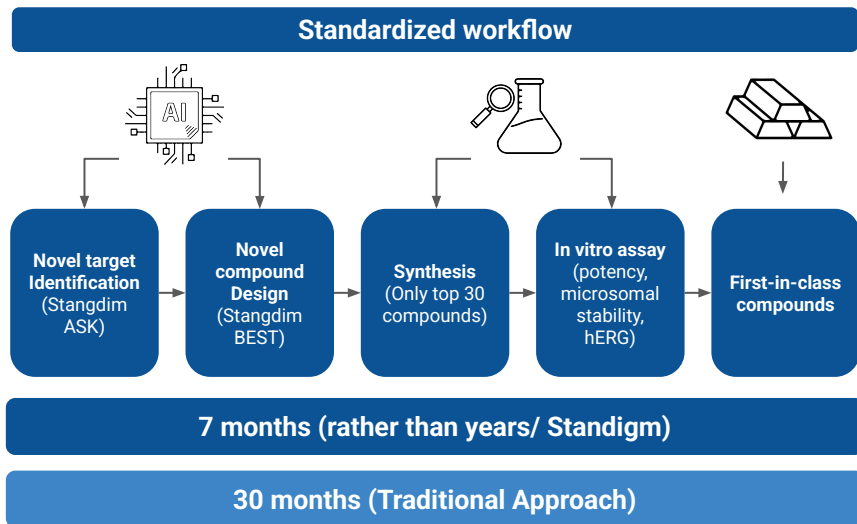
Standigm ASK™ is a customizable, AI-aided **drug target identification platform**, prioritizing disease-target relationships and providing evidence-based results through an interactive user interface.

Database	Hit ID	Hit to Lead	Lead Optimization
 Deep learning chemical space 150-dimensional vector space which learned various compound properties	 Securing activity Accurate prediction of binding	 Securing novelty New scaffold with various structures	 Druggability optimization Mainly-based substructural variation 3D-based druggability prediction

Graph DB	Prioritization Algorithm	Multi Filters	Novel Target Selection
 Biomap (Knowledge + Omics)	 Target prioritization based on disease-target-association scores	 Screening attractive target's with multi filters	 Novel Target Selection

How Standigm Accelerates Drug Discovery using AI

Standigm Releases First-in-Class Compounds within 7 Months



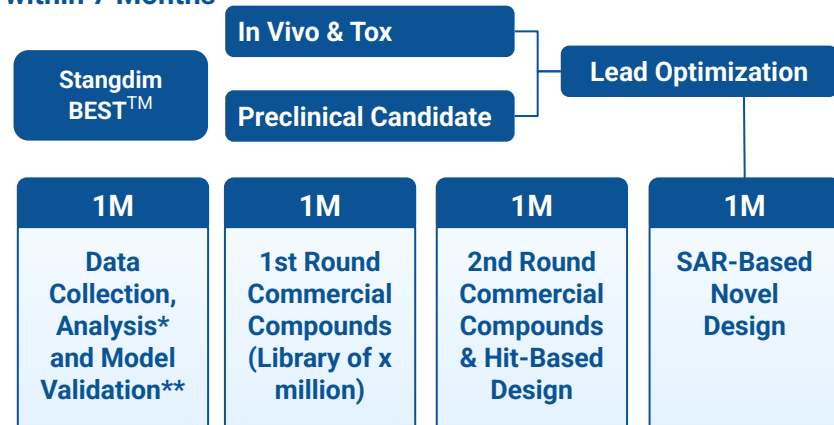
Featured Partners



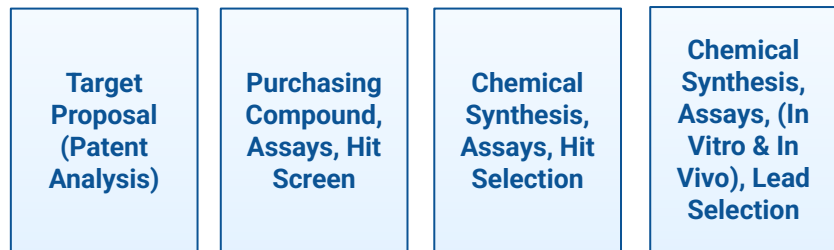
*Data Analysis – Binding site analysis using protein structure

**Model Validation – Validation of activity prediction models: ChemMap-based, 2D structure QSAR-based, Simulation-based and Ensemble-based methods

Standigm made the hit-to-lead stage with a cancer Target A within 7 Months

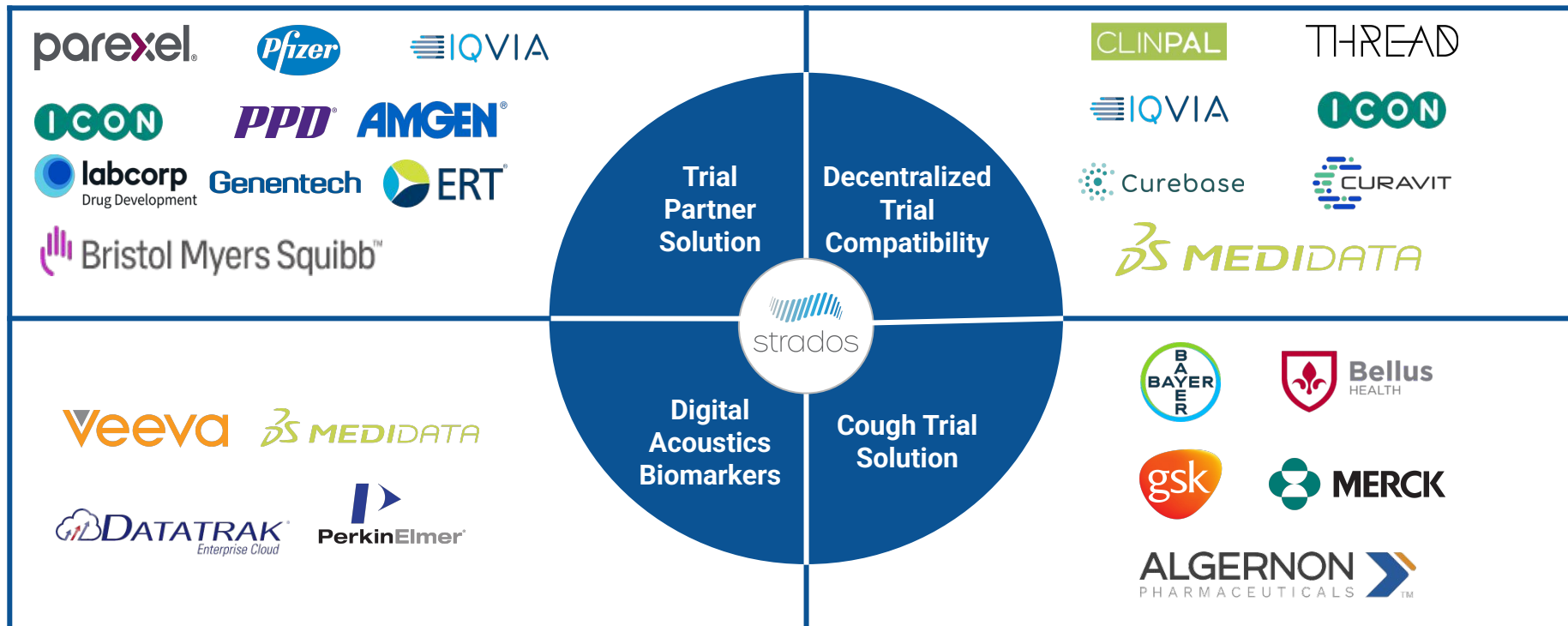


Collaborator (Pharma Company): 3M (Hit Compounds)

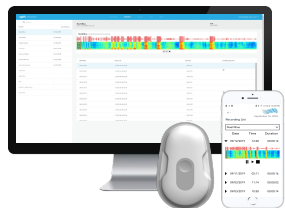


Most Innovative R&D Approaches of AI in Biopharma. Strados Labs

Strados Labs enters the Pharma and Life Science market with a **Respiratory Management Solution** that includes the only FDA-cleared, RESP biosensor which acquires lung sound acoustics wireless and hands-free, making it a perfect fit for clinical research to measure patient response to new drugs by objectively collecting coughs and other lung sounds discreetly, comfortably, and securely in a streamlined way, while having access to data for post-processing and analysis.



How Strados Labs Uses AI in R&D?



Strados Labs — a respiratory management solution, which brings innovation at the intersection of lung biomarkers, patient centricity, and machine learning. The industry of life sciences can largely benefit from the enhancement of pulmonary care monitoring capabilities provided by Strados Labs to gain insight into patient drug response by analysis of longitudinal lung acoustics.

220 hours of continuous data collection without patient intervention of objective lung sounds and respiratory dynamics while having access to data for post-processing and analysis.

Noise cancellation is applied to enhance the signal to noise ratio and eliminate speech discernibility while being HIPAA compliant with an end to end encryption.

Data collected via RESP is uploaded automatically to the Strados Cloud to allow assessment of recordings timely with identification of adventitious breath sounds including respiratory dynamics with ML algorithms.

Wireless, non invasive biosensor that monitors, records and stores every lung sound. That translates into longer wear times and an astounding 99.59% patient compliance.

Identification of wheeze, cough, and CABS detection gives the objective measurement of these changes over time on a patient and population basis with an ability to differentiate cough types in addition to frequency.

**Data Collection
Capacity**

**Patient Privacy
& Security**

**Real-Time Data
Analysis**

**Patient
Centricity**

**Longitudinal
Lung Data**

How Strados Labs Uses AI in R&D?

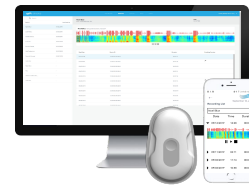


The **Strados Respiratory Management Solution** is the world's first FDA-cleared lung sound platform with a proprietary wireless biosensor, **RESP**, that is passive, patient-friendly, and clinically validated to acquire lung sounds in the real world.

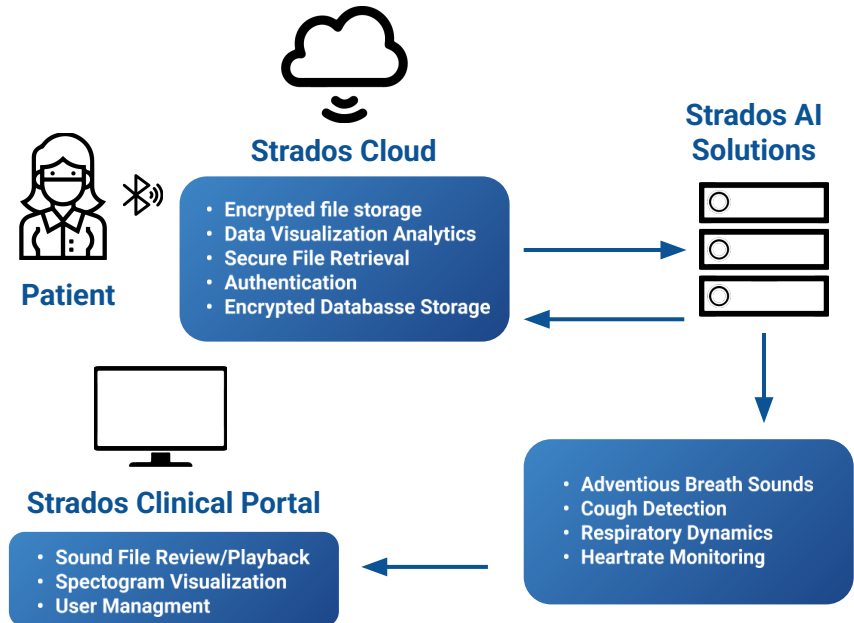
Today **Strados Labs** has a unique opportunity to stand as a leader in Respiratory Health: their clinically validated bioacoustic library of sounds and AI engine is the world's largest entirely hands-free, clinical-grade dataset enabling **Strados Labs** to be the standard bearer of acoustic digital biomarkers for clinical research and respiratory care globally.



For instance, **Strados Labs RESP** fits perfectly into decentralized trials allowing remote patient access by unlocking lung sound data and putting it into the hands of the entire research team via the cloud. Making decentralized respiratory trials scalable and able to develop entirely new insights about respiratory status without episodic patient interaction.



Strados Cloud: company's passive and longitudinal bioacoustics insights allow them to build a more complete picture of the subject's respiratory status leading to better trial outcomes.



Industry Developments Q1 2021- Q1 2025

Biggest Deals 2024-2025

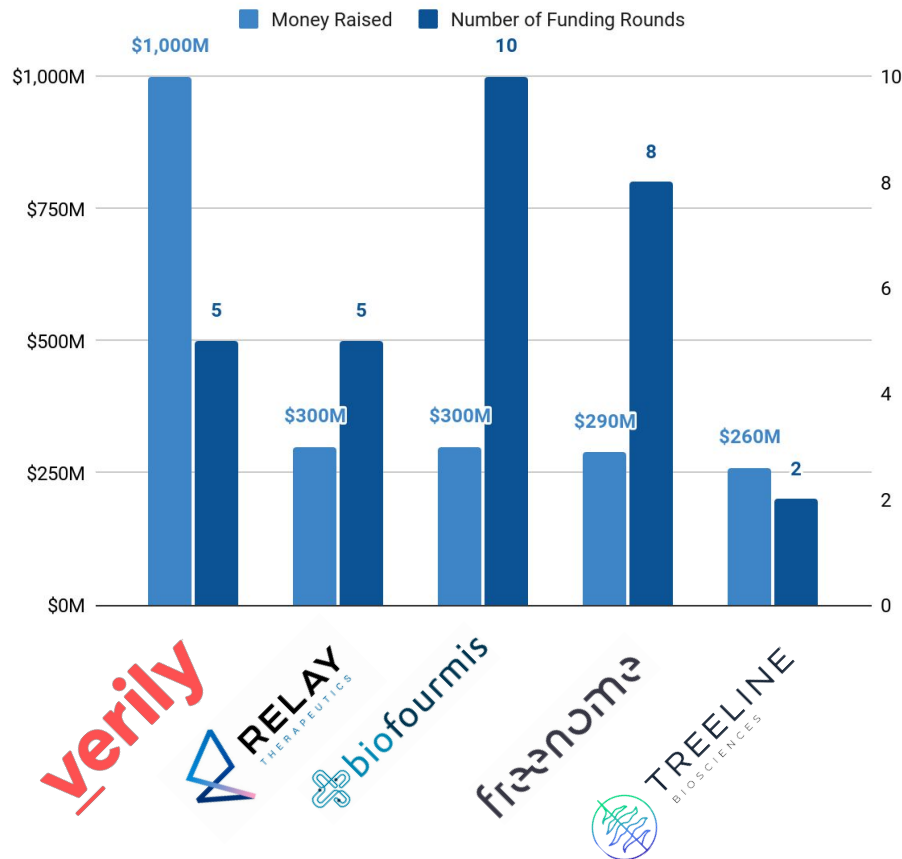
The total amount of VC funding in AI in drug development companies reached to \$60.2B in Q1 2025.

There is an increasing number of late-stage mega-rounds including hundreds of millions. The apparent trend is sector consolidation, where a number of AI-startups have achieved substantial leadership and grown in resources and technology. An important driver of growth for the sector is a substantial shift in Big Pharma's interest in AI technology, making AI an important integral part in the research and implementation areas.

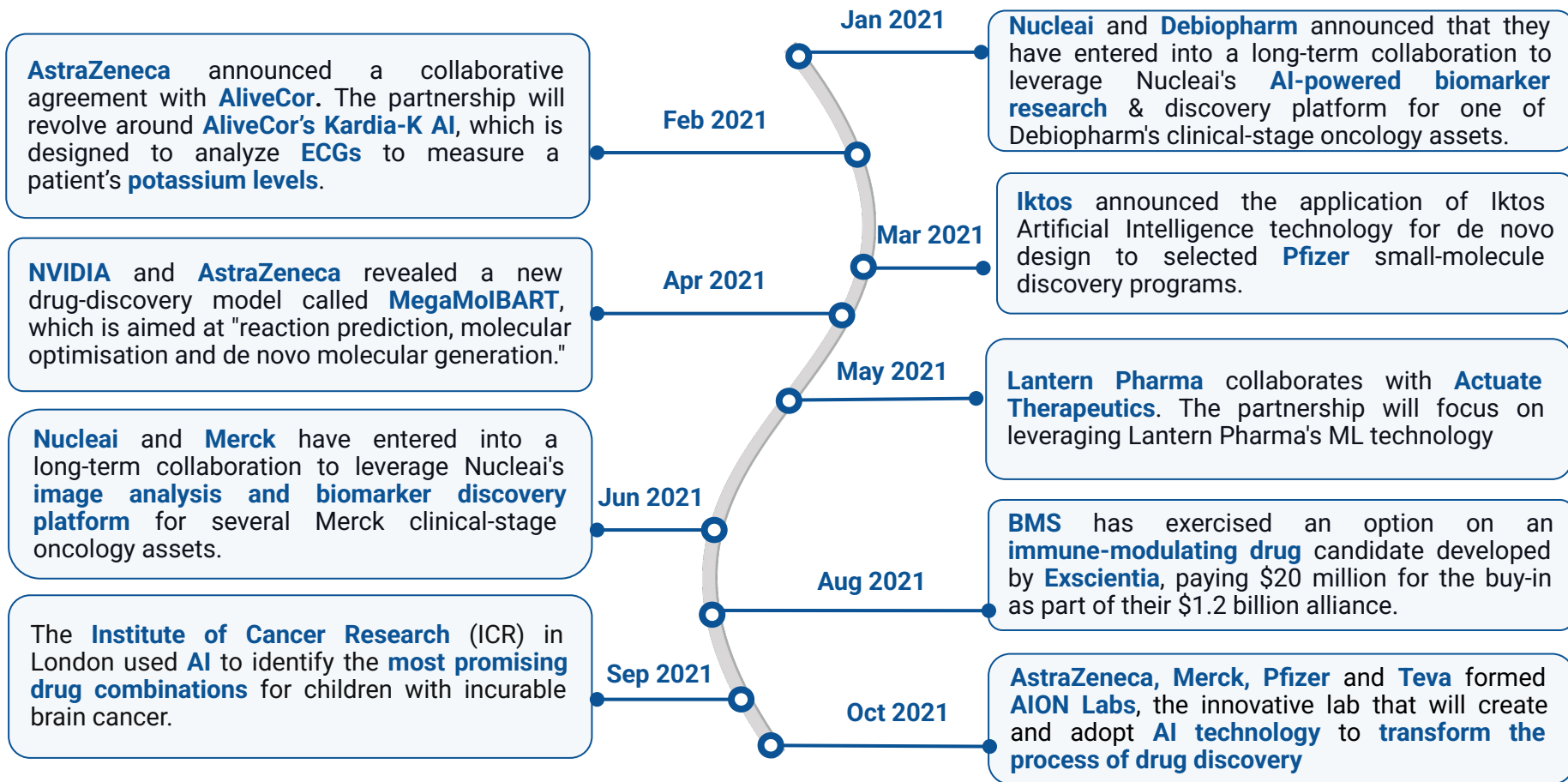
Top 5 highest fundings received the following companies:

1. **Verily** with \$1000 million (Corporate Round)
2. **Relay Therapeutics** with \$300 million (Post-IPO Equity)
3. **Biofourmis** \$300 million (Series D)
4. **Freenome** with \$290 million (Corporate Round)
5. **Treeline Biosciences** with \$260million (Series A)

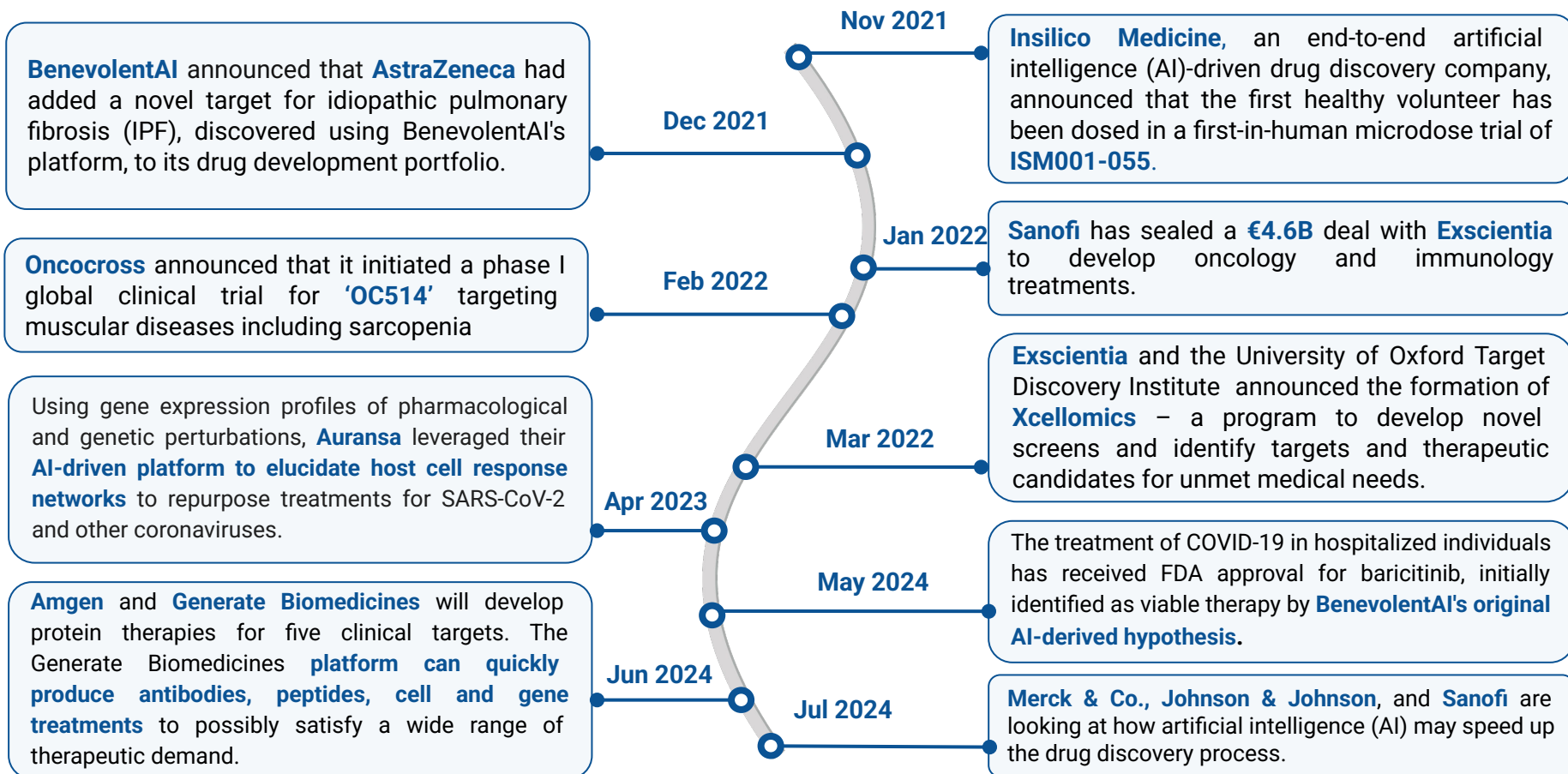
Biggest Funding 2023-2025



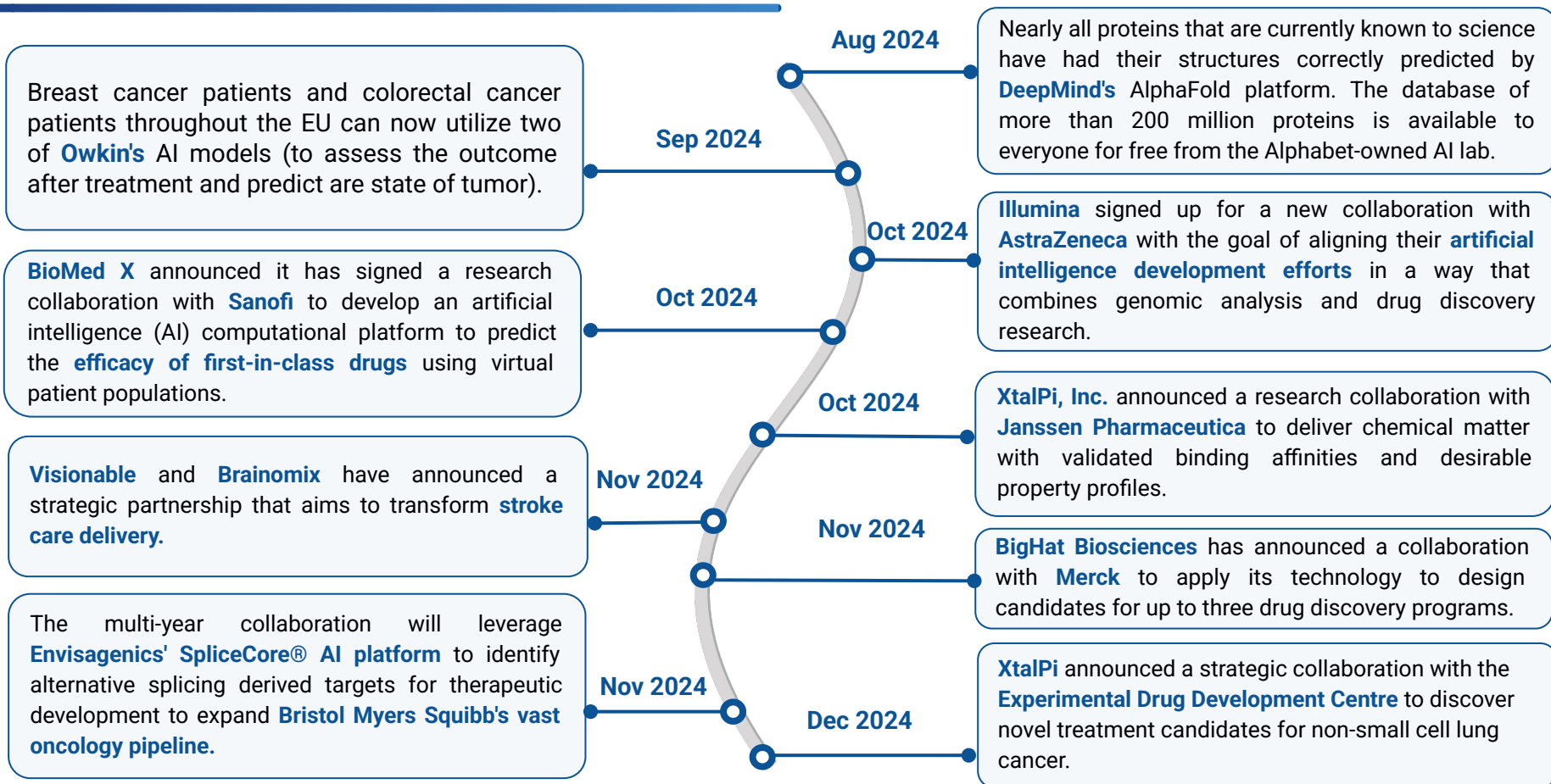
Selected Pharma AI Industry Developments 2024



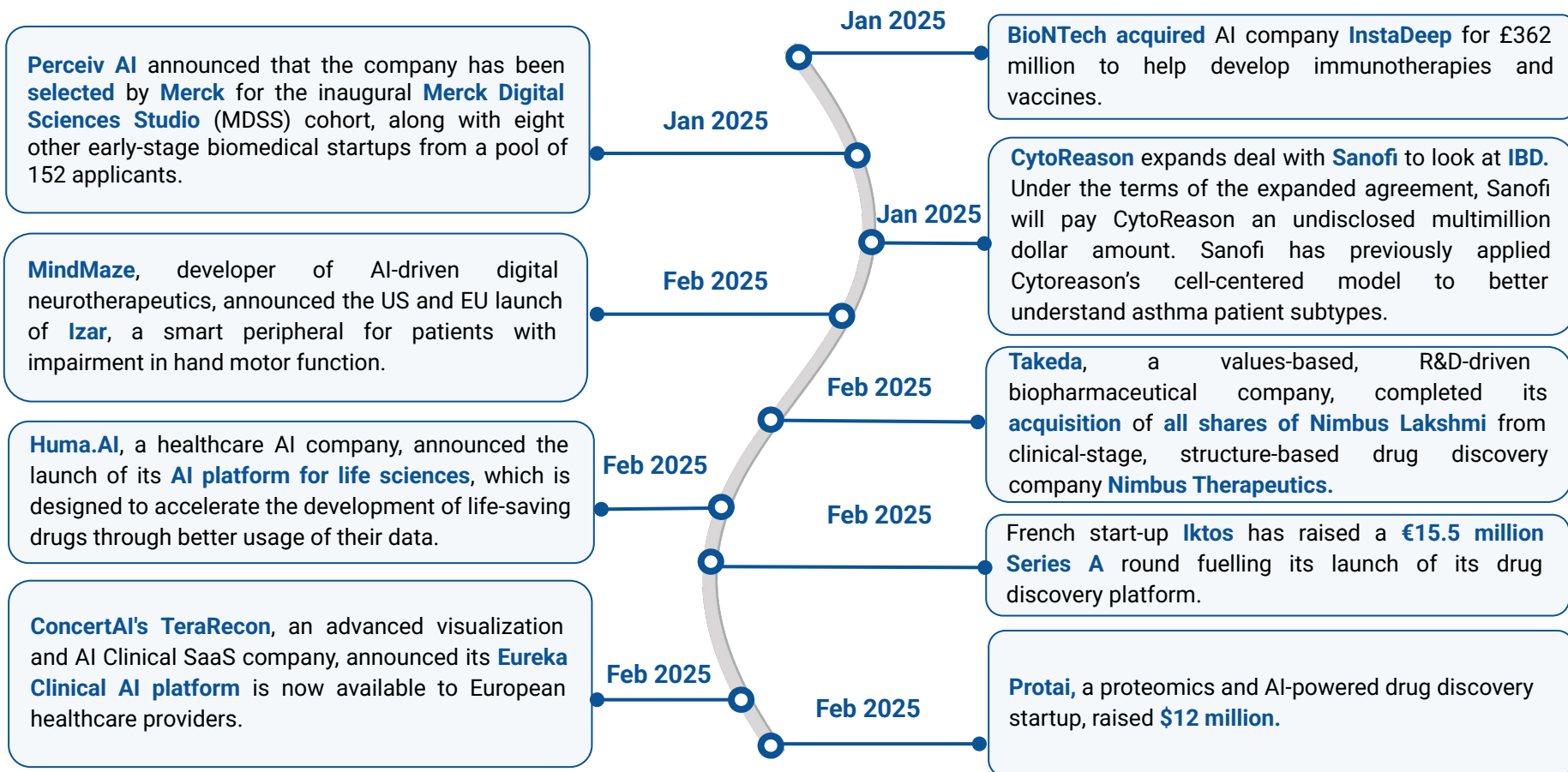
Selected Pharma AI Industry Developments 2024



Selected Pharma AI Industry Developments 2024



Selected Pharma AI Industry Developments Q1 2025



Key Takeaways

Major Observations for Q1 2024-Q1 2025: Key Business Takeaways



AI is increasingly being used in drug development to speed up the process, reduce costs, and improve success rates. AI can help identify potential drug candidates, predict their efficacy and toxicity, and optimize clinical trials. As a result, pharma companies and CROs are seeking out partnerships with AI companies to take advantage of their expertise and technology. **AstraZeneca** is a leader in collaborations with AI companies, till the **beginning of 2025 year**, the company had more than **27 collaborations**.



Big Pharmaceutical companies are very interested in the growth and development of AI companies. This interest can be observed not only in the high amount of collaboration between pharmaceutical companies and AI companies but also in the **direct investments of big pharma in AI companies**. Investors are attracted by the prospect of building platforms that speed up and cut the cost of the drug development process, and the opportunity to partner with large pharmaceutical firms that do not have all the necessary skills in-house.



Even though in **Q2 of 2024** top companies by investment **XtalPi** (\$0,79B), **Insitro** (\$0,74B) and **ThoughtSpot** (\$0,68B) operate in **Early Drug Development** field, by the beginning of 2025 happens diversification of leaders by total investments that covers not only Early Drug Development like **Charles River** (\$1,5B), but also other fields like **End-to-End Drug Development** (**Relay Therapeutics**, \$1,17B), **Clinical Development** and **Data Processing** (**Tempus**, \$1,35B). The market is gradually growing in all Drug Discovery oriented entities and this trend would probably sustain.



The investment strategy changed in 2024. In 2021, the most significant investments came to innovative new companies with promising ideas, such as Neuromora Therapeutics and Insitro, in both were invested \$400M in 2021. In 2024, investors preferred more mature companies with ready-to-go solutions or drugs that are already entered the latest phases of clinical trials, such as Biofurmus (\$320M) and Freenome (\$290M).

Major Observations for Q1 2024-Q1 2025: Key Business Takeaways



The global COVID-19 pandemic heated up the interest in BioTech and drug discovery sectors and catalysed AI development. During 2021, we have observed over 150 medium and large funding rounds for AI in Drug Development companies with an average investment of **\$64.7M**. As of beginning of 2025, the interest in AI in drug development appeared to reach a plateau. In Q1 2025, there were over **28 investments** in AI in Drug Development companies with an average investment of **\$38M**.



In Q1 2025, only **1 company that use AI for DD reached IPO status**. USA-based BullFrogAI closed its IPO on 14th of February. There is a huge recession comparing to 2021 year, when 10 companies reached IPO. The global downturn might be the reason for this.



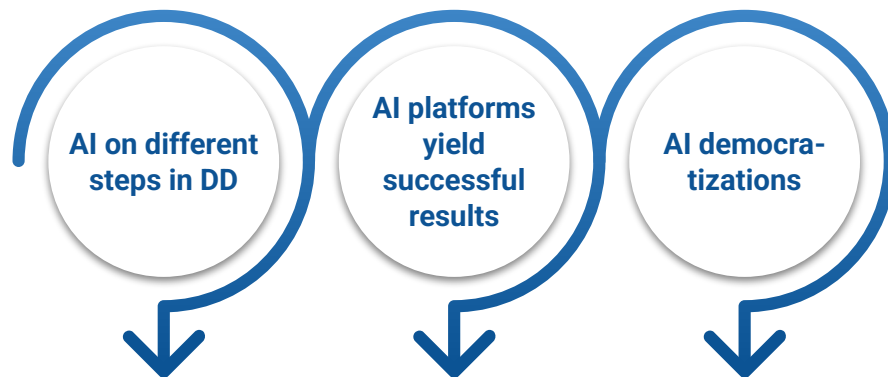
When some of the companies complete IPOs in the nearest future, it will attract a **significant number of non-biotech investors to enter the Life Sciences sector**. The prospects of this trend are already vivid: big tech companies enter partnerships with both innovative start-ups and pharma companies to consolidate resources, mainly in personalized medicine, cell and gene therapy, and molecule prediction software. Some of these companies even open subsidiaries harvesting AI in Drug Design (like Isomorphic Labs from Google).



The growing industry traction, reflected in the increasing number of R&D partnerships between big pharma and CROs with AI start-ups, is a sign that the market is maturing for rapid increase in M&A activity in the nearest future. Despite the global downturn, the AI in Drug Development sector seems to be stable.

Key Technology Takeaways

1. AI is regarded by some top executives at big pharma (**GSK and others**) as **a tool to uncover not only new molecules, but also new targets**. Ability of deep neural networks to build ontologies from multimodal data (e.g. “omics” data) is believed to be among the most disruptive areas for AI in drug discovery, alongside with data mining from unstructured data, like text (using natural language processing, NLP).
2. There is **a considerable trend for “AI democratization”** where various machine learning/deep learning technologies become available in pre-trained, pre-configured “of-the-shelf” formats, or in relatively ready-to-use formats – via cloud-based models, frameworks, and drag-and-drop AI-pipeline building platforms (for example, KNIME). This is among key factors in the acceleration of AI adoption by the pharmaceutical organizations – where a non-AI experts can potentially use fairly advanced data analytics tools for their research.
3. **Proof-of-concept projects keep yielding successful results** in research studies, and in the commercial partnerships alike. For example, companies like Recursion Pharmaceuticals, Insilico Medicine, Deep Genomics, and Exscientia achieved important research milestones using their AI-based drug design platforms.



AI is used not only for drug design, but also target identification.

Many AI-designed drugs showed successful results in research studies and even clinical trials.

Ready-to-use AI platforms for DD became available and can be used by non-AI experts.

Obstacles That Still Remain

There are several challenges and obstacles to the adoption of artificial intelligence (AI) in drug development. These include:

1. **Data quality and availability:** AI algorithms require large amounts of high-quality data to be effective. However, the pharmaceutical industry has historically struggled with data silos, which can make it difficult to access and integrate data from multiple sources.
2. **Regulation:** The regulatory environment for AI in drug development is still evolving. Regulators such as the US Food and Drug Administration (FDA) and the European Medicines Agency (EMA) are working to establish guidelines for the use of AI in drug development, but these are still in the early stages.
3. **Lack of understanding and expertise:** Many pharmaceutical companies and researchers may not have the necessary expertise in AI to effectively utilize it in drug development. This can make it difficult for these organizations to adopt and integrate AI into their processes.
4. **Ethical concerns:** There are also ethical concerns surrounding the use of AI in drug development, including issues related to bias in data and algorithms and the potential for AI to replace human decision-making.

AI in Biotech Challenges



Overview of Deep Pharma Intelligence



Deep Pharma Intelligence – New Era in Pharma Analytics

Deep Pharma Intelligence (DPI), an analytical subsidiary of Deep Knowledge Group, is a highly specialised think tank in the area of BioTech innovation profiling, market intelligence, and BioTech development advisory. The company is dedicated to producing powerful data mining and visualisation systems, interactive analytics tools, and industry reports, offering deep technical insights, market intelligence, and strategic guidance in the high growth and significant opportunity areas.

DPI is Focusing on Three Key Activities:

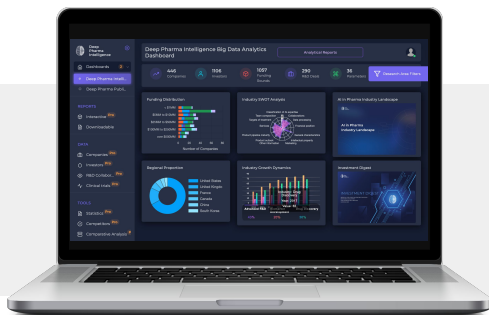
Conducting Market Intelligence

Producing regular **open-access** and **proprietary reports** on the emerging topics and trends in the pharmaceutical and healthcare industries. All reports are supported by our back-end analytics systems and tools that allow to receive fresh insights and updates about opportunities and risks.



Creating Big Data Analytical Dashboards

Building a comprehensive **Big Data Analytical Dashboard** (SaaS) as a one-stop-platform for all market and business intelligence operations our customers may need, including profiling thousands of companies, market signals and trends based on tens of millions of constantly updated data points.



Producing Scientific Content

DPI provides a **full-cycle development of articles, scientific journals, and books**. We are ready to develop a detailed Requirement Specifications document, including layout of the journal, fully designed brand book, with example templates for each chapter.



AI in Drug Discovery Analytical Dashboard

AI in Drug Discovery Analytical Dashboard is a fundamental tool for strategic insights, opportunity evaluation, competitor profiling, and other purposes relevant to Pharma and BioTech decision-makers, life science investors, consulting companies, and regulatory agencies.

600	Companies
1,100	Investors
290	R&D Collaborations
120	Clinical Trials
170	Parameters of Automated SWOT Analysis



Market Intelligence Focus

Automated SWOT Analysis	Stock Price Forecasting	Interactive Chart Builder
Automated Competitive Analysis	Financial Portfolio Constructor	Matching Tool for Investors

Comprehensive Market Intelligence

Deep Pharma Intelligence's proprietary services include **custom consulting projects based on the specific customer needs**, as well as a collection of preproduced 'ready-to-use' proprietary reports, developed by our research team and covering general trends and specific action ideas and strategy insights related to the most promising business prospects (e.g. new technologies, BioTech start-ups), M&A prospects (e.g. pipeline development targets), and strategic growth ideas (trends profiling, industry overviews, etc.).

Selected Open Access Reports



Artificial Intelligence for Drug Discovery Landscape Overview, Q3 2024 is an analytical report that aims to provide a comprehensive overview of the AI in drug discovery industry, clinical research, and other aspects of pharmaceutical R&D.



Epigenetic Drugs Q2 2024 report aims to provide a comprehensive overview of the current state of the epigenetic drugs market and research. The aim of this report is to provide insights into the diversity of possible epigenetic targets, mechanisms of their action in treating cancer and other diseases.



Landscape of Advanced Technology Companies in Pharmaceutical Industry Q4 2021 is an analytical report providing insights into the expansion of technology developers and vendors in the pharmaceutical space, as well as their increasing role in the pharmaceutical business.

Business Consulting Services

Deep Pharma Intelligence offers a comprehensive range of **consulting services**, including **market and competitor research, technology scouting and due diligence, investment landscape profiling, and comprehensive analytics support for investment decision-making.**

Investment Landscape Profiling

Identifying investment trends in the pharma, BioTech, medicine, healthcare, drug development technological space, investments risk profiling based on risk tolerance, risk capacity, and risk requirements.

Technology Scouting and Due Diligence

Identifying, locating, and evaluating existing or developing technologies, products, services, and emerging trends. The service includes business, science and technology, intellectual property (IP) profiling, and potential assessment.

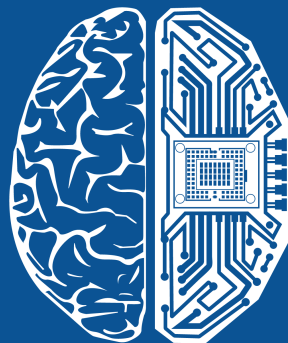


Market Research

Thorough market assessment within a specific industry in the field of pharma, BioTech, medicine, healthcare, drug development, AI, and others.

Competitor Research

Competitive analysis of companies, technologies, technological sectors, etc. Competitive analysis includes SWOT analysis and competitive profiling.



[Link to the Report: www.deep-pharma.tech](http://www.deep-pharma.tech)

E-mail: info@deep-pharma.tech

Website: deep-pharma.tech

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