

INVESTMENT DIGEST

TEASER

NeuroTech Industry Overview Q4-2021

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NeuroTech Investment Digest at a Glance

This Investment Digest summarizes key players and observations in the private equity and venture capital ecosystem, focusing on the NeuroTech industry. Here we have analyzed and summarized information about the key NeuroTech industry trends and market projections. The Digest outlines more than 1400 promising NeuroTech companies, Top 30 investors, and more than 90 NeuroTech-focused publicly traded corporations. The report delivers data on major investment rounds and relevant R&D trends illustrating the industry traction and readiness of institutional investors to potentially acquire most successful NeuroTech startups.

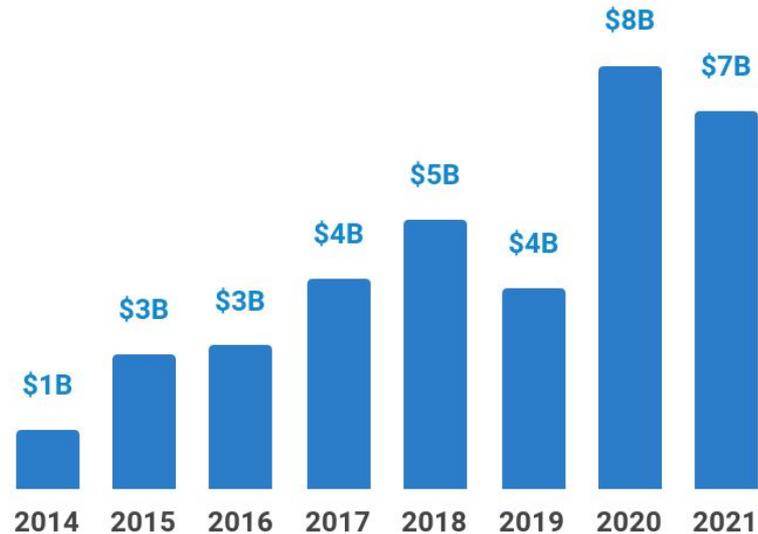
COVID-19 pandemic has brought the focus on to mental well being and contributed to the growth of NeuroTech.

3 NeuroTech companies went public (IPO) in Q4 2020, and more than a hundred received private equity funding.

NeuroTech is getting traction from all geographies and economies as is evident from the recent openness to positive regulations, investor activity, company growth pattern and distribution.

INVESTMENTS IN NEUROTECH INDUSTRY

NeuroTech Investment Trajectory



Early Stage To Late Stage Investments Into NeuroTech Industry by Q4 of 2021: \$7.1B

NeuroTech Industry is one of the most promising and prospective sectors of modern biotech in particular and exponential markets in general.

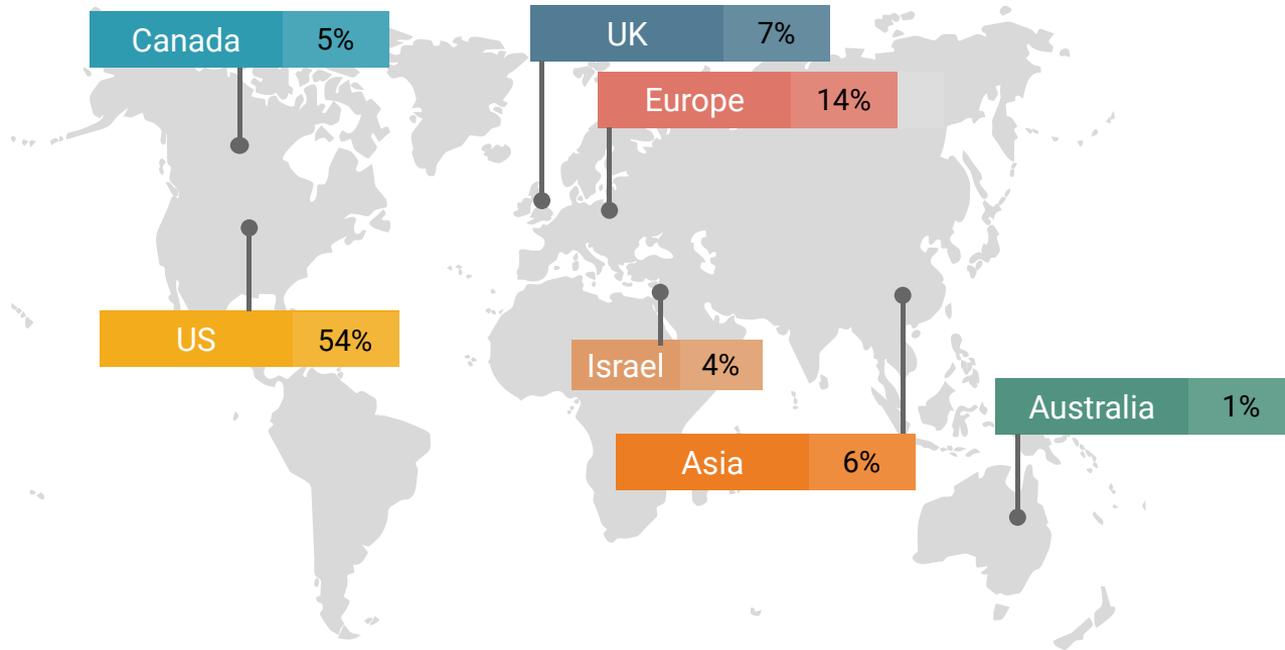
Attraction of venture capital community towards **NeuroTech startups** over the past few years has resulted in various funding rounds worldwide, thus driving significant investment, especially in the pharmaceutical industry. So it can be predicted that the Pharma sector will be a key driver for the exponential growth of the NeuroTech market in the coming years.

During the **last 8 years**, the amount of investments in NeuroTech companies increased **seven times** from **\$1.1 billion** in 2014 to **\$7.1 billion** in 2021, which shows that interest in the NeuroTech industry is steadily growing.

Overall investments in the NeuroTech companies amount to **\$34.3 billion**.

*Based on data from 2014-2021

1400+ NEUROTECH COMPANIES: REGIONAL BREAKDOWN



The **US** is still firmly in the lead in terms of its proportion of NeuroTech companies with **54%** share. **Europe** is the second largest market, holding **14%** of the market share. However, Asia-Pacific region has begun to aggressively increase its activity in NeuroTech Industry. Asian market is dominated by India and China followed by Japan in terms of number of NeuroTech companies, 32, 15, 12, respectively. Besides the Asian region, one of the most active country in the space is **Israel** with **54** active companies developing neurotechnology solutions. Discover Top 20 NeuroTech companies in the United States, the United Kingdom, China, Singapore, Israel by accessing the full version of this report.

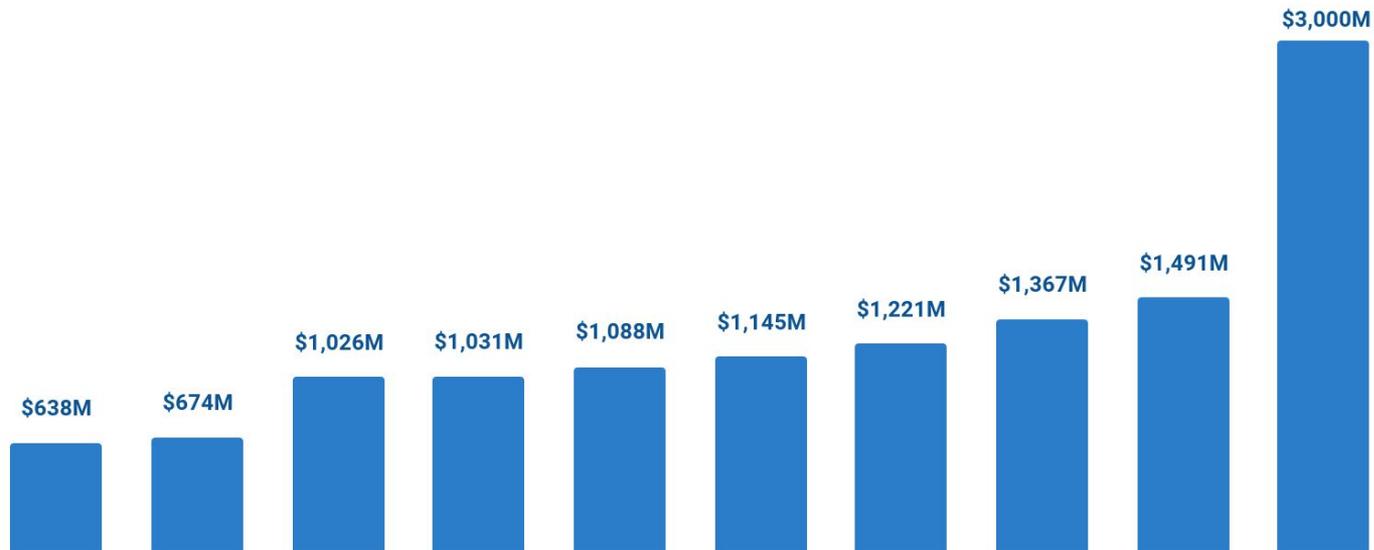
50 LEADING COMPANIES IN NEUROTECH SECTOR

1	AC Immune
2	Acorda Therapeutics
3	Akili Interactive Labs
4	Aleva Neurotherapeutics
5	Aspect Imaging
6	Axonics Modulation Technologies
7	BlackThorn Therapeutics
8	Cala Health

9	Cerevel Therapeutics
10	Ceribell
11	Cognition Therapeutics
12	Conformal Medical
13	Cortexyme
14	CTRL-labs
15	Denali Therapeutics
16	Dreem

The entire list is presented in the full version of this report.

TOP 10 NEUROTECH COMPANIES BY TOTAL INVESTMENTS IN 2021



Access the full version of the report to see the the chart entirely.

ZOGENIX
Boston
Scientific

TOP 30 NEUROTECH INVESTORS

INVESTORS	INVESTMENTS OVERALL	NEUROTECH COMPANIES	INVESTMENTS OVERALL
EASME 	18	16	NeuroPsyCAD, QMENTA, Aura Innovative Robotics, Bitbrain, NeuroPrex, Kinetic, Starlab, Neurosteer, Emotra AB, Afferent Technologies, BalanSeat, SensArs, G.Tec Medical Engineering, Mediagnost, Neuro Device Group, Cogisen
SOSV 	18	8	QV Bioelectronics, Eno, Axem Neurotechnology, Koniku, Convalesce, Nuro, Neurocreate, Truust Neuroimaging
Venture Kick 	17	10	Neurosoft Bioelectronics, SensArs, Neurobotx, Mindmaze, Amal Therapeutics, IDUN Technologies, Aleva Neurotherapeutics, Ability Rehab Solutions, Limbic Life
NEA 	13	6	Wispr AI, SetPoint Medical, Satori Pharmaceuticals, Transcept Pharmaceuticals, NeuroPace, MedSpecialists
Y Combinator 	9	7	Voicery, MindPortal, CloudMedx, Nectome, Verge Genomics, UroDev Medical, BrainKey
Khosla Ventures 	9	4	StimScience, Pymetrics, Kernel, Thync

The entire list is presented in the full version of this report.

CONCLUSIONS

I. Why NeuroTech has not boomed in mass market yet

Despite the fact that impressively much has been accomplished in neuroscience over the last several years (including a recent presentation by Neuralink), neurotech companies have been struggling to enter the mass market due to a general lack of awareness of the products or expensive R&D costs. Moreover, markets have been slow to accept the new technology and many neurotech startups are only now making their products available for customers and making modest revenue. Additionally, innovative NeuroTech approaches have many FDA approval-related risks.

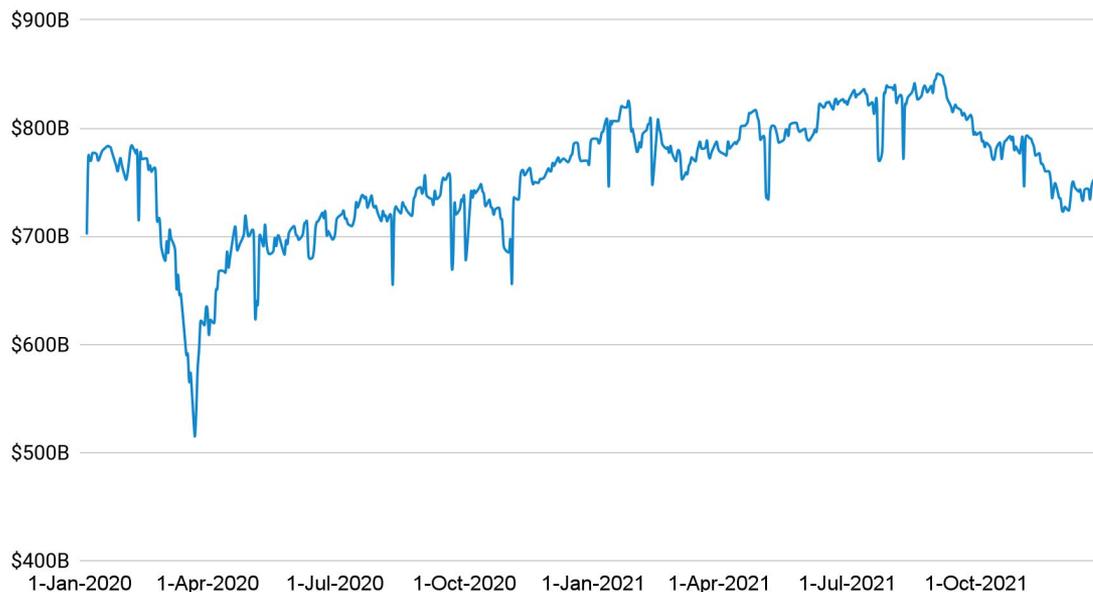
II. COVID-19 impact

A wider audience became hooked to neurotech during the pandemic. The COVID-19 pandemic brought additional attention to mental health and neuro-related diseases. The pandemic highlighted such challenges, allowing various startups to grow and address them. Thus, once more COVID-19 became an accelerator for the industry to show wider audience the importance of its products and research.

All conclusions are presented in the full version of this report.

NEUROTECH PUBLICLY TRADED COMPANIES

Cumulative Capitalization Dynamics, 2020 - 2021



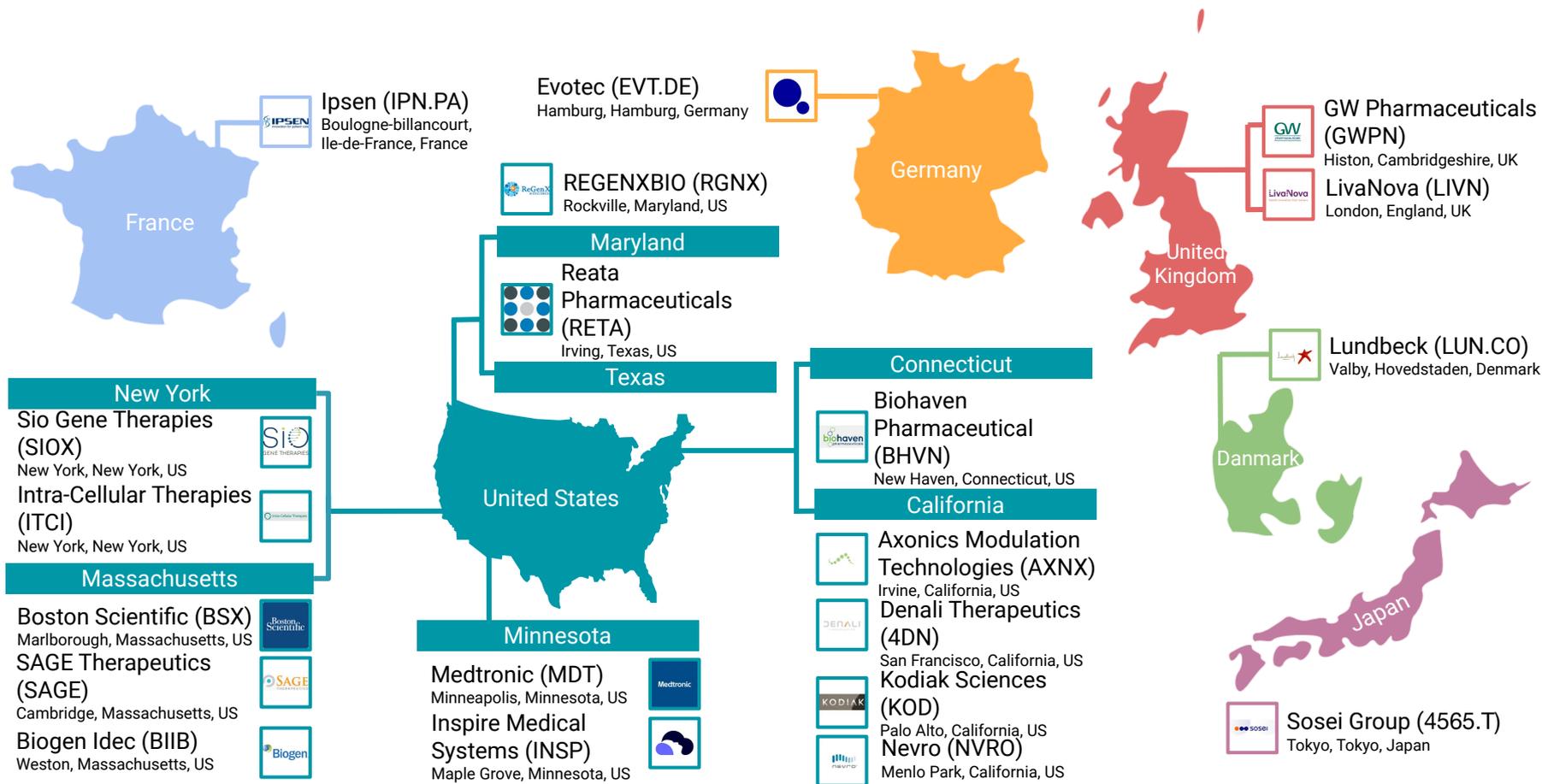
The coronavirus pandemic had a striking effect on the NeuroTech publicly-traded companies and caused the industry's decline by 25%. Despite that, NeuroTech firms have recovered by the end of 2021. The majority of the market is represented by old mature healthcare companies which own different divisions, with neuroscience as one of them.

The biggest companies by market capitalization are Medtronic, Boston Scientific, Lundbeck, Biogen, Ipsen.

Despite the dominance of the mature players, 11 young companies closed IPO successfully in 2021: **Better Therapeutics, Onward, Eliem Therapeutics, Immuneering, Acticor Biotech, Alzamend Neuro, Virpax Pharmaceuticals, NeuroPace, Cognition Therapeutics, NeuroSense Therapeutics, Nyxoah.**

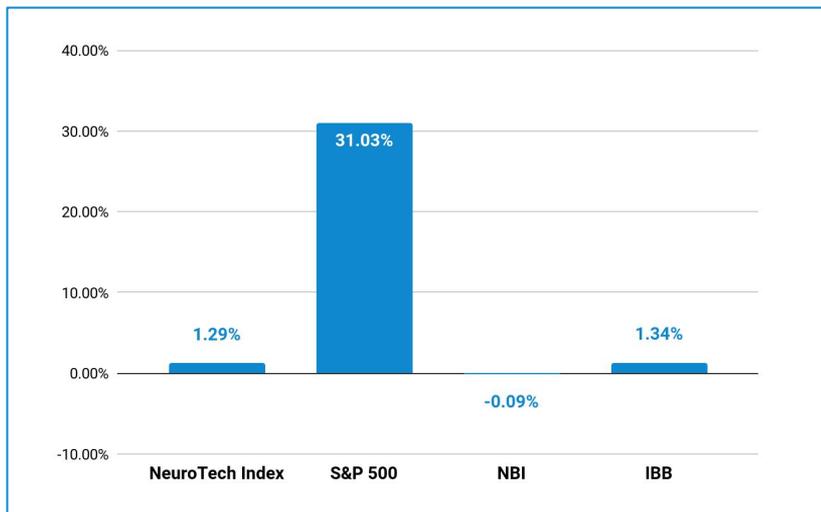
Technologically, publicly-traded NeuroTech companies are similar to other companies in the sector (which secured series B or C funding rounds), which means that their market capitalization growth can be an approximation of the dynamics of the whole sector.

TOP 20 NEUROTECH PUBLICLY TRADED COMPANIES

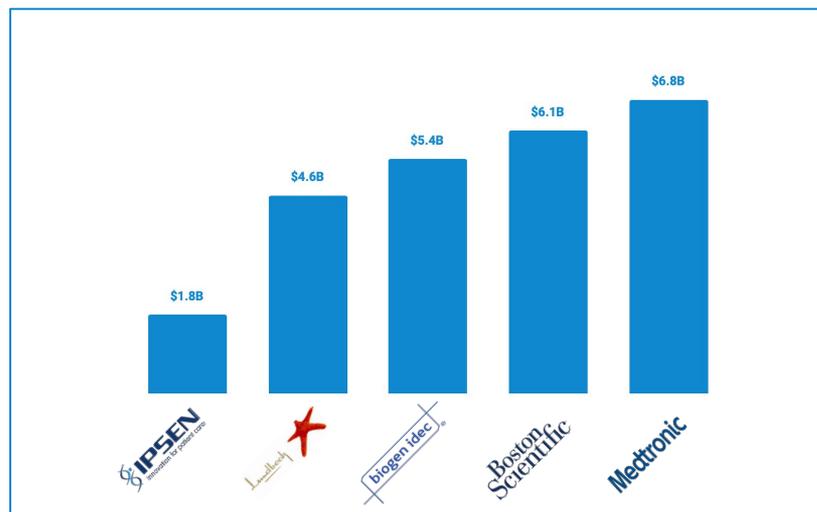


NEUROTECH MARKET CAPITALIZATION

Market Capitalization Growth During 2021



Top 5 Public Companies by Market Capitalization in 2021



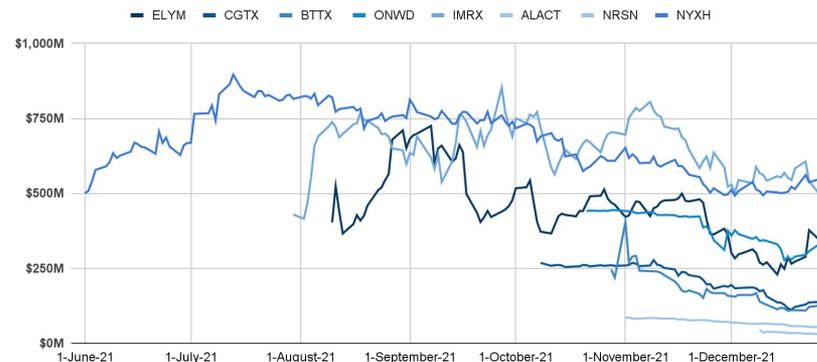
The chart to the left represents the composite of 90 NeuroTech-focused public companies compared to the key market Indices as of the end of 2021: S&P 500, NBI (NASDAQ Biotechnology Index) and IBB (iShares Biotechnology ETF).

The chart to the right represents Top 5 public companies operating in the NeuroTech sector. Most of the companies belong to the healthcare industry with departments or subsidiaries which specialized in NeuroTechnologies. Most of the top-tier companies have large experience in transforming a medical system and innovating new medical solutions. Most of the companies develop innovative pharmaceuticals for people suffering from CNS disorders. However, there are gene therapy providers as well as suppliers of implants. Discover Top 10 public NeuroTech companies in the full version of this report.

NEUROTECH IPOs IN Q3-Q4 2021

Despite the COVID-19 crisis, all new public companies announced successful closing of the IPO. Their stocks present high volatility with little growth by the end of the year, although net income of all corporations remains negative. All IPOs took place in the USA and 4 were made in the second half of 2021. New Neurotech public companies rarely show significant financial results, especially profitability in the first year of trading. A detailed analysis of each company is available in the full version of the report.

Capitalization Change in 2021



Company	Ticker	Country	Funding Amount, \$M	Investments in 2021, \$M	Number of Investors	IPO Date	Capitalization \$M	Current Ratio	Enterprise Value, \$M	Net income TTM, \$M
Eliem Therapeutics	ELYM	USA	171	80	6	10.08.2021	471	28.38	115	-57
Cognition Therapeutics	CGTX	USA	157	45	17	08.10.2021	256	2.27	185	-11
Better Therapeutics	BTTX	USA	148	113	5	29.10.2021	187	1.14	157	-32
Onward	ONWD	Netherlands	73	100	11	21.10.2021	441	9.15	103	-23
Immuneering	IMRX	USA	57	112	1	30.07.2021	365	29.11	412	-28
Acticor Biotech	ALACT	France	33	17	11	01.11.2021	NA	3.11	53	-11
NeuroSense Therapeutics	NRSN	Israel	5	12	1	09.12.2021	NA	8.08	42	-5
Nyxoah	NYXH	Belgium	74	85	5	02.07.2021	748	6.68	418	-20

Major Observations for 2021: Key Business Takeaways

1

The investment in NeuroTech is relatively small in comparison with other areas of medicine and biotech, but today there is a tendency to a growing number of neurological disorders, so the development of NeuroTechnologies becomes an important part of our future life. The industry has witnessed an inflow of considerable investment estimated at \$7.1 billion. The overall investments in NeuroTech companies amount to \$34.3 billion. Interest in the NeuroTech industry is steadily growing. Among all sectors in the industry, Neuropharmacology companies tend to have more funding.

2

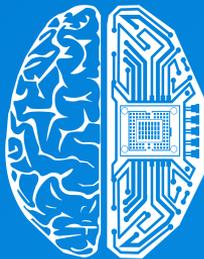
In the regional proportion, the USA is an absolute leader in the industry. With 54 % share of the total number of companies, the USA is far ahead of Europe, the second-biggest market with 21%. Only 6% belongs to Asian companies, but their NeuroTech sector has been strongly increasing during last years.

3

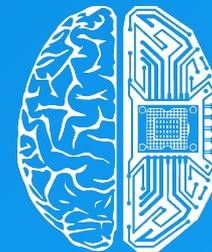
All takeaways are presented in the full version of this report.

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