Innovative Korea: Deep tech ecosystem growth for building an innovation-driven, resilient economy in a new global era

Reddal 15 – CEO Forum Seoul

Seoul, June 12, 2025

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Deep tech is already reshaping the global economy, yet Korea's heavy reliance on legacy firms continues to hinder its transition to an innovation-driven model

Deep tech in world (including former deep tech firms that have scaled)

World's largest companies by market cap

Microsoft	3.51TUSD	Deep tech (AI/quantum/cloud)
NVIDIA	3.51TUSD	Deep tech (AI/system chips)
	3.03TUSD	Semi-deep tech (AI/chip design)
amazon	2.31TUSD	Semi-deep tech (cloud/robotics)
Google	2.15TUSD	Deep tech (AI/quantum/robotics)
Meta	1.75TUSD	Semi-deep tech (AI/metaverse)
أرامكو السعودية saudi aramco	1.60TUSD	
BROADCOM	1.15TUSD	Deep tech (5G chips)
tsmc	1.10TUSD	Deep tech (chip manufacturing)
BERKSHIRE HATHAWAY INC.	1.06TUSD	
TESLA	1.05TUSD	Deep tech (mobility)

Korea's largest companies by market cap

SAMSUNG	0.29TUSD	Deep tech (chips/AI)
SK hynix	0.12TUSD	Deep tech (chips/AI)
SAMSUNG BIOLOGICS	0.05TUSD	
LG Energy Solution	0.05TUSD	Semi-deep tech (batteries)
HYUNDAI	0.03TUSD	Semi-deep tech (mobility)
Hanwha Aerospace	0.03TUSD	Semi-deep tech (aerospace)
KB	0.03TUSD	
KIA	0.03TUSD	Semi-deep tech (mobility)
HD	0.03TUSD	
CELLTRION	0.03TUSD	
DOOSAN	0.03TUSD	Doosan Enerbility (cleantech)

NOTE: Market cap figures are as of June 10, 2025. The deep tech label also includes former deep tech firms that have since scaled and expanded into broader business portfolios. Source: Companies Market Cap.

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Korean deep tech ecosystem is showing early success, but needs global reach, broader exit options, and active conversion of basic science research

Executive summary

In this report

Reddal's deep tech list introduced

432 companies

Insights from

9 investors

8 startups

1 foreign expert

Growth perspectives

10 sectors including AI, robotics, quantum and nuclear

Early wins, but structural limits

Limited foreign capital/sales, sluggish startup formation, and poor post-IPO performance in domestic markets hold back global potential

88% of exits are domestic IPOs, with most stocks falling below index average after 6 months

Need global scale and focus

Must attract global investors and turn basic science into market-ready products through industry-academia collaboration

Only 0.1% of commercial R&D expenditure comes from foreign sources

Stakeholders must act

Build multi-stakeholder coalitions, reduce red tape, and push for global testbeds to scale breakthroughs

3.6TKRW investments should be accompanied by global ambition and deregulation

From fast-follower to first-mover

Start by engaging globally: over time, shift from copying trends to leading in frontier fields like quantum and nuclear

4 quantum firms and 0 nuclear firms are unacceptable – more should be done to lead globally

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Agenda

Ecosystem landscape and challenges: Building momentum requires global traction

Target maturity level and gaps: Driving deeper globalization with innovation in private sector

Growth requirements: Required roles of startups, investors, and government in a robust, globally connected ecosystem

Roadmap and risk mitigation: Short-term scaling followed by longer-term diversification for resilience

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Korea's large volume of deep tech companies can be attributed to its historically strong biotech industry; however, focus areas are rapidly shifting, driven by the influence of the global AI boom

Deep tech definition, segments and technologies

Our definition of deep tech

Reddal's deep tech list includes 432 firms that are manually selected based on the following criteria

- Possession of foundational technologies that solve complex engineering challenges
- Currently existing SMEs and startups that have raised at least a single round of investment from established investors like VCs and accelerators
- Aligns with Korean government's selected deep segments and technologies*

Firms with AI-based core offerings

Biotechnology — AI 26%
215 companies
AI diagnostics | Cancer treatment | Antibody

Robotics — AI 72%
29 companies
Industrial robots | Robot surgery | AI robotics

AI and big data — AI 100%
78 companies
AI cores | AI engine | Generative AI | LLM

Aerospace — AI 48%
23 companies
Satellite | Drones | Aerial vehicle systems

Cloud and network — AI 100%
21 companies
Cyber security | MSP | Cloud computing

Mobility — AI 77%
22 companies
Autonomous driving | Battery materials

System semiconductor — AI 86%
14 companies
Microchip design | AI chips | NPU | Fabless

Quantum technology — AI 50%
4 companies
Quantum computing | Quantum engineering

Sustainability — AI 15%
26 companies
Bioenergy | Hydrogen | Recycling | CCUS

Next generation nuclear
None detected
Small modular reactor

*10 pre-defined categories are biotechnology, AI and big data, sustainability, cloud and network, robotics, system semiconductor, aerospace, mobility, quantum technology, and next generation nuclear.

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Currently, the growth of Korea's deep tech ecosystem is primarily driven by institutional initiatives and global technological trends; most challenges are local

Overview of deep tech growth drivers and inhibitors

Key growth drivers

General

Government subsidies and directives for deep tech vitalization

Sector-specific

AI boom

- Driven by the introduction of ChatGPT in 2022
- Advancements in AI technologies, including semiconductors, cloud computing, AI models, and AI services

Rising biotech interests

- Global breakthroughs such as CRISPR-Cas9 (gene editing) and mRNA technology

Global sustainability mandates

- Focus on waste processing, biomaterials, and decarbonization software solutions

Key growth inhibitors

Country-wide

Talent drain to bigger markets

- In 2023, Korea recorded a net outflow of 0.3 AI experts per 100,000 (population)
- 5,600+ Koreans received EB-1/2 visas in the US (2023)

Limited groundbreaking solutions

- 4.4BUSD tech trade deficit in 2022
- Electronics segment alone had a 4.2BUSD deficit

Strong in tech, weak in market

- Quantum startups received 0.4% of deep tech investments in H1 2024
- SMR faces regulatory delays, pushing commercialization timelines

Macroeconomic factors

- High interest rates increase financing costs for startups
- Early-stage deals in H1 2024 declined by 29% YoY, while later-stage deals increased by 9.5%

Slow startup scene at universities

- Seoul National University (77th), is the only Korean college in the global top 100 startup universities

Limited foreign capital

- Some foreign VCs and LPs are detected, but still below other mature tech ecosystems

Source: Expert interviews, Korea Fair Trade Commission (2024), The Chosun (2024), Business Korea (2024), Maeil Economy (2024), Hankyung 1 2, Newsis (2024), Pitchbook (2024), Reddal analysis.

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Historically, Korean VC ecosystem has evolved rapidly, experiencing several boom-and-bust cycles; push for deep tech investments faces challenges amid a declining market

Korean venture investment – historical overview

1986

Early venture ecosystem development
- First VC (Small Business Investment Co) established in 1986
- KAIST alumni led fostering the foundation of tech venture entrepreneurs

1997

1st venture boom (1997-2000s)
- The Special Measure Act for the Promotion of Venture Business was enacted to promote venture business during the IMF crisis
- Many tech startups emerged particularly in IT and telecommunications sectors

2000

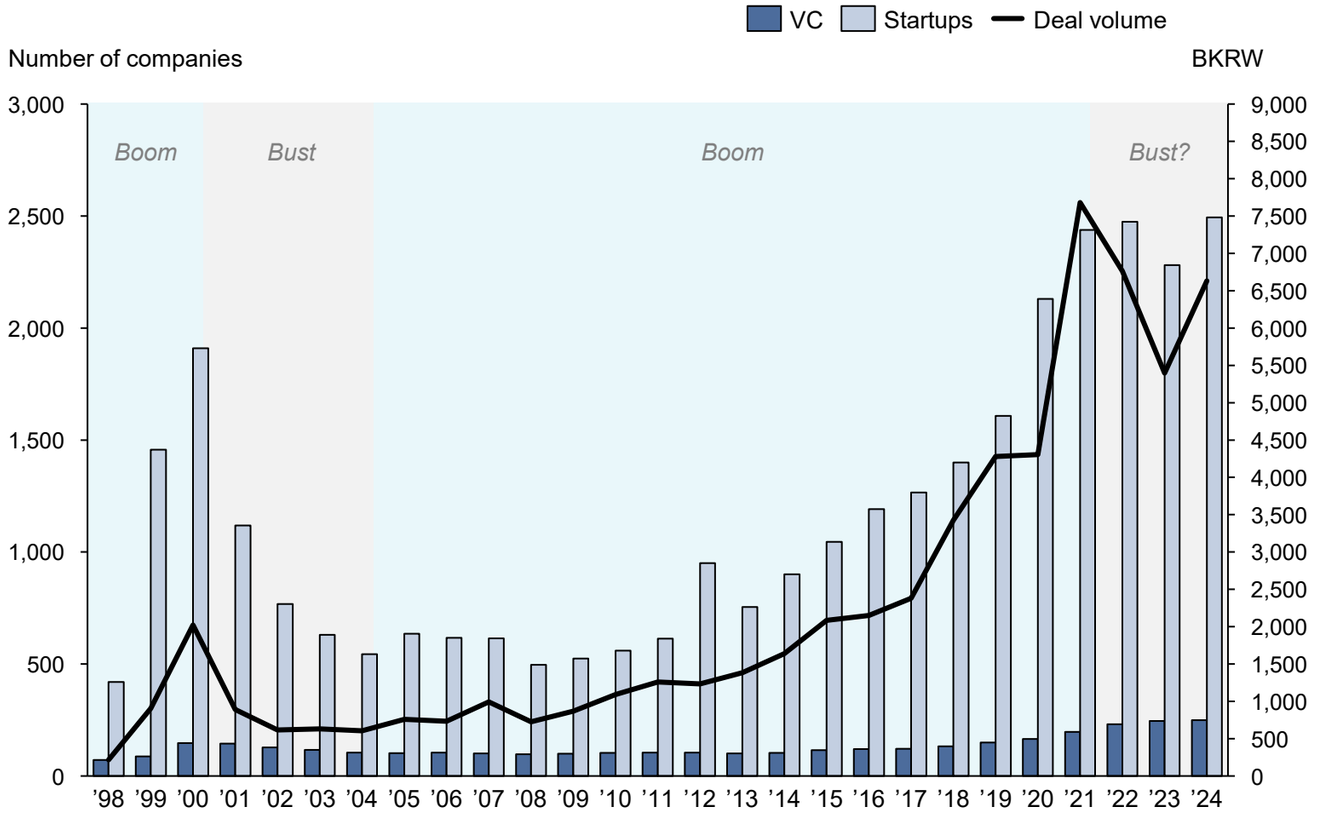
The dot-com bubble (2000-2002)
- South Korea's tech sector experienced a dramatic boom as Investors rushed into internet and IT companies since 1999
- The crisis forced many KOSDAQ-listed IT companies into bankruptcy

2005

2nd venture boom (2005-2018)
- In 2005, KVIC and Korea Fund of Funds were established
- Introduction of smartphone catalyzed a new wave of venture growth, particularly in platform businesses, with unicorns like Kakao (communication) and Coupang (e-commerce)

2019

Supply chain domestication, AI and deep tech (2019-present)
- Trade dispute with Japan (2019 – 2023) motivated government to support domestication of high-tech industry supply chains
- Deep tech is gaining momentum, driven by the AI boom and strategic government support



Source: Asia-Pacific Journal of Business Venturing and Entrepreneurship (2013), Korea Daily (2019), Government Index Portal, KVIC, KVCA.

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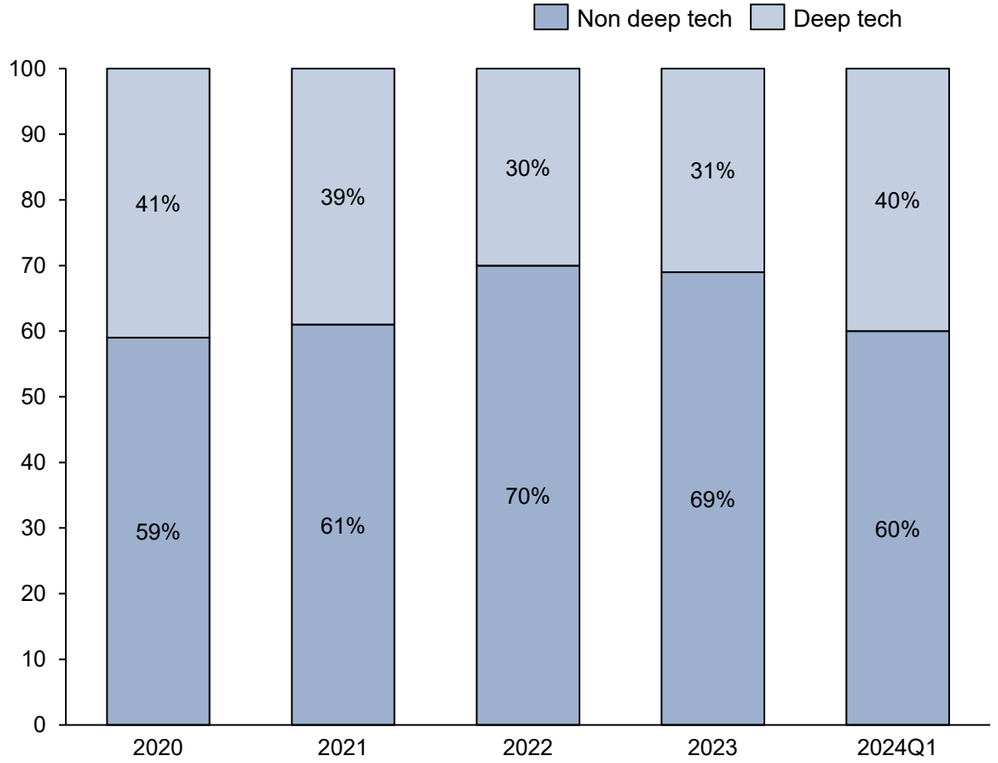
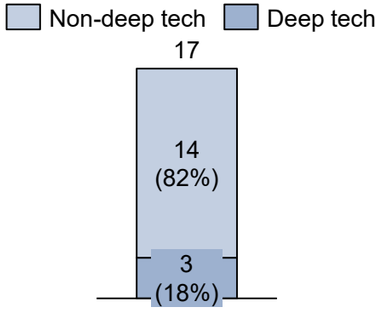
Investors may hesitate to pursue aggressive deep tech investments, as historically only few success stories with strong returns have been seen, posing significant risks

Deep tech investment and unicorn composition

Estimated proportion of deep tech investments in South Korea

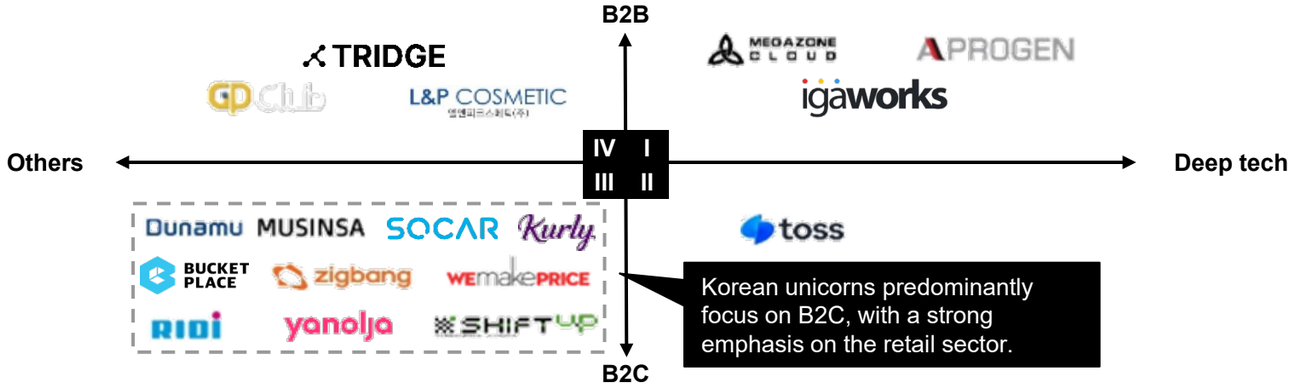


South Korean unicorns as of May 2024



Deep tech unicorns	Founded	Revenue (2023)	Sector
MEGAZONE CLOUD	1998	1.51TKRW	• Cloud • AI services
APROGEN	2000	150.6BKRW	• Biotechnology • CDMO
igaworks	2006	153.2BKRW	• AI and big data • Data management

Korean Unicorns' market landscape



Source: Reddal analysis, Statistics Korea (2023), Ministry of SMEs and Startups (2024), CBINSIGHTS, WOWTALE (2024), Money Today (2024).

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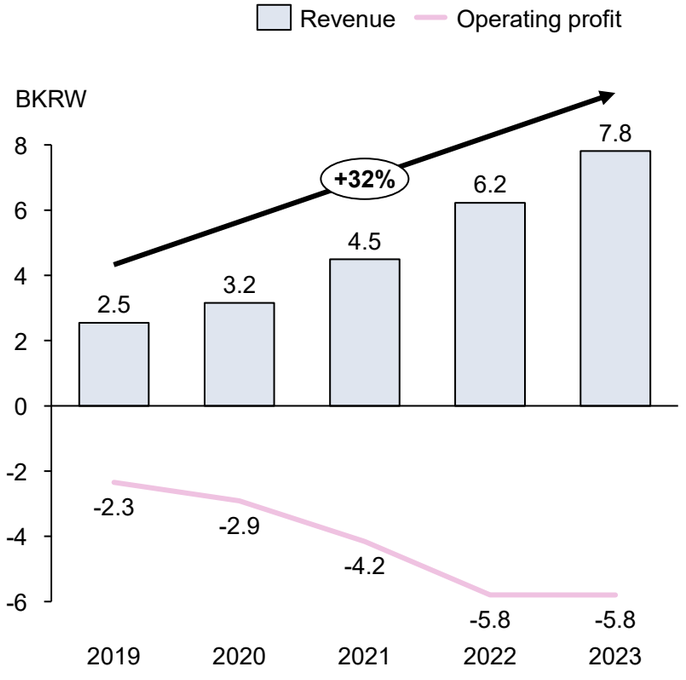
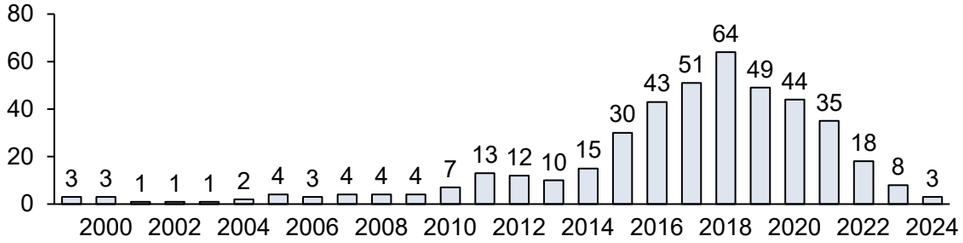
While surviving deep tech firms show revenue growth, the downward trend in new firm formation raises concerns for future ecosystem growth

Reddal's deep tech list in numbers – basic company profiles

Average deep tech revenue and operating profit

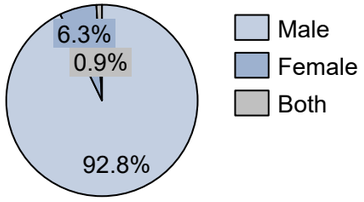


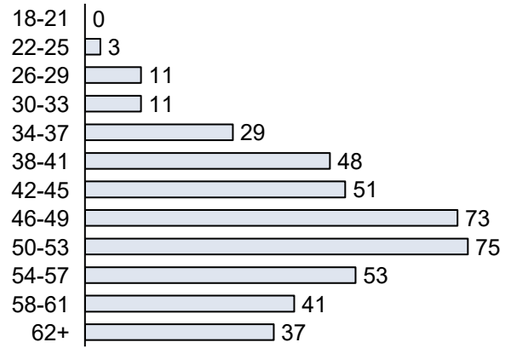
Foundation across years



CEO profiles

48.7 years
Average CEO age*





Remarks

Surviving deep tech firms show rising revenue
- The average revenue of Reddal-selected deep tech startups continues on an upward trajectory
- The analysis excludes companies that are no longer active, which may introduce survivorship bias

Deep tech formation is trending downward
- After peaking in 2018, new formation activities have slowed significantly
- Recent stealth-mode startups may not appear in the data, but macroeconomic challenges since 2022 coincide with lower activity

CEO profiles remain largely male
- Leveraging more female talent in tech and business could further strengthen the ecosystem

NOTE: Data pertain to 432 deep tech firms in Reddal's deep tech list. Financial and demographics data are as of Q1 2025.
Source: Reddal analysis.

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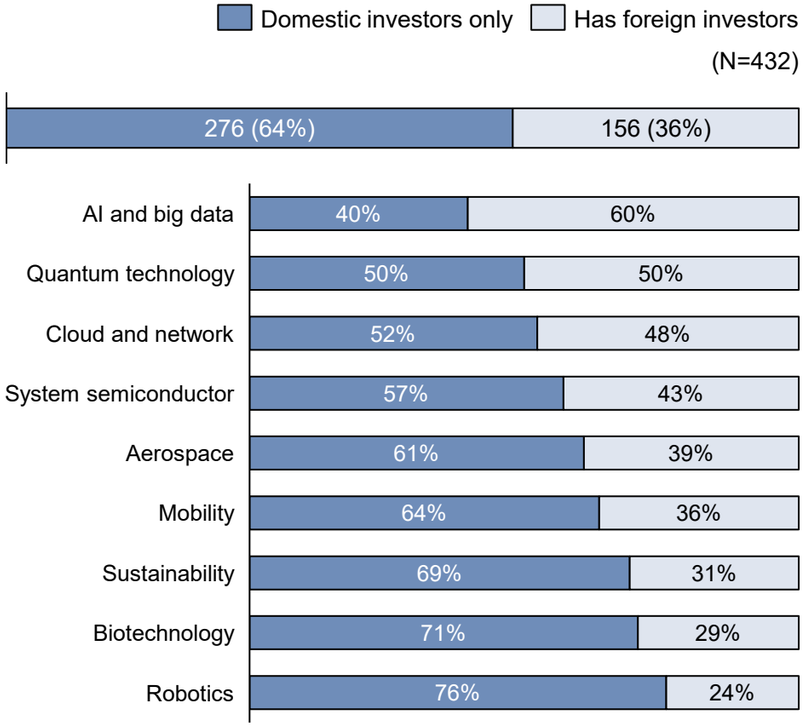
Availability of foreign capital varies significantly by segment, and not all have succeeded in attracting global investor interest

Inbound foreign investment statistics

Foreign funding recipients in Reddal's deep tech list



*Includes Hong Kong Special Administrative Region.
Source: Reddal analysis.

Top 5 foreign investor origins

Fund domicile	Count of deep tech firms	Investor makeup	Notable investors	Example portfolio companies
US	99	• Diverse spread of investors	Google for Startups Accelerator	• Medipixel – Ai healthcare startup • Funded by Johnson and Johnson, Microsoft, Medtech, and Matter
Japan	23	• Comprised with many CVCs • Many roots from Japanese banks	SBI Investment	• Rowan – AI healthcare startup, targeting dementia prevention • Funded by both SBI and Colopl Next
China*	19	• Well-rounded VCs	君联资本 LEGEND CAPITAL	• Stradvision – autonomous driving • Funded by IDG capital, specializing in tech startups
Singapore	12	• Diverse spread of investors	JAFCO ASIA	• Quad Miners – AI and cybersecurity • Funded by NUS Incubator, a Singaporean University
UK	10	• Diverse spread of investors • Also includes UK government offices	AstraZeneca	• Sky Labs– AI health data startup • Funded by UK Department for International Trade

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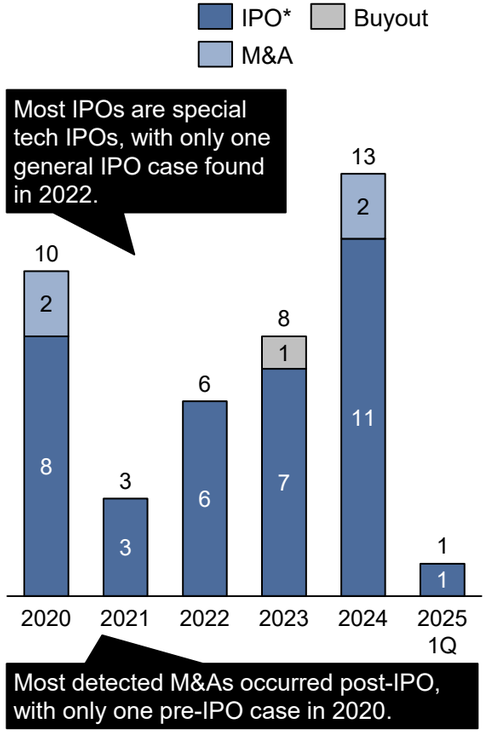
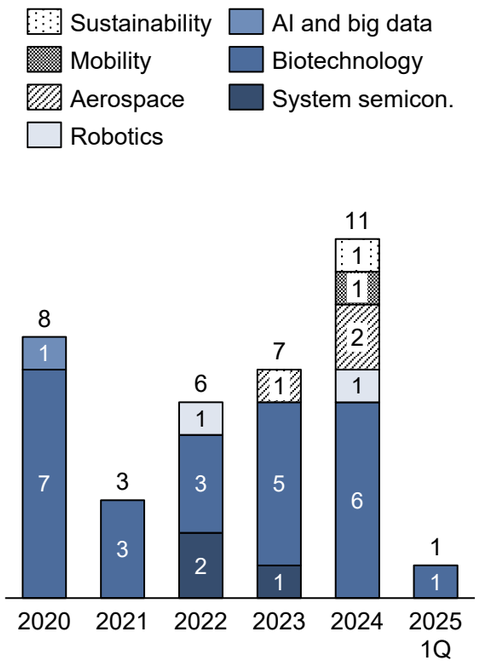
Korean deep tech firms' preference for domestic IPOs, with the special tech track, contrasts sharply with foreign peers listing on US markets; this can limit foreign interest and globalization

Overview of exit cases

Deep tech exit cases by exit types

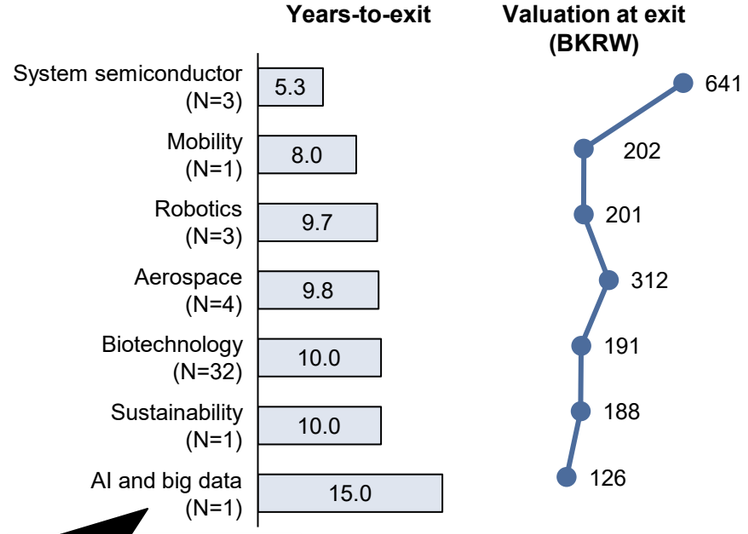


Deep tech IPO cases by sectors



Average statistics of each sector

An analysis of 45 deep tech company exits shows an average exit time of 9.7 years and an average valuation of 266BKRW.



Remarks

Dominance of IPO
- Domestic IPO accounts for 87.8% of deep tech startup exits, aligning with the overall trend of startup exits in Korea
- This stands in contrast to leading deep tech hubs such as Israel and the Nordics, where many public exits occur through listings on US or UK markets
- M&A is less commonly considered as an exit strategy for deep tech companies

Leveraging special tech IPO initiative
- The number of deep tech startup IPOs has steadily increased since 2022
- This coincides with the increase of special tech IPOs during the fluctuations in the overall IPO volume, indicating that deep tech startups are actively leveraging the initiative

Diversification into non-biotechnology sectors
- A continuous diversification into non-biotechnology sectors is observed in deep tech IPOs, reflecting the efforts of startups to expand beyond Korea's traditional stronghold

*KOSDAQ only; no NASDAQ IPO case was observed in Reddal's deep tech list; SPAC included.
Source: KIND, BLOTER, DBR, KDI, The VC, Reddal analysis.

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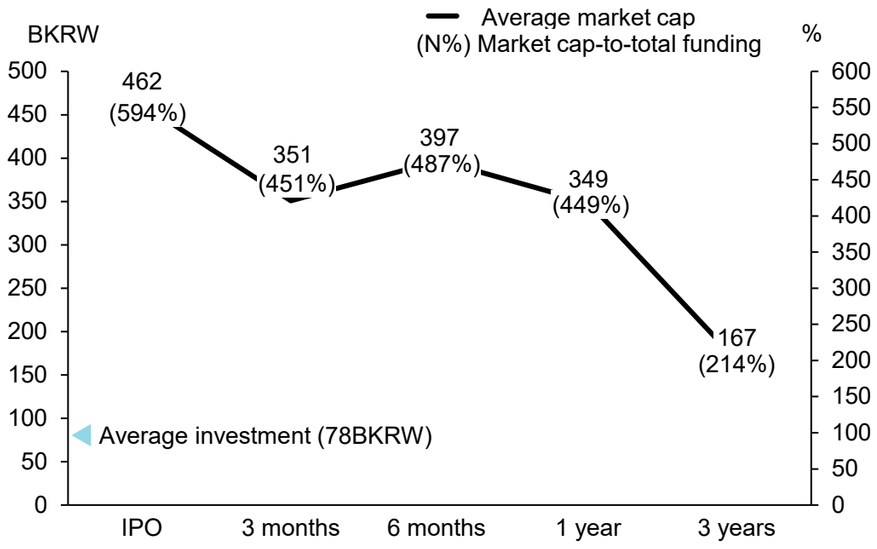
Post-IPO performance in Korea has been weak, though recent valuation haircuts have helped stabilize expectations; diversified exit routes should be considered for post-exit growth

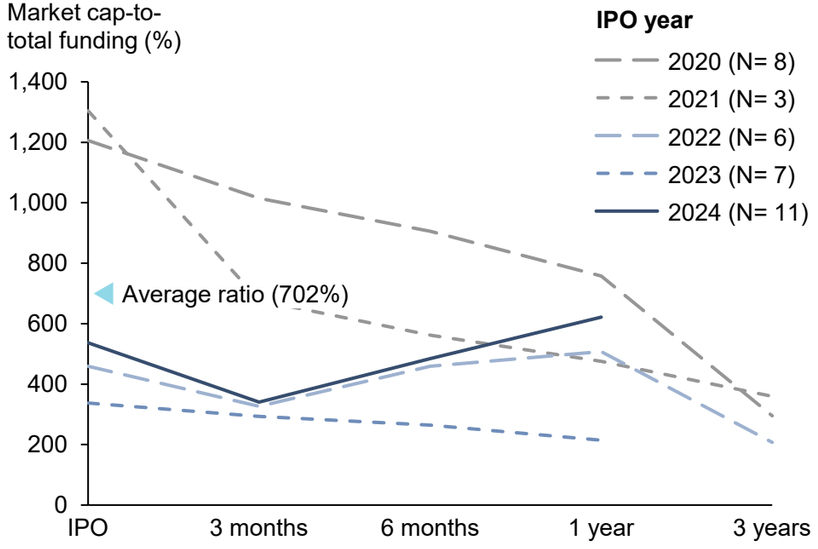
Post-IPO performance

Average market cap of deep tech companies after tech IPO[1]



31% of companies listed for over three years conducted paid-in capital increases within the first three years following their IPO. These moves can significantly dilute existing shareholders and may indicate limited cash reserves.

Annual IPO cohorts and financial performance[2]



Distinct valuation haircuts have been observed following IPOs since 2021. While stock price performance has remained relatively steady in recent years, longer-term challenges within the ecosystem and broader macroeconomic factors may pose risks to this stability.

Key observations

IPO valuation settling down to realistic level

- Public market investors in the 2020–2021 IPO cohorts absorbed losses due to inflated valuations driven by pandemic-era hype
- The average market capitalization at IPO was nearly six times higher than the average pre-IPO funding, reflecting aggressive pricing expectations
- Since 2022, significant IPO valuation haircuts have been observed, indicating a broader market correction toward more sustainable levels

Implications

Opportunity for more sustainable investment

- A “quick win” mentality not only undermines market trust but also damages company reputation when results fall short of expectations
- The cooling of market sentiment opens the door for value-driven investments grounded in clear financial outcomes
- This shift is expected to foster a longer-term investment perspective, rather than focusing solely on short-term post-IPO gains
- If high-performing companies deliver reasonable returns, it can strengthen the credibility of the IPO market and encourage broader investor participation

[1]36 companies monitored during 2020-2025, KOSDAQ. [2]35 companies during 2020-2024, excluding 2025 data due to limited forward-looking visibility.
Source: Korea Exchange (2025), Mirakle AI (2023), Newsis (2024), Hankyung (2024), Reddal analysis.

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Agenda

Ecosystem landscape and challenges: Building momentum requires global traction

Target maturity level and gaps: Driving deeper globalization with innovation in private sector

Growth requirements: Required roles of startups, investors, and government in a robust, globally connected ecosystem

Roadmap and risk mitigation: Short-term scaling followed by longer-term diversification for resilience

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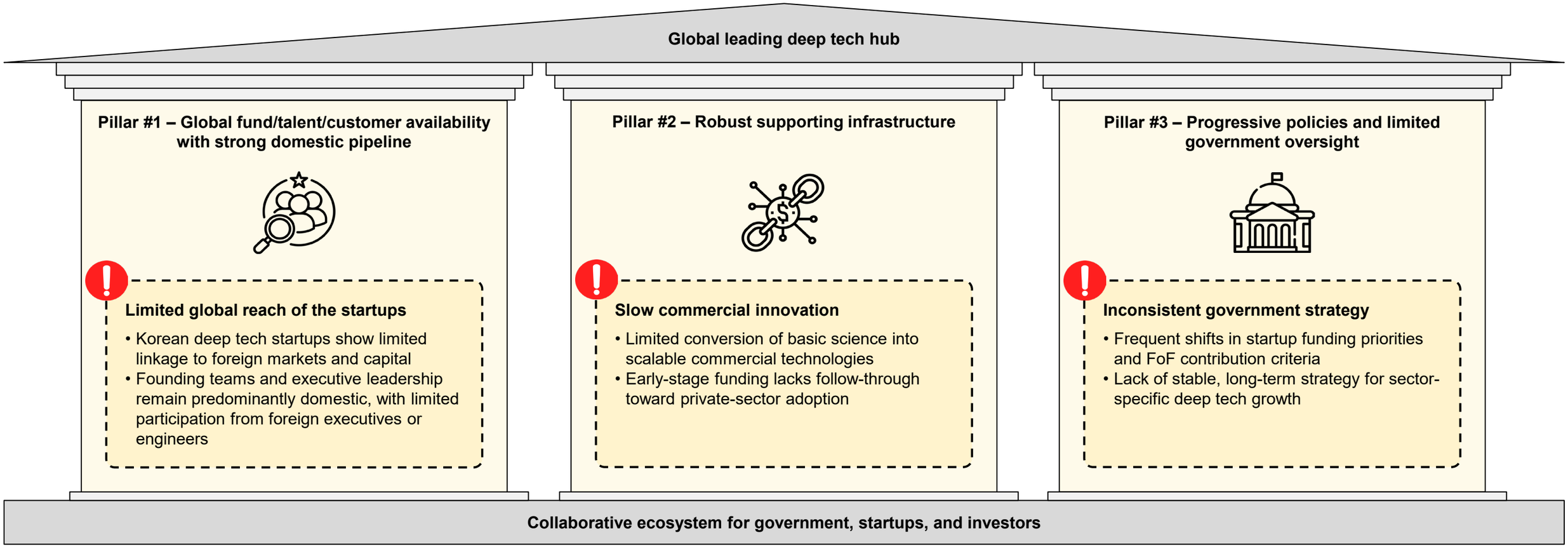
Successful ramp-up into a deep tech hub requires several prerequisites; most notably global startup engagement, strong innovation output, and consistent long-term government strategy

Overview of success factors and gaps



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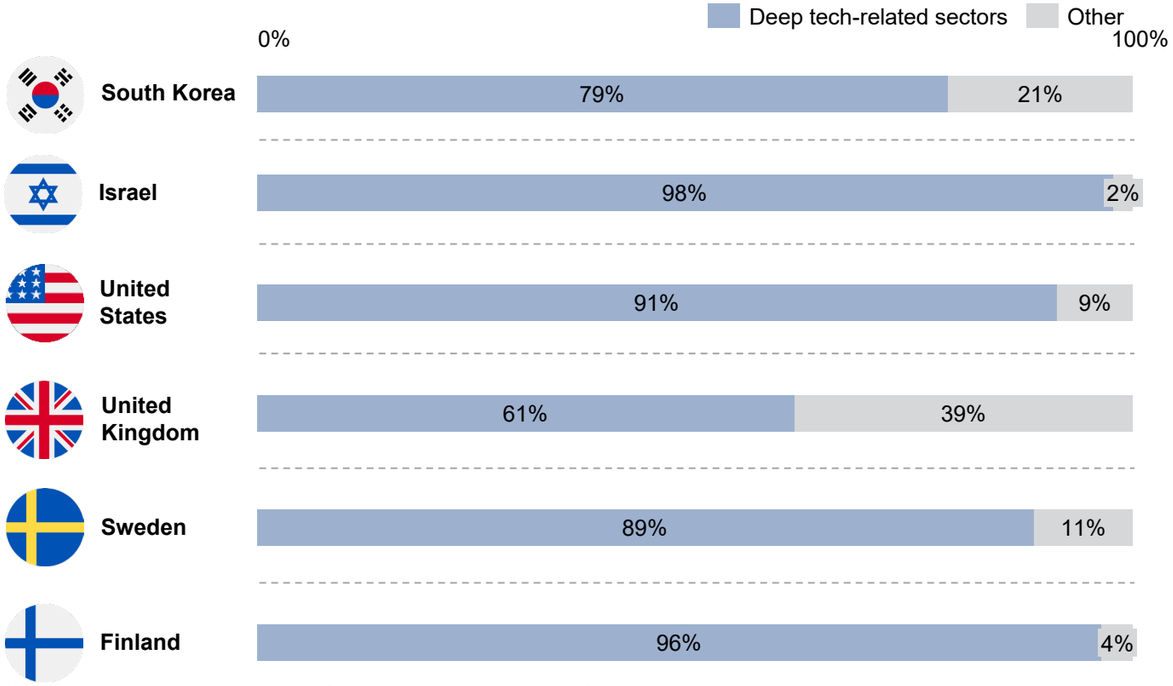
Korea's R&D spending is less concentrated in deep tech and draws limited foreign funding compared to peers; more investment in frontier technologies is needed to attract global capital

Deep tech ecosystem driver country comparison

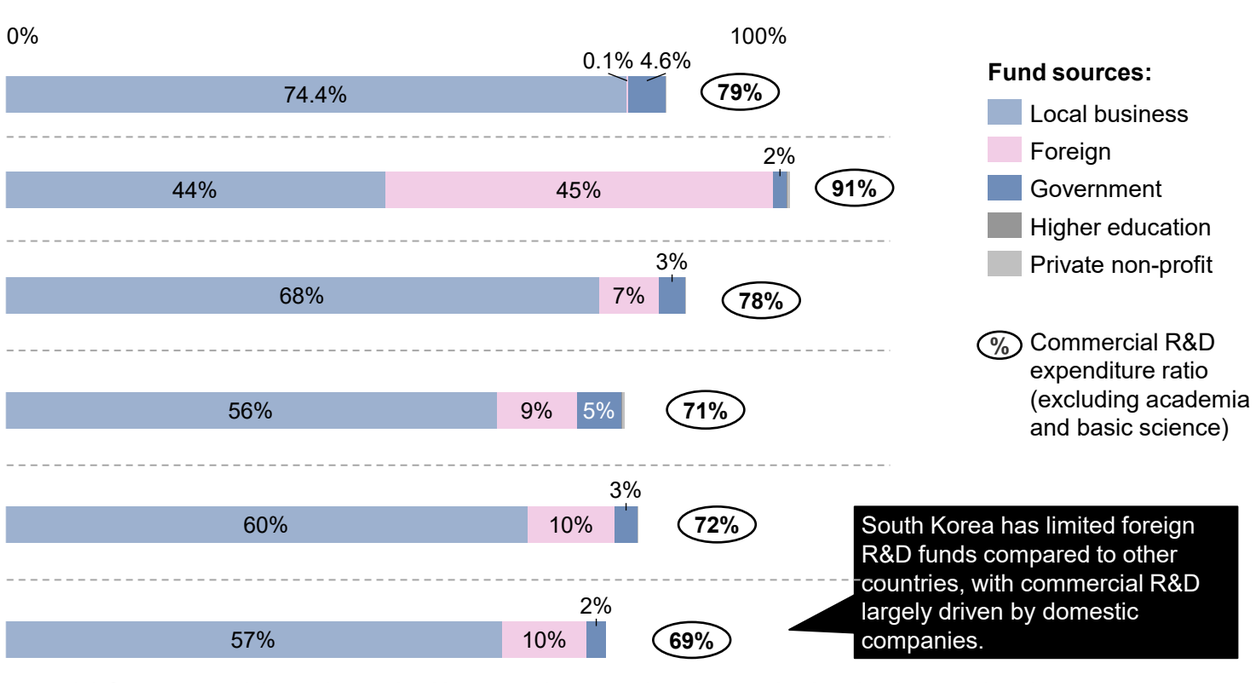
Share of R&D investments by top-spending companies*

(Adaptation of world top 2000 R&D expenditure company dataset, 2024)



Commercial R&D expenditure and fund sources

(Adaptation of OECD gross domestic expenditure on R&D, 2021)



South Korea has limited foreign R&D funds compared to other countries, with commercial R&D largely driven by domestic companies.

*Deep tech related sectors are defined based on the scope of this report, including pharmaceuticals and biotechnology, aerospace and defense, automobiles and parts, health care equipment and services, technology hardware and equipment, software and computer services, electronic and electrical equipment, industrial engineering and alternative energy.

Source: Damodaran, European Commission (2024), OECD Data Explorer.

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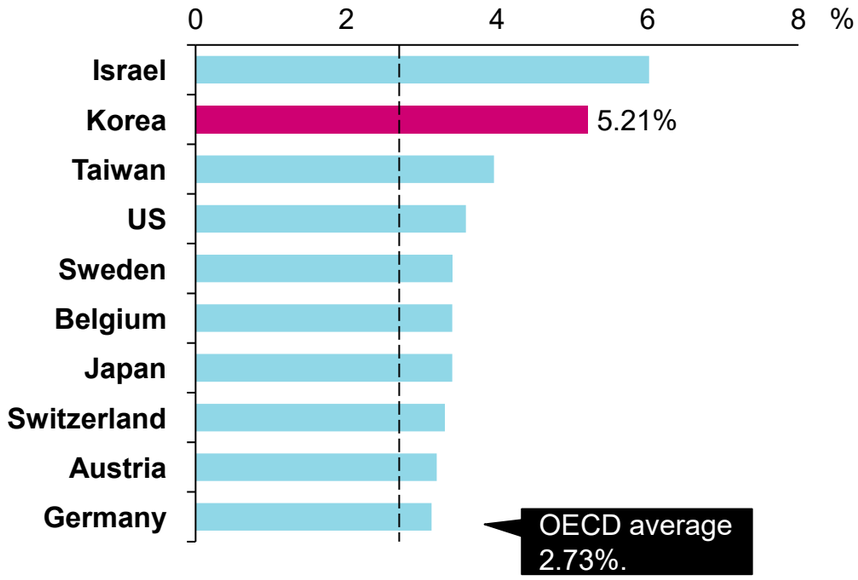
Limited private sector innovation output seems to stem from low commercialization rates and weak academia-industry collaboration despite a highly skilled talent pool

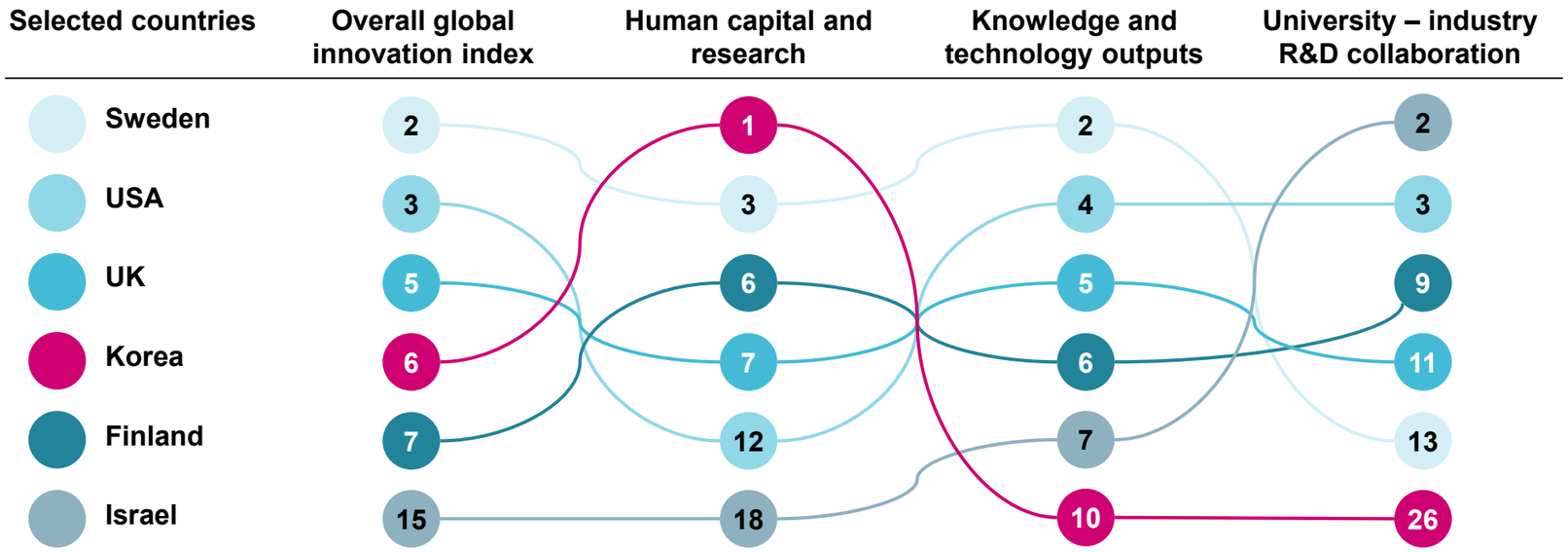
Korea's R&D paradox and impact on deep tech startup formation

R&D expenditure; percentage of GDP

(2022 or the latest year available)



Global innovation index position, global ranking 2024



Source: OECD, WIPO, Reddal analysis.

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- Startup growth strategies
- Investor value capture strategies
- Government support optimization

Roadmap and risk mitigation: Short-term scaling followed by longer-term diversification for resilience

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Sustainable growth of the Korean deep tech ecosystem requires key stakeholders to collaborate effectively and systematically, tackling the most difficult challenges head-on

Summary of recommendations

		Recommendations	From	To
Startups: broaden ambition and commercialize globally	1.1	**Tackle globally challenging problems**	Regional application and tweaks of globally popular and trendy technologies	Focus on innovation to develop groundbreaking technologies and secure core intellectual property
	1.2	**Develop robust commercialization strategies and test them globally**	Core company functions focus on R&D while searching for domestic conglomerate partnerships	Recruit experienced commercial officers to design and implement go-to-market strategies at the top level Actively engage with global customers and differentiate from competitors by leveraging unique features and value propositions
	1.3	**Reduce dependence on government subsidies**	Reliance on government subsidies for operational expenses	Proactively engage private sector investors and strategic partners to support commercialization and sales strategies Focus on a limited number of government programs while ensuring adequate resources for independent business development
Investors: move beyond generalist VC habits to back real deep tech	2.1	**Increase internal deep tech competence to better distinguish and support startups**	Funding decisions follow traditional VC investment principles instead of specialized deep tech expertise, often focusing on AI or robotics without fully understanding underlying technologies	Build internal expertise in evaluating deep tech startups, focusing on technical potential and scalability Use tailored valuation models that account for technical competencies rather than relying solely on early financial data
	2.2	**Diversify LP composition**	Traditional VC LPs include government funds, financial institutions, and top conglomerates	Expand to include more diverse funding sources to boost funding for innovation-driven ventures
Government: enable innovation through deregulation and smart capital deployment	3.1	**Deregulate – investment restrictions and portfolio management**	Deep tech funds limited by rigid portfolio criteria (for example, company age, region, or application)	Grant greater freedom to GPs to select and fund startups based on return potential, promoting a diverse and innovative portfolio
	3.2	**Deregulate – testing environment for upcoming technologies**	Testing of new technologies hindered by laws requiring infrastructure-specific regulations	Establish flexible testbeds for emerging technologies, enabling rapid trials and scalable data collection without frequent regulatory changes

Source: Expert interviews, Reddal analysis.

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- **Startup growth strategies**
- Investor value capture strategies
- Government support optimization

Roadmap and risk mitigation: Short-term scaling followed by longer-term diversification for resilience

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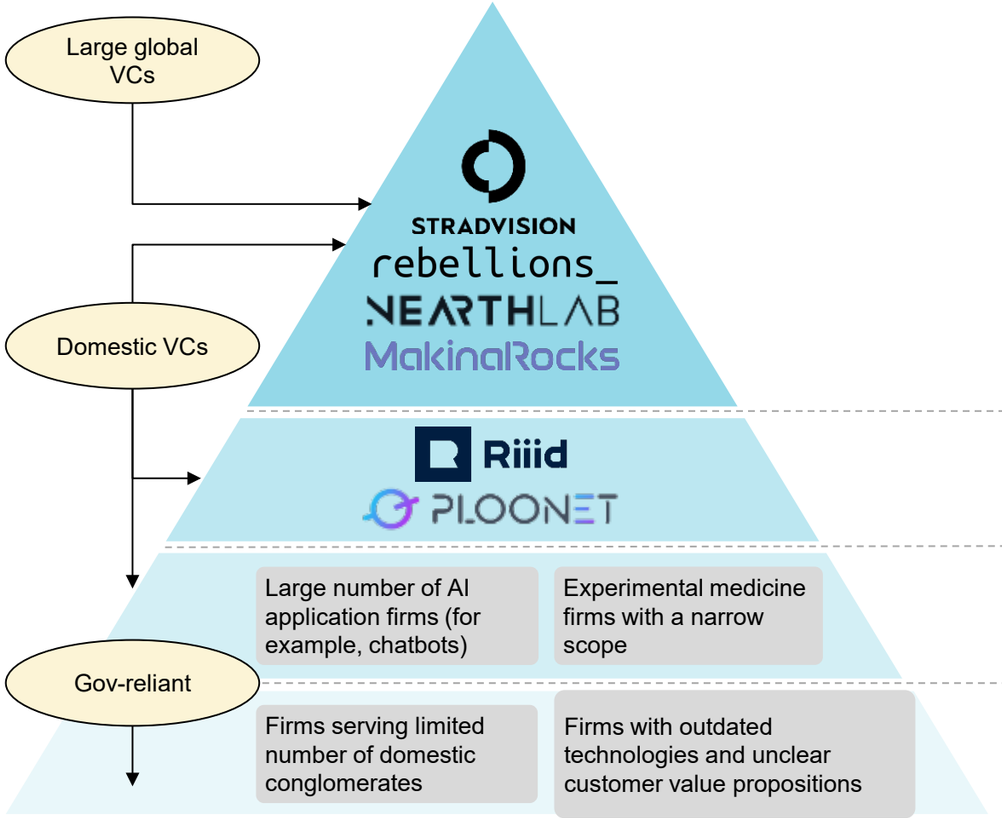
For startups, tackling globally challenging problems and developing robust commercialization plans can pay off – the goal should be to reach tier 1 status

Deep tech tiers – targeting for the top



Tier 1 deep tech — 2-3%

Global leaders developing proprietary core technologies that are difficult or impossible for competitors to replicate, driving sustained market dominance

Tier 2 deep tech — 5-10%

Regional leaders offering specialized products targeted at niche customer segments, leveraging strong domain expertise

Tier 3 deep tech — 30-50%

Companies applying globally popular technologies to serve local markets, focusing on broad yet localized applications

Tier 4 deep tech — The rest

Companies with limited market traction and weak R&D capabilities, struggling to differentiate through innovation

Key traits of Tier 1 deep tech

Non-replicable core technologies

- Possession of IP deeply rooted in advanced technical capabilities
- Ability to turn expertise into viable products and services

Global presence/leadership in the domain

- Significant portion of revenue coming from international sales
- Technological partnerships or direct competition with major global players

Attracts foreign investments

- Funding received from major foreign VCs
- Board members and/or executives from global investors, enabling global strategy support and access to foreign customers

Scalability

- Compelling financial implications based on strong product-market-fit
- Validated with strong sales records
- Larger supply deals spotted

Source: Expert interviews, Reddal analysis.

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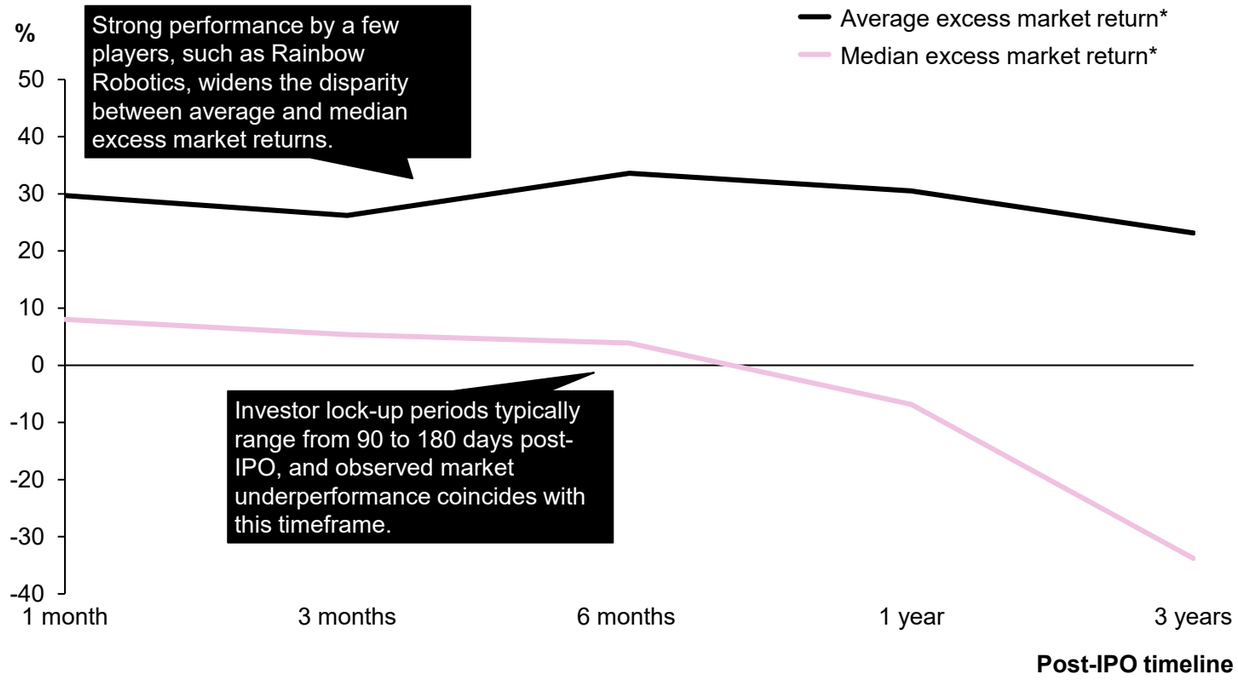
Preventing premature exits and prioritizing globally oriented growth plans should be prioritized to boost creation of tier 1 level global startups

Overview of IPO-based exits and implications

Stock performance after special tech IPOs (153 companies during 2020-2025, KOSDAQ)



Key findings and tech firm strategy implications

Stock market underperformance of special tech IPO companies after 6 months

Evaluate whether domestic IPO is the right path

Weigh regulatory burdens, market scrutiny, and long-term capital requirements before committing to a public listing.

Exercise patience to avoid premature exits

Recognize that deep tech innovations often need longer timelines to prove commercial viability, and rushing an exit can diminish potential returns.

Consider a broader mix of exit strategies

Evaluate M&A, buyout, or private secondary transactions as alternative options to avoid over-reliance on volatile public markets.

*Excess market return = [Return on stock relative to IPO price – KOSDAQ index return over the same period].
Source: Korea Exchange (2025), Reddal analysis.

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Startup growth strategies

Investor value capture strategies

Government support optimization

Roadmap and risk mitigation: Short-term scaling followed by longer-term diversification for resilience

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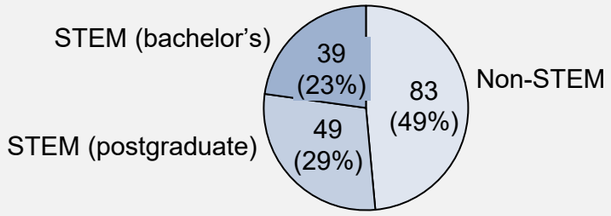
Investors' STEM backgrounds do not always lead to successful deep tech-focused portfolios; deeper technical expertise may be needed for prudent investment decisions

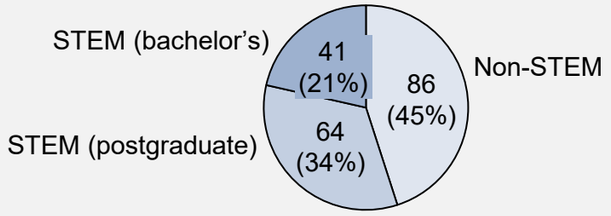
Deep tech investor technical background and development needs

Senior VC staff's academic background[1]

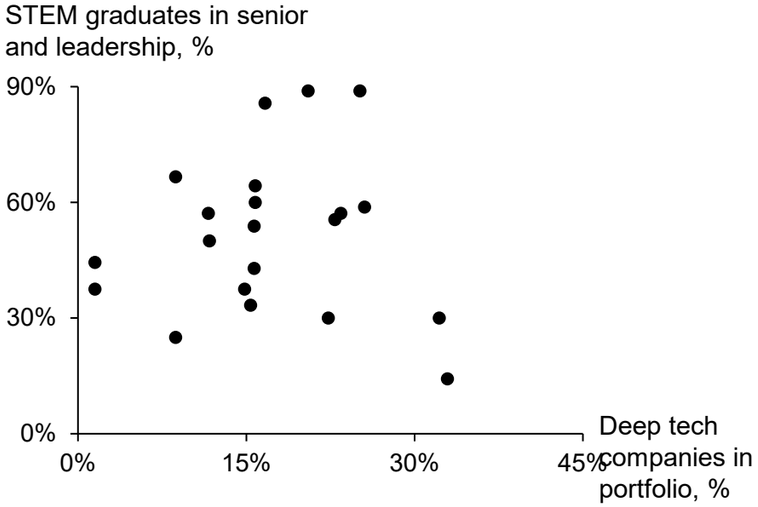
171 investors from top 18 VCs by AUM[2]



191 investors from top 22 VCs by deep tech investment counts[3]



STEM graduates vs deep tech investment in top Korean VCs



Tech proficiency itself may not drive deep tech investment, as there is no clear correlation between the share of STEM-trained leadership and deep tech investments.

Considerations

- Over half of senior team members at leading Korean VCs and active deep tech investors have STEM degrees, suggesting a strong technical foundation across the sector
- It remains uncertain whether this academic background translates into more active or informed deep tech investments
- Interviews with startup executives and investment professionals highlight the need for capability development among investors to assess complex technologies and their commercial potential
- Many deep tech fields demand expertise beyond general scientific literacy, calling for more rigorous and specialized evaluation competencies

[1] "Senior" includes director or equivalent level and above; non-investment roles excluded.
[2] Based on 18 out of Korea's top 30 VCs by AUM, selected based on available team data and deep tech investment activity.
[3] Based on the top 22 VCs with the highest deep tech investment counts; two excluded due to missing team data.
Source: Company websites, DART, expert interviews, Reddal analysis.

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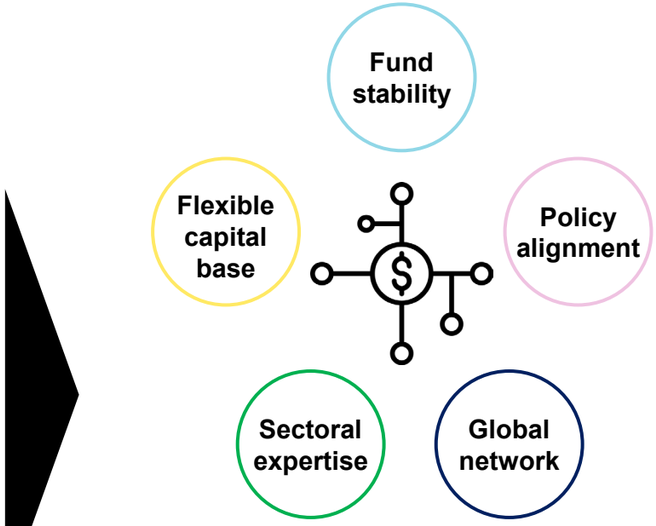
Diversifying investor LP base and leveraging external partnerships to access larger global capital pools and specialized domain expertise can enhance their chances of success

LP composition and strategic benefits of external partnerships

LP type	Korea	United States	United Kingdom	Strategic benefits
Financial institutions	High	High	Low	• Access to global capital markets • Structured finance and risk expertise
Government agencies	High	Low	Medium	• Large capital • Support for networking and commercialization
Corporates	Medium	Medium	Medium	• Exit opportunities • Commercialization • Industry connection
Family offices and private individuals	Medium	High	Medium	• Long-term capital • Industry connection • Sector expertise
Pension funds	Low	High	Medium	• Long-term capital • Large capital • Credibility signaling
Universities and academic institutions	Negligible	Low	Low	• Access to research networks • Early discovery of university spin-offs
Sovereign wealth funds	Negligible	Low	Low	• Global diversification • Key driver of facilitating sustainable investment



A well-balanced LP mix allows Korean VCs to reduce volatility, enhance deal sourcing, and align with broader innovation agendas.

*Financial institutions include six categories: banks, non-bank depository institutions, financial investment business entities, insurance companies, other financial institutions, and financial auxiliary institutions.
Source: Ministry of SMEs and Startups, BVCA, KIC, Maeil, Forbes, The Economist, Tesi, Reuters, Nikkei Asia, Reddal analysis.

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Korean government's key roles should include providing more flexibility in investment execution and portfolio management as well as easing testing restrictions for emerging technologies

Government's support areas

Support areas	Challenges	Potential solutions	Success cases
Investment and portfolio management	**Rigid investment rules limit flexibility and long-term returns** • Rigid investment allocation mandates – required to invest in Korean companies in designated sectors • Restrictive portfolio strategies – public FoFs require deployment into early-stage firms in pre-defined sectors • Tight deployment timelines – requires large disrobements within 3-5 years	**Introduce greater flexibility to unlock more diversified investment flows** • Increase flexibility in domestic investment allocation • Enable broader portfolio investment strategies • Extend investment horizons	**Yozma Program** Foreign VC co-investments **VCCI** Various funds across life stages **EIC** Patient capital up to 15 years
Testing environment for emerging technologies	**Overly conservative and fragmented regulations delay innovation** • Positive-list approach dominates – allowing only pre-approved technologies for field testing • Limited sandbox scope – they do not adequately cover AI/robotic/quantum tech • Unclear regulatory guidance	**Adopt open testing principles and global regulatory standards** • Expand a negative list approach • Regulatory harmonization across jurisdictions and emerging technologies	**US states** Negative list for autonomous driving **EU government** Cross-border harmonization for emerging tech

Source: KVIC 1 2 (2025), K-Growth (2024), Business Korea (2025), SBIC (2025), KVCA, Ministry of Government Legislation (2022), BVCA, betakit (2023), ITA, Norton Rose Fulbright (2022), Money Today (2024).

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A phased approach will effectively support ecosystem development, with policy, talent, and infrastructure serving as critical enablers for becoming a global innovation hub

Suggested ecosystem development roadmap

	Phase I: Nurture future global deep tech champions	Phase II: Ecosystem expansion	Phase III: Global positioning
	2025 - 2027	**2026 - 2029**	**2028 - onwards**
Key initiatives	**Policy and regulatory support** • Establish regulatory sandboxes to fast-track testing for globally scalable technologies • Provide targeted early-stage tax incentives and capital support for tech with export potential **Focused global talent development** • Launch elite fellowship and leadership programs tailored for top-tier deep tech firms • Develop partnerships between universities and industry to co-develop frontier technologies • Establish dedicated scholarships and subsidies for future talent aligned with global commercialization	**Funding and investment mechanisms** • Introduce venture matching funds or seed grants for promising research spin-offs • Incentivize private investors through co-investment and targeted capital gains exemptions • Attract global VC by showcasing early pilots and robust public-private partnerships **Infrastructure scaling** • Create shared testbeds to foster collaboration and lower entry barriers for startups • Upgrade country's digital backbone for scalable experimentation and deployment of new tech	**Collaborative ecosystem** • Form regional and global alliances with leading innovation hubs for R&D partnerships • Attract foreign experts and entrepreneurs in critical deep tech fields with targeted support • Organize flagship events or summits to attract global attention and strengthen partnerships **Commercialization and market development** • Pursue high-impact demonstration projects with leading international partners in Korea • Target global markets through trade missions, bilaterial agreements, and export strategies
Targets / milestones	 **Deployment of testbeds to validate early breakthroughs**  **Dedicated funding for export-ready technologies**	 **Major success cases with global traction and sales**  **Attraction of global talent and larger investment**	 **Diversification into emerging fields like quantum and nuclear**  **Established global deep tech hub**

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