2025 ↗

BALTIMORE
TECH ECOSYSTEM
REPORT

LEADERS • TRENDS • OPPORTUNITIES

gbc

UPSURGE BALTIMORE

INTRODUCTION

**A Useful Guide — A Source of Inspiration —
A Resource for a Stronger, More-Connected Future**

Our entrepreneurial ecosystem continues to evolve, shaped by the energy of new startups, the flow of investment capital, and the growing influence of innovation leaders both regionally and nationally. This report serves as the premiere resource for understanding the current standing of the Baltimore Region's startup ecosystem — highlighting the location and industry of startups gaining momentum, the funding that fuels their growth, and the exits that inspire the next generation. By looking beyond our state, we also plot the Baltimore Region's ecosystem within the broader national landscape, drawing on key trends in research, development, and institutional leadership.

Through data-driven insights, real-world examples, and thoughtful perspectives, we aim to provide a clear view of the progress being made and the opportunities ahead. From early-stage founders to seasoned investors, from research institutions to policy leaders, this report is built on the collective contributions of many across the innovation economy.

SECTIONS

Startups
Active startups in the Baltimore Region and leading industries and sectors

Funding
The deals closed and total funding raised across the venture capital ecosystem

Case Studies
The region's noteworthy startup success stories

Perspectives
The national R&D trends and institutional insights shaping innovation leadership

Methodology
The sources that informed the data and terminology used in the report

EXECUTIVE SUMMARY

The Baltimore region has reached a pivotal moment in its economic evolution. Historically anchored by its proximity to the federal government and its globally recognized research institutions, the region has benefited from decades of stability and investment. As federal research funding shifts, the 2025 Ecosystem Report, UpSurge's first under the banner of the Greater Baltimore Committee, points to an inflection point—where legacy strengths can be leveraged to fuel the next wave of growth.

Emerging opportunities in technology commercialization, applied innovation, and entrepreneurial leadership are already taking shape, supported by a deep talent pool and increasingly collaborative networks. This is a chance for the region to expand beyond its traditional pillars and chart a more diversified, innovation-led future—one driven by partnership, purpose, and private-sector momentum.

486 STARTUPS IN THE BALTIMORE REGION
While Baltimore City remains the central hub, with 336 startups; vibrant clusters have emerged in Howard County (68), Baltimore County (55), and Anne Arundel County (43).

$664.7m TOTAL FUNDING IN THE REGION
The region saw $664.7 million in funding through 60 deals.

60 VENTURE CAPITAL DEALS IN THE REGION
In 2024, the Baltimore Region saw 60 deals, primarily made up of Later-Stage VC deals; on par with performance in 2019, 2020, and 2023.

5 ANCHOR & OPPORTUNITY-GROWTH SECTORS
The region, anchored by Healthcare & Life Sciences, Cybersecurity, and Advanced Manufacturing, is developing into a powerhouse for Aerospace & Defense, and Quantum.

10 STARTUP EXITS ACROSS 8 INDUSTRIES
The region saw ten startup exits—all through acquisitions—with three in the Software Development industry.

R&D FUNDING ABOVE NATIONAL AVERAGE
Maryland is ranked second (behind California) for Total Federal R&D Dollars with $21B in FY2023 and ranked third (behind California and New York) in Higher Education R&D Dollars with $3B in FY2023.

STATEMENT FROM THE CHIEF ECOSYSTEM OFFICER

The 2025 Ecosystem Report marks a pivotal moment for the Baltimore region. As we navigate a dynamic economic landscape, the data, insights, and voices in this report reflect a region that is not only reckoning with change but embracing it. Baltimore is charting a new course from legacy dependence on federal stability toward a more diversified, innovation-driven economy.

For decades, the federal government has provided a reliable economic foundation for the Greater Baltimore region, particularly through research funding and employment. But shifts in those patterns are creating a rare and valuable opportunity: to activate a broader base of innovation, apply cutting-edge research to real-world solutions, and commercialize technologies at scale. As talented professionals increasingly transition from government roles and public institutions into the private sector, the Baltimore region is uniquely positioned to capture that momentum.

The 2025 Ecosystem Report tells the story of a region with rising visibility in high-growth sectors —Life Sciences, Cybersecurity, and Advanced Manufacturing. These are industries where Baltimore is already globally competitive, and where continued strategic investment can elevate the region as a national innovation asset. Still, to realize this potential, we must grow with intention: by addressing persistent structural challenges, improving regional collaboration, and unlocking the full capacity of our entrepreneurial, academic, and corporate communities.

That work is already underway. UpSurge Baltimore, now a part of the Greater Baltimore Committee, continues to build a vibrant entrepreneurial ecosystem by strengthening culture, deepening connectivity, and aligning capital and talent with high-impact ventures.

This year's report is released in parallel with GBC's Investment Scorecard, a complementary, data-driven resource that tracks capital flows and performance benchmarks across our innovation economy. Together, these two tools offer a strategic snapshot of where Baltimore stands today—and a clear view of where we're headed.

The path forward won't be without challenges, but Baltimore's foundation is strong. Our region is cultivating talent, building capacity, and aligning institutional and private-sector assets in ways that give us a competitive edge. We're not simply participating in the innovation economy— we're shaping it. And if we stay bold, stay aligned, and stay focused, the best of Baltimore's innovation story is still to come.

Kory Bailey, Chief Ecosystem Officer, Greater Baltimore Committee

STARTUPS

Startups in the Region

As of March 31, 2025, UpSurge is actively tracking **486 technology startups across the Baltimore Region**. While Baltimore City continues to serve as the primary nucleus for startup activity, emerging innovation districts are taking shape in surrounding areas such as Columbia, Annapolis, Towson, Fulton, Ellicott City, and Halethorpe. These clusters represent a geographically diverse and increasingly interconnected startup landscape that extends beyond the core of Baltimore City. It's important to note that 486 does not reflect a decline in overall startups, but a more refined focus on technology startups.

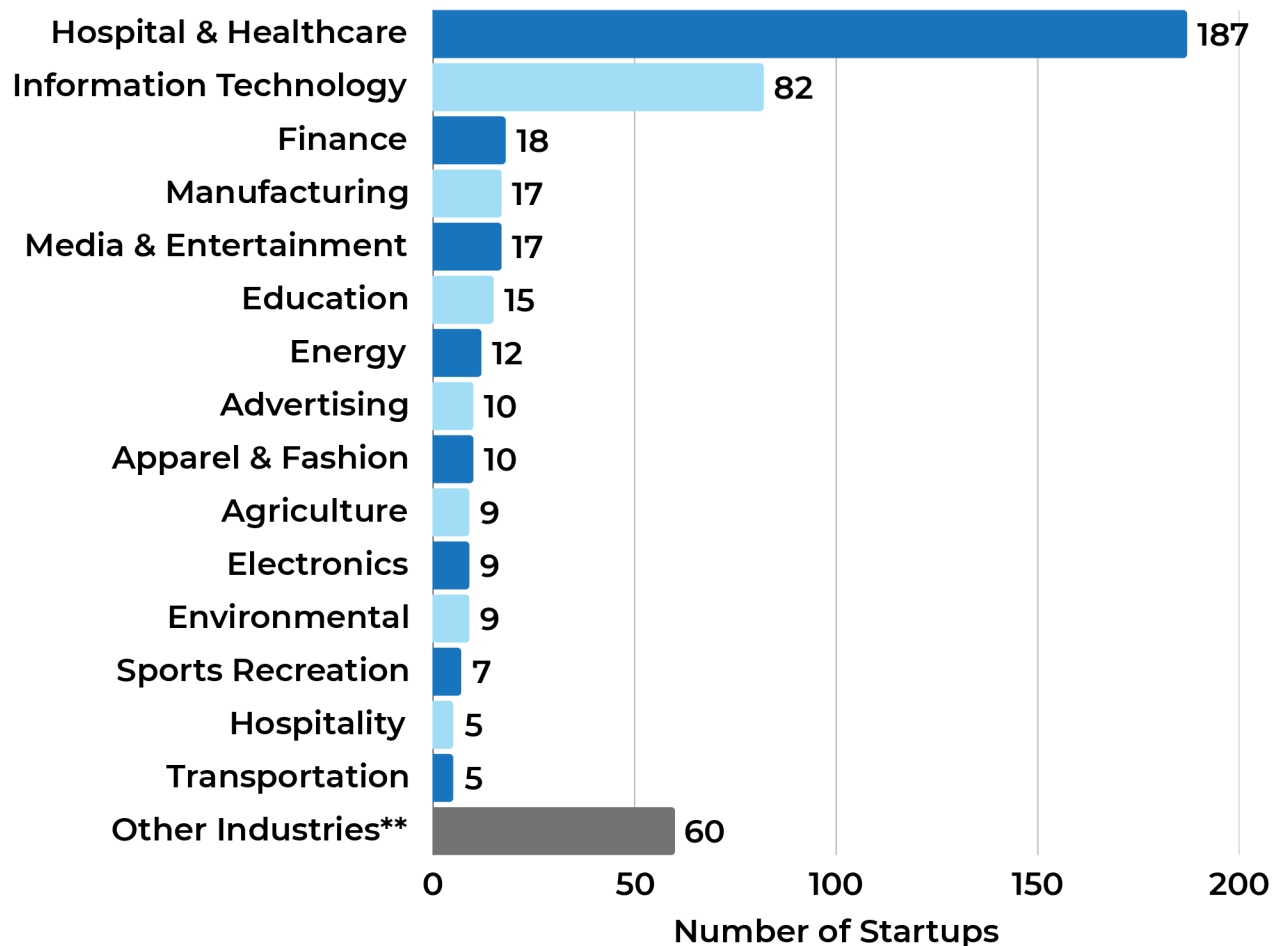Source: *PitchBook, Crunchbase, Tracxn, Public Sources, Primary Sources*
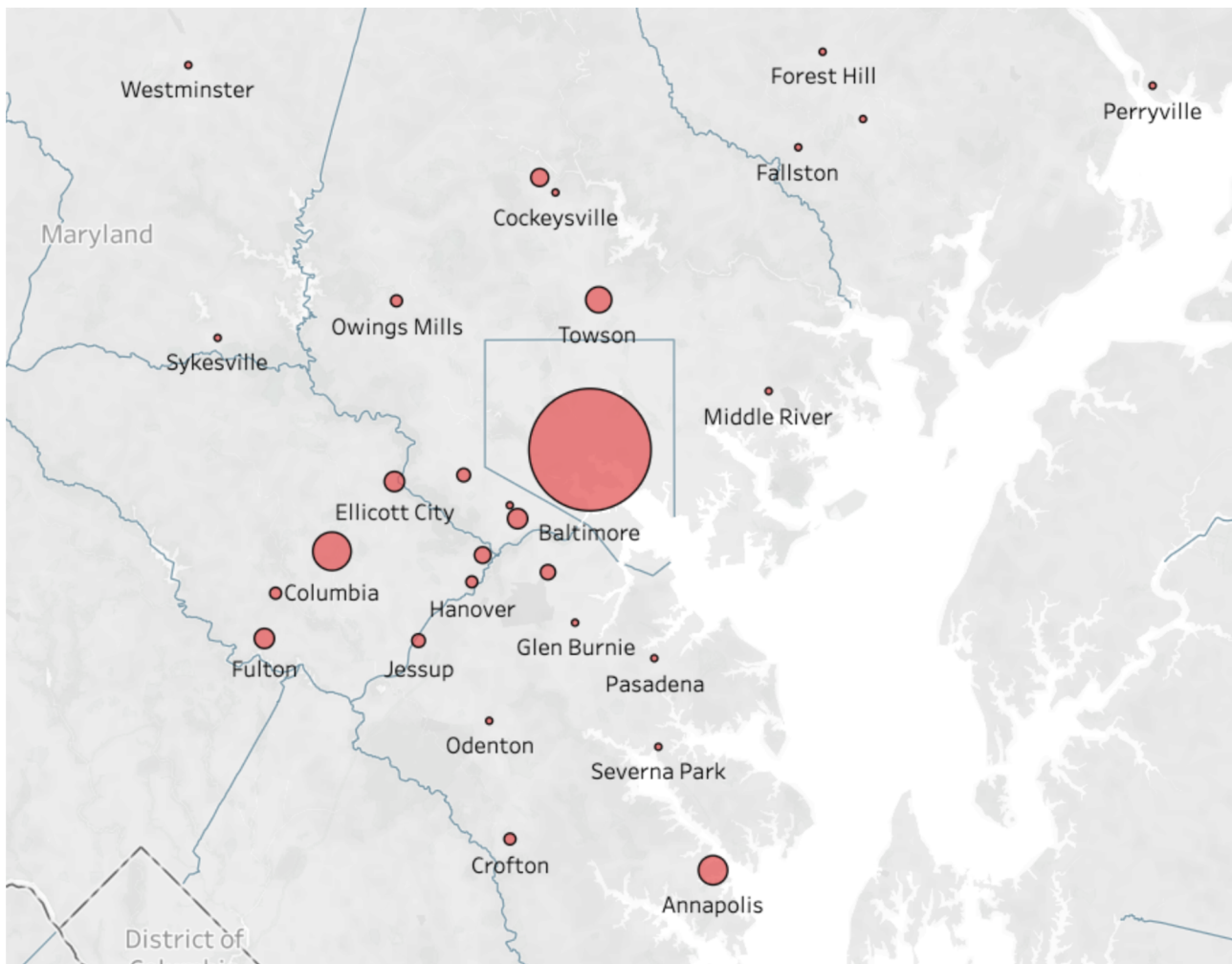
Baltimore's Tech Economy:
Strength in Specialization and Industry Diversity

Baltimore's tech landscape is shaped by deep expertise in healthcare and hospital systems, where innovation in medical devices, diagnostics, and digital health continues to thrive. This strength is complemented by a robust information technology industry that spans from cybersecurity to enterprise platforms, and emerging AI applications. Beyond these core industries, the region is seeing meaningful representation in finance, manufacturing, media and entertainment, and education technologies—contributing to a broader narrative of diversification and resilience.

Source: *PitchBook, Crunchbase, Tracxn, Public Sources, Primary Sources*

Number of Regional Startups By Industry*

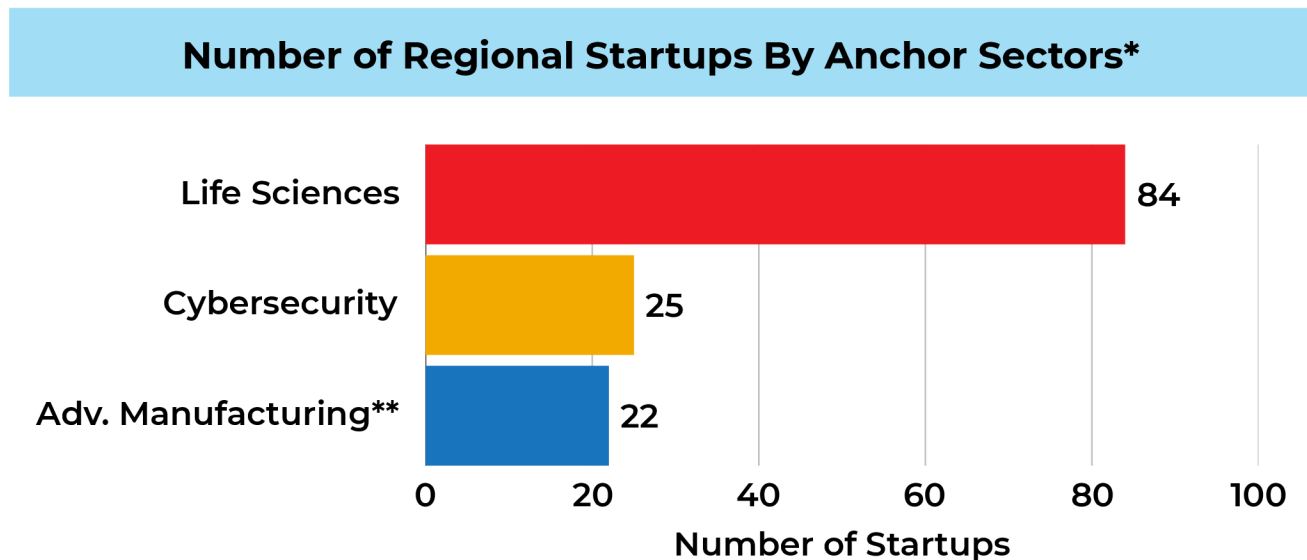| Industry	Number of Startups
Hospital & Healthcare	187
Information Technology	82
Finance	18
Manufacturing	17
Media & Entertainment	17
Education	15
Energy	12
Advertising	10
Apparel & Fashion	10
Agriculture	9
Electronics	9
Environmental	9
Sports Recreation	7
Hospitality	5
Transportation	5
Other Industries**	60

Number of Startups

*In this dataset, "industry" is defined as "the principal market in which a company operates, representing its primary source of revenue."
**Other Industries includes: Communications, Engineering, Government, Other, Personal Care, Supply Chain, Telecom, Utilities

The Region's Sectoral Superpowers

The Baltimore Region's startup ecosystem is grounded in three Anchor Sectors that continue to define its economic identity: life sciences, cybersecurity, and advanced manufacturing. Of the 486 startups currently operating in the region, 84 are in life sciences (17.3% of all startups), reflecting the region's robust clinical, research, and healthtech infrastructure. Cybersecurity, represented by 25 startups (5.1%), draws strength from longstanding federal partnerships and a concentration of technical talent. Advanced manufacturing accounts for 22 startups (4.5%), showcasing the region's ongoing transition toward high-precision, technology-driven production.

Source: *PitchBook, Crunchbase, Tracxn, Public Sources, Primary Sources*

Number of Regional Startups By Anchor Sectors*

Sector	Number of Startups
Life Sciences	84
Cybersecurity	25
Adv. Manufacturing**	22

Number of Startups

*In this dataset, "sector" is defined as "the category of technology integrated into a company's products or services." Sectors were identified based on keyword searches: "Life Science" or "Biotech" for Life Sciences, "Cyber" or "Security" for Cybersecurity, and "Manufacturing" for Advanced Manufacturing.
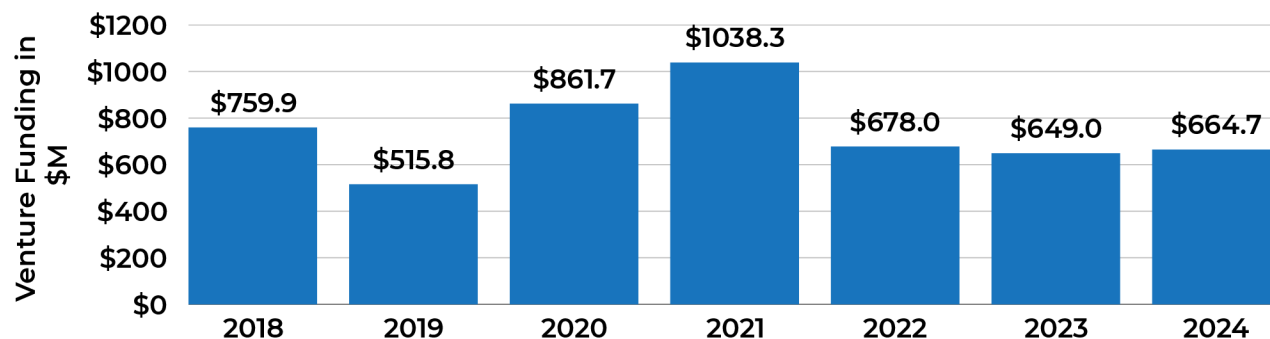**Advanced Manufacturing includes companies from additional industries with manufacturing components.

Alongside these anchors, Baltimore is cultivating several high-potential opportunity growth Sectors—industries that are expanding rapidly due to regional assets and institutional leadership. Aerospace & defense is accelerating thanks to Baltimore's proximity to major defense installations, a strong contractor base, and access to specialized talent. At the same time, quantum technology is gaining momentum through collaboration with the University of Maryland, home to multiple quantum research centers including the newly launched National Quantum Laboratory at Maryland (QLab). The development of real-world quantum computing and networking applications is equipping the region to play a central role in quantum's emergence in the ecosystem.
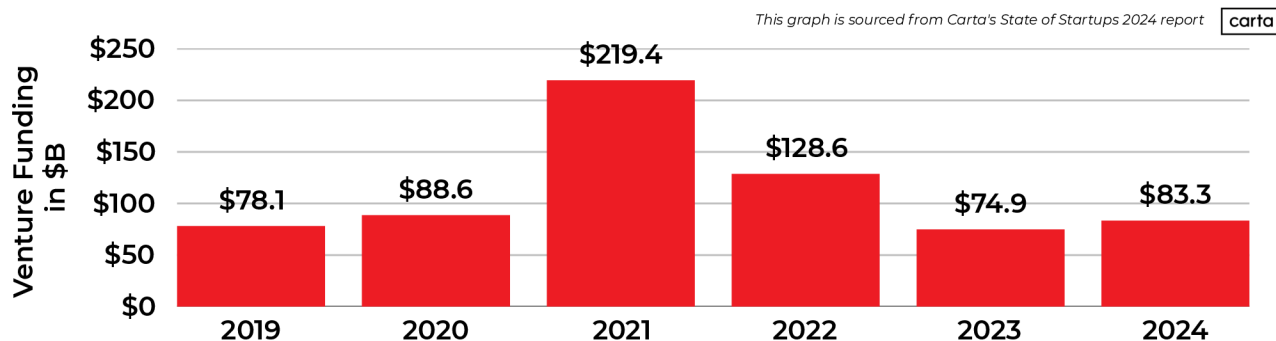
FUNDING

Funding Trends

Baltimore Region Total Venture Funding by Year

Venture Funding in $M

- 2018: $759.9
- 2019: $515.8
- 2020: $861.7
- 2021: $1038.3
- 2022: $678.0
- 2023: $649.0
- 2024: $664.7

Total Cash Raised by US Carta Startups by Year

This graph is sourced from Carta's State of Startups 2024 report | carta

Venture Funding in $B

- 2019: $78.1
- 2020: $88.6
- 2021: $219.4
- 2022: $128.6
- 2023: $74.9
- 2024: $83.3

Baltimore Region Total Venture Funding by Year

Venture funding in the Baltimore region remained consistent with the previous two years, in line with the national trend. Activity remains well below the 2021 peak. The year's largest funding rounds included Huntress (Series D), Delfi Diagnostics (Series B), and Impact Analytics (Series C), as reported by PitchBook, along with b.well Connected Health (Series C), as reported by Crunchbase.
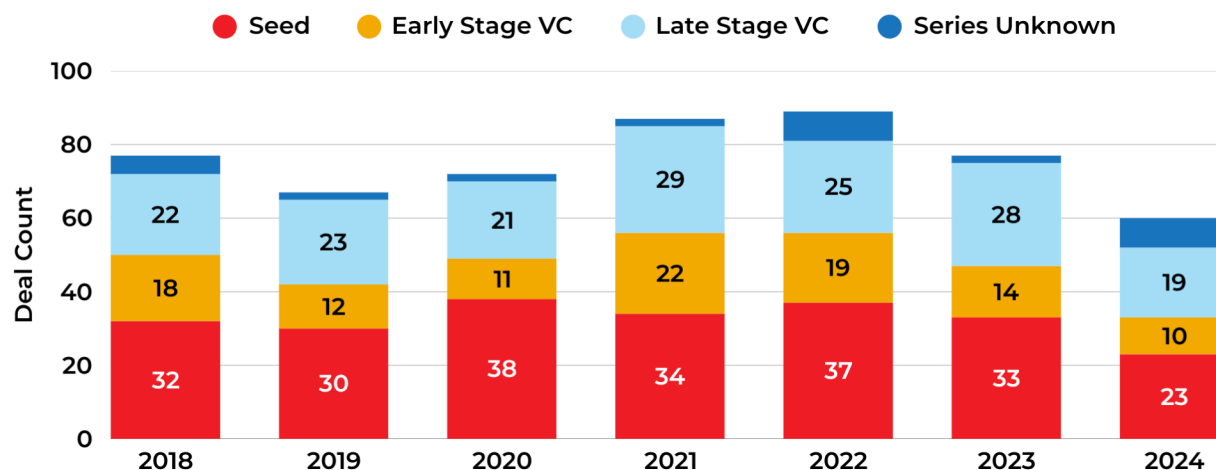
Major changes from the 2024 Ecosystem Report:
- From 2023 data, Clasp Therapeutics (ManaT Bio) was removed due to its $120M Series A being based in Rockville, MD.
- From 2022 data, SamCart was removed based on its relocation to Austin, TX, and Y-Trap was removed due to its $25M Series B being based in San Francisco.

Baltimore Region Median Venture Deal Size by Year

Legend: ● Seed ● Early Stage VC ● Late Stage VC ● Series Unknown

Chart 1: Deal Count (stacked bar, Y-axis "Deal Count" 0–100)

Year	Seed	Early Stage VC	Late Stage VC	Series Unknown
2018	32	18	22	(yes)
2019	30	12	23	
2020	38	11	21	
2021	34	22	29	
2022	37	19	25	(yes)
2023	33	14	28	
2024	23	10	19	(yes)

Median Venture Deal Size by Year

Although deal volume fell at a similar rate across all stages, the median deal size nearly doubled year-over-year, driven by larger funding rounds at every stage, especially in the early stages where deals are typically the smallest.

Baltimore Region Median Venture Deal Size by Year

Chart 2: Venture Funding in $M (Y-axis $0.0–$2.5)

Year	Venture Funding in $M
2018	$2.0
2019	$1.5
2020	$1.6
2021	$1.4
2022	$1.5
2023	$1.1
2024	$2.2
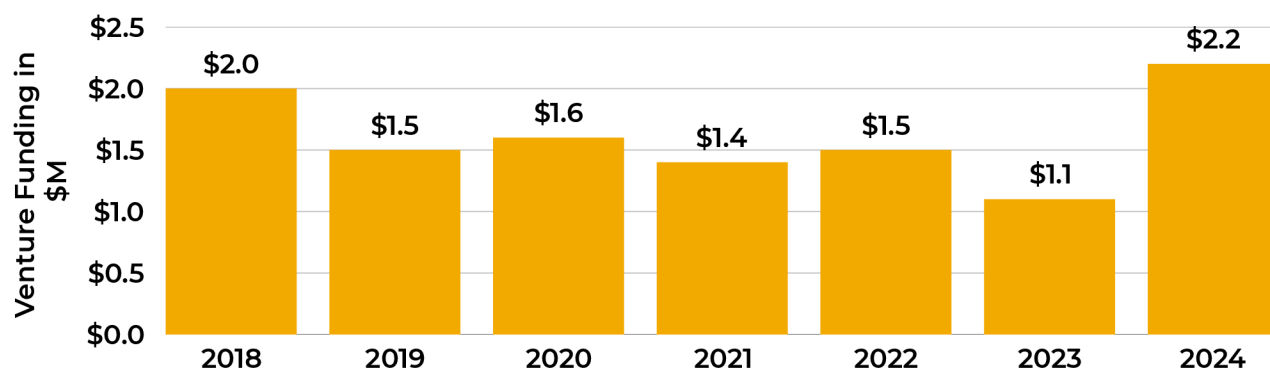
Baltimore Region Venture Deal Count by Year

Startup deal volume continued to decline in 2024, with significant drops at every stage. The rise in Series Unknown deals indicates more solo investments and bridge investments.

The dataset includes the following deal types:
Seed includes: *Angel, Convertible Note, Equity Crowdfunding, Pre-seed, Seed.*
Early Stage VC includes: *Early Stage VC, Series A, Series B, Venture Debt.*
Later Stage VC includes: *Later Stage VC, Series C, Series D, Mezzanine, PE Growth/Expansion, Post-IPO Equity.*
Unknown Series includes: *Funding Round, Venture – Series Unknown.*

EXITS & WINS

Momentum in Motion: A Banner Year for Baltimore Startups

2024 emerged as a defining year for Baltimore's innovation economy, marked by a wave of exits that reflect the growing strategic value of companies launched and scaled here. From enterprise software to digital health, and cybersecurity to interactive entertainment, Baltimore-founded ventures are being recognized by national and global acquirers for their ability to solve real-world problems at scale. These exits are more than transactional—they're strong signals that our ecosystem is maturing, with founders building companies that meet the bar for acquisition by industry leaders like Epicor, PowerSchool, Bluesight, and Discovery Education.

Baltimore's industry strengths in healthcare and information technology continue to yield notable outcomes, but this year's wins also revealed momentum across a broader spectrum—simulation software, gaming, enterprise resource planning, and AI-powered education. This diversity affirms the region's potential to nurture innovation across many verticals and signals that future wins are likely to emerge from both established clusters and emerging areas of opportunity.

Company Name	Year Founded	Industry	Close Date	Acquirer	Amount	Location	Founder
Acadia Software	—	Software Development	Q4 2024	Epicor	Undisclosed	Hunt Valley, MD	Ric Hughes, Founder & CEO
Allovue	2013	Education Management	Q1 2024	PowerSchool	Undisclosed	Folsom, CA	Jess Gartner, Founder & CEO
Curation Health, a Reveleer company	2018	Hospitals and Health Care	Q4 2024	Reveleer	Undisclosed	Annapolis, MD	Kevin Coloton, Founder & CEO
Foretrace, a Flare Company	2020	Computer and Network Security	Q1 2024	Flare.io	Undisclosed	Howard County, MD	Matt Mosley, CEO; Nick Ascoli, Founder & CTO
Healthcare Data Management	2001	Financial Services	Q3 2024	KovoHealth Tech	$3.30M	Mid-Atlantic Region, US	Cheryl Gundry, Founder & President
Hunt A Killer	2016	Entertainment Providers	Q1 2024	Relatable	Undisclosed	Baltimore, MD	Ryan Hogan, Co-Founder & CEO; Derrick Smith, Co-Founder & VP Development
M-Star CFD	2014	Industrial Machinery Manufacturing	Q1 2024	Dotmatics	Undisclosed	Ellicott City, MD	John A. Thomas, Co-Founder & President; Kevin Smith, Co-Founder & President
Protenus	2014	Software Development	Q1 2025*	BlueSight	Undisclosed	Baltimore, MD	Nick Culbertson, Co-Founder & CEO; Robert Lord, Co-Founder
Relay	2022	Software Development	Q3 2024	Discovery Education	Undisclosed	Annapolis, MD	Chris Sleat, Head of Product; Irene Alvarado, Head of Engineering; Isaac Blankensmith, Head of Design; Jennifer Klepper, Head of
ZeroFox	2013	Information Technology	Q2 2024	Haveli	$350.00M	Baltimore, MD	James Foster, Co-Founder; Evan Blair, Co-Founder

*Protenus was acquired January 9, 2025. For this reporting, it is included in 2024 exit data.
Sources: *PitchBook, Crunchbase, Tracxn, Public Sources, Primary Sources*

Early Wins Signal What's Next

In addition to the landmark exits, a number of startups across the region are hitting major milestones—securing growth capital, announcing strategic contracts, and advancing toward commercialization. These accomplishments show early signs of market traction and set the stage for future outcomes.

BrightWave secured a $3M UK contract for its photobioreactor systems, expanding Baltimore's presence in international climate-tech. Linshom Medical achieved FDA clearance for its respiratory monitoring sensor, a key step toward market readiness. CoapTech launched its second-generation magnetic balloon catheter and completed the first bedside use, advancing minimally-invasive surgical solutions. TIME recognized Sonavex's EchoMark and EchoSure technologies as a Best Invention of 2024. Astek Diagnostics announced a strategic partnership with MedStar Health Research Institute to accelerate UTI detection and antibiotic sensitivity analysis using its Jiddu™ Analyzer.

Together, these wins reinforce a clear message: our ecosystem is building real value. Whether through acquisition or growth-stage breakthroughs, Baltimore companies are proving they can compete—and win—on the national stage. The outlook is strong, and the pipeline is full.

PERSPECTIVES

Federal Funding in the Region

Leaders from the region's institutions and innovation hubs are closely watching shifts in federal research funding, recognizing its integral role in fueling the region's startup pipeline and sustaining long-term ecosystem growth. Federal support has historically underpinned the region's innovation economy—particularly through academic research, technology transfer, and early-stage commercialization.

Leaders are emphasizing that reductions in this funding threaten not only the health of university-led research, but also the formation of startups and the flow of talent into the private sector. At the same time, they see opportunity: with intentional collaboration and increased private investment, the region can diversify its innovation infrastructure and build resilience beyond federal dollars. As public funding landscapes evolve, their focus is on ensuring the Baltimore Region's innovation ecosystem remains strong, equitable, and aligned with the region's strengths in health, cybersecurity, and climate tech.

Perspectives on Shifts in Federal R&D Funding
Institution and Innovation Leaders

Ron Daniels,
President, Johns Hopkins University

"Because of our researchers' extraordinary success in competing year after year for merit-based grants and contracts, we are, more than any other American university, deeply tethered to the compact between our sector and the federal government. The breadth and depth of this historic relationship means that cuts to federal research will affect research faculty, students, and staff and will ripple through our university." Read More

Dr. Valerie Ashby,
President, University of Maryland Baltimore County

"A loss of federal research funding on the scale that has been proposed would fundamentally change our nation's academic research enterprise, and it would, inevitably, change the role of research in higher education and the teaching and learning that occurs on our campuses. No institution, not even the wealthiest, could replace federal research dollars out of their own budgets or with state funds or philanthropy." Read More

Mary Morris, Director of Baltimore Fund, University of Maryland Baltimore

"Federal investment has been critical for advancing innovation and Baltimore's thriving tech economy. It's an interconnected system and disruptions to the process – whether it is federally sponsored research, FDA approvals, Medicaid/Medicare reimbursement, or other avenues – impacts our ability to commercialize life science technologies and the overall health of the life sciences sector."

Bruce E. Jarrell, President, University of Maryland Baltimore

"Given the scale of UMB's reliance on federal research funding, where nearly half of our budget derives from research and training grants, we understand that cuts or changes in federal support will have a profound impact across our institution. While the exact scope of these changes remains unclear, we anticipate that they might disrupt research and impact programs and faculty and staff positions in the coming months." Read More

Myra Norton, Head of Innovation, Startup and Ecosystem Acceleration; Johns Hopkins University

"The vast majority of Johns Hopkins startups take root in a federally-funded lab or office, and the resulting discoveries enable our researchers and entrepreneurs to attract private investment to support the translation of discovery out of academia and into the marketplace. This cycle of innovation is responsible for spawning a host of high-impact products and a portfolio of startups, many of whom are enriching the local Baltimore ecosystem."

Momentum for Baltimore:
Helping Baltimore's Regional Economy Grow

"Over the course of its four-year history, UpSurge Baltimore has infused a level of energy and engagement among the region's entrepreneurial ecosystem that is essential for driving continued investment and growth. Bringing the organization under the GBC banner will foster more collaboration between the startup, tech, and innovation ecosystems on one end and the corporate, manufacturing, and academic ecosystems on the other — in ways that will fuel lasting success across the Baltimore Region."

Mark Anthony Thomas
President & CEO
Greater Baltimore Committee

"Baltimore is a region where innovation is built into the fabric - it is part of our history and is shaping our future. We are agile, fearless, and hopeful. Bold captures our spirit and how we do business. The Baltimore Region is defined by reinvention, resilience, and progress. Now more than ever, we need bold doers and innovators. Boldness fuels progress, progress drives investment. Join us."

Lakey Boyd
Chief Economic Officer & EVP
Greater Baltimore Committee

METHODOLOGY

General

The 2025 Baltimore Tech Ecosystem Report is the region's primary source for data and insights on startups and venture capital. This year's report reflects several high-level changes from the 2024 edition.

Following UpSurge's merger with the Greater Baltimore Committee, this report has been more closely aligned with other regional reports. As a result, the 2025 report has a narrower, more defined scope, focusing on high-level startup and venture capital data for the Baltimore Region—filling a gap for the ecosystem.

To improve accuracy and credibility, UpSurge has integrated multiple data sources to establish a "source of truth" for each data point. In doing so, we've adopted custom terminology to standardize definitions for industry terms such as "industry," "sector," and "funding stage," which often vary across platforms. UpSurge will continue to improve the "source of truth" methodology and language to maximize accuracy and utility for its stakeholders.

Definitions

Current: A company that is incorporated and has not exited or ceased operations.
Baltimore Region: Defined as Baltimore City and the surrounding counties: Anne Arundel, Baltimore, Carroll, Cecil, Harford, Howard, and Queen Anne's.

Technology Company: A business that exists only due to technological innovation. This includes companies building new technologies or using technological advancements to deliver novel products or services.

Startup: A business founded and operated by one or more entrepreneurs, actively selling or developing a product.

Data Sources

LinkedIn: Company and contact data, manually updated by UpSurge based on team interactions.
PitchBook / Crunchbase / Tracxn: Company and funding data, updated quarterly through exports of Maryland-based deals.
Public Sources: Primarily funding data collected from blogs, press releases, and news articles.
Primary Sources: Data provided directly by Baltimore R-region founders, investors, and Entrepreneur Support Organizations (ESOs), including company, contact, and funding information.

Startups
The companies included in the Startup section are limited to those that meet UpSurge's definition of a Current Baltimore Tech Startup.

Funding
The Funding section includes all venture capital and private equity transactions involving tech companies based in the Baltimore region. Data are presented as a moving 7-year window of time.

Case Studies
The Case Studies section includes all exits (acquisitions, mergers, IPOs) by tech companies in the Baltimore region.

Perspectives
The Perspectives section includes data from the Survey of Federal Funds for Research and Development.