VIOLA

The state of

GenAISRAEL

A Unique Competitive Edge

December 2023

In a Nutshell

Generative AI capabilities **expand the effectiveness of traditional AI models**

Corporate adoption is limited to non-core uses

Infrastructure layer is crowded by startups, CSPs and AI Model newly founded giants

Israel is the 2nd largest Generative AI VC ecosystem globally, driven by Application and Infra investments

We believe the main opportunities lay in **Vertical and selected Infrastructure solutions**

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Generative AI is at the Peak of the Hype Cycle
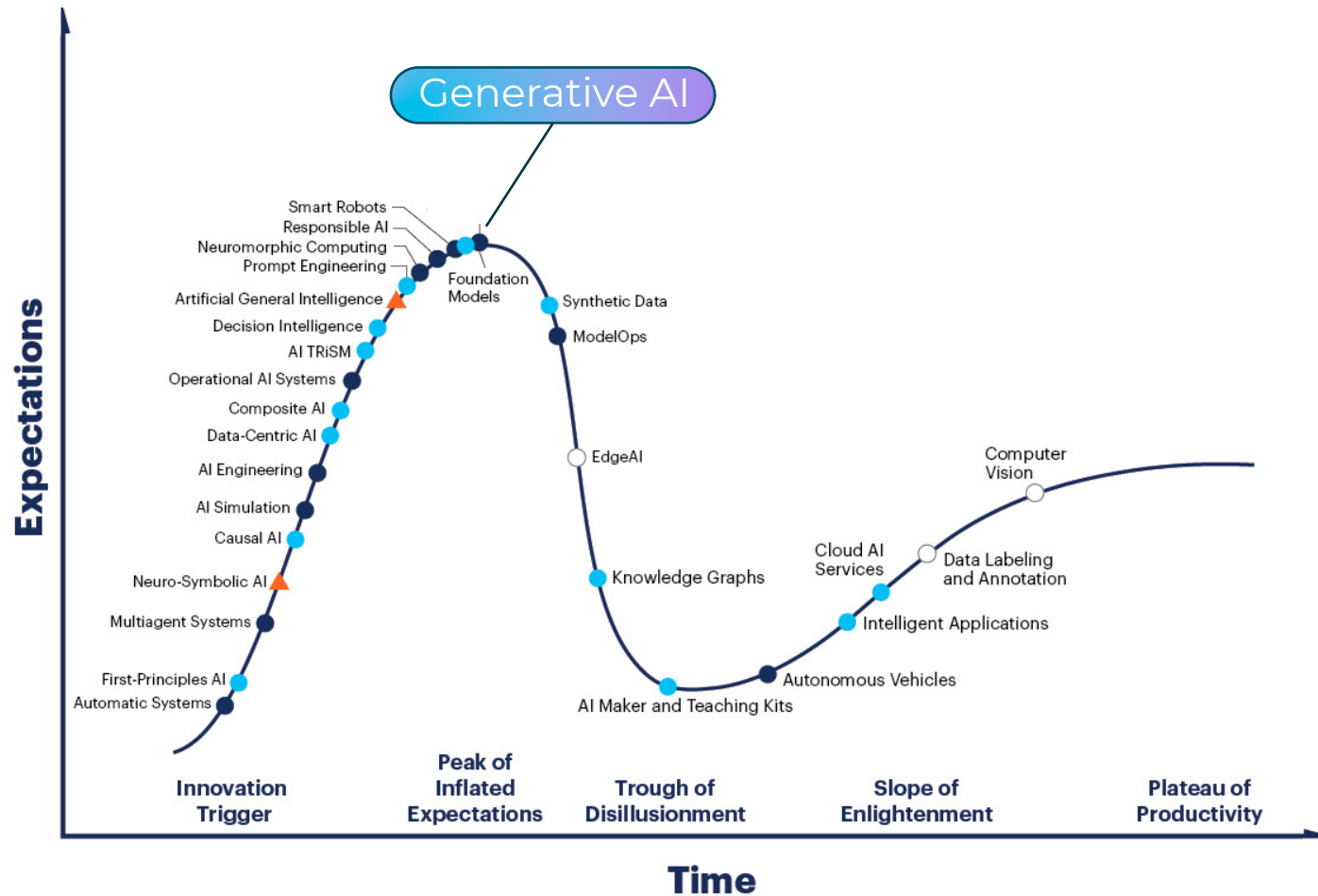
Technology advances are focused on **foundation models** and not generative AI applications

Adoption and business impact are **driven by individuals** and slower than anticipated
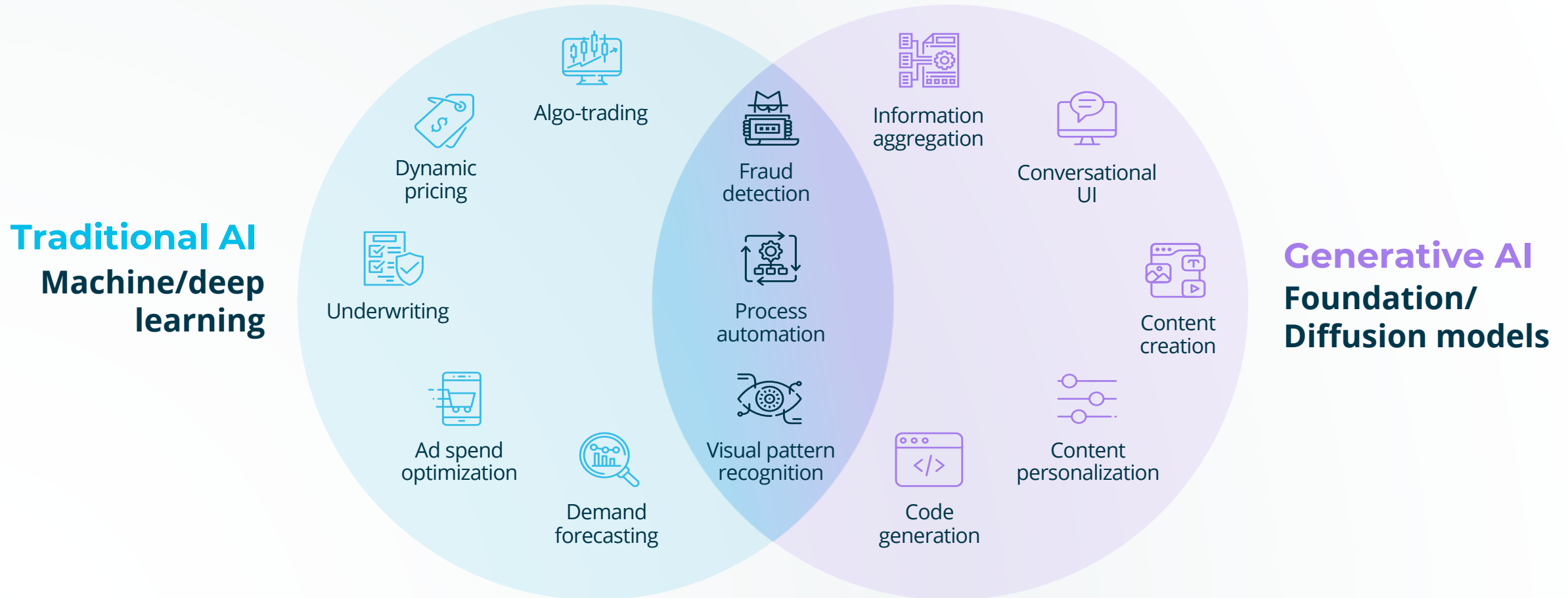
Corporate use-cases have **yet to proliferate** outside of marketing, knowledge management and coding

Source: Viola; Hype cycle for Artificial Intelligence August 2023, Gartner

Entering an Era of Interactive Software while Expanding Traditional AI

Traditional AI
Machine/deep learning

Algo-trading

Dynamic pricing

Underwriting

Ad spend optimization

Demand forecasting

Fraud detection

Process automation

Visual pattern recognition

Information aggregation

Conversational UI

Content creation

Content personalization

Code generation
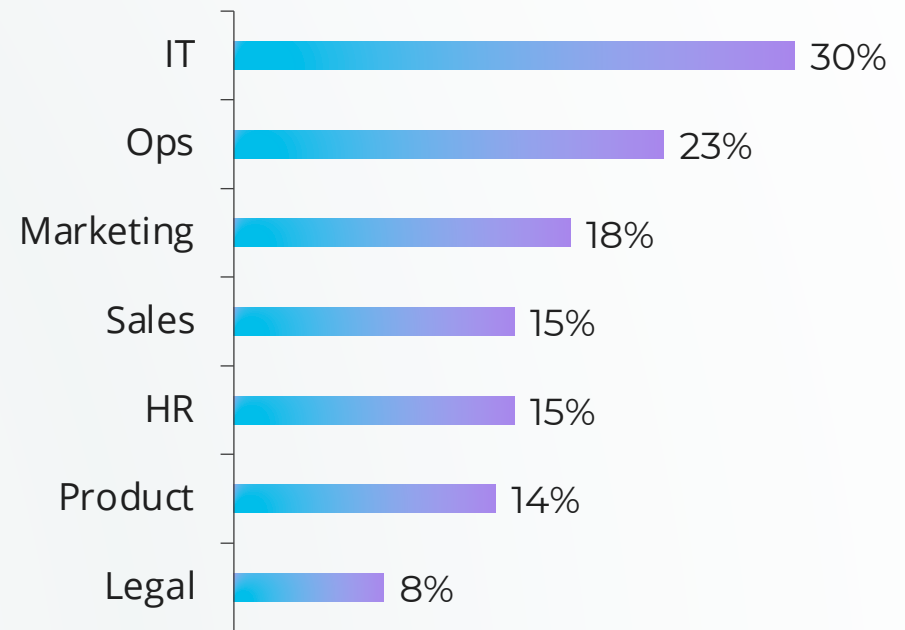
Generative AI
Foundation/ Diffusion models

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Both Consumer and Corporate Users Exhibit Bottom-Up Adoption

Chat GPT usage is high, while hype being stabilized

of monthly visitors

Chat GPT

7 min 46 sec
avg. visit

153M
266M
616M
1,000M
1,600M
1,800M
1,600M
1,400M
1,500M
1,700M

N... D... J... F... M... A... M... J... J... A... S... O...

Gen-AI tools are used across the enterprise

IT	30%
Ops	23%
Marketing	18%
Sales	15%
HR	15%
Product	14%
Legal	8%

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Corporate Adoption is Low Across Industries, with Low Buy-In from Executives

GenAI Maturity is low overall, with TMT leading the pack

Industry	%
TMT	43%
Insurance	35%
Industrial Goods	30%
Financial Institutions	30%
Energy	24%
Public Sector	17%
Consumer	16%
Healthcare	12%
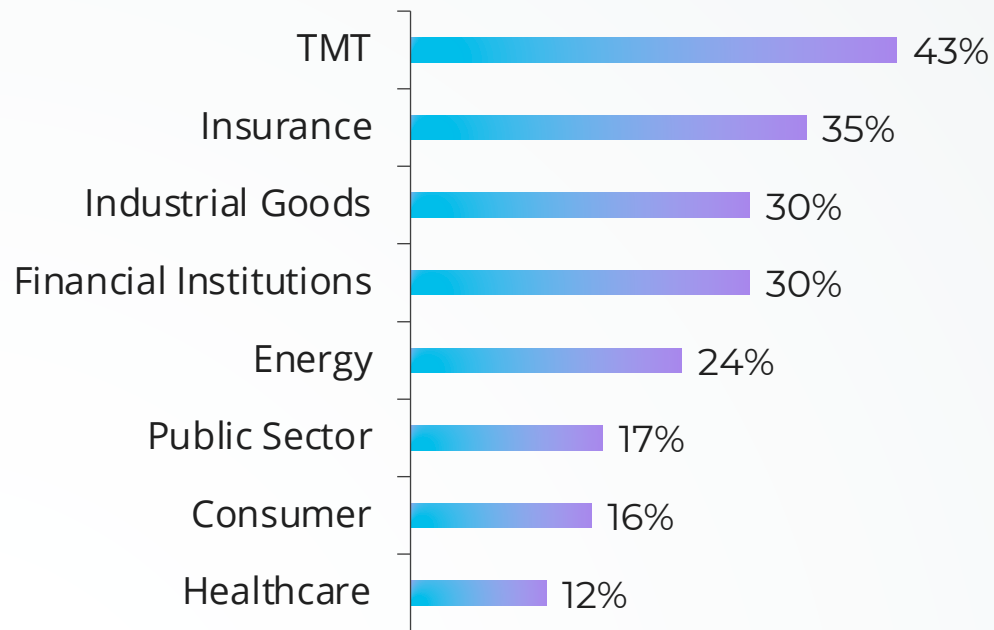
Only 3% of companies use Gen AI in production
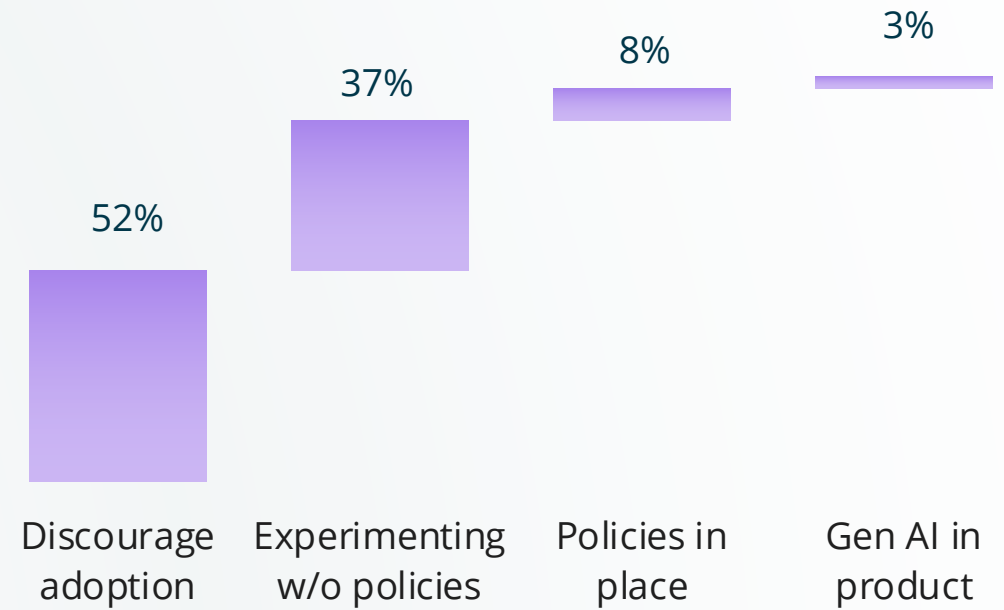
Discourage adoption	Experimenting w/o policies	Policies in place	Gen AI in product
52%	37%	8%	3%

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Corporate Adoption is Limited to Non-Core Use-Cases

	Individuals	**Startups**	**Corporate individuals**	**Corporate-wide adoption**
Adoption ▶	High	Medium	Medium	Low
Effort ▶				
Benefit ▶				
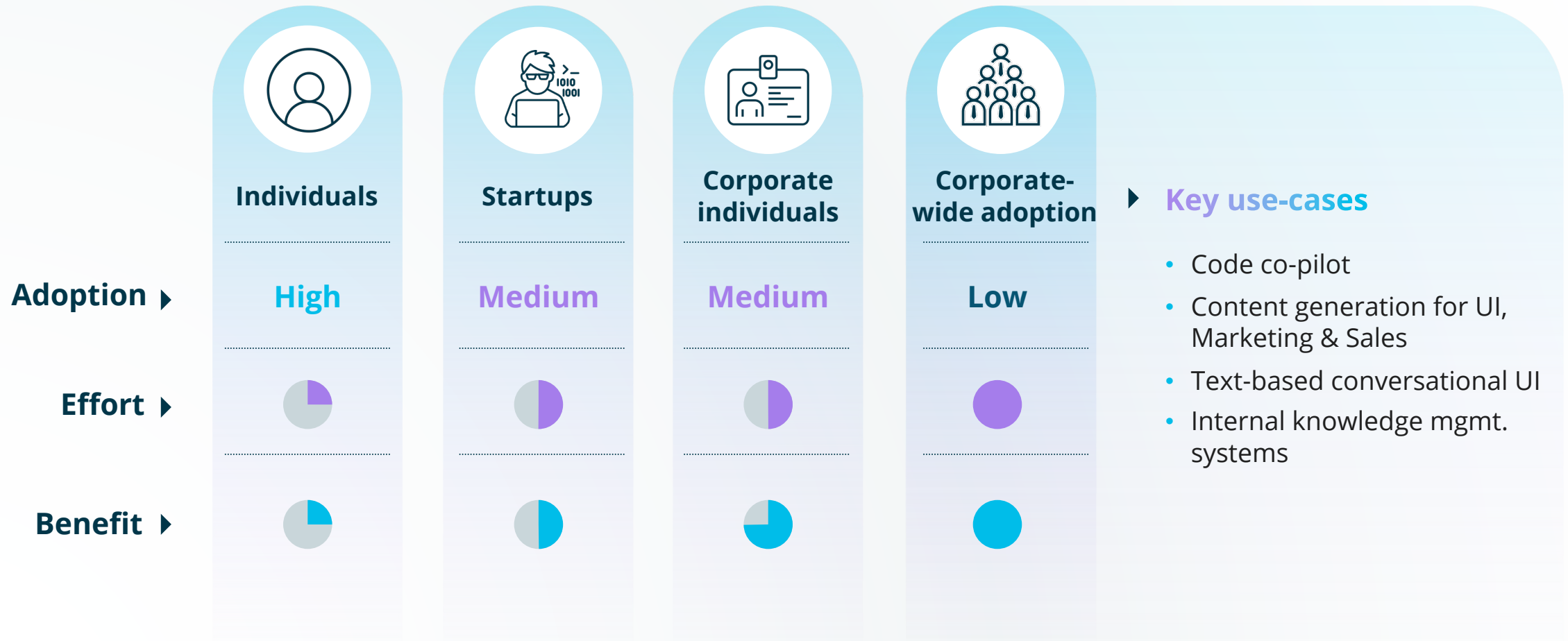
▶ **Key use-cases**

- Code co-pilot
- Content generation for UI, Marketing & Sales
- Text-based conversational UI
- Internal knowledge mgmt. systems

Based on discussions with portfolio companies, limited partners and multinational corporates

Enterprise Adoption is Dependent on Solving Key Barriers

Security
- Prompt Injection
- Training Data Poisening

Performance
- Dynamic Results Testability
- Low-Latency for Real-Time Activities
- Model Fine-Tuning Routine Workflow

Privacy
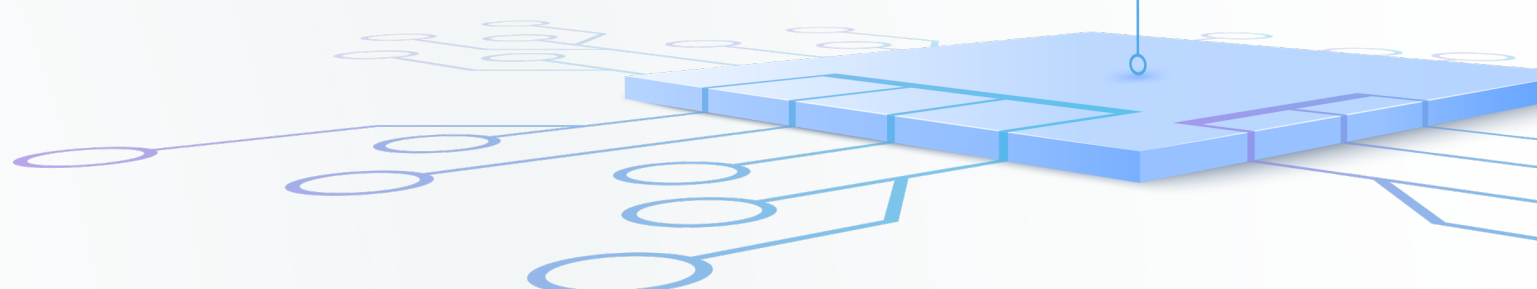- Corporate Policy Enforcement
- Data Leakage to 3rd Parties
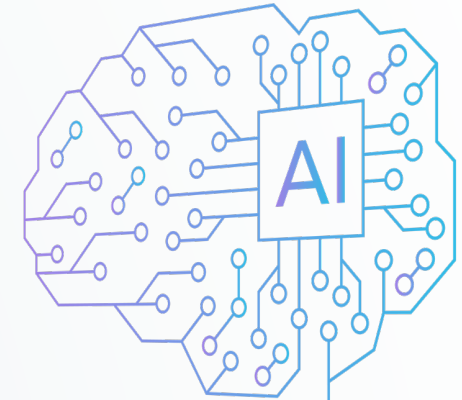
Cost
- Training, Tuning & Running LLM-Based Apps
- Total Cost Visibility
- Scalable Cost Structure

IP & Copyrights
- Copyright Infringement Risk
- Loss of Differentiation

AI

Based on discussions with portfolio companies, limited partners and multinational corporates

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"Software Ate the World,
Now AI is Eating Software"

Jensen Huang, CEO NVIDIA

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Democratizing AI
Generative AI Shows Promise as the Next Platform Shift

	Software 1970s	SaaS 2000s	AI 2010s	Gen AI 2022+
Apps ▶	**Off-the-shelf** Software	**Continuous** Software	**Optimized** Software	**Interactive** Software
Infra & Ops ▶	Internal Tools	Cloud Service Providers — Dev Ops — ML Ops		Foundation Models / LLM Ops
HW ▶	Owned Servers	Hosted Servers		Hosted GPUs/ASICs

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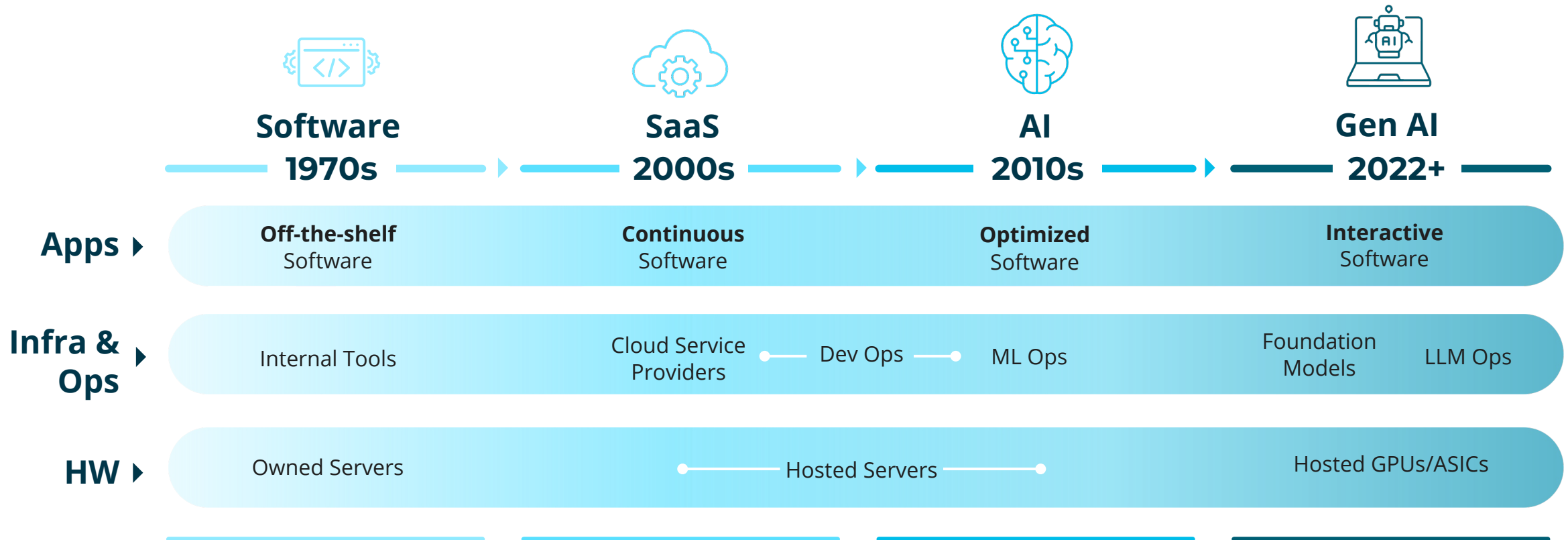
Models and Architecture are Evolving
Multi-Modality Interfaces Powered by Generative Agents Can Have Outsized Business Value
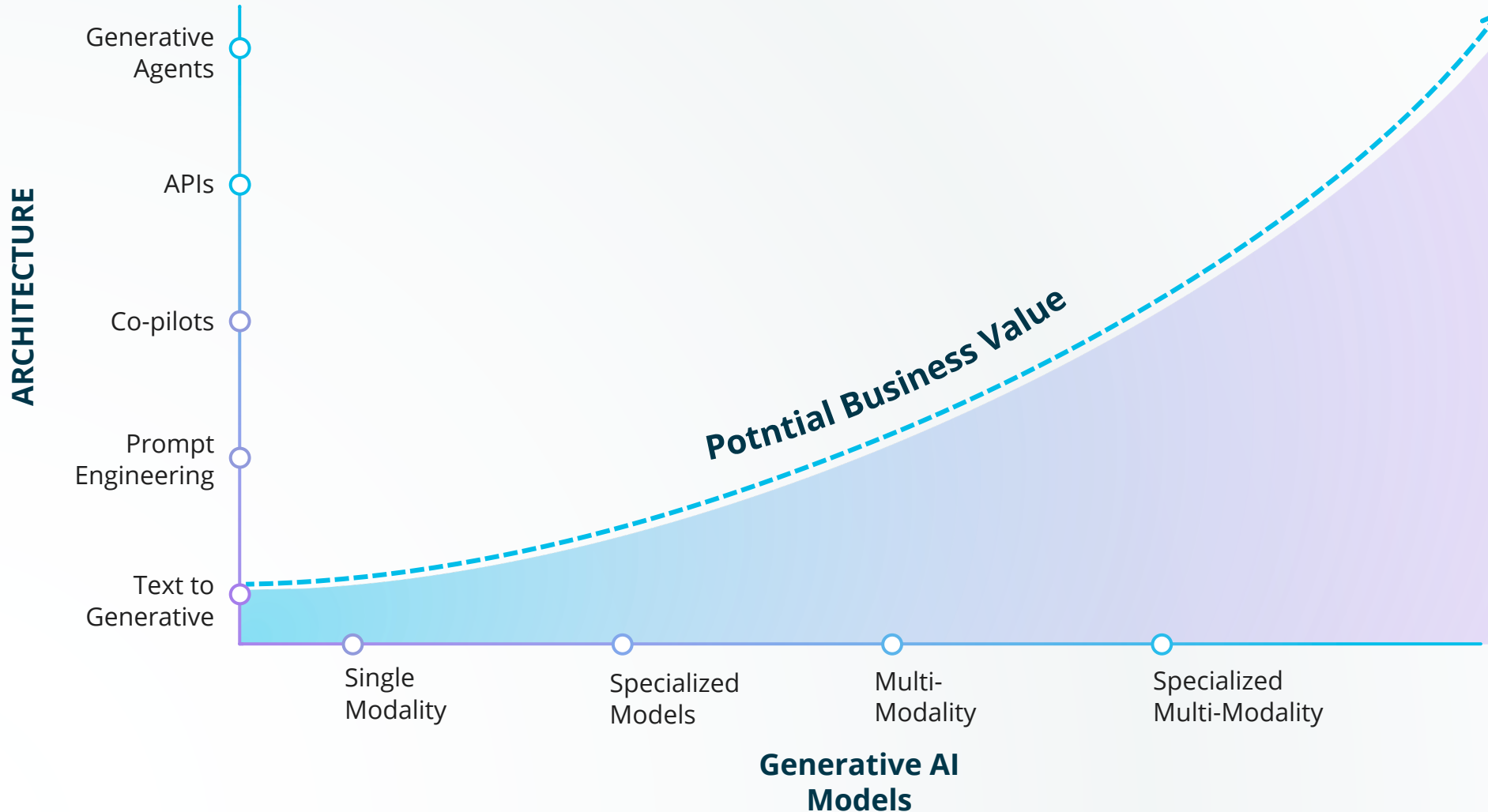
Early Adopters of Core Vertical AI Show Signs of Valuation Premium

Beauty tech leverages data & computer vision to enhance product & shopping experience

ODDITY
- Founded in 2013
- Raised $130M
- IPO at $2.3B market cap (July 2023)

Acq.

→ **revela** 2023 **$76M**

Biotech AI-powered molecule discovery to explore ingredients

→ **VOYAGE 81** 2021 **$40M**

Hyperspectral machine vision to detect ingredients via phone camera

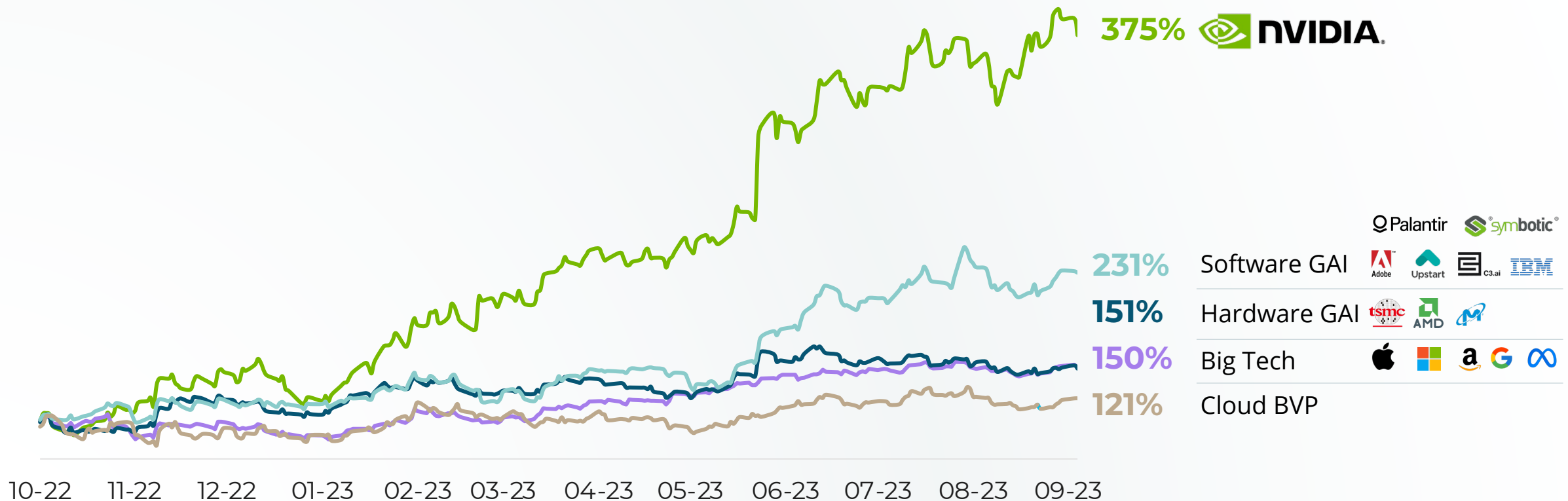## Outperforming peers on growth & multiples

	EBITDA Multiple[1]	Rev. Growth[1]	EBITDA Margin[1]
ODDITY	19.3	21%	20%
L'ORÉAL	2.2	10%	24%
ESTĒE LAUDER COMPANIES	1.8	8%	20%

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Generative AI Tailwind Benefits Software, Big Tech and Hardware Generative AI Companies

Share price change, Indexed to Sep-22

375% NVIDIA.

231% Software GAI — Palantir, Symbotic, Adobe, Upstart, C3.ai, IBM

151% Hardware GAI — tsmc, AMD

150% Big Tech — Apple, Microsoft, amazon, Google, Meta

121% Cloud BVP

10-22 11-22 12-22 01-23 02-23 03-23 04-23 05-23 06-23 07-23 08-23 09-23
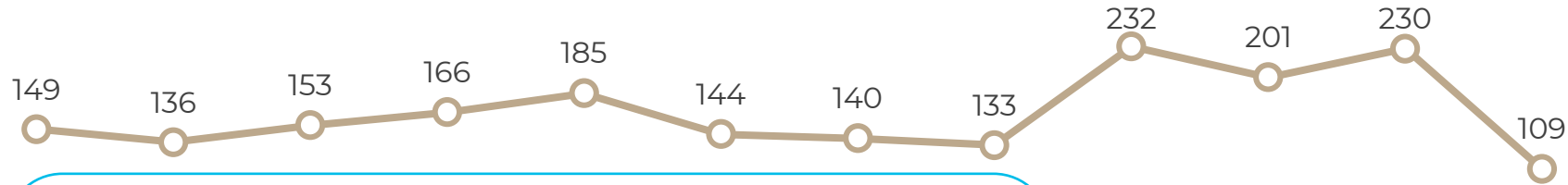
Public companies that support Generative AI capabilities or are introducing Generative AI capabilities to their core products
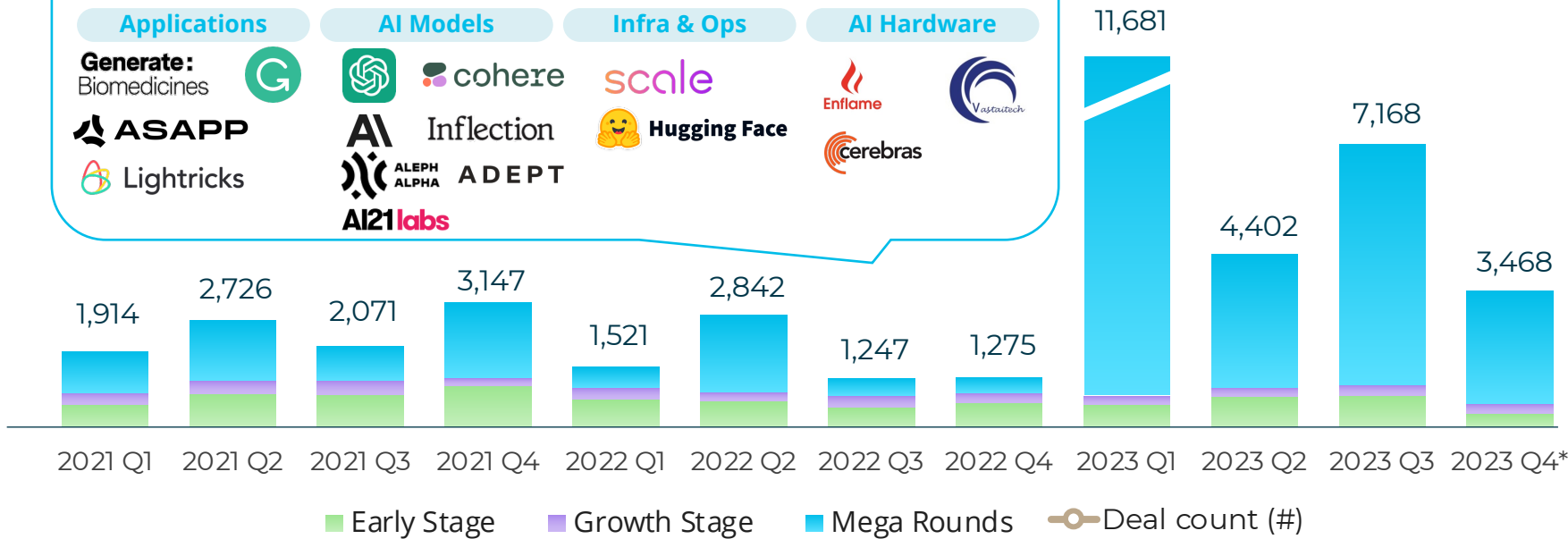Indices are weighted based on market capitalization

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VCs are Active on Early and Mega Generative AI Rounds

2021-2023 VC funding invested ($M)

Deal count (line): 149, 136, 153, 166, 185, 144, 140, 133, 232, 201, 230, 109

60% of global VC was invested in 16 companies

Applications	AI Models	Infra & Ops	AI Hardware
Generate: Biomedicines, G	OpenAI, cohere	scale	Enflame, Vastaitech
ASAPP	AI, Inflection	Hugging Face	Cerebras
Lightricks	ALEPH ALPHA, ADEPT		
	AI21 labs		

Bar values: 1,914 · 2,726 · 2,071 · 3,147 · 1,521 · 2,842 · 1,247 · 1,275 · 11,681 · 4,402 · 7,168 · 3,468

X-axis: 2021 Q1 · 2021 Q2 · 2021 Q3 · 2021 Q4 · 2022 Q1 · 2022 Q2 · 2022 Q3 · 2022 Q4 · 2023 Q1 · 2023 Q2 · 2023 Q3 · 2023 Q4*

Legend: ● Early Stage ● Growth Stage ● Mega Rounds ○— Deal count (#)

YoY Growth

	21-22	Q3 YTD 22-23
	-%	41%
	(38%)	594%
	(10%)	(10%)
	(25%)	15%

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Israel is the 3rd Largest Generative AI VC Ecosystem Globally

2021-2023 VC funding invested ($M)
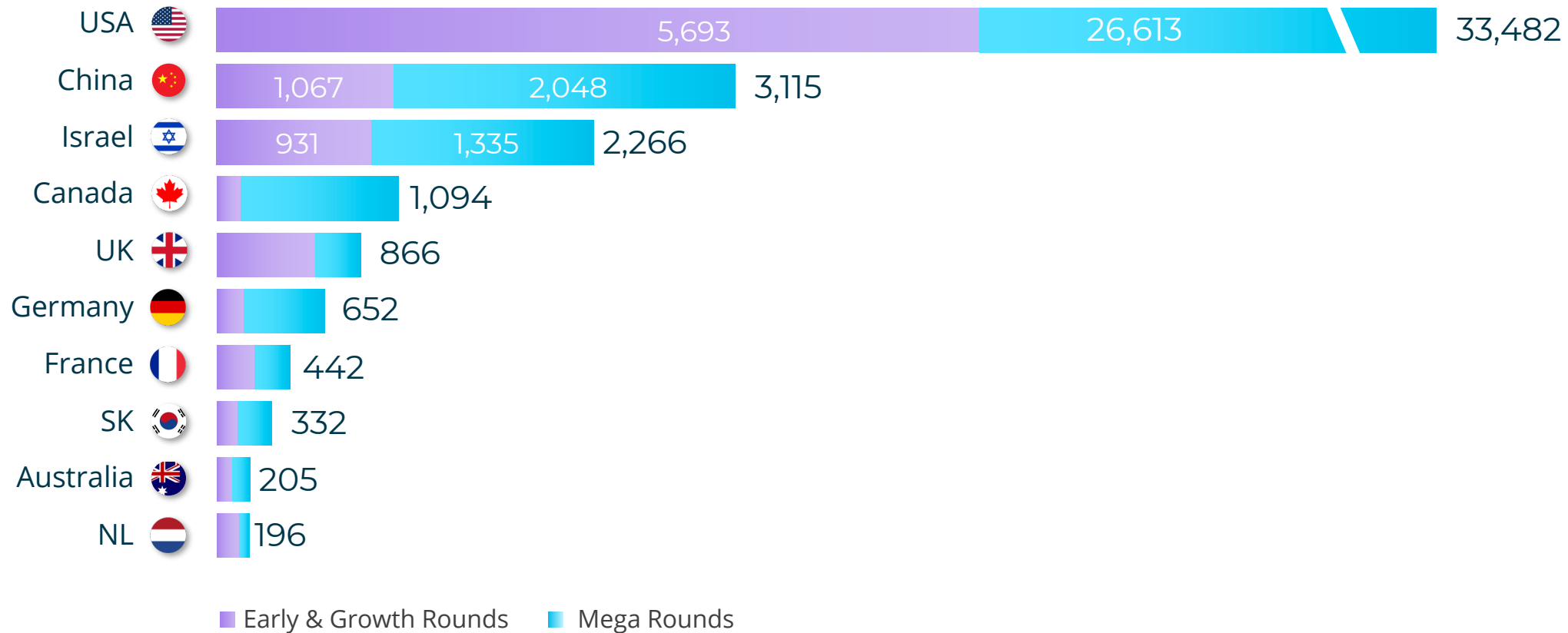
Country	Early & Growth Rounds	Mega Rounds	Total
USA	5,693	26,613	33,482
China	1,067	2,048	3,115
Israel	931	1,335	2,266
Canada			1,094
UK			866
Germany			652
France			442
SK			332
Australia			205
NL			196

■ Early & Growth Rounds ■ Mega Rounds

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Generative AI Investments in Israel are Focused on Vertical Apps and Infra & Ops
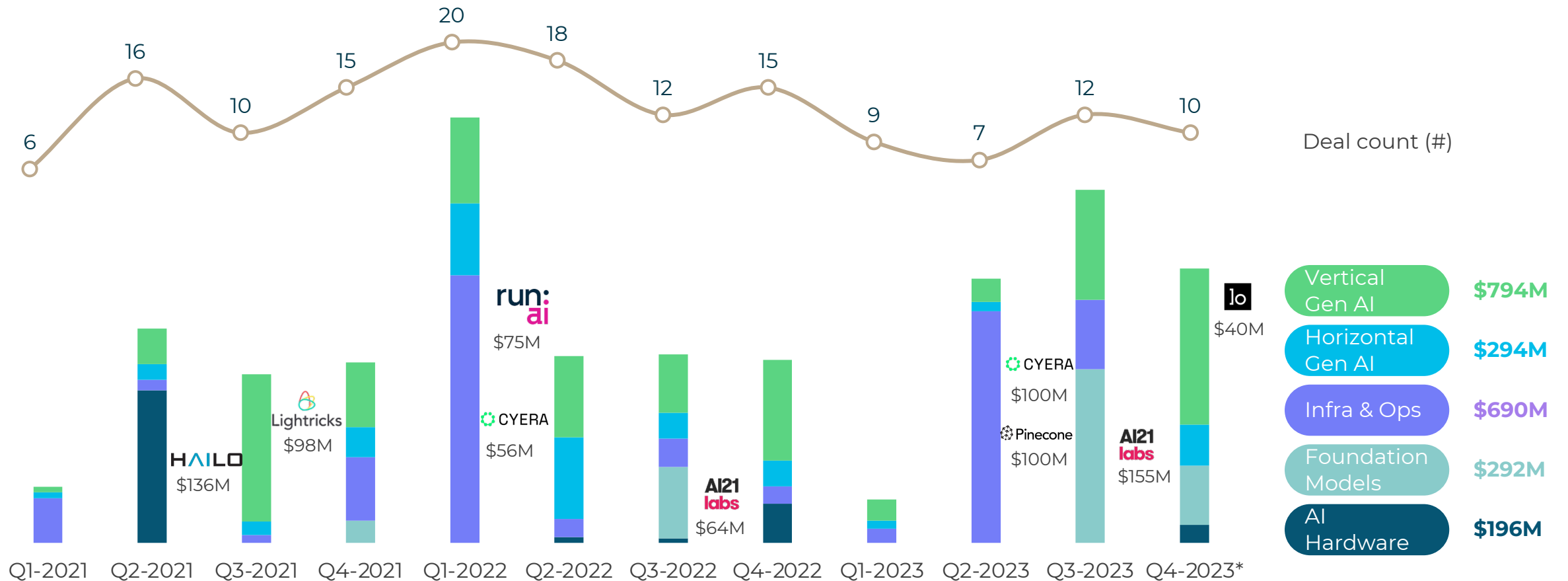
Deal count (#)

Chart deal counts by quarter:
- Q1-2021: 6
- Q2-2021: 16
- Q3-2021: 10
- Q4-2021: 15
- Q1-2022: 20
- Q2-2022: 18
- Q3-2022: 12
- Q4-2022: 15
- Q1-2023: 9
- Q2-2023: 7
- Q3-2023: 12
- Q4-2023*: 10

Company callouts:
- HAILO $136M
- Lightricks $98M
- run:ai $75M
- CYERA $56M
- AI21 labs $64M
- CYERA $100M
- Pinecone $100M
- AI21 labs $155M
- lo $40M

Legend:
- Vertical Gen AI — **$794M**
- Horizontal Gen AI — **$294M**
- Infra & Ops — **$690M**
- Foundation Models — **$292M**
- AI Hardware — **$196M**

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VIOLA's Israel Generative AI Map

Applications

Horizontal Generative AI

Software Development
tabnine · codium.ai · anima · Fine.Dev

Product
skippr

Finance
datarails · WellyBox

Marketing & Sales
D-ID · BRIA · Inpris · WINN · anyword · SecondNature · Hour One · Peech · wochit · Alison.Ai · Lychee · Munch · MyElla · GLOSSAi · TRINITY AUDIO · SIGHTEER

Customer Support
TENYX · staircase · Loris · ask-ai · Ginzi · Plantt · tagado · Tymely

Productivity
tonkean · jiGSO · the Gist · guidde. · Magical · upword* · Impro

Vertical Generative AI

Healthcare
MDCLONE · DigitalOwl · Belong · immunai · ENTITYMED · kahun · navina · hyro+ · KAI · Clay Sciences · BioRaptor · eleos

Consumer
Lightricks · intuition robotics · RIVERSIDE · PIGGY · ART AI · Leora · Leminda

Retail
radd. · Skeep · syte · luca · Polariz · roundforest · renovai · BOTIKA · KITKOO · RETURNGO
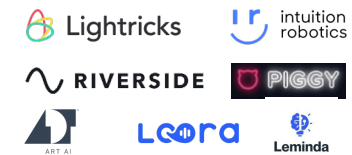
Security
PERCEPTION POINT · ARMO · oxsecurity · Cynerio · Copyleaks · CYCLOPS · Clarity · DREAM · RadiantSecurity

Entertainment
imagen · deepdub.ai · Supercreator.ai · panjaya · zog · Vault AI

Gaming
YOOM · Playstream · IN3D · Sloyd · 3DFY.ai · Sett · Genrate · Playo

Legal
Darrow · flare · Snowmate

Fintech
personetics · BRIDGEWISE Financial Research Technology · PLANCK · vyzer · black ore
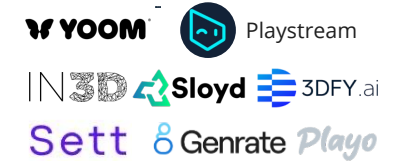
FoodTech
tastewise

PropTech
qbiq · PELLES.AI

Traditional Industries
Leo · Harmonya

Infrastructure & Operations

LLM Ops
run:ai · swim · aporia · deepchecks. · TENSORLEAP · Qwak · KUBIYA · Wild Moose · Digma

Data Infrastructure
Pinecone · SQREAM · Flexor · Datomize · mona · FAIRGEN · datagen · sherloq · Visual Layer

Security
cyera · Solvo · Gomboc.Ai · PROMPT SECURITY LLM Security and Safety

Model & Data Tuning
deci. · ONEAI · oneview · dataspan.ai

Foundational Models
AI21 labs

AI-Hardware Optimization
HAILO · NEUREALITY · INGONYAMA

5 Generative AI Categories
Each Requires Different Business Models, Technology & Ecosystems

Horizontal Generative AI
End-user apps serving functions within organizations across different industries

Vertical Generative AI
End-user apps serving industry specific functions & utilizing Gen-AI in core product

Infrastructure & Operations
Developer apps either utilizing Gen-AI in core product or optimizing utilization of LLMs/Diffusion Models

Foundational Models
Proprietary LLM and Diffusion Model developers

AI-Hardware Optimization
Hardware and software for AI-enabling chipsets

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Israel Has Strong AI Environment and Know How to Win Generative AI Categories

Established AI Leaders with GTM Know How

PAGAYA	immunai	Simply	Verbit	TARANIS	4M Analytics	trax
personetics®	aidoc	Lightricks	flare	tomorrow.io	BUILDOTS	trigo
Fintech	**Healthcare**	**Consumer**	**Prof. services**	**Climate**	**Construction**	**Retail**

Critical Mass of Global R&D Centers

NVIDIA	Google	Microsoft	+50
Hyperscale Gen AI supercomputer	Largest non-USA AI search team	Leading GPT security & office co-pilots	Other MNC Leading R&D centers

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# Where Do We Go From Here?

Applications

Application layer will blur as SaaS companies continue introducing Generative AI into **core products**

Horizontal software will be **dominated by incumbents** as they own the data and have access to existing client base

Horizontal services will be **replaced by Generative AI winners** (e.g., SDR, customer support, personal assistants)

Vertical Generative AI will privail by addressing industry specific needs at **high ACV**
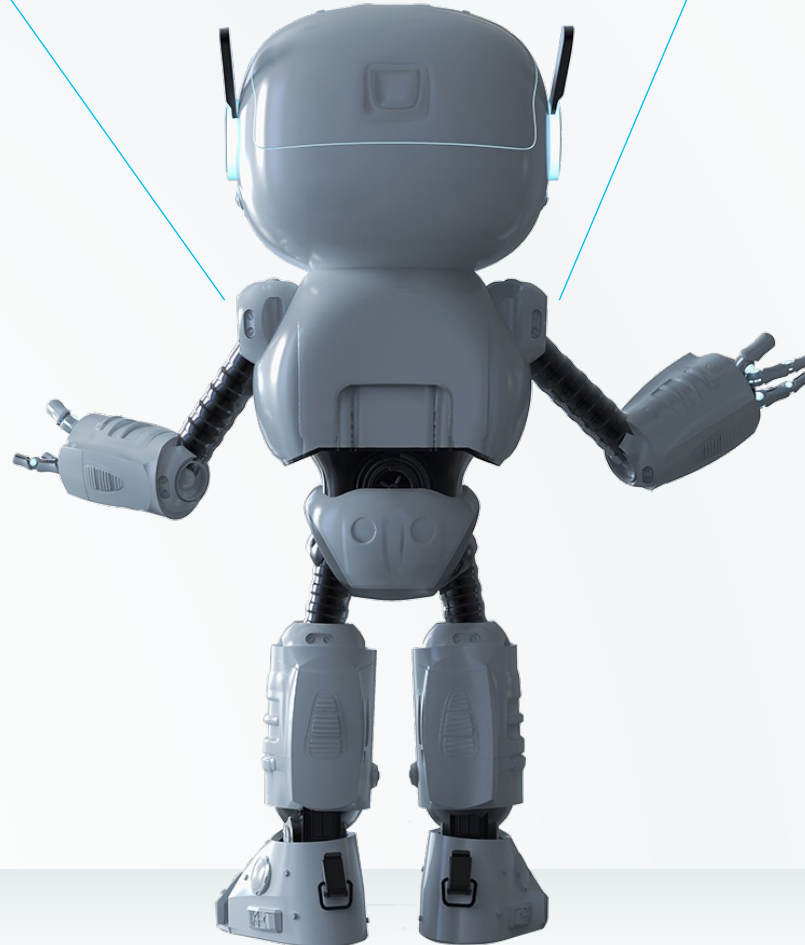
Tech Stack

Democratization of AI software developemnt will shift teams to focus on **product understanding** and **GTM excellence**

Time to market will shorten, **reducing tech-based competitive moats**

Access to superior data will become key

Text focus will evolve to **Multi-Modal UX**

Agent based architecture will introduce new use-cases

Model companies will either be **commoditized** or become the **new CSPs for AI**

What are we looking for in Generative AI companies

Product

- Strong founders' product capabilities to be customer centric and adapt
- Significant application layer on top of Generative AI, not just UX or API
- Solution that leverages multi-modality and multi-model environment
- Ops & Infra products with advantage over CSPs/ AI Model companies

Business

- Solve a core business need that Traditional AI doesn't
- Replace knowledge-based services requiring real-time interaction or unstructured data
- Clear ICP and competitive advantage over direct & in-direct alternatives
- Method creating dependencies and stickiness

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