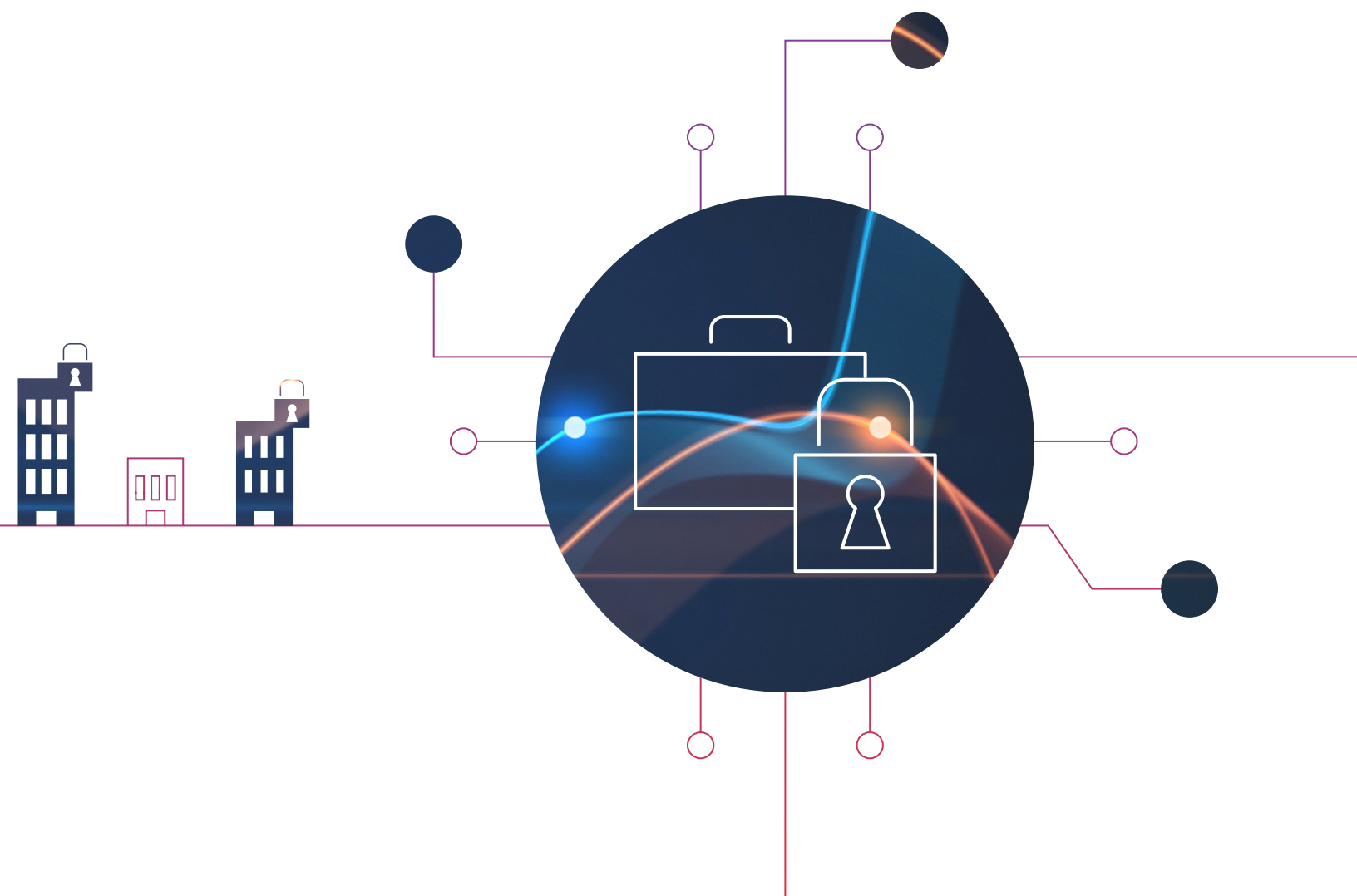


A New Yardstick for the Innovation Economy: Introducing the Morningstar PitchBook Global Unicorn Industry Vertical Indexes



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Introduction

Traditional industry groups that are used to classify securities still largely reflect the foundations of the industrial economy. The Morningstar Global Equity Classification System is an example of a commonly used framework to group public companies. This framework is a robust representation of the global economy and continues to be one of the primary lenses for mapping the markets and driving investment opportunities. However, with the growth of the digital age, the business landscape is evolving, witnessing a tilt toward technology-driven industries.

The changing structure of the economy means that traditional industry classifications may lag reality, under-representing newer industries and over-representing ones that are declining in importance. The new economy is characterized by the advancement of technology, intellectual property, and a focus on knowledge-based industries. Areas such as financial technology, healthcare technology, and clean technology are emerging as new avenues for investments.

In this paper, we present the Morningstar PitchBook Global Unicorn Industry Vertical Indexes. These indexes, based on a new industry classification system stemming from PitchBook's emerging technology research, offer insights into the trends that are propelling today's innovation economy.

The Economy Evolves from Industrial to Innovation

A look at the history of the global economy sheds light on the organic nature of industry classifications. The first formal classification schemes were developed during a period of global industrialization, driven by manufacturing and transportation of physical products. As the manufacturing sector matured, it stimulated the growth of the services sector. Computing power has also increased exponentially during this period, which has led to a much more information and knowledge-driven economy.

... the production and management of information started to overshadow manufacturing.

The largest enterprises in the industrial economy thrived by producing goods and services that relied on physical assets and automated processes. Industrial stalwarts like General Electric, Ford, IBM, and DuPont used research as a valuable strategic asset and a formidable barrier to entry into their respective industries. Companies generated their own inventions that they would then develop, manufacture, market, distribute, and service. Most of these companies raised capital to support their growth through public markets. The traditional industry classification system assigned companies to specific industry groups that best defined their business operations.

During the 1960s and 1970s, the economy underwent significant changes as the production and management of information started to overshadow manufacturing. This shift transformed information into a valuable commodity and made various forms of information crucial to economic life.

Toward the end of the 20th century and the beginning of the 21st century, a combination of factors further undermined the dominance of leading industrial companies and their influence on the economy. Instead, technology upstarts like Microsoft, Google, Apple, and Amazon took the lead in innovation. These companies didn't conduct much basic research themselves but introduced fresh ideas to the market through a different approach.

The traditional industry classification system struggled to categorize these companies because of their unique characteristics that didn't neatly fit into any one industry.

Online giants such as Amazon and Alibaba have transformed the way we shop by utilizing digital technology, big data, and customer insights. Tesla goes beyond simply being a car manufacturer; the company's electric vehicles and groundbreaking software have established it as a leader in the energy and automotive industries. Digital technologies are also playing a vital role in healthcare, with companies like Medtronic creating innovative artificial-intelligence-driven diagnostics that prioritize patient care. Additionally, the gig economy, facilitated by platforms like Uber and Fiverr, is challenging traditional employment models by offering flexibility and connecting a diverse pool of talent from around the world.

In today's economy, a significant portion of gross domestic product growth can be attributed to the value of innovation and new ideas. This can take various forms such as patents, copyrights, and intellectual property rights.

The traditional classifications anchored in the industrial economy and applied to public companies do not accurately recognize the companies that are leading the current and future growth in the economy, which are largely influenced by private venture capital firms.

A New Taxonomy for the Innovation Economy

¹ While the PitchBook platform lists nearly 60 industry verticals, just over 20 of them are analyst curated.

The new knowledge-driven and networked innovation economy requires a different mindset and toolkit to demarcate the corporate landscape and classify investments. PitchBook emerging technology analysts curate over 20 industry verticals,¹ which represent groups of companies pursuing similar growth or technology opportunities within specialized markets.

PitchBook industry verticals group companies by common products, technologies, or themes, providing a useful taxonomy for discovering innovative companies exposed to similar growth drivers. Vertical classifications are determined in several ways, including the observance of venture capital flows and/or the emergence of startups pursuing similar high-growth business opportunities and innovative technologies. This bottom-up process enables the grouping of technology startups in ways that are relevant to long-term investors.

For example, the Mobility Tech vertical provides a taxonomy of companies engaged in activities related to vehicle connectivity, electrification, and transportation. This vertical is divided into several segments, including air mobility, fleet management software, and ride-hailing apps, and encompasses fundamental innovations in hardware and software that have the potential to drive growth, disruption, and innovation. This cross-cutting definition can include companies outside of the conventional Transportation industry classification, such as Uber, which is considered an application software company in Morningstar's Global Equity Classification Structure.

PitchBook creates verticals based on proprietary research into a global universe of companies and their products. The companies within a vertical are determined based on searches for a series of manually selected keywords and phrases. Some keywords are automatically tagged to a vertical and others require manual validation to confirm the relationship. Companies are only tagged to verticals based on manually labeled keywords, not disclosures from companies.

... comprehensive categorization of public and private companies in analyst-curated verticals offering the most promise for long-term growth.

Because the verticals are not mutually exclusive, companies can be categorized into multiple verticals. For example, a company that facilitates e-commerce payments will appear in both the E-Commerce and FinTech verticals. For verticals achieving the highest deal values, PitchBook's Emerging Technology Research team of in-house industry experts validates companies' inclusion based on proprietary research, industry-acknowledged ecosystem maps, product documentation, customer use cases, and investment themes. This process results in comprehensive categorization of public and private companies in analyst-curated verticals offering the most promise for long-term growth.

Introducing the Morningstar PitchBook Global Unicorn Industry Vertical Indexes

In October 2023, Morningstar Indexes and PitchBook, a wholly owned Morningstar subsidiary, introduced a new range of indexes based on PitchBook's industry vertical classifications. From Artificial Intelligence to Climate Tech, the Morningstar PitchBook Global Unicorn Industry Vertical Indexes target cutting-edge innovation through eleven emerging themes:



AgTech

- Agricultural Finance & eCommerce
- Animal Agriculture
- Biotechnology
- Indoor Farming
- Precision Agriculture



Artificial Intelligence

- AI Semiconductors
- Autonomous Machines
- Horizontal Platforms
- Vertical Applications



BioPharma

- Biologics
- Cell Therapy
- Gene Therapy
- Small Molecules



Climate Tech

- Carbon Emissions
- Clean Fuels
- Grid Infrastructure
- Low Carbon Mobility
- Renewable Energy Generation
- Sustainable Foods
- Sustainable Packaging



Cybersecurity

- Application Security
- Data Security
- Endpoint Security
- Identity & Access Management
- Network Security
- Security Operations



E-Commerce

- Horizontal Platforms
- Post-Purchase
- Pre-Purchase
- Purchase Medium
- Purchase Venue



Enterprise SaaS

- Analytic Platforms
- Customer Relationship Management
- Enterprise Resource Planning
- Knowledge Management Systems
- Other Application Software
- Supply Chain Management



FinTech

- Alternative Lending
- Capital Markets
- CFO Stack
- Commercial Finance
- Consumer Payments
- Financial Services Infrastructure
- Payments
- RegTech
- Retail Credit & Banking
- WealthTech



HealthTech

- BioPharma
- Digital Health
- Healthcare IT
- MedTech
- PharmaTech



Mobility Tech

- Advanced Air Mobility
- Auto Commerce
- Autonomous Driving
- Electric Vehicles
- Fleet Management & Connectivity
- Last-Mile Delivery
- Marine Mobility
- Micromobility
- Public Mobility Solutions
- Ride Hailing



Supply Chain Tech

- Enterprise Supply Chain Management
- Freight Tech
- Last-Mile Delivery
- Warehouse Tech

² For more details, refer to the whitepaper, [*Harnessing Unicorns: Demystifying the venture capital market with the Morningstar PitchBook Global Unicorn Indexes.*](#)

³ For more details, refer to the [*Construction Rules for the Morningstar Mark-to-Model Pricing Methodology for Venture Capital-Backed Companies.*](#)

The starting universe for each industry vertical index is the Morningstar PitchBook Global Unicorn Index,² the constituents of which are derived from PitchBook's global database of venture capital-backed companies. The indexes track privately held, venture capital-backed companies with post-money valuations of at least \$1 billion, and the index methodology employs a proprietary three-factor pricing model to estimate daily valuations.³

The Morningstar PitchBook Industry Vertical Indexes provide a new and nuanced framework for tracking companies that form the core of the innovation economy, enabling a better understanding of emerging investment trends and their drivers. To learn more about the 11 Unicorn Industry Verticals indexes, refer to the factsheets provided after the Conclusion. Each factsheet offers a comprehensive overview of the industry vertical, including important index details like objectives, constituent data, performance, and insights from our expert PitchBook emerging tech analyst.

Applications of the indexes include:

Market insights: The industry vertical indexes offer valuable information on specific market segments, emerging themes, and valuation trends. Investors can explore the fastest-growing segments and easily compare adjacent technologies to make smarter investment choices.

Benchmarking and performance measurement: For venture capital funds focused on emerging technologies, these indexes serve as clear benchmarks and performance measurement tools. They enhance understanding of market conditions, identify promising investment strategies, and aid in evaluating fund managers.

Thematic investing: The indexes provide a systematic approach to managing portfolios focused on specific themes benefiting from secular growth drivers.

A window into the innovation economy: A large portion of GDP growth can be credited to the value of innovation. To better understand the impact and trends of the innovation economy, industry verticals and their corresponding indexes shed light on emerging technologies, capital flows, and exit activity. Examining these indicators offers valuable insights into the future of the business world.

Conclusion

As the innovation economy continues to evolve, investors can gain valuable insights into the drivers of future economic growth by utilizing an industry classification system that mirrors the real-world economic ecosystem. The Morningstar PitchBook Global Unicorn Industry Vertical Indexes are designed to capture these economic forces, enabling investors to assess risks and discover opportunities more effectively. These indexes provide a unique perspective on the markets, that go beyond using the traditional lenses, and offer valuable insights and opportunities in the innovative economy.

The following pages include a factsheet for each of the 11 unicorn industry verticals indexes. Each factsheet provides an overview of the industry vertical, along with essential index information such as objective, constituent data, performance, and insights from PitchBook emerging tech analyst.

Morningstar PitchBook Global AgTech Unicorn Index

Investment Objective

The Morningstar® PitchBook Global AgTech Unicorn Index™ tracks privately held, venture capital-backed companies in the AgTech industry vertical with valuations of \$1 billion or more. AgTech companies specialize in enhancing agricultural sustainability and productivity and offer a range of products and services including wireless sensors, hydroponic and aquaponic systems, remote-controlled irrigation systems, aerial imaging technology, biotech platforms, data-analysis software, automation tools, and accounting software.

Sub-themes

- Biotechnology
- Indoor Farming
- Animal Agriculture
- Precision Agriculture
- Agricultural Finance & eCommerce

Additional links: PitchBook Emerging Tech Research: [AgTech](#)

Vertical Overview

Industry drivers

The AgTech industry is propelled by the imperative to sustainably feed a rapidly expanding global population, mitigate the adverse effects of climate change on agriculture, and enhance resource efficiency. This momentum is underpinned by the swift evolution of digital technologies, biotechnology, automation, and data analytics, empowering the industry to develop innovative solutions that optimize crop yields, reduce environmental impacts, ensure food traceability, and streamline farming operations. Furthermore, the growing emphasis on sustainability and heightened consumer expectations for healthier, transparent food systems underscore the critical importance of AgTech as a pivotal sector in effectively addressing the intricate and interrelated challenges confronting contemporary agriculture.

Unicorn deal history

Investors underwrite AgTech startup investments based on their ability to become large public companies. Exit activity in the AgTech industry has historically been low, with an average of fewer than five IPOs per year. However, in 2021, we logged 21 public listings generating \$30.1 billion in exit value.

Market size

The global AgTech market has exhibited remarkable growth and is poised for continued expansion driven by demand for innovative solutions that can enhance agricultural productivity and sustainability, crucial in light of challenges stemming from population growth and environmental concerns. Agtech vendors seek to penetrate a market valued in the hundreds of billions of dollars, where the largest opportunities exist in agriculture biotech products and services.

Alex Frederick, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Farmers Business Network	9.91%	Data-driven platform connecting farmers to share insights and optimize their agricultural practices	Pivot Bio	5.66%	A company developing microbial solutions to enhance crop nutrition and reduce the need for synthetic fertilizers
Tridge	9.03%	Online global sourcing platform that connects buyers with suppliers of various agricultural and food products	Inari	5.04%	Biotechnology company dedicated to enhancing crop genetics and breeding to improve food production
Bowery	7.73%	Vertical farming company utilizing technology to grow fresh, sustainable produce in urban environments	Duoning Biotechnology	4.88%	Biotechnological research and development for agricultural and environmental solutions
Solugen	7.39%	Biotechnology firm focused on creating sustainable, bio-based chemical solutions to enhance crop yield and environmental sustainability	Colossal Laboratories & Biosciences	4.87%	Advanced genetic research and biotechnology for applications in agriculture and conservation
Shiyue Daotian	7.16%	E-commerce company specializing in agricultural products and equipment	eFishery	4.85%	Aquaculture company that offers technology-based solutions to help fish and shrimp farmers grow their businesses sustainably

Portfolio Analysis

Number of constituents	18
Average age of a Unicorn	10 years
Average Market Cap	\$1.7 billion

Market Cap Exposure

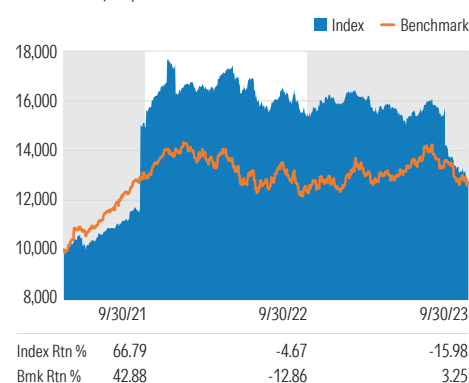
\$1-\$10 billion	100%
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Regional Exposure

North America	58%
Europe	4%
Asia	38%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmark Rtn
3 Months	-13.86%	-5.99%
6 Months	-15.52%	-1.97%
1 Year	-14.05%	5.82%
2-Year Ann	-7.15%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNO1	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global Artificial Intelligence Unicorn Index

Investment Objective

The Morningstar® PitchBook Global Artificial Intelligence Unicorn Index™ tracks privately held, venture capital-backed companies in the Artificial Intelligence industry vertical with valuations of at least \$1 billion. Artificial Intelligence companies either develop semiconductors and algorithms driving progress in the field or software that incorporates limited forms of the technology.

Sub-themes

- Horizontal platforms
- Vertical platforms
- Autonomous machines
- AI Semiconductors

Additional links: PitchBook Emerging Tech Research: [Artificial Intelligence & Machine Learning](#)

Vertical Overview

Industry drivers

Large language model (LLM) innovation presents a mission-critical opportunity to software giants. LLMs predict sequences of words, giving the models the ability to generate humanlike outputs in natural language and software code. Generative AI software startups earn outstanding valuation multiples, with research startups setting valuations based on the level of computing power and talent they will need to make scientific breakthroughs. VC investors are adapting to these requests yet not supporting the capital demands of more mature companies that are unlikely to make research breakthroughs.

Unicorn deal history

Investors underwrite AI startup investments based on their ability to become large public companies. AI has supported the listing of companies valued over

\$1.0 billion across industries including biotechnology, cybersecurity, financial technology, and transportation. In 2021, 81 public listings generated \$194.5 billion in exit value. Further, the technology has supported the growth and acquisition strategies of major public companies in semiconductors, cloud computing, and autonomous driving.

Market size

AI features large market opportunities across infrastructure-layer horizontal platforms, industry-specific vertical applications, semiconductors, and autonomous machines. PitchBook research estimates the AI market reached \$182.5 billion in 2022 and is on pace to grow over 25% per year to 2025. This high growth results in significant market opportunities across 68 product categories.

Brendan Burke, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
ByteDance	9.91%	Leverages advanced algorithms to create personalized user experiences for its core products, Douyin and TikTok	JD Digits	1.93%	Acquirer of internet giant JD.Com's JD Cloud and AI businesses and developer of a fintech platform
Stripe	5.05%	Online financial infrastructure platform integrates language models, and the company relies on generative AI internally	Grammarly	1.54%	Uses AI to educate its target audience on how to communicate better with written English grammar
Databricks	3.95%	Commercializer of open-source data processing framework Apache Spark, which offers best-in-class data pipelines for AI models	BITMAIN	1.47%	Designs processors for blockchain and artificial intelligence applications
OpenAI	2.92%	Developer of the best-in-class large language model GPT-4 and exclusive partner with Microsoft on generative AI products	Toutiao	1.20%	Uses algorithms to analyze consumers' news-viewing behaviors, creating a personalized content feed
Waymo	2.72%	Spinout of Google's self-driving technology designed to offer on-demand riding services	Faire	1.15%	Uses machine learning models to efficiently facilitate wholesale transactions between brands and retailers

Portfolio Analysis

Number of constituents	287
Average age of a Unicorn	9 years
Average Market Cap	\$3.7 billion

Market Cap Exposure

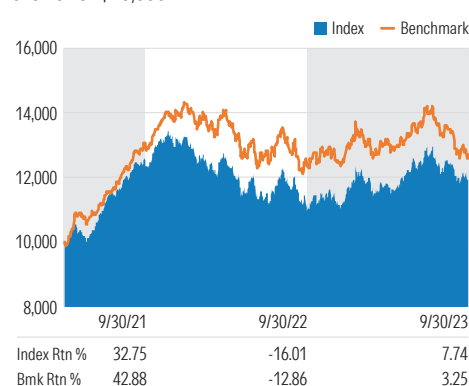
\$1-\$10 billion	66%
\$10-25 billion	9%
>\$25 billion	25%

Regional Exposure

North America	64%
Europe	4%
Asia	31%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmk Rtn
3 Months	-3.98%	-5.99%
6 Months	1.18%	-1.97%
1 Year	7.38%	5.82%
2-Year Ann	-1.52%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNV	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global BioPharma Unicorn Index

Investment Objective

The Morningstar® PitchBook Global BioPharma Unicorn Index™ tracks privately held, venture capital-backed companies in the BioPharma industry vertical with valuations of at least \$1 billion. BioPharma companies exploit cellular and biomolecular processes to develop innovative therapeutics and technologies.

Sub-themes

- Small Molecules
- Biologics
- Gene Therapy
- Cell Therapy

Vertical Overview

Industry drivers

The biopharma industry is driven by innovation in drug discovery and growing demand for effective treatments amid a rising global disease burden and aging population. Technological advancements accelerate research,

unlocking new therapeutic avenues. An ecosystem of startups established corporations, universities, research centers, and venture capital fosters a fertile landscape for growth and pioneering health solutions.

Unicorn deal history

Numerous BioPharma unicorns have emerged over the past decade, propelled by innovation and investor enthusiasm toward novel drug modalities, artificial intelligence, and precision medicine. BioPharma startups often find themselves targets for acquisition by established players, a trend driven by the sector's inclination toward consolidation to accelerate market entry, scale operations, and provide early investors an avenue to cash out. For other BioPharma unicorns, public listings present a compelling pathway to secure additional funding, aiding in the continual buildout of their pipeline, the completion of clinical trials, and getting drugs to market. In 2021, activity peaked with a stream of unicorns going public including Lyell Immunopharma, Sana Biotechnology, and EQRx.

However, as we entered 2022, the unicorn level exit activities plummeted in terms of volume alongside the thinning of unicorns in the public market that struggled due to lackluster clinical results and strategy.

Market size

BioPharma market opportunities span a diverse range across modalities and therapeutic areas. Numerous emerging product categories within BioPharma, such as cell and gene therapies, showcase escalating market valuations well into the tens of billions. Conversely, certain therapeutic area markets like rare diseases may exhibit valuations in the millions yet remain valuable for validating new technology platforms due to favorable regulatory timelines. Each segment elucidates unique opportunities for both incumbent players and emergent entities, highlighting a productive landscape ripe for innovation and investment.

Kazi Y. Helal, Ph.D., Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Biosplice Therapeutics	10.62%	Therapeutic drug company specializing in tissue-level treatments for osteoarthritis and oncology, with early-stage explorations in neurology and other areas of significant unmet medical need	Insitro	5.62%	Data-driven drug company that utilizes high throughput biology and machine learning to optimize drug discovery and development
Tevogen Bio	9.72%	Clinical-stage biotechnology company specializing in the development of cell and gene therapies for oncology and viral infections	Generate Biomedicines	4.17%	Developer of a generative biology platform designed to invent new drugs across protein modalities and protein therapeutics
AbogenBio	8.46%	Vaccine company focusing on addressing infectious diseases with mRNA technology	Tessera Therapeutics	3.89%	Gene-editing company developing technology for genetic modifications as a method to cure diseases.
Eikon Therapeutics	8.40%	Drug discovery and development platform company that is focused on detecting compound-protein interactions in live cellular environments	Laronde	3.65%	Therapeutic company developing next generation RNA-based therapeutics with a focus on diverse protein expression inside the body
Dongyang-guang	6.80%	Pharmaceutical company specializing in the development of drugs for infections, tumors, and metabolic diseases	Rakuten Medical	3.58%	Cancer therapy company creating precision-targeted therapies for solid tumors by combining monoclonal antibodies with photoactivatable molecules

Portfolio Analysis

Number of constituents	25
Average age of a Unicorn	8 years
Average Market Cap	\$2.2 billion

Market Cap Exposure

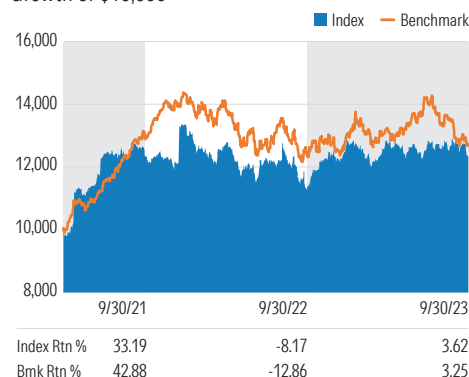
\$1-\$10 billion	90%
\$10-25 billion	10%

Regional Exposure

North America	71%
Asia	29%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmark Rtn
3 Months	1.81%	-5.99%
6 Months	2.61%	-1.97%
1 Year	9.50%	5.82%
2-Year Ann	1.25%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNNZ	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global Climate Tech Unicorn Index

Investment Objective

The Morningstar® PitchBook Global Climate Tech Unicorn Index™ tracks privately held, venture capital-backed companies in the Climate Tech industry vertical with valuations of at least \$1 billion. Climate Tech companies develop technologies intended to help mitigate or adapt to the effects of climate change.

Sub-themes

- Clean Fuels
- Carbon Emissions
- Renewable Energy Generation
- Grid Infrastructure
- Low Carbon Mobility
- Sustainable Foods
- Sustainable Packaging

Additional links: PitchBook Emerging Tech Research: [Carbon and Emissions Tech](#), PitchBook Emerging Tech Research: [Clean Energy](#)

Vertical Overview

Industry drivers

Regulation and policy are key drivers of VC investment in climate tech, providing support for technologies much less mature than those they are replacing. The regulatory and policy environment has changed rapidly in the last five years, providing strong support across a range of climate tech areas. Many energy-focused climate tech areas such as electric vehicles, renewable energy, and smart home tech are also driven by the desire to reduce reliance on fossil fuels and the price volatility associated with them.

Unicorn deal history

A range of climate technology categories have resulted in companies with valuations above \$1 billion, including low-carbon foods, solar power, building energy efficiency, and carbon capture. The most well-represented category, though, is low-carbon mobility, specifically

electric vehicles and lithium-ion batteries to either power EVs or for applications in both EVs and stationary energy storage.

Market size

The market opportunity for climate tech spans several multi-trillion-dollar industries, with energy and transportation representing key areas of opportunity as these markets move to adopt low-carbon technologies. Global interest in decarbonization, coupled with aggressive carbon reduction targets, is creating strong conditions for regulatory- and policy-driven growth across various climate tech categories.

John MacDonagh, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
GAC Aion	7.45%	Developer of a range of electric vehicles, focusing on consumer vehicles	Weltmeister	3.60%	Consumer electric vehicle developer, focusing on EVs with advanced sensing and automation capabilities
Zeekr	6.75%	Producer of consumer electric vehicles, operating a sales and a subscription model	SUNWODA EVB	2.62%	Lithium-ion battery developer, producing cells for consumer products, EVs, residential use, and industrial applications
Northvolt	6.02%	Lithium-ion battery developer and manufacturer focusing on both mobility and stationary energy storage applications	REPT BATTERO	2.35%	Lithium-ion battery producer for a range of applications, including mobility and grid-scale energy storage
SVOLT	3.74%	Developer of lithium-ion batteries primarily for electric vehicles, but with additional applications for industrial and household energy storage	Hithium	2.27%	Developer of lithium-ion batteries, with a focus on lithium iron phosphate batteries for stationary energy storage
Impossible Foods	3.68%	Plant-based protein company, producing a range of meat alternatives with lower land and water usage and a lower greenhouse gas profile	Aurora Solar	2.09%	Solar software developer that uses satellite imaging to design rooftop solar installations and assist with the solar sales process

Portfolio Analysis

Number of constituents	81
Average age of a Unicorn	9 years
Average Market Cap	\$2.4 billion

Market Cap Exposure

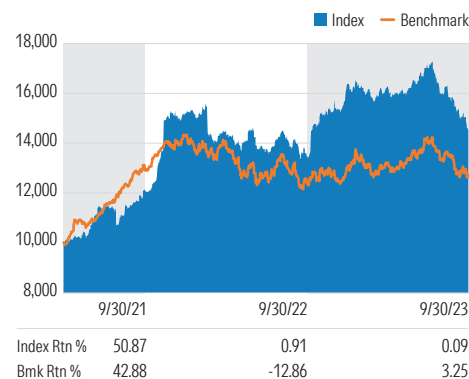
\$1-\$10 billion	80%
\$10-25 billion	20%

Regional Exposure

North America	36%
Europe	13%
Asia	50%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmk Rtn
3 Months	-7.96%	-5.99%
6 Months	-5.18%	-1.97%
1 Year	12.82%	5.82%
2-Year Ann	12.79%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GN00	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global Cybersecurity Unicorn Index

Investment Objective

The Morningstar® PitchBook Global Cybersecurity Unicorn Index™ tracks privately held, venture capital-backed companies in the Cybersecurity industry vertical with valuations of at least \$1 billion. Cybersecurity companies specialize in protecting enterprises from digital threats to business operations.

Sub-themes

- Application Security
- Data Security
- Endpoint Security
- Identity & Access Management
- Network Security
- Security Operations

Additional links: PitchBook Emerging Tech Research: [Information Security](#)

Vertical Overview

Industry drivers

Cybersecurity stands alone as the most resilient category of enterprise software in volatile economic conditions. Enterprise executives prioritize business continuity over additive software systems, resulting in low customer churn and high net revenue retention for cybersecurity leaders. Cybersecurity buyers prioritize fully featured platforms, benefiting companies that offer threat detection and response along with managed services across a range of IT assets. Private companies have grown fastest by focusing on new threat vectors including cloud and internet of things (IoT). Cloud security has created the highest-valued private companies that PitchBook has tracked in cybersecurity, and numerous unicorns have emerged from IoT security.

Unicorn deal history

Cybersecurity unicorns can become independently large companies. In 2021, eight public listings generated \$16.4 billion in exit value. Large public

companies have been created from private unicorns across product segments including secure networking, endpoint security, and security operations. Further, leading public companies and private equity firms have been willing to grant deal values over \$1.0 billion in exceptional cases. Since the market downturn, however, public companies have restored their focus on acquisitions under \$500 million, putting pressure on unicorns to maintain their valuations without a public listing.

Market size

Cybersecurity features large market opportunities across endpoint, network, data, identity, and operations. PitchBook research estimates the market reached \$195.2 billion in 2022 and is on pace to grow at a double-digit rate annually out to 2025. This growth will result in significant market opportunities across software product segments and managed services.

Brendan Burke, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Wiz	5.00%	Cloud security and compliance solutions stand out for comprehensive scanning of multi-cloud environments	Netskope	3.62%	Cloud-delivered networking solutions rely on proprietary network of data centers for data protection across the enterprise network
Tanium	4.34%	Offers a uniquely comprehensive unified endpoint security and management platform	Snyk	3.61%	Enables developers find and fix vulnerabilities in their code and dependencies
Chainalysis	4.07%	A leader in blockchain analysis, providing real-world activity insights on cryptocurrency transactions for private and public sector leaders	Datavant	3.34%	Offers secure data sharing and linking across healthcare organizations, facilitating improved patient outcomes and research collaboration
Lacework	4.02%	Machine learning software stands out for detecting unique risks in cloud workloads missed by conventional endpoint security solutions	1Password	3.30%	Uses end-to-end encryption, unique passwords, and locally generated secret keys to protect user data
Fireblocks	3.72%	A secure and compliant cryptocurrency custody platform for institutional holders	Coalition	2.43%	A cybersecurity and insurance company that offers comprehensive coverage and risk-management solutions

Portfolio Analysis

Number of constituents	77
Average age of a Unicorn	9 years
Average Market Cap	\$2.7 billion

Market Cap Exposure

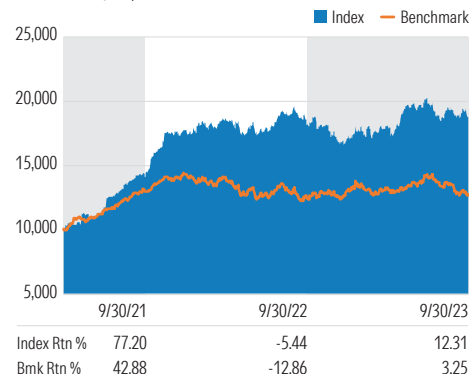
\$1-\$10 billion	95%
\$10-25 billion	5%

Regional Exposure

North America	83%
Europe	7%
Asia	4%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmk Rtn
3 Months	-4.00%	-5.99%
6 Months	4.74%	-1.97%
1 Year	1.62%	5.82%
2-Year Ann	14.29%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNW	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global E-Commerce Unicorn Index

Investment Objective

The Morningstar® PitchBook Global E-Commerce Unicorn Index™ tracks privately held, venture capital-backed companies in the E-Commerce industry vertical with valuations of at least \$1 billion. E-commerce companies help merchants manage all aspects of the online, omnichannel buyer journey and provide technologies spanning pre-purchase product discovery through post-purchase order fulfillment.

Sub-themes

- Pre-purchase
- Pre-Purchase
- Purchase Venue
- Purchase Medium
- Post-Purchase
- Horizontal Platforms

Additional links: PitchBook Emerging Tech Research: [E-Commerce](#)

Vertical Overview

Industry drivers

While the pandemic provided a temporary acceleration in e-commerce growth, digital share of the total retail market now sits in line with prepandemic forecasts and could eclipse 30% of all retail transactions by 2030. Despite the relative maturity of this sector, VC investors continue to back startups with differentiated go-to-market strategies or targeting underserved niches. For example, B2B e-commerce adoption in regions like Latin America or India present meaningful upside.

Unicorn deal history

Investors allocate capital to e-commerce startups based on their ability to grow into large public

companies. E-commerce has supported the listing of companies valued over \$1 billion across a variety of geographies and market segments. In 2021, 10 public listings generated \$23.1 billion in exit value. Further, commerce enablement technologies have supported the growth strategies of notable, public e-commerce platforms and merchants.

Market size

E-commerce features large market opportunities across pre-purchase startups, purchase venues and mediums, post-purchase services, and horizontal platforms. PitchBook research estimates high growth across segments of e-commerce, resulting in significant market opportunities across 23 product categories in a \$274 billion market.

Eric Bellomo, Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Stripe	10.09%	Payment processing software & API for e-commerce websites and applications	Gojek	2.37%	"Super application" used in Indonesia offering entertainment, digital transactions, order fulfillment, and more
Checkout.com	8.41%	A full-stack financial technology platform enabling merchants to securely process payments	Rapyd	2.25%	Global payment platform to accept, send, and hold funds
J&T Express	5.23%	Global logistics service provider facilitating delivery throughout Southeast Asia and China	SumUp	2.11%	Payment platform to process and manage orders for merchants and retailers
Bolt	2.88%	A one-click checkout service for online merchants	Flexport	2.09%	Global supply chain and logistics platform
Lalamove	2.58%	Fulfillment network supporting 11 markets across Asia and Latin America	Automattic	1.94%	Holding company behind several e-commerce enablement platforms including WordPress, WooCommerce, and JetPack

Portfolio Analysis

Number of constituents	113
Average age of a Unicorn	10 years
Average Market Cap	\$3.6 billion

Market Cap Exposure

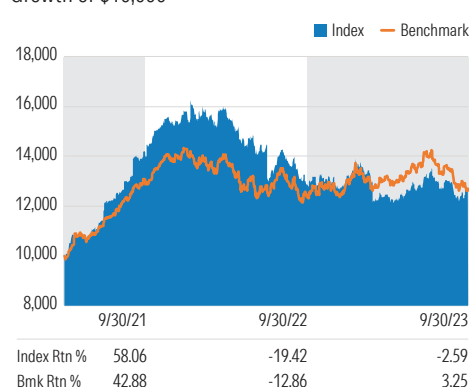
\$1-\$10 billion	72%
\$10-25 billion	8%
>\$25 billion	20%

Regional Exposure

North America	46%
Europe	25%
Asia	23%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmk Rtn
3 Months	-3.46%	-5.99%
6 Months	-0.91%	-1.97%
1 Year	-4.60%	5.82%
2-Year Ann	-5.77%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNO2	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global Enterprise SaaS Unicorn Index

Investment Objective

The Morningstar® PitchBook Global Enterprise SaaS Unicorn Index™ tracks privately held, venture capital-backed companies in the Enterprise SaaS industry vertical with valuations of at least \$1 billion. Enterprise SaaS companies build software to better enable workflows related to consumer relationship management, enterprise resource planning, supply chain management, accounts payable solutions, and key management solutions.

Sub-themes

- Customer Relationship Management
- Enterprise Resource Planning
- Supply Chain Management
- Knowledge Management Systems
- Analytic Platforms
- Other Application Software

Additional links: PitchBook Emerging Tech Research: [Enterprise SaaS](#)

Vertical Overview

Industry drivers

Enterprise SaaS is a broad horizontal sector united by its focus on providing business solutions. These can be as focused as bespoke solutions for specific industries, such as healthcare customer management and care, or as broad as sales or business intelligence services that can be used by any enterprise regardless of sector, geography, or customer base. All manners of emerging technologies, from digital twins to large language models, are being employed to meet ever-evolving business challenges.

Unicorn deal history

Enterprise SaaS companies have a relatively massive total addressable market, which has driven a large number of valuations into unicorn territory. These companies have broad application across every sector of the economy and have proved themselves time and again to be excellent candidates to enter public markets. U.S.-based enterprise SaaS IPOs peaked in 2021, with 51 companies raising \$187.6 billion.

Market size

We currently estimate total global spend on enterprise SaaS products to be approximately \$291.8 billion in 2022, growing at a rate of approximately 12% annually over our five-year outlook period.

Derek Hernandez, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Stripe	8.33%	Online payment processing and infrastructure for internet businesses and is a key provider of financial management systems	Rippling	1.99%	A platform for HR and IT systems, automating employee management processes including onboarding, payroll, benefits, and devices
Miro	2.93%	A collaborative online whiteboard platform that allows teams to work together in real time	Faire	1.89%	An online wholesale marketplace that connects retailers with independent makers and artisans
Grammarly	2.54%	A digital writing assistant tool that helps users improve their writing by checking for grammar, spelling, punctuation, and style errors	Figma	1.67%	An online design and prototyping tool used for collaborative interface design in real time
CloudKitchens	2.45%	Provides a virtual marketplace backed by physical kitchens for food delivery and online restaurants	Gusto	1.61%	Cloud-based payroll, benefits, and human resource management services for small businesses
Deel	2.04%	An online platform that simplifies global hiring and payroll for remote teams, addressing compliance and international teams	Anduril	1.44%	An American defense company specializing in autonomous systems, including networked command and control software

Portfolio Analysis

Number of constituents	210
Average age of a Unicorn	9 years
Average Market Cap	\$2.9 billion

Market Cap Exposure

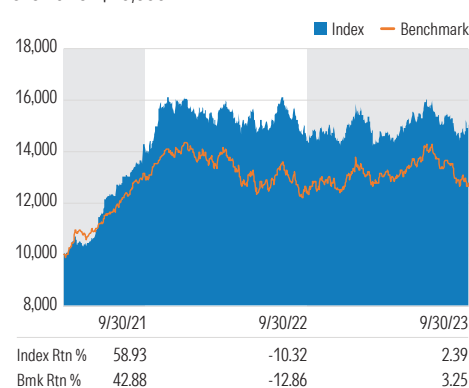
\$1-\$10 billion	78%
\$10-25 billion	13%
>\$25 billion	8%

Regional Exposure

North America	99%
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Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmark Rtn
3 Months	-4.70%	-5.99%
6 Months	-0.20%	-1.97%
1 Year	0.54%	5.82%
2-Year Ann	2.57%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNNU	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global FinTech Unicorn Index

Investment Objective

The Morningstar® PitchBook Global FinTech Unicorn Index™ tracks privately held, venture capital-backed companies in the FinTech industry vertical with valuations of at least \$1 billion. FinTech companies employ technologies to offer or facilitate financial services usually offered by traditional banks including loans, payments, wealth or investment management, as well as software providers automating financial processes or addressing core business needs of financial firms.

Sub-themes

- Alternative Lending
- Capital Markets
- CFO Stack
- Commercial Finance
- Retail Credit & Banking
- Financial Services Infrastructure
- Payments
- RegTech
- WealthTech

Additional links: PitchBook Emerging Tech Research: [Retail FinTech](#), PitchBook Emerging Tech Research: [Enterprise FinTech](#)

Vertical Overview

Industry drivers

The FinTech vertical is composed of products and services that help businesses and consumers transact, budget, borrow, lend, and invest, and is enabled by the ongoing development of new software, payment rails, infrastructure technologies, and AI models. Many leading FinTech companies were conceived in the wake of the global financial crisis. However, permanent structural and behavioral shifts brought forth by the COVID-19 pandemic have incited much of the modern innovation seen in the sector today. Looking ahead, ample opportunities remain for serving underbanked demographics, hyper-personalizing products, increasing electronic payment speeds, embedding financial products and services into third-party applications, and reducing fraud.

Unicorn deal history

There are over 201 companies now valued over \$1.0 billion within the vertical. These unicorns tackle an extensive range of pain points, though many are focused on creating solutions for the payments and banking spaces. As these segments have existed for decades, opportunities for disruption have been wide-ranging and large in their total addressable markets. Substantial levels of venture capital have resultingly flowed into FinTech, with 2021 and 2022 seeing \$98.6 billion and \$60.9 billion of venture investments, respectively.

Market size

FinTech market sizes are inherently large because of their global reach and the long-standing nature of the financial industry. For example, many countries have established payments, banking, and wealth management industries, which have continued to evolve over time. In just the B2B payments market alone, PitchBook estimates the global volume to have reached \$135.0 trillion in 2022.

Rudy Yang, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Ant Group	9.82%	An affiliate company of Alibaba Group, which owns one of the largest mobile payment platforms known as Alipay	JD Digits	2.37%	Acquirer of internet giant JD.Com's Cloud and AI businesses and developer of a fintech platform
Stripe	6.19%	One of the most widely used payment platforms that enables merchants to accept a range of payment methods both seamlessly and securely	Plaid	1.62%	A FinTech infrastructure company that enables financial data to be connected and shared across third-party applications
Checkout.com	4.93%	An international payments company that helps businesses accept and process payments	Brex	1.54%	An expense management platform that also offers business accounts and payments solutions
Revolut	4.01%	A global digital bank headquartered in London that provides a range of banking, payments, and financial planning services to its customers	Deel	1.52%	Developer of a platform that helps companies with HR operations including workforce management, hiring, payroll, and compliance
Chime	3.04%	Provider of digital banking services in the U.S. that challenges traditional banking models such as maintenance and overdraft fees	Rippling	1.48%	A global workforce management platform that offers a suite of solutions of HR, payroll, and expense management functions

Portfolio Analysis

Number of constituents	201
Average age of a Unicorn	9 years
Average Market Cap	\$4.6 billion

Market Cap Exposure

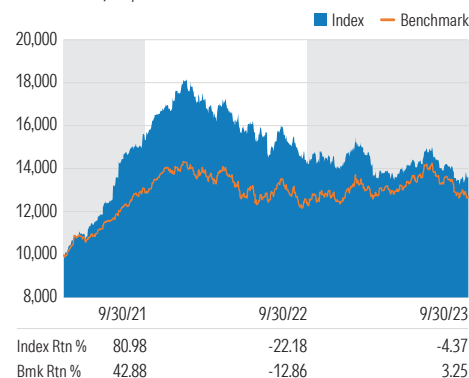
\$1-\$10 billion	61%
\$10-\$25 billion	14%
>\$25 billion	25%

Regional Exposure

North America	47%
Europe	24%
Asia	23%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmark Rtn
3 Months	-5.98%	-5.99%
6 Months	-3.06%	-1.97%
1 Year	-6.92%	5.82%
2-Year Ann	-6.35%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNNT	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global HealthTech Unicorn Index

Investment Objective

The Morningstar® PitchBook Global HealthTech Unicorn Index™ tracks privately held, venture capital-backed companies in the HealthTech industry vertical with valuations of at least \$1 billion. HealthTech companies provide technologies that improve healthcare delivery and operations or develop novel diagnostic or therapeutic technologies.

Sub-themes

- Healthcare IT
- Digital Health
- MedTech
- PharmaTech
- BioPharma

Additional links: PitchBook Emerging Tech Research: [MedTech](#), PitchBook Emerging Tech Research: [Digital Health](#), PitchBook Emerging Tech Research: [Healthcare IT](#)

Vertical Overview

Industry drivers

HealthTech benefits from secular tailwinds such as the growth of digital health management, an aging population, and rising demand to improve care access. Market sizes are large and growing, and a strong ecosystem of health solutions are being developed that leverage new technological advances as global populations seek to live longer, healthier lives.

Unicorn deal history

Many HealthTech unicorns have gone public over the past decade, and unicorn development has been fueled by innovation and investor interest in connected health and personalized care. MedTech startups could look to be acquired by incumbents as the sector has a high rate of acquisitions. For other HealthTech unicorns, public listings are likely, and consolidation is also possible as unicorns look to scale before seeking to exit. HealthTech exit activity peaked in 2021 with

public listings by Signify Health (since acquired by CVS), Doximity, and Hims & Hers, and acquisitions of unicorns such as MDLive and Ortho-Clinical Diagnostics. Exit activity has since plummeted, and HealthTech exit volume in 2023 has been significantly below prior-year levels.

Market size

HealthTech market opportunities are large and varied, ranging from B2B workforce enablement, medical diagnostics, and DTC telemedicine. PitchBook estimates over 100 product categories in HealthTech, and several segments in the vertical, such as precision medicine and pharmaceutical manufacturing, have large and growing market sizes in the tens of billions of dollars.

Rececca Springer Ph.D., Lead Analyst; Kazi Helal Ph.D., Senior Analyst; Aaron DeGagne CFA, Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Biosplice Therapeutics	4.48%	Operator of a tissue-level therapeutic drugs company focused on osteoarthritis and oncology, with early-stage programs in neurology and other areas of significant unmet medical need	Ro	2.36%	Direct-to-consumer telehealth platform with digital provider visits, prescription renewal, and home script delivery
Tempus	3.70%	Operator of a healthcare data analytics platform intended to make precision medicine a reality by applying artificial intelligence in healthcare	Doctolib	2.30%	Operator of an online platform to help patients choose doctors, make appointments, and manage health records
Resilience	3.26%	Operator of an advanced biopharmaceutical manufacturing company intended to change the way medicine is made	Hinge Health	2.15%	Online musculoskeletal care and virtual physical therapy provider offered through employers and health plans
Datavant	2.51%	Developer of a data and analytics platform that enables compliant data aggregation and big data application development	Benchling	2.15%	Developer of a lab collaboration platform designed to make life science research faster and more collaborative
WeDoctor	2.44%	Operator of a healthcare search platform that offers appointment scheduling and ability to view hospital and doctor ratings	Lyra	2.08%	Digital platform for workforce mental health, offers comprehensive care options including self-care, coaching, therapy, and medication management

Portfolio Analysis

Number of constituents	123
Average age of a Unicorn	9 years
Average Market Cap	\$2.3 billion

Market Cap Exposure

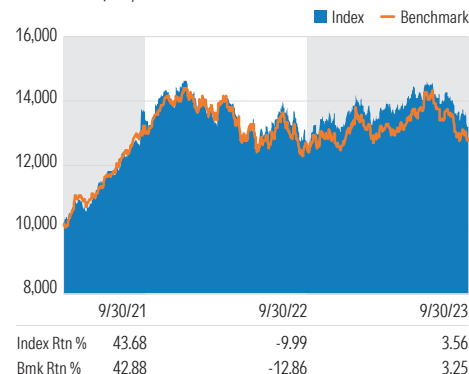
\$1-\$10 billion	92%
\$10-25 billion	8%

Regional Exposure

North America	72%
Europe	7%
Asia	21%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmark Rtn
3 Months	-4.45%	-5.99%
6 Months	-0.97%	-1.97%
1 Year	6.82%	5.82%
2-Year Ann	0.97%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNNY	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global Mobility Tech Unicorn Index

Investment Objective

The Morningstar® PitchBook Global Mobility Tech Unicorn Index™ tracks privately held, venture capital-backed companies in the Mobility Tech industry vertical with valuations of at least \$1 billion. Mobility Tech companies provide technologies and services that are disrupting the transportation, automotive, or shipping industries.

Sub-themes

- Advanced Air Mobility
- Auto Commerce
- Fleet Management & Connectivity
- Marine Mobility
- Micromobility
- Last-Mile Delivery
- Ride Hailing
- Public Mobility Solutions
- Electric Vehicles
- Autonomous Driving

Additional links: PitchBook Emerging Tech Research: [Mobility Tech](#)

Vertical Overview

Industry drivers

Much of mobility tech is focused on the monumental transition away from fossil fuels across all forms of transportation. New and better energy storage is needed to compete with the superior energy density of oil and gas fuels. Investors have poured billions into advanced battery technology. Reconfigured mobility modes and networks are needed to untangle traffic in choked urban centers as urban populations continue to rise. Transit tech, micromobility, and last-mile delivery have been key areas of investment addressing this theme.

Unicorn deal history

The PitchBook Mobility Tech vertical recorded a peak of nearly \$95 billion across more than 1,900 VC deals in

2021. In the same year, 194 exits generated more than \$220 billion in exit value. In the subsequent years, the number of deals and deal value have declined in line with the broader pullback across VC investments.

Market size

The challenge of the transition away from fossil fuels has created enormous opportunity to disrupt large segments of transportation and related industries. Passenger cars alone represent a multitrillion market. Decarbonization of freight across trucking, rail, marine, and aerospace represents another sizable disruptive opportunity. Further, digitalization and connectivity of mobility comprises large recurring revenue opportunities.

Jonathan Geurkink, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Waymo	5.89%	Leading developer of autonomous driving technologies and robo-taxis	Xingsheng Selected	2.53%	Online platform for delivery of groceries and consumer goods
SZ DJI Technology	3.55%	Dominant developer, manufacturer, and vendor of drone technologies	Caocao Mobility	2.20%	Leading ride-hailing and last-mile delivery startup in China
Gopuff	3.17%	Leader in U.S. ultrafast delivery platforms and logistics network	Lalamove	2.19%	Same-day delivery platform for small and medium sized businesses
Zeekr	2.86%	Major Chinese electric vehicle manufacturer	Guazi Used Car	2.17%	Chinese used car trading platform including pricing, financing, and insurance
Northvolt	2.56%	Developer and manufacturer of lithium-ion batteries for mobility and stationary applications	Gojek	2.01%	Indonesian online on-demand ride-hailing and delivery platform

Portfolio Analysis

Number of constituents	144
Average age of a Unicorn	9 years
Average Market Cap	\$3.6 billion

Market Cap Exposure

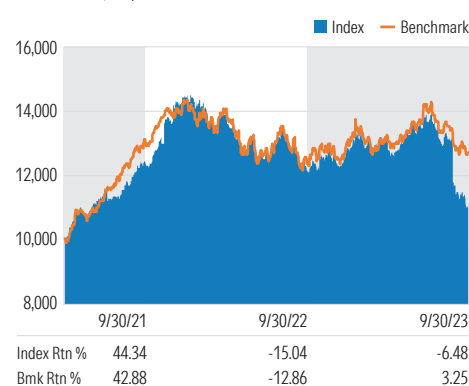
\$1-\$10 billion	71%
\$10-25 billion	15%
>\$25 billion	14%

Regional Exposure

North America	42%
Europe	8%
Asia	43%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmk Rtn
3 Months	-15.19%	-5.99%
6 Months	-13.08%	-1.97%
1 Year	-5.91%	5.82%
2-Year Ann	-3.26%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNXX	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

Morningstar PitchBook Global Supply Chain Tech Unicorn Index

Investment Objective

The Morningstar® PitchBook Global Supply Chain Tech Unicorn Index™ tracks privately held, venture capital-backed companies in the Supply Chain Tech industry vertical with valuations of at least \$1 billion. Supply Chain Tech companies provide technologies and services that are changing how global supply chains are managed and operated, including improved visibility across delivery and supply channels, quicker shipping capabilities, and the ability to source products on demand.

Sub-themes

- Last-Mile Delivery
- Freight Tech
- Warehouse Tech
- Enterprise Supply Chain Management

Additional links: PitchBook Emerging Tech Research: [Supply Chain Tech](#)

Vertical Overview

Industry drivers

The past several years have seen heightened and intense focus on some of the shortcomings of global supply chains. COVID-19 and geopolitical upheaval have spurred the concept of supply chain resiliency and accelerated broader trends such as the ecommerce transformation of supply. Global supply chains and the movement of goods represent a significant source of carbon emissions and intensity that need to be addressed to limit climate change. Investors have targeted numerous opportunities across supply chain technologies to exploit these transformations of the industry.

Unicorn deal history

The PitchBook Supply Chain Tech Vertical recorded a peak of VC investment in supply chain technology of \$62 billion across 1,629 deals in 2021. The same year, supply chain tech startups across the vertical had 133 exits accounting for \$127 billion in deal value. In subsequent years, VC activity in the vertical declined in line with the broader VC investment climate as well as an easing of supply chain constraints globally.

Market size

Global supply chains represent multitrillion markets. Key areas of technology investment include the transformation of transportation, digitalization of data and information across supply chain tiers and within organizations, and optimization of logistics operations such as warehouses, distribution centers, and port facilities.

Jonathan Geurkink, Senior Analyst

Top 10 Holdings

Holding	Weight	Rationale	Holding	Weight	Rationale
Waymo	8.67%	Leading developer of autonomous vehicle technology and robo-taxis	Faire	3.65%	Developer of online marketplace using AI and predictive analytics to mitigate inventory risk
SZ DJI Technology Company	5.23%	Dominant developer, manufacturer, and vendor of drone technologies	Lalamove	3.23%	Same-day delivery platform for small and medium-sized businesses
Gopuff	4.66%	Leader in U.S. ultrafast delivery platforms and logistics network	Gojek	2.96%	Indonesian online on-demand ride-hailing and delivery platform
Celonis	3.74%	Developer of online business process automation platform	Swiggy	2.75%	Major Indian online food ordering and delivery platform
Xingsheng Selected	3.73%	Online platform for delivery of groceries and consumer goods	Flexport	2.61%	Digital disruptor in supply chain freight forwarding that provides visibility and booking across ocean, air, and truck freight

Portfolio Analysis

Number of constituents	95
Average age of a Unicorn	9
Average Market Cap	\$3.9 billion

Market Cap Exposure

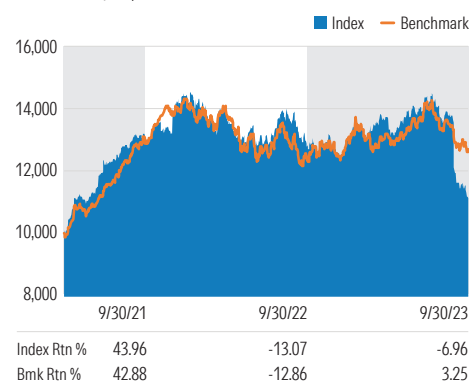
\$1-\$10 billion	60%
\$10-\$25 billion	22%
>\$25 billion	18%

Regional Exposure

North America	50%
Europe	11%
Asia	33%

Performance Analysis

Growth of \$10,000



Trailing Performance

	Index Rtn	Bmark Rtn
3 Months	-16.87%	-5.99%
6 Months	-15.70%	-1.97%
1 Year	-9.88%	5.82%
2-Year Ann	-5.14%	-0.06%

Operations

Launch Date	October-25-2023	Weighting Scheme	Market Capitalization	Return Type	Total Return
Performance Start Date	March-22-2021	Morningstar ID	F00001GNO3	Benchmark	Morningstar PitchBook Global Unicorn Index
Rebalance Frequency	Quarterly	Index Asset Class	Alternative		
Reconstitution Frequency	Quarterly	Base Currency	U.S. Dollar		

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