INVESTMENT DIGEST

TEASER
### AI IN PHARMA 2021

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Investment Digest at a Glance

This Investment Digest is summarizing key players and observations in the private equity and venture capital ecosystem, focusing on the pharmaceutical artificial intelligence (AI). Here we have summarized information about key industry trends, 240 promising AI-driven biotech startups, and 50 leading biotech investors in this sector, outlining major investment rounds and relevant R&D partnerships illustrating the industry traction and readiness of institutional investors (big pharma/biotech) to potentially acquire most successful AI-vendors.

It is also found that the ongoing COVID19 pandemics catalyzed further interest toward pharmaceutical AI technologies, and generally created favorable investment climate in the area of pharmaceutical artificial intelligence.

This Investment Digest is based on the 130 page industry report "**AI for Drug Discovery, Biomarker Development and Advanced R&D Landscape Overview 2020**", which is a comprehensive overview of the pharmaceutical AI sector, including 240 AI in pharma companies, 600 investors, 90 pharma corporations and 35 R&D centers across the globe. The report also summarizes

Dynamics of Investments in AI in Pharma
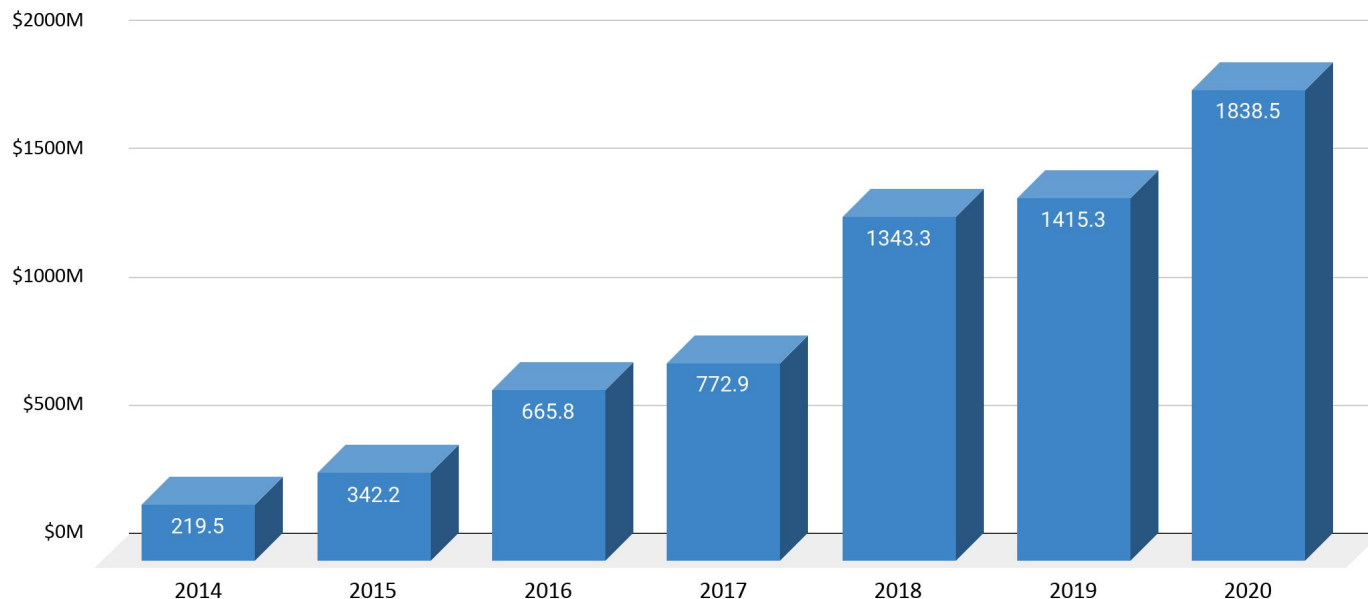
There has been a strong increase in the amount of capital invested in AI-driven pharma companies since 2014. During the last 7 years, the annual amount of investments has increased by around 737% and $1,619M in total. In 2020, the flow of investments increased by almost 30% as compared to the previous year. The majority of the deals fall within the $1 - 64M range, with a relatively small number of "mega-deals" above the $100M mark.
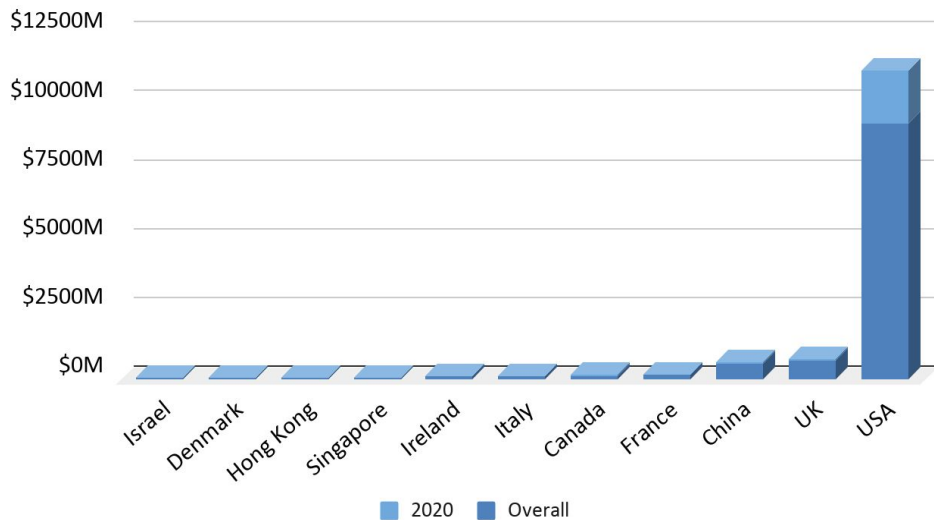
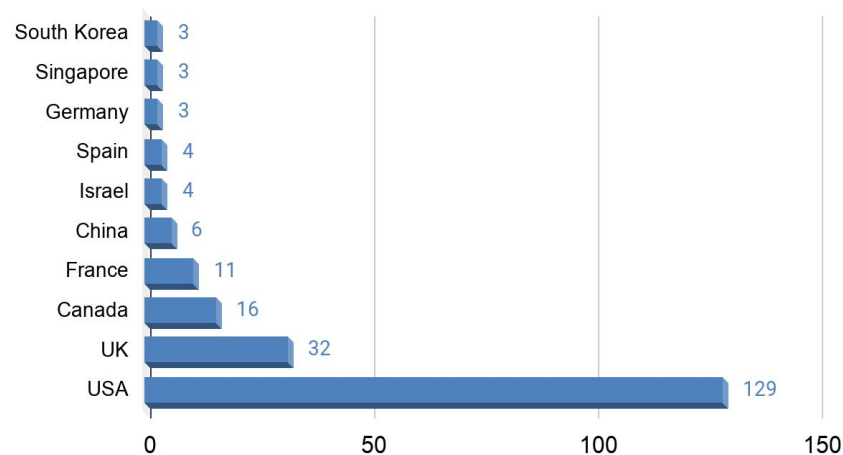# Top-10 AI Companies by Total Investments in 2020
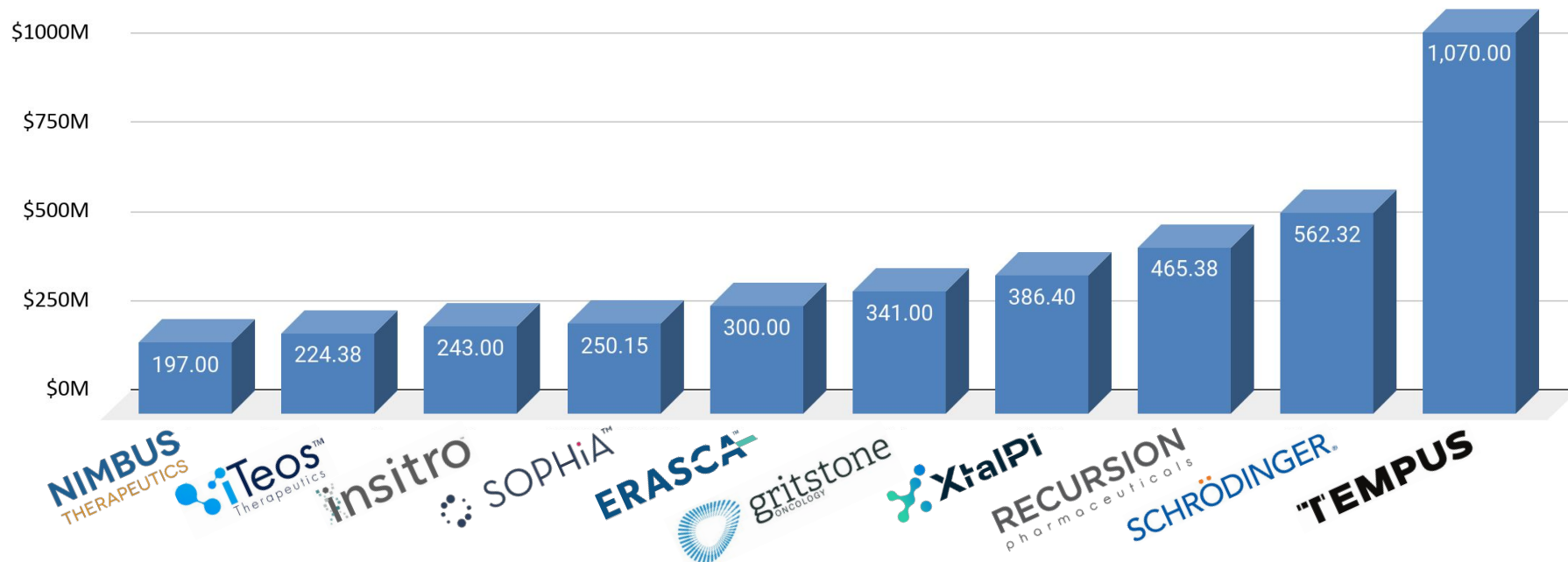
The chart shows the top 10 AI-driven drug discovery companies sorted by total funding raised by the end of 2020. Tempus, a leader in artificial intelligence and precision medicine, is now at the top of the list. With an additional $550M financing received in December 2020, the total funding raised by the company reached $1.07B. The investors included Baillie Gifford, Franklin Templeton, NEA, Novo Holdings, and funds and accounts managed by T. Rowe Price.

Top-10 Countries in AI for Drug Discovery Sector in 2020

By total investments

By number of companies

South Korea — 3
Singapore — 3
Germany — 3
Spain — 4
Israel — 4
China — 6
France — 11
Canada — 16
UK — 32
USA — 129

Legend: 2020, Overall

The chart at the right represents the distribution of funding received by companies located in 10 countries with largest investment in AI for Drug Discovery sector by 2020. The USA is an unconditional leader with a total amount of investments of $11B overall and $1.9B in 2020. This is approximately 14 times the amount received by the companies from the UK, which is the second-most invested region with total investments of $714.43M overall and $56M raised in 2020. This tendency is repeated in the chart at the left, which shows top 10 countries by the number of companies applying AI for drug discovery.

AI for Drug Discovery, Biomarker Development and Advanced R&D Landscape / 2020

AI Companies - 240
Investors - 600
Corporations - 90

Preclinical Development

Clinical Development

End-to-end Drug Development

Drug Repurposing

AI Companies
Investors
Corporations

Early And Preclinical Drug Development

Early drug development

Pharma
Tech
CRO

DEEP PHARMA INTELLIGENCE

AI for Drug Discovery, Biomarker Development and Advanced R&D Landscape / 2020

AI Companies - 240
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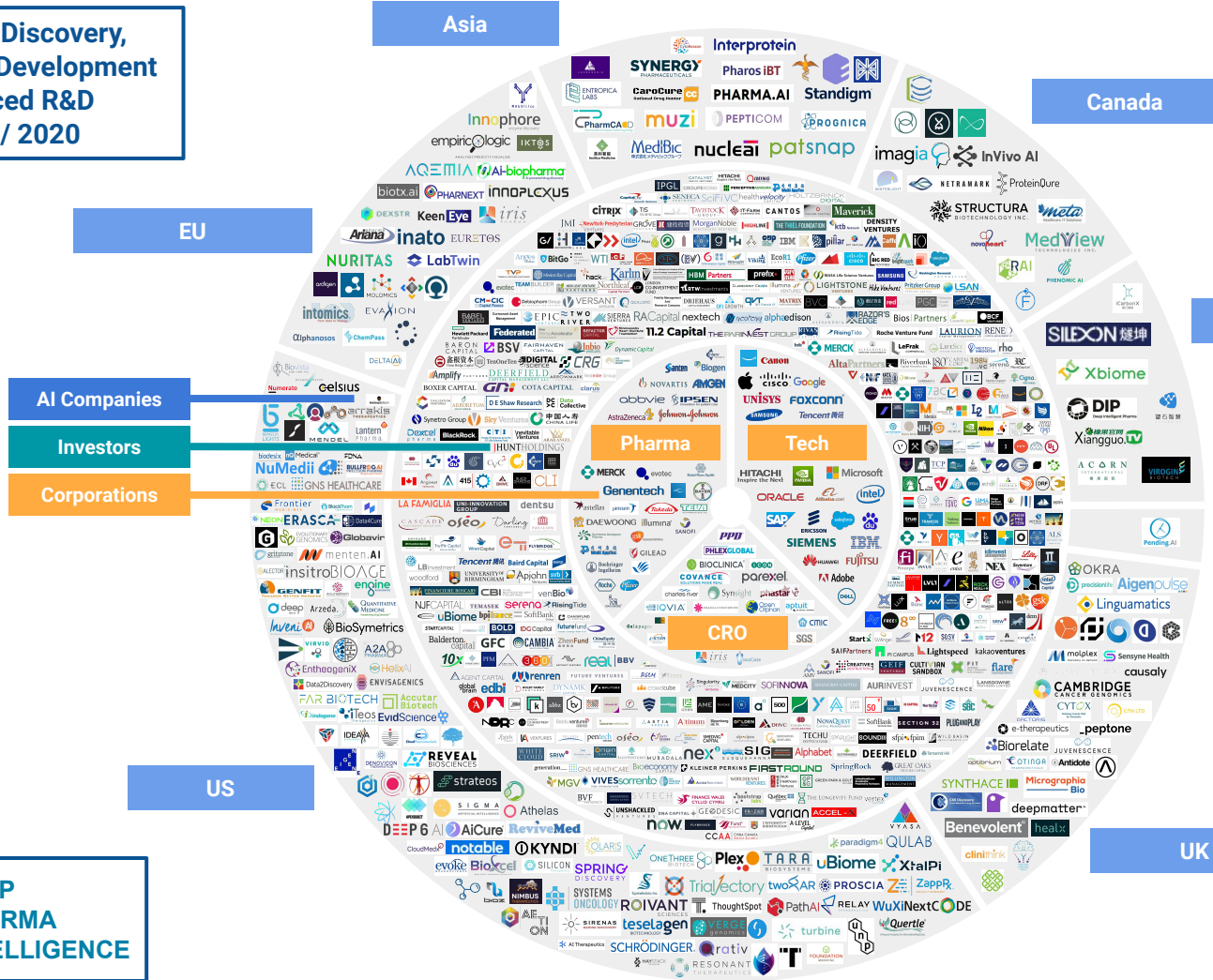
DEEP PHARMA INTELLIGENCE

240 AI Companies: Regional Proportion

Region	Proportion
Canada	6.7%
UK	14.2%
EU	13.4%
US	54.4%
China	2.5%
Asia	8.4%
Australia	0.4%
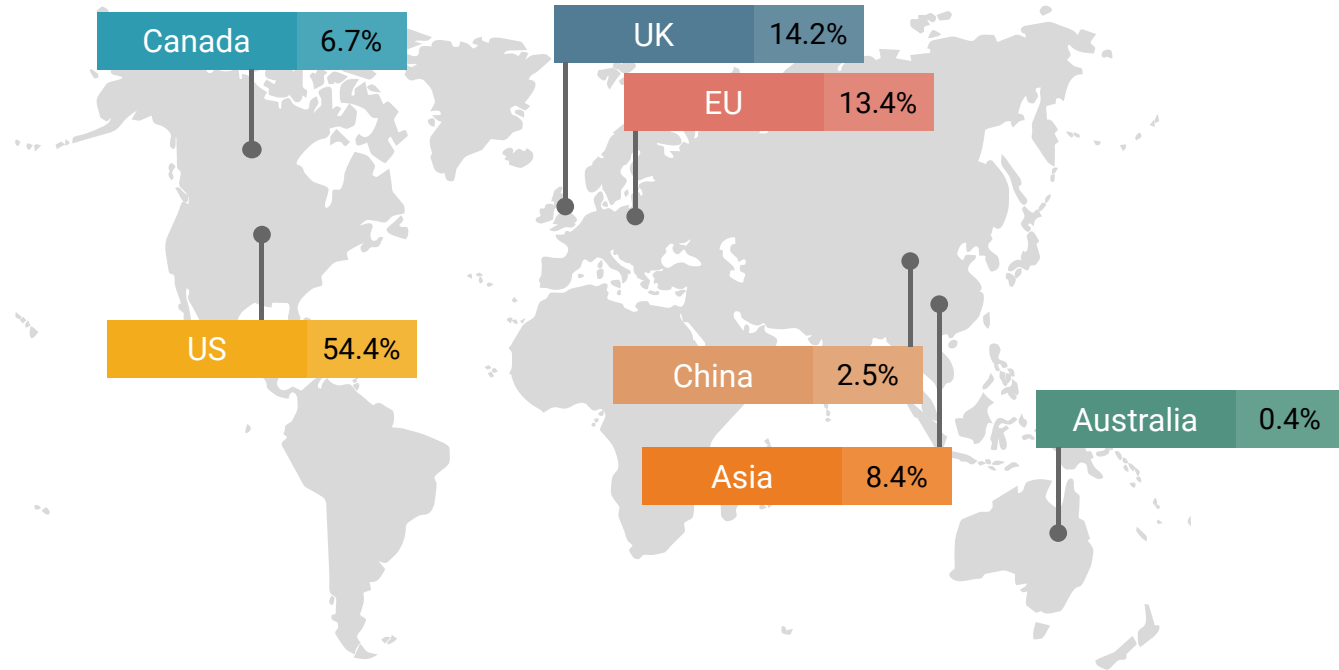
The US is still firmly in the lead in terms of its proportion of AI for Drug Discovery companies. Interestingly, Asia currently has the fifth-lowest proportion of AI for Drug Discovery companies. However, Asia-Pacific region has begun to aggressively increase its activity in the space in terms of investments into foreign companies (largely US-based companies), and we expect to see an increase in the number of AI for Drug Discovery Companies located in the Asia-Pacific region generally, and in China particularly.

600 Investors: Regional Proportion

Region	Proportion
Canada	2.53%
UK	8.75%
EU	13.5%
US	64.9%
Asia	8.92%
China	1.35%
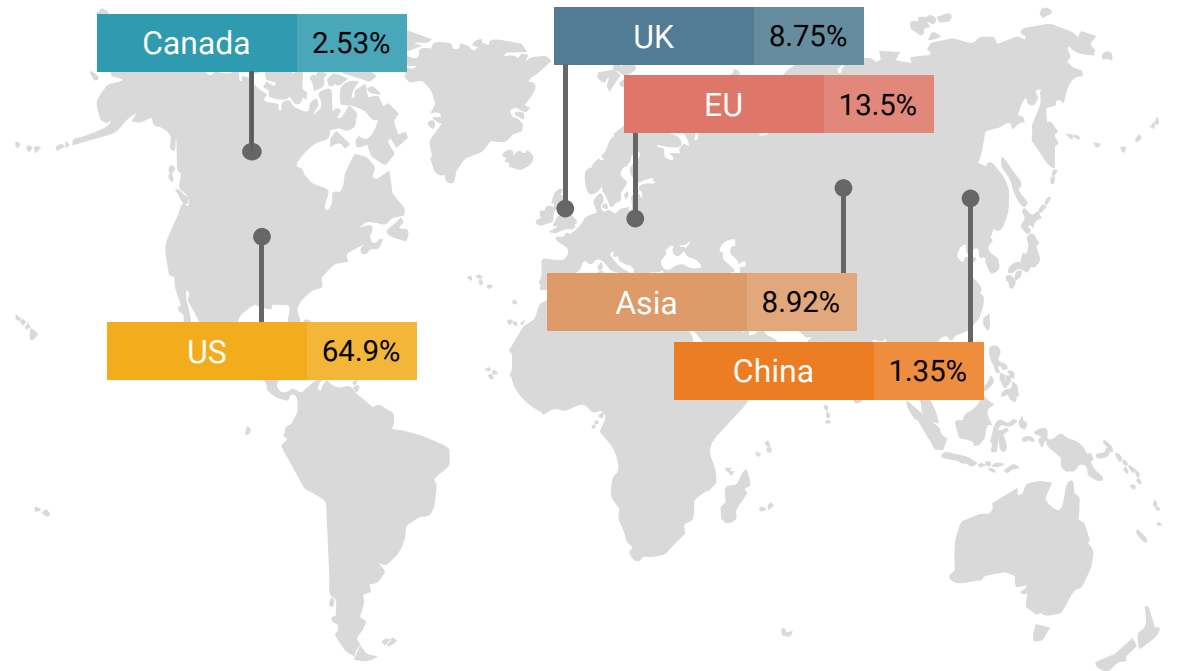
The United States continues to lead the rest of the world in terms of artificial intelligence for companies and funds that invest in Drug Discovery. This is reasonable, given that more than a half of the world's AI for Drug Discovery companies have their headquarters in USA. Comparing with previous periods of 2020, we can observe significant growth of the number of investors in the USA and EU. Thus, together with UK these regions are leaders by the number of investors in AI in Drug Discovery companies.

Top-50 AI for Drug Discovery Investors

Alexandria Real Estate Equities
Pasadena, California, US

Intel Capital
Santa Clara, California, US

Refactor Capital
Burlingame, California, US

Other

Sequoia Capital
Menlo Park, California, US

Andreessen Horowitz
Menlo Park, California, US

Felicis Ventures
Menlo Park, California, US

Khosla Ventures
Menlo Park, California, US

Menlo Park

California

Palo Alto

StartX
Palo Alto, California, US

AME CLoud Ventures
Palo Alto, California, US

Vertex Ventures
Palo Alto, California, US

Mountain View

Y Combinator
Mountain View, California, US

GV
Mountain View, California, US

8VC
San Francisco, California, US

Founders Fund
San Francisco, California, US

Foresite Capital
San Francisco, California, US

500 Startups
San Francisco, California, US

Alexandria Venture
San Francisco, California, US

Obvious Ventures
San Francisco, California, US

Data Collective DCVC
San Francisco, California, US

Mubadala Capital | Ventures US
San Francisco, California, US

San Francisco

United States

Illinois

OS Fund
Park Ridge, Illinois, US

ARCH Venture Partners
Chicago, Illinois, US

Perceptive Advisors
New York, New York, US

IA Ventures
New York, New York, US

Two Sigma Ventures
New York, New York, US

Casdin Capital
New York, New York, US

New York

Other States

Bill & Melinda Gates Foundation
Seattle, Washington, US

Lili Ventures
Indianapolis, Indiana, US

SOSV
Princeton, New Jersey, US

Celgene
Summit, New Jersey, US

National Institutes of Health
Bethesda, Maryland, US

Johnson & Johnson Innovation
New Brunswick, New Jersey, US

Canada

Inovia Capital
Montréal, Quebec, Canada

Creative Destruction Lab
Toronto, Ontario, Canada

Massachusetts

Atlas Venture
Cambridge, Massachusetts, US

General Catalyst
Cambridge, Massachusetts, US

SR One
Cambridge, Massachusetts, US

Third Rock Ventures
Boston, Massachusetts, US

F-Prime Capital
Cambridge, Massachusetts, US

RA Capital Management
Boston, Massachusetts, US

Belgium

EASME - EU Executive Agency for SMEs
Brussels, Brussels Hoofdstedelijk Gewest, Belgium

China

Tencent Holdings
Shenzhen, China

Beijing

ZhenFund
Beijing, China

Baidu Ventures
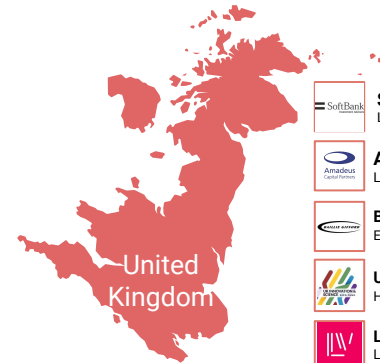Beijing, China

Shanghai

WuXi AppTec
Shanghai, China

Lilly Asia Ventures
Shanghai, China

Qiming Venture Partners
Shanghai, China

Switzerland

Nextech Invest
Zürich, Zurich, Switzerland

United Kingdom

SoftBank Vision Fund
London, England, United Kingdom

Amadeus Capital Partners
London, England, United Kingdom

Baillie Gifford
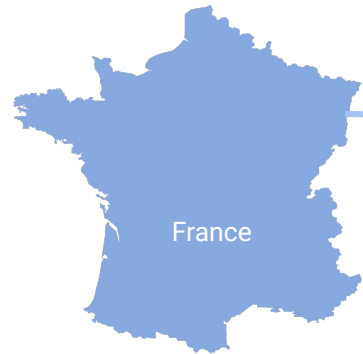Edinburgh, Edinburgh, United Kingdom

UK Innovation & Science Seed Fund
Harwell, Oxfordshire, United Kingdom

Luminous Ventures
London, England, United Kingdom

AI in Pharma Publicly Traded Companies

France

Loos

GenFit (GNFT)
Loos, Nord-Pas-de-Calais, France

Issy-les-moulineaux

Pharnext (ALPHA.PA)
Issy-les-moulineaux, Ile-de-France, France

London

Cotinga Pharmaceuticals (COTQF)
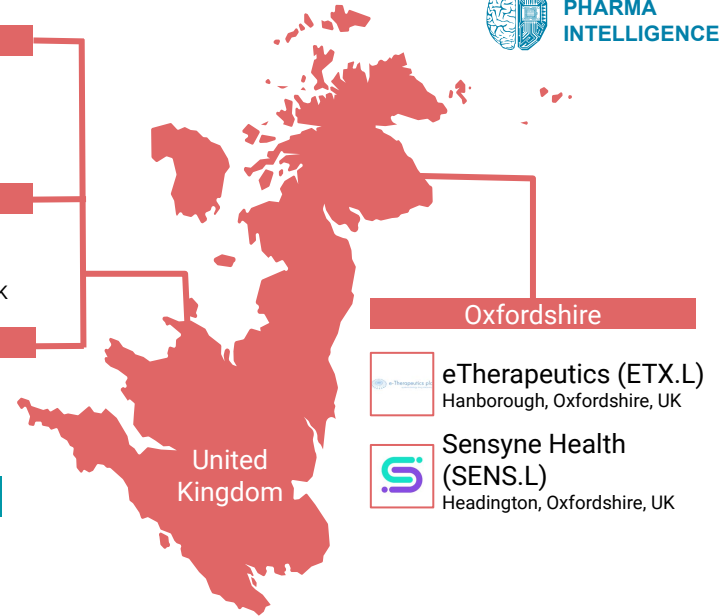London, England, UK

Manchester

C4X discovery (C4XD.L)
Manchester, Manchester, UK

Glasgow

DeepMatter Group (DMTR.L)
Glasgow, Glasgow City, UK

United Kingdom

Oxfordshire

eTherapeutics (ETX.L)
Hanborough, Oxfordshire, UK

Sensyne Health (SENS.L)
Headington, Oxfordshire, UK

United States

Massachusetts

Relay Therapeutics (RLAY)
Cambridge, Massachusetts, US

New York

Schrodinger (SDGR)
New York, New York, US

Colorado

Biodesix (BDSX)
Broomfield, Colorado, US

Texas

Lantern Pharma (LTRN)
Dallas, Texas, US

California

Berkeley Lights (BLI)
Emeryville, California, US

Gritstone Oncology (GRTS)
Emeryville, California, US

Hong-Kong

Regent Pacific Group
Hong-Kong

Acquired

Deep Longevity
Acquired by $4M

China

Top-10 AI-Driven Publicly Traded Pharma Companies by Market Capitalization in 2020
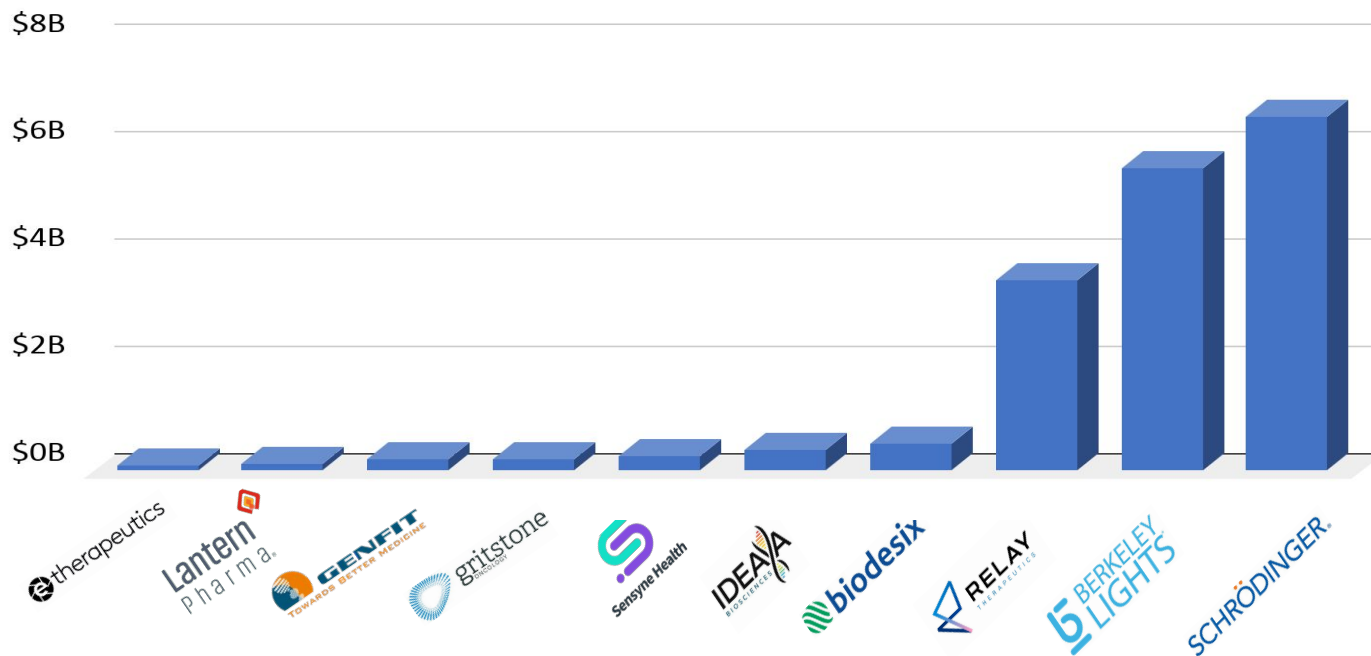
The chart presents the top-10 AI-driven drug discovery public companies sorted by market capitalization by the January of 2021. Schrodinger and Berkley Lights are the leaders of the ranking. These companies got the highest capitalization of all after the successful closing of the IPOs and fast growth of the stocks: 178% and 34%, respectively. Another leader of this graph, Relay Therapeutics, also announced the closing of the IPO in 2020 and raised $400M. But, after steady growth in November, Relay Therapeutics lost 13% of the capitalization before the end of the year.

Pharma AI Deals Structure 2020

Overview of Proprietary Analytics by Pharma Division of **Deep Pharma Analytics**

Deep Pharma Intelligence (DPI) is a strategic partner to the leading Life Science organizations, investment institutions (VC funds, investment banks), and governments across the globe -- in matters related to investments, strategic positioning, and policy development in the areas of pharmaceutical and biotech research, and healthcare tech.

While Deep Pharma Intelligence is regularly producing open industry reports covering high-growth sectors in the Life Sciences, including artificial intelligence (AI), digital health, and new therapies, some of the more in-depth research is only available to our clients and strategic partners under the "Proprietary Analytics" category.

Our range of proprietary services includes custom consulting projects, based on the specific customer needs, as well as a collection of pre-produced "ready-to-use" proprietary reports, produced by our research team, covering general trends and specific action ideas and strategy insights related to the most promising investment prospects (e.g. new technologies, biotech startups), M&A prospects (e.g. pipeline development targets), and strategic growth ideas (trends profiling, industry overviews etc).

Services:

- Investment landscape profiling, identifying investment ideas in the biotech/healthcare tech space.

- Preliminary due-diligence (business, science and technology, intellectual property (IP) profiling, freedom of operation assessment, legal assessment etc).

- Comprehensive due-diligence (deep business, science and technology assessment, IP and legal assessment, growth potential assessment etc).

- Infringement analysis of technology (i.g. If you plan to partner or invest in a data-analytics biotechs, or AI-development vendors, it is essential to understand their technological assets, both in terms of innovation potential and in terms of legal protection and non-infringement risk management).

- SWOT analysis of companies and technological sectors, competitive profiling.

- Industry profiling and growth strategy development for top-tier companies and governments.

Overview of Proprietary Analytics by Pharma Division of **Deep Pharma Analytics**

Proprietary Reports

There are a few 40+ page reports delivering practical answers to these specific questions in order to optimize the short and long-term strategies of biopharma corporations and other institutions related to the industry, with a newly updated edition being released each quarter, incrementally increasing the precision, practicality and actionability of its technological and financial analysis.

Our reports are supported by our rapidly developing data mining engine, data visualization platform and analytics dashboards.

The value our reports can deliver:

- Deep analysis of the deal-making prospects in the biotech and healthcare tech space, identification of top mini-trends and larger tendencies in innovations and technology adoption (e.g. AI, blockchain, eHealth tech, longevity biomarkers, new therapeutics and therapies etc.);

- Tangible forecasts on the 3-5 years horizon, providing an overview of future scenarios of the development of various technologies in the pharma industry;

- Practical guides for adopting various technological solutions and best practises, vendor profiling and contract research strategy building;

- Analysis of key market players in the emerging and high-growth areas of the pharmaceutical and biotech industries.

The parties who gain early access to these reports will have deep expertise on how their strategic agendas can be optimized in order to leverage novel research, new technologies, and emerging market opportunities, and stay competitive in a rapidly-changing technological environment, and taking into account shifting global priorities and trends.

Deep Pharma Intelligence:
Upcoming Projects and Analytical Tools
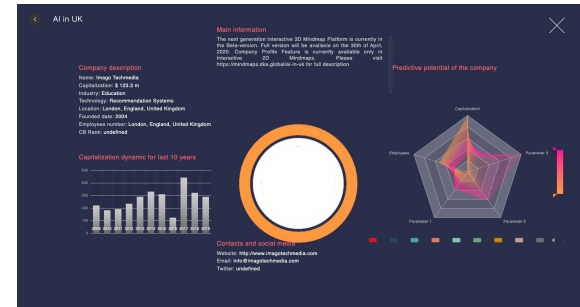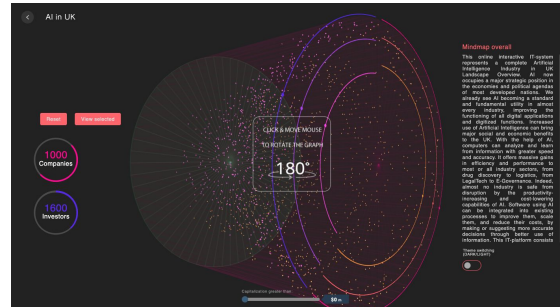
3D Visualisation Prototypes
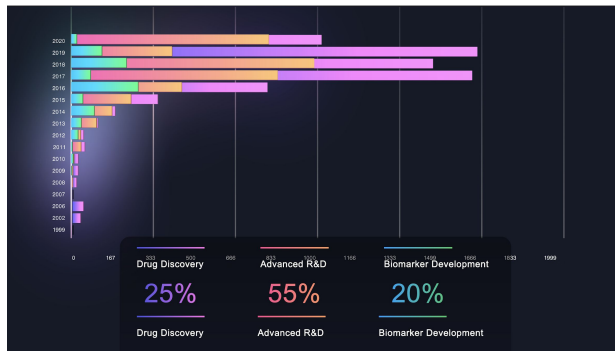
Deep Pharma Intelligence Big Data Analytics Dashboard

Deep Pharma Intelligence:
Upcoming Projects and Analytical Tools
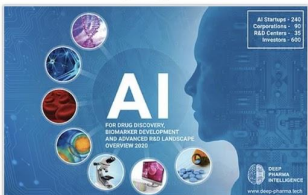
Deep Pharma Intelligence Big Data Analytics Dashboard

Multiparametric Assessment Analysis (Using Big Data Analytics Platform)

Deep Pharma Intelligence offers state-of-the-art interactive online AI-based **SWOT analysis system** covering 240 companies in the industry.

The product allows to conduct initial data-driven due diligence of the companies **instantly, automatically, and holistically** by comparing multiple parameters for each company combined in the 12 vectors of business development. The results of the analysis are represented in easily perceived form of 2-dimensional and 3-dimensional radar charts.
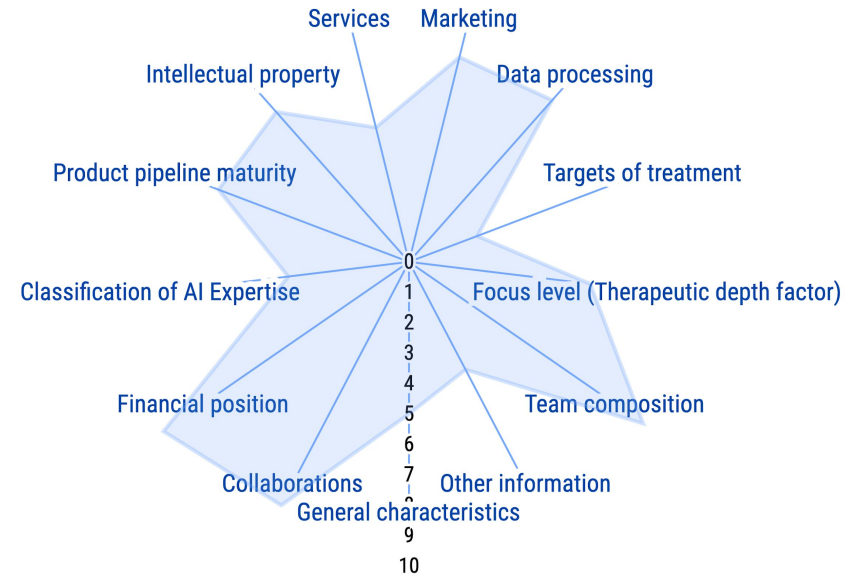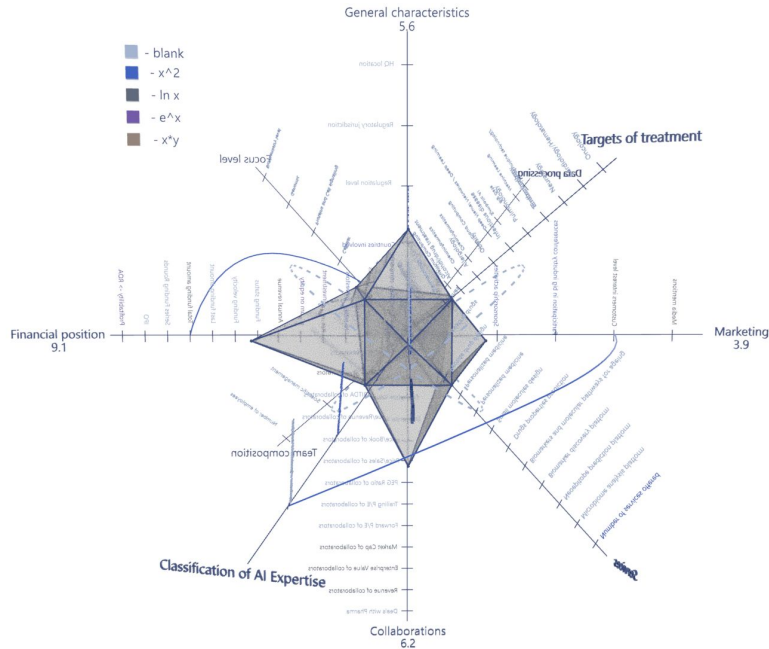
Deep Pharma Intelligence: Platform Features

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Link to Full Report:
http://analytics.dkv.global/deep-pharma/AI-for-Drug-Discovery-2020.pdf

E-mail: info@deep-pharma.tech | **Website: deep-pharma.tech**