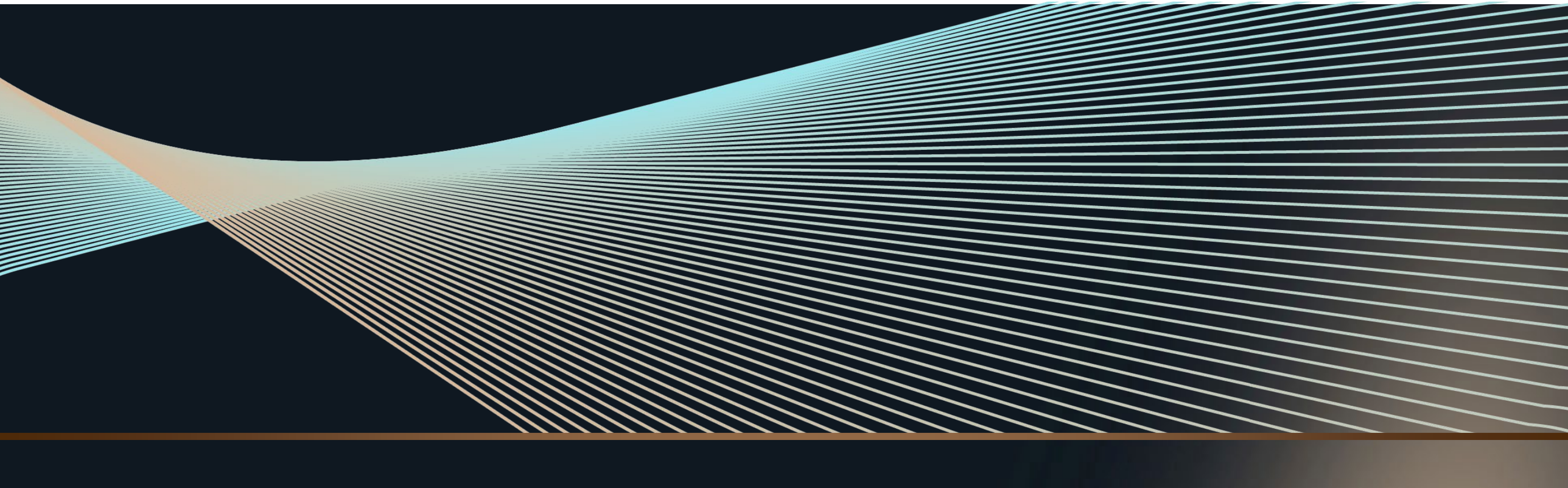
J.P.Morgan

Startup Insights

H1 2025



Executive summary

The innovation economy depends on a healthy supply of founders and entrepreneurs developing their ideas into thriving businesses. To fuel this innovation, they rely on venture investors and have to “graduate” through many rounds of financing. Depending on market conditions and the sector the startup is focused on, graduation rates (from seed to Series A) can vary from 1 in 10 to 1 in 3. Accessing capital is integral to a startup's success, which is one reason why the Department of Defense is leaning in to help bring more private sector innovations to fruition. One area where we have seen plenty of innovation is AI, where advancements are bringing new technologies to the fold, creating new applications or advancing existing industries, as we have seen with supply chain and defense. With so much dynamism in this ever-evolving ecosystem, founders should stay focused on solving real-world problems while maintaining adaptability, leveraging their unique strengths and building a network of trust and advisership.

- Ashraf Hebela

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Prevailing conditions influence series seed graduation rates

GRADUATION RATES VARY BY SECTOR

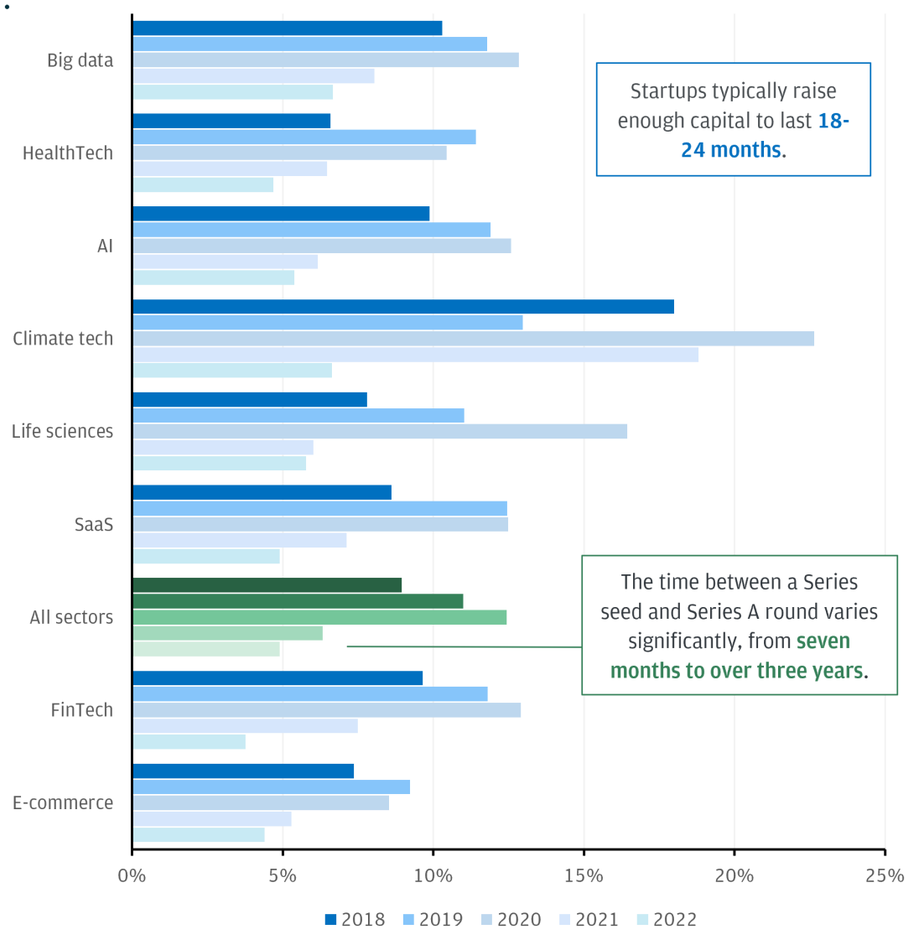
SEED GRADUATION RATES FOR US-BASED STARTUPS, BY YEAR OF SEED ROUND (COHORT)[1]

Sector[1]	Graduation rate by cohort year				
	2018	2019	2020	2021	2022
Big data	40%	44%	31%	23%	15%
HealthTech	35%	32%	27%	18%	12%
AI	40%	38%	30%	19%	11%
Climate tech	47%	33%	31%	24%	11%
Life sciences	45%	33%	34%	20%	11%
SaaS	38%	37%	30%	18%	10%
All sectors	35%	34%	29%	18%	10%
Fintech	40%	37%	31%	20%	9%
E-commerce	32%	30%	20%	14%	7%

Sector[1]	Median time to graduate (months)				
	2018	2019	2020	2021	2022
Big data	26	25	18	14	17
HealthTech	26	23	21	19	19
AI	28	25	19	16	17
Climate tech	29	23	20	18	21
Life sciences	28	25	17	15	16
SaaS	27	24	17	15	17
All sectors	26	24	17	15	17
Fintech	27	25	17	15	17
E-commerce	27	25	19	15	15

SERIES SEED TWO-YEAR GRADUATION RATES PEAKED IN 2021

SERIES SEED TWO-YEAR GRADUATION RATES FOR SELECT SECTORS[1]



A startup's sector of focus, along with the prevailing investment climate, can affect its ability to raise a Series A round. For instance, in 2020 and 2021, when venture activity was on the rise and sustainability was in focus, the climate tech sector saw the highest graduation rates, as areas like electric transportation and direct air capture drew in investors. Starting in 2022, several factors, such as elevated inflation and interest rates, eroded valuations, stifled exit markets, and a more challenging fundraising environment for emerging managers pressured investors to be more discerning. Subsequently, this slowed the rate of investment activity and lowered graduation rates. Seed graduation rates vary based on the year, sector and prevailing Series A benchmarks, so understanding the current fundraising environment is key.

Notes: [1] Sectors are not mutually exclusive. Select sectors are ranked by 2022 graduation rate. The years 2023 and 2024 were too recent to be included in this analysis. For more information on startup fundraising, check out Tips for raising funds for a startup.

Source: PitchBook. Data has not been reviewed by PitchBook analysts.

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02 | Sector insights

The DOD launches initiatives to help startups bring their technologies to America's defense

THE DEPARTMENT OF DEFENSE (DOD) EMBRACES STARTUP INNOVATION

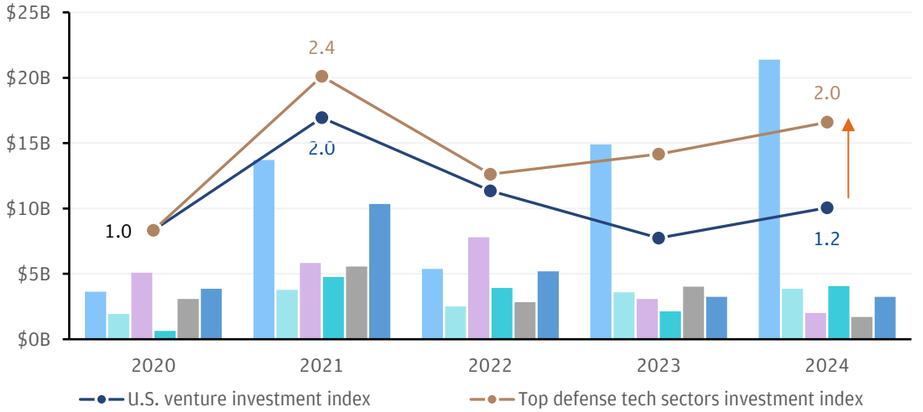
CRITICAL TECHNOLOGIES ANNOUNCED BY THE DEPARTMENT OF DEFENSE (DOD)[1]

- Advanced computing and software
- Advanced materials
- Biotechnology
- Directed energy
- Future generation wireless technology
- Human-machine interfaces
- Hypersonics
- Integrated network systems-of-systems
- Integrated sensing and cybersecurity
- Microelectronics
- Quantum science
- Renewable energy generation and storage
- Space technology
- Trusted AI and autonomy[2]

Highlighted critical technologies correspond with the bar chart to the right.

INVESTMENT IN DEFENSE TECH GROWING, DRIVEN BY ADVANCED COMPUTE

U.S. VENTURE INVESTMENT FOR SELECT CRITICAL TECHNOLOGIES, DEFENSE TECH AND U.S. VENTURE INVESTMENT INDICES, 2020-2024



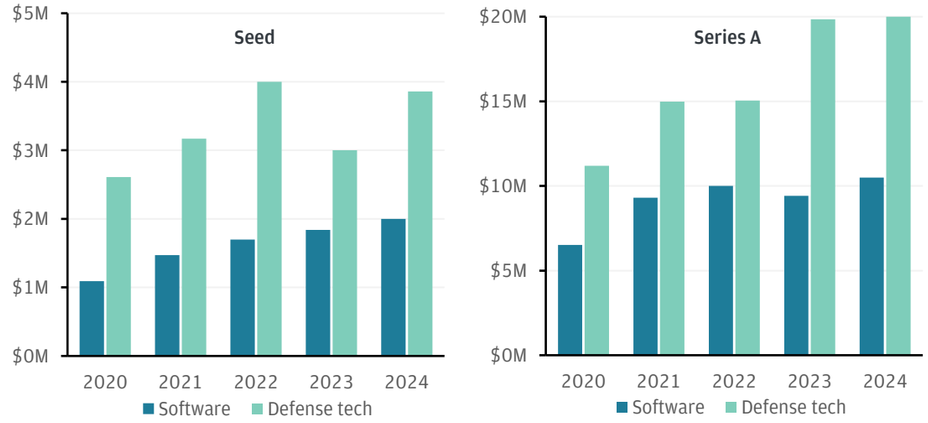
THE PATH TO SUCCESS MEANS NAVIGATING THE VALLEY OF DEATH

PHASES OF THE SBIR/STTR PROGRAM[3], THE VALLEY OF DEATH[4], AND PROGRAM OF RECORD[5,6]

	Phase I	Phase II		Phase III	
Purpose	Concept development	Prototype development	Valley of death	Commercialization	Reach program of record
Time frame	6-12 months	24 months		Varies depending on the contract, Program of Record contract is most desirable	
Funding	$50,000-$275,000	$400,000-$1.8M		No SBIR/STTR funding provided	
Success Rates[7]	10%-20%	40%-50%		Very low	

DEFENSE TECH STARTUPS' JOURNEY REQUIRES AMPLE CAPITAL

MEDIAN DEAL SIZE FOR SOFTWARE AND DEFENSE TECH SECTORS



The rapid pace of technological innovation in the private sector is a significant advantage for the U.S., and the DOD is recognizing its importance in relation to national security. This is backed by funding: For 2025, the DOD's requested science and technology R&D budget is $17.2 billion, aimed at 14 critical technology areas. Historically, startups have typically struggled to secure contracts from the DOD, often succumbing to the "valley of death." To facilitate tech adoption, the DOD has implemented new ways of supporting startups, like the Replicator initiative.[6] Streamlining processes is crucial, as defense acquisition programs typically take 11 years to deliver. Working in defense tech often means building physical products, which typically requires longer timelines and more capital to develop solutions.

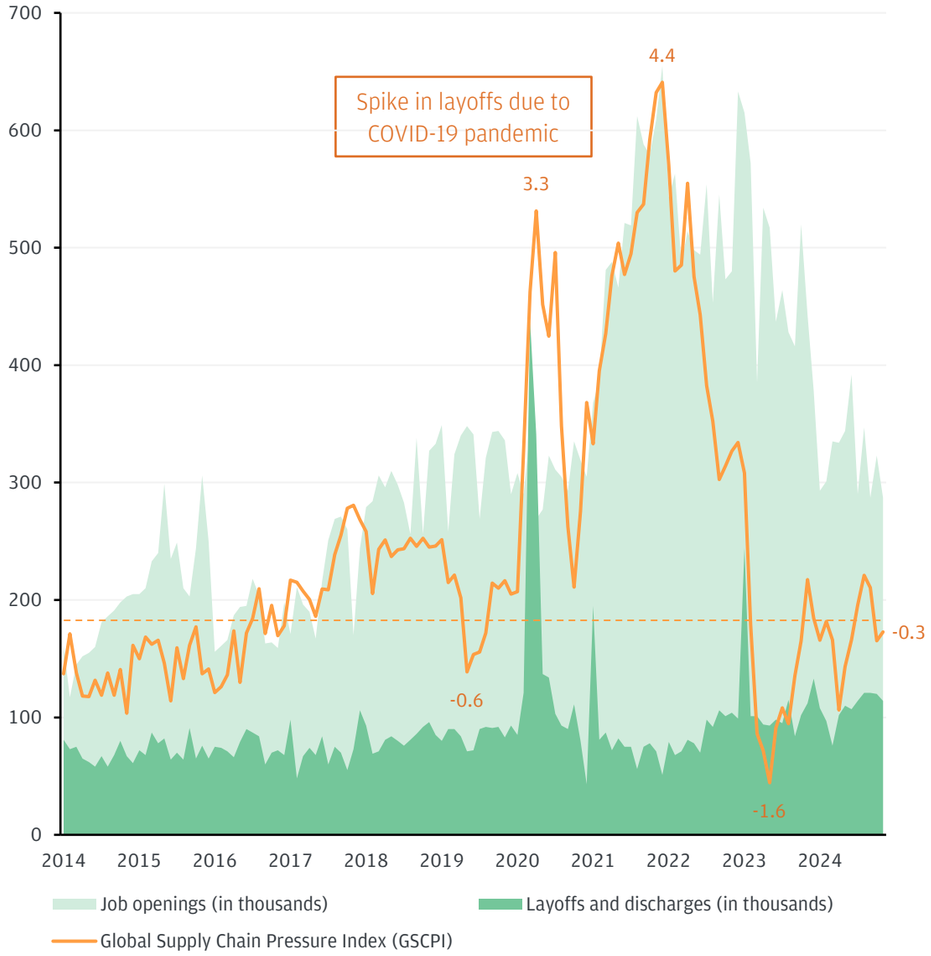
Notes: [1] Highlighted critical technologies represented on top, right-hand side chart. [2] Includes autonomous systems whereas AI software is included in the advanced computing & software category. [3] The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs grant non-dilutive funding to small businesses that provide solutions to federal agencies' solicitations. [4] The DOD is focused on helping startups get past this historical hurdle where companies tend to fail to reach commercialization and procure contracts. [5] Program of Record (POR) is recorded in the Future Years Defense Program. [6] For more detail on this initiative, refer to Tapping the United States' greatest weapon: innovation. [7] Success rates for each program are similar through Phase I and II. Phase III depends on a company's commercialization efforts.

Sources: U.S. Department of Defense, Defense Innovation Unit, U.S. Small Business Administration, Defense Innovation Board, U.S. Government Accountability Office, PitchBook. Data has not been reviewed by PitchBook analysts.

Global supply chain disruption sparks investment in automation technologies

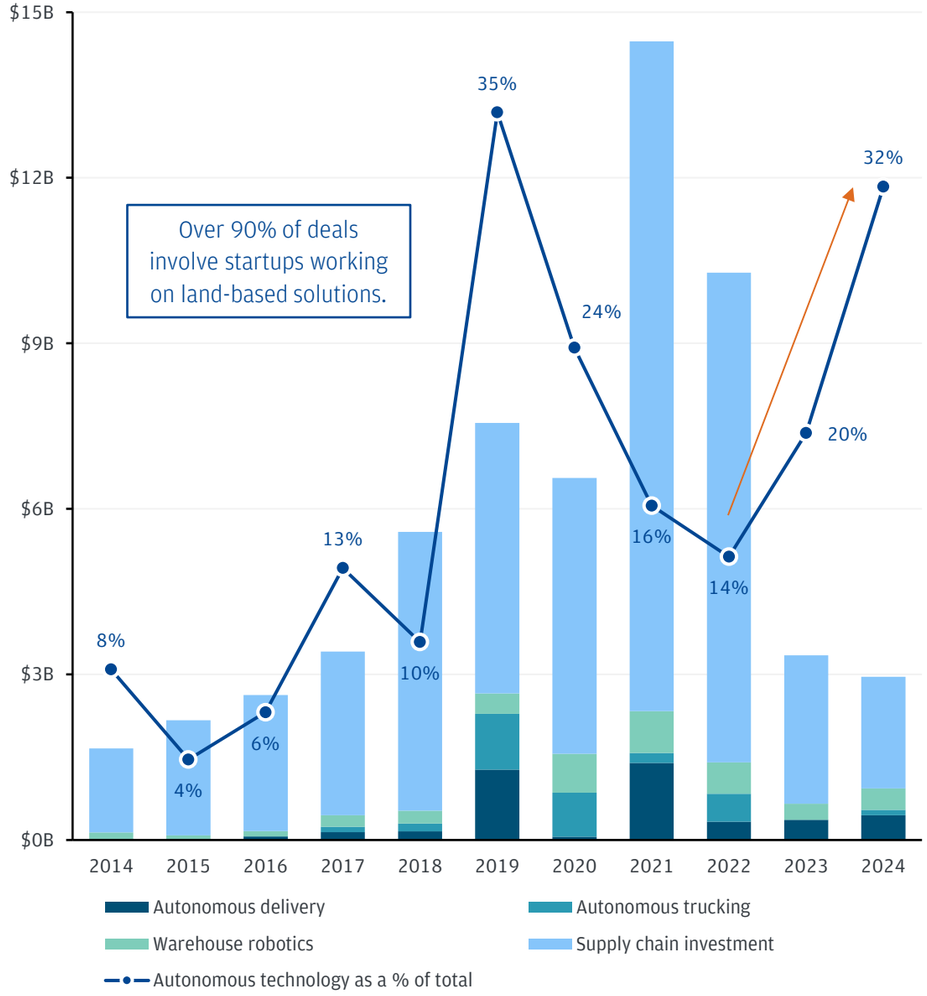
AS GLOBAL SUPPLY CHAINS STABILIZE, THE DEMAND FOR WORKERS FALLS

U.S. JOB OPENINGS AND LABOR TURNOVER FOR THE TRANSPORTATION, WAREHOUSING, AND UTILITIES SECTOR AND GLOBAL SUPPLY CHAIN PRESSURE[1]



AUTONOMOUS TECHNOLOGY GROWS ITS SHARE OF SUPPLY CHAIN INVESTMENT

SUPPLY CHAIN VENTURE INVESTMENT VS. PROPORTION OF AUTONOMOUS TECHNOLOGY INVESTMENT



The destabilization of global supply chains during the COVID-19 pandemic contributed to a surge of venture investment into supply chain technology startups. In recent years, these supply chains have stabilized and venture investment has scaled back. This phenomenon was also observed in the U.S. transportation and warehousing sector, where employment rose and fell. Much of the strain placed on supply chains during the period centered around labor, driving a growing inclination toward automation and reducing firms' exposure to potentially similar shocks in the future. In recent years, investment in technologies such as autonomous delivery, autonomous trucking and warehouse robotics has remained elevated, while the broader investment landscape has contracted.

Note: [1] GSCPI readings measure standard deviations from the index's historical average (dotted line).

Sources: Federal Reserve Bank of New York, Global Supply Chain Pressure Index. Bureau of Labor Statistics. PitchBook. Data has not been reviewed by PitchBook analysts.

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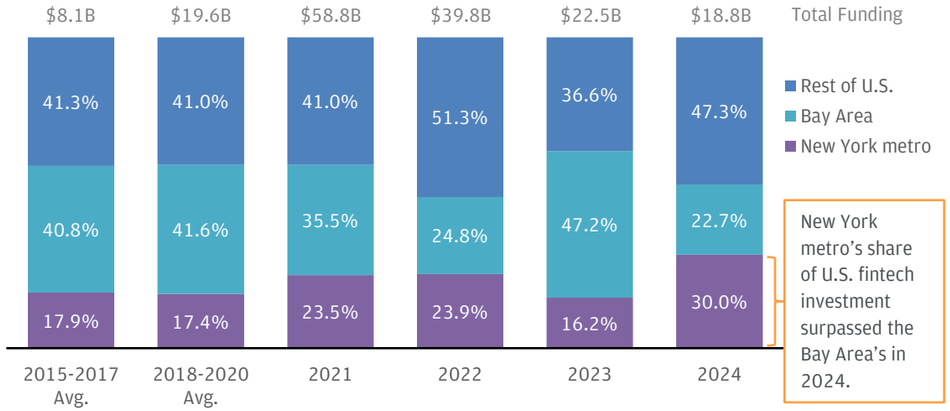
03 | Regional insights

New York takes the title of America's top fintech hub

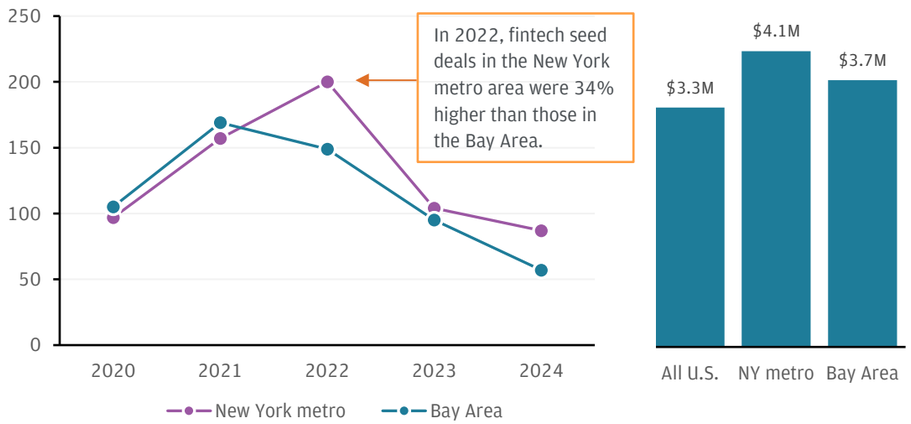
NEW YORK METRO GRABBED THE LARGEST SHARE OF FINTECH DEALS IN 2024…

U.S. FINTECH VENTURE INVESTMENT BY SELECT REGION[1]



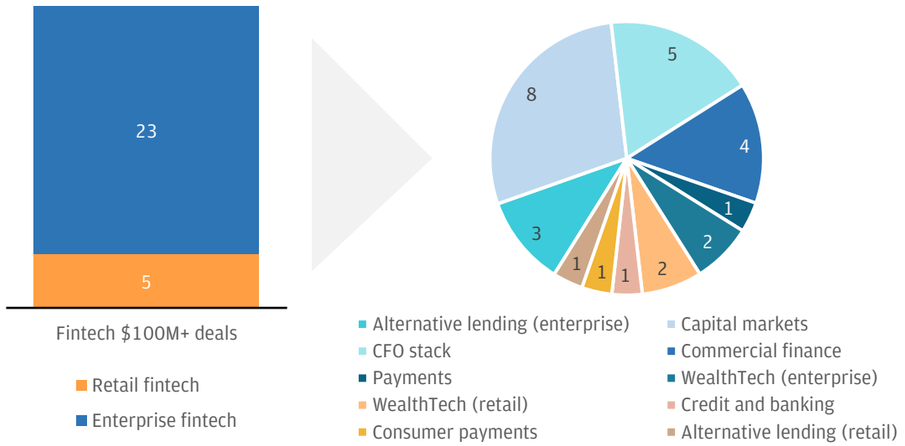
…AND IS THE PREFERRED PLACE TO START A FINTECH COMPANY

FINTECH SEED DEAL COUNT BY METRO AREA[1] (LHS), MEDIAN FINTECH DEAL SIZE IN 2024 (RHS)



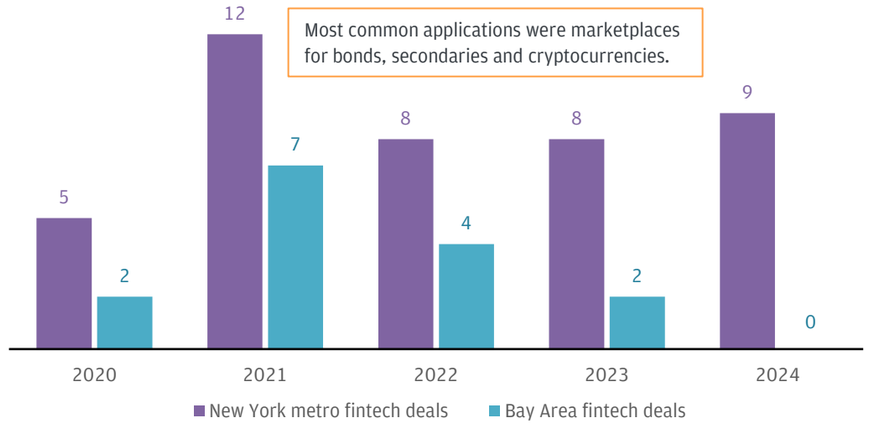
NEW YORK CITY: THE PLACE FOR ENTERPRISE-FOCUSED FINTECHS

BREAKDOWN OF $100M+ FINTECH DEALS RAISED BY STARTUPS HEADQUARTERED IN NYC ('23-'24)[2]



NEW YORK METRO: TOP BANKS' CHOICE FOR FINTECH INVESTMENTS

NUMBER OF VENTURE DEALS BY TOP BANKS[3] IN THE NEW YORK METRO AND BAY AREA



In 2024, the New York metro area surpassed the Bay Area, capturing a 30% share of all U.S. fintech deals. Fintech founders who chose the New York metro to launch their companies benefited from larger seed rounds, which may have contributed to this shift. As a global financial hub, New York-based startups enjoy numerous advantages, such as proximity to banks and global enterprise companies, access to a wealth of financial talent, and an investor base with significant subject-matter expertise. Over a dozen of the largest U.S. banks are headquartered in New York City, while only two are based in San Francisco.[3] Financial institutions play an important role in supporting the fintech venture ecosystem, particularly for fintech startups focused on marketplaces for bonds, secondaries and cryptocurrencies.

Notes: [1] Bay area is San Jose-San Francisco-Oakland CSA. New York metro is New York-Newark, NY-NJ-CT-PA CSA. Data as of 01/08/25. [2] Blue subsegments are in the enterprise fintech, while orange subsegments are retail fintech. [3] Top banks cohort includes top 10 commercial banks ranked by assets per the Federal Financial Institutions Examination Council. Top banks' headquarters location references this same list.

Sources: The Federal Reserve. PitchBook. Data has not been reviewed by PitchBook analysts.

Austin's innovative edge: a highly skilled workforce and global investor interest

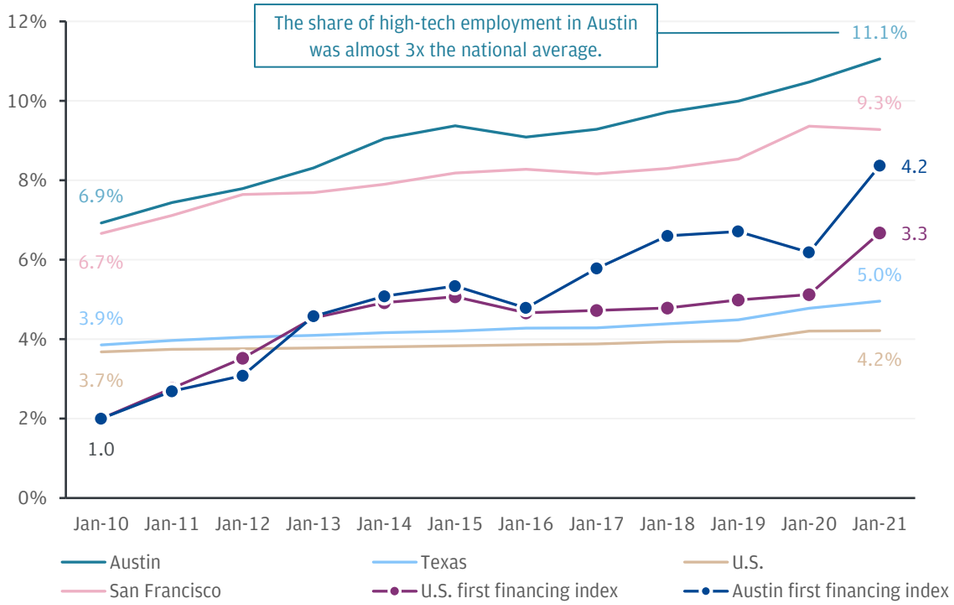
AUSTIN CONSISTENTLY RANKED AMONG THE TOP US CITIES FOR VENTURE DEALS

SELECT U.S. CITIES[1] RANKED BY VENTURE DEAL COUNT

US City	2000	2010	2020	2024
New York, N.Y.	1	1	1	1
San Francisco, Calif.	2	2	2	2
Los Angeles, Calif.	10	8	3	3
Austin, Texas	5	3	5	4
Boston, Mass.	6	6	4	5

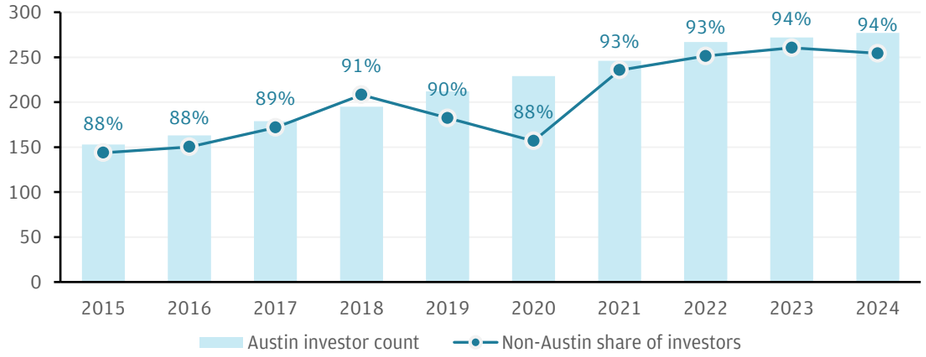
AUSTIN'S HIGH-TECH EMPLOYMENT & STARTUP BIRTHS OUTPACE NATIONAL LEVELS

SHARE OF HIGH-TECH EMPLOYMENT[3] FOR SELECT AREAS, US AND AUSTIN FIRST FINANCING INDICES[4]



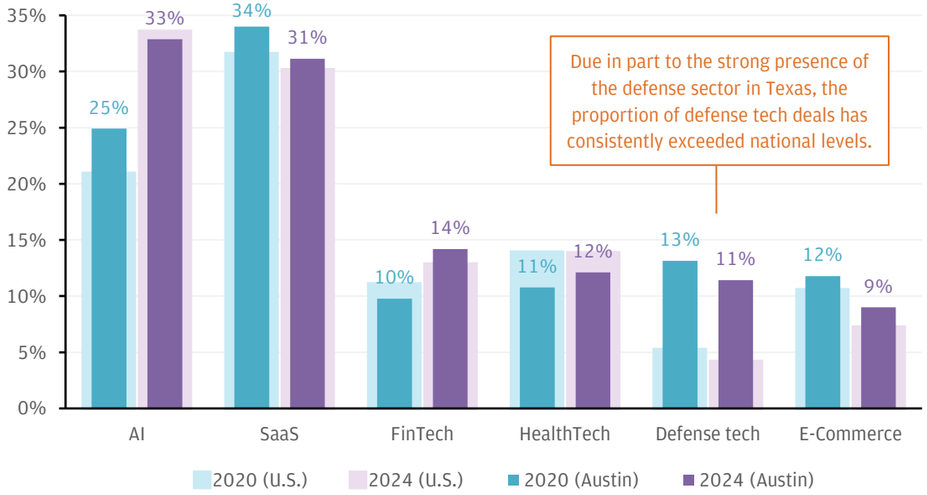
AUSTIN: A FAVORITE DESTINATION FOR VENTURE INVESTORS

AUSTIN-BASED INVESTOR COUNT, SHARE OF NON-AUSTIN-BASED INVESTORS (% TOTAL INVESTORS)[2]



DEFENSE TECH DEALS MORE COMMON IN AUSTIN COMPARED TO THE REST OF THE US

SELECT SECTORS[5] RANKED BY SHARE OF TOTAL DEALS FOR THE US AND AUSTIN



Austin continues to be a leading innovation hub, with over $2 billion in annual venture investments since 2018. One factor is Austin's popularity with non-local investors, representing a higher share than for other hubs like San Francisco and New York City. Another factor is its highly skilled workforce, with the proportion of high-tech employees far exceeding the national average. Startup formation is similarly ahead of national levels. In 2024, AI was the leading sector for deals in Austin, mirroring national trends. Texas' role as a defense hub has shaped its tech landscape, with defense tech accounting for over 10% of Austin's deals, compared to the national average of 4%. The Army has strategically located its Army Applications Laboratory in Austin to "help the Army incorporate new technology and capabilities that address today's toughest military challenges."

Notes: [1] Data for cities only. City-level analysis was run to conduct a like-for-like comparison. [2] Austin-based investors are headquartered in the city of Austin, Texas. Share of non-Austin-based investors is calculated as the total number of investors that invested in Austin-based startups minus Austin-based investors divided by the total number of investors that invested in Austin-based startups. [3] High-tech industries include computing infrastructure providers, data processing and web hosting, computer systems design, etc. [4] First financing measured as the first round of institutional capital raised by a startup. [5] Sectors are not mutually exclusive.

Sources: U.S. Bureau of Labor Statistics. Army Applications Laboratory. Office of the Governor Texas Economic Development & Tourism. PitchBook. Data has not been reviewed by PitchBook analysts.

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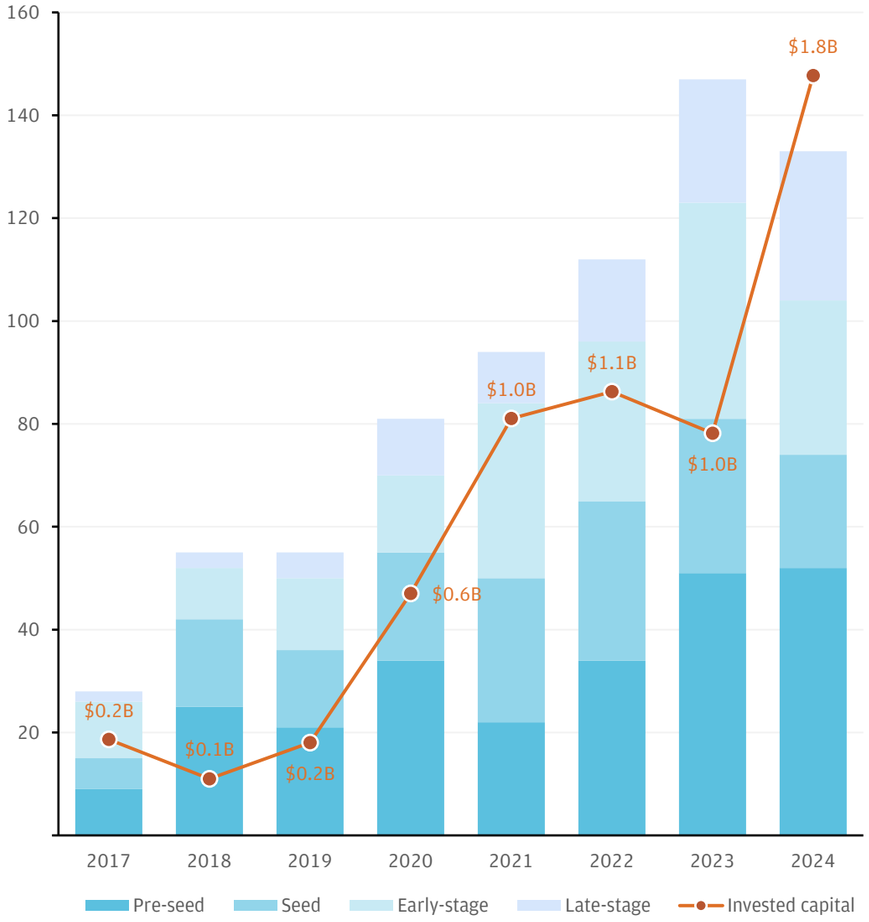
04 | Case study

Quantum computing coming to the mainstream

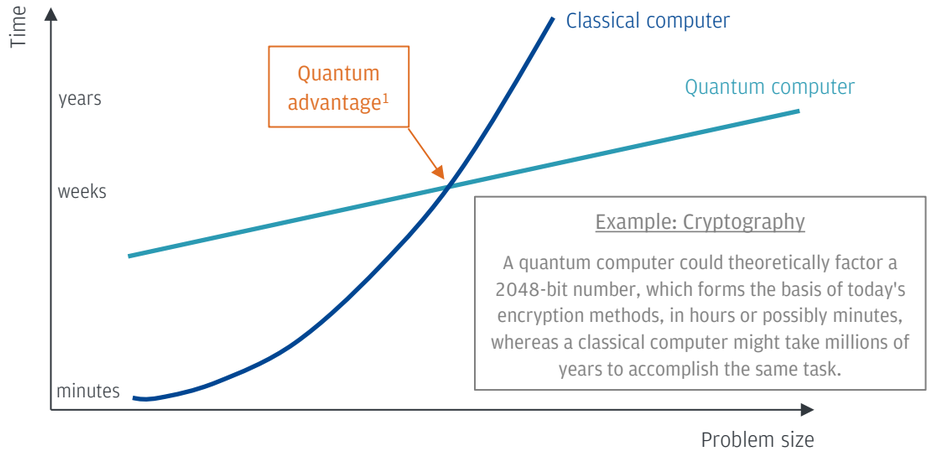
INVESTMENT IN QUANTUM COMPUTING BUCKS BROADER VENTURE TRENDS

GLOBAL QUANTUM COMPUTING VENTURE INVESTMENT, SEGMENTED BY DEALS BY STAGE



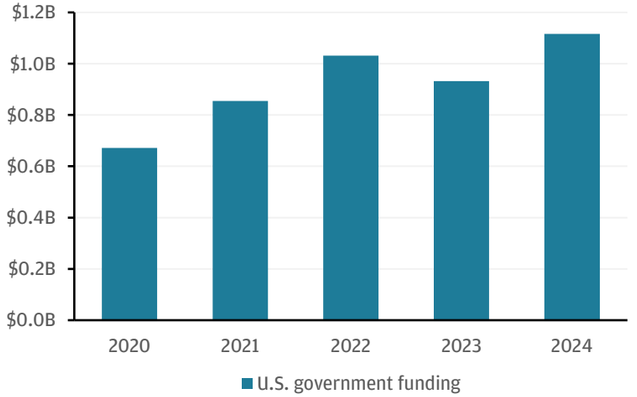
QUANTUM PROMISES A NEW EPOCH FOR COMPUTING

QUANTUM COMPUTING VS. CLASSICAL COMPUTING COMPUTATIONAL COMPARISON



THE US LEADS AS THE HUB FOR QUANTUM COMPUTING COMPANIES

U.S. GOVERNMENT FUNDING AND SHARE OF QUANTUM COMPUTING COMPANIES BY COUNTRY



Share of quantum computing startups
U.S. - 28%
U.K. - 10%
China - 9%
Canada - 7%
Germany - 6%
France - 5%

Quantum computing introduces a novel form of computation that could transform numerous industries. By harnessing the principles of quantum mechanics, quantum computers have the potential to solve specific problems much faster than traditional methods, a phenomenon known as “quantum advantage.”[1] This potential has captured the attention of investors, driving increased investment in the field even as the broader venture market slowed. Big Tech companies are investing heavily, some in developing proprietary chips, to expedite the time to a viable quantum computer. Industries such as artificial intelligence, healthcare and finance stand to be significantly disrupted by quantum computing. Another important area to monitor is cybersecurity, within which quantum computing breakthroughs could compromise current encryption algorithms.[2]

Note: [1] Quantum advantage refers to the point at which a quantum computer can perform a computational task that is beyond the capabilities of the most powerful classical supercomputers. [2] Refer to Quantum computers will redefine encryption for more insight.

Sources: “Evidence of scaling advantage for the quantum approximate optimization algorithm on a classically intractable problem”, dated May 2024, as published in Science Advances, Volume 10, Issue 22, authored by J.P. Morgan Securities LLC’s Global Technology Applied Research Team together with the other authors cited therein, PitchBook. Data has not been reviewed by PitchBook analysts.