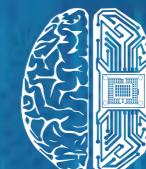
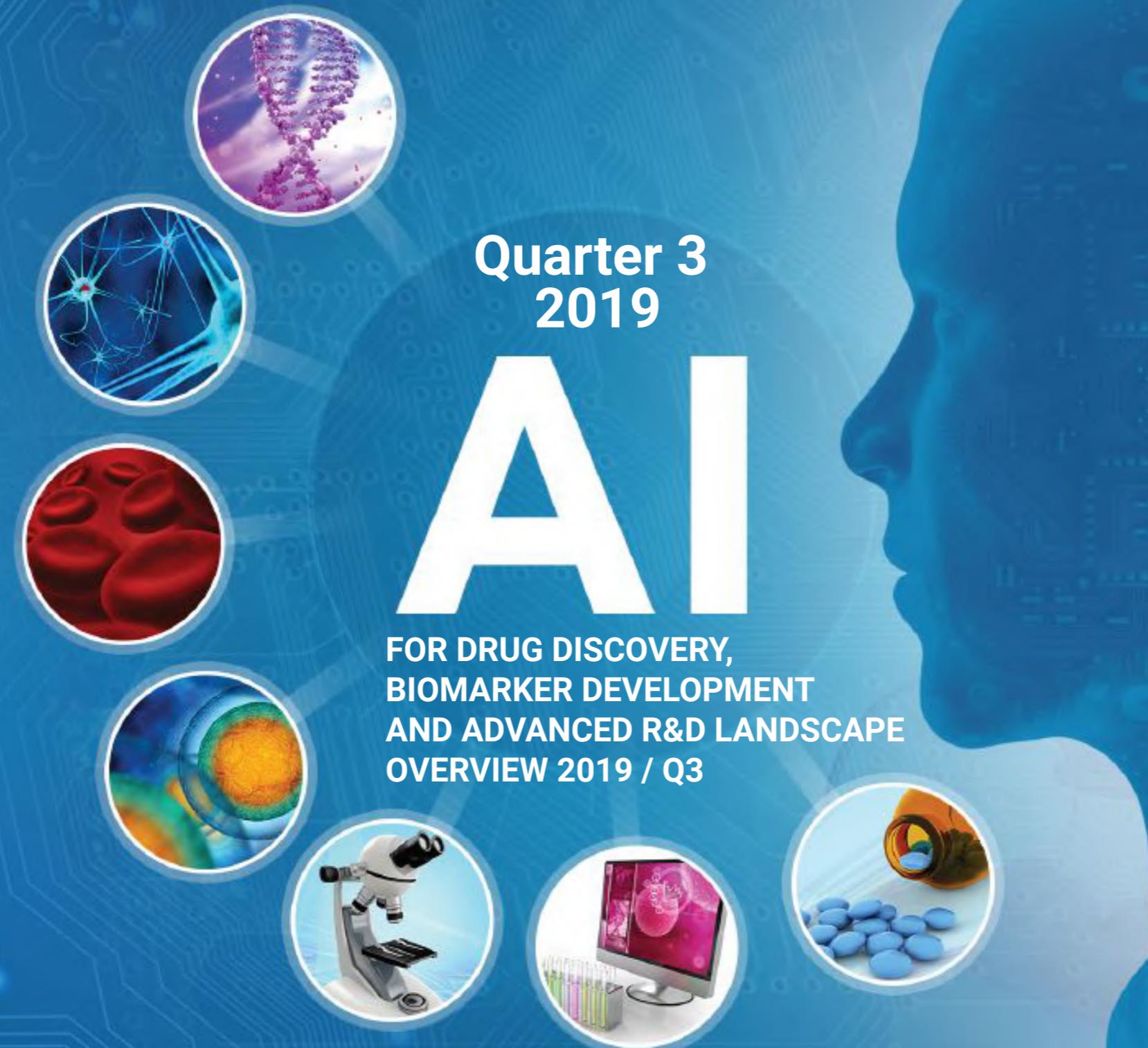


Companies - 200
Corporations - 70
R&D Centers - 35
Investors - 460

**Quarter 3
2019**

AI

**FOR DRUG DISCOVERY,
BIOMARKER DEVELOPMENT
AND ADVANCED R&D LANDSCAPE
OVERVIEW 2019 / Q3**



**DEEP
KNOWLEDGE
ANALYTICS
“PHARMA DIVISION”**

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AI for Drug Discovery, Biomarker Development and Advanced R&D Landscape / 2019 Q3

AI Companies - 200
Investors - 460
Corporations - 70



AI for Drug Discovery, Biomarker Development and Advanced R&D Landscape / 2019 Q3

USA

AI Companies - 200
Investors - 460
Corporations - 70

Regional Position

Investors

AI Companies

Corporations

UK

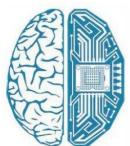
EU

Asia

China

Other Regions

Canada



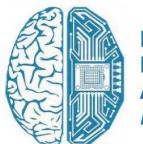
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Diversification of AI for R&D and Drug Discovery Process 2019 Q3

AI Companies - 200

Companies



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Executive Summary

This 145-page “AI for Drug Discovery, Biomarker Development and Advanced R&D Landscape Overview 2019 / Q3” report marks the **eighth installment** in a series of reports on the topic of the Artificial Intelligence using in Drug Discovery industry, that Deep Knowledge Analytics have been producing since 2017.

These reports are released regularly on quarterly basis. The main aim of their creation is to provide a wide, comprehensive overview of the industry landscape. This overview highlights trends and correlations in a form of informative mind maps and infographics as well as benchmarks the performance of key players, that form 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 waiting for it in the nearest future.

The present edition consists of an updated overview of the industry state in Q3 of 2019, tuned to the latter half of 2019 and including extended coverage of major events in Q3 of 2019. It revisits the major insights, data analytics and forecasts of our previous report, analyzing existing trends and conclusions that are still on track, which ones have changed their course, and which ones have been usurped by entirely new realities of our changing world.

The report is structured into the following sections:

1. [Infographic Summary](#) - provides a set of mind maps and diagrams visualizing key trends and analytics.
2. [Executive Summary](#) - presents a bird's view of the report, key observations and conclusions.
3. [AI for Drug Discovery Landscape Overview](#) aggregates, lists and categorizes 200 AI-companies, 460 investors, 25 biopharma corporations, 25 IT & Tech corporations, 35 industry-specific conferences and 35 R&D centers covering the AI for Drug Discovery topic.
4. [Industry Developments - Q3 2019](#) outlines an overview of major industry developments in Q3 of 2019, including some of the key initiatives, investment deals and M&A activity.
5. [Declining R&D Efficiency of Biopharma Corporations](#)
6. [AI Friendly CEOs and Board Members of Pharma and Tech Corporations](#)
7. [Pharma AI Deals](#)
8. [Top-35 AI for Drug Discovery Conferences 2019-2020](#)
9. [Appendices](#)

[Overview of Proprietary Analytics by Pharma Division of Deep Knowledge Analytics](#)

[Overview of the “Comparative Industry Analysis and Classification Framework” and “Comparison of 25 Leading AI Companies” reports.](#)

Executive Summary: Key Trends

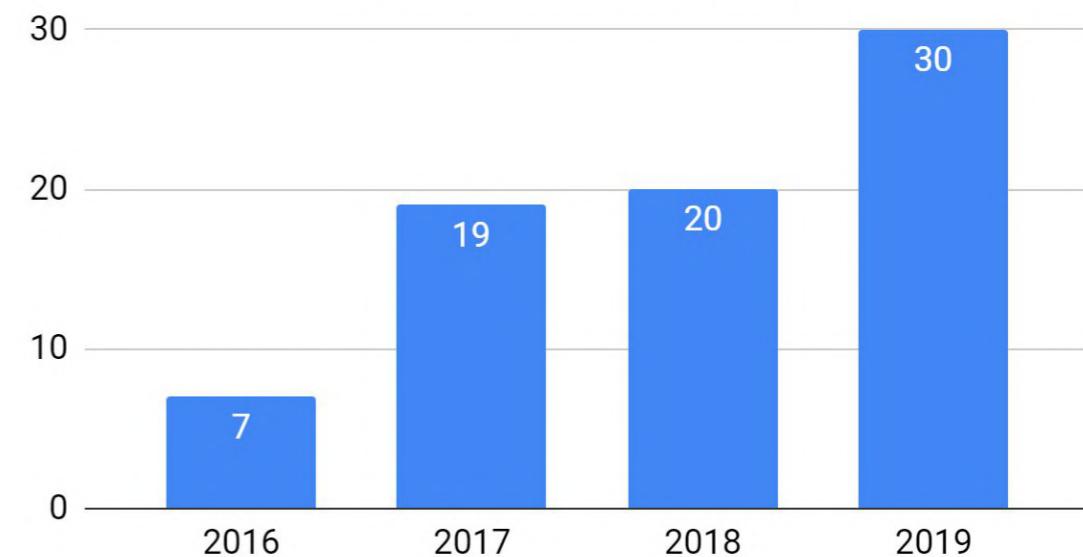
Expanding upon the key observations in our previous reports with new knowledge and analytics of Q2 2019, we can now better distinguish main trends within the industry in Q3 that will be shaping the market of AI in Drug Discovery in 2019 and beyond.

Following a long lasting period of skepsis in 2018 and previous years **the industry continues the “heating up” trend** observed in Q2 also in Q3. This trend mainly consists of substantial increase in the volume of investments, financial support and the number of joint ventures in Q3 of 2019. The industry's growth dynamics is mainly influenced by the more active participation of largest pharmaceutical corporations in the AI-related investment and research collaborations. The number of research collaborations between pharma companies and AI-expertise vendors continues to increase rapidly.

Despite the fact that **IT and Tech corporations are still becoming stronger competitors to Pharma Corporations in the AI race**, they more readily agree to make co-operations and other forms of partnership in order to leverage their computational infrastructures and high-tech opportunities with enormous experience of BioPharmaceutical companies, their gigantic collections of various data and novel approaches. AI here helps to discover new drugs, molecules, repurpose already existing drugs, find new targets that influence the illness ongoing etc. Most interest of such AI Companies lies in shortening of time needed to get income from newly discovered drug, ability to co-own important scientific discoveries and intellectual property obtained from the partnership and ability to continue developing of new algorithms that will help theses companies to leave their mark on medical history.

As 2019 marks a challenge in the ability to innovate, transform and adopt AI at scale faster, the so-called “Big Gap” continues narrowing due to rapidly increasing attention and activity of pharmaceutical companies with regards to AI prospects. Even tech giants like Google and Tencent are willing to expand their super-platforms to the area of pharmaceutical research. Having much bigger expertise of building and integrating super-platforms, currently they are conducting significant M&As and gaining some expertise in the area of the drug discovery, which would enable in the nearest future their expansion in this area. At the same time, the number of the deals between BioPharma corporations and AI companies aiming at the application of AI in drug discovery increased comparing with the same period in 2018.

Increasing of number of partnerships between Pharma and AI Companies over the last 4 years



Executive Summary: Key Trends

Global shortage of AI talent continues to be a serious challenge for Biopharma industry, repeating the trend from our previous reports. However it should be noted that there is an increase in number of training courses and overall representing of AI-related directions in education programmes worldwide. Big pharmaceutical companies invest huge amounts of money in preparing of such specialists. But still the majority of talented AI professionals have been acquired by traditional IT-corporations and have been applied for purposes other than AI in healthcare. Therefore a lack of experienced specialists to support the activities of AI for Drug Discovery companies in particular is still a matter of today's reality. Consequently large pharmaceutical companies continuously increase competing for the talented AI specialists as a valuable resource. Even specialized AI-driven drug discovery companies cannot fulfill gaps of AI talents as only 15.6% of their stuff being AI-experts.

Technologies, based on Deep learning (DL) algorithms will hold their leading position in the pharmaceutical AI race. Generative Adversarial Networks (GANs) and their variants are being increasingly regarded as a "golden standard" of innovation in the pharmaceutical AI space.

Lack of available quality data is still a challenge for Investigations in AI and cooperating between AI and non-AI companies. The significant bottleneck in the AI applications for drug discovery purposes is the need to have correctly prepared, systematized and properly linked data that is ready to processing or is at least easy to manipulate with. Such types of data are quite scarce for the life sciences industry. A lot of research data in drug discovery is poorly validated and provided under a strict code of secrecy due to the high level of competition between drug makers. This is an issue unless there exists a well trained AI that is able to operate with unsorted collected information. This means that as AI technologies evolve the weight of problems with unsorted information will decrease.

Valuation of the industry is thought to show substantial growth, that, however, can be delayed in time. This appears to be a result of the general growth in the number of active business players, rather than an increase in the new products' value.. No AI-derived drug has been approved by the FDA or validated in clinical trials so far. Despite this fact first milestones are expected to be reached by the end of 2020. On the other hand, the anticipated global financial crisis may hinder the industry's growth dynamics, delay the AI adoption at scale, as well as the emergence of the first AI-derived blockbuster drugs.

AI-friendly decision makers in pharmaceutical companies will become a great advantage in the competition for faster and cheaper development of new drugs. According to a [recently conducted research](#), US, Japan and Germany are the countries with the biggest concentration of AI-friendly decision makers. About 46% of them work in pharmaceutical industry, while only 3% are dealing with both AI and Pharma. In such more efficient application of AI technologies are expected to be observed and it will bring faster and more noticeable results.

Executive Summary: Business Activity

The business activity has been increasing in the pharmaceutical AI space over Q3 2019, judging by an increased number of transactions and partnership announcements in this period.

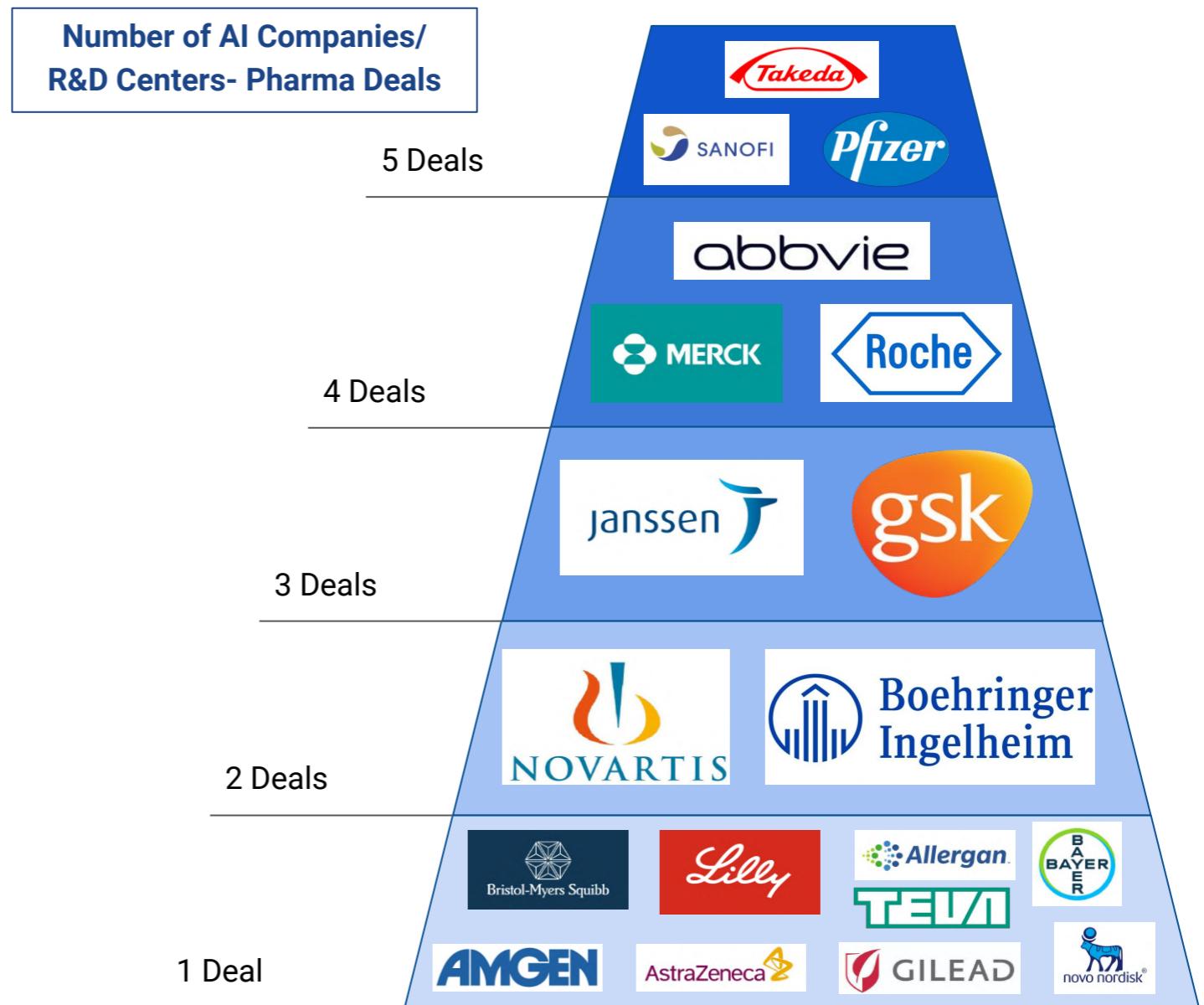
The most significant deals and collaborations having happened in Q3 of 2019 are the following:

- **Sensyne Health - Bayer**: Sensyne Health signed collaboration agreement with Bayer to accelerate the development of new treatments for Cardiovascular Disease using clinical AI;
- **Celsius Therapeutics - Janssen**: Celsius Therapeutics started collaboration with Janssen to identify response biomarkers for Ulcerative Colitis by applying Single-Cell Genomics and Machine Learning Platform at unprecedented scale in large Phase 2 Clinical Study;
- **Novo Nordisk - e-Therapeutics**: Novo Nordisk extended a collaboration with e-Therapeutics to deploy its AI-based drug discovery technology to find new biological targets and therapies for type 2 diabetes;
- **BenevolentAI - Neuropore Therapies**: Neuropore Therapies and BenevolentAI entered strategic collaboration to discover novel therapeutics through the application of AI;
- **Schrödinger - AstraZeneca**: Schrödinger announced a collaboration with AstraZeneca to deploy Schrödinger's advanced computing platform to help accelerate drug discovery efforts by improving the design of compounds to identify potential new therapeutic candidates;
- **BenevolentAI - Novartis**: BenevolentAI announced that it has signed a framework collaboration agreement with Novartis to leverage BenevolentAI's technology platform to interrogate clinical trial and experimental data;
- **Novartis - Microsoft**: Novartis and Microsoft signed 5-year partnership that aims to provide an AI solution to use the masses of data generated from laboratory experiments, clinical trials, and manufacturing plants managed by Novartis;
- **BenevolentAI - Temasek**: BenevolentAI announced \$90 million investment from Temasek. The funding will be used to scale and further develop the Benevolent Platform for drug discovery.

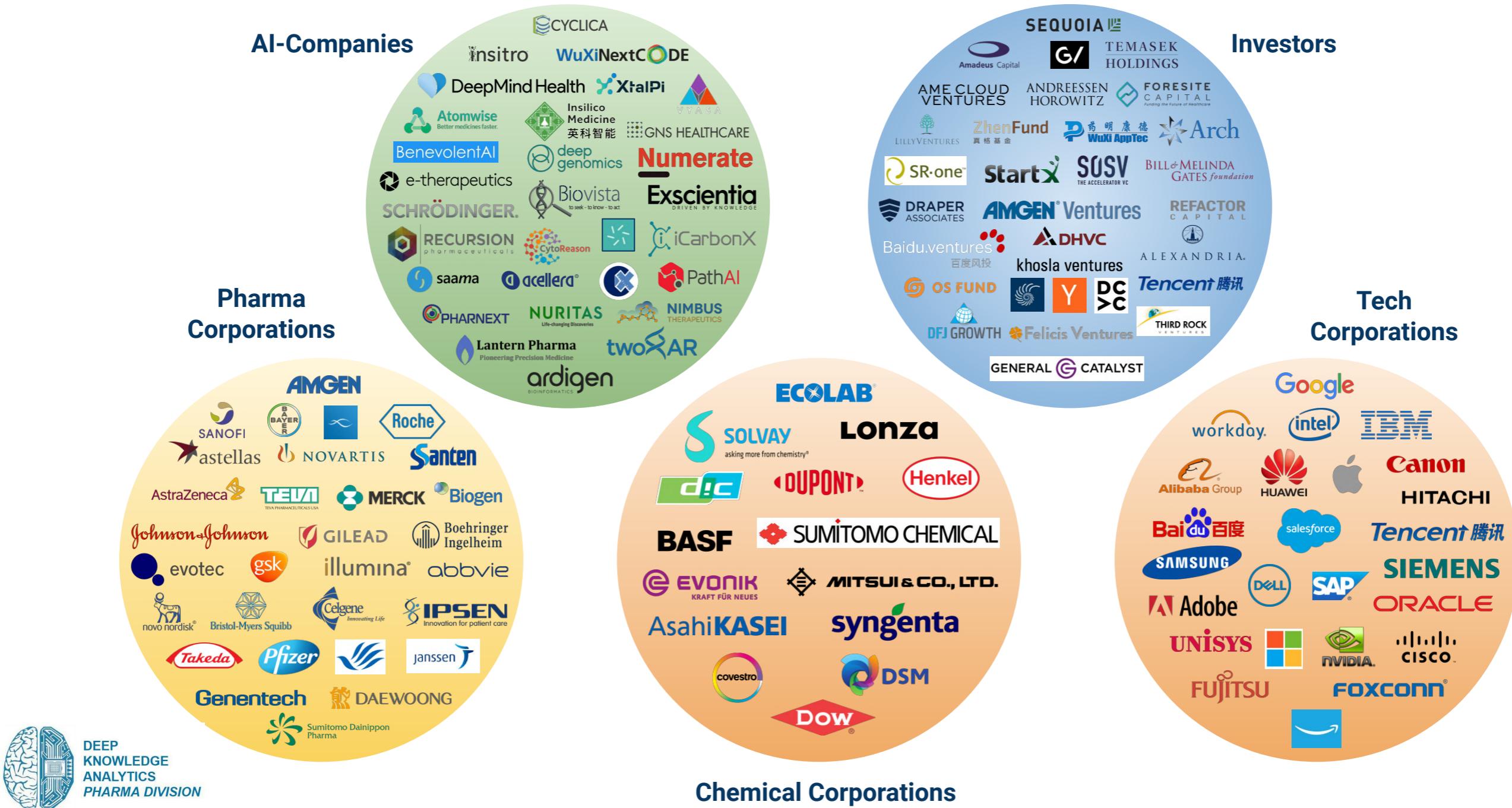
The kind of partnerships like these provide a huge effect on Pharma industry development and needed in case if company pretend to be leader in this competition. As big Pharma and Tech corporations want to leverage AI and machine learning in their line of business to transform the way medicines are discovered and developed, such deals will confirm their commitment towards the application of AI.

Cooperation Between Different AI-Related Pharma Fields

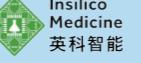
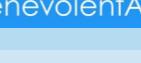
Till the second half of 2019 number of international AI companies has increased to almost 200 worldwide. The same rapid growth trend can be observed among influencers, investors, R&D centers, outsourcing groups and private researchers who work on AI using in Pharmaceutics. The most popular investigations' directions of AI drug discovery startups are first screening, leading molecule identification, preclinical testing, drug candidate selection, target identification, target validation. Biopharma related companies constantly try to apply developed AI algorithms to multiple drug research and discovery areas at once. Main focus of AI research for today is concentrated on small molecules' libraries.



Leading Companies - Advanced AI in Healthcare and Drug Discovery 2019 / Q3



Pharma AI Deals Structure 2019 / 30 Pharma Corporations

AI Companies					Pharma Corporations		Pharma Corporations		AI Companies				
	BenevolentAI			Tencent 腾讯									
	Insilico Medicine 英科智能		Exscientia DRIVEN BY KNOWLEDGE										
	Atomwise Better medicines faster.		CYCLICA										
	IKTOS Artificial Intelligence for new drug design												
													
													
													
													
													
													
													

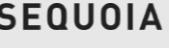
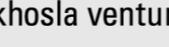
Tech AI Deals Structure 2019

AI Companies	Tech Corporations	Tech Corporations	AI Companies
 Atomwise Better medicines faster.		 Tencent 腾讯	
			
			
 Atomwise Better medicines faster.	 Baidu 百度		
			
			
 Insilico Medicine 英科智能			
			
			
			
			
			
			

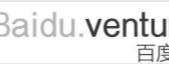
Chemical AI Deals Structure 2019

AI Companies	Chemical Corporations	Chemical Corporations	AI Companies
 NURITAS Life-changing Discoveries			
			
			
			
			
			
			
			

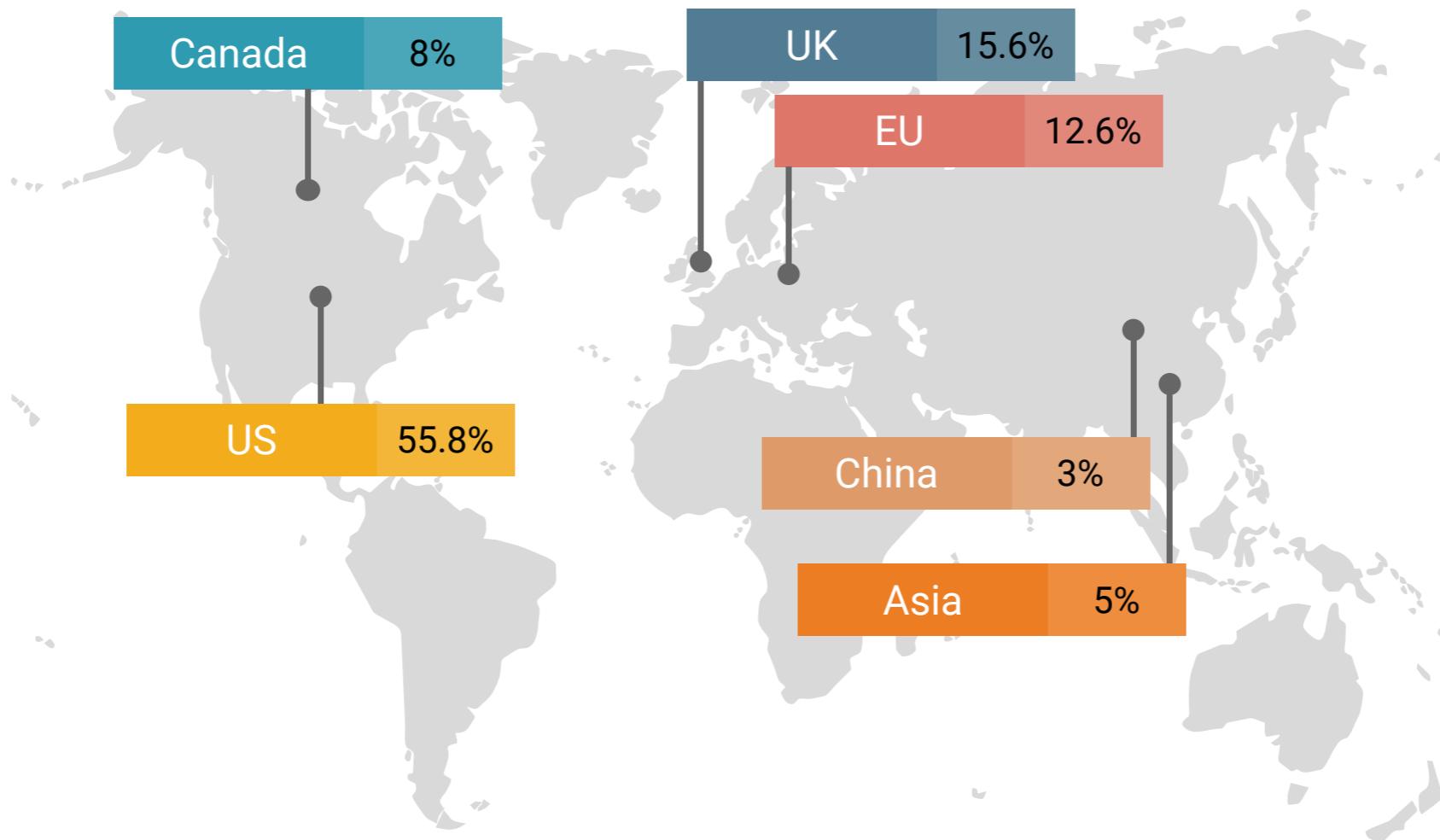
Top-30 Investors in AI Companies

Top AI Companies		←	Investments overall	INVESTORS		Investments overall	→	Top AI Companies	
	 Atomwise	9	 Y combinator	 SEQUOIA Sequoia Capital	9	 XtalPi	 WuXiNextCODE		
 NIMBUS THERAPEUTICS	 Numerate	9	 ATLAS VENTURE Atlas Venture	 OS Fund	8	 Atomwise	 twoAR		
SCHRÖDINGER.	 Insitro	8	 GV	 Data Collective DCVC	8	 Atomwise	 RECURSION pharmaceuticals		
 Atomwise	 RECURSION pharmaceuticals	8	 AME AME Cloud Ventures	 SOSV THE ACCELERATOR VC SOSV	8				
	 XtalPi	7	 ZhenFund 真格基金 Zend Fund	 Bill & Melinda Gates foundation Bill & Melinda Gates Foundation	7	 RECURSION pharmaceuticals	 SCHRÖDINGER.	 NIMBUS THERAPEUTICS	
		6	 Amadeus Capital Partners Amadeus Capital Partners	 khosla ventures Khosla Ventures	6	 deep genomics	 Atomwise		
SCHRÖDINGER.	 Insilico Medicine 英科智能	6	 WuXi AppTec WuXi AppTec	 ANDREESSEN HOROWITZ Andreessen Horowitz	6	 Insitro	 twoAR		
	 NIMBUS THERAPEUTICS	6	 SR-one™ SR One	 StartX	6	 twoAR			

Top-30 Investors in AI Companies

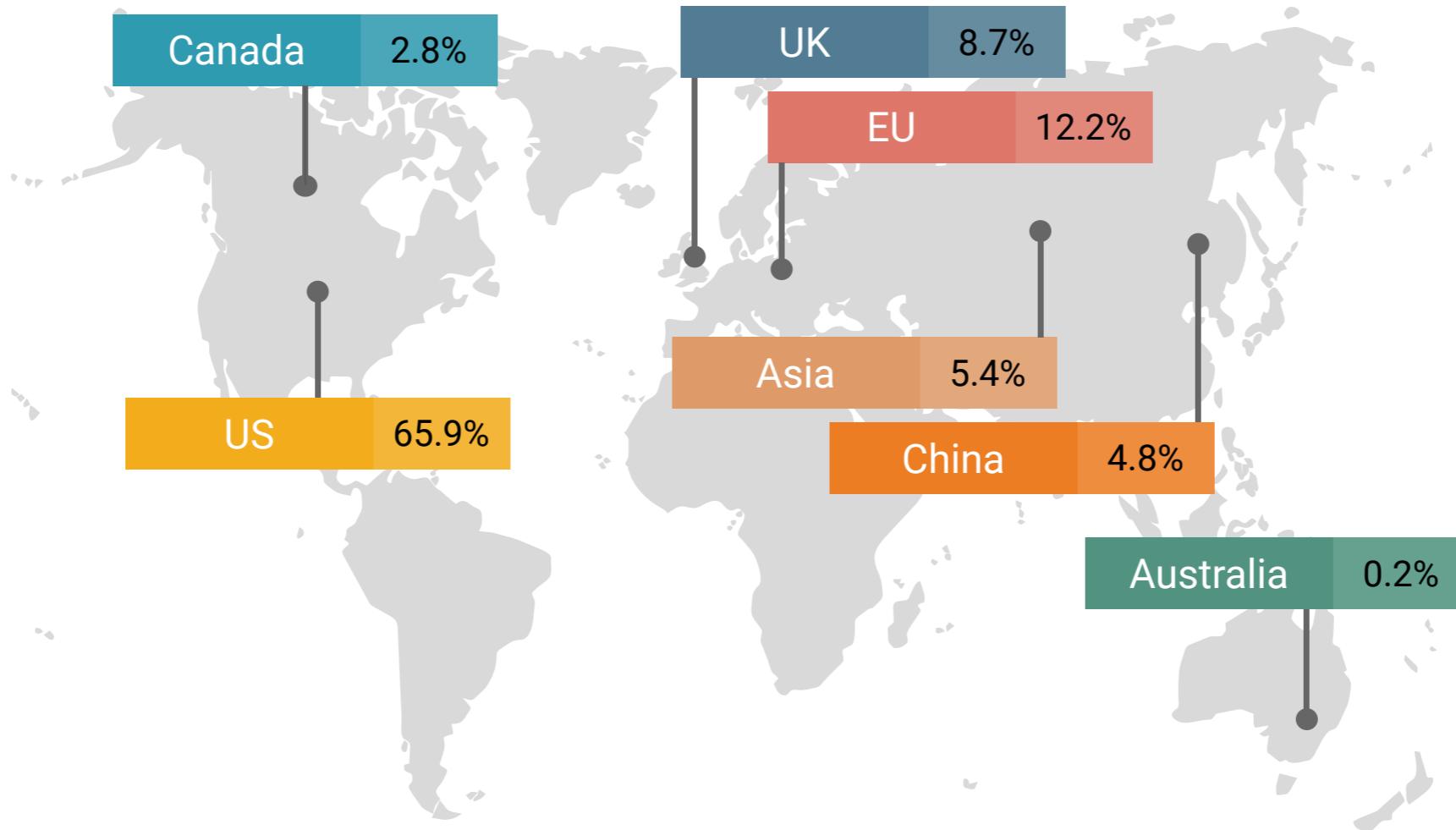
Top AI Companies		← Investments overall →	INVESTORS			← Investments overall →	Top AI Companies	
	 RECURSION pharmaceuticals	4	 Felicis Ventures	 DRAPER ASSOCIATES Draper Associates	4	 Atomwise		
	 PathAI	4	 General Catalyst	 AMGEN® Ventures Amgen Ventures	4	 GNS HEALTHCARE	 WuXiNextCODE	
	 PathAI	4	 REFACTOR CAPITAL Refactor Capital	 ALEXANDRIA Alexandria Real Estate Equities	4	 GNS HEALTHCARE		
Numerate	 NIMBUS THERAPEUTICS	4	 LILLYVENTURES Lilly Ventures	 Tencent 腾讯 Tencent Holdings	4	 Atomwise	 XtalPi	 iCarbonX
 WuXiNextCODE	 Insitro	3	 ARCH VENTURE PARTNERS ARCH Venture Partners	 TEMASEK HOLDINGS Temasek Holdings	4	 WuXiNextCODE		
	 Atomwise	3	 DFJ GROWTH DFJ Growth	 DHVC DHVC	3	 PathAI		
	 Insitro	3	 THIRD ROCK VENTURES Third Rock Ventures	 Baidu.ventures 百度风投 Baidu Ventures	2	 Atomwise		

200 AI Companies: Regional Proportion



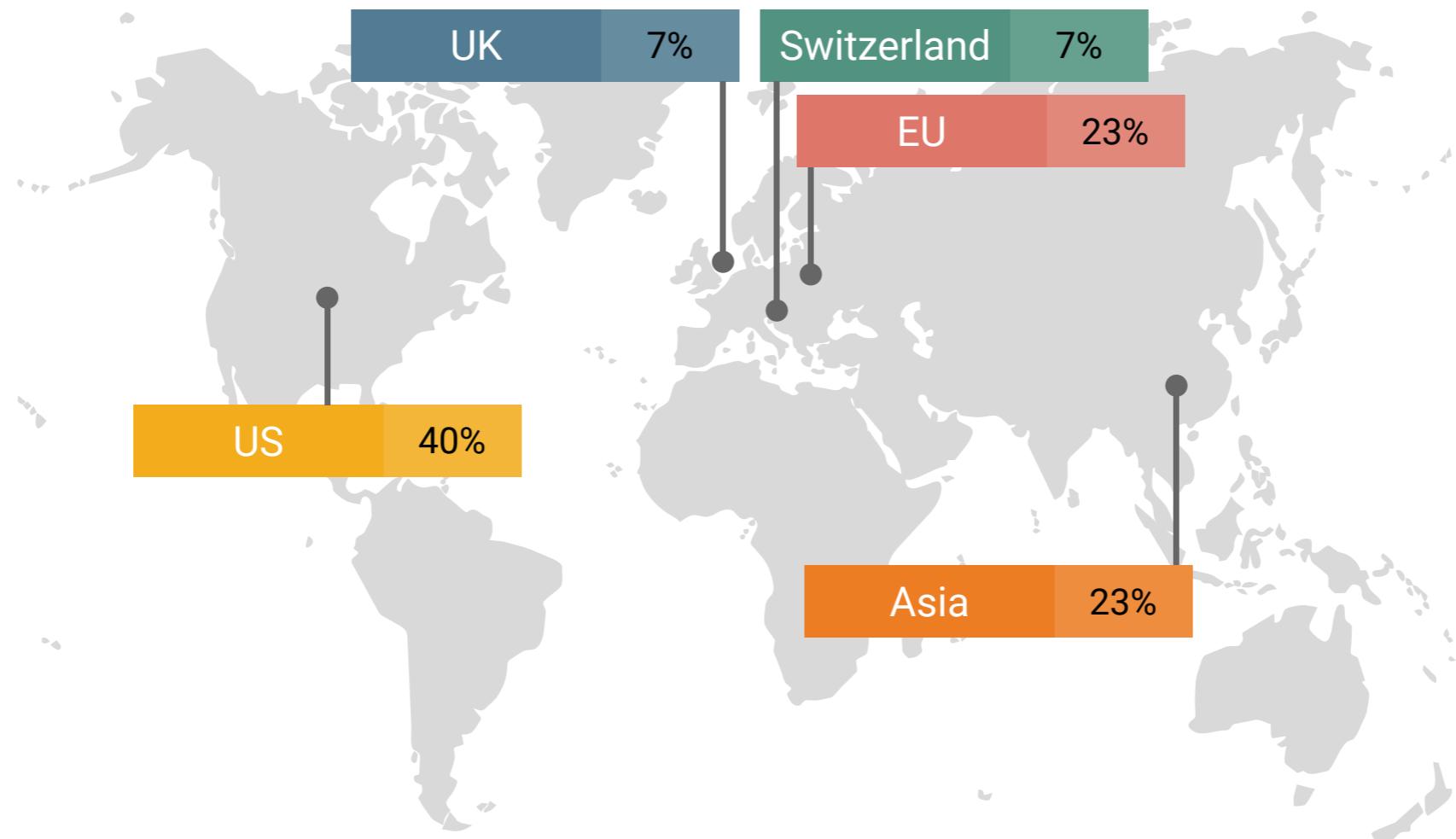
The US is still firmly in the lead in terms of its proportion of AI for Drug Discovery companies. Interestingly, Asia currently has the fifth-lowest proportion of AI for Drug Discovery companies. However, Asia-Pacific region has begun to aggressively increase its activity in the space in terms of investments 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. Comparing to the Q1 distribution, we can observe the significant increase in the number of the US companies.

460 Investors: Regional Proportion



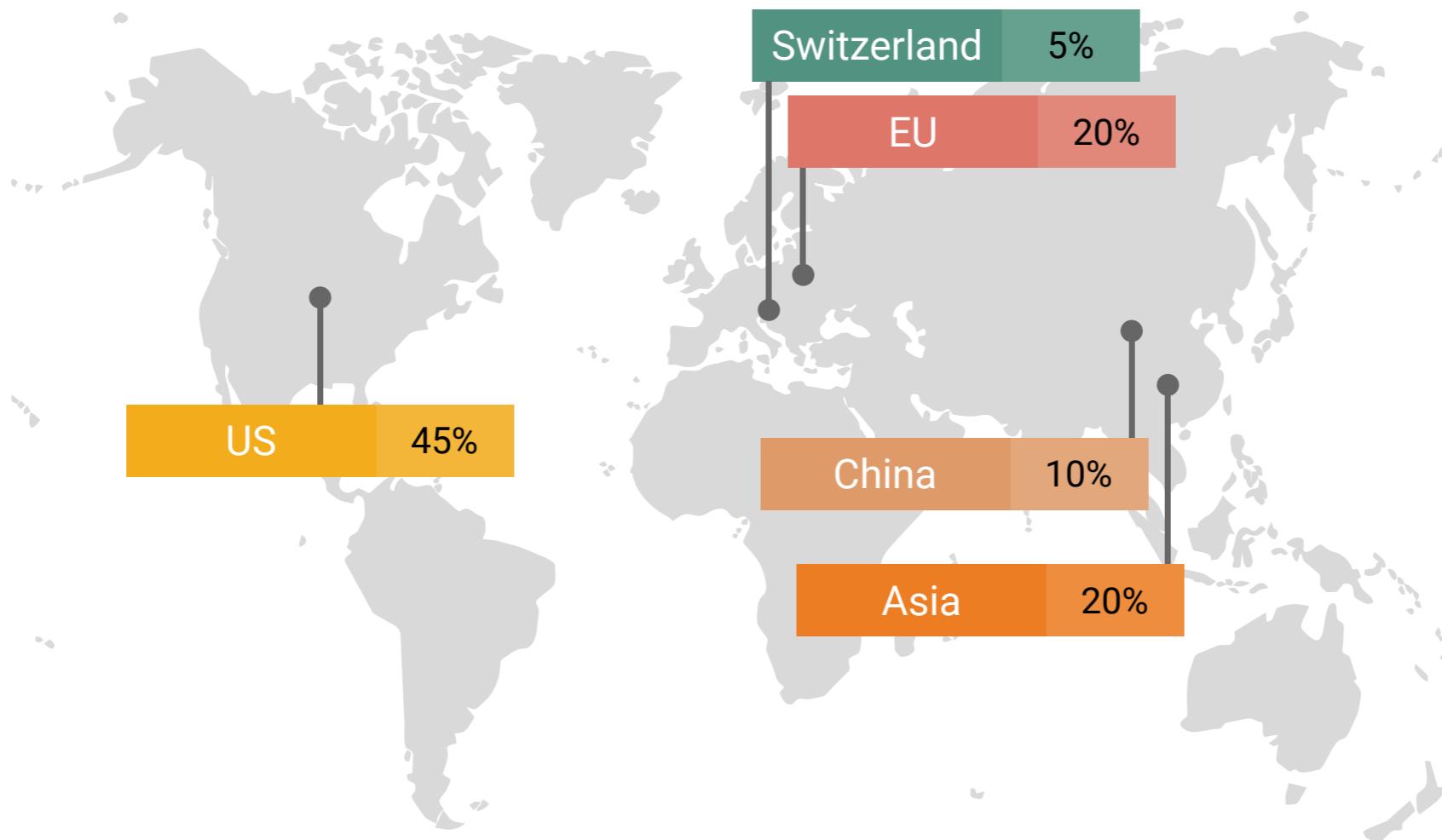
The United States continues to lead the rest of the world in terms of artificial intelligence for companies and funds that invest in Drug Discovery. This is reasonable, given that more than a half of the world's AI for Drug Discovery companies have their headquarters in USA. Comparing with previous periods of 2019, 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. A total number of investors in the world that give money to the development of the above mentioned industry has increased in Q3 by 15% comparing with Q2 2019.

30 Pharma Corporations Applying Advanced AI in Healthcare and Drug Discovery



The industry is seeing an increasing level of regional diversification. Whereas historically the US has dominated the AI for Drug Discovery race in terms of the number of AI companies, the volume of investments and number of industry specialized conferences, in 2019 we are seeing an increased level of activity from the UK, Switzerland and China.

40 Leading Tech and Chemical Corporations: Regional Proportion



The US is the leader according to the number of tech corporations applying advanced AI in healthcare and drug discovery. EU leads the world in terms of the number of Chemical Corporations. The second biggest figure can be observed in Asia while the US is in the third place. This is sensible within the context of the recent increase in the chemical industry in EU that overweight the US and Asian markets of chemical substances and related products. A lot of these chemical corporations are participating in cooperations and partnerships that are aimed at drug discovery and are related to pharmaceutical issues.

Industry Developments Q3 2019

JUL

Kyndi, the artificial intelligence company building the first Explainable AI platform, announced that it raised \$20 million in Series B funding led by **Intel Capital**

Saama Technologies, Inc., a leading clinical data analytics company, announced a collaboration with researchers at **the Tufts Center for the Study of Drug Development (Tufts CSDD)** to ascertain how biopharmaceutical companies optimize automation and information technologies, including artificial intelligence such as machine learning and neural networks, to support the research and development of new therapeutics.

MIT's Research Enterprise in Singapore, **SMART**, is launching a new research group as part of Singapore's National Cell Manufacturing Initiative to overcome scientific and technical challenges in life-changing cell therapies.

San Francisco-based **Notable Labs** announced it secured \$40 million in a Series B funding round to use its artificial intelligence platform to advance cancer drug development

AUG

Novo Nordisk extended a collaboration with **e-Therapeutics** to deploy its AI-based drug discovery technology to find new biological targets and therapies for type 2 diabetes.

Saama Technologies, Inc. signed a definitive agreement to acquire **Comprehend Systems, Inc.**

Fluid Imaging Technologies and the University of **Colorado Boulder** have recently entered an exclusive research agreement to determine whether the University's artificial intelligence software can identify bloodborne bacteria.

Neuropore Therapies and **BenevolentAI** entered strategic collaboration to discover novel therapeutics through the application of AI.

Industry Developments Q3 2019

SEP

By using a combination of **Generative Adversarial Networks (GANs) and Reinforcement Learning (RL)**, the team of **Insilico Medicine** researchers behind this study (documented in a paper published in **Nature Biotechnology** this month) have succeeded in validating the **real power** that AI has to expedite timelines in drug discovery and development, and **to transform the entire process of bringing new drugs to market** from a random process rife with dead ends and wrong turns to an **intelligent, focused and directed process**, that takes into account the specific molecular properties of a given disease target into account from the very first step.

Insilico Medicine has raised **\$37M** in Funding from **leading chinese VC firms**. Lead by Qiming Venture Partners, the \$37 million Series B funding round was also joined by Eight Roads, F-Prime Capital, Lilly Asia Ventures, Sinovation Ventures, Baidu Ventures, Pavilion Capital, BOLD Capital Partners, among other investors that participated in the Series A round.

A **KAUST** team is taking a combined deep learning approach that uses data from multiple sources to teach algorithms how to find patterns between genes and diseases.

Two studies led by **UT Southwestern** provide evidence for the impact of biology by using artificial intelligence to identify patterns of brain activity that make people less responsive to certain antidepressants.

Arctoris Ltd, a fully automated drug discovery platform for virtual and traditional biotechnology companies, pharmaceutical corporations and academia, announced that it has successfully closed a seed funding round of £3.2 million.

Benevolent AI announced that it has signed a framework collaboration agreement with **Novartis** to leverage Benevolent AI's technology platform to interrogate clinical trial and experimental data. Also it announced \$90 million investment from **Temasek**

Schrödinger announced a collaboration with **AstraZeneca** to deploy Schrödinger's advanced computing platform to help accelerate drug discovery efforts.

Atomwise and **Jiangsu Hansoh Pharmaceutical Group** – the Chinese company behind this year's largest biopharma initial public offering (IPO) – have launched an up-to-\$1.5 billion collaboration to design and discover potential drug candidates.

OCT

Novartis announced an important step in reimagining medicine by founding the Novartis AI innovation lab and by selecting **Microsoft Corp.** as its strategic AI and data-science partner

ICR collaborates with **Healx** to develop treatments for rare childhood cancer.

Optibrium™, a developer of software for drug discovery has announced the introduction of its Augmented Chemistry™ services, which provides collaborators with novel artificial intelligence technologies to supplement their skills and experience.

Industry Developments 2019

One of the most prominent events in AI for Drug Discovery sector in the first quarter of 2019 was the launch of Alliance for Artificial Intelligence in Healthcare (AAIH).

AAIH Mandate and Goals

- Develop appropriate regulations and industry guidance
- Seek engagement with appropriate stakeholders
- Interface with Government & NGO's on growth of AI in healthcare industry
- Stimulate data sharing and open access to key findings
- Set a model and testing approach for quality control and use of standards
- Establish accreditation authority and/or affiliation with academic organizations
- Educate general populace, industry stakeholders, and government on value of AI and Machine Learning
- Prioritize and tailor forums for regulators, payors, providers, and other end-users as well as patients, the public, and media
- Produce informative and reliable industry reports

The AAIH is a coalition of technology developers, pharmaceutical companies, and research organizations who have expressed the common goal of realizing the potential for AI in healthcare to significantly improve quality of care, but who also recognize that these, and other, difficult questions must be considered.

Organization's website: <https://www.theaaih.org>

Trends of Investment and M&A Deals

DIVERSIFICATION

In 2015 and 2016, 26 and 22 investment rounds were conducted, and this number increased to 30 in 2017 and to 36 in 2018. There are already more than 30 rounds in 2019.

INCREASED AMOUNT OF INVESTMENTS

2017 and 2018 showed significant growth of investments. Comparing to 2015 and 2016, when AI R&D startups raised \$231M and \$230M accordingly, 2017 showed significant growth to \$469M. The industry saw a total of \$1,031B in 2018. This is more than twice as much as was raised in all 2017.

Amount of investments in 2019 is already higher than 1B\$.

CONSISTENCY

During 2013-2016 there was some growth in the amount of capital raised by the industry players, however, the trend was not steady. In 2017-2019 we observed stable growth of the investments in the industry, an increase in the number of IT and Tech corporations entering the field, and active participation from traditional BioPharma corporations, largely in the form of joint ventures. M&A deals will continue at a fast pace driven by a need to consolidate the business and simplify collaborations and outsourcing.

LEADERSHIP

In 2019 we can observe establishment of relatively small group of sector leaders who attract significant fraction of total investment volume.

AI for Drug Discovery Market Timeline



AI Success Stories in Q3 2019

Among other developments, 2019 appears to be a “proof-of-concept” year for hit discovery using AI technology.

Insilico Medicine



First example is a landmark paper by Insilico Medicine.

The first *in vivo* active drug candidate developed from scratch (de-novo) using GENTRL system

GENTRL system - a modular drug design platform based on generative adversarial networks (GANs) and other machine learning

A new candidate has been developed staggeringly quickly: in 46 days, including target selection

Deep Genomics



Another big success for AI-augmented drug design is DG12P1.

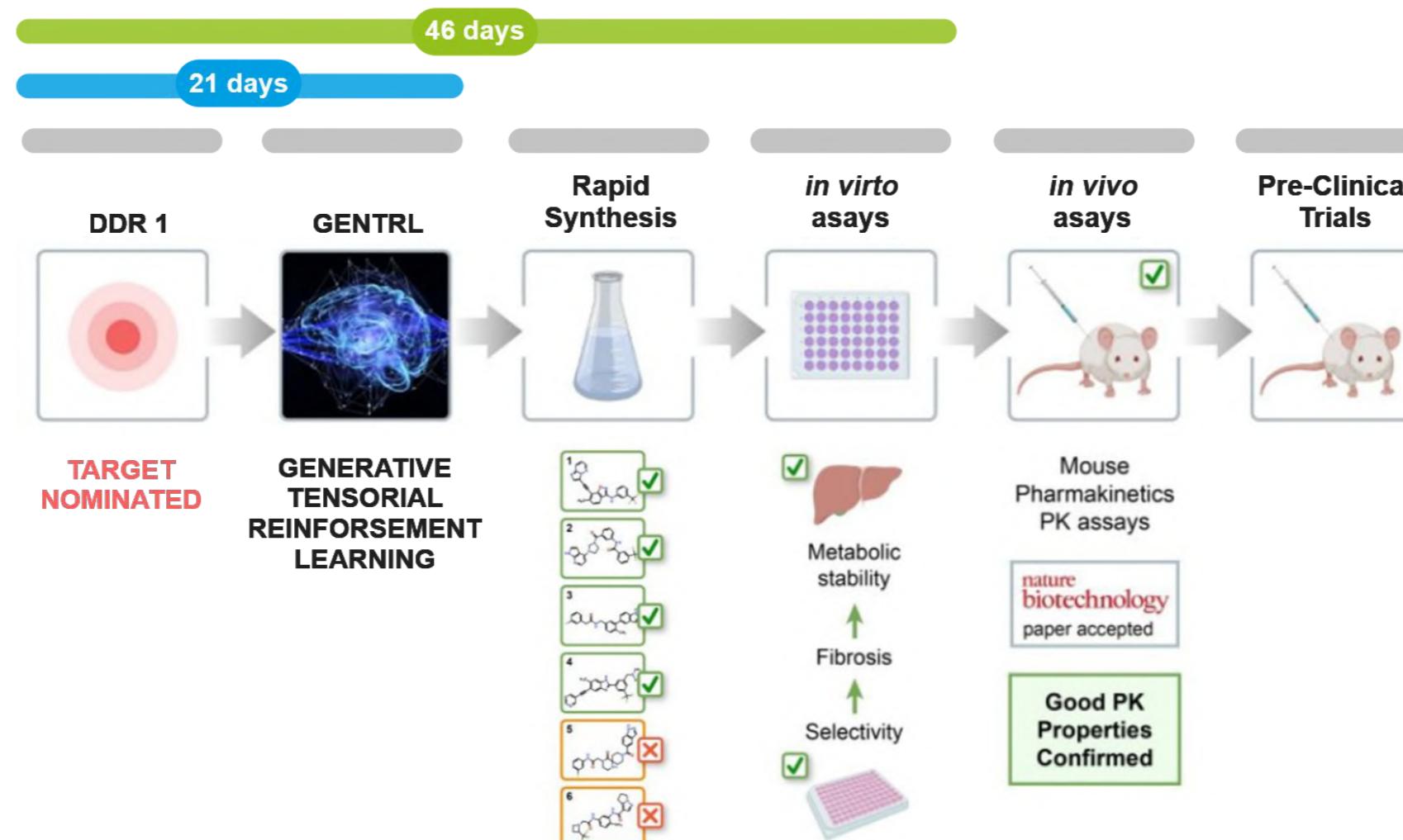
It is an oligonucleotide therapy designed by Deep Genomics via their platform AI Workbench to treat rare Wilson disease, leading to copper accumulation in the liver, brain and other vital organs.

The discovery took under 18 month from the concept to an actual clinical trials-ready drug candidate, which is way faster compared to classical approaches.

AI Success Stories in Q3 2019

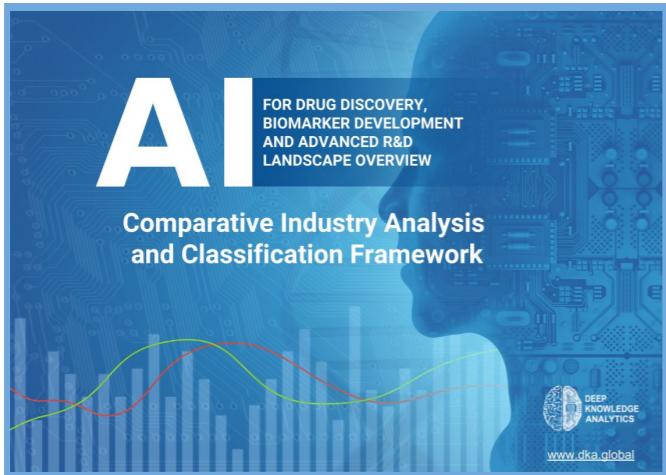
Among other developments, 2019 appears to be a “proof-of-concept” year for hit discovery using AI technology.

DEEP LEARNING ENABLES RAPID IDENTIFICATION OF POTENT DDR1 KINASE INHIBITORS



Traditional hit-lead generation: 2-3 years
GENTRL approach: 2 months

Deep Knowledge Analytics "Pharma Division": Upcoming Proprietary Reports Q3 2019



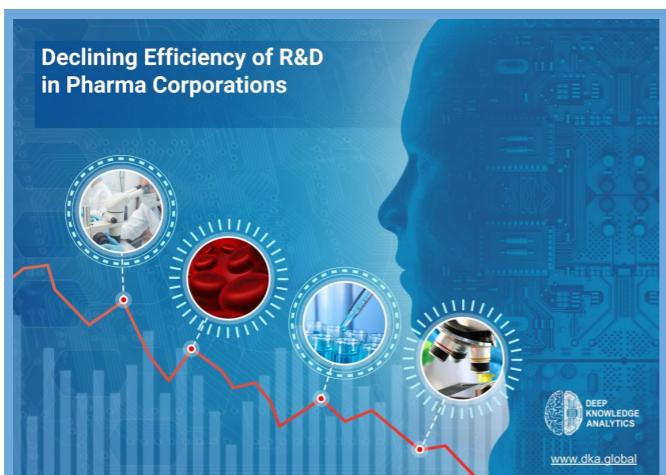
Comparative Industry Analysis &
Classification Framework



Pharma AI Stock Index



Top Analysts AI in Pharma



Declining Efficiency of R&D
in Pharma Corporations



Top-20 AI in Drug Discovery
Investors



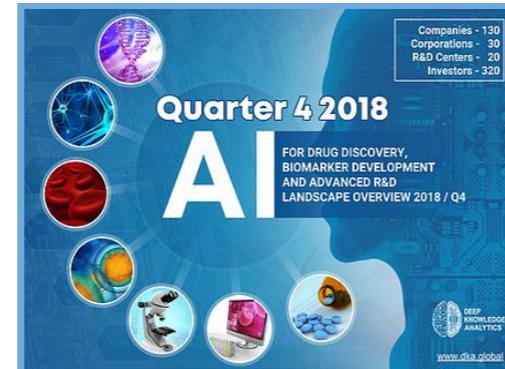
Enhanced analysis of most promising
AI-companies as the best investments
targets for AI-Pharma Index Hedge Fund

Open Access Analytical Reports by Deep Knowledge Analytics Pharma Division

Published / Q2-Q3 2019



AI for Advanced R&D and Drug Discovery Q1 2019



AI for Advanced R&D and Drug Discovery 2018 Q4

Upcoming / Q4 2019



Ranking of the "AI-Friendly" CEOs and Board Members of Pharma and Tech Corporations



AI for Drug Discovery and Advanced R&D Landscape Overview 2019/Q2



Top-100 AI Leaders in Drug Discovery and Advanced Healthcare



Top-30 Women AI Leaders in Drug Discovery and Advanced Healthcare

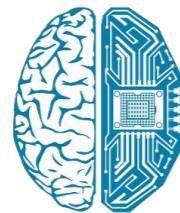


Corporations Applying AI for Drug Discovery and Advanced Healthcare



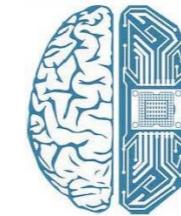
Most Advanced Technologies in Drug Discovery and Biomarker Development Trends Overview

Deep Knowledge Group



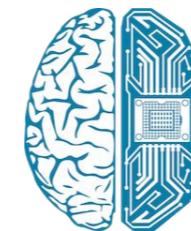
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Deep Knowledge Analytics - the analytical arm of Deep Knowledge Ventures, specialising in forecasting on the convergence of technological megatrends, conducting special case studies and producing advanced industry analytical reports on the topics of Artificial Intelligence, DeepTech, GovTech, Blockchain, FinTech and Invest Tech.



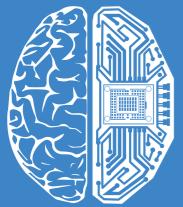
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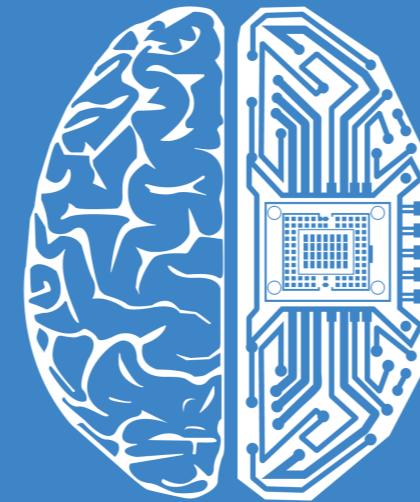
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