



AI4S TRENDS 2026 · PUBLIC EDITION · PRO · 2026.10.17

The Moment the Plane Lifts Its Nose Pro

Two months before Christmas: our view on AI4S

From the virtual cell to the virtual brain — a complete overturning of quantity, architecture, data and methodology

Modern brain science, told through a Chinese landscape

"Give civilization to time, not time to civilization." — Liu Cixin, The Three-Body Problem trilogy

Brain foundation model The US bets on the virtual cell; China is building a brain foundation model



US · Nobel

2026 Nobel Prize in Physiology or Medicine (5 Oct)

Optogenetics wins — brain science can now prove causation.

Deisseroth (Stanford) · Hegemann · Nagel.



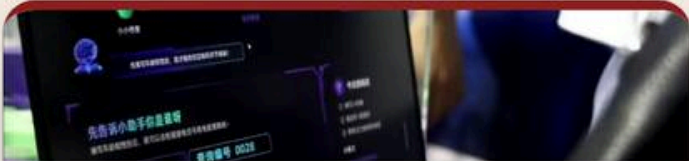
US · White House

8 Oct 2026, White House "Science: A New Golden Age" summit

America treats science as a national project.

Musk and Trump on the same stage.

Photo: White House official video.



China · RunYoung · Brain foundation model

Flagship project · RunYoung · Featured on CCTV

China is building the brain foundation model.

The AI4S foundation model of brain science · Understand · Simulate · Build the brain | Both science and infra | Digital fly = GPT-2; digital mouse = GPT-3 (company analogy)

Photo: CCTV-13 News, live demo of RunYoung's brain foundation model

The Nobel went to optogenetics: it gives brain science causal data. RunYoung's brain foundation model is built on this kind of causal data, with a complete pipeline for producing pre-training data. The team also includes a student of this year's optogenetics Nobel laureates.

Yiding's core view

The Nobel went to optogenetics; brain science moves from "happens together" to "actively changed".
The next moat is controlled-intervention data — paired stimulus-readout-behaviour data is what lets a model predict.
Judge a team by one thing: do hardware, data and models close the loop?

— Yiding Mao, head of the BCI group, Pyramid Institute

Pro · Short edition

A short edition for easy reading · For the full edition or a 1v1, contact the Kangpeng team

Joint research by the Pyramid Institute × Keys Room · Published with the support of GKP (Glacier KP) · Feel free to share with friends in AI4S · Public edition



Fan Kuan, *Travelers Among Mountains and Streams* · Northern Song · National Palace Museum, Taipei · Public domain

From the
virtual cell
to the
virtual brain

— inscribed by Yiding

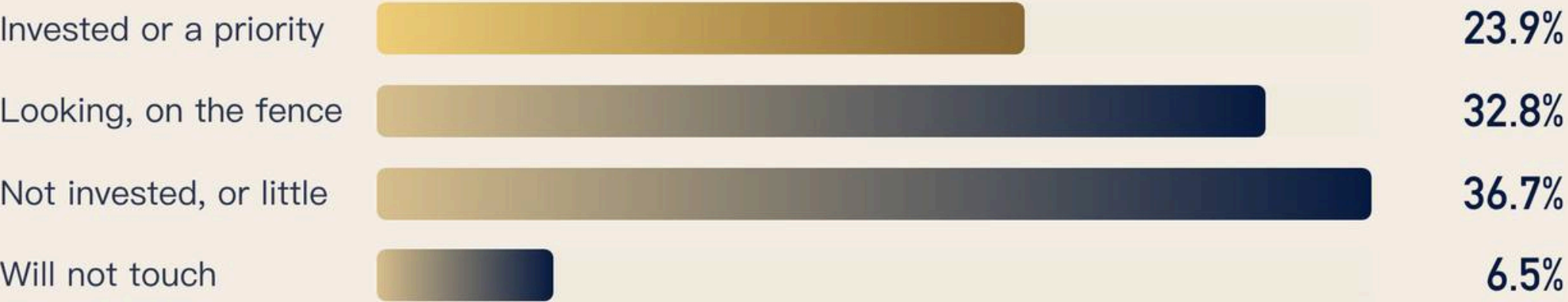
FIRST · The Answer First

The answer from 1,562 investors

57% of those who took a stance are looking or have invested; they differ on stage

- Those who invested want more
- USD is the most active
- Money waits for good targets

The 1,307 who gave a clear stance



587

institutions

57%

of those who took a stance are looking or have invested

115

people

Asked directly for deals or recommendations

More on p. 5 of Pro Max Source: Pyramid Institute; shares are based on the 1,307 who gave a clear stance

CHAPTER I

Market

Nearly 60% are looking or have invested

This chapter asks: is money really looking at AI4S?

- | | | |
|----|---|---------|
| 08 | Nearly 60% are looking or have invested | FINDING |
| 09 | Hottest on the front line: who pays | FINDING |
| 10 | USD funds are the hottest; corporate capital is the coldest | FINDING |
| 11 | AI drug discovery is the common ground | FINDING |

The Harvesters · Pieter Bruegel the Elder, 1565 · Public domain · Wikimedia Commons

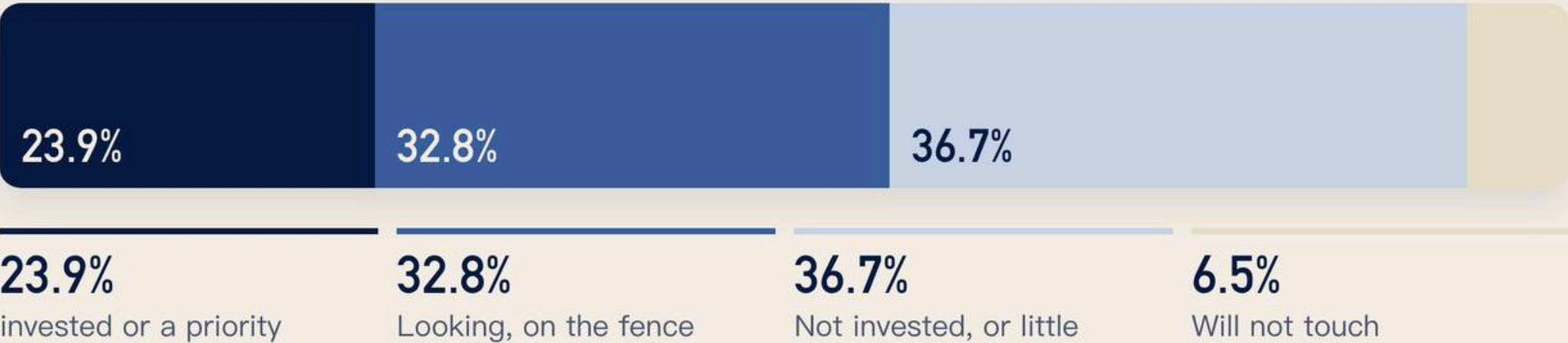
FINDING · Attitude

Nearly 60% are looking or have invested

They differ on stage, not on direction

- Split on stage
- Definition not settled

Views of 1,562 front-line investors at 587 institutions



Shares are based on the 1,307 people who gave a clear stance

23.9%

Invested, or a priority

32.8%

Looking, on the fence

115 people

Asked us directly for deals or recommendations

More on p. 20 of Pro Max Source: Pyramid Institute; institutions are shown by profile, not by name

FINDING · Profiles

USD funds are
the hottest;
corporate capital
is the coldest

Corporate capital, the coldest, should be the first to come in

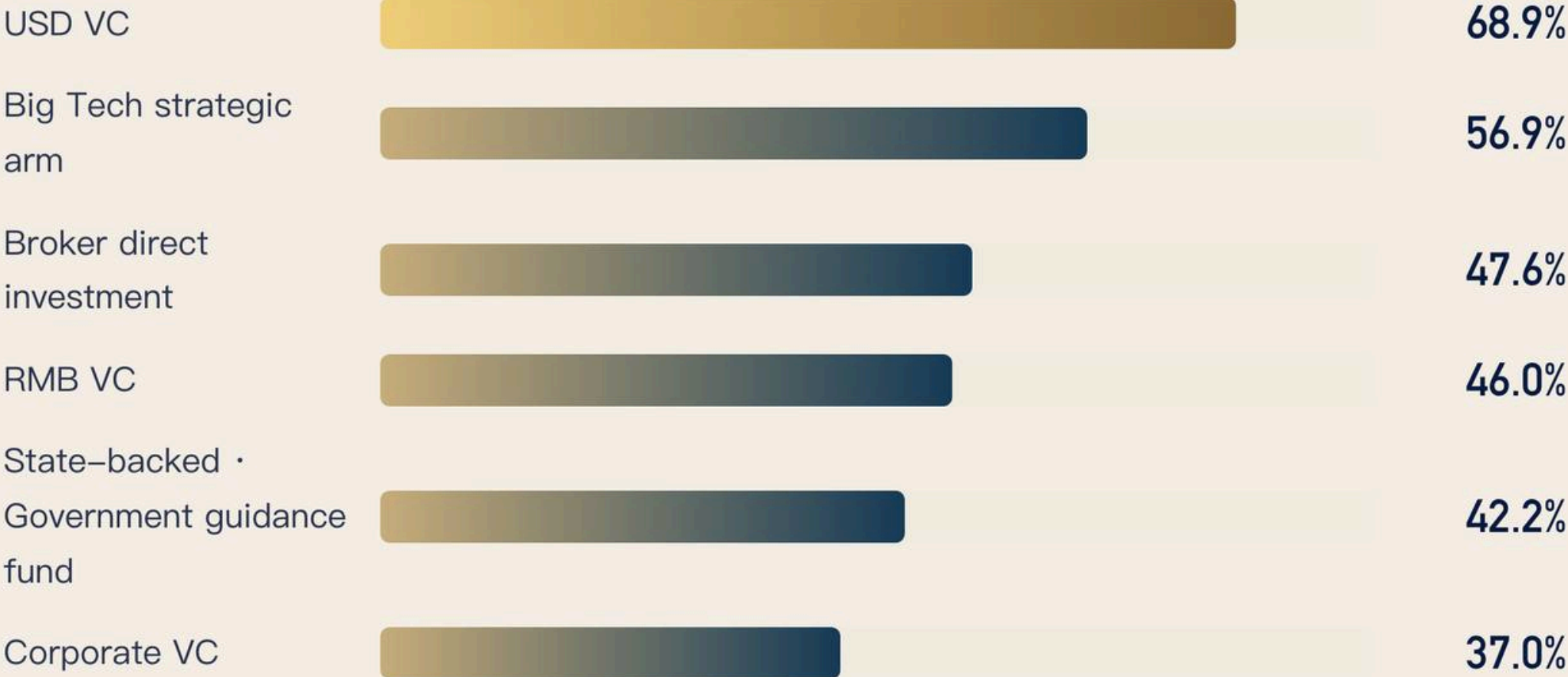
Pitch by profile

Corporates first

Who benefits

Corporates that come in early; founders who adjust their pitch to each profile

Share of "looking or invested" in all answers of each type



68.9%

USD VCs looking or invested

37.0%

Corporate VCs looking or invested

More on p. 23 of Pro MaxSource: Pyramid Institute; includes answers with no stance, so shares are lower than on the previous page

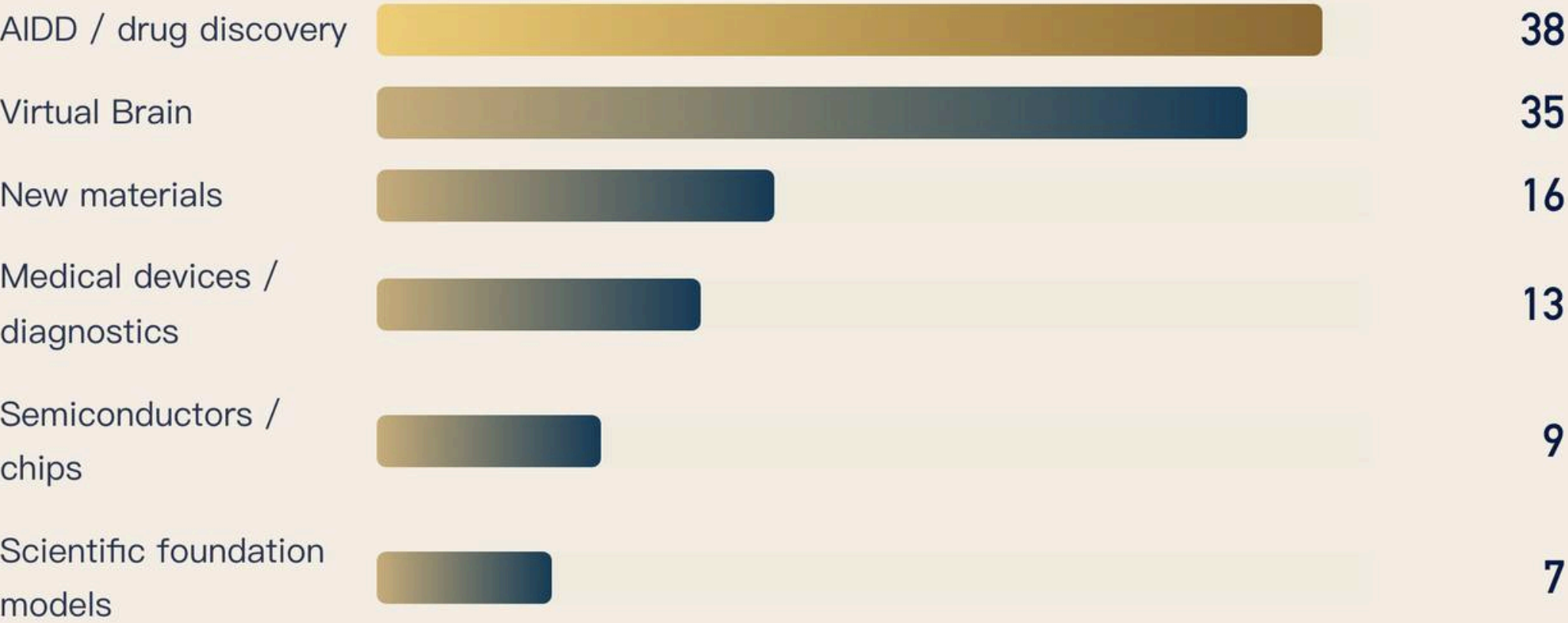
FINDING · Directions

AI drug discovery is the common ground

Virtual Brain is the second–hottest, with 35 investors commenting

- AI drug discovery
- Virtual Brain
- New materials

Most–named directions (by number of people who mentioned them)



38people

named AIDD / drug discovery

35people

commented on Virtual Brain

More on p. 23 of Pro Max Source: Pyramid Institute; AI drug discovery and new materials have experiment loops and customers to show, so they were priced first

Next · Chapter 2 How long will the window stay open? When must you move? →

FINDING · Who Pays

Three types of buyers, about one-third each

Corporates bring certainty; financial investors bring price

- Talk about the person
- Give evidence
- Give a position

Three types of buyers, about one-third each
The three types of money AI4S needs must all be present in the same round



Listed and corporate investors Financial institutions Local-government landing capital
Provide certainty, orders and data Provide price and a step to the next round Provide landing, scenarios and support

Corporates bring certainty, funds set price, local capital brings use cases.

Illustrative



More on p. 39 of Pro Max Source: Pyramid Institute (Institute basis, approximate); decision makers come in three types: boss-led (pitch the people), bottom-up (give evidence), sector-holding (offer a position)

Next · Chapter 3 How much have the US and China put on AI4S? →

CHAPTER III

World

Both build it as a national project

This chapter asks: how much have the US and China put on AI4S?

- | | | |
|----|---|---------|
| 18 | White House \$6B: a combined commitment | FINDING |
| 19 | "AI" written 8 times | FINDING |
| 20 | Big Tech competes on verification | FINDING |

Wanderer above the Sea of Fog · Caspar David Friedrich, 1818 · Public domain · Wikimedia Commons

FINDING · United States

White House \$6B: a combined commitment

The US builds AI4S as national infrastructure

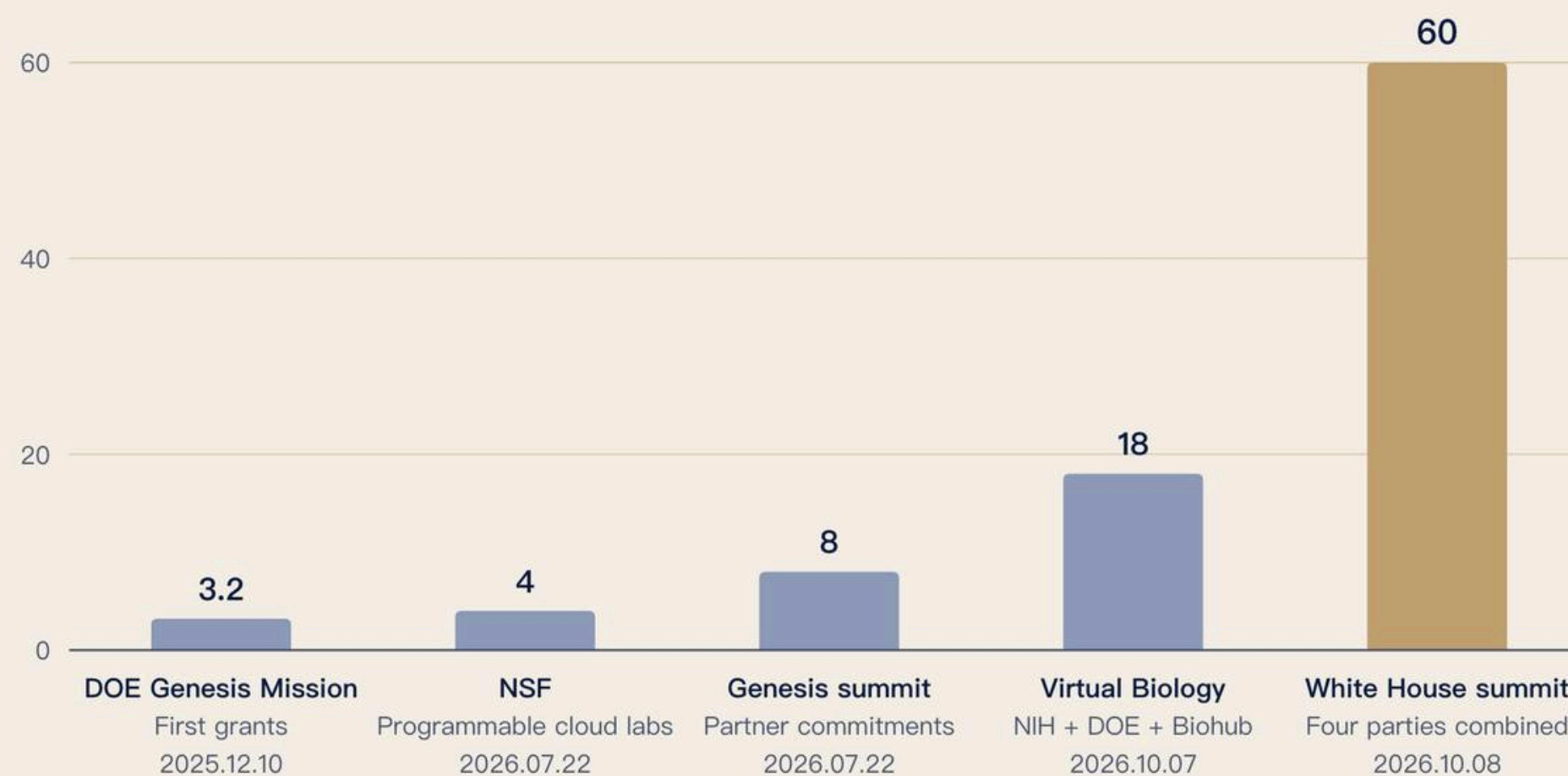
Genesis Mission

National labs

Who benefits

Labs and universities: they lead most of the first projects

Unit: US\$100M (as announced)



Note: mixed bases (grants, pledges, credits); the \$6B already includes \$1.8B and \$400M; do not sum.

\$6_B

Combined commitment of
government, industry, academia
and philanthropy

278

projects chosen at the first summit

17

national labs, all taking part

More on p. 42 of Pro Max Source: White House fact sheet (2026–10–08), US Department of Energy, NSF (2025–12 to 2026–10). The \$6B is a combined commitment of four kinds of parties, not federal money; i...

FINDING · China

"AI" written 8 times

In three and a half years, from one special program into the five-year plan

- Research paradigm
- Pilot-scale verification

8 times

in the 15th Five-Year Plan proposal

2 times

in the 14th Five-Year Plan proposal



More on p. 53 of Pro Max | Source: Xinhua, Science and Technology Daily, 15th Five-Year Plan outline, Xinhuanet 2026-10-09. Article 5 of the Oct 9 Opinions: lead the research paradigm shift with AI

FINDING · Big Tech

Big Tech competes on verification

Whoever has verifiable results leads

AI proof

Verifiable

In 2026 the frontier moved from "AI-assisted" to "AI-proved"

Google · DeepMind

AlphaFold's database holds over 200M structures, used by more than 3 million researchers

OpenAI

Released 722 math papers in October, which also raised questions on verification and authorship

Anthropic

About 950 agents found a new enzyme system in 21 hours; a wet lab then verified it

Microsoft

Microsoft Discovery: evidence → hypothesis → execution → analysis

NVIDIA

\$1B in compute credits for the Genesis Mission

\$2.1_B

722

Isomorphic Series B

math papers OpenAI released in October

More on p. 44 of Pro Max Sources: DeepMind, Isomorphic, Fortune, Scientific American, Anthropic, Microsoft, NVIDIA, White House fact sheet (2025–11 to 2026–10)

Next · Chapter 4 Has money come in? Into which layer? →

FINDING · Last issue (Oct 12 close)

Three years: optical modules +956%

Public markets bought power, optics and chips first; the science application layer is only starting to be priced

Compute, optics, power

Compute chain

+956%

Optical interconnect /
optical modules

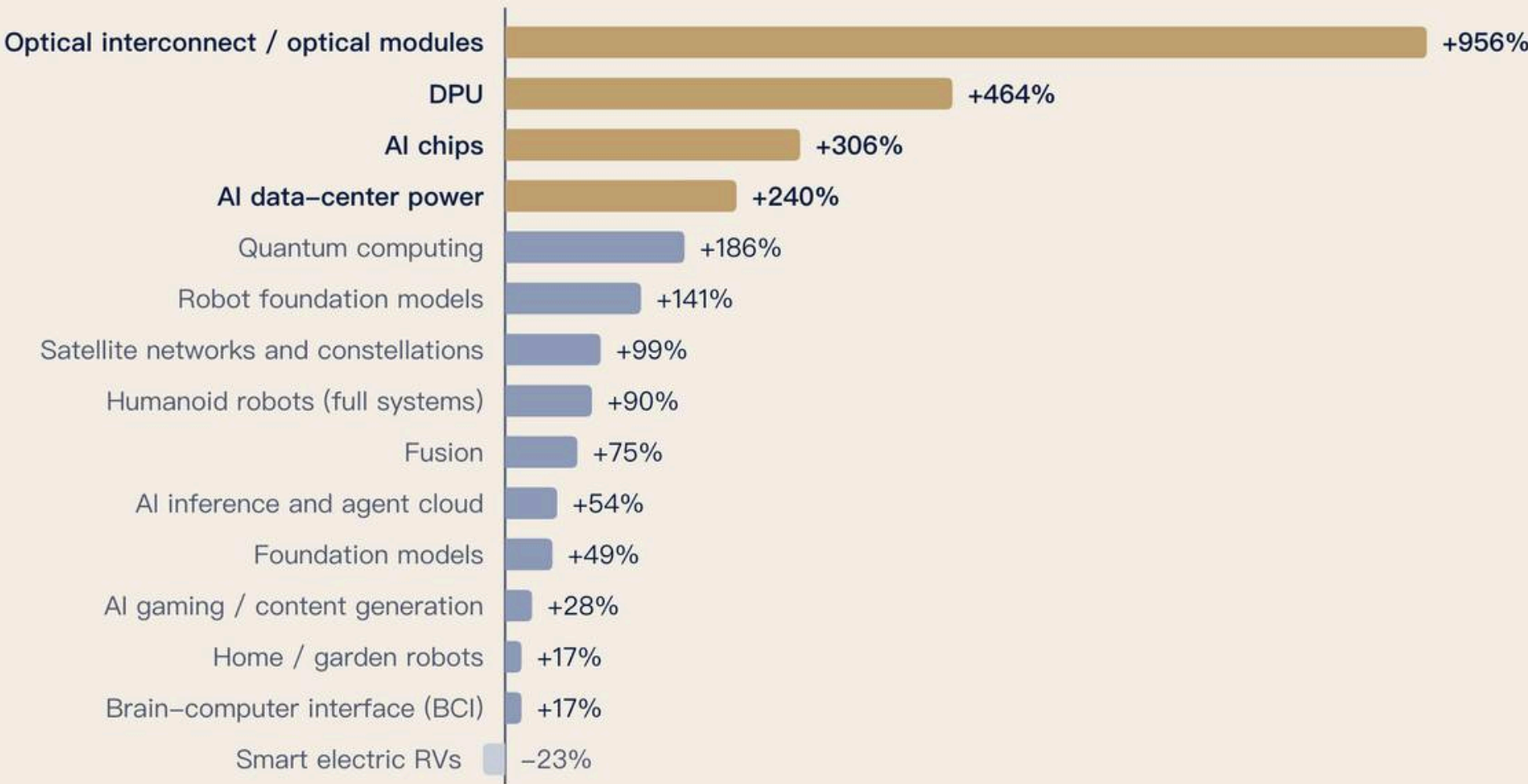
+306%

AI chips

+240%

AI data-center power

Median 3-year market-cap change (%), listed 3+ years, 3+ companies per sector



Gold: compute, optics, power (INFRA chain)

More on p. 59 of Pro Max Source: Keys Room sector stocks: median 3-year market-cap change (2026-10-12 close, converted to USD; listed 3+ years, 3+ companies per sector)

FINDING · Listed AI4S Companies

9 companies, just 0.5% of NVIDIA

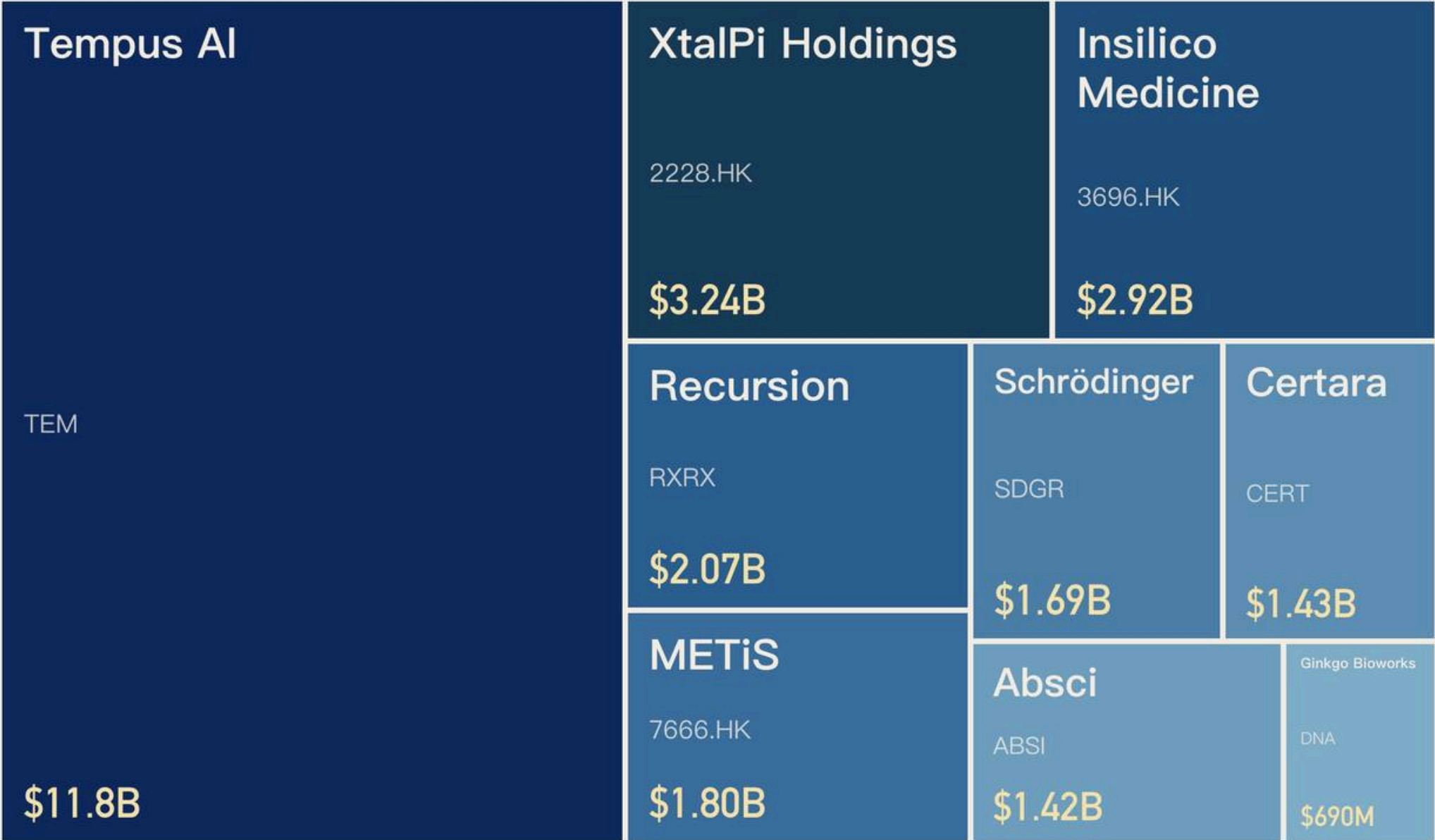
The listing path is open, and the market is still small

Treemap

AI drug discovery

Who benefits

Early AI4S: under RMB 1B is the cheapest ticket in



Block size = market cap (in USD) · NVIDIA alone: \$5.17T

9

listed AI4S companies in Hong Kong and the US

\$27.0B

combined market cap

0.5%

of NVIDIA's market cap, roughly

More on p. 78 of Pro Max Source: Keys Room sector-stock table; A-shares, Hong Kong and US all at the Oct 16, 2026 close (collected Sat Oct 17, Beijing time). Block size = market cap (in USD)

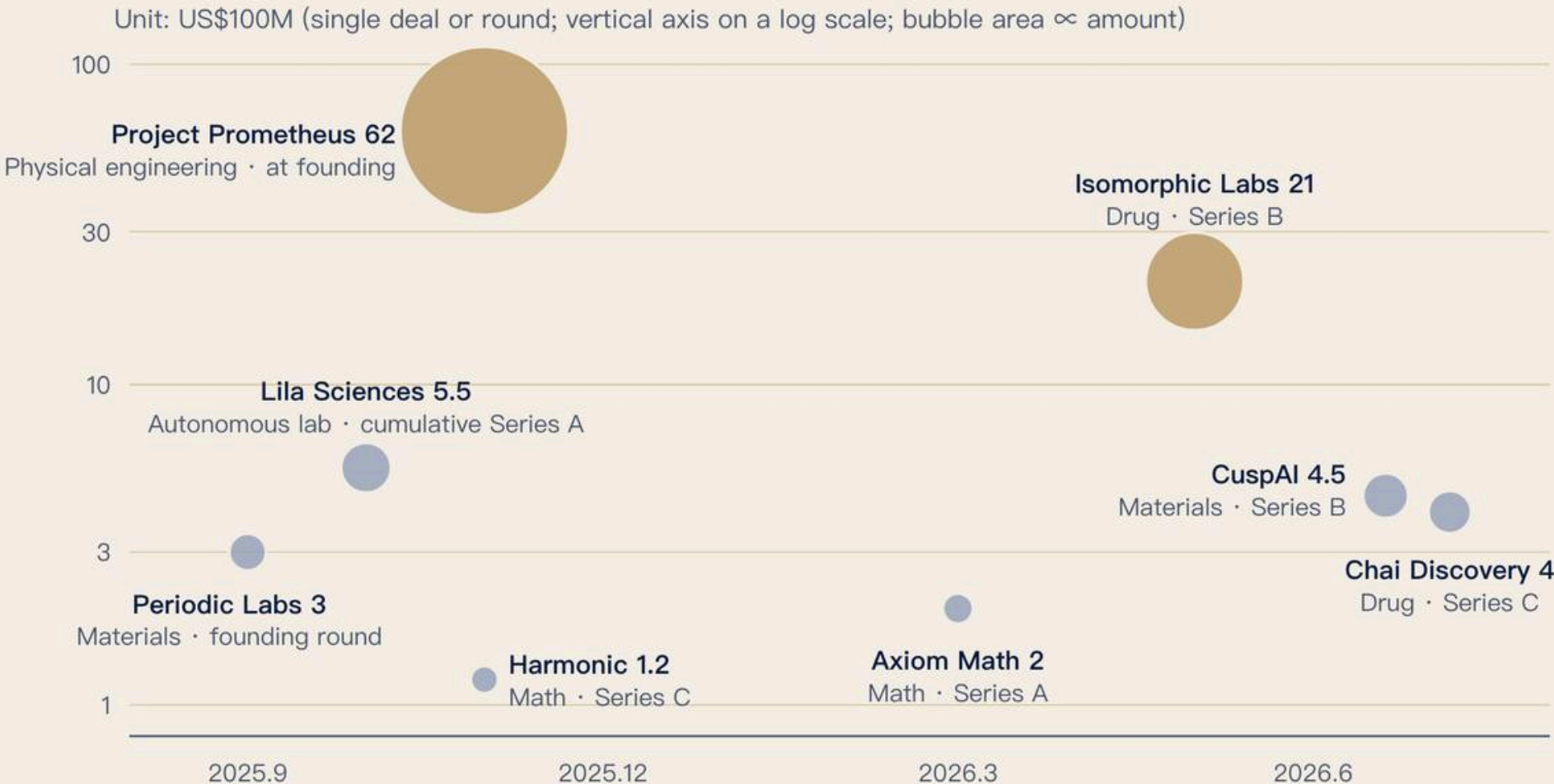
FINDING · Private Markets

Eight deals
in a year, two
above \$2B

In 7 months, valuation went from \$1.3B to \$3.8B

Big overseas rounds

Platform plays



\$6.2_B

raised at founding by an AI
physical-engineering company

\$2.1_B

Isomorphpic Series B

\$3.8_B

Chai Discovery Series C valuation

More on p. 61 of Pro Max Source: company announcements and media reports, compiled by Pyramid Institute; unit: \$100M

FINDING · The Yardstick

One yardstick: verification tiers

Ask one thing: has the "wet" work been turned into something that can run again and again?

Wet into dry

Reproducible

Simulator

Verification tiers · the higher the tier, the faster the flywheel turns

Tier 1

Can be checked automatically

Math proofs, algorithm discovery, scientific-computing scheduling

Priority

Tier 1.5

Experiments at scale

Materials, chemistry (with a high-throughput experiment platform)

Priority

Tier 2

A credible simulator exists

Biology, pharma, brain science

Judge the
simulator

Tier 3

Open-ended research

Pure theory, open-ended discovery

Wait

More on p. 87 of Pro Max Source: Pyramid Institute; tiers are set by whether results can be judged right or wrong

FINDING · Product

Get the product right: do only a few things

Limits are set by the customer's budget and verifiable results together

Work back from budget

Rule of three generations

Loop first

3 generations

at least, for a new category

5 rules

for defining a product

More on p. 91 of Pro Max Source: the product method of a hard-tech founding team; compiled by Pyramid Institute

Product and competition: five rules

Work back from the customer's budget

The budget decides what you can do, not the papers

Balance scope and return

Start where results can be verified and the numbers add up

A new category takes at least three generations

Generation one closes the loop; generation three scales

Choose use cases with restraint

Do a few frequent tasks; leave the long tail to the ecosystem

The final judge is the paying customer

Only repeat payment proves the product is defined right

FINDING · Redo the Math

The total clock is only about a quarter shorter

The premium goes to those who compress verification: labs, simulators, pilot lines

Verification is slowest

Pilot lines

Total clock for a new drug (illustrative, at range midpoints)

Traditional path

Discovery 5–6 years

Development and clinical 8–12 years

With AI

Discovery 2– Development and clinical 8–12 years

The ~3 years AI saves fall in "discovery"; the truly long part is verification: animal studies, clinical trials, pilot runs

5–6 years

traditional discovery stage

2–3 years

discovery stage with AI

8–12 years

development and clinical trials, unchanged

More on p. 89 of Pro Max Source: Li Guojie, "Prospects, Bottlenecks and Risks of AI for Science," Science & Technology Review, 2026–08–21; chart drawn at range midpoints

THE TURN

AI4S money flows
to only two kinds
of companies

Become infra, or become science

Who pays

Consensus is forming

Definition not settled

Embodied AI

Embodied AI takes the infra path too: in the US, certainty means being in the T / F / G supply chain

68 people

Front-line investors and founders responded to this view

39 people

Already doing it or agree: more than half

7 people

Asking "who pays for science"

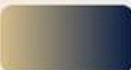
Where 68 front-line investors and founders stand

Doing it or agree



39

Ask who pays for science



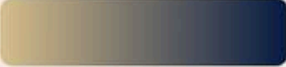
7

Think infra is bigger



4

Not in yet



15

Ask for a definition



3

More on p. 93 of Pro Max Source: Pyramid Institute; responses of 68 front-line investors and founders to this view (2026.10.17). Small sample: read the direction, not the ratios

Next · Chapter 6 With a window this short, who can raise all the money, and raise it well? →

CHAPTER 6

Why GKP (Glacier KP)

Quality, efficiency,
non-consensus

This chapter asks: with a window this short, who can raise all the money, and raise it well?

33	18 steps, three clients past 10x	FINDING
34	Two meetings, one TS	FINDING
35	Underrated in July, first 3 months later	FINDING
36	Map: simulation, science, infrastructure	FINDING
37	Financing is designed	FINDING

Augustus of Prima Porta · Anonymous (Ancient Rome), 1st century · Public domain · Wikimedia Commons

FINDING · Quality

18 steps, three clients past 10x

Valuations are built round by round, not talked up

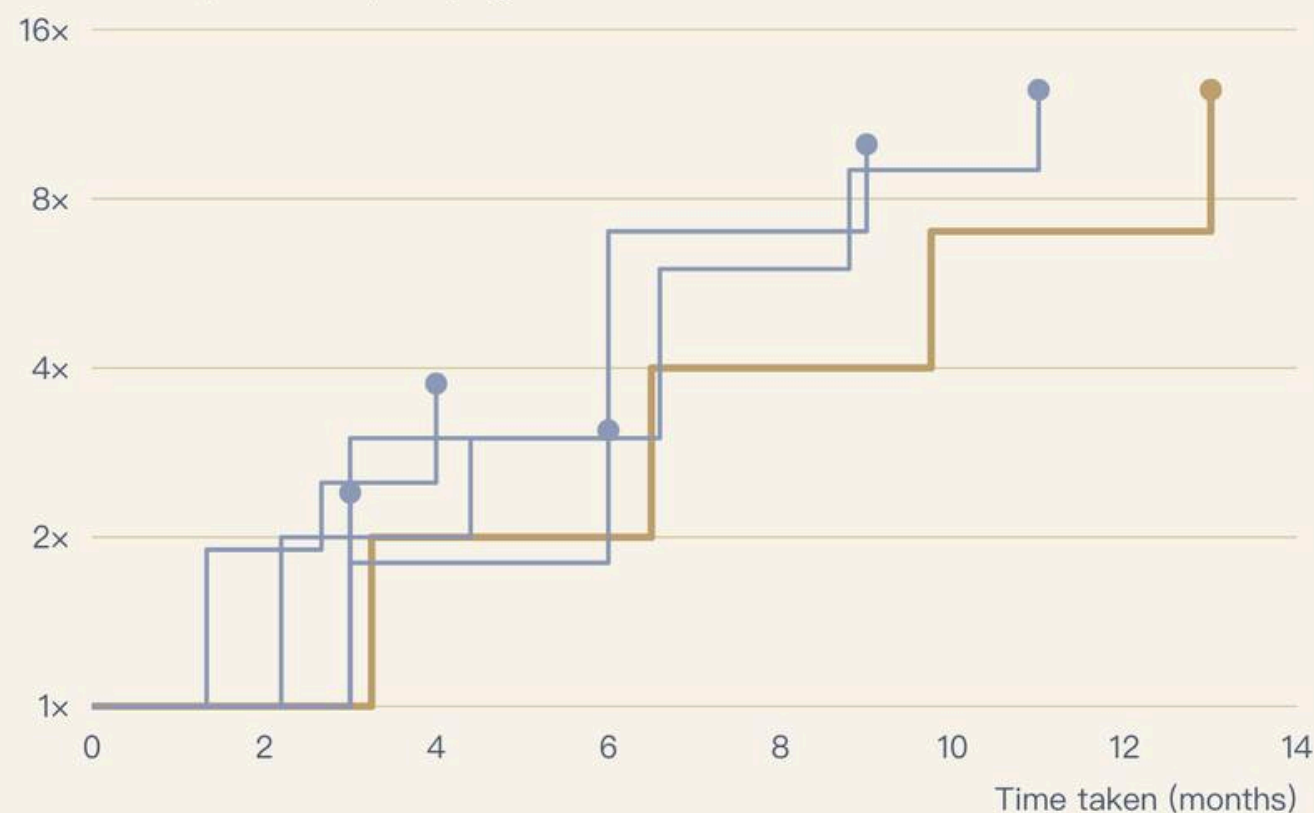
Valuation Steps

New buyers

Valuation steps: carried up one at a time

6 sectors · 18 steps · 46 months in total, about 2.6 months per step on average

Valuation multiple (first step = 1x, log scale)



Step timing is drawn at even intervals within each client's time span, to show pace only. Multiples are on an Institute basis.

Multiple · time

Quantum · neutral atom
12.5x · ~13 months · 4 steps

World model
12.5x · ~11 months · 5 steps

Space · reusable rockets
10x · ~9 months · 3 steps

Embodied AI · brain
3.75x · ~4 months · 3 steps

Quantum · superconducting
3.1x · ~6 months · 2 steps

AI Infra · power
2.4x · ~3 months · 1 step

18 steps

valuation steps for 6 clients in one year

2.6 months

per step, on average

12.5x

highest multiple

More on p. 101 of Pro Max Source: Pyramid Institute (Institute basis; each round's agreements prevail); companies and investors are not named

FINDING · Efficiency

Two meetings, one TS

The best of the best: each of us recommends only 2 investors to a client

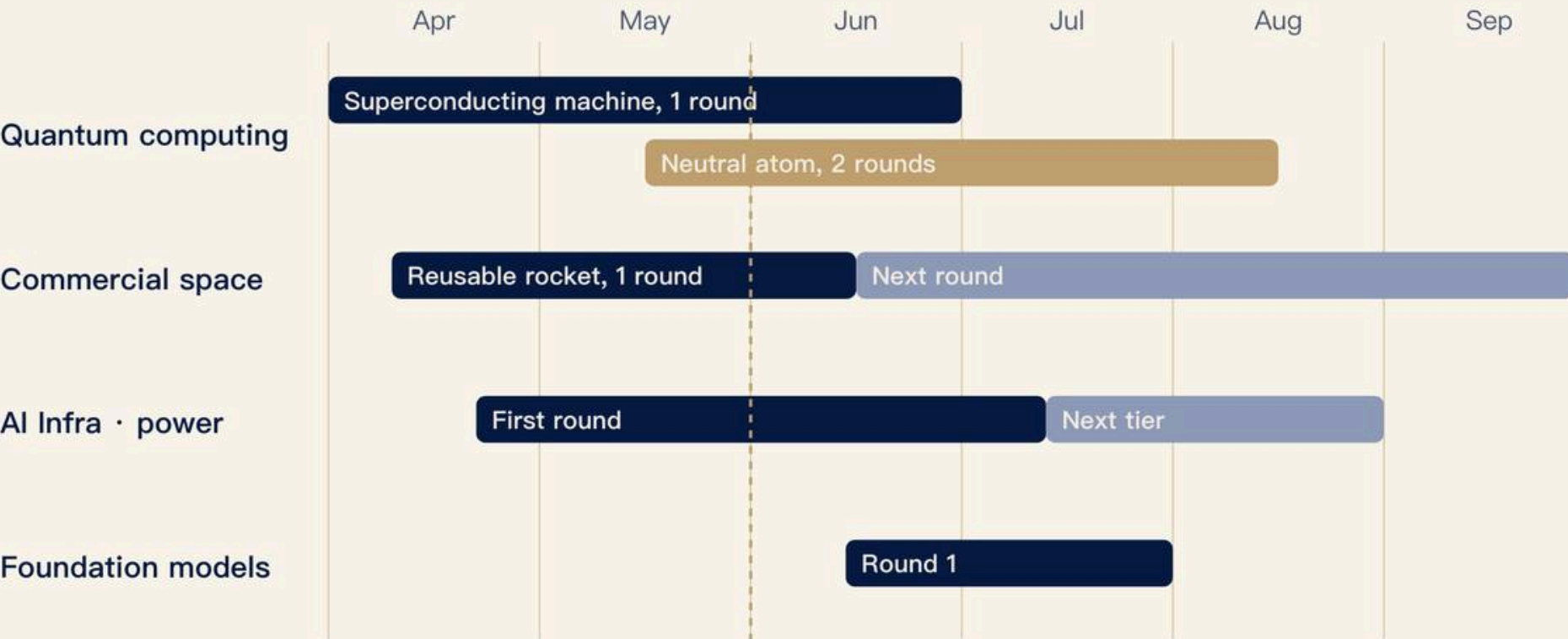
The window is counted in weeks

Density

Two rounds in parallel

One summer, four lines in parallel

Quantum, commercial space, AI Infra power, foundation models: once the window opens, closings come in clusters



End of June: several lines enter closing at once

Illustrative

40 days

for Pre-IPO funds to arrive

20 term sheets

in one month, starting from deep non-consensus

3x

term sheets vs. the amount needed

More on p. 101 of Pro Max Source: Pyramid Institute (2026-04 to 09); start and end rounded to the month, illustrative; companies and investors are not named

MAP · GKP (Glacier KP)'s AI4S map

Map: simulation, science, infrastructure

From the Virtual Brain to rockets, every bet sits where results can be verified

Simulation

Science

infra

Infra in orbit

Overtaking in medium orbit: Europe has O3b, China has this one, and we have invested ourselves; details in Pro Max, next step 1v1

Key cards (full table in the full edition)

RunYoung · Virtual Brain

A digital–brain base that can predict the effects of an intervention

Quanling · Simulated World

Its own game foundation model generates playable worlds end to end · Open the demo →

Hyperspherical · Infinite Models

The next paradigm for scaling foundation models: composing expert models on top of large models

MatriQ · Quantum

Neutral–atom quantum computing

ASTRONSTONE · Launch

Large stainless–steel methalox rocket

Zinsight · Power

The gate that brings green power into AI racks

14

Core AI4S map

14

Physical AI: where it lands

More on p. 109 of Pro Max Source: official website roster and public statements at the 1212 Festival; the Quanling demo is generated end to end by its game foundation model; Hyperspherical: GKP — investor, e...

PLAYBOOK · How we run a financing

Financing is designed

Only 2 investors per person: the best of the best

Two price tiers

Conversion rate

Key

Kangpeng Capital

GKP (Glacier KP) runs the financing; Kangpeng Capital invests alongside European LPs: a EUR fund-of-funds plus RMB deal-by-deal vehicles

Three of the ten plays, plus one bottom line

Two price tiers, opened together

One tier for industry partners, one for financial investors; when the lower tier fills, the momentum passes to the higher tier

Let conversion rates lead the review

More than half of the investors met should offer terms; if not, check the profile, the story and the sticking point

Find a "key"

A landmark lead investor, introduced by an industry shareholder who has already invested

Only 2 investors per person

The best of the best: the right two make a decision easier than ten more

More on p. 105 of Pro Max Source: GKP's playbook, from a full briefing for a har

Next · Chapter 7 Every industry in history has gone this way: the US gives birth to the cell, and China scales the cell up endlessly, until it grows a brain. →

CHAPTER 7

RunYoung and the BCI special

Every industry in history has gone this way: the US gives birth to the cell, and China scales the cell up endlessly, until it grows a brain.

This chapter answers: the US bets on the virtual cell; China is building the virtual brain, and RunYoung is taking this step

- | | | |
|----|--|---------|
| 39 | From one cell to a brain | FINDING |
| 40 | China is building the virtual brain | FINDING |
| 41 | The virtual brain, on show | FINDING |
| 42 | After the Nobel: from correlation to causation | FINDING |

A Philosopher Lecturing on the Orrery · Joseph Wright, 1766 · Public domain · Wikimedia Commons

CELL → BRAIN · From cell to brain

From one cell to a brain

Fruit fly 140,000 → human 86 billion neurons

- Quantity
- Architecture
- Data

	Virtual cell	Virtual Brain
Quantity	One cell, about 20,000 genes	About 86 billion neurons
Architecture	Molecular networks inside a cell	Cell → circuit → brain region
Data	Single–cell sequencing and perturbation omics	Optogenetic paired causal data
Methodology	Predict gene expression after a perturbation	Predict behavior after an intervention

1

Virtual cell: one cell, about 20,000 genes

86B

Virtual brain: neurons; about 100 trillion synapses

More on p. 4 of Pro Max Source: neuron counts: human about 86 billion (Azevedo et al., 2009); mouse about 70 million (Herculano–Houzel et al., 2006); fruit fly about 140,000 (FlyWire, Nature 2024)

SPOTLIGHT · RunYoung

China is building the virtual brain

The US bets on the virtual cell; RunYoung: digital fruit fly = GPT-2

Brain white-boxing

Virtual Brain

Bionic Brain

Nobel Prize This year's Nobel Prize went to causality: **optogenetics** let neuroscience prove cause and effect for the first time

From seeing clearly, to predicting, to building

Brain white-boxing
See clearly

Virtual Brain
Predict and simulate

Bionic Brain
Build

Academician-led team Builds a digital-brain base that can predict the effects of an intervention, from "single-neuron mechanism modeling + a real-world causal data ecosystem", to become the OpenAI of brain science.

Digital fruit fly = GPT-2, digital mouse = GPT-3 (company analogy)

10.05

This year's Nobel Prize went to optogenetics

139_K

The fruit fly's whole-brain wiring map is drawn

More on p. 116 of Pro Max Source: RunYoung company figures (GPT-2/GPT-3 are the company's analogies); Nobel Prize in Physiology or Medicine, 2026-10-05 (Deisseroth, Hegemann, Nagel); FlyWire, Nature ...

FINDING · BCI Special

After the Nobel: from correlation to causation

Causality lets you predict; prediction lets you build a simulator

- Optogenetics
- Causal data
- Prediction

Illustrative

	Correlational data	Causal data
	Records what "happens together"	Tests "active change"
Collection	Passive recording Records EEG or neural firing, then pairs it with task labels, intent or behavior	Intervene first, then read out in sync Specify cell groups and stimulation timing, record responses before and after, with strict controls
Data pattern	Features and states appear together When a channel's feature rises, subjects more often are in a "want to move left" or "fatigued" state	After intervention, behavior changes reliably In the same setting and task, turning on or off a chosen cell group shifts the choice probability
Question	This signal usually appears with which state or intent?	If we apply this intervention to a circuit, how do system state and behavior change?
Model use	Train a decoding classifier Identify intent and state labels already in the data	Train state-transition equations Tell apart mechanisms that look alike on the surface, and test predictions for interventions never seen

Causal data adds one key dimension: what intervention was applied

ms_{–level}

time precision: switch a class of neurons on or off

0 → 1

from "happens together" to "actively change"

More on p. 125 of Pro MaxSource: Pyramid Institute · BCI Group, "Optogenetics Wins the Nobel: Will It Be the Savior of Brain–Computer Interfaces?" (2026–10–07)

Next · Chapter 8Which dates to watch in the next six months? →

CHAPTER 8

Outlook

Watch the dates, and watch an open slot

This chapter asks: which dates should we watch in the next six months?

"We are all bugs in the gutter, but someone still has to look up at the stars." — Liu Cixin, The Three-Body Problem trilogy

44	Five key dates to watch in the next six months	FINDING
45	The biggest open slot in this window	FINDING
46	You ask, we answer	FINDING

Fine Wind, Clear Morning (Red Fuji) · Katsushika Hokusai, c. 1831 · Public domain · Wikimedia Commons

FINDING · Catalysts

Five key dates to watch in the next six months

The run-up to the Two Sessions is the last stretch of this window

Private follows public

Close before Spring Festival

11·03

US midterm elections

Private markets follow public markets; deals in hand fund by the end of October

December

Central Economic Work Conference (usual timing)

Concrete 2027 plans for "AI Plus"

12·12

Glacier 1212 Festival

16 projects in five groups close together

2027·01

J.P. Morgan Healthcare Conference, San Francisco

The annual window for AI drug discovery and pharma partnerships

2027·03

Two Sessions (usual timing)

The last stretch of this window; new themes arrive

56 days

to the 12·12 Club annual closing day

More on p. 139 of Pro Max Source: Pyramid Institute's view; meeting dates follow usual timing; the full edition lists six dates

FINDING · The Open Slot

The biggest open slot in this window

China's Isomorphic-level company has yet to emerge

- Orders people understand
- Verification facilities
- Certainty

Who benefits The company that first shows "orders people understand"

\$2.1B

Isomorphic Labs Series B

Three signals to watch

- The first "orders you can understand"

Mid- and late-stage investors are waiting for it. Whoever shows it first gets mid- and late-stage money first
- Build-out speed of verification facilities

The faster automated labs and pilot platforms are built, the sooner the turning point comes
- Capital flowing between AI4S and Infra

Whoever can show Infra-style certainty keeps the money in AI4S

More on p. 139 of Pro Max Source: Pyramid Institute's view; people who know the field see this position as the biggest opportunity of this window. Open-source community: among Hugging Face releases of the...

READERS ASK

You ask, we answer

Who pays for science? Those who save money with the results

infra

Who pays

Held-out intervention

The 5 questions readers asked most

How should we understand infra?

The architecture layer: models above, chips, power and optics below

Which infra companies stand out?

See the infra side of the map: clear customers, countable revenue

Should AI4S move faster than embodied AI?

Fast to verify, slow to deliver: in this window AI4S takes off first

Who pays for science?

Drug makers, materials plants, hospitals, labs: those who save time and money with the results

How do we tell if a model is good?

Build the test first, then train the model: the hardest test is the "held-out intervention"

More on p. 145 of Pro Max Source: questions as asked, askers by profile only; all 9 questions are in the full edition

Next page Want the full report or a 1-on-1? →

This is a short edition

For easy reading, each key point is cut to a few words

This short edition is made for easy reading. To go deeper, please contact **Kangpeng team** for the more detailed full report. You can also book a 1-on-1; our AI4S experts will talk it through with you in detail.

Contact the Kangpeng team · Book a 1v1 →

Green Lane

GREEN LANE · glacier.mba/#greenlane



One image · easy to share

48 pages · about 32 min · scan to read

167 pages · about 227 min · by application

Green Lane · where every tier ends

Also in the full report

- Profiles, preferences and pitches for nine types of institution
- Investor logic, mapped point by point to your fundraising materials
- Q4 playbook: October to next January
- Treemaps of the global TOP 50 and sector stock pools
- All the evidence on **Virtual Brain** and the BCI special
- Past calls, white papers and our research system

