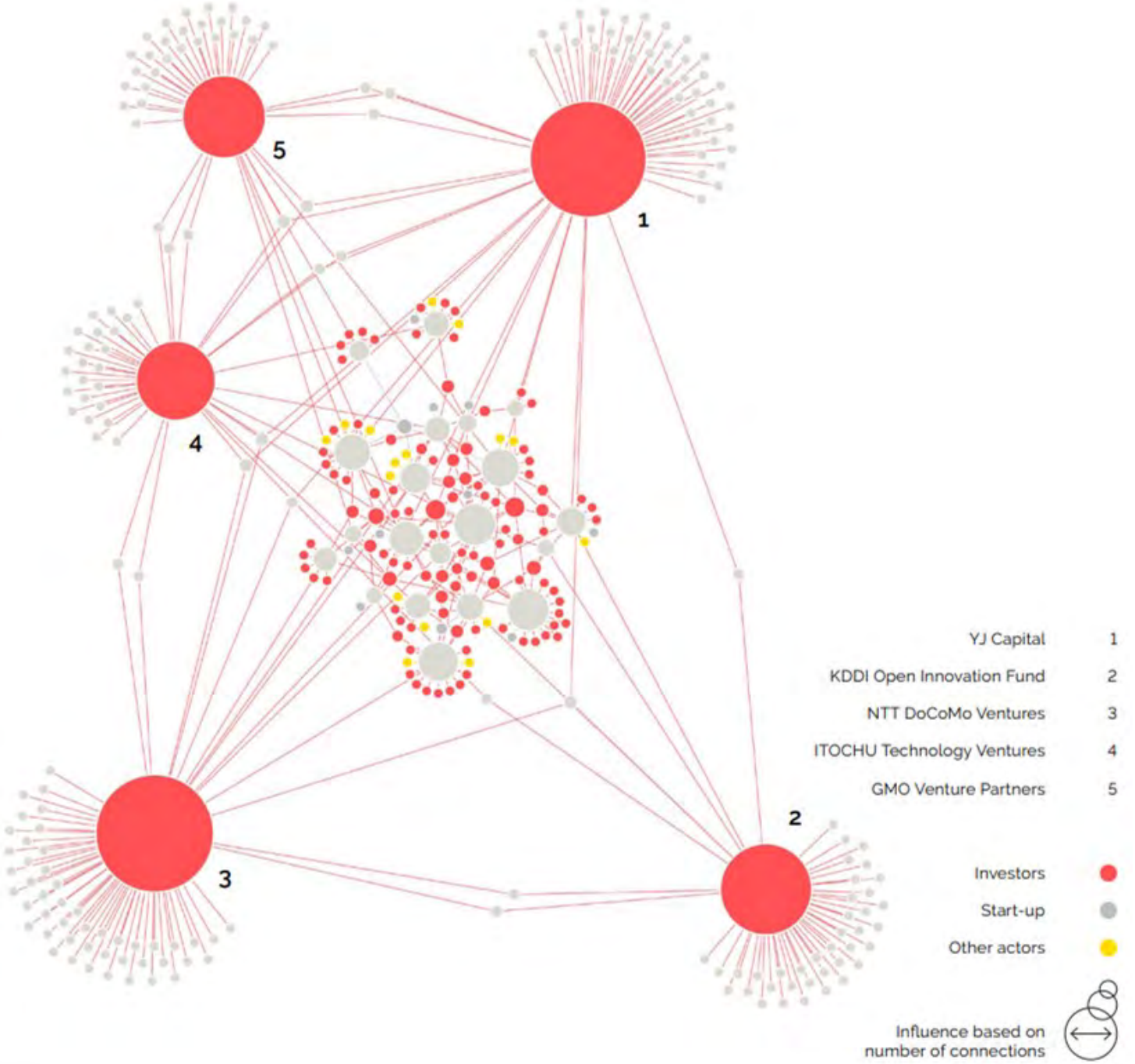
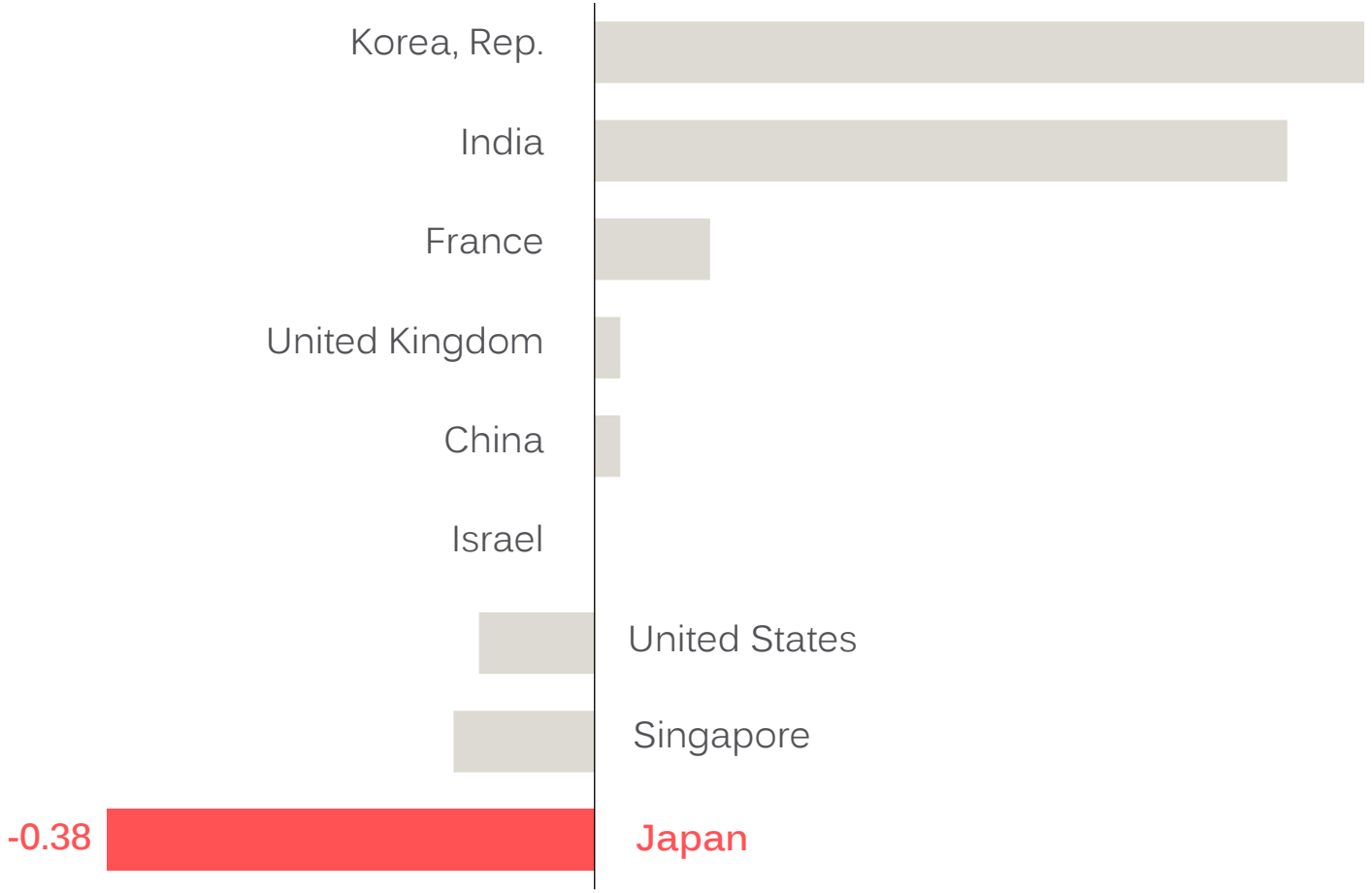


Investment

Domestically, CVCs operate as **“start-up islands”** instead of following a growth-oriented and ecosystem integrated model (e.g., Salesforce, Google Ventures).

Source: Dataset #1

Investment Balance Gap (received vs provided) in Unicorns

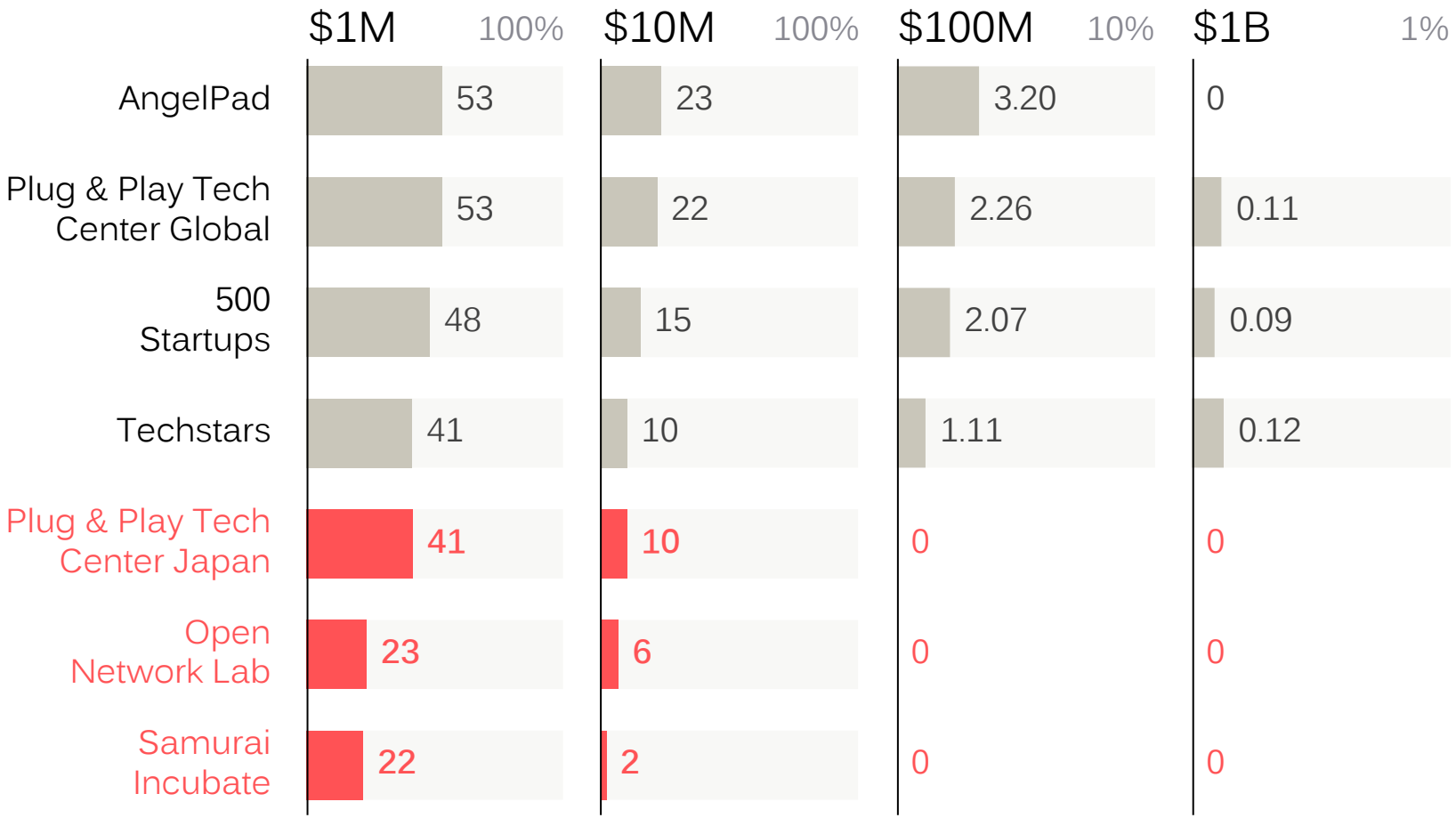


Investment

Japanese investors and corporations are deploying their capital **outside Japan** to meet their start-up **innovation and deep-tech needs.**

Sources: CBInsights, 2021, February data; author's analysis

Percentage of startups having raised funding over...

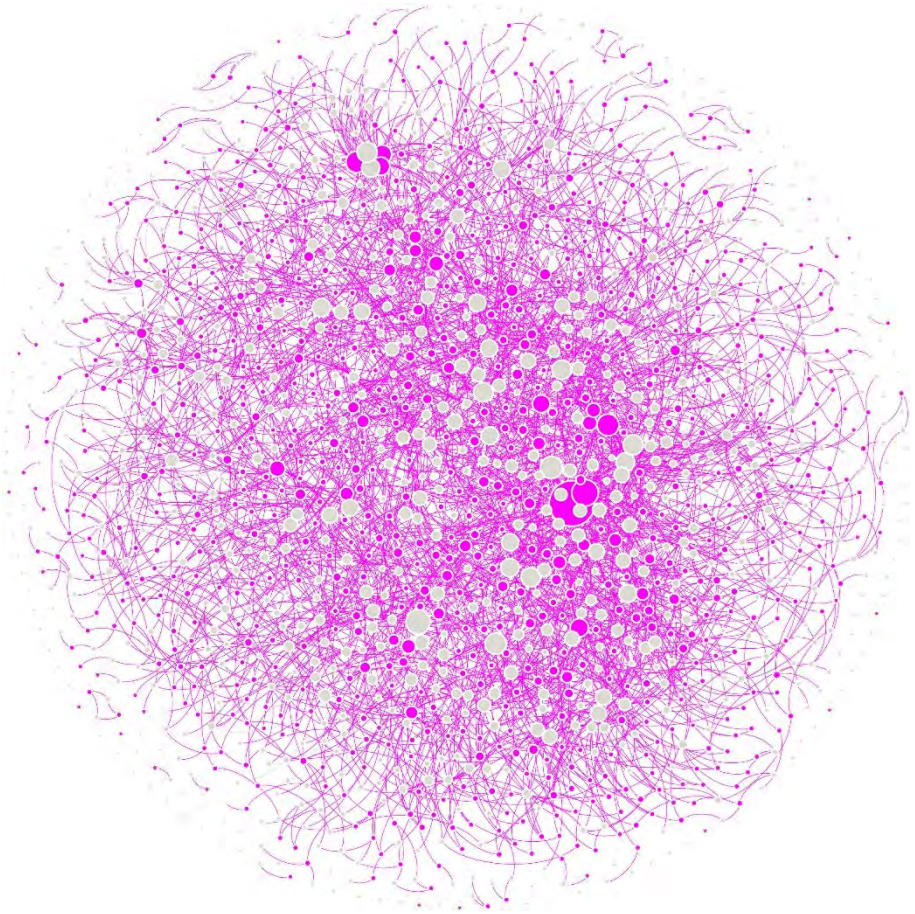


Support Infra.

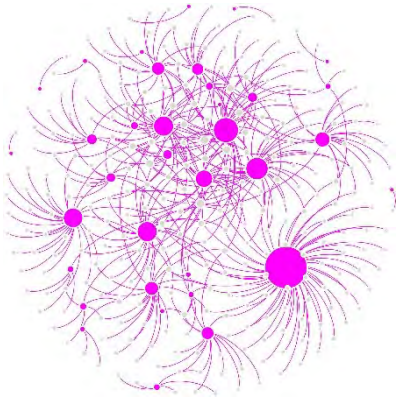
There are **no mature scale-up accelerators and mentors** that can help startups to grow at global scale.

Sources: Accelerator websites 500 startups; Techstars; AngelPad; Plug and Play Tech Center Global; Plug and Play Tech Center Japan; Samurai incubate; Open Network Lab; Pitchbook database; and Tracxn database, Dataset #3.

New York



Tokyo



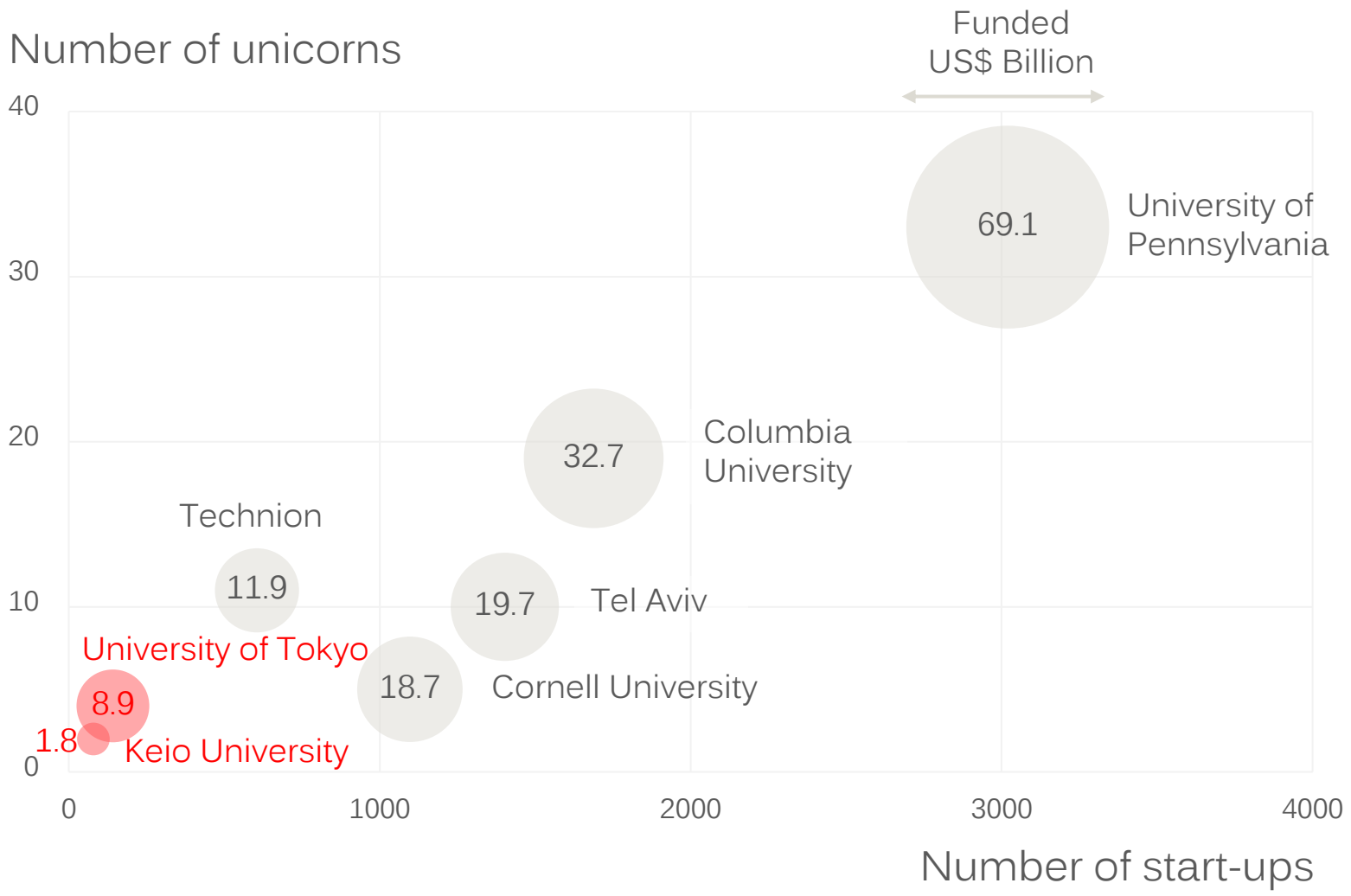
Angel investors

Startups

Support Infra.

Compared to global ecosystems like New York's, **Tokyo's lacks a domestic population of mentors and angels**.

Sources: Dataset #1

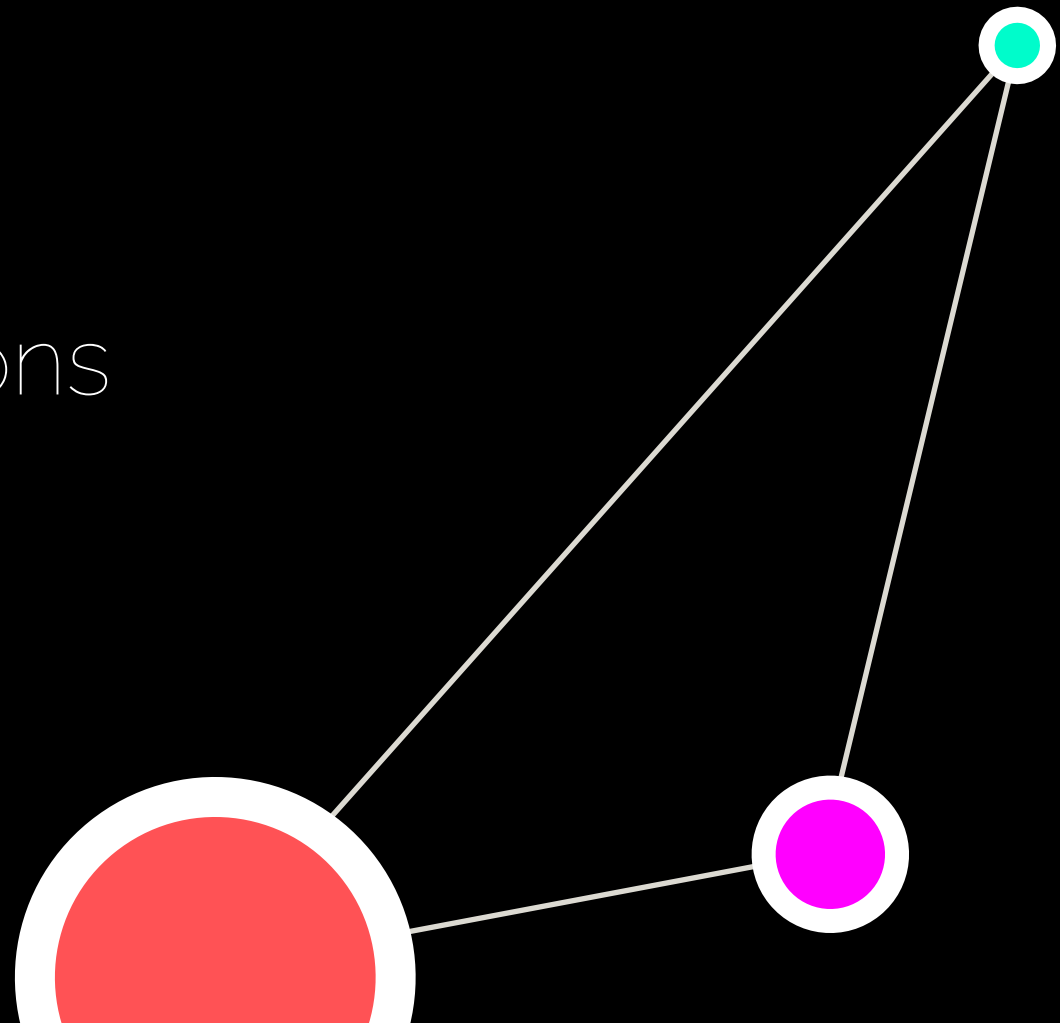


Skills and Talent

Despite recent efforts, **Japan's top universities lag behind in terms of start-up and unicorn production**, as well as in start-up funding.

Sources: Tracxn database for U.S. universities (June-July 2021); Crunchbase database for Japanese universities (May 2021)
Note: University of Pennsylvania and Columbia University combines data from undergraduate programs and their business schools

2 Key Gaps and Recommendations



Examples of Priority Policy Recommendations

Investment

1 ATTRACT **TOP-BRANDED INT'L VC TALENT** TO CREATE MID/LATE-STAGE MARKET

2 CREATE **TAX EXEMPTIONS** FOR STARTUP FOUNDERS AND LP INVESTORS

3 DEVELOP A **SECONDARY MARKET** AND DRIVE **PENSION FUNDS** TO GENERATE SCALE-UP LATER STAGE FUNDS

Establish a Fund of Funds to attract top-branded int'l VCs

- Invest a percentage (eg 40-50%) in domestic startups and set office/GPs in country.
- Requirement of training/partnering with Japanese LPs to set late-stage funds.
- Target fund of funds $500M-$1BN for 3 years; contribution of $100-$300M with a 50-70% ratio of co-raised capital.

Israel (Yozma and Heznek) fund of fund programs; **France** Seed Tech and BpiFrance fund of funds; **Korea** Foreign VC Investment Fund (FVIF); **UK** Enterprise Capital Fund (ECF)

Introduce Tax Exemptions for founders and LP VC investors

- Establish tax exemption for (a) founders to access long-term liquidity; and for (b) LP investors that create VCs with long-term growth strategies.
- Establish capital gains VC investment tax reductions for GPs and LPs to attract VCs and experienced talent.

US QSBS limited tax incentives; **UK** investors relief; **Singapore** startup tax exemption; **France** VC and Angel investment tax relief.

Create a Secondary Market and leverage Pension Funds to expand private sector growth funding

- Create a secondary market with tax incentives for founders and risk investors (angels and VCs) of up to $10M investment with a maximum capitalization of $50M.
- Create incentives, investment requirement targets, and vehicles for pension funds to invest in startup funds.

US NASDAQ second market; **France** BpiFrance Bank-Pension fund VC investment arm.

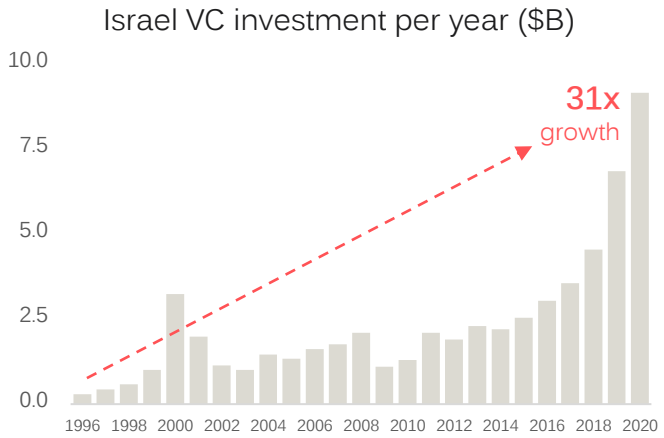
Investment Policy Examples

Attraction of foreign VC talent and funding to kickstart a globally competitive VC industry.

Yozma Program (1993-2001)

Single objective: Creation of a globally competitive VC industry in Israel
Funding: 40% of capital for new funds ($20M per fund)
Learning focus: Targeted foreign VC funds with credited experience; attraction of foreign GPs and offices in country
No investment conditions or additional requirements

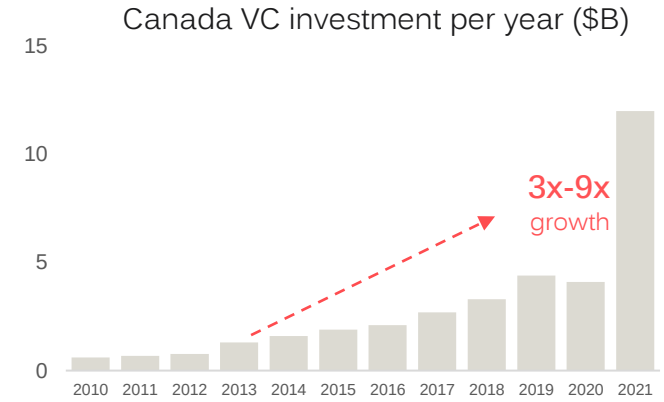
Results:
2nd highest VC per GDP (0.25%)
VC industry grew 31x in >20 years to over **$10B (2021)**
Foreign VC grew from none to over **75%**



Venture Capital Action Plan (2014)

Objective: Attraction of foreign capital and talent
Funding: Variable proportion of fund (up to $50M per fund)
Office: Required to open office in Canada and locate GPs in country
No investment conditions or additional requirements

Results:
7th largest VC market in the world
VC industry grew 3x-9x in 8 years to over **$12B (2021)**
Foreign VC grew from none to over **70% of VC capital**



Sources: IVC for Israel, Dealroom.co for Canada.

Investment Policy Examples

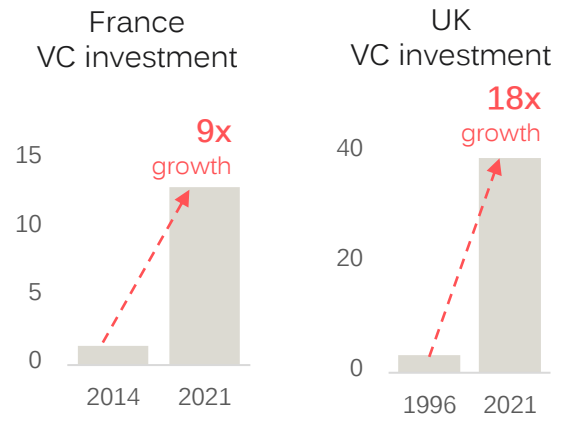
Tax exemptions to catalyze the VC industry and startup funding.

How do tax incentives work?

VC, angel, and founder tax exemptions (2014; 1995)

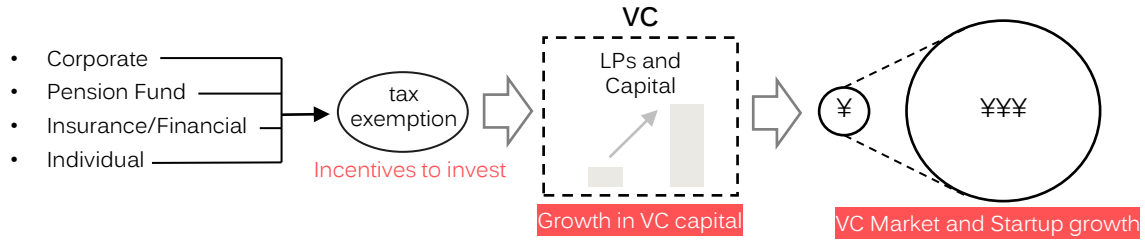
Tax exemption: Individuals and corporations for investment on start-ups and VCs (as LP): income, corporate and capital gains.
Reduced limitations and smooth transactions: Online application and reduced red-tape; caps and time limits depending on actor.
Require other policies: In France it was combined with BPI Pension Fund as co-investor LP in VCs and the launch of a scale-up fund of EUR 100B. In UK with BBB fund of funds (seed to scale stages).

US QSBS 1202: Target founders' liquidity needs and angel/mentor growth -> essential for secondary market

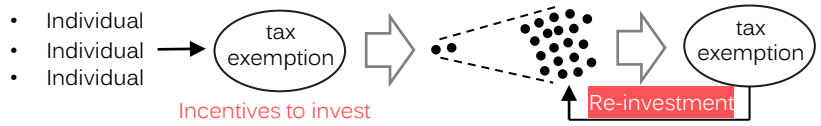


Source: Dealroom.co.

A Boost **VC market**
Increase **size of VCs** (mid/late-stage sizes)



B Create **angels/mentors** critical mass (real founders who reinvest)



C Create **large-scale firms** with longer growth for maturity

Examples of Priority Policy Recommendations

Support Infrastructure

1 CREATE A **LANDMARK START-UP CAMPUS** INTEGRATING GLOBAL ACCELERATORS TO SIGNAL GLOBAL LAUNCH OF ECOSYSTEM

Create a Start-up Campus in the best branded hub (e.g., Shibuya) as the launchpad for the ecosystem

- Attract **lead global accelerators**, start-up studios, academies, and bootcamps to develop an active community.
- Provide open **industrial/bio-level lab facilities** in partnership with corporations, research institutes, and universities for deep-tech solutions.
- Operate **bilingual English/Japanese** with 30-40% target of foreign entrepreneurs and mentor programs for Japanese startups.
- Start activities before construction; 6-10 sq km space; estimated $100-300M capex and $10-20M yearly operational budget. Co-funding with private sector for all programs

Paris Station F; **New York** New Lab; **London** Here East; **Helsinki** Maria 01; **Toronto** MaRS

2 LAUNCH **BRAND CAMPAIGN** TO PROMOTE ECOSYSTEM AND INCREASE INTERNAL CREDIBILITY

Launch Ecosystem "Cool Japan" Brand Campaign

- Internationally to attract top VCs, accelerators, foreign start-ups, mentors, and angels.
- Domestically to elevate status of entrepreneurs and attract domestic talent.

France La FrenchTech; **New York** Made In NY

3 CREATE **INT'L START-UP RESIDENCE** TO ATTRACT TALENT

Create Int'l Startup Residence program to attract talent and mentor Japanese founders

- Integrate within the campus and include mandatory mentorship – aim for 20-30 start-ups per year; up to S150K investment, plus residence and collocation with domestic start-ups.
- Integrate concierge services for foreign entrepreneurs affiliated with campus.

US Launch House; **Chile** Startup Chile; **Korea** K Startup

Startup Campus Examples

Creation of a **Landmark Start-up Campus** to ignite the ecosystem and attract talent, investors, corporations, and universities to the **start-up-led innovation model.**

Start-up Campus serves as the center of the ecosystem, co-locating main accelerators, investors, research, and start-ups.

- Community management with **constant activation** of the ecosystem through events, networking, and ecosystem activities.
- **Large-scale space** (6-20 sq km) with 30-40% for public spaces for events and networking.
- Provision of **industrial grade labs for deep-tech**, including bio, digital manufacturing, and robotics.
- Dedicated **start-up studios with corporate** and research partners.
- 20-30% of **international tenants** with provision of landing station for foreign talent, startups, and ecosystem partners.
- **Curation of partners** to attract the best accelerators, investors, universities, research labs, and corporations.

STATION F (France)

6 sq km startup campus with 3,500 seats collocating start-ups.

Event and networking space, with continuous ecosystem activities.

Landing base for foreign entrants into ecosystem. Connected residence.

Stakeholders: start-ups, VCs, accelerators, universities, corporates, government.

NewLab (New York)

11 sq km startup-industry-academia innovation campus for deep-tech innovation.

Hosts 200 start-ups with startup studios, industrial grade labs, and a fablab..

Start-up studio challenges organized with corporate and university research partners.

Stakeholders: start-ups, VCs, accelerators, universities, corporates, government labs.

MaRS (Toronto)

139 sq km start-up-industry-academia-innovation complex focused on clean-tech, fintech, health-bio, enterprise.

High-tech biotech labs, including a biosafety level 3 lab and other industry grade labs.

Corporate and academic research partners working with campus start-ups.

Operates its own accelerator and VC.

Source of pictures (right to left): Station F; 3DPrintingindustry.com; Brainstation.

Examples of Priority Policy Recommendations

Skills and Talent

Develop a **start-up ecosystem infrastructure** within Japanese universities and create more **student exchange programs** with top tier universities.

- Create an ecosystem infrastructure in Japan's top 5 universities
- Develop exchange programs to create Japanese global talent

Illustrative examples of activities and comprehensive university programs

- Entrepreneurship curricular courses available for all students
- Business plan competitions and hackathons
- Camps and pitch competitions
- Acceleration and incubation
- Invention
- Mentors, angels, and fellows
- R&D commercialization support
- Grants, seed, and VC support investment
- Alumni and post-doc VC funds

EXAMPLE IN FOCUS.

Berkeley UNIVERSITY OF CALIFORNIA

Startup Practical Education Ecosystem

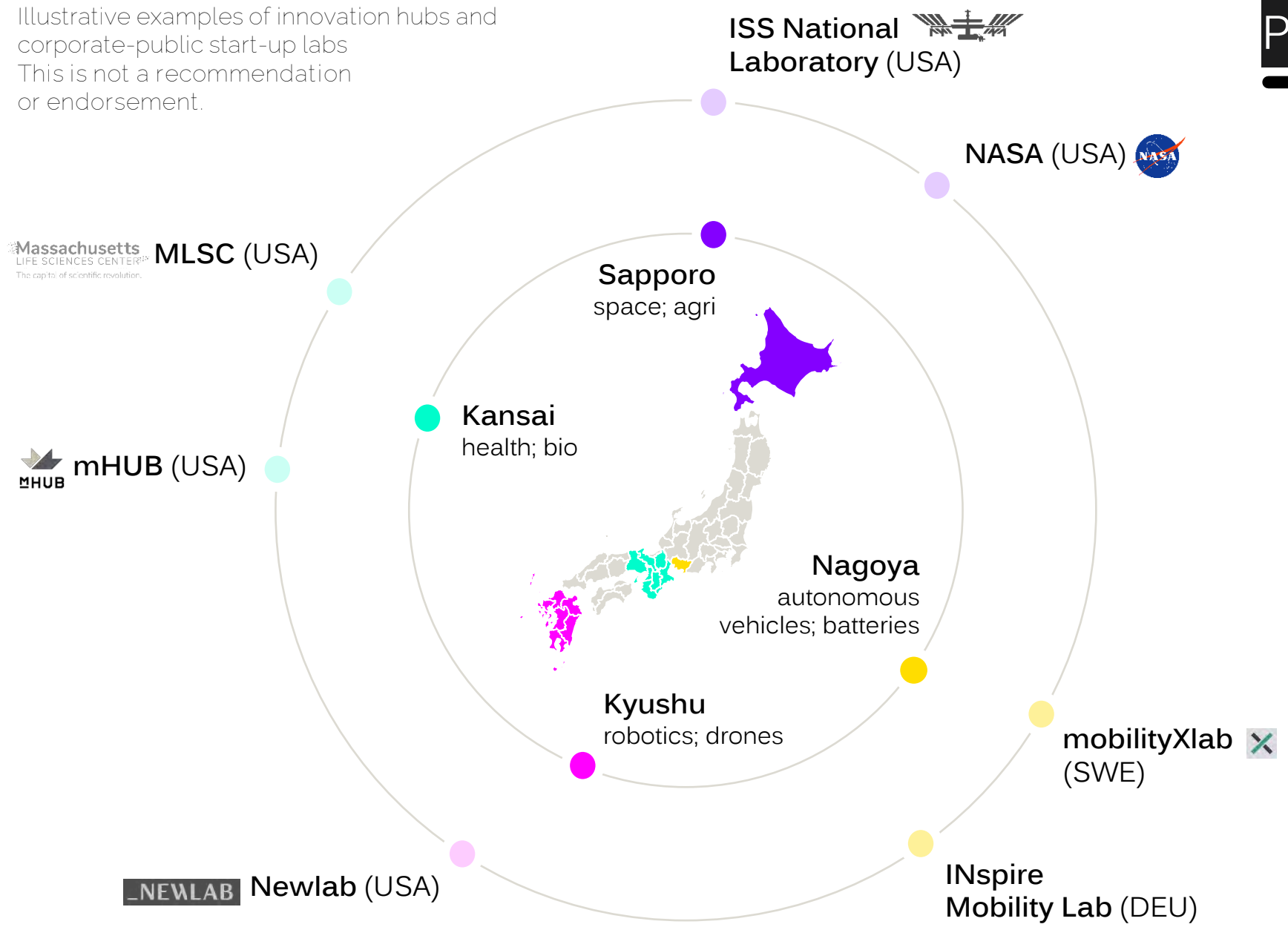
1. **Start-up support**: Postdoc entrepreneurship; free ventures; Xaccelerator; Berkeley startup cluster, SkyDeck.

   SkyDeck -> accelerator, incubator, mentoring, global innovation program, and investment fund

2. **New product R&D support**: Invention lab, fellows, Innovate Berkeley, theme programs
3. **Investor funds**: Grants, seed fund, alumni fund, research fund, SkyDeck fund, angel network
4. **University ecosystem**: Academic programs, product/market fit support, legal, recruiting, and intellectual property support

Priority Policy Recommendations

Illustrative examples of innovation hubs and corporate-public start-up labs
This is not a recommendation or endorsement.

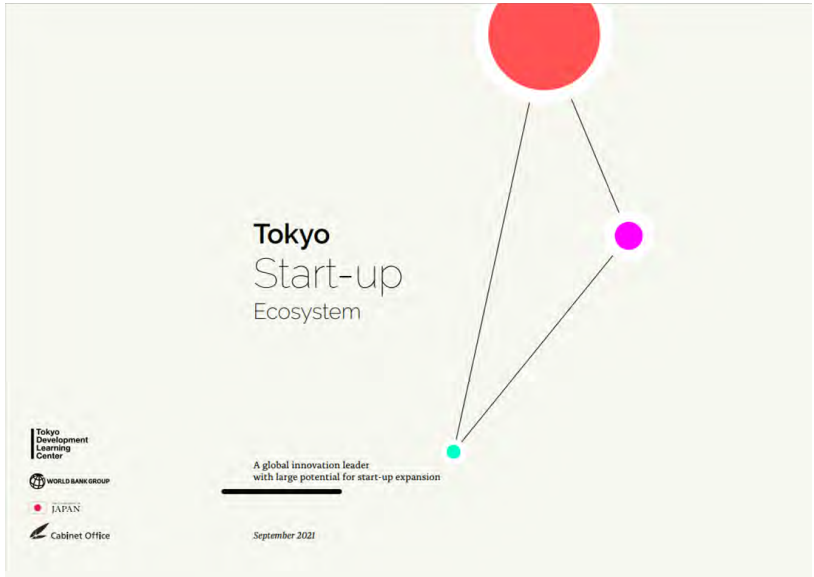


National Policy

Create a **dedicated agency/unit to coordinate innovation-start-up ecosystem policy development and implementation** (e.g., French Tech at the office of the President of France).

Expand ecosystem policies to leverage S&T clusters and **create start-up deep-tech clusters and leverage Web3 across the country.**

Full Report



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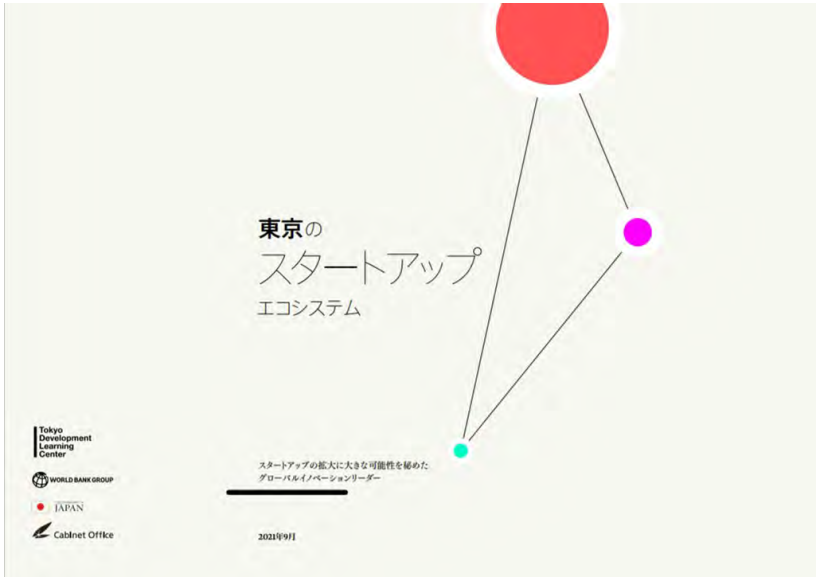

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Data

The findings of this presentation **are supported by primary and secondary data sources** complemented by insights from interviews.

The main data sources used for the analysis of Japan were compiled through a survey of Japanese startup founders and ecosystem stakeholders, which was conducted by the Cabinet Office under the guidance of the World Bank team (Dataset #1).

Dataset #1

Sample size:
3,914 start-ups and an overall 6,086 ecosystem entities (including start-ups)

Geographical location:
Tokyo, Kansai (Kobe, Kyoto, and Osaka), and Fukuoka

Sample information:
Each company's founding year, address, type of business, founder's information (such as education and previous jobs), and the associated investors and accelerators

Data from the New York ecosystem was collected by Endeavour Insights in 2014 and it includes an overall 9,168 ecosystem entities (including startups)

Dataset #2

Sample size:
3,131 start-ups and 5,991 associated investors in the following deep-tech sectors: artificial intelligence (AI), robotics, space-tech and quantum computing (QC)

Sample information:
Start-up location (global), investor location (global), investment relations within cluster and among clusters (global)

Dataset #3

Sample size:
65 accelerator programs (global)

Sample information:
Accelerator programs, location, management entities, supporting entities, type of accelerator, associated start-ups, and mentors

Interviews

Categories
of stakeholders

40
Start-ups

30
VC funds

19
Corporations

17
Support Programs
and Accelerators

17
Government
Agencies

2
Web3 Global
Infrastructure

5
Financial
Institutions

4
Associations and
Foundations

23
Start-up Hubs and
Co-Working Spaces

12
Universities and
Research Institutes

5
Start-up
Campuses

11
Think Tanks and
Academia

Technical Notes

Slides 13, 14, 15, 19, and 22:

Dots represent ecosystem stakeholders. Lines represent connections between stakeholders and start-ups based on stakeholder role (e.g., investor connection is an investment, accelerator connection is participation in the acceleration, school connection is the education of the startup founder at that school).

Slide 16:

Data from start-ups operating in four deep-tech areas: artificial intelligence, robotics, space technology, and quantum computing. Only startups operating with the frontier use of those technologies is included. The use of technologies that is accessory (e.g., a non-core use of the technology for the business model) is not included. Start-ups and investors are clustered by location of origin. The dots represent these clusters. The size of the dots is proportionate to the number of start-ups and investors in each cluster. The larger the size of a cluster the larger the number of start-ups (receiving investment) and investors (making investments) a cluster has.

Slide 18:

For benchmarking purposes, stages have been unified to the international standard followed by CBInsights: seed stage for deals below US$3M; early stage for deals between US$3 million and US$5 million; and late stage for deals above US$5 million, INITIAL data is based on funding received by start-ups per investment series, which has been adapted to follow the CBInsights value criteria. For Japan ticket size stage, VEC classifications may differ as the value of each state referred to is not disclosed. Instead, VEC methodology refers to the stage of the company, which may not correspond with CBInsights' classification, especially for early and late stages. For benchmarking purposes, VEC classifications of early stage and expanding stage have been merged into early stage.

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