



EMERGING TECH RESEARCH

Emerging Tech Indicator

AI & ML reign shows no sign of abating, but
Web3 & DeFi could be making a comeback

Q4
2023



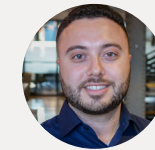


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Note: Data from prior quarters has been revised from the previous ETI report to reflect the latest funding data available.



Introduction

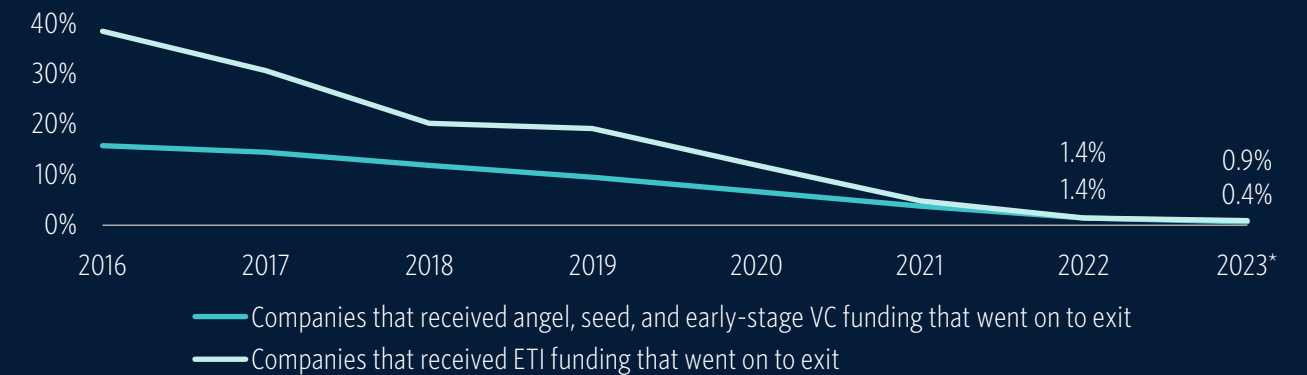
The Emerging Tech Indicator (ETI) provides a quarterly review of angel, seed, and early-stage investment activity involving a limited subset of the world's most successful VC firms that account for roughly 10% of total VC investment. The analysis provides a unique perspective into the types of technologies top investors view as the most promising, while also tracking how aggressively they are making capital allocation decisions.

In the fourth quarter of 2023, we tracked 134 seed and early-stage VC deals that involved the top 15 VC firms (relative to 5,845 total seed and early-stage VC deals). These firms are determined each quarter based on the success of their investments over time in terms of exits and valuations.¹ As shown in the charts on the right, ETI startups identified via our top-15 methodology have strongly outperformed the broader VC industry, exhibiting higher exit rates and higher valuations. This report reviews the products and technologies being developed by ETI startups.

Disclaimer: Data from the ETI report represents a snapshot of venture activity at a certain point in time. Historical datasets are continuously being adjusted to incorporate new information as we collect it, complicating efforts to compare the current ETI dataset with previously published reports.

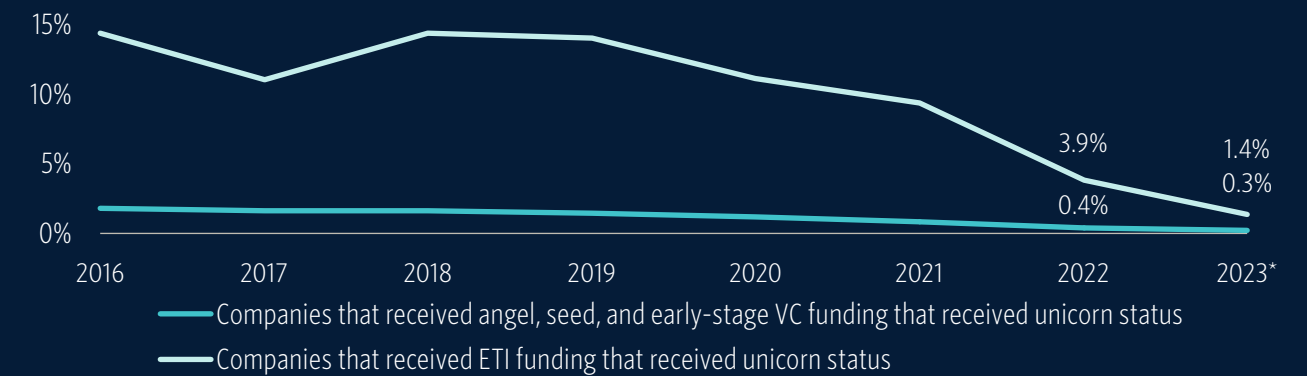
¹: Emerging Tech Indicator ranking methodology can be found [here](#).

Companies that went on to exit as a share of all companies that received ETI funding or angel, seed, and early-stage VC funding



Source: PitchBook • Geography: Global • *As of December 31, 2023

Companies that achieved unicorn status as a share of all companies that received ETI funding or angel, seed, and early-stage VC funding



Source: PitchBook • Geography: Global • *As of December 31, 2023



Key takeaways

- **Deal activity continues to decline:** In Q4 2023, ETI deal activity decreased to \$3.1 billion over 134 deals, down from \$3.3 billion across 147 deals in the previous quarter, continuing a broad decline since early 2022. Compared with Q1 2022's peak, this is a 54.9% drop in deal count and a 73.8% drop in deal value. ETI deals constituted 9.9% of all early-stage VC funding for the quarter, lower than Q3's share and the historical 10.6% average.
- **AI & ML and biotech remain at the forefront, and crypto might be resurging:** AI & ML represented the largest area of investment, accounting for \$895.8 million across 23 deals. This was followed by biotechnology with \$534.5 million across eight deals, Web3 & DeFi with \$216.6 million across 15 deals, fintech with \$212.2 million across 13 deals, and supply chain tech with \$152.1 million across five deals. Web3, while still below its peak, saw a steady rise in investment in 2023.
- **The number of large deals has dipped:** In Q4, only five ETI deals were worth more than \$100 million, which is a decrease from the 10 deals recorded in the same quarter of 2022. This is also below the historical average of six. Among these top deals was France-based generative AI platform [Mistral AI](#)'s Series A funding of \$433.9 million as well as two biotech Series B rounds, one from [Seismic Therapeutic](#) at \$121.0 million and the other from [Tome Biosciences](#) at \$117.5 million.
- **Median deal sizes are rocky:** With the recent market correction, median ETI deal sizes have been volatile in recent quarters across angel, seed, and early-stage VC. In Q4 2023, the median deal size for angel and seed decreased to \$4.8 million, while the median deal size for early-stage deals also fell to approximately \$22.0 million despite the overall trend of maintaining growth over the past few years.

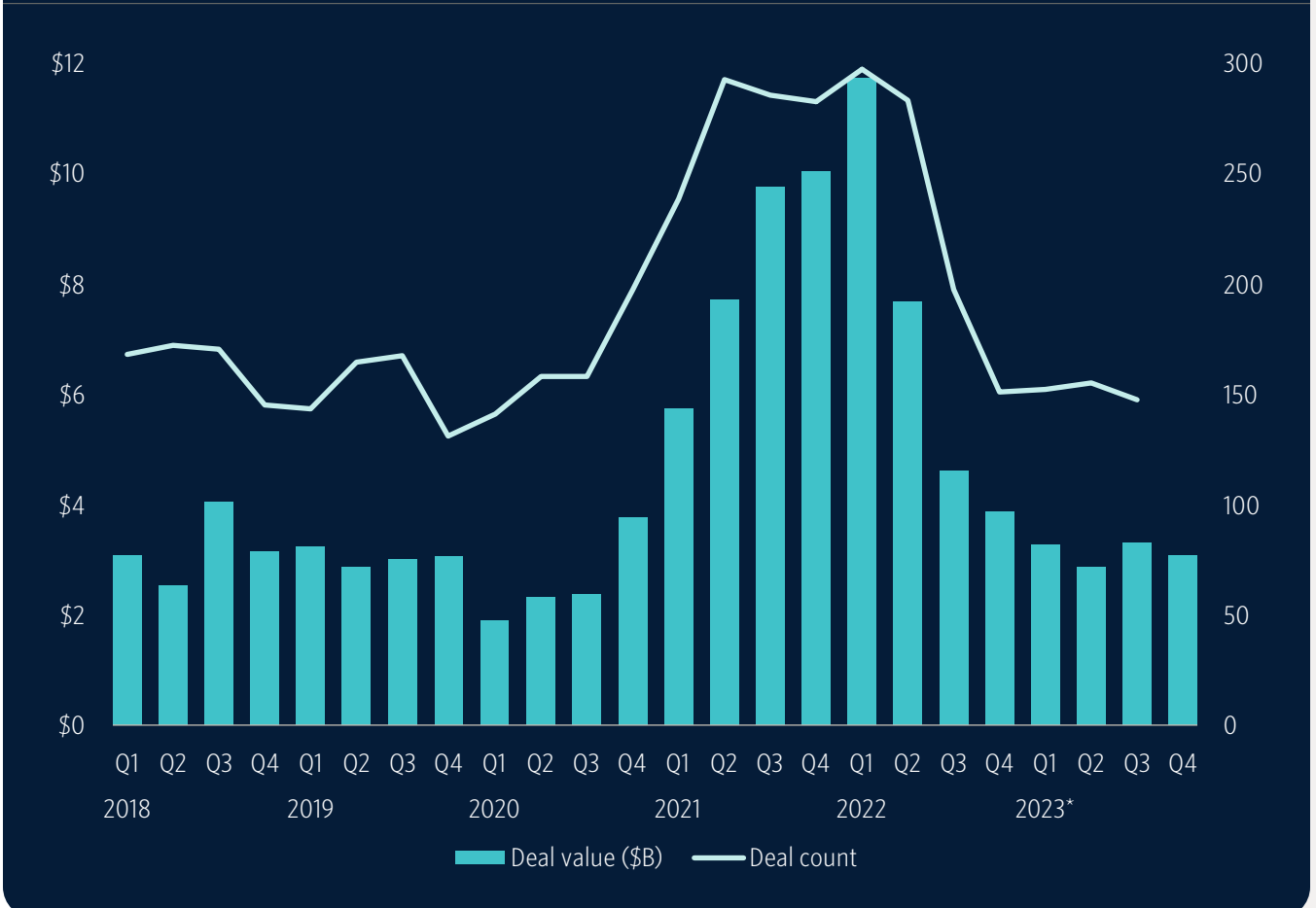


Deal activity

Q4 2023 saw continued declines in ETI deal activity, totaling \$3.1 billion across 134 deals compared with \$3.3 billion across 147 deals in the previous quarter. This is consistent with a declining trend in ETI activity since its peak in Q1 2022, when \$11.7 billion was invested across 297 deals.² In fact, Q4 2023 ETI activity bears more resemblance to the pre-COVID-19 era, as Q4 2019 saw \$3.1 billion invested across 131 deals. In Q4, we recorded five ETI deals of \$100 million or more, below the historical average of six. 17 deals of \$50 million or more were completed in Q4, the same as in Q3 2023 but lower than Q4 2022, a quarter that saw 23 deals of such size. The top three deals included a \$433.9 million Series A for AI platform [Mistral AI](#) and two biotech deals: a \$121.0 million Series B for [Seismic Therapeutic](#) and another Series B of \$117.5 for [Tome Biosciences](#). ETI deal activity represented 9.9% of total angel, seed and early-stage VC funding in the quarter—lower than Q3’s share and the historical 10.6% average.

In Q4, we recorded 134 ETI deals across 27 different technology segments. Artificial intelligence & machine learning (AI & ML) represented the largest area of investment, accounting for \$895.8 million across 23 deals. This was followed by biotechnology with \$534.5 million across eight deals, Web3 & decentralized finance (Web3 & DeFi) with \$216.6 million across 15 deals, fintech with \$212.2 million across 13 deals, and supply chain tech with \$152.1 million across six deals.

ETI deal activity by quarter



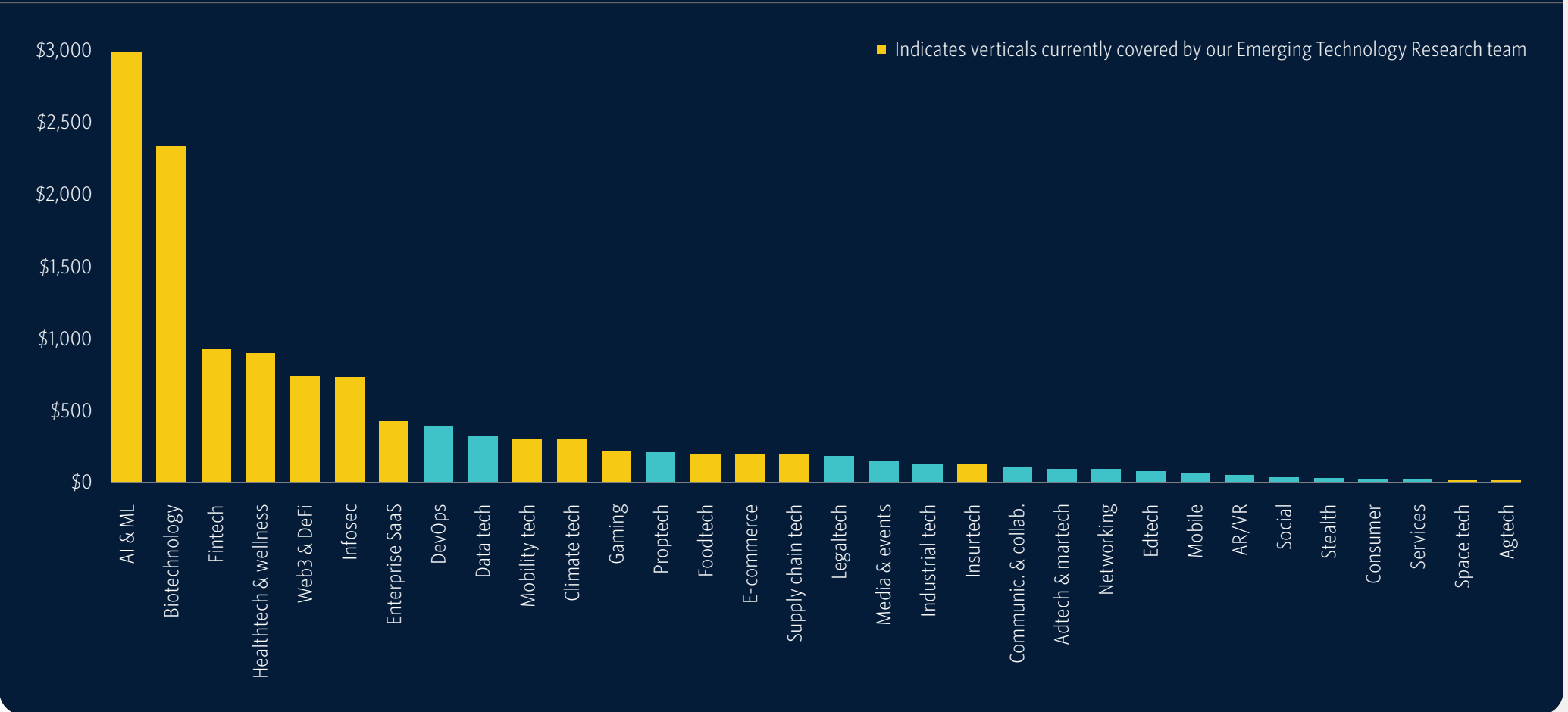
Source: PitchBook • Geography: Global • *As of December 31, 2023

²: See our [Q4 2023 PitchBook-NVCA Venture Monitor](#) for an overview of activity across the entire VC market.



Areas of investment

Trailing 12-month (TTM) ETI deal value (\$M) by segment*

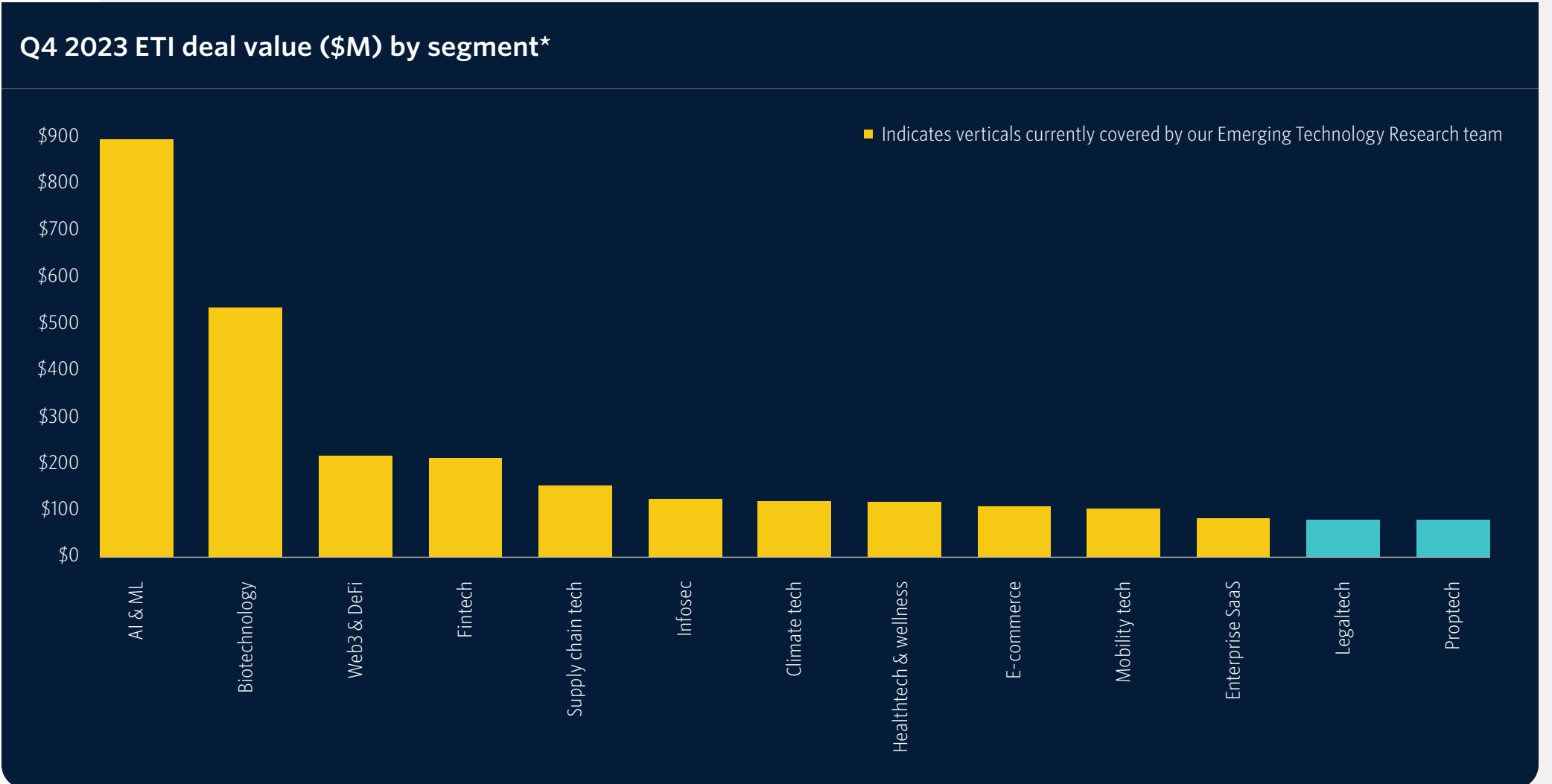


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AREAS OF INVESTMENT

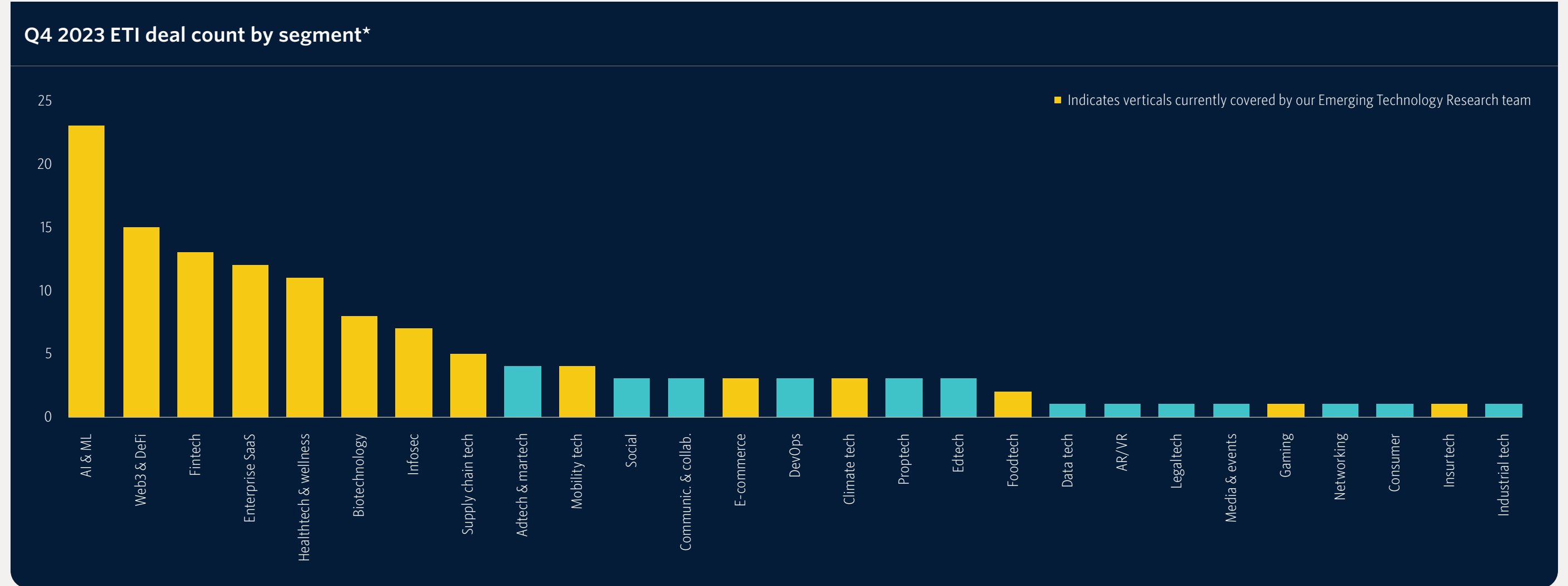
In Q4, the leading categories of ETI investment were AI & ML, biotechnology, and Web3 & DeFi. On a cumulative four-quarter basis, these categories dominated ETI capital.



Source: PitchBook • Geography: Global • *As of December 31, 2023



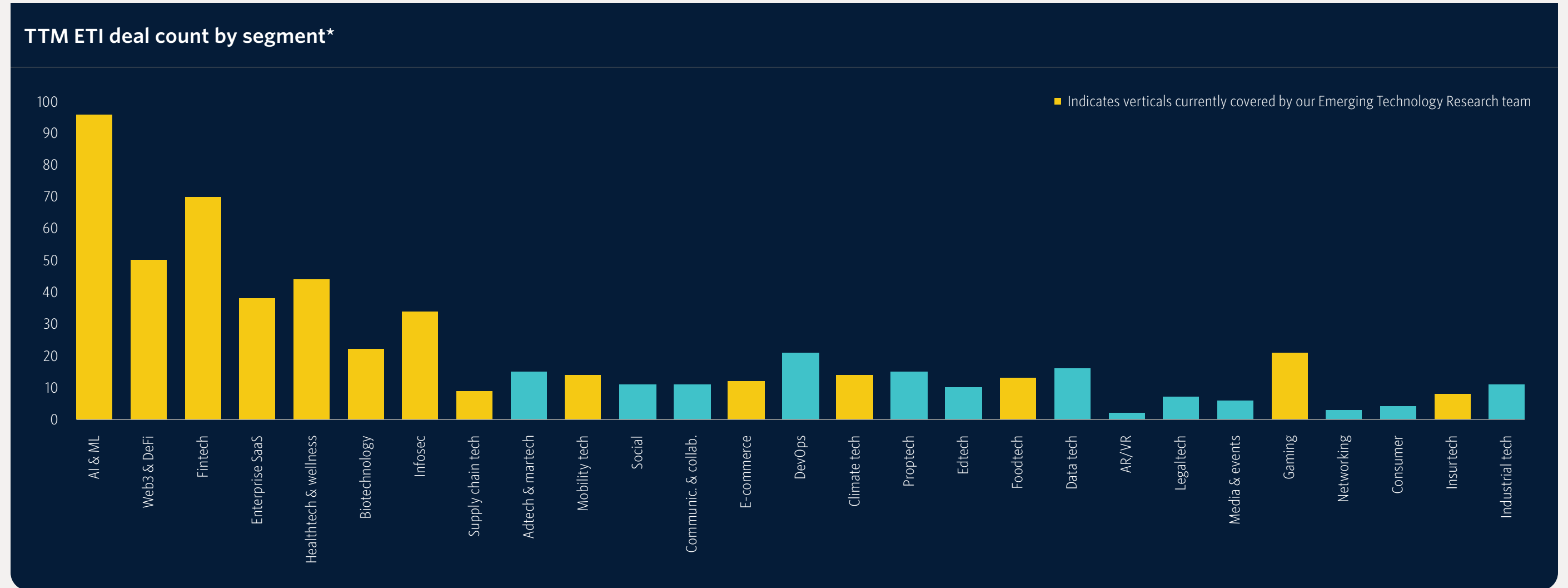
AREAS OF INVESTMENT



Source: PitchBook • Geography: Global • *As of December 31, 2023



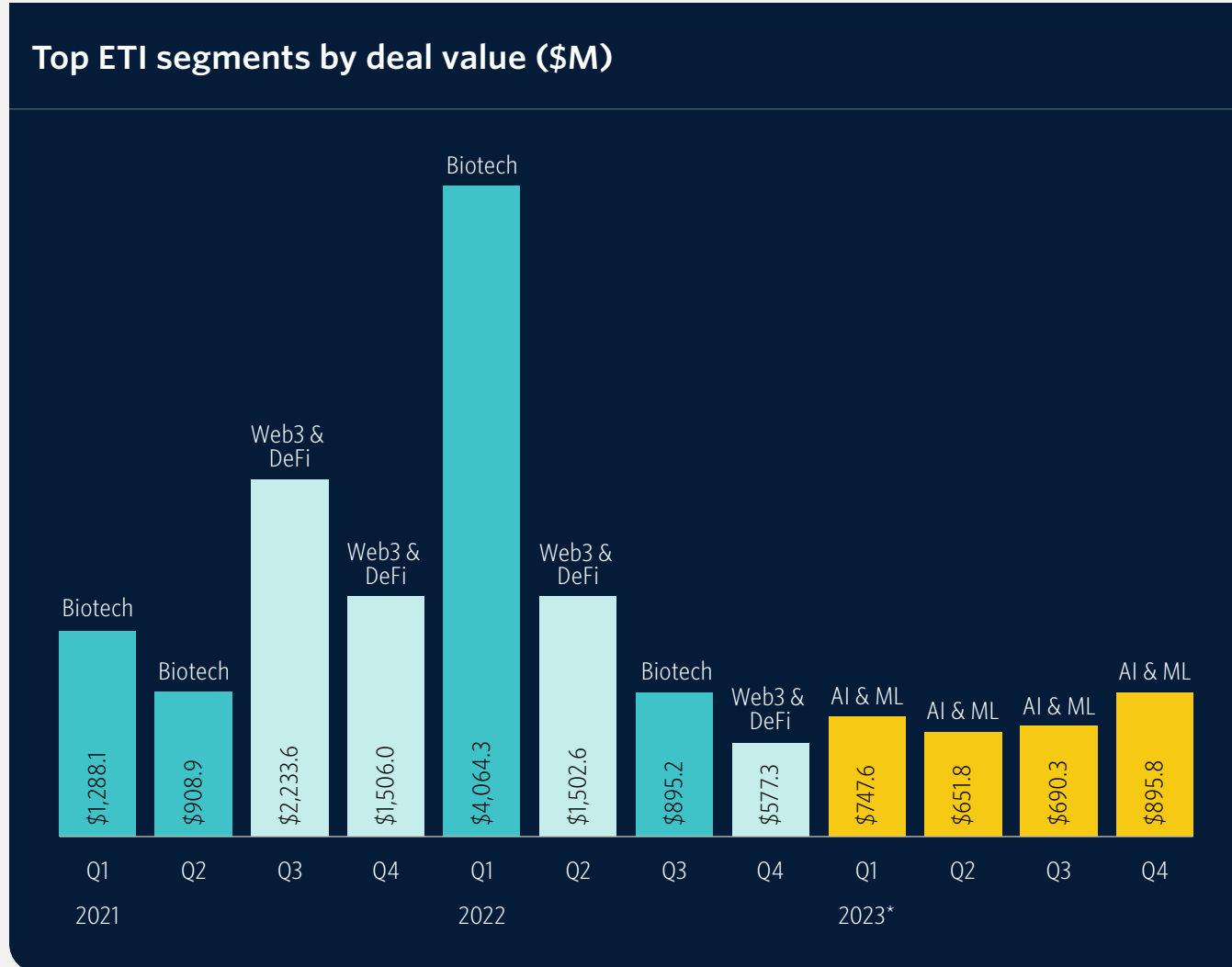
AREAS OF INVESTMENT



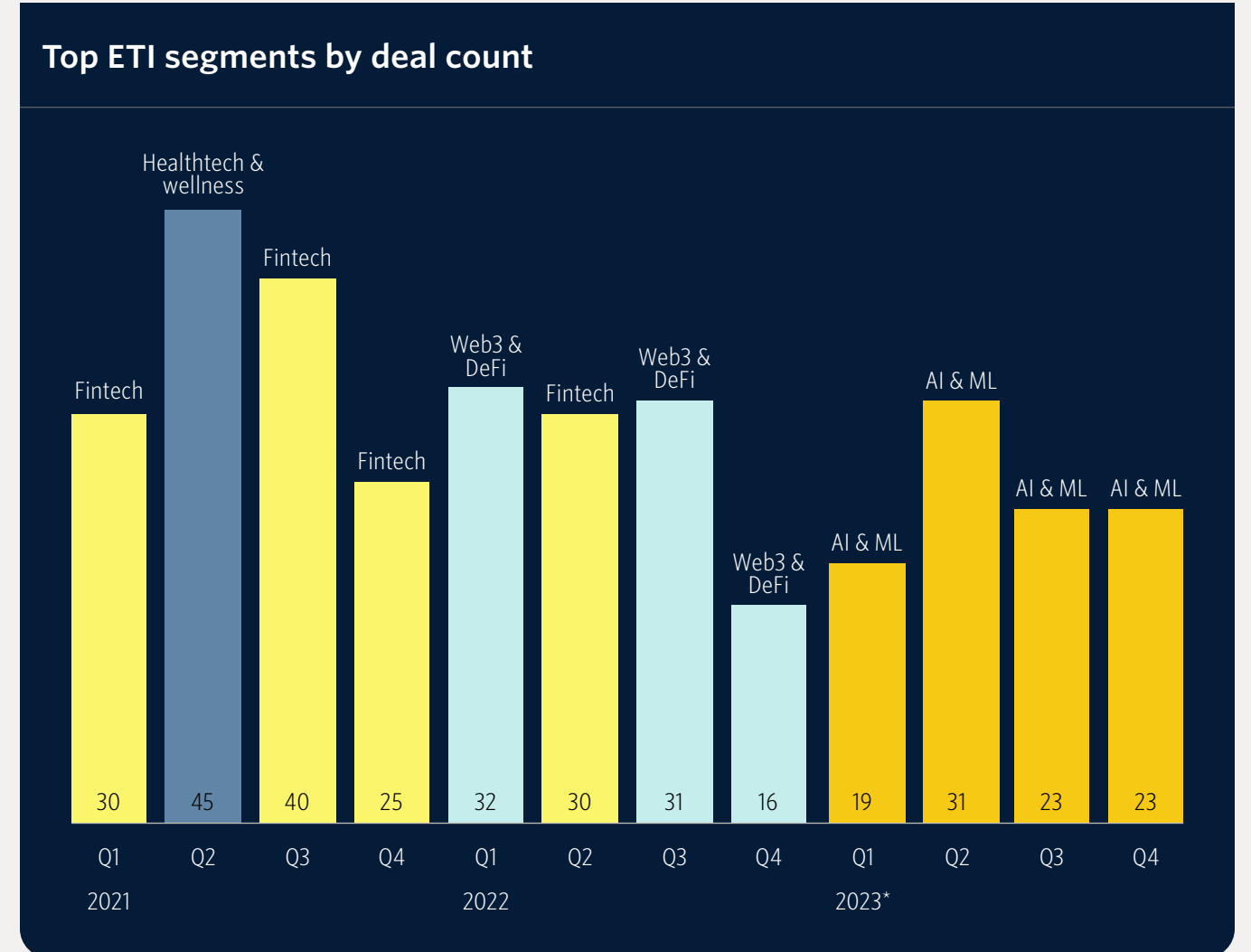
Source: PitchBook • Geography: Global • *As of December 31, 2023



AREAS OF INVESTMENT



Source: PitchBook • Geography: Global • *As of December 31, 2023



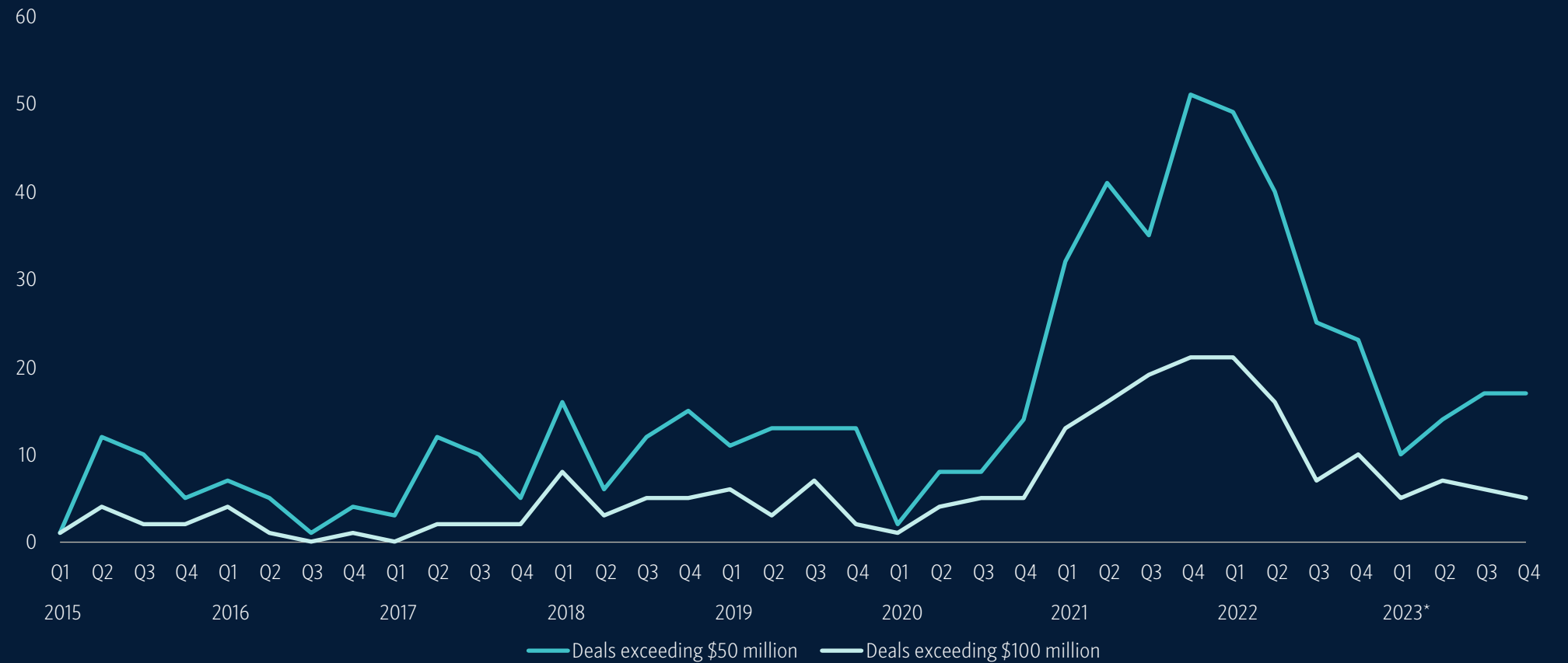
Source: PitchBook • Geography: Global • *As of December 31, 2023



AREAS OF INVESTMENT

High-value deals have generally fluctuated in recent quarters but remained relatively steady between Q3 and Q4. Five deals over \$100 million were recorded in Q4, a decrease from six in the previous quarter and below the historical average of six. Similarly, the number of deals over \$50 million maintained at 17 between Q3 and Q4, above the historical average of 16.

Quarterly ETI deal count for deals exceeding \$50 million and \$100 million



Source: PitchBook • Geography: Global • *As of December 31, 2023



ETI deal segment spotlights



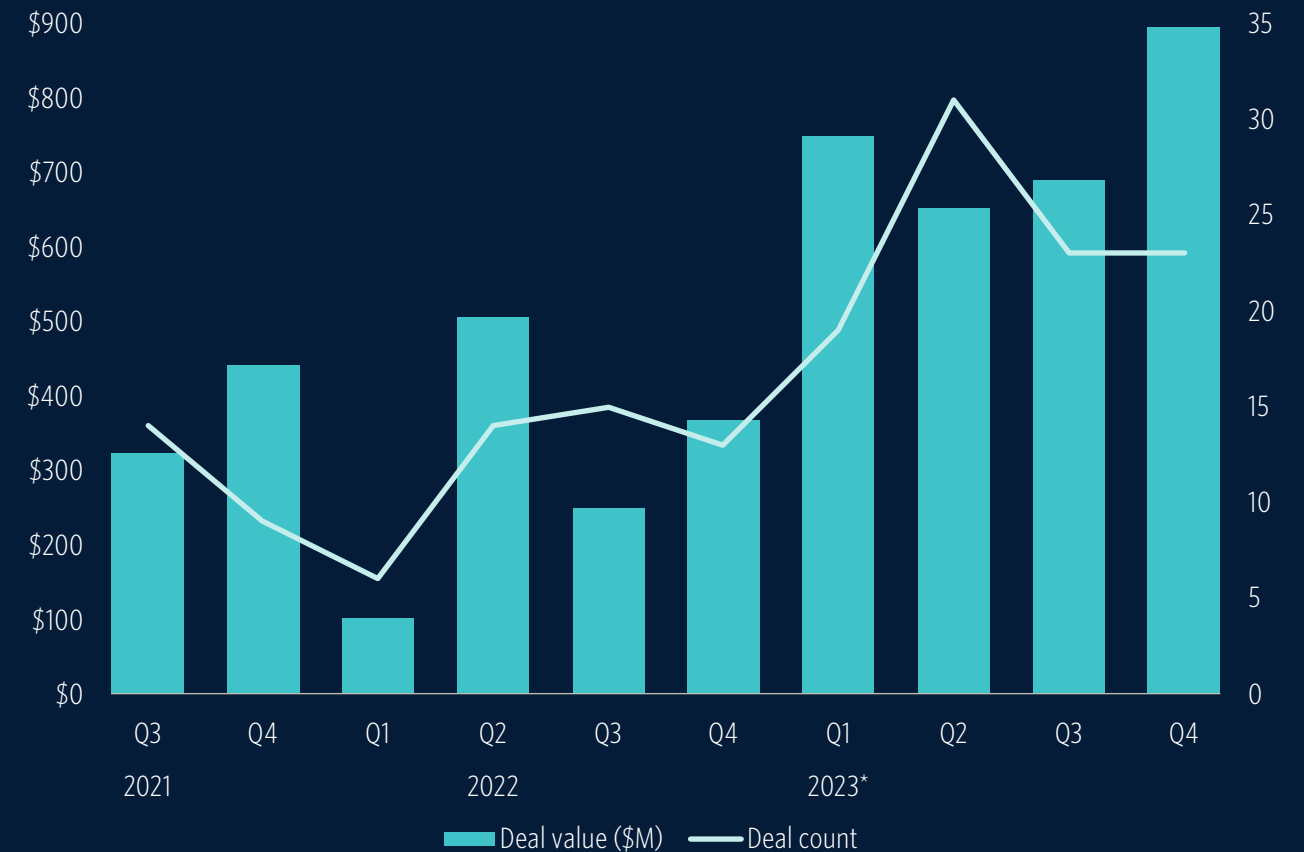
AI & ML

The momentum in AI & ML shows no signs of abating, with Q4 2023 breaking investment records in the category. A total of \$895.8 million was invested across 23 deals, marking a 29.7% increase in funding from Q3. The average deal size rose to \$40.7 million, up from \$36.3 million in the previous quarter, and the average pre-money valuation surged to \$404.5 million, a significant leap from \$238.3 million in Q3. Series A rounds attracted the most funding, yet seed-stage companies comprised half of the deal count. With AI demand escalating and market conditions improving, this upward trend is expected to extend into 2024. AI & ML technologies are becoming increasingly critical across various sectors as well. Of the 111 non-AI & ML companies covered in this report, 37 have integrated AI & ML as a key aspect of their product offerings.

Highlighting the top AI & ML deals, [Mistral AI](#), a France-based open-source foundation model platform, raised a \$433.9 million Series A round, achieving a valuation of \$2.2 billion and a 6.7x step-up in valuation. Startup [together.ai](#) secured a \$102.5 million Series A for its open-source AI development platform, reaching a valuation of \$566.0 million with a 4.6x valuation step-up. [Perplexity](#), a generative search engine, raised \$73.6 million in a Series B round, reaching a \$520.0 million valuation at a 3.6x step-up. Additionally, some deals concentrated on AI infrastructure startups, such as [Armada](#) with its \$40.0 million Series A for edge computing solutions and [Modal Labs](#) with an \$18.0 million Series A for its cloud-based ML infrastructure.

For a deeper dive into the AI & ML sector, please refer to the [work](#) of our dedicated AI & ML analyst, Brendan Burke.

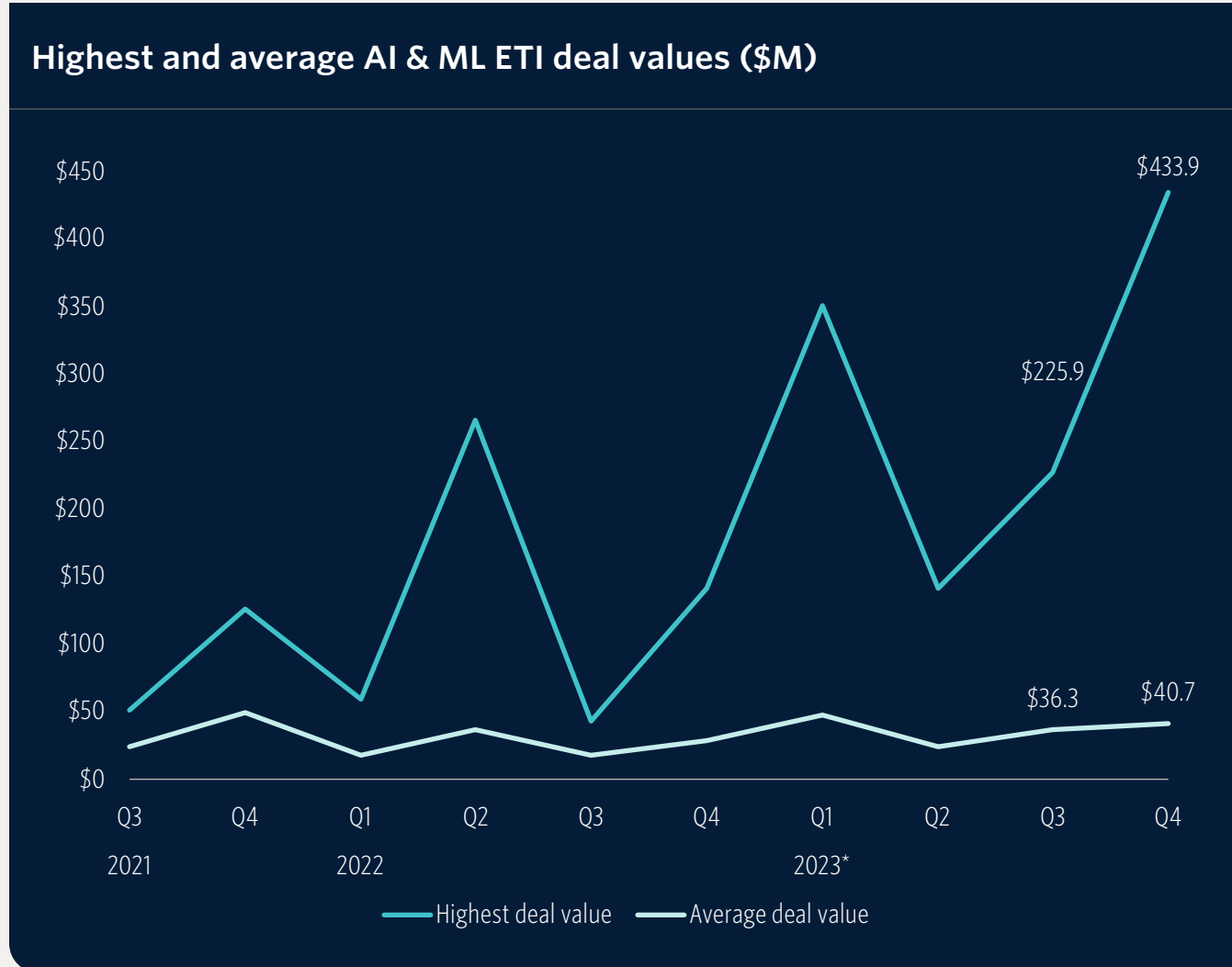
AI & ML ETI deal activity



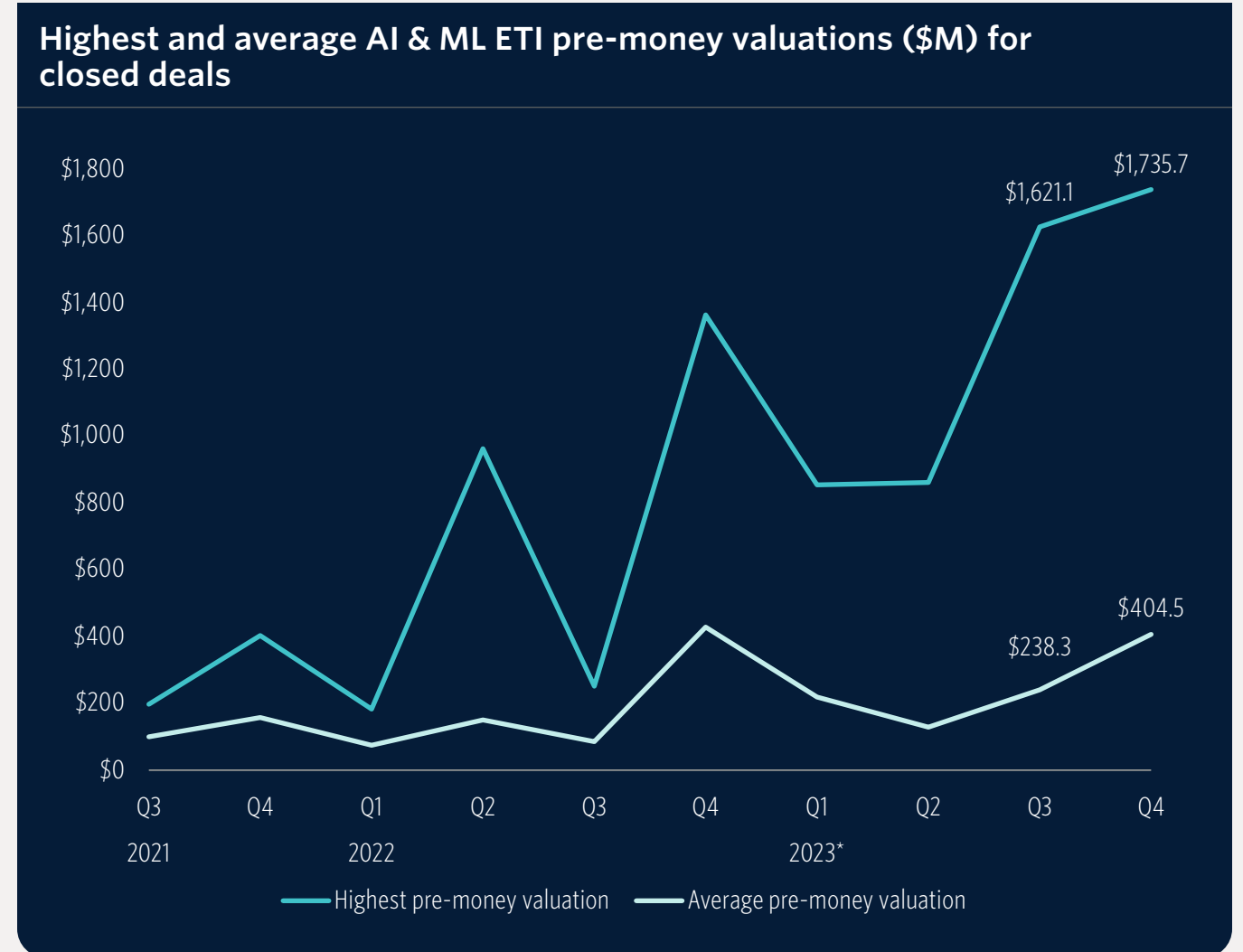
Source: PitchBook • Geography: Global • *As of December 31, 2023



AI & ML



Source: PitchBook • Geography: Global • *As of December 31, 2023



Source: PitchBook • Geography: Global • *As of December 31, 2023



AI & ML

AI & ML ETI deals in Q4 2023*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Mistral AI	Generative AI platform	Series A	\$433.9	\$2,169.7
together.ai	Decentralized AI development platform	Series A	\$102.5	\$566.0
Perplexity	AI-based search engine platform	Series B	\$73.6	\$520.0
Sarvam AI	Full-stack generative AI development catered to India's linguistic diversity	Series A	\$41.0	N/A
Armada	Edge computing and AI infrastructure platform	Series A	\$40.0	\$250.0
PhysicsX	Machine learning for physics simulations	Series A	\$39.5	N/A
Arteria AI	AI-enabled contract lifecycle management platform	Series B	\$30.0	N/A
Andesite AI	Operating in stealth	Seed	\$23.0	\$200.0
Modal Labs	Cloud-based machine learning infrastructure	Series A	\$18.0	\$156.0
EXTROPIC	LLM-optimized semiconductor	Seed	\$14.1	\$50.1
Auto-GPT	Open source AI assistant	Early-stage VC	\$12.0	N/A

Source: PitchBook • Geography: Global • *As of December 31, 2023



AI & ML

AI & ML ETI deals in Q4 2023 continued*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Distributional	AI safety and reliability testing platform	Seed	\$11.0	\$40.0
Relevance AI	AI agent development platform	Series A	\$10.0	N/A
Chalk	Data platform enabling machine learning	Seed	\$10.0	N/A
Martian	Model routing tool	Seed	\$9.0	N/A
Atlas	3D AI virtual world creation technology	Seed	\$6.0	N/A
Orbital Materials	AI-driven material design platform	Series A	\$5.2	N/A
Factory	Autonomous software engineering platform	Seed	\$5.0	N/A
Langfuse	Open-source platform for LLM analytics	Seed	\$4.0	N/A
Riffusion	AI model for text-to-image and audio	Seed	\$4.0	N/A
Induced	AI agents for browsers	Seed	\$2.3	N/A
Klu	GPT-4 application development platform	Seed	\$1.7	N/A
Archetype Ai	Multimodal foundation model for the physical world	Seed	N/A	N/A

Source: PitchBook • Geography: Global • *As of December 31, 2023



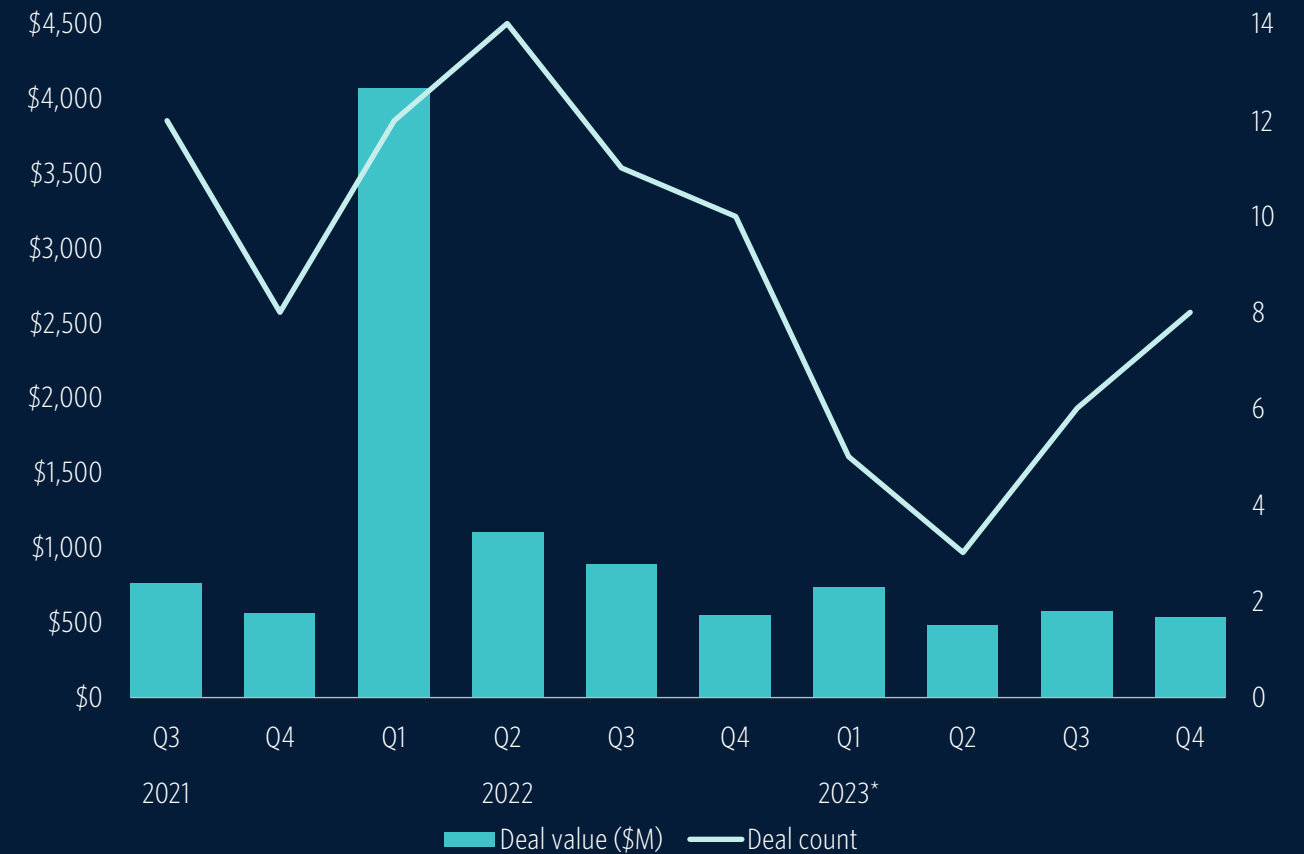
Biotechnology

The biotechnology sector garnered \$534.5 million in ETI investment across eight deals in Q4. Although there has been a slight QoQ decrease in investment value from \$580.0 million, the deal count increased to eight deals from six in the previous quarter. The average deal size saw a 42.4% QoQ decrease to \$66.8 million, which is still an improvement over Q4 2022's \$61.1 million. Average pre-money valuations experienced growth, rising from \$163.2 million in Q3 to \$196.3 million in Q4. Biotechnology continues to be a prime focus for ETI capital, and this trend is expected to persist into 2024.

The quarter's leading biotech deals were all Series B rounds. [Seismic Therapeutic](#) secured \$121.0 million for its ML-based immunology therapy development, achieving a post-money valuation of \$371.0 million, which represents a 1.2x step-up. [Tome Biosciences](#) followed closely, raising \$117.5 million for its gene-insertion technology and reaching a valuation of \$417.5 million, a 1.5x step-up. [Iambic Therapeutics](#), a startup leveraging AI for drug discovery, raised \$103.2 million, marking a 1.3x valuation step-up.

AI & ML technologies were prominent in Q4 2023's biotech investments, with five out of eight deals involving companies with AI-centric products. These include [Seismic Therapeutic](#), [Iambic Therapeutics](#), as well as other notable AI-driven firms like [Cradle Bio](#) and [Inductive Bio](#).

Biotechnology ETI deal activity

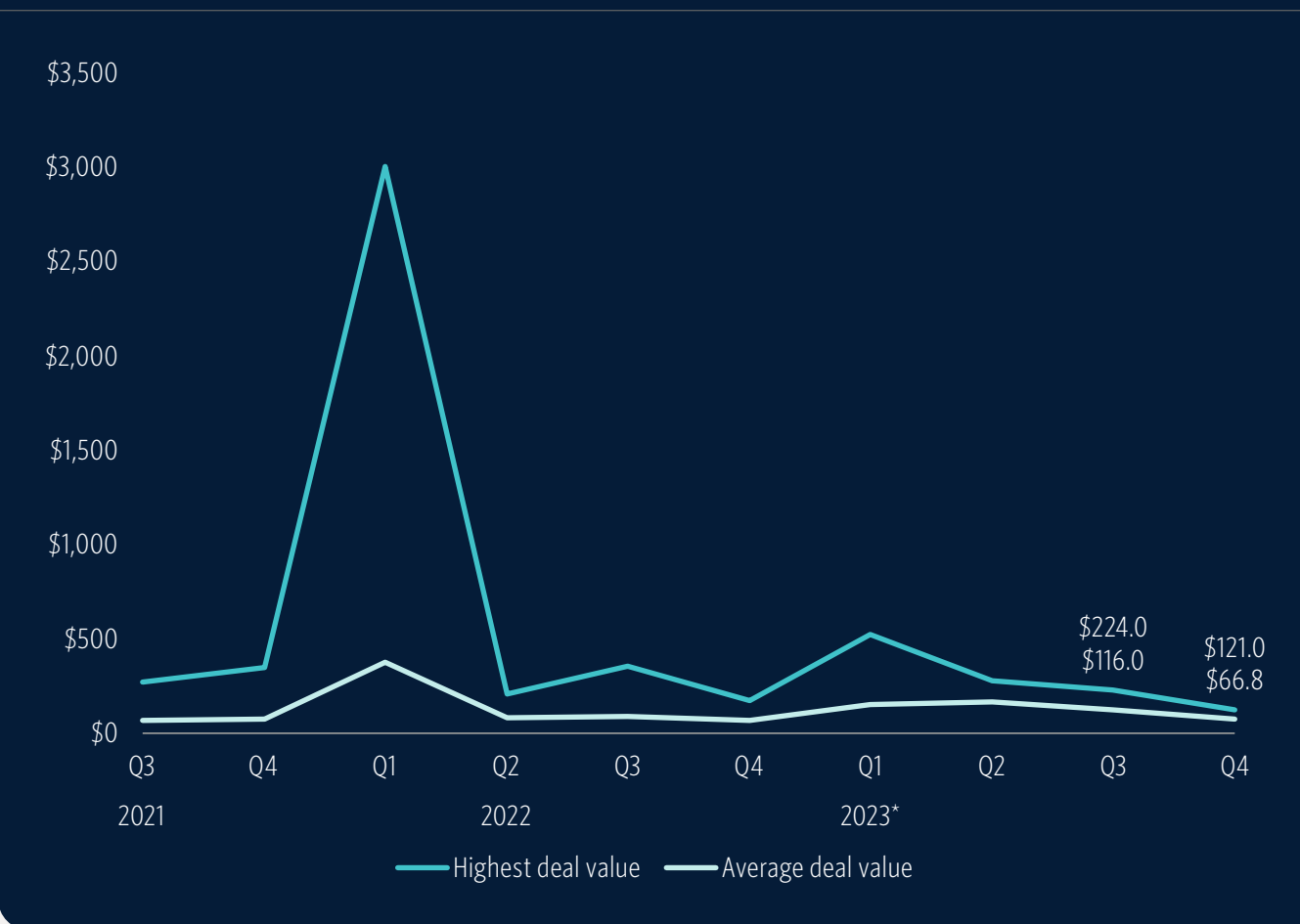


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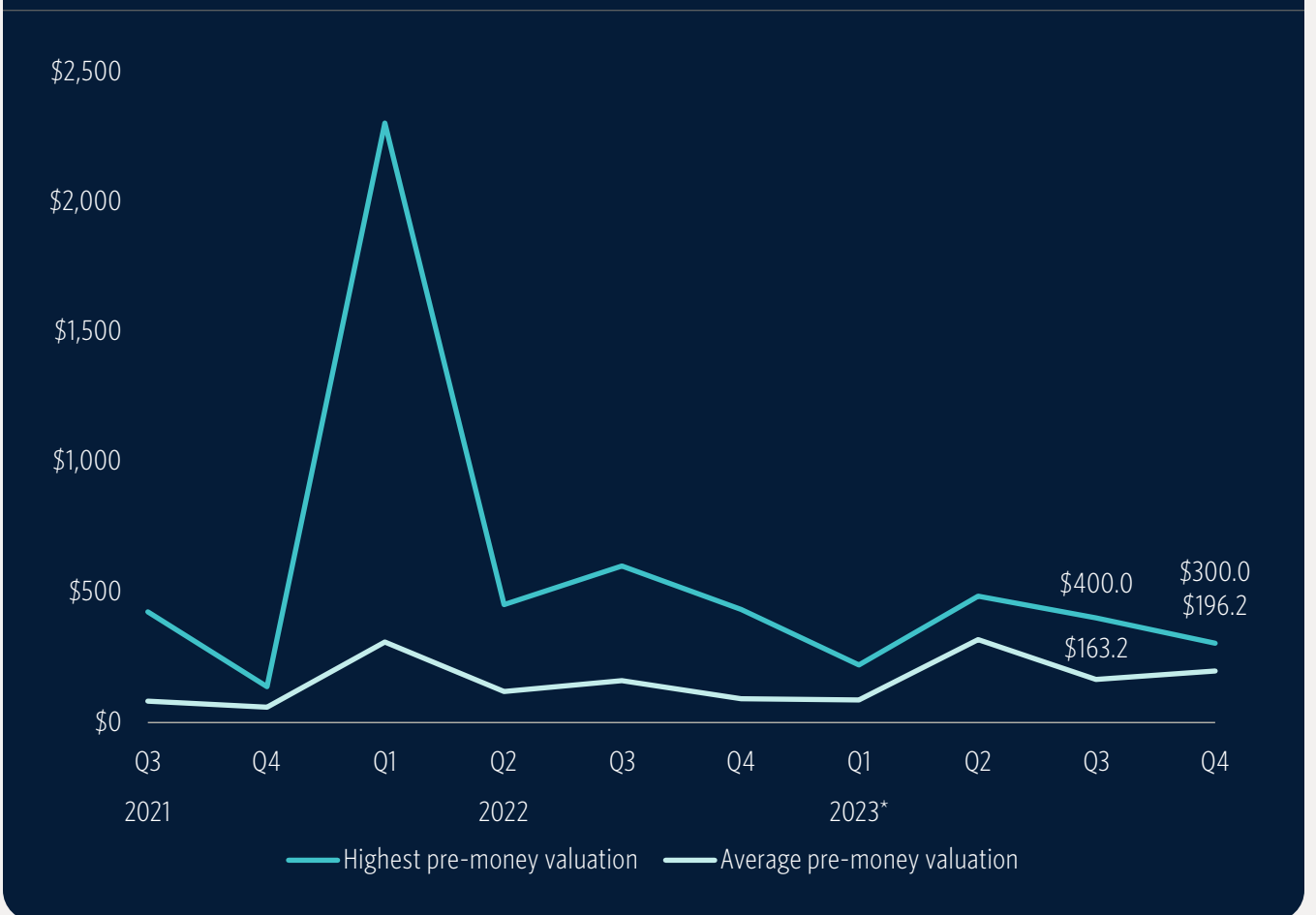
BIOTECHNOLOGY

Highest and average biotechnology ETI deal values (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023

Highest and average biotechnology ETI pre-money valuations (\$M) for closed deals



Source: PitchBook • Geography: Global • *As of December 31, 2023



BIOTECHNOLOGY

Biotechnology ETI deals in Q4 2023*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Seismic Therapeutic	Machine-learning-based developer of immunology therapies	Series B	\$121.0	\$371.0
Tome Biosciences	Programmable gene insertion technology	Series B	\$117.5	\$417.5
Iambic Therapeutics	AI-based drug discovery platform	Series B	\$103.2	\$273.2
MBrace Therapeutics	Cancer-targeting antibodies development	Series B	\$85.0	\$150.0
Gate Bioscience	Small-molecule drug development for disease prevention	Series A	\$60.0	N/A
Cradle Bio	AI-based protein design platform	Series A	\$24.0	N/A
Mana.bio	AI-based drug delivery	Seed	\$19.5	N/A
Inductive Bio	AI-powered compound optimization	Seed	\$4.3	N/A

Source: PitchBook • Geography: Global • *As of December 31, 2023



Web3 & DeFi

The Web3 & DeFi sector, while not matching the peaks of 2021, showed signs of revival in Q4 2023 despite still lagging behind Q4 2022. A total of \$216.6 million was invested over 15 deals, marking an 8.5% QoQ increase in funding and a 25.0% increase in deal count. This uptick may signal a broader market recovery for Web3 & DeFi, a sentiment echoed by findings in our [Q4 2023 Crypto Report](#). However, the average deal size dipped slightly to \$15.5 million from the previous quarter's \$16.6 million, alongside a decrease in average pre-money valuations from \$51.7 million to \$43.5 million.

Leading investments in Q4 2023 were Series A rounds focused on enhancing security and privacy within the digital asset space. [Andalusia Labs](#) secured a \$48.0 million deal, [Blockaid](#) raised \$33.0 million, and [Privy](#) obtained \$26.3 million. These figures underscore a renewed investor interest in establishing robust frameworks for the Web3 ecosystem.

Web3 & DeFi ETI deal activity

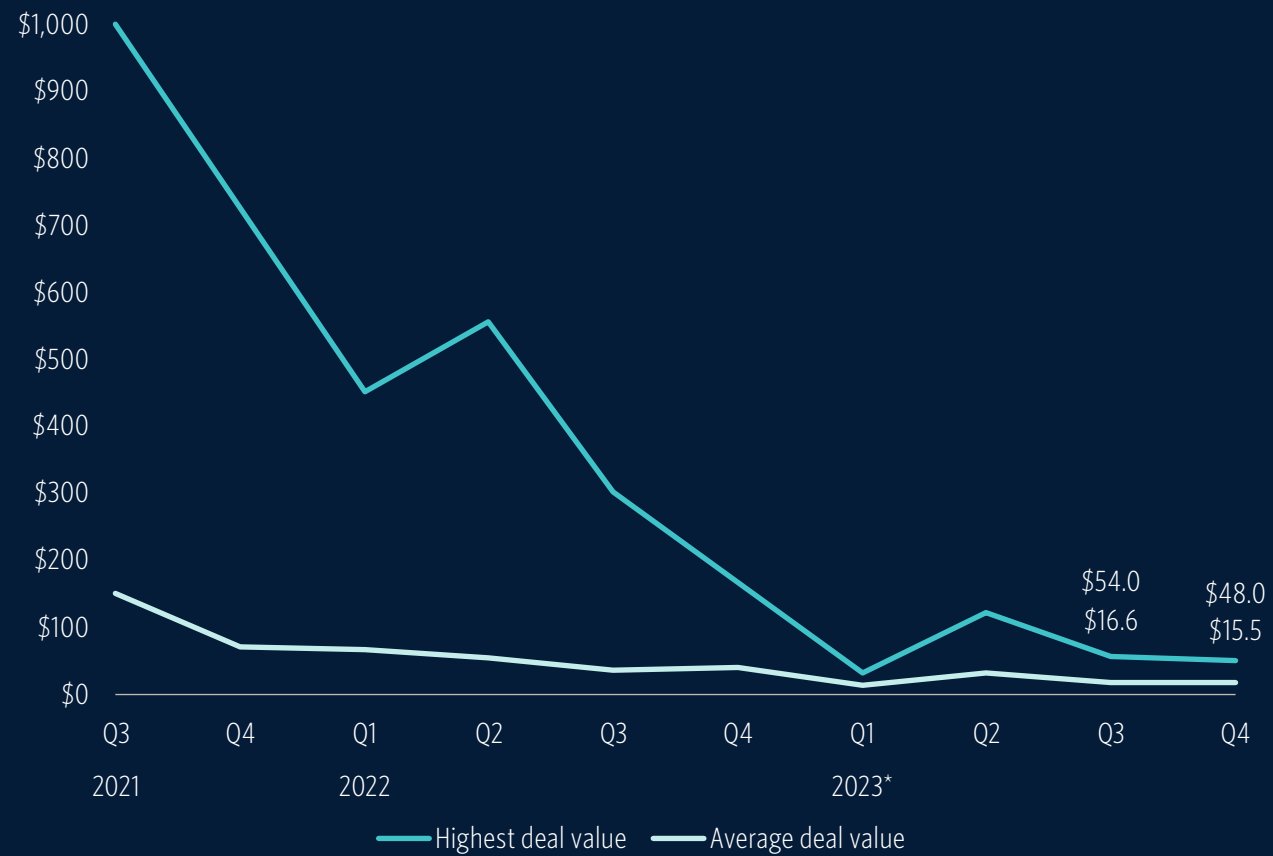


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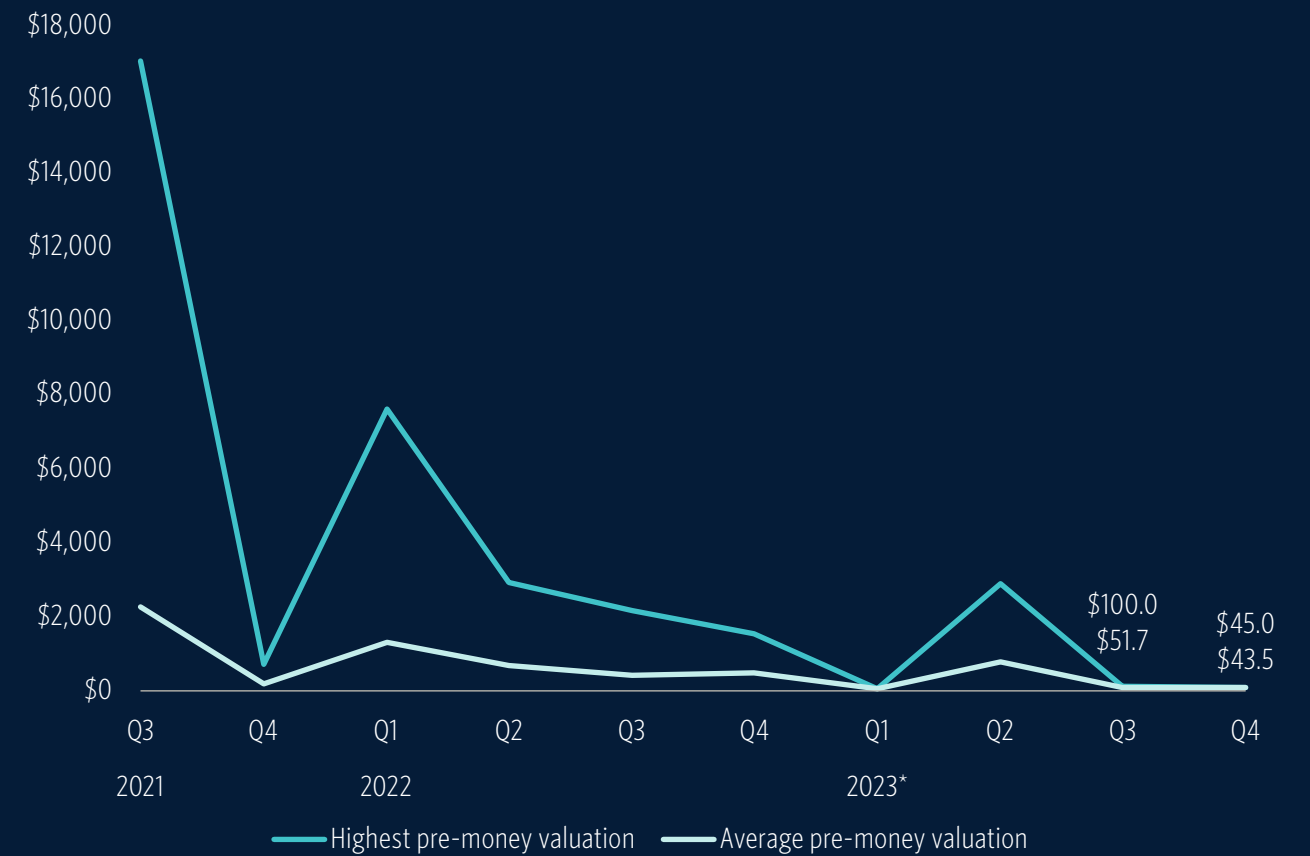
WEB3 & DEFI

Highest and average Web3 & DeFi ETI deal values (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023

Highest and average Web3 & DeFi ETI pre-money valuations (\$M) for closed deals



Source: PitchBook • Geography: Global • *As of December 31, 2023



WEB3 & DEFI

Web3 & DeFi ETI deals in Q4 2023*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Andalusia Labs	Risk management infrastructure for digital assets	Series A	\$48.0	N/A
Blockaid	Blockchain-based security platform	Series A	\$33.0	N/A
Privy	User data privacy tool for Web3 app builders	Series A	\$26.3	\$71.3
Ritual	Blockchain-based network for open AI infrastructure	Series A	\$25.0	N/A
Dynamic	Web3 focused user authentication	Series A	\$22.3	\$64.3
Secret	Blockchain integration tool	Series A	\$18.0	N/A
Turnkey	Private key management for blockchain simplicity	Series A	\$14.5	N/A
Tres	Web3 financial management platform	Series A	\$11.0	N/A
Setter	Web3-powered commerce	Seed	\$5.0	N/A
Pimlico	Ethereum smart accounts infrastructure platform	Seed	\$4.2	N/A

Source: PitchBook • Geography: Global • *As of December 31, 2023



WEB3 & DEFI

Web3 & DeFi ETI deals in Q4 2023 continued*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Ostium	Web3 commodity market platform	Early-stage VC	\$3.5	N/A
Formless	Blockchain-based content microtransactions platform	Seed	\$2.2	N/A
Kino Tech	Blockchain-based film financing	Seed	\$2.0	N/A
EthXY	Blockchain gaming platform	Seed	\$1.6	N/A
K12 Crypto	Educational earn-to-learn platform	Early-stage VC	N/A	N/A

Source: PitchBook • Geography: Global • *As of December 31, 2023



Fintech

Fintech deal activity experienced a downturn in Q4 2023, with both funding and deal count falling short of the previous quarter. Total investment dropped to \$212.2 million over 13 deals, marking a 37.3% decrease in deal value and a 43.5% reduction in deal count from the \$338.3 million raised through 23 deals in Q3. The average deal size in Q4 shrank to \$16.3 million from \$21.2 million in Q3, maintaining a slight edge over Q2's \$16.1 million. Despite the overall decline, average pre-money valuations experienced a significant increase, reaching \$101.7 million, the peak for the year, yet remained below the \$211.3 million average pre-money valuation of Q4 2022.

Amid this challenging landscape, key players in fintech have secured investments for varied solutions. [Clara's](#) \$60.0 million early-stage VC round for its corporate expense management system suggests a sustained interest in tools that streamline corporate finance. [Black Ore's](#) \$40.0 million raise for its AI-powered tax platform underscores the sector's investment in artificial intelligence capabilities. [Puzzle](#), with a \$30.0 million round, and [Vertice](#), closing a \$25.0 million round, reflect the market's appetite for innovative financial solutions targeting startups and software spending efficiency, respectively. These funding activities indicate an ongoing commitment to advancing fintech despite broader market contractions.

Fintech ETI deal activity

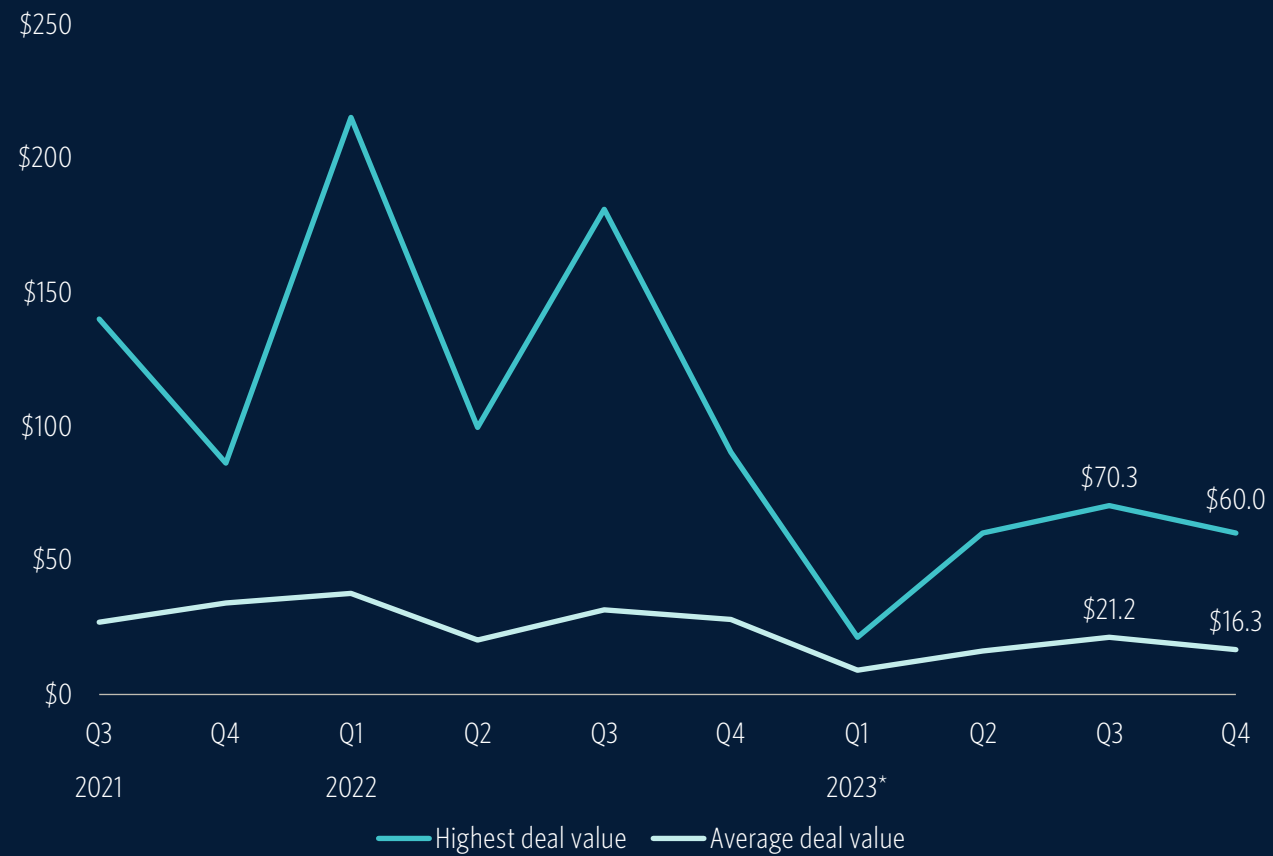


Source: PitchBook • Geography: Global • *As of December 31, 2023



FINTECH

Highest and average fintech ETI deal values (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023

Highest and average fintech ETI pre-money valuations (\$M) for closed deals



Source: PitchBook • Geography: Global • *As of December 31, 2023



FINTECH

Fintech ETI deals in Q4 2023*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Clara	Corporate expense management system	Early-stage VC	\$60.0	N/A
Black Ore	AI-powered tax preparation platform	Series A	\$40.0	\$200.0
Puzzle	Scalable financial software for startups	Series A	\$30.0	\$145.0
Vertice	Software spend optimization platform	Series B	\$25.0	N/A
Rainforest	Embedded payment processing	Seed	\$11.8	N/A
Spade	Real-time merchant intelligence	Series A	\$10.0	\$40.0
Jiraaf	India-based alternative investment app	Series B	\$8.7	N/A
Clover	Renewable energy financing portal	Seed	\$7.4	N/A
Formance	Open-source financial ledger platform	Early-stage VC	\$6.6	N/A
EarlyBird	Children's investment fund for parents	Seed	\$4.5	N/A

Source: PitchBook • Geography: Global • *As of December 31, 2023



FINTECH

Fintech ETI deals in Q4 2023 continued*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Tanda	Collective savings platform for employees	Seed	\$4.5	N/A
Fair Health	Cash-flow management for hospitals	Seed	\$3.1	N/A
Dealflow	Invoicing and payment platform	Seed	\$0.7	N/A

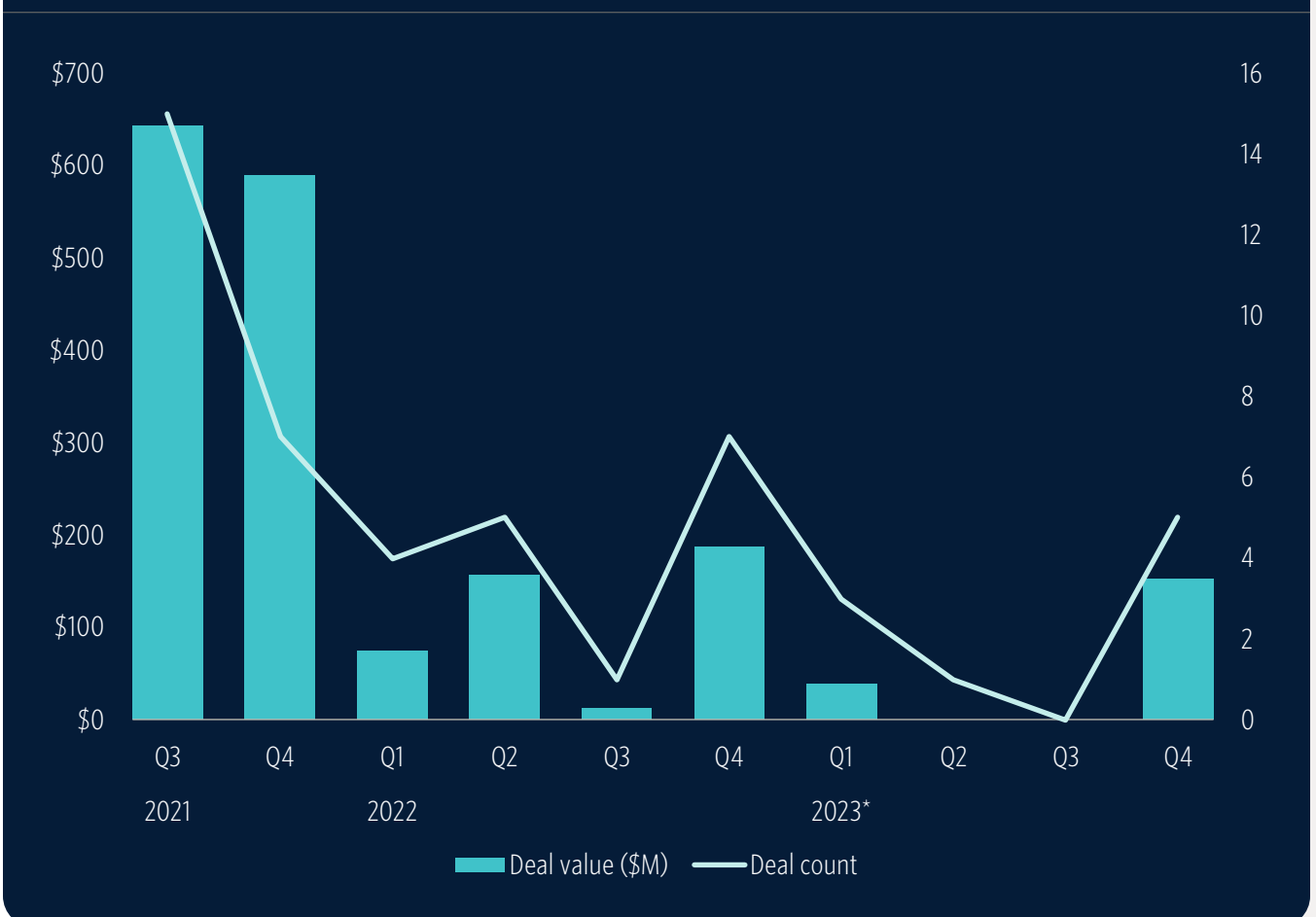
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Supply chain tech

The supply chain technology sector marked a significant uptick in ETI investment in Q4 2023, with a total of \$152.1 million raised over five deals. This represented an increase in the average deal size to \$30.4 million and an average pre-money valuation of \$112.6 million. [Tacto](#) raised \$54.3 million in funding for its digital supply chain procurement engine. [Loop](#) received \$43.0 million for its automated logistics payments platform, indicating interest in financial process automation within the supply chain realm. [ORO Labs](#) obtained \$34.0 million for its supplier engagement and procurement platform. Additionally, [Keychain](#) secured \$18.0 million for its AI-powered consumer-packaged goods manufacturing platform, and [Magma](#) garnered \$2.8 million for its cross-border B2B marketplace for building materials. These investments indicate a sectoral focus on leveraging technology to improve supply chain processes.

Supply chain tech ETI deal activity

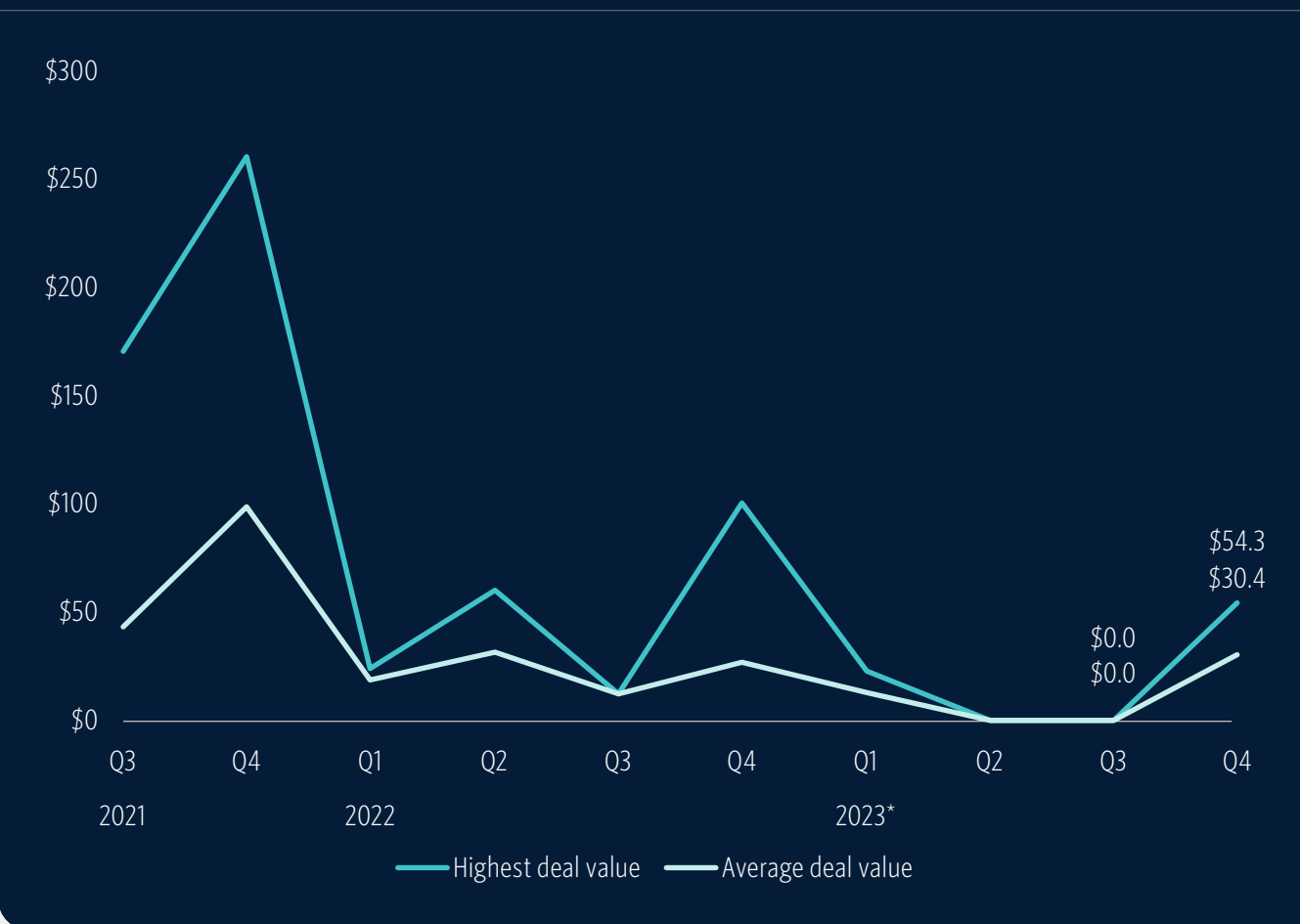


Source: PitchBook • Geography: Global • *As of December 31, 2023



SUPPLY CHAIN TECH

Highest and average supply chain tech ETI deal values (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023

Highest and average supply chain tech pre-money valuations (\$M) for closed deals



Source: PitchBook • Geography: Global • *As of December 31, 2023



SUPPLY CHAIN TECH

Supply chain tech ETI deals in Q4 2023*

Company	Focus	Deal type	Deal value (\$M)	Post-money valuation (\$M)
Tacto	Digital supply chain procurement engine	Series A	\$54.3	N/A
Loop	Automated logistics payments platform	Series B	\$43.0	\$185.0
ORO Labs	Supplier engagement and procurement	Series B	\$34.0	\$224.0
Keychain	AI-powered consumer packaged goods manufacturing platform	Seed	\$18.0	N/A
Magma	Cross-border B2B marketplace for building materials	Seed	\$2.8	\$8.5

Source: PitchBook • Geography: Global • *As of December 31, 2023



Other notable activity

Q4 2023 ETI deal value by segment*

Segment	Deal value (\$M)
AI & ML	\$895.8
Biotechnology	\$534.5
Web3 & DeFi	\$216.6
Fintech	\$212.2
Supply chain tech	\$152.1
Infosec	\$124.9
Climate tech	\$120.6
Healthtech & wellness	\$117.1
E-commerce	\$108.8
Mobility tech	\$103.3
Enterprise SaaS	\$81.9
Legaltech	\$80.0
Proptech	\$79.2
Insurtech	\$57.0

Segment	Deal value (\$M)
DevOps	\$41.0
Communic. & collab.	\$36.0
Adtech & martech	\$29.8
Edtech	\$23.5
Industrial tech	\$13.0
Social	\$11.4
Data tech	\$7.5
Media & events	\$7.1
Gaming	\$6.0
Networking	\$5.0
Consumer	\$4.0
Foodtech	\$2.9
AR/VR	\$0.0

Source: PitchBook • Geography: Global • *As of December 31, 2023



OTHER NOTABLE ACTIVITY

Q4 2023 ETI deal count by segment*

Segment	Deal count
AI & ML	23
Web3 & DeFi	15
Fintech	13
Enterprise SaaS	12
Healthtech & wellness	11
Biotechnology	8
Infosec	7
Supply chain tech	5
Adtech & martech	4
Mobility tech	4
Social	3
Communic. & collab.	3
E-commerce	3
DevOps	3

Segment	Deal count
Climate tech	3
Proptech	3
Edtech	3
Foodtech	2
Data tech	1
AR/VR	1
Legaltech	1
Media & events	1
Gaming	1
Networking	1
Consumer	1
Insurtech	1
Industrial tech	1

Source: PitchBook • Geography: Global • *As of December 31, 2023



OTHER NOTABLE ACTIVITY

In the defense tech arena, ETI investors are channeling funds into firms like [Saronic](#), which secured \$55.0 million in early-stage funding for its oceanic drone technology, and [Mach Industries](#), with \$84.1 million raised in early-stage funding for its hydrogen-powered weapons systems. [Neros Technologies](#) also attracted \$10.8 million in a seed round for drone manufacturing. These deals indicate a keen investor interest in innovative companies providing advanced technology solutions to government defense sectors.

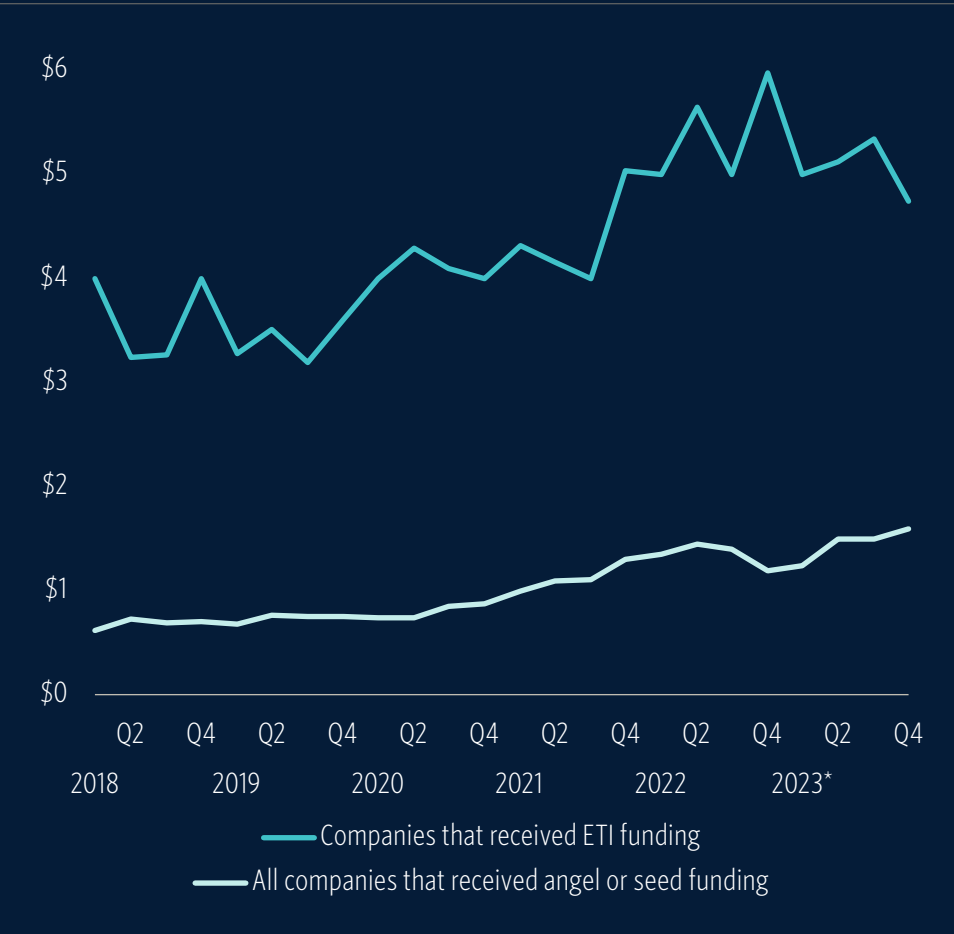
Within government technology (GovTech), investment trends show support for platforms enhancing public-sector communication and engagement. [Civic Roundtable](#) raised \$5.0 million in an early-stage round for its cloud-based civic engagement suite, while [Kaizen Labs](#) received \$15.0 million in early-stage funding for its municipal engagement platform. Such investments suggest that ETI backers see substantial value in technologies aimed at improving government operations and citizen collaboration.



Venture activity summary

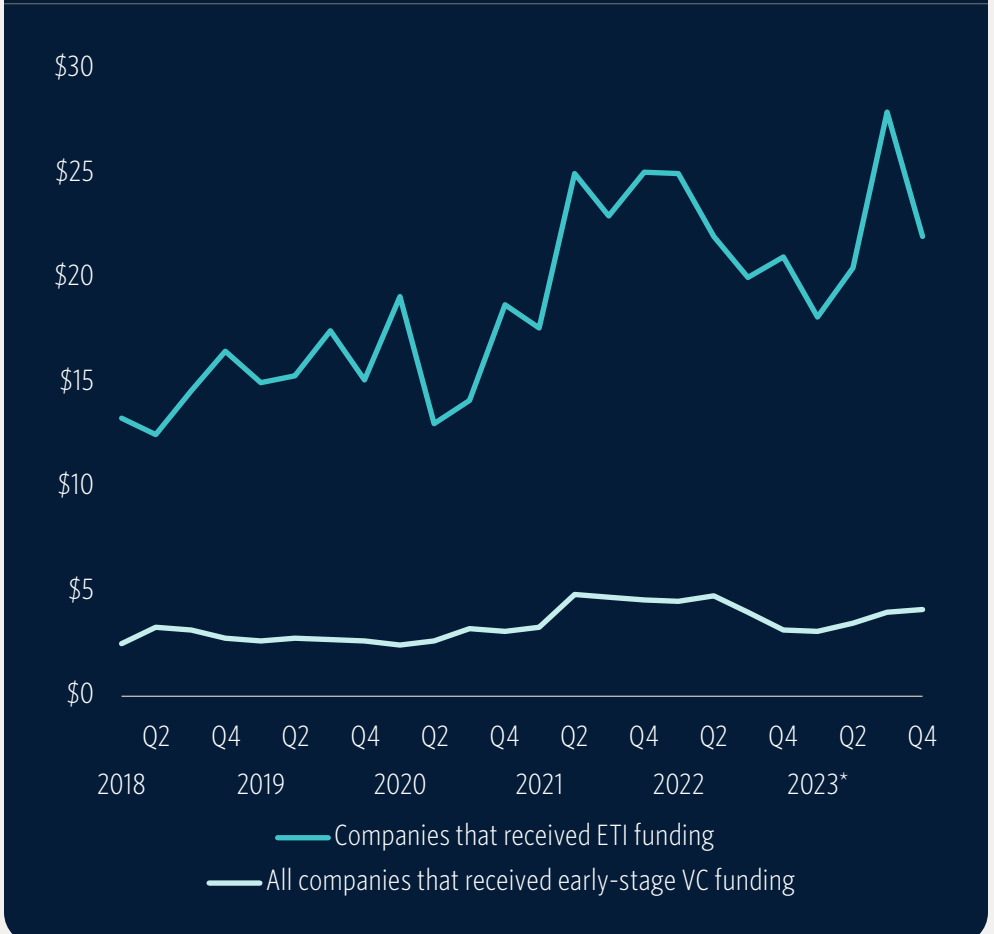
Median ETI deal sizes have steadily increased in recent years across angel, seed, and early-stage VC, reflecting steady VC industry growth, rising valuations, and a generally founder-friendly environment. The recent market correction has disrupted the overall upward trajectory, and trends are more unpredictable. The median for angel and seed deals was \$4.8 million in Q4 2023, a decrease from the previous two quarters. The median for early-stage deals was \$22.0 million, a decrease from the previous quarter but also an indication that this data point remains relatively volatile.

Median ETI angel and seed deal value (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023

Median ETI early-stage VC deal value (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023

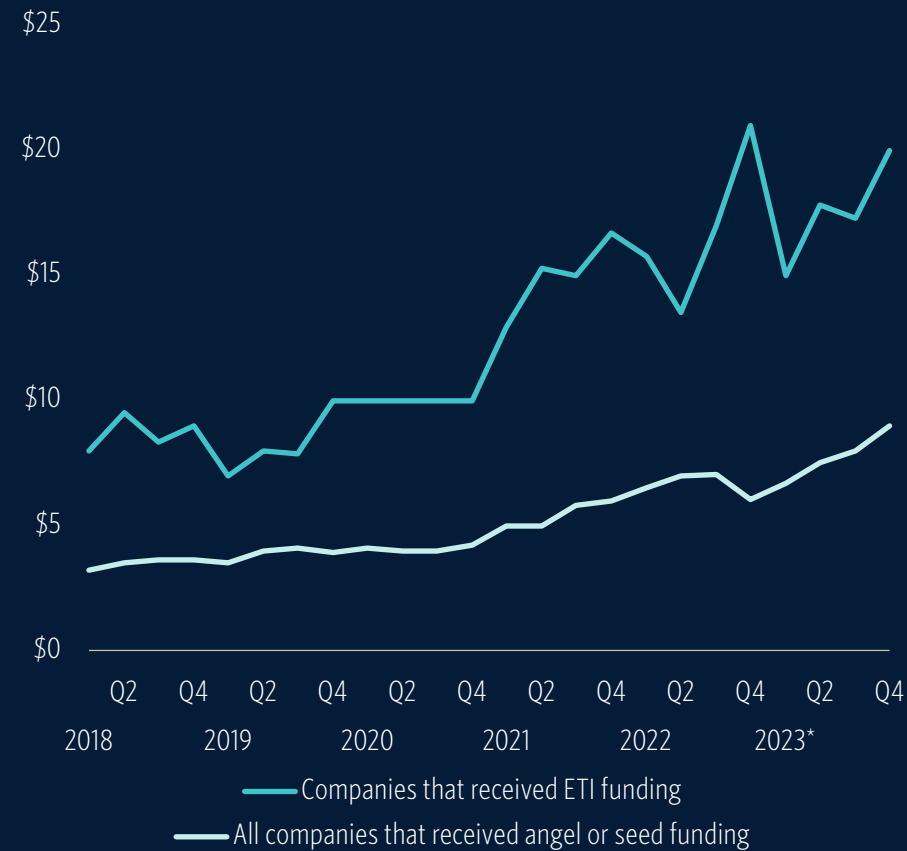


VENTURE ACTIVITY SUMMARY

ETI deal sizes tend to run 3x to 5x larger than medians across the entire VC industry, and the gap has been expanding in recent years. This likely reflects several factors, including the tendency for our ETI investor cohort to be larger, multistage investors; their ability to obtain larger stakes in startups; and the higher likelihood of co-investment, which usually implies larger potential rounds. Early-stage startups are also seeking capital at more advanced stages of maturity than they were several years ago, increasing their ability to raise larger early-stage rounds.

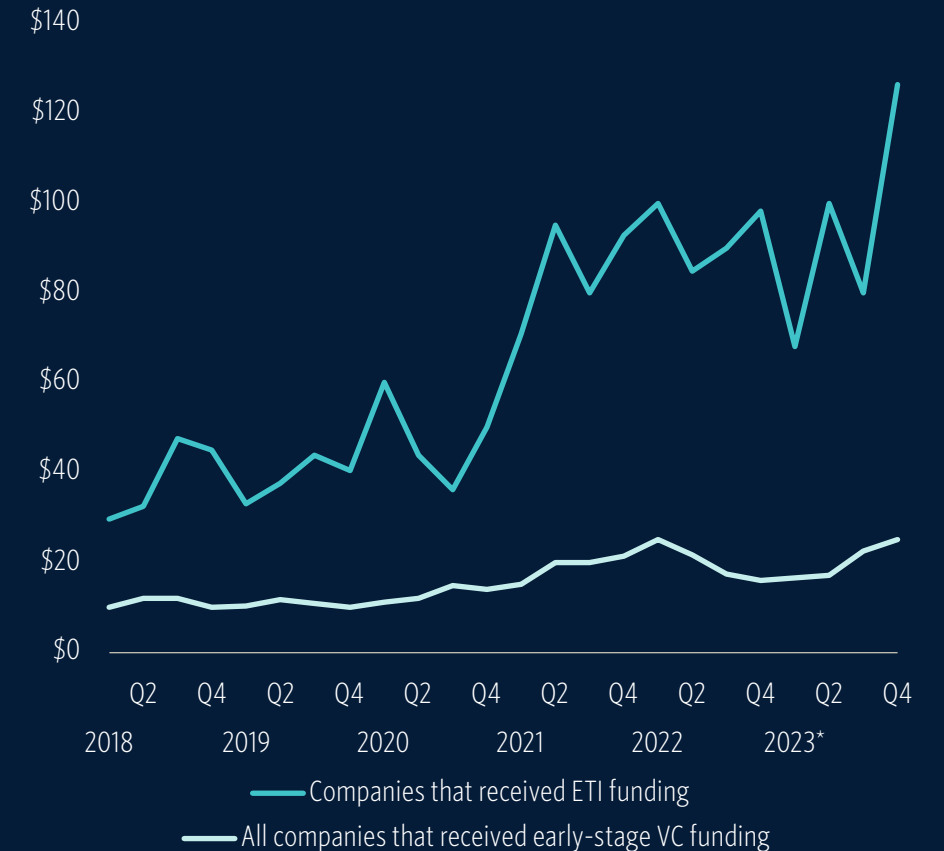
Non-US deals represented 27.6% of total ETI deals in Q4 2023, slightly below the historical average of 27.8%. Europe's deal share increased from 16.3% in Q3 to 17.1% in Q4, a continuation of prior trends. China's deal share was 0%, a data point that has been volatile but trending downward in recent quarters.

Median ETI angel and seed pre-money valuation (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023

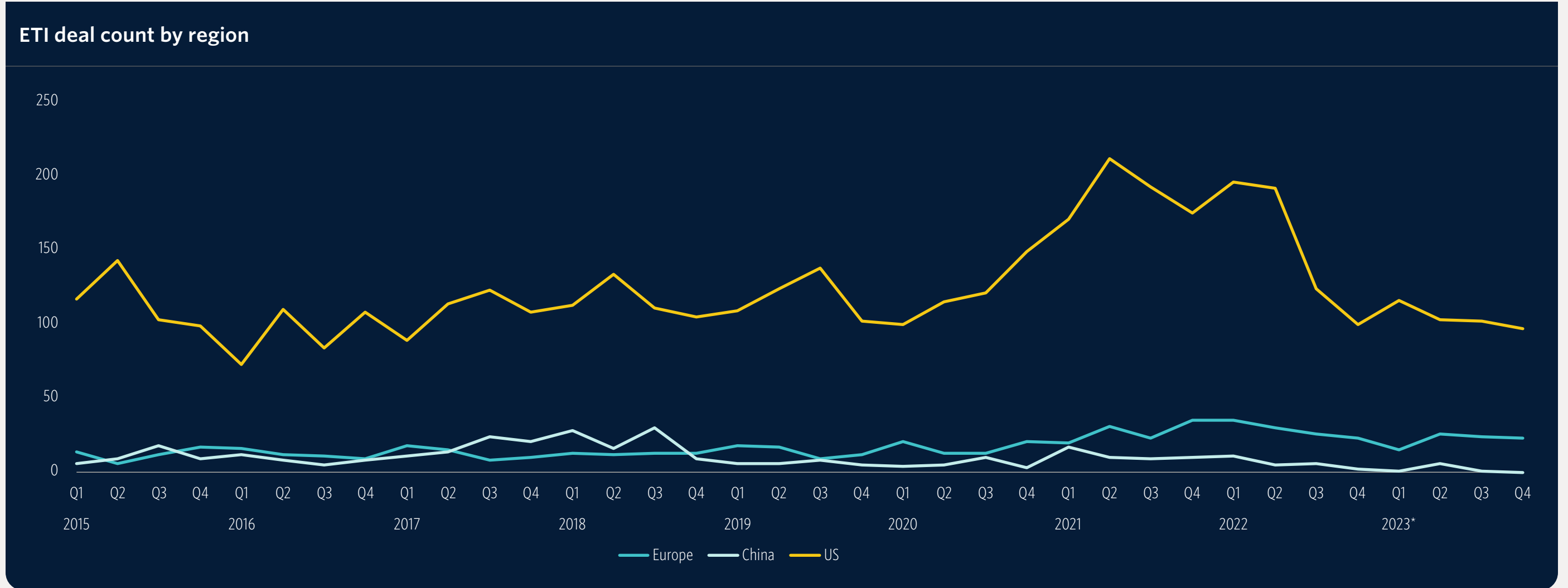
Median ETI early-stage VC pre-money valuation (\$M)



Source: PitchBook • Geography: Global • *As of December 31, 2023



VENTURE ACTIVITY SUMMARY



Source: PitchBook • Geography: Global • *As of December 31, 2023



Emerging tech indicator investor ranking

Purpose

We seek to identify leading venture capital firms by combining their performance on three factors related to their investment history. The ranking attempts to reward firms with a strong track record across the three factors while still allowing for firms with a shorter history to be surfaced as well.

Factors

Exit percentage

The exit percentage is the ratio of successful exits to the total number of exit opportunities.

- Investments must be at least five years old or have an exit to qualify as an exit opportunity.
- The five-year threshold is present to allow for investments to sufficiently move toward an exit event.
 - For example, it would be unfair to include a deal done one month ago as a “failed” exit opportunity when the company has had no reasonable time to reach an exit event.
- Investors must have at least 15 exit opportunities to be included.

Follow-on percentage

The follow-on percentage is the ratio of the count of companies that raise a subsequent round of funding after a round that the investor led, over the number of opportunities.

- Only investments that are at least two years old or have a follow-on are included as follow-on opportunities.
- The two-year threshold allows companies sufficient time to raise a subsequent round of funding.

- Companies that exit immediately after an investor-led round are not included in this metric (numerator or denominator). There must be at least one year between the rounds. This avoids massive CAGRs that result from very short periods between funding rounds.
- Investors must have at least 15 follow-on opportunities to be included.

Average CAGR of valuation change between rounds

The average CAGR of valuation change between rounds is the average annualized valuation step-up (post-money to pre-money) between the investor-led round and the following round.

- There must be at least one year between the rounds. This avoids massive CAGRs that result from very short periods between funding rounds.
- Investors must have at least 15 follow-on opportunities with the necessary valuation information.

Score weighting

Each of the above factors is weighted by multiplying the value (that is, percentage of successful exits) by the cubed root of the count of values present for that factor. This allows for investors with a long track record of success to be rewarded while dampening the effect of the sample size to the point where investors with a short track record can be surfaced.

After each factor is weighted, we apply a cumulative distribution function to each factor in isolation, wherein each investor’s score is ranked 0 to 1 relative to the weighted scores of the other qualifying investors.

The final composite score is then calculated by taking the geometric mean of the resultant ranking for each factor.

About PitchBook Industry and Technology Research

Independent, objective, and timely market intel

As the private markets continue to grow in complexity and competition, it's essential for investors to understand the industries, sectors, and companies driving the asset class.

Our Industry and Technology Research provides detailed analysis of nascent tech sectors so you can better navigate the changing markets you operate in—and pursue new opportunities with confidence.

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