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The Rise of GenAI
and
Recent Venture Capital Trends

NOVEMBER 2023

Illuminate Ventures

- 100% focused on B2B/**ENTERPRISE SOFTWARE -** a $880[+]B market

- **SEED STAGE** investors in **"further along"** companies that deliver rapid, measurable **ROI**

- Setting our **APERTURE WIDER** to identify unique investment opportunities

- **SOUGHT-AFTER ADVISORS** –leading/co-leading most, with pro rata rights

- Leveraging a **PLATFORM** of world-class B2B execs and >100 MBA intern grads as **SCOUTS** and for **PORTFOLIO SUPPORT**

- Advocates for **DIVERSITY** with >80% diverse/45% female founders

- **THOUGHT LEADERS** via white papers and B2B pieces with 100s of media citations

>$30B Increase in Enterprise Value Across 30 Companies

AI is A MegaTrend

"The age of AI has begun. …as fundamental as the creation of the microprocessor,…."

Bill Gates

"AI has spawned a 'Game of Thrones'-style battle for an $800B opportunity…"

Dan Ives, Managing Dir & Equity Research Analyst Technology, Wedbush

"I've always thought of A.I. as the most profound technology humanity is working on— more profound than fire or electricity …"

Sundar Pichai, CEO, Google

"I see how AI and the fourth industrial revolution will impact every aspect of people's lives."

Fei-Fei Li, Professor, Computer Science Dept, Stanford and Co-Director, Stanford Human-Centered AI Institute

Yet AI Faces Major Risks and Obstacles

TIME A Factual Error by Bard AI Chatbot Just Cost Google $100 Billion

Forbes **Why Is Microsoft's New Bing ChatBot Raising Ethical Eyebrows?**

HEALTH IT ANALYTICS **AI May Be More Prone to Errors in Image-Based Diagnoses Than Clinicians**

Newsweek AI Accidents Are Set to Skyrocket This Year
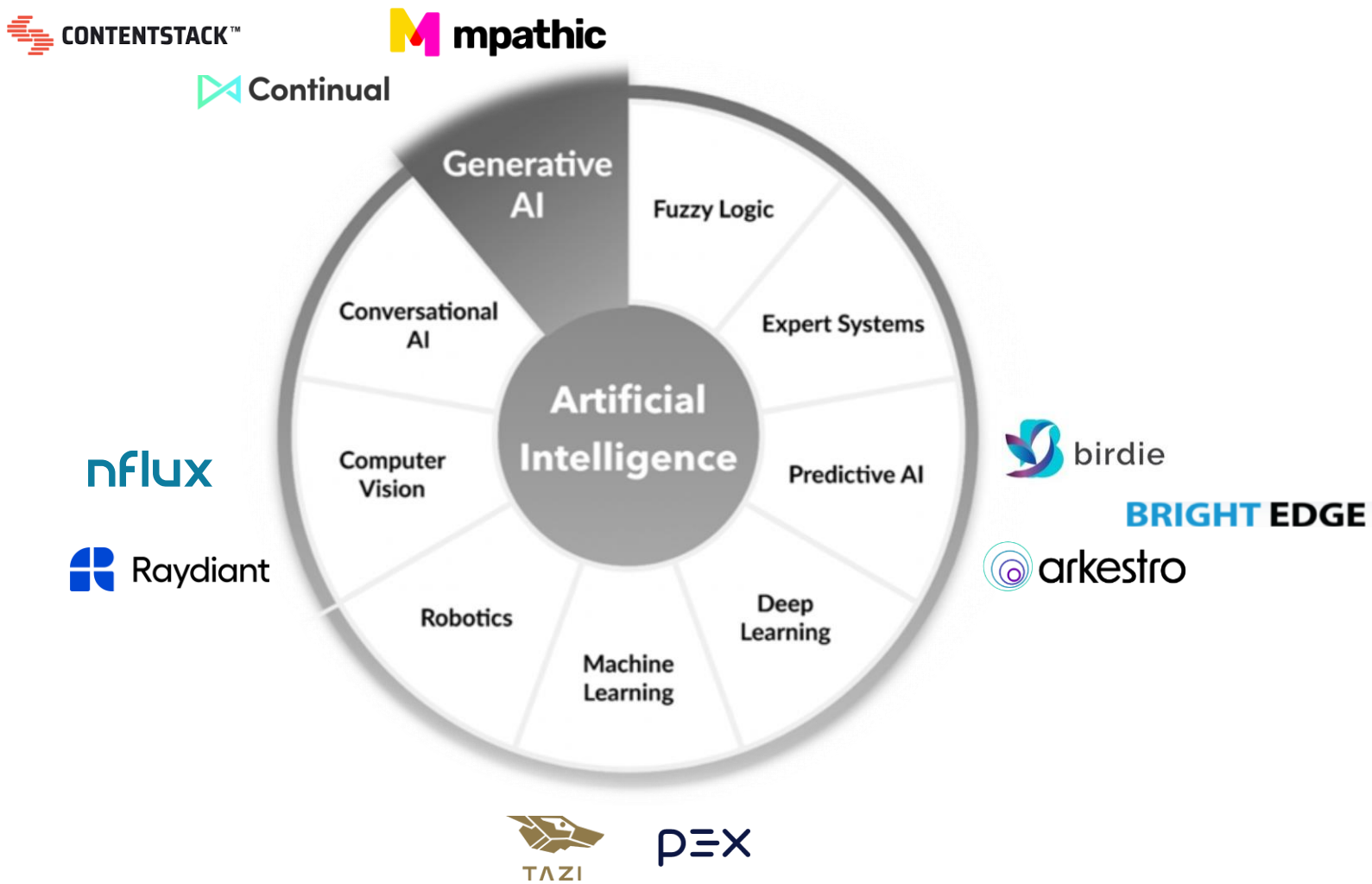
The New York Times *Elon Musk and Others Call for Pause on A.I., Citing 'Profound Risks to Society'*

**MIT Technology Review** China isn't waiting to set down rules on generative AI

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Illuminate Investments Across the AI Landscape

ALL PORTFOLIO COMPANIES INCREASINGLY LEVERAGE MULTIPLE TYPES OF AI

What is Generative AI?

NEW CLASS OF MODELS THAT ARE MAKING IT POSSIBLE FOR MACHINES TO WRITE, CODE AND DRAW WITH APPLICATIONS ACROSS MULTIPLE DIMENSIONS
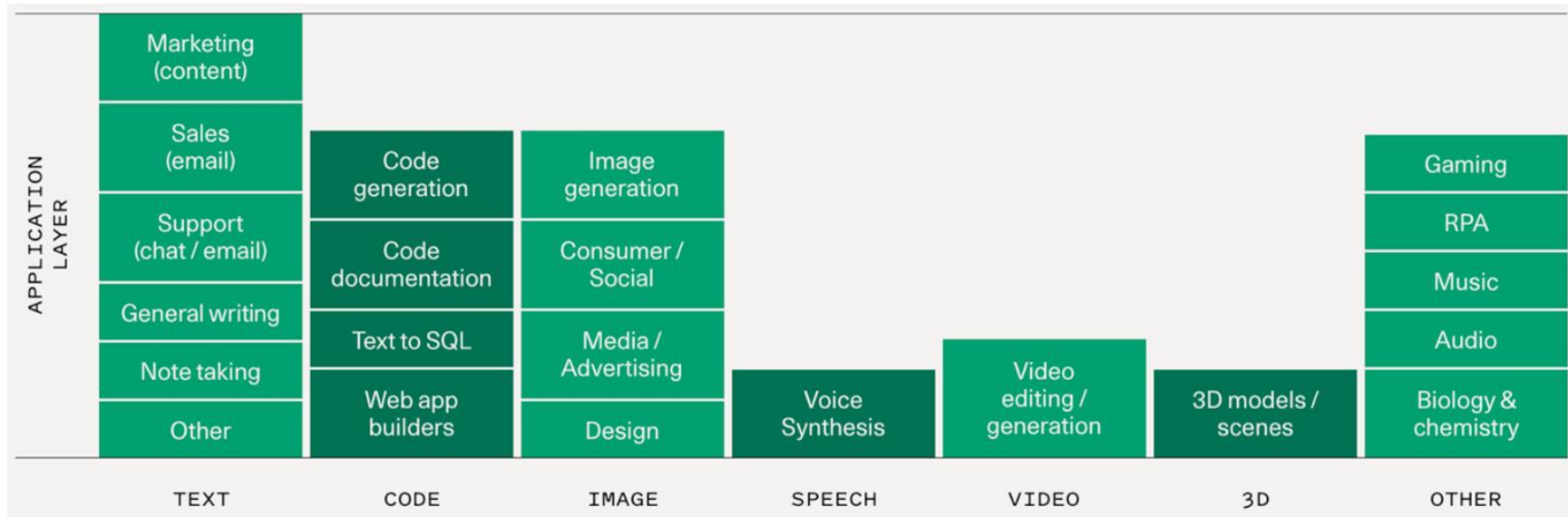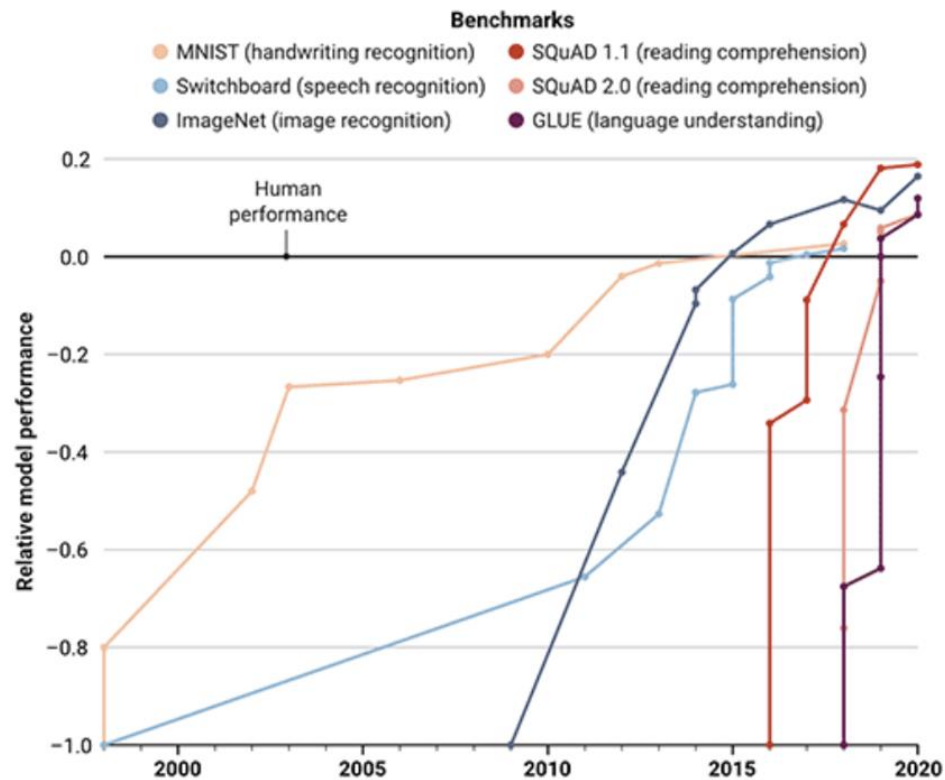

- Generative AI can best deliver value in industries that require knowledge and creative work (less disrupted by prior AI advances)
- It is a step change in the evolution of AI

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Why Now? Better Models, More Data and Compute

STARTING IN 2015 MODELS SURPASSED HUMAN PERFORMANCE BENCHMARKS DUE TO IMPROVEMENTS - FLOODGATES OPENED FOR NEW APPLICATION DEVELOPMENT

Quick learners

The speed at which artificial intelligence models master benchmarks and surpass human baselines is accelerating. But they often fall short in the real world.

Benchmarks
- MNIST (handwriting recognition)
- SQuAD 1.1 (reading comprehension)
- Switchboard (speech recognition)
- SQuAD 2.0 (reading comprehension)
- ImageNet (image recognition)
- GLUE (language understanding)

(GRAPHIC) K. FRANKLIN/SCIENCE; (DATA) D. KIELA ET AL., DYNABENCH: RETHINKING BENCHMARKING IN NLP, DOI:10.48550/ARXIV.2104.14337

Market timeline can be characterized as 3 waves:

- *Wave 1: Small models reign supreme (pre-2015)*
  - Initial AI / ML models were not expressive enough for generative tasks
- *Wave 2: Race to scale (2015-2022)*
  - **Research breakthrough** on new model design (neural network architecture called transformers)
  - **Compute power** used to train models increased by 6x
- *Wave 3: Better, faster and cheaper (2022+)*
  - Computer power has gotten cheaper, new algorithms are continuing to get developed.

Source: Sequoia Capital

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ML Models Different From Foundational Models

TRADITIONAL ML MODELS REQUIRED IN-HOUSE TRAINING AND DEPLOYMENT WHEREAS FOUNDATIONAL MODELS UNDER GENERATIVE AI COME PRE-TRAINED AND CAN BE FINE TUNED FOR SPECIFIC TASKS
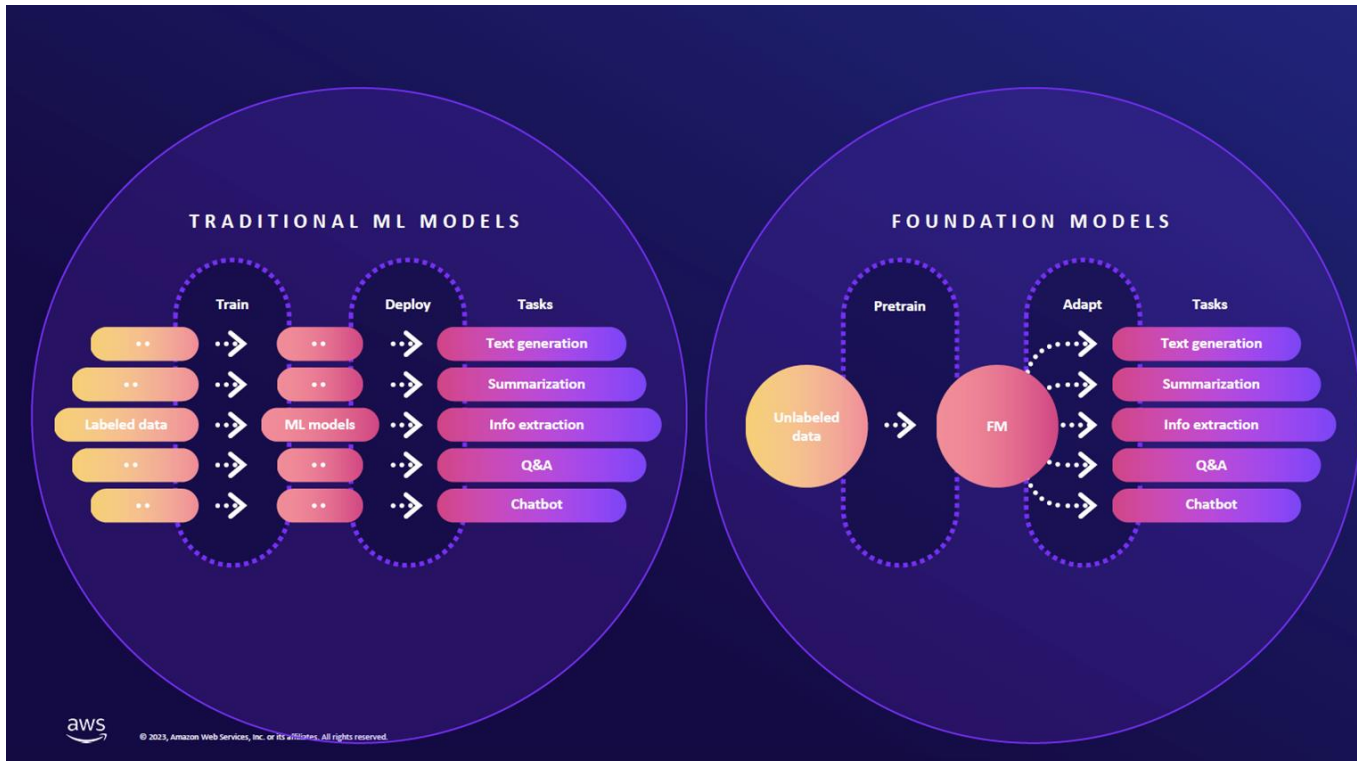
- **Traditional Machine Learning (ML) Models:** Statistical algorithms that can learn from data to make predictions without being explicitly programmed

- **Foundational Models:** Large AI models that are trained on massive datasets of text, code and images, and can learn to perform many different tasks without being explicitly programmed for each task.

Source: Amazon (AWS)

Broader Landscape Overview

NOTABLE PLAYERS ARE STARTING TO EMERGE ACROSS THE GENERATIVE AI VALUE CHAIN — MODEL DESIGN, DEPLOYMENT AND END APPLICATIONS

Source: Industry interviews; BCG analysis

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Notable players will change as market evolves

Source: BCG
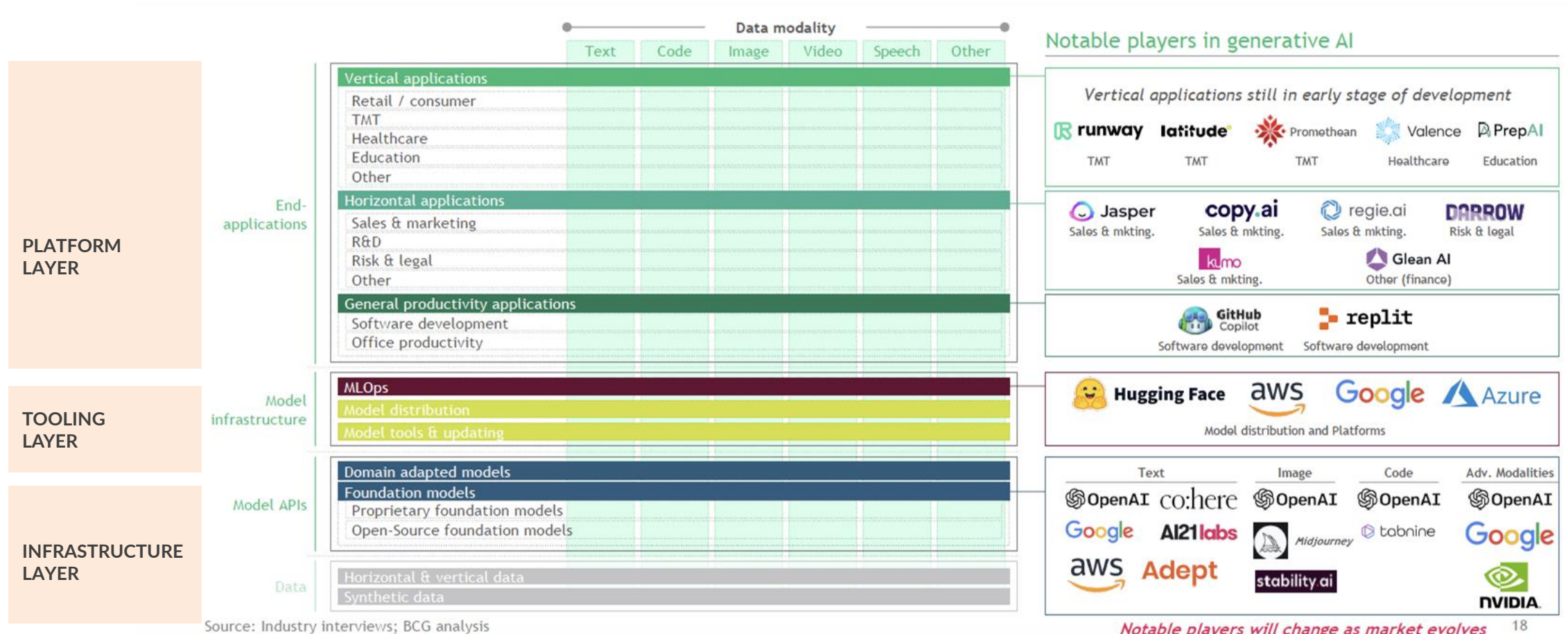
VC Funding Supports AI Innovation

DESPITE OVERALL WEAKNESS IN FUNDING ENVIRONMENT, AI INVESTMENT GREW TO $17.9B IN Q3

VC funding for generative AI next of Anthropic declined in Q3
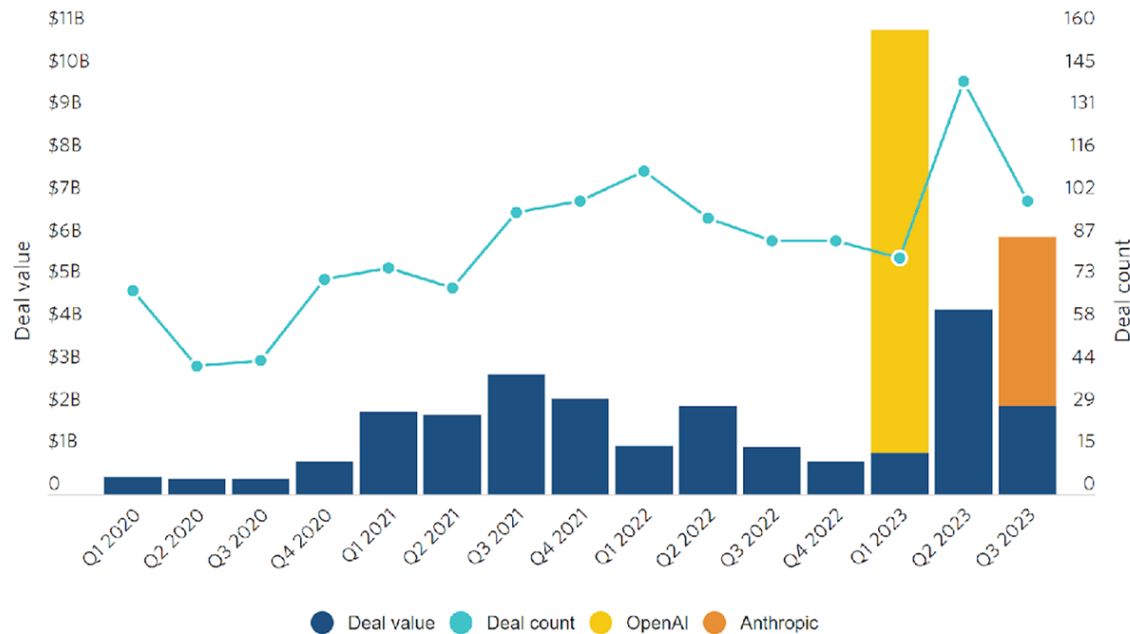
- Dollars raised for AI companies are outpacing funding totals in every other category of tech

- AI companies absorbed 70% of private capital in '23, up 55% from '22

- GenAI-focused saw highest deal volume in Q2
  - Infrastructure and Platform layer has attracted most investments to date
  - Most blockbuster fundraises weren't led by traditional VCs
  - GenAI investment showed signs of slowing in Q3 - The number deals fell to 101 rounds in Q3, a 29% decline from Q2

Source: Pitchbook ; BCG

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Generative AI to Become a $1.3 Trillion Market by 2032

SOFTWARE TO GROW TO $280B AT NEARLY A 70% CAGR

Generative AI Revenue

Hardware
Software
Gaming
Ad Spend
IT Services
Business Services

1%

6%

12%

42% CAGR

69% CAGR

2022   2027E   2032E

■ Total   ■ Software   — % of Total Tech Spend
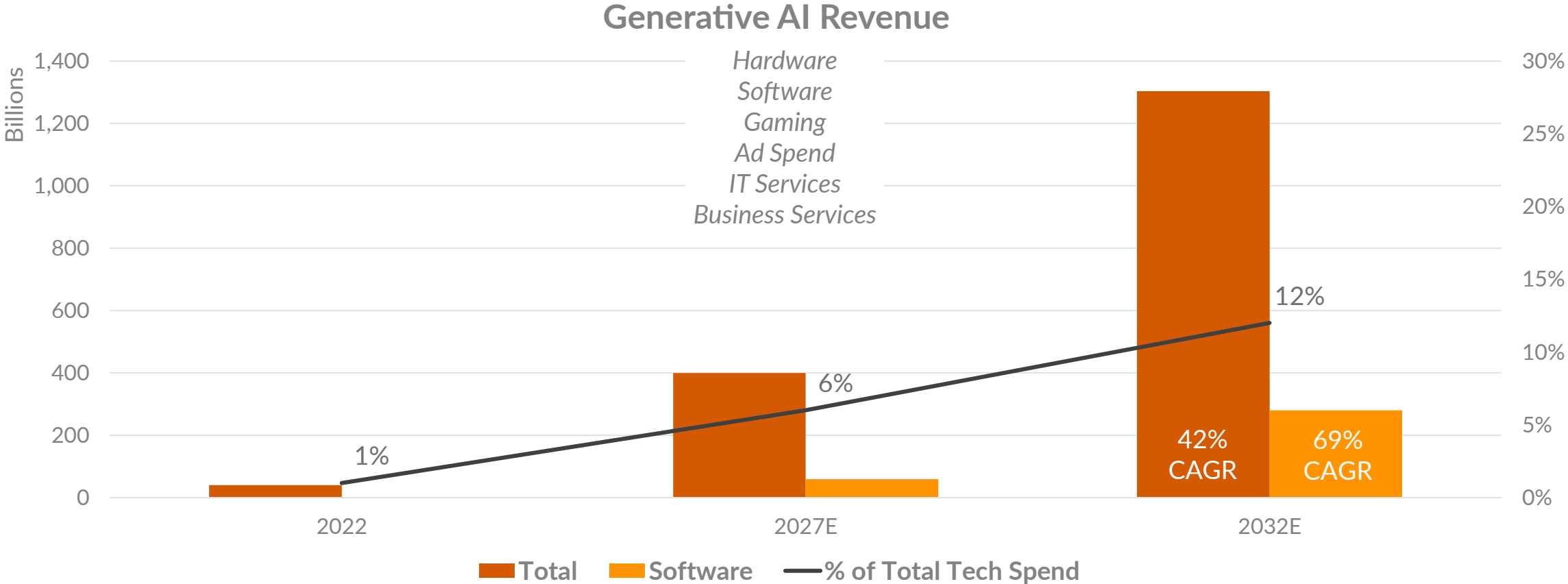
Drivers of Growth

GENERATIVE AI COULD ADD $6.1-$7.9 TRILLION GLOBALLY TO GDP BASED ON PRODUCTIVITY IMPROVEMENTS WHEN APPLIED TO KNOWLEDGE WORKERS ACTIVITIES

AI's potential impact on the global economy, $ trillion

- Generative AI could add the equivalent of $2.6 trillion to $4.4 trillion annually across **several use cases**, <u>out of which 75%</u> falls under the following:
  - Customer Operations, Marketing & Sales, Software Engineering and R&D
- Additional gains can be realized from broad based increases in **knowledge workers' productivity** (~$3.5 trillion)
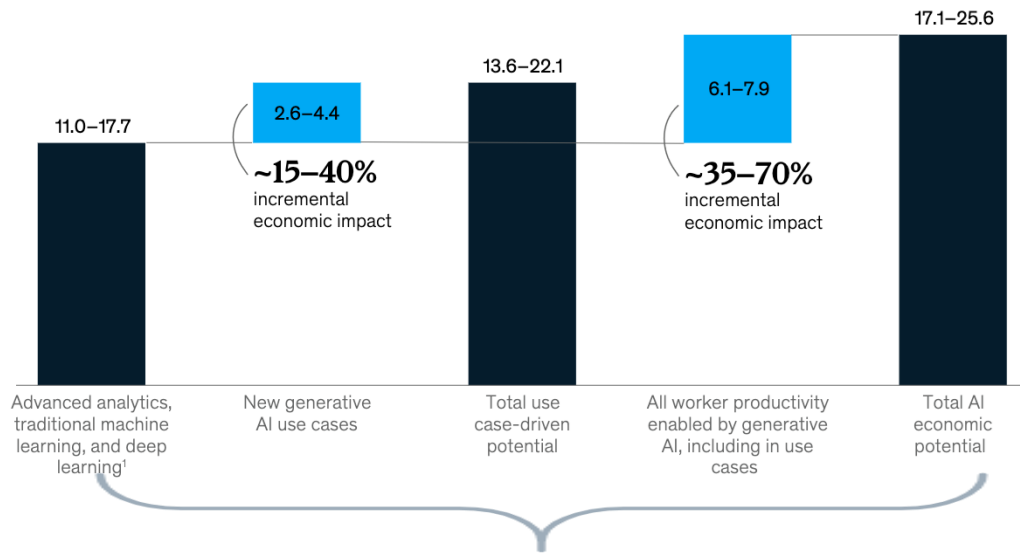
Generative AI is expected to **incrementally** generate **around 1/3rd of the total AI economic potential**

Source: McKinsey

Top Use Cases & Opportunities

BUSINESS ANALYTICS/DECISIONING, WORKER PRODUCTIVITY TOOLS AND SALES & MARKETING TOOLS ARE TOP B2B USE CASES

- **Use Cases:** Potential B2B services ripe for disruption
  - **Business analytics** particularly related to customer operations.
  - **Worker productivity tools** (e.g., code generation, personal assistants)
  - **Sales & Marketing Tools** (e.g., personalized content generation)

- **Opportunity:** As models continue to get better, faster and cheaper, and model access is trending to API-based services, <u>companies operating in the Platform layer can capture value through novel applications</u>

Represent ~75% of total annual impact of generative AI

Sales
Marketing
Software engineering (for corporate IT)
Software engineering (for product development)
Customer operations
Product R&D[1]

Impact, $ billion

Supply chain
Manufacturing
Finance
Risk and compliance
Talent and organization (incl HR)
Procurement management
Corporate IT[1]
Legal
Strategy
Pricing

Impact as a percentage of functional spend, %

Source: McKinsey

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Adoption Timing

INITIAL ENTERPRISE ADOPTION SUGGESTS KEY CHALLENGES ON SCALING PROOF-OF-CONCEPTS

While several enterprises are experimenting with foundation models, <10% have progressed from POC to scale due to 6 key challenges

~60% of respondents are testing FMs — N = 215[1]
- Not using ~40%
- Actively using ~60%

Of these, ~50% are testing 5+ use cases — N = 125[2]
- 10 or more 9.6%
- 5 to 10 40.0%
- 1 to 5 50.4%

...but <10% have scaled a use case (defined as used in 2+ BUs) — N = 125
- Scaled 9.6%
- Not scaled 90.4%

...due to 6 key challenges
1. Fragmentation of enterprise data & AI stack
2. Proliferation of models & vendors with unclear performance and longevity
3. Lack of domain-specificity (e.g. data domain: time-series or vertical: e.g. BFSI)
4. Limited/no support for end-to-end workflow automation
5. Challenges with governance incl. data lineage, model performance monitoring, etc.
6. Lack of clarity on foundation model ROI at scale

1. BCG June 2023 FM adoption survey, includes all respondents who qualified as being familiar with FMs; 2. Only includes respondents actively experimenting with FMs 3. BCG Expert interviews

Scaling GenAI solutions is more costly than many anticipate. Business models often leave ot the indirect costs:

- **Direct Costs:** Setup and run costs

- **Indirect Costs:**
  - Engineering maintenance
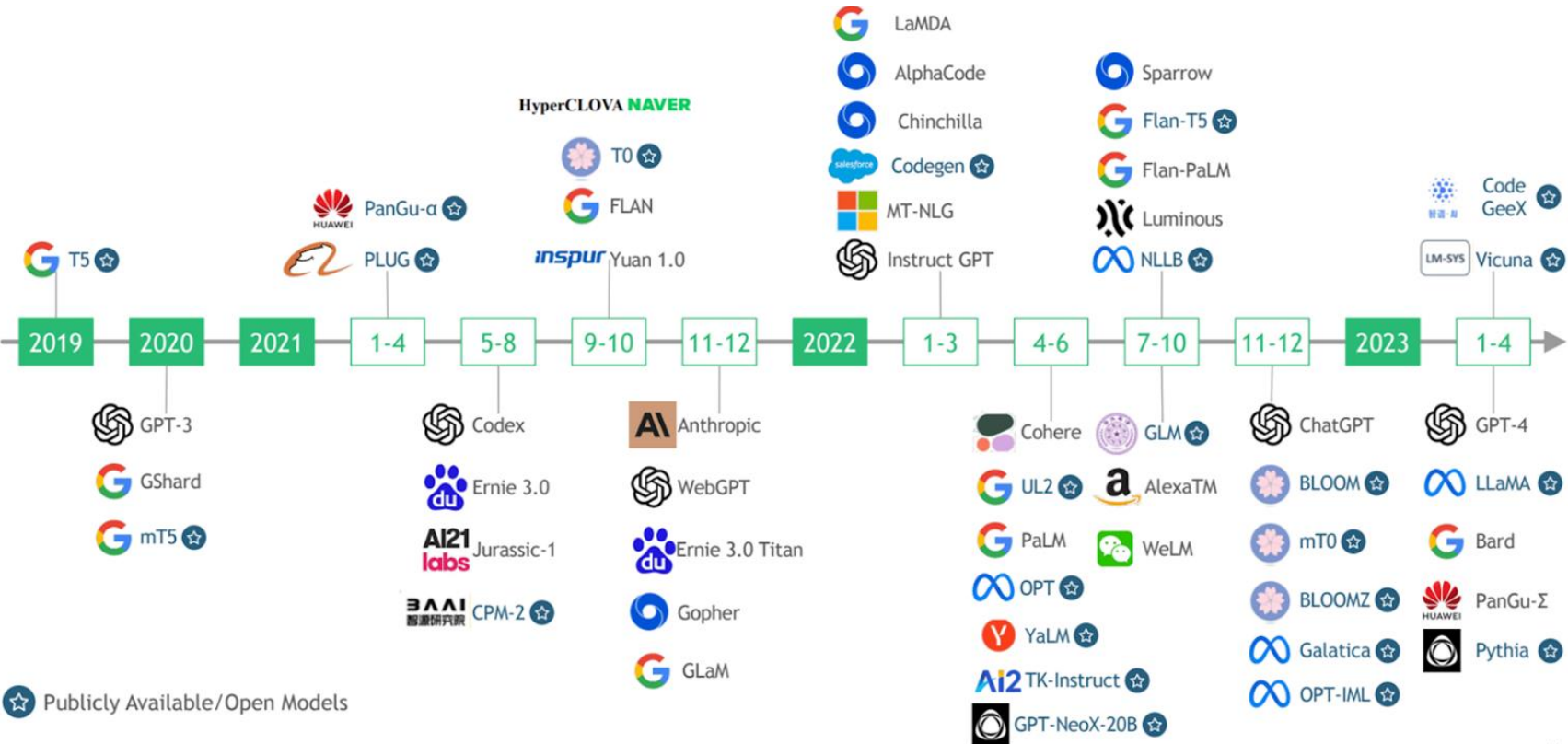 - Compliance and legal
  - change management

Source: BCG

Competitive Landscape

NEW COMPANIES ARE INNOVATING AT ALL LAYERS – TOUGHEST INCUMBENT COMPETITION LIKELY FOR INFRASTRUCTURE

- **Infrastructure Layer** — **model design** and **compute optimization**. This layer will involve foundational model development, training cost reduction, chip development etc.
- **Tooling Layer** — **model deployment**. This layer will involve emphasis on regulatory and model governance requirements.
- **Platform Layer** — value capture through **novel applications** and **targeted data collection** for fine tuning foundational models [2,10]

Source: BCG

Overall Perspective

AI IS EXPERIENCING A STEP CHANGE EVOLUTION - OFFERING A GENERATIONAL OPPORTUNITY TO CAPTURE VALUE

Attractive Sectors for Value Capture

- Horizontal B2B platforms related to business analytics, worker productivity, and Sales & Marketing

- "Packaged" comprehensive solutions (traditional AI/ML + generative AI),with a vertical focus

Desirable Flywheel Effects (requirements for succeeding over time)
- *GTM motion:* Experienced management team that understands the application needs for target customers
- *Product design:* Focus on privacy, security and data protection, with interoperability across multiple infrastructure providers
- *Model performance:* Model performance that improves over time and serves as "AI-aided" tools for business critical functions

Scaling To Profitability:
- Focus and management of all-in deployment costs
- Eye towards leveraging cost structure changes with ongoing innovations in the Platform layer

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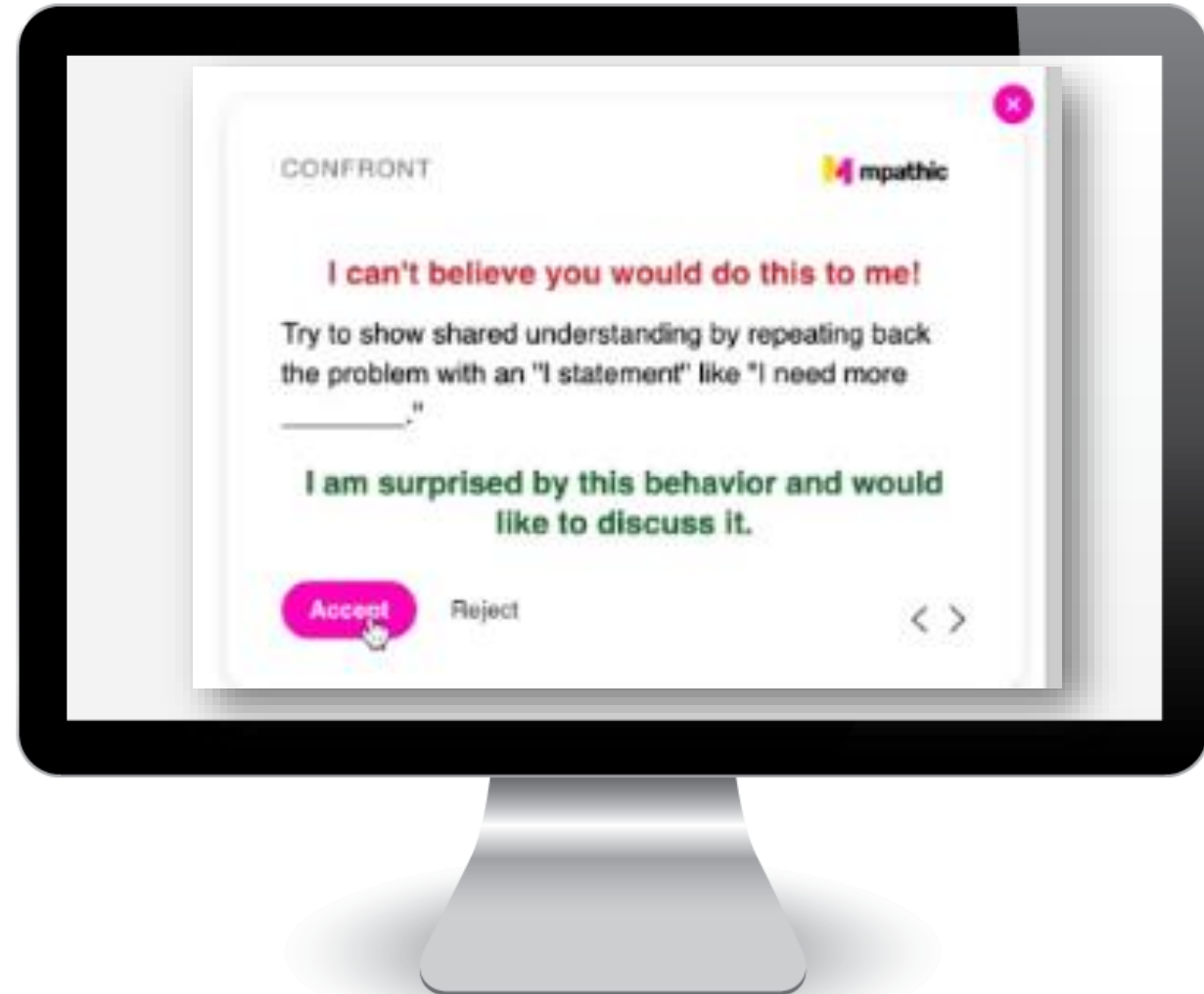
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EMPATHIC CONVERSATIONAL ANALYTICS

Better team alignment

9%
Increased interview acceptance rate

90%
Reduced cost of FDA medical monitors

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mpathic Suggestions

You need to provide feedback to your boss but you aren't sure how to say it. Use our writing assistant to find the right words to convey your message with empathy.

Original Text

My manager doesn't support me very well.

Suggested Text

I believe that my manager's focus on empowering and developing the team could be enhanced to provide better support for each team member. By seeking more opportunities for one-on-one time, I think this will give us the chance to further develop our skills and understanding. This will enable us to collectively improve our performance and contribute to the success of the team.

Back

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Venture Capital Trends

2023 – VC Investment Trend Key Takeaways

CONTINUED FREEFALL OF VC INVESTMENT TRANSACTION VOLUMES AND DOLLARS

- Despite **all-time high for capital** availability, venture investing continued steep decline

- **Later stage** rounds experienced the steepest **decline in dollars deployed**

- **Terms** have become dramatically more **investor-friendly**

- Exit **volumes and values have declined** precipitously

- **Fear** is driving investors back to **old patterns (less diversity)**

- **Software** still **dominates** investments and remains highest growth segment

- **Seed stage** investing continues to **outperform** other stages of VC investment returns

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2023 VC Investments Trending Toward 4-Year Low

HOWEVER THE PACE OF DECLINE SLOWED IN Q3

US VC Activity by Year

	2020	2021	2022	2023 YTD
Deals	13,593	18,926	17,498	9,962
Value	$172.9	$347.3	$244.5	$125.9

Deal value ($B) — Deal count — ▲ Estimated deal count

*As of 30th September 2023

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Source: NVCA and Pitchbook. "Venture Monitor, Q3 2023
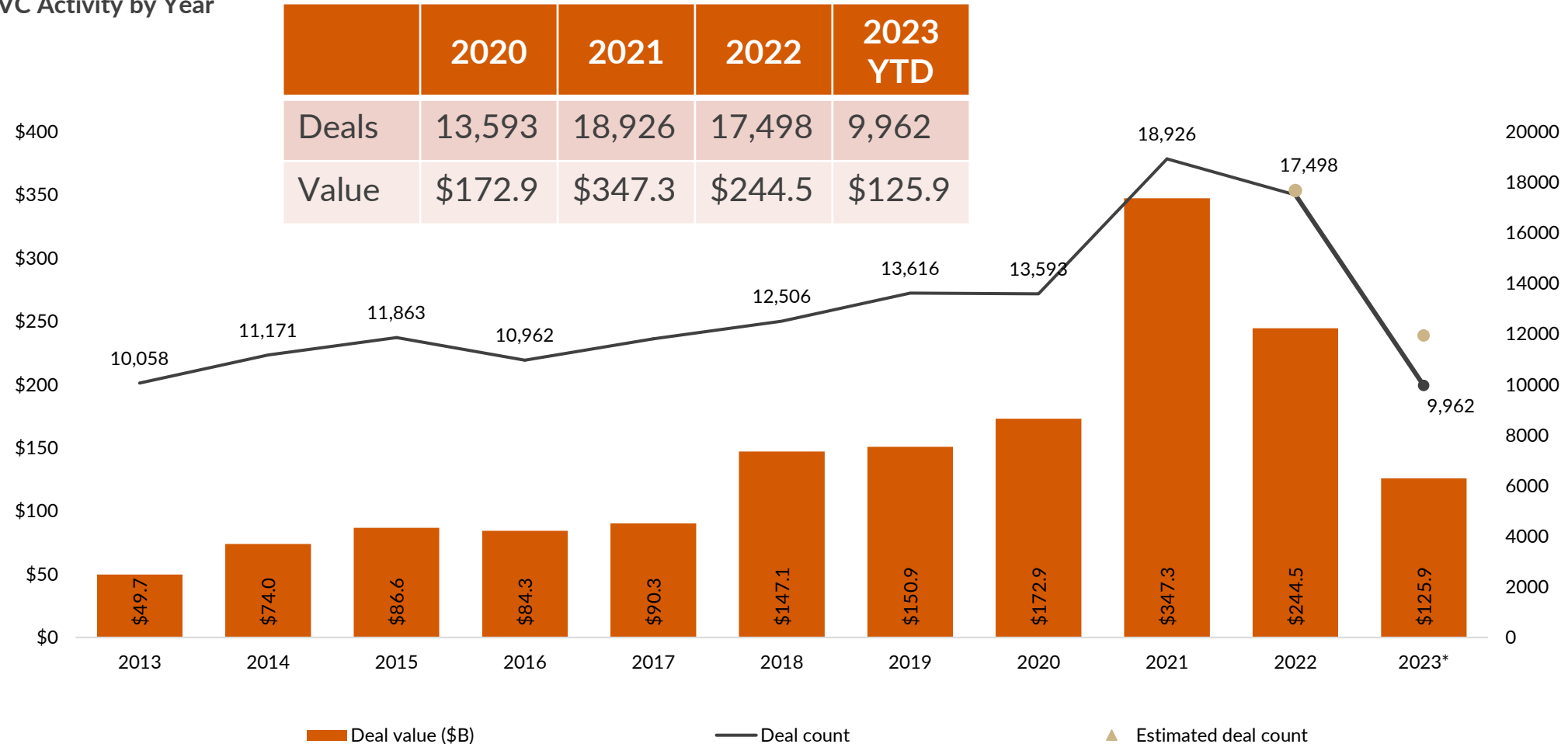
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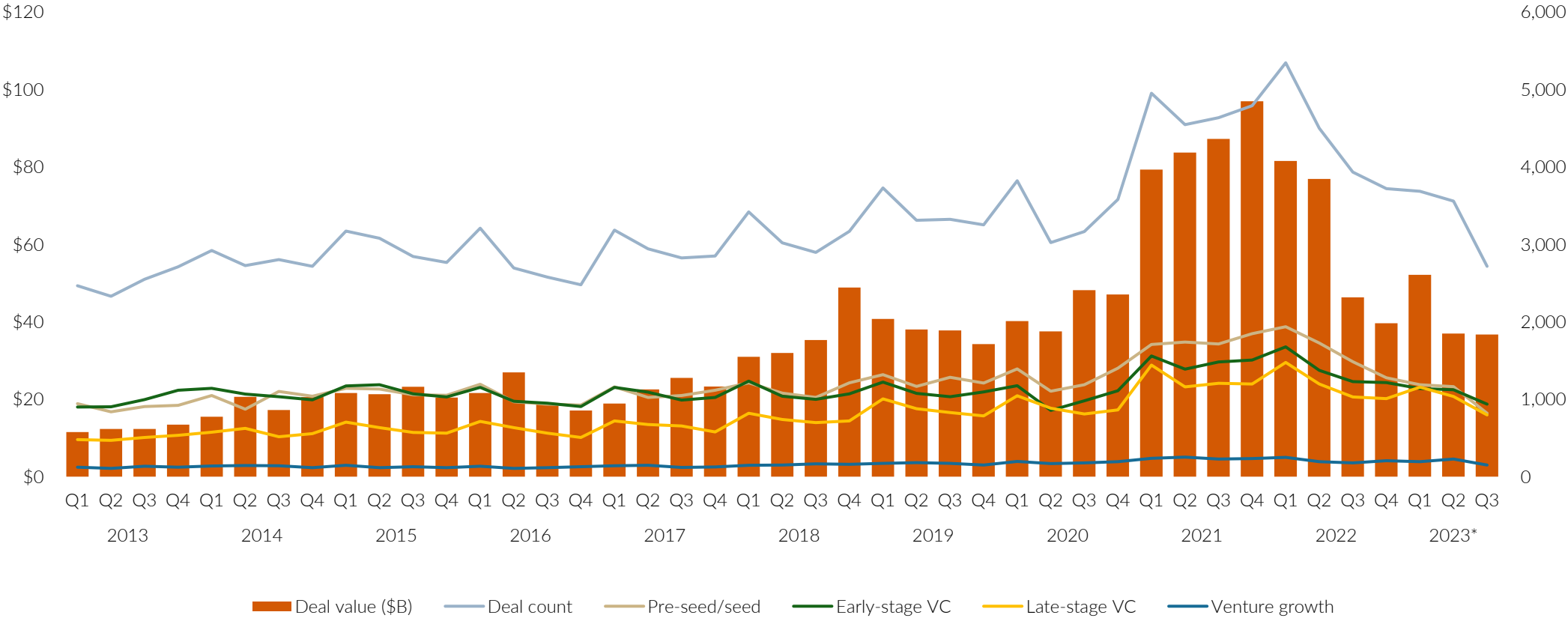
Every-Stage of Investment Impacted

PRE-SEED AND SEED ACTIVITY SLUMPED MORE SIGNIFICANTLY THAN OTHER STAGES
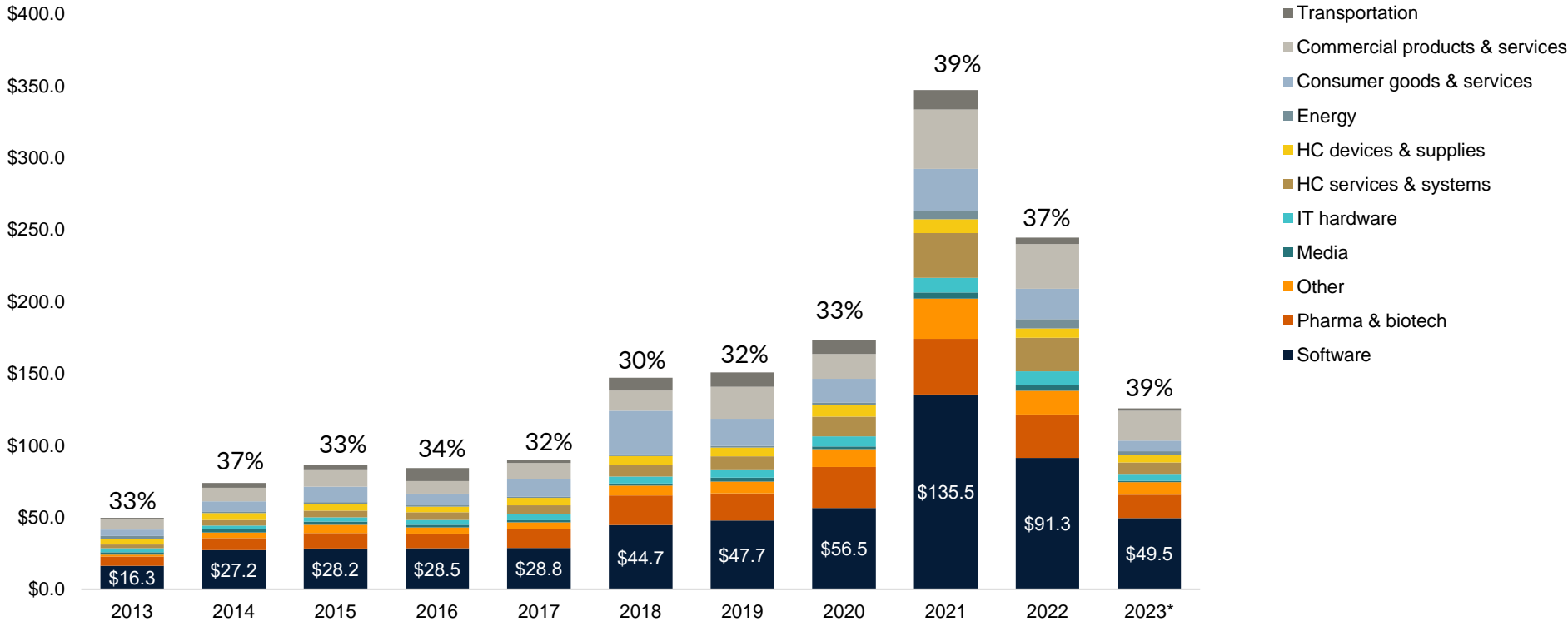
US VC Deal Activity (#) by Stage

Legend: Deal value ($B) · Deal count · Pre-seed/seed · Early-stage VC · Late-stage VC · Venture growth

Source: NVCA and Pitchbook. "Venture Monitor, Q3 2023"

Software Investment Gains Market Share

PHARMA, BIO-TECH ALSO SEE GAINS AS TRANSPORT EXPERIENCES LARGEST DECLINE

US VC Deal Activity by Sector ($B)

Legend:
- Transportation
- Commercial products & services
- Consumer goods & services
- Energy
- HC devices & supplies
- HC services & systems
- IT hardware
- Media
- Other
- Pharma & biotech
- Software

Software values by year:
- 2013: $16.3 (33%)
- 2014: $27.2 (37%)
- 2015: $28.2 (33%)
- 2016: $28.5 (34%)
- 2017: $28.8 (32%)
- 2018: $44.7 (30%)
- 2019: $47.7 (32%)
- 2020: $56.5 (33%)
- 2021: $135.5 (39%)
- 2022: $91.3 (37%)
- 2023*: $49.5 (39%)

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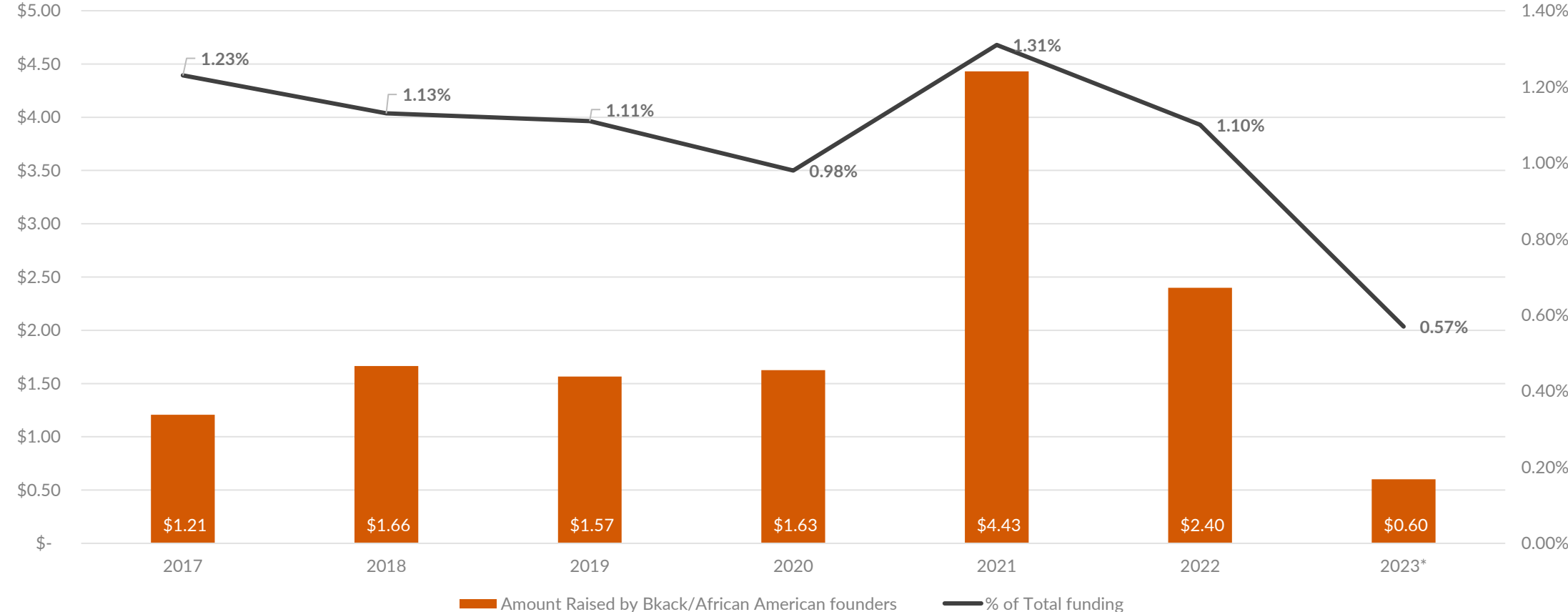VENTURES

Funding to Black/African-American Founders Slumps

AFTER A POSITIVE 2021, FUNDING PROPORTION SLIPS BACK TO PRE-PANDEMIC LEVELS

Funding to Black/African-American Founded Companies ($B, % of total funding)

Legend: Amount Raised by Bkack/African American founders — % of Total funding

Source: TechCrunch

Mixed Gender Increases Due a Few Large Transactions

FUNDING TO 100% FEMALE FOUNDER TEAMS CONTINUED TO DECLINE

Female-Founded Companies as Proportion of Total US VC Deals (#)

28.1%

18.2%

2.1%

1.9%

—— All female founders   —— At least one female founder

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Illuminate's Exceptional Diversity Track Record

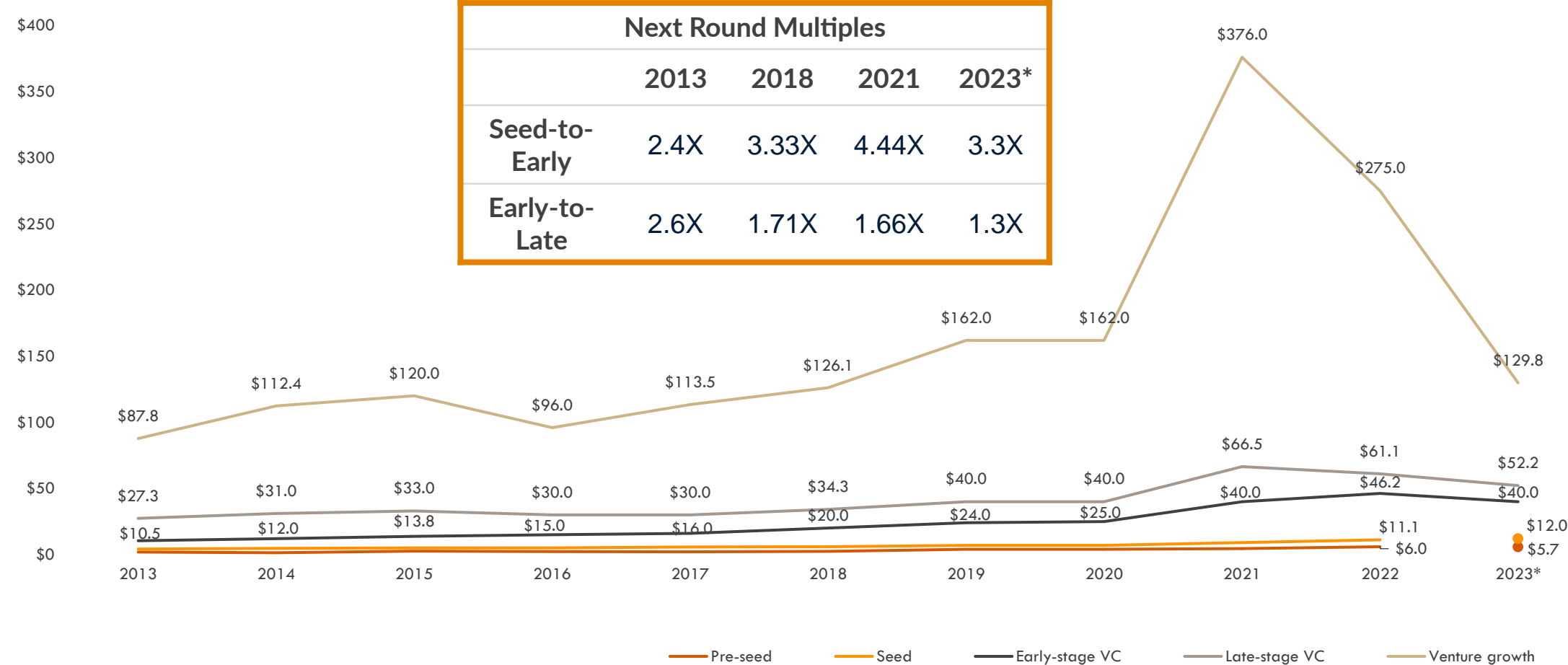| BIPOC Founder	Female Founder	Immigrant Founder
62%	**41%**	**69%**
Illuminate Portfolio	Illuminate Portfolio	Illuminate Portfolio
23%	**2%**	**33%**
US VC Benchmark	US Enterprise VC Benchmark	US VC Benchmark

Sources: Pitchbook NVCA Venture Monitor; NVCA American Made 2.0; Rate My Investor Diversity VC Report

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Seed Stage Investing Is The Right Place To Be

US VC Median Pre-Money Valuation ($M) by Stage

Next Round Multiples				
	2013	**2018**	**2021**	**2023***
Seed-to-Early	2.4X	3.33X	4.44X	3.3X
Early-to-Late	2.6X	1.71X	1.66X	1.3X

Legend: Pre-seed — Seed — Early-stage VC — Late-stage VC — Venture growth

Data points:
- Venture growth: $87.8 (2013), $112.4 (2014), $120.0 (2015), $96.0 (2016), $113.5 (2017), $126.1 (2018), $162.0 (2019), $162.0 (2020), $376.0 (2021), $275.0 (2022), $129.8 (2023*)
- Late-stage VC: $27.3, $31.0, $33.0, $30.0, $30.0, $34.3, $40.0, $40.0, $66.5, $61.1, $52.2
- Early-stage VC: $10.5, $12.0, $13.8, $15.0, $16.0, $20.0, $24.0, $25.0, $40.0, $46.2, $40.0
- Seed/Pre-seed: $11.1, $6.0, $12.0, $5.7

*As of 30th September 2023
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Source: NVCA and Pitchbook. "Venture Monitor, Q3 2023"

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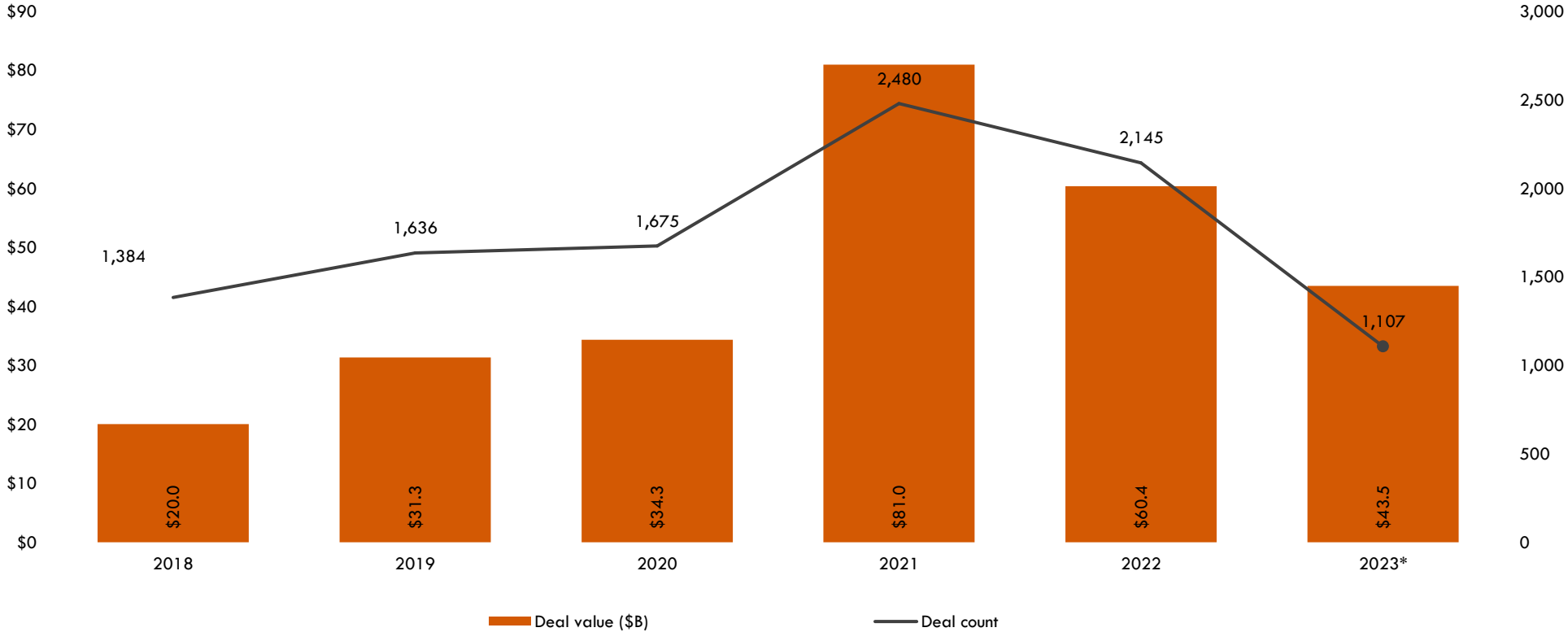VENTURES
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Enterprise SAAS Value Approaches 2022 Levels

DESPITE LAG IN DEAL COUNT, DEAL VALUE HIGHER THAN PRE PANDEMIC LEVELS
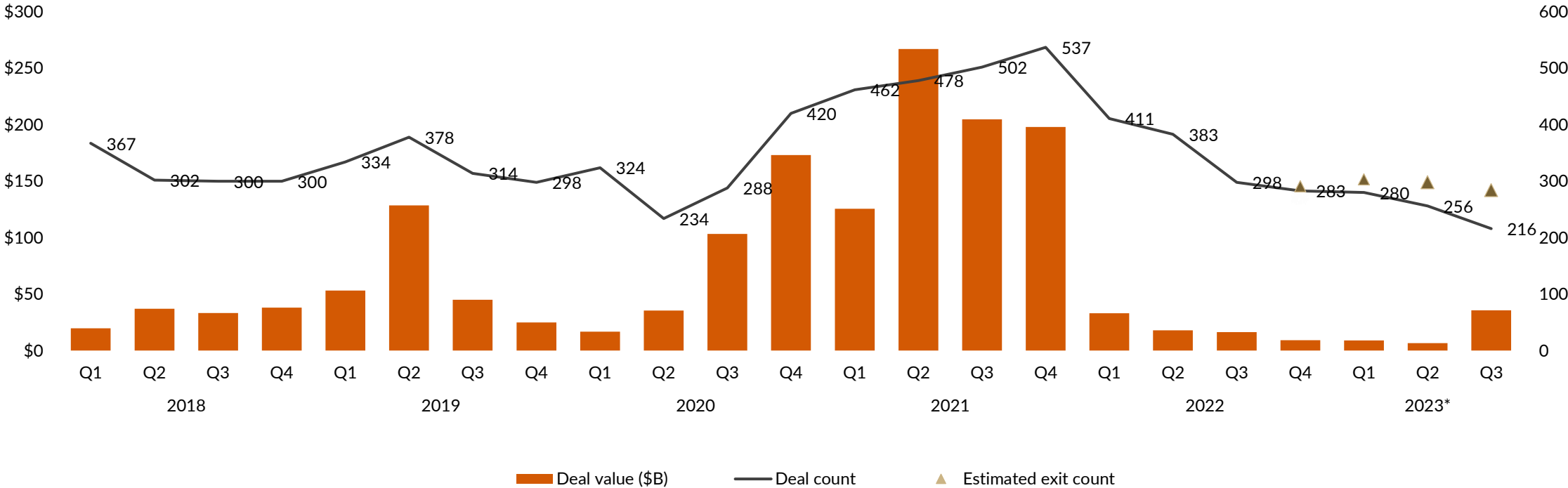
US Enterprise SAAS VC Deals by Year

B2B Technology companies are defined as companies offering technology-focused or technology-enabled solutions and whose customers are primarily other businesses.

*As of 30th September 2023

2023 Exit Value Down >90% From 2021 Peak

Q3 SHOWS UPTICK LARGELY DUE TO ARM, INSTACART AND KLAVIYO IPOS

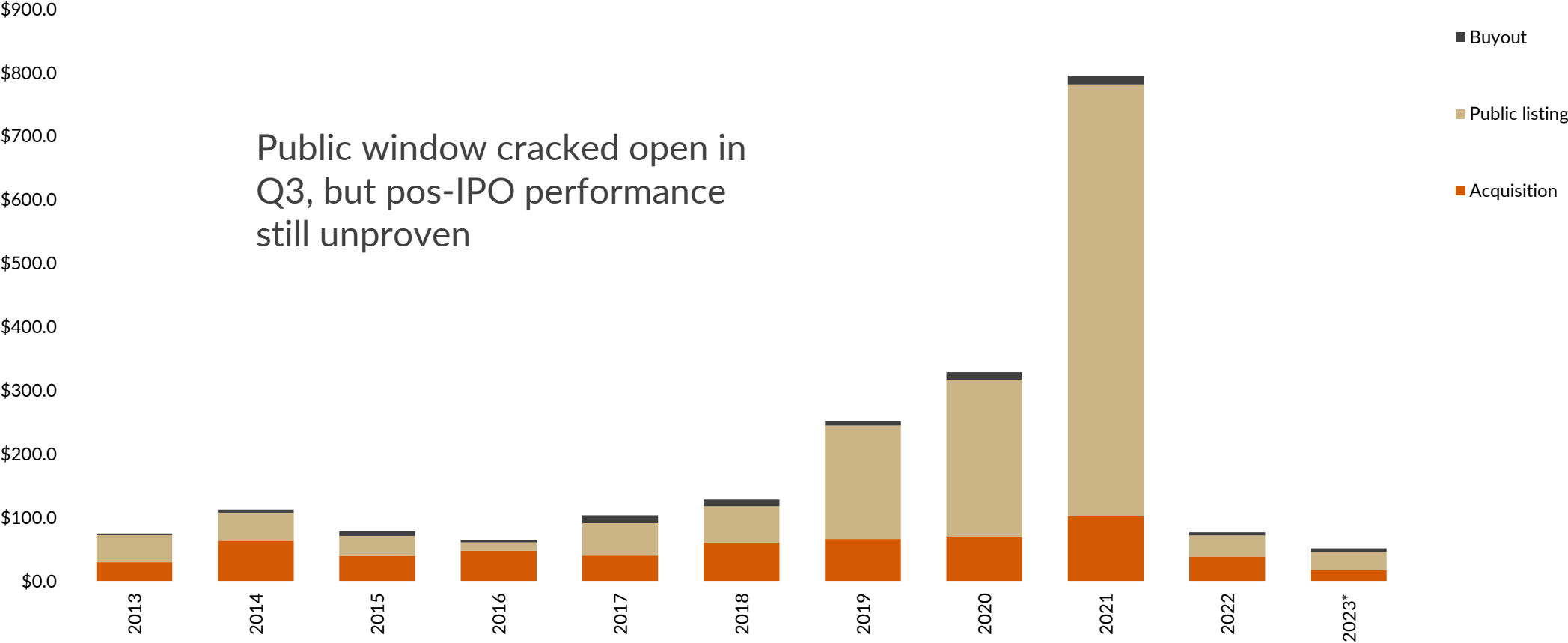*US VC-backed Exit Activity by Quarter ($ in B)*

Deal count values shown: 367, 302, 300, 300, 334, 378, 314, 298, 324, 234, 288, 420, 462, 478, 502, 537, 411, 383, 298, 283, 280, 256, 216

Legend: Deal value ($B) | Deal count | Estimated exit count

Source: NVCA and Pitchbook. "Venture Monitor, Q3 2023"

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Public Window Has Cracked Open

BUT VALUATIONS HAVE DECLINED 50% AND POST IPO PERFORMANCE IS YET TO BE DEMONSTRATED

US VC Exit Activity ($) by Type,

Public window cracked open in Q3, but pos-IPO performance still unproven

Legend:
- Buyout
- Public listing
- Acquisition

Source: NVCA and Pitchbook. "Venture Monitor, Q3 2023"

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Exits – What's Likely Ahead?

COMBINATION OF ELEMENTS LIKELY TO CONTINUE TO IMPACT EXIT OPPORTUNITIES

Exit volume overall and value remain muted due to:

- Recession fears and inflation reality

- Lack of confidence in valuations

- Overall market and global uncertainty

M&A - deals with lower risk, less financing dependence and less regulatory scrutiny

- Small to mid-size deals (less than $250M) likely continue to dominate

- Cash rich corporations will see good value in addressing strategic capability gaps (e.g., AI)

- Multiples starting to stabilize and possibly begin to rise slowly

IPOs

- Post IPO performance needs to improve for the trend to solidify

- Profitability continues to be valued over growth

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