dealroom.co

The next generation of tech ecosystems.

Actionable benchmarks from **201 tech ecosystems** based on investment, innovation, talent, and outcome.

December, 2022

Our mission: bringing data transparency to every tech ecosystem.

Investors
Source deals & raise capital

Providers
Provide services to startups & scaleups

Strategists & researchers
Stay at forefront of innovation

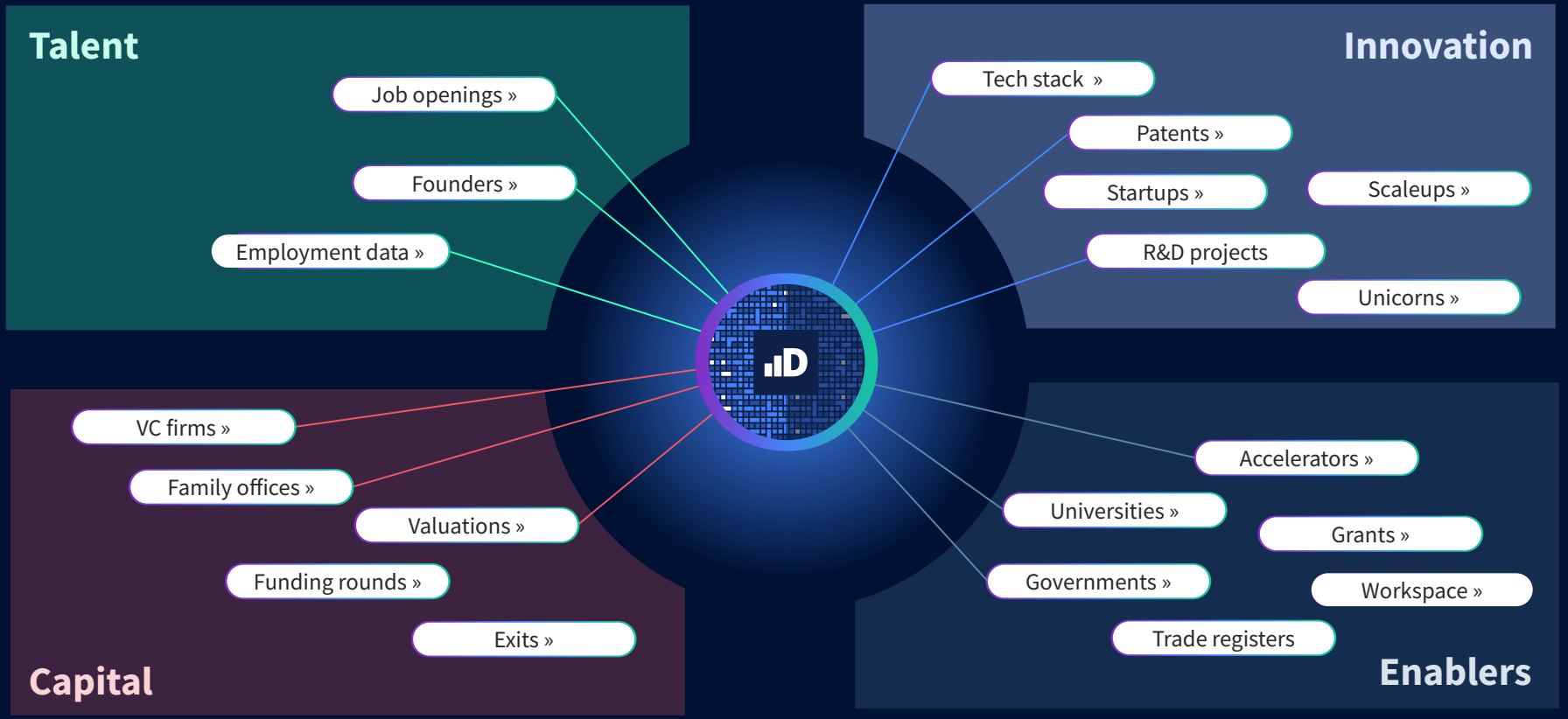
Enablers & public bodies
Build & foster the ecosystem

Builders
Raise capital, recruit, be visible in ecosystem

We empower over 75 governments with innovation data and insights, enabling them to monitor & build their tech ecosystem.

dealroom.co

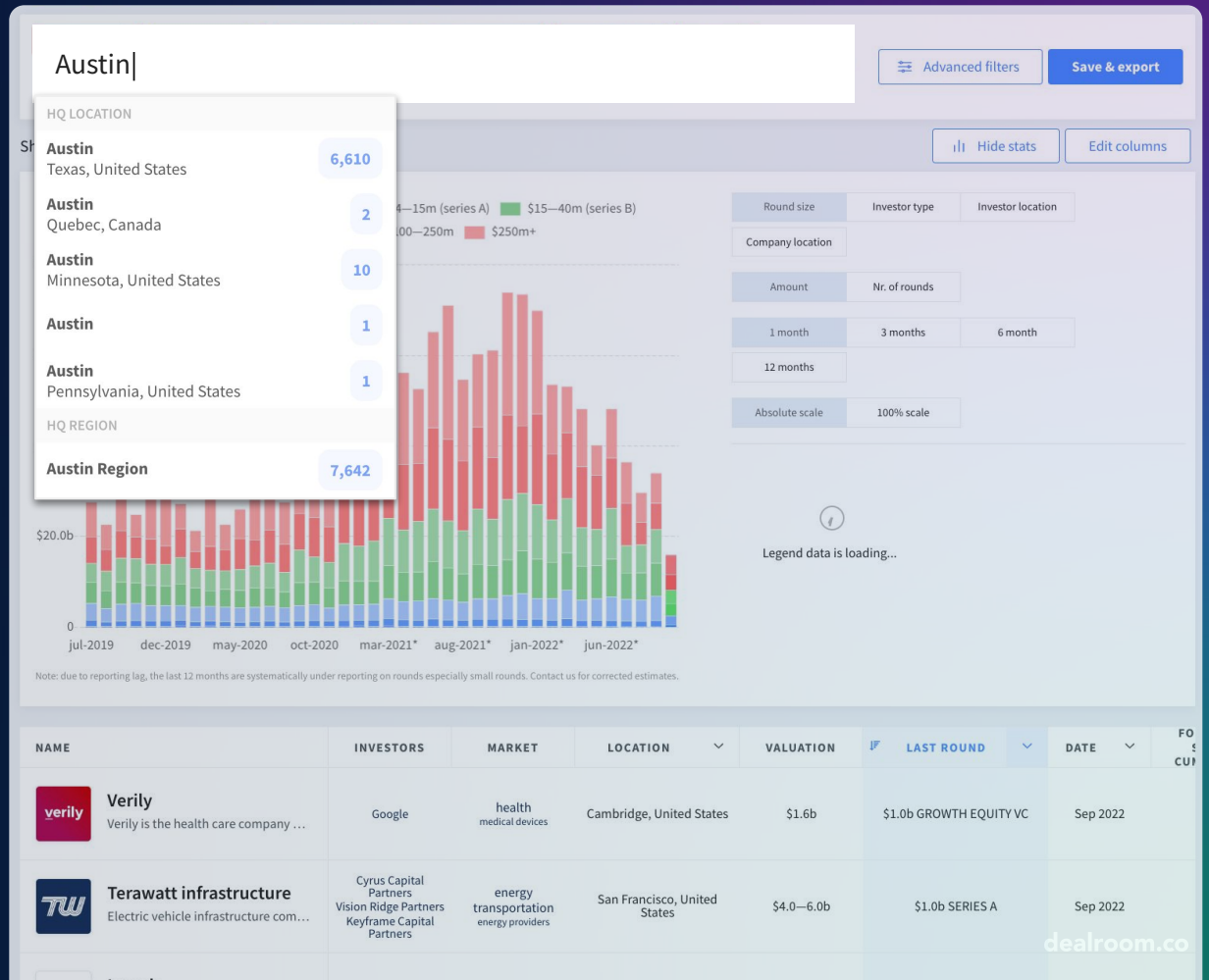
Providing a 360-degree view on tech ecosystems.



Get real-time insights on any location.

- Global »
- North America »
- EMEA »
- Africa »
- Asia »
- Oceania »
- South America »

- Top investors »



1 **The next chapter in tech**
2 Capital & investment
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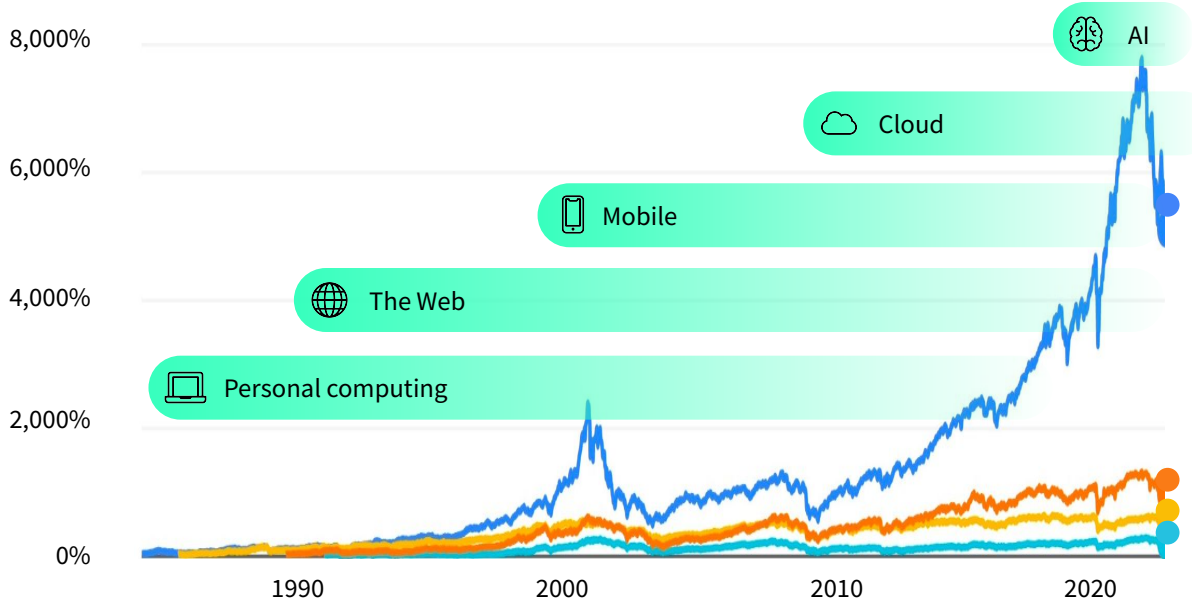
During the past three decades, technology has eclipsed all sectors, driven by a series of technological inflection points. VC-backed companies have seized on this opportunity the most.



Nasdaq Composite ▲5,110%

Of the world's 20 most valuable companies, 17 of them are VC backed tech companies. Many of them originated from the Bay Area.

DAX Performance Index ▲955%

FTSE 100 Index ▲537%

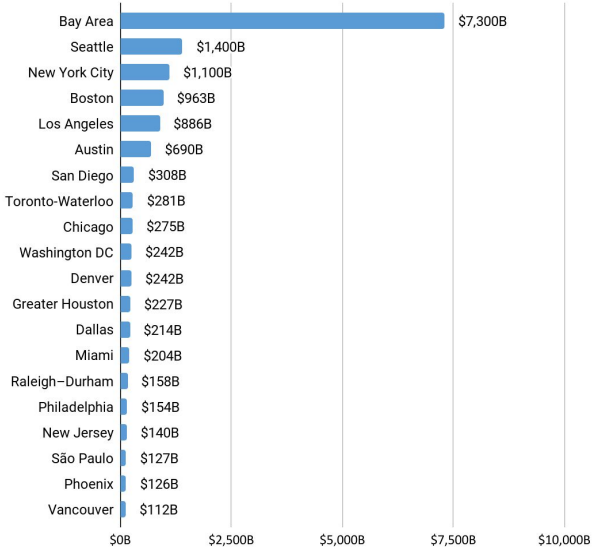
CAC 40 ▲194%

 Source: Google Finance

Inspired by the Bay Area, dozens of tech ecosystems have sprung up globally. Over 40 of them have created over $100B in value.

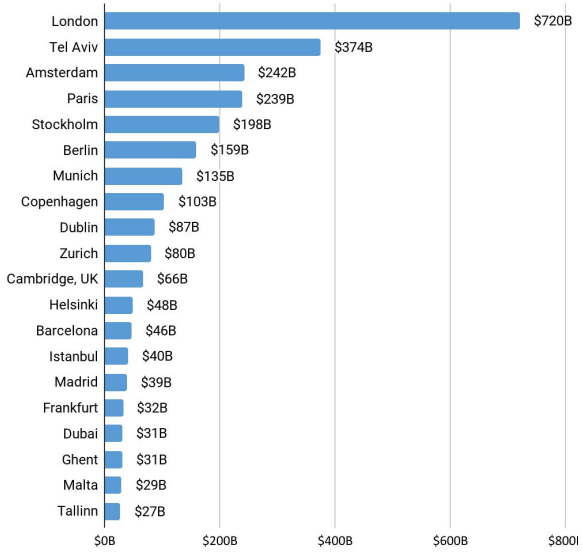
Americas

Combined value of tech companies founded >1990



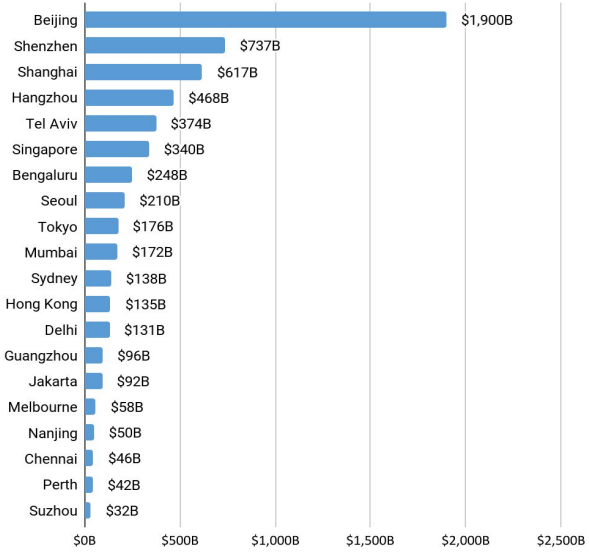
EMEA

Combined value of tech companies founded >1990



Asia & Oceania

Combined value of tech companies founded >1990



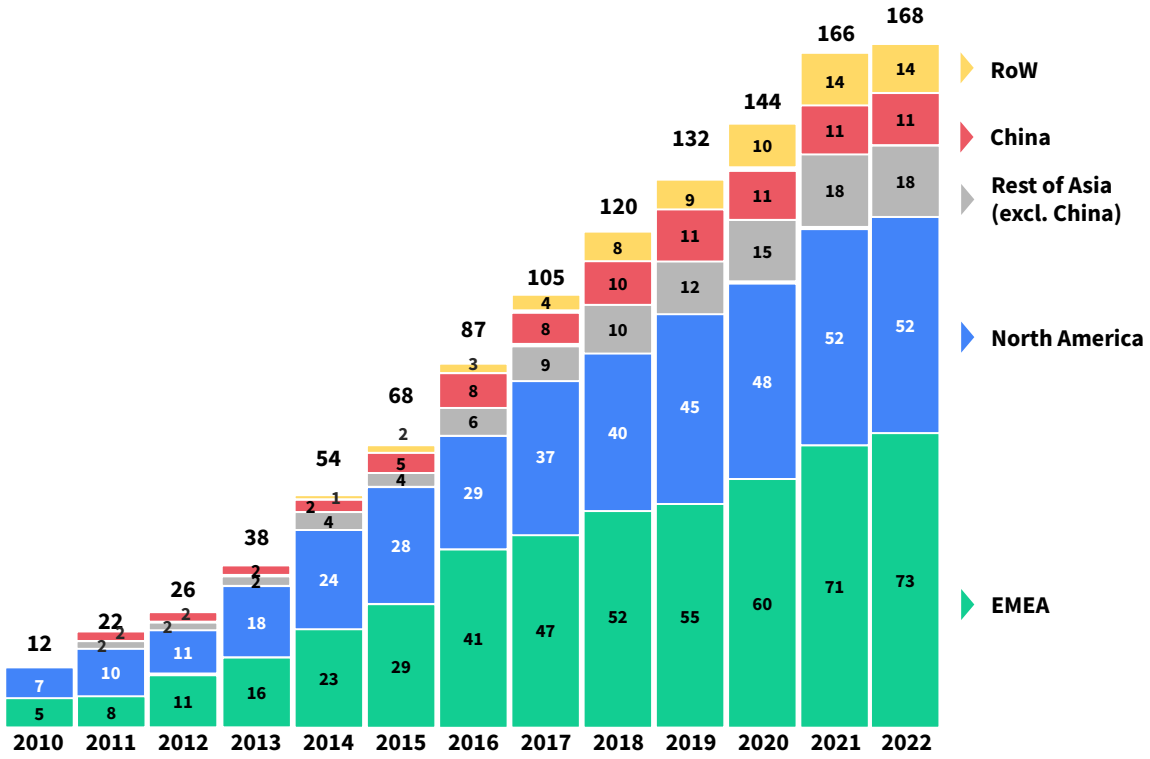
 Source: Dealroom.co

There are now 168 cities with at least one unicorn or $1B+ exit. Back in 2010, this number was just 12.

Knowledge about building startups has become much more widespread in the last decade. These cities have acted as platforms that facilitate talent, capital, infrastructure and enablers.

The fact that there are now 168 unicorn cities bodes well for the future, as unicorns can be excellent founder factories, creating a positive flywheel effect. But the next ten years are unlikely to be similar to the last.

Cities with at least one unicorn or $1B+ exit



 Source: Dealroom.co

New breakthroughs in frontier technologies are driving a new phase of radical innovation.

Examples of novel domains in tech from upcoming Deep Tech report created with Lakestar and Walden Catalyst.

Artificial Intelligence
Generative AI, AI-first biology, Privacy-preserving AI, Explainable AI, AI, acceleration, Autonomous systems, General purpose AI

Future of Computing
Quantum computing, Silicon photonics, AR/VR/MR, Neuromorphic & advanced AI chips, Decentralized computing, Brain-computer interfaces

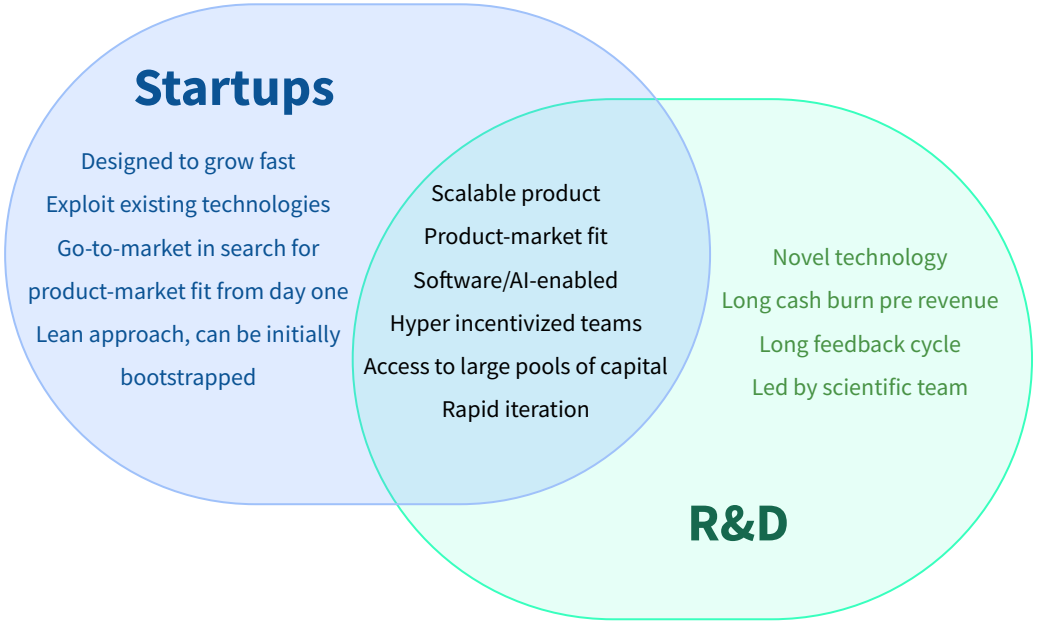
Future of Energy
Nuclear fusion, Next-gen battery chemistries, Large-scale storage, Green hydrogen, Supercapacitors, Waste heat recovery

Space Tech
Reusable and next-gen rockets, Satellites, In-space transportation, In-space manufacturing, Debris removal

Synthetic Biology
FoodTech & Agritech (cultivated meat, modified crops), Bio-fuels & bio-chemicals, DNA synthesis, Health

Advanced Materials
CO2 negative materials, Bio-plastics Synthetic diamonds, Graphene

Startups and frontier R&D do not naturally overlap, but the intersection is also where cutting-edge innovation is happening.



 Source: Dealroom.co.

The coming decade will require tech ecosystems to bring together capital, entrepreneurship, knowledge, frontier R&D, and science on one platform.

Capital & Investment

- Ability to attract venture capital across stages (early, breakout, late)

Innovation & Talent

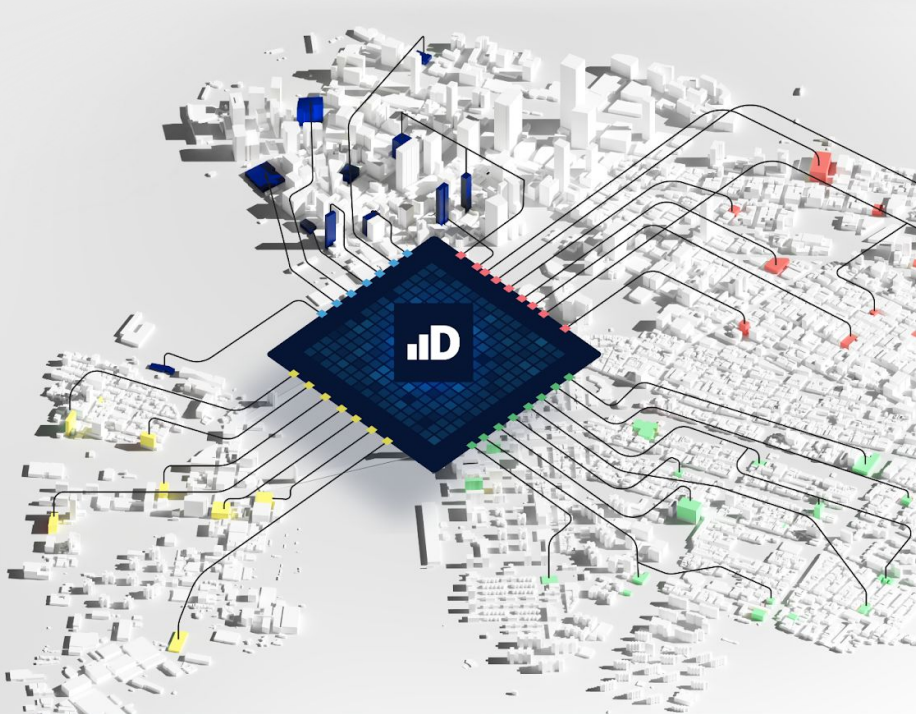
- Development of intellectual property (patents)
- Linkage between universities and entrepreneurship

Economic upside

- Performance relative to economic stage of development
- Affordability of living

Entrepreneurialism

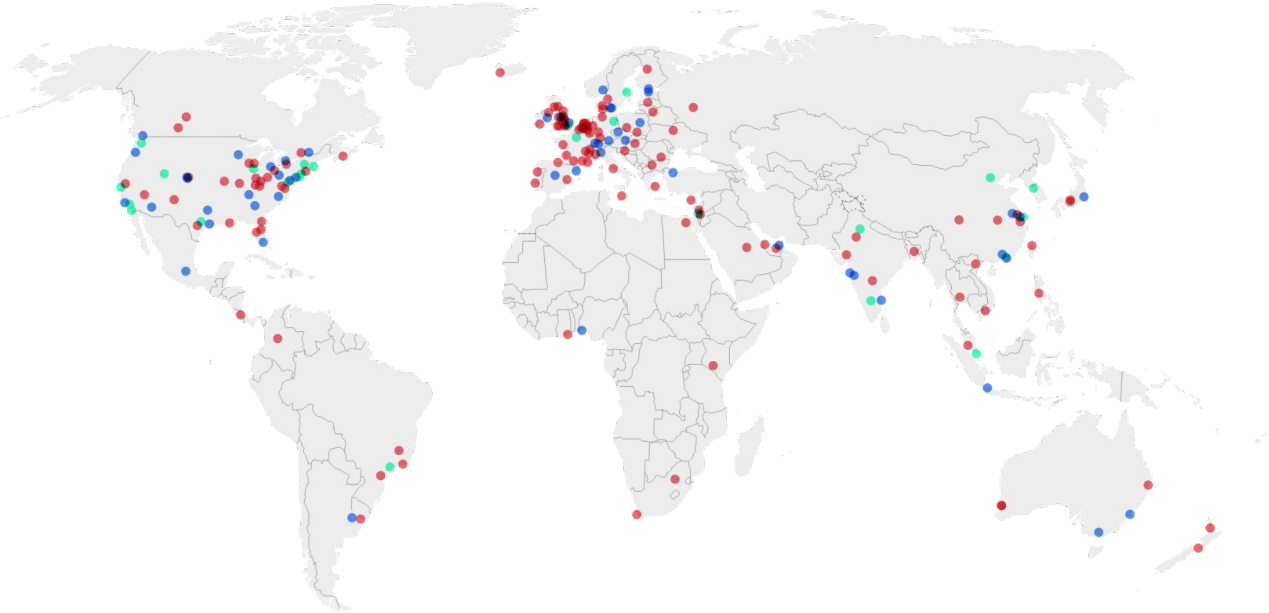
- Conversion from startup to $1B+ company
- Ability to produce flywheel effect of multiple unicorns



 Source: Dealroom.co. See Methodology (chapter 6) for more.

How prepared are cities for the next decade?
201 cities in 65 countries were analyzed for this report.

Cities with 20+ unicorns (25 cities) 5–19 unicorns (52 cities) 0–4 unicorns (92 cities)



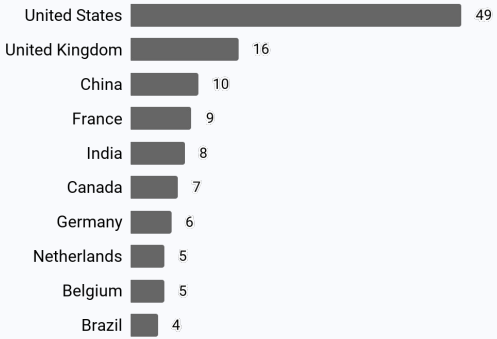
Selection criteria

The dataset starts with 168 cities that have at least one unicorn. An additional 33 cities have at least >$100M in funding and min 50 VC rounds since 2017.

In this report, each “ city” is actually a metro area consisting of multiple cities, suburbs and nearby towns.

In forthcoming editions of this report we expect to add more cities and we welcome suggestions from readers.

Number of qualified cities per country (top 10)



 Source: Dealroom.co

Not all tech ecosystems are created equal. For instance, New York cannot be compared with Oxford. We created three lenses by which to benchmark ecosystems.

Scale lens

Trailblazers

Leading by metrics such as venture capital and creation of successful startups and scaleups.

Presence of established local venture capital sector and capital markets to support life cycle from seed to IPO.

$1 trillion companies are most likely to get built here. The success of these ecosystems paves the way for others. A facilitator for other ecosystems globally.

Per capita lens

Science Hubs

High output per inhabitant, driven by academic/research footprint. Strong universities-to-startups linkage.

Includes smaller cities like Oxford, Leuven, and Eindhoven.

Key for development of novel and cutting edge technology (Deep Tech). Often some specialisation in specific domains, such as semiconductors or life sciences.

Growth lens

Rising Stars

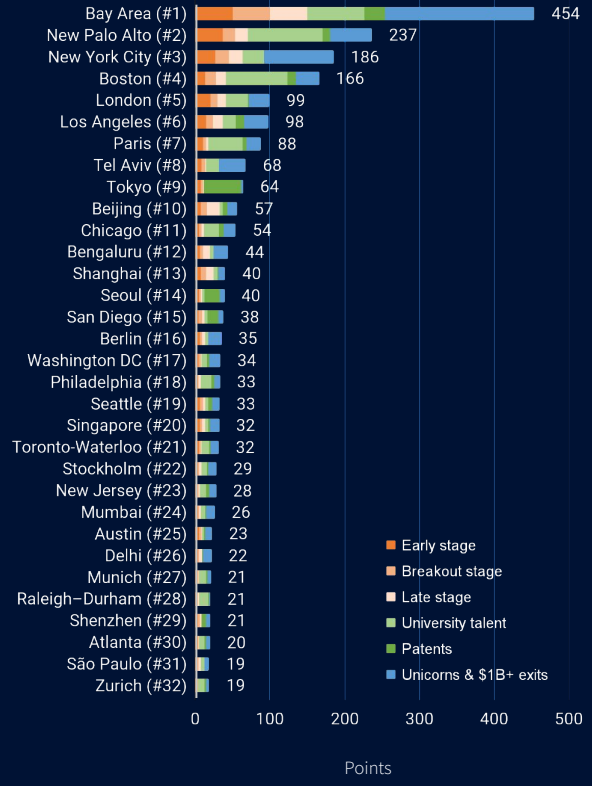
Benefiting from globalization of venture capital and distributed teams. Ignited by the rise of a few local hero startups.

Often emerging economies with lower cost of living .

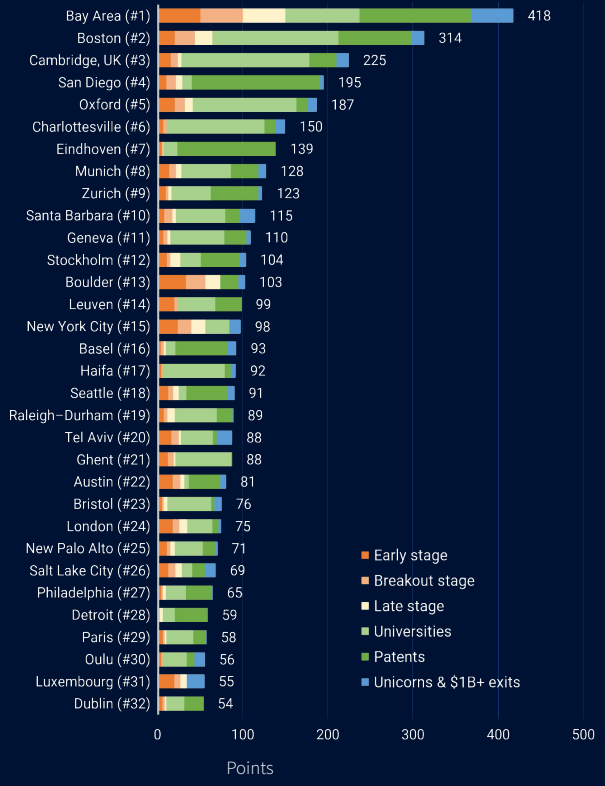
Presence of local early-stage VCs, but lacking depth of follow-on investors. Needs connectivity with bigger ecosystems to thrive.

Transparent & actionable benchmarks to prepare for the next decade.

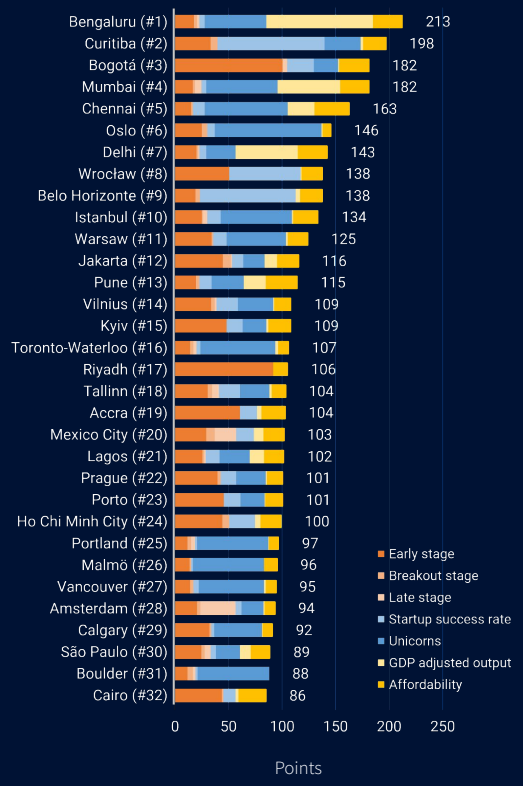
Trailblazers
Scale lens

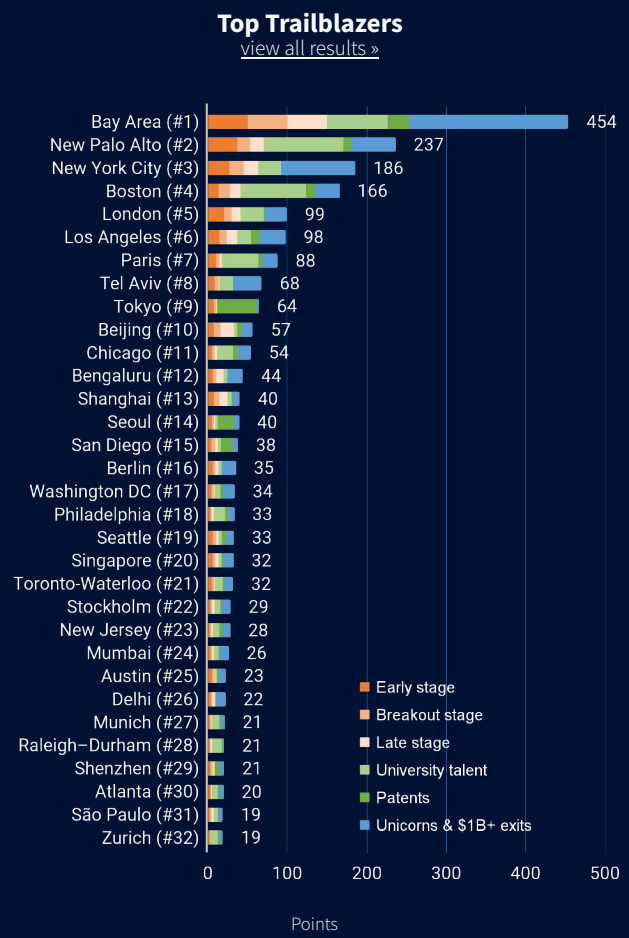


Science Hubs
Per capita lens



Rising Stars
Growth lens





Scale lens: Trailblazers

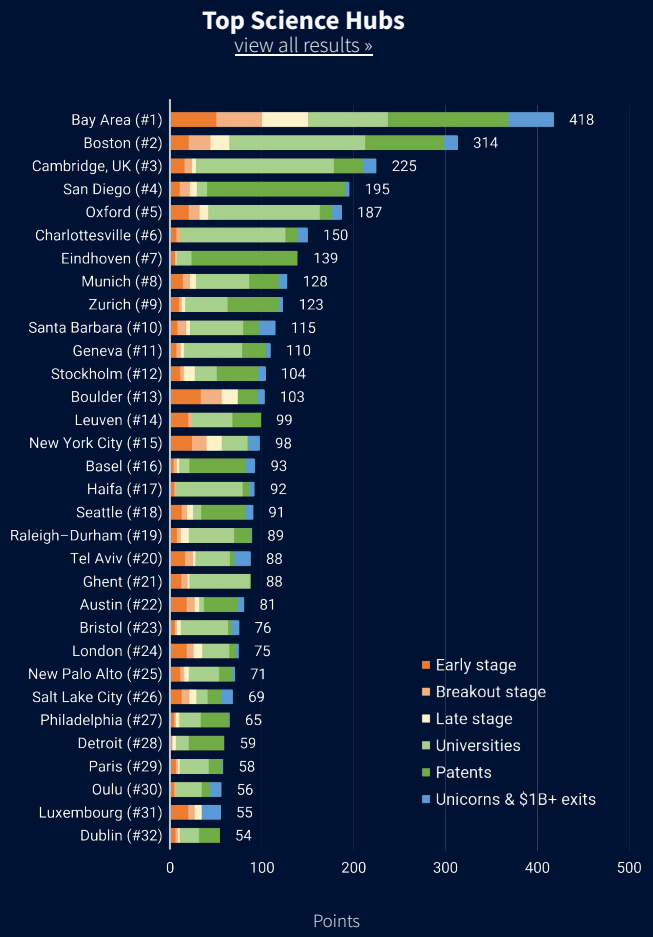
When looking at the raw scale, the top spots are snagged by the usual suspects (**Bay Area, New York, Boston**), with noteworthy individual performances.

One new name makes the list: **New Palo Alto**, a cluster of European cities of close proximity, similar to the Bay Area. Within a four-hour train ride connecting London, Paris, and Amsterdam, lie some of the world's best universities, diverse talent pools, innovative tech companies, and globally the highest concentration of cities that have produced unicorns.

The Bay Area being the clear #1 won't surprise anyone. The chart on the left shows it does so by a wide margin. It leads by nearly every metric, but not all.

Tokyo is the frontrunner in Asia. It has a smaller startup ecosystem yet over-indexes on international patent registrations. The total number of active patents is perhaps a crude metric, but adding this quantifies Tokyo's massive innovative capacity from an industrial point of view.

The positions of **Beijing** and **Shanghai** are lower than they might have been a few years ago. China-only patents are not counted and the methodology puts emphasis on what happened since 2019 when China's tech sector was starting to decline relative to the rest of the world.



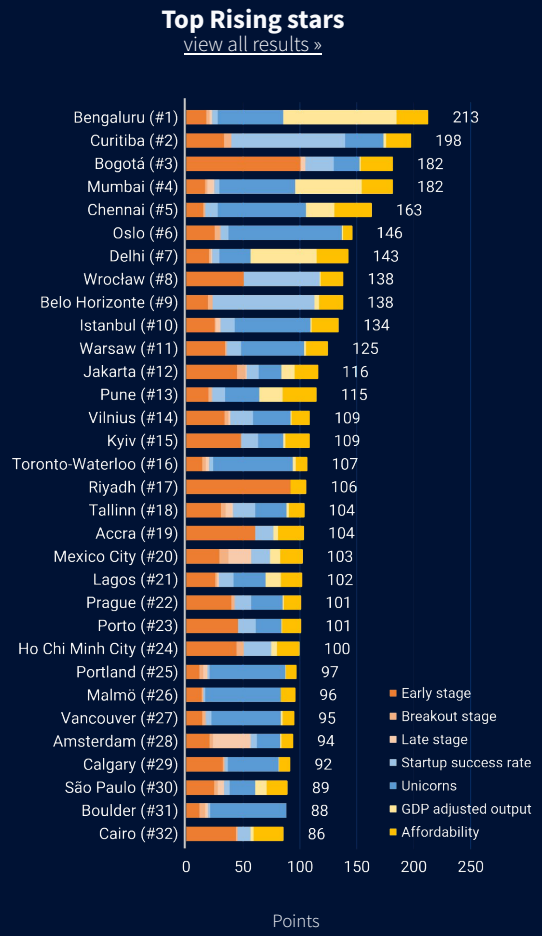
Per capita lens: Science Hubs

The Science hub lens places more emphasis on the development of deep tech, university talent, and patents on a per capita basis. Why? When it comes to science hubs, small can sometimes be a good thing, especially when there is specialization happening. The result is a mix of big generalist and small specialist science hubs.

The **Bay Area** still tops the list, despite being a large ecosystem. Due to its sheer scale, it is still relatively dense despite being a much larger metro area. It also has a massive patent and deep tech footprint. It is, however, closely followed by **Cambridge (UK)** and **Boston**. Both score better on university talent.

Patent data combined with venture capital data helps creates a powerful holistic picture of innovation. It helps us identify innovation hubs that would have been far less visible if we were looking only through a venture capital lens.

For instance, **San Diego** has a strong patent footprint, especially in telecommunications. Leuven, Zurich, and Boston excel in life sciences. Eindhoven and Cambridge are strong in semiconductors. Basel is strong in materials science, sensors & optics.



Growth lens: Rising Stars

When looking at growth, many names emerge that are far less obvious. We constructed this benchmark with the explicit goal to discover ecosystems that may be relatively under the radar, but have undergone rapid transformation.

The results also show a very close call within the top 5 and again a very close call between numbers 10 to 32. But there are big differences in the way each city ended up there (their success factors).

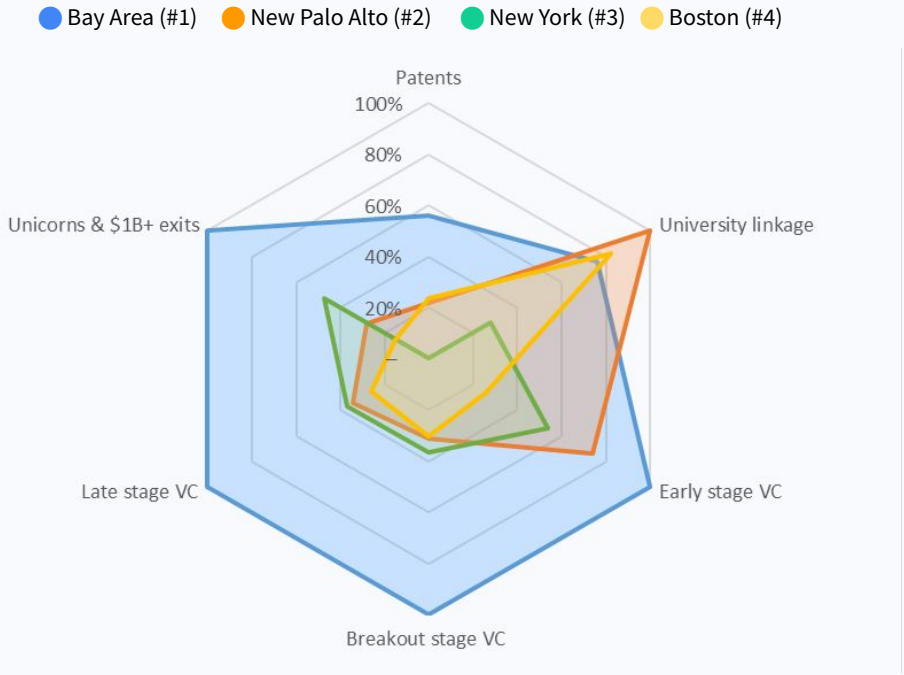
For instance, **Bengaluru** tops this category for excelling in its high ratio of unicorns relative to GDP per capita. **Curitiba**, Brazil, does well thanks to its high conversion from series A to unicorn.

While **Bogotá**, the Columbia capital, ranks well thanks to its high conversion from series a to unicorn. **Oslo** scores well in unicorn growth; Amsterdam in terms of growth stage funding (megarounds).

This heterogeneity is visually apparent by every bar having a very different color composition – unlike the Trailblazers chart which is much more uniform.

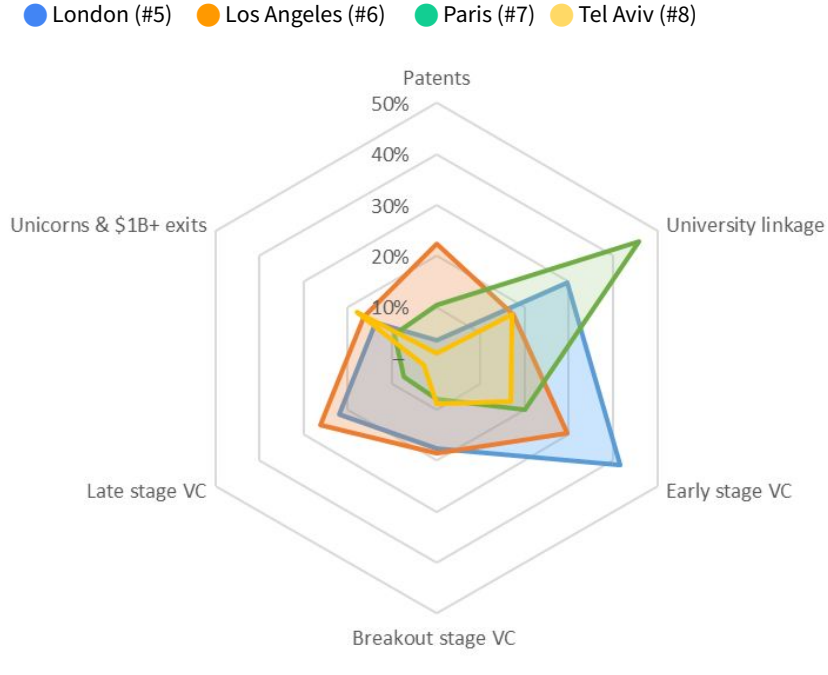
Scale lens: the top 4 Trailblazers …

The Bay Area is #1 in everything except patent development and university linkage. New York over-indexes on number of unicorns and $1B+ exits. New Palo Alto's strongest suit is it's highly connected university and venture capital networks.



… and the next 4.

Paris is over–indexing on university linkage with many startup founders from local universities. Los Angeles is more allround. London over–indexes on early stage funding and Tel Aviv outperforms on number of unicorns.

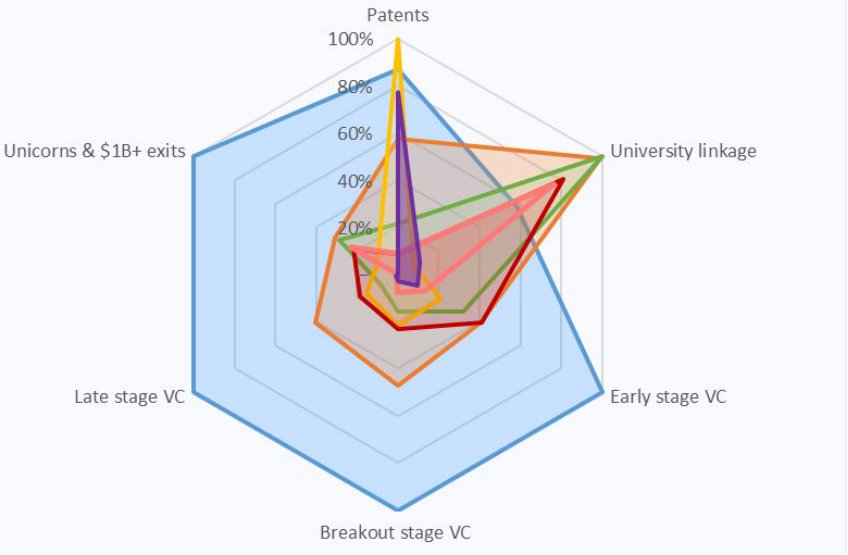


 Source: Dealroom.co. Percentage indicates % of possible score reached. #1 has 100%.

Per capita lens: the top 7 Science Hubs …

In the top 7 Science Hubs, the Bay Area is the allround leader, although it scores lower on university linkage (less academic startup founders). Science supercluster New Palo Alto is represented three times with Cambridge (UK), Oxford and Eindhoven.

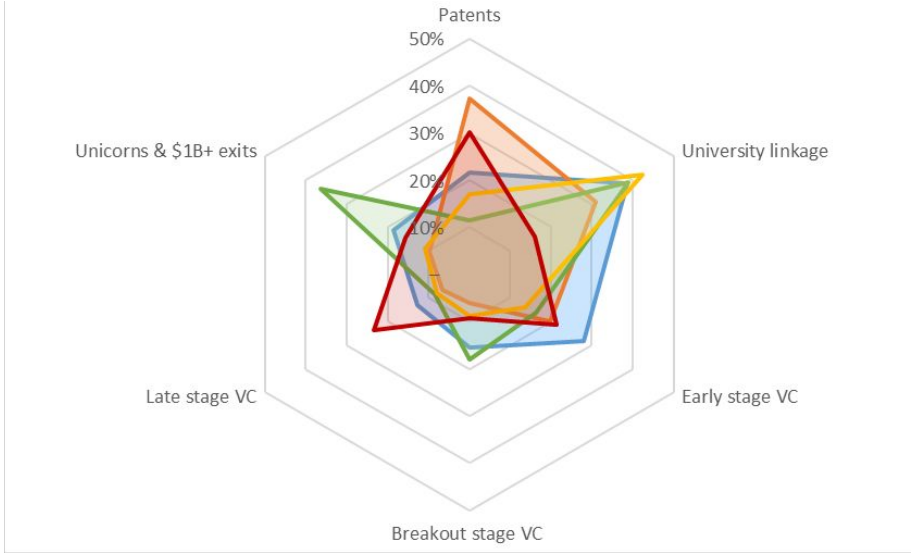
Bay Area (#1) Boston (#2) Cambridge UK (#3) San Diego (#4)
Oxford (#5) Charlottesville (#6) Eindhoven (#7)



… and the next 5.

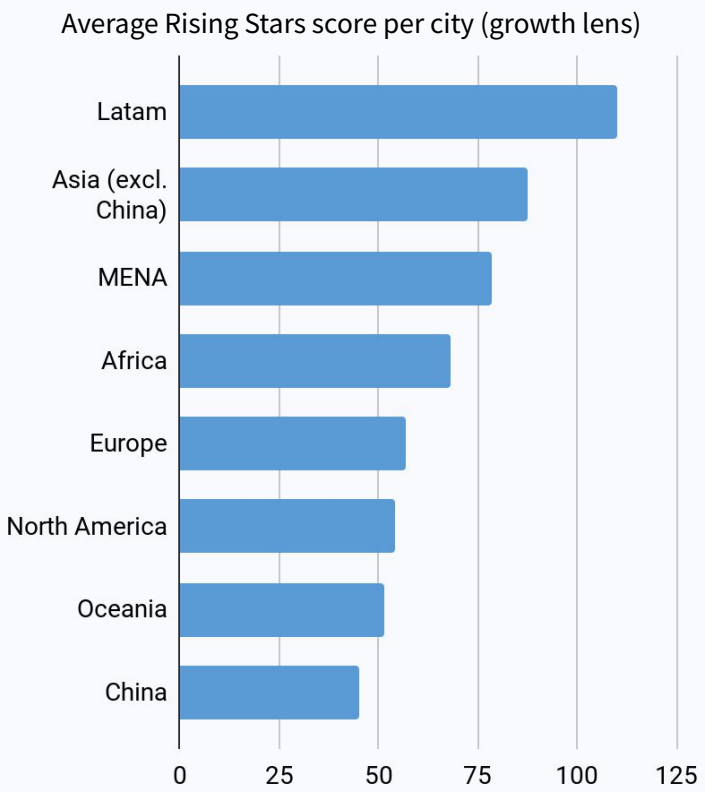
Munich scores high thanks to a life science and industrial tech focus. Zurich and Geneva are geographically close by with a similar field of specialisation. Santa Barbara has a high number of unicorns per inhabitant and strong university linkage.

Munich (#8) Zurich (#9) Santa Barbara (#10)
Geneva (#11) Stockholm (#12)



 Source: Dealroom.co. Percentage indicates % of possible score reached. #1 has 100%.

Cities in Latin America and Asia (excl. China) score highest as Rising Stars (growth lens). China scores lowest.

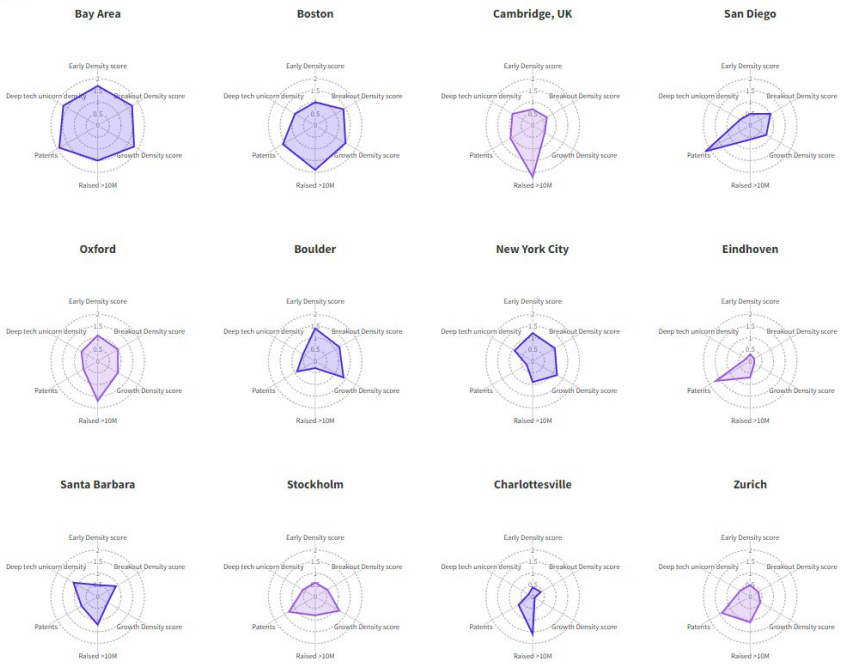


Many top Rising Stars are growing from a smaller base. Of the bigger Rising Stars, two are in India (Bengaluru and Delhi), one in Europe (Amsterdam).

 Source: Dealroom.co.

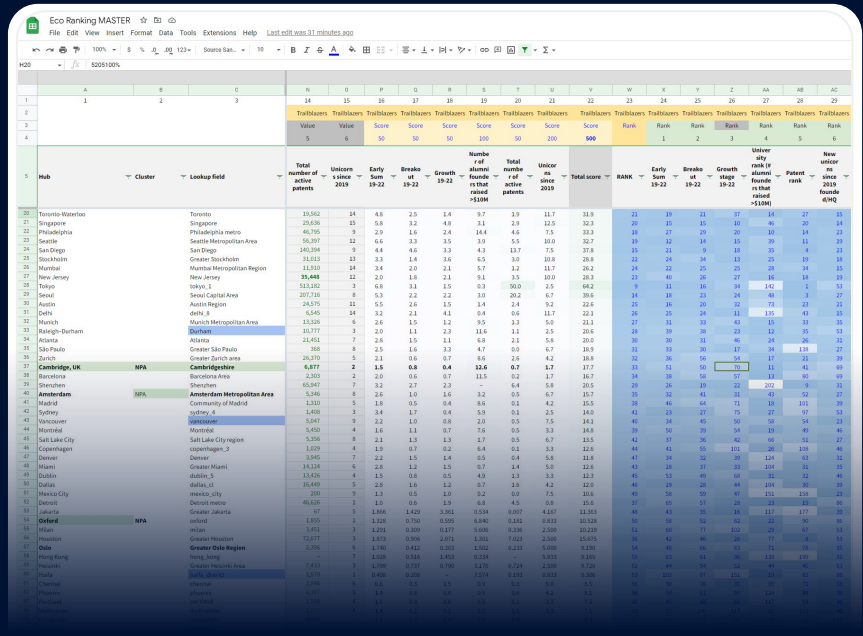
Explore the footprint of 201 cities ...

Visit Flourish »



... or go straight to the raw data.

Open Google Sheet »



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Dealroom is official data partner with Startup Genome, the world-leading policy advisory and research organization for public and private organizations committed to accelerating the success of their startup ecosystem.

Startup Genome

+

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"By working together, Dealroom and Startup Genome provide ecosystem leaders with actionable insights based on best-in-class data solutions and analytics. These are essential to devise proactive policy and program strategies to develop resilient tech ecosystems"

Marc Penzel
Founder & President
Startup Genome

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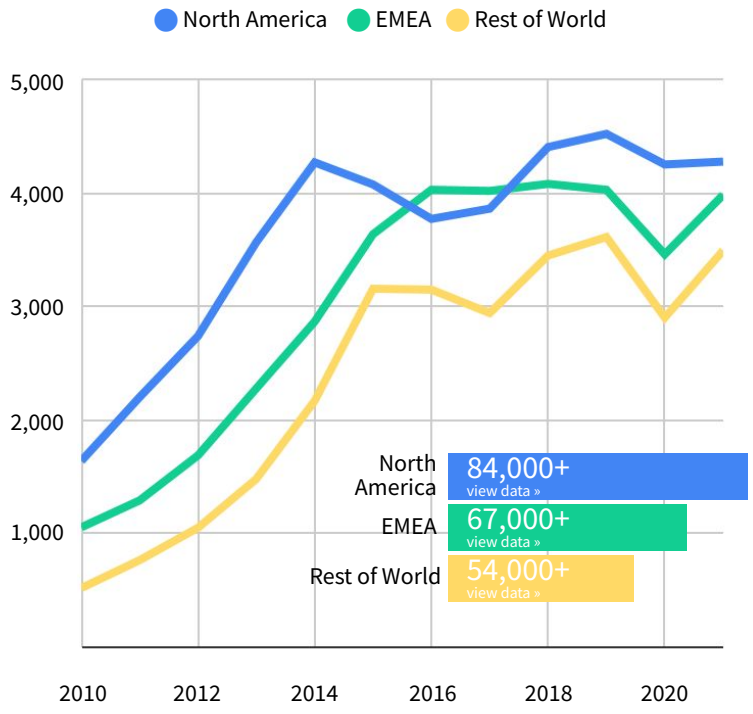
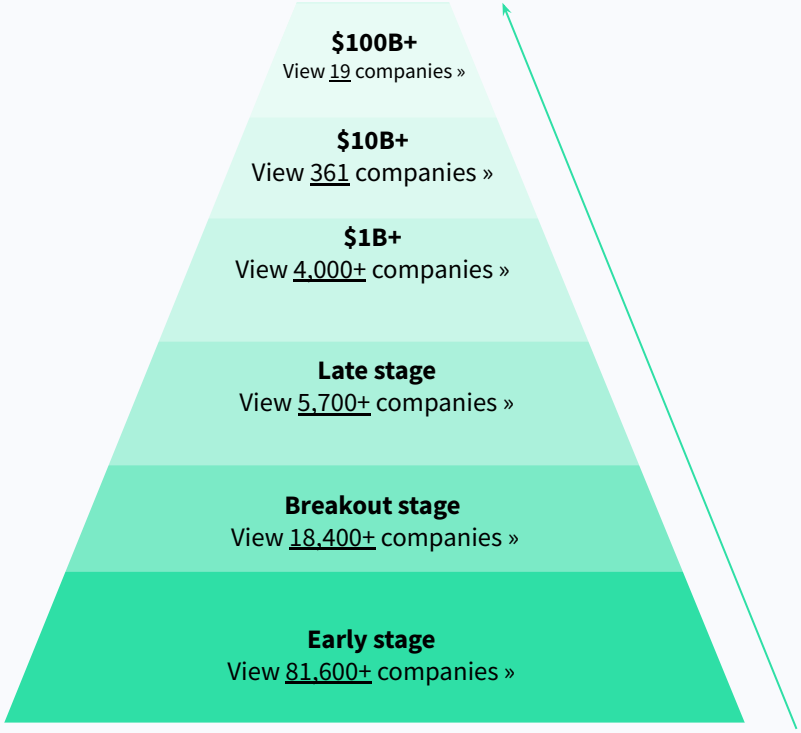
Every year, about 12,000 new startups receive their first investment from a VC.



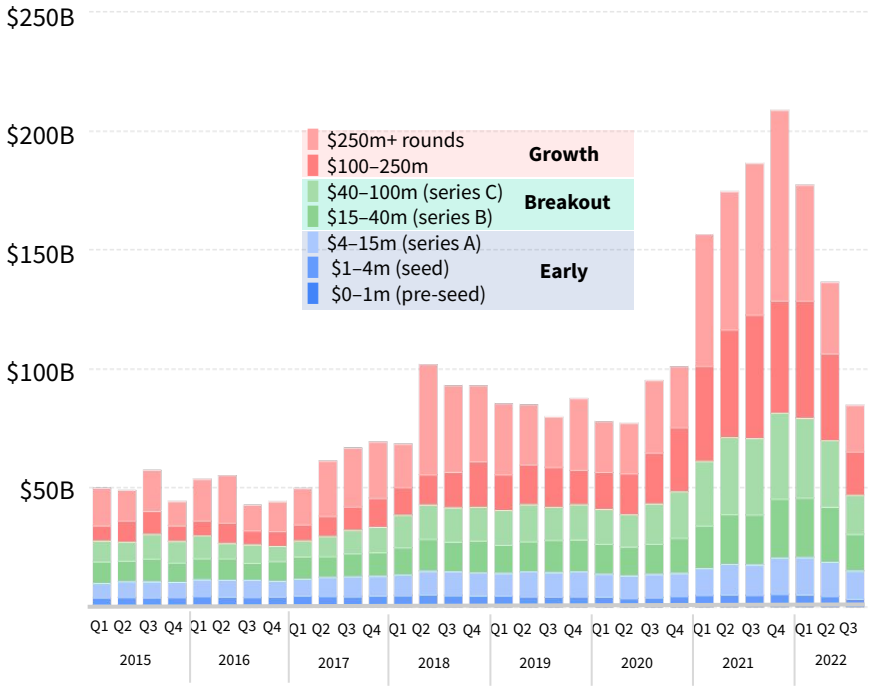
There are roughly 207,000+ active VC-backed startups & scaleups globally.



 Source: Dealroom.co

Global venture capital is back to pre-pandemic activity levels.

VC investment in Global startups » view online



Explore the data.

North America » | Europe » | Asia »

Oceania » | Africa » | South America »

AMOUNT INVESTED Locations	2013	2014	2015	2016	2017
Greater London	$623m	$899m	$1.3b	$1.6b	$2.0b
Ile-de-France (Paris Region)	$364m	$397m	$628m	$869m	$1.1b
Berlin/Brandenburg Metropolitan Region	$232m	$308m	$326m	$442m	$665m
Greater Stockholm	$67.5m	$176m	$233m	$395m	$551m
Munich Metropolitan Area	$99.9m	$108m	$157m	$141m	$262m
Amsterdam Metropolitan Area	$99.4m	$107m	$86m	$163m	$174m
Greater Oslo Region	$15.5m	$41.8m	$61.7m	$82m	$127m
Greater Helsinki Area	$110m	$169m	$134m	$224m	$202m
Greater Zurich area	$53m	$40.9m	$79.5m	$85.4m	$223m
Community of Madrid	$50.8m	$122m	$101m	$86.7m	$145m

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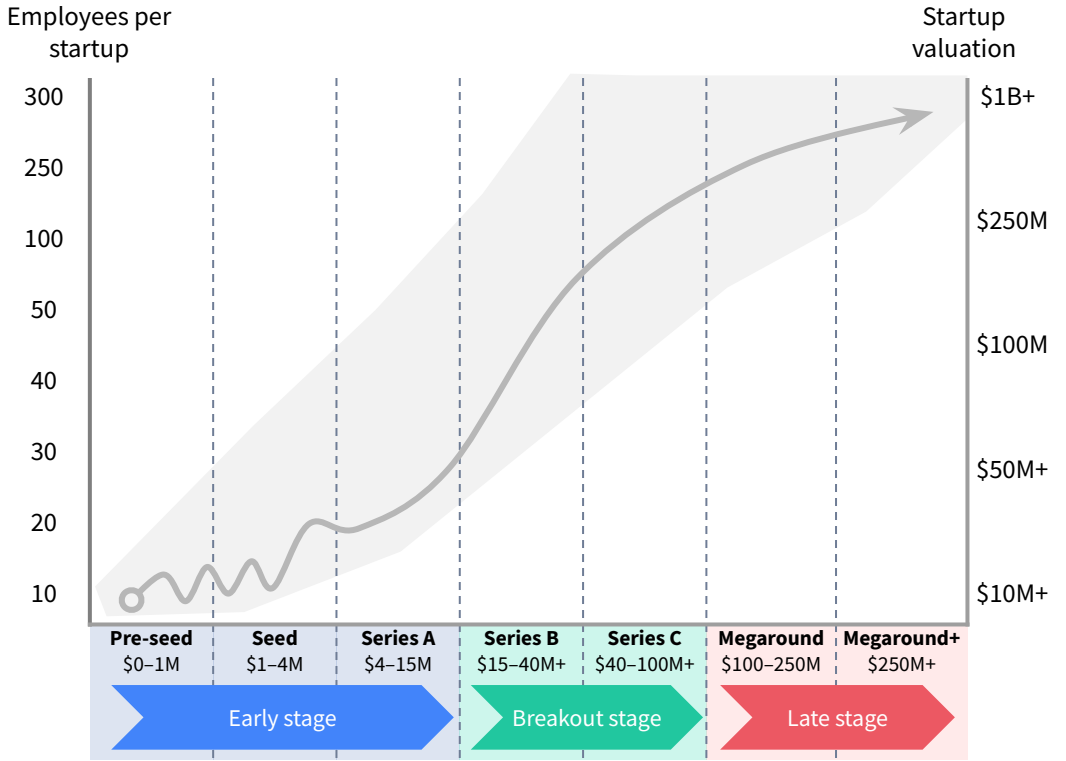
> Venture rounds are self-labelled without much consistency. Letters will never give a true sense of where a company is at in terms of their development whereas the amount of capital they consume is a much better reflection – by breaking down funding into phases of capital raised it gives founders a much better sense of what it takes to get from one stage to the next.

Saul Klein
Co-founder of **LocalGlobe**

> If I look back to the beginning of the current tech boom which started around 2009, we often wrote a $3–5 million check and this was called an "A round" and 12 years later in an over-capitalized market this became known as a "Seed Round" but in truth what we do hasn't changed much at all."

Mark Suster
Founder of **Upfront Ventures**

Dealroom worked with leading VCs to develop a venture-backed scaling journey, that stands the test of time.

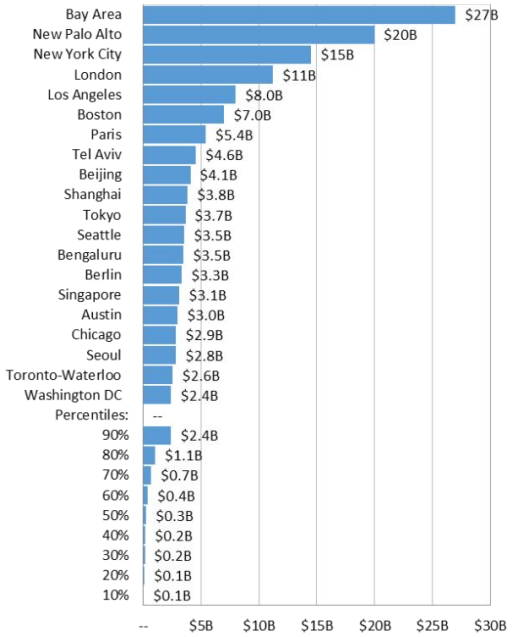


Source: Dealroom. Analysis includes all jobs at startups created by companies founded after 1990 as of October 2022, excluding companies with marketplaces & commerce as business model. More in the methodology section.

The Bay Area startups raise more venture capital than the next three cities combined. But when it comes to early stage investing, the gap is much narrower.

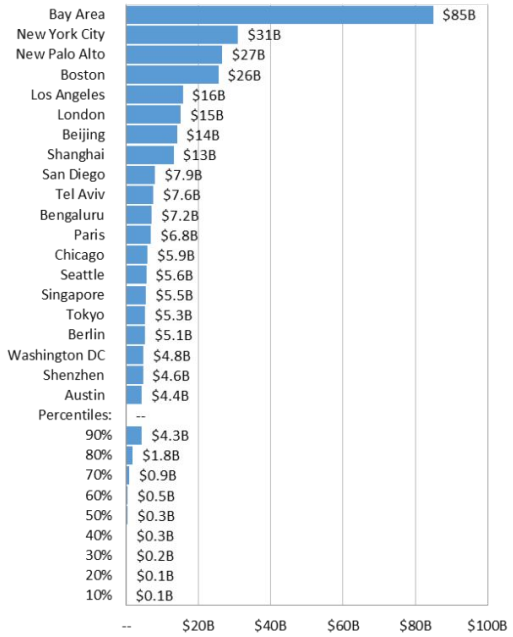
Early stage

$1M-$15M rounds between 2019–2022



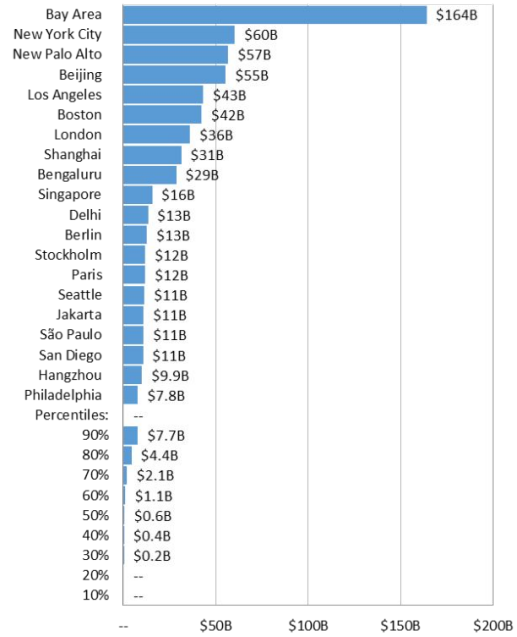
Breakout stage

$15M-$100M rounds between 2019–2022



Late stage

$100M+ rounds between 2019–2022



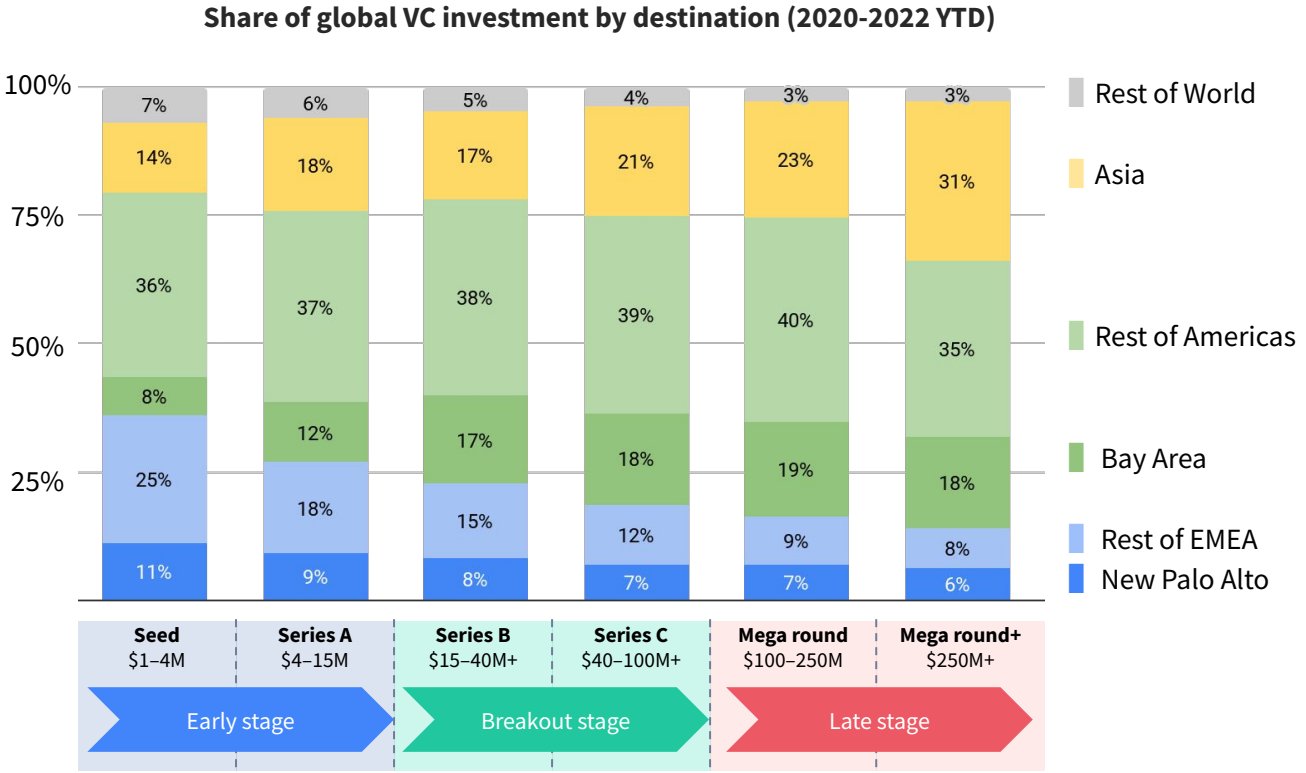
The Bay Area USA

Cities & towns	San Francisco, Palo Alto, Menlo Park, Stanford
Universities	University of San Francisco & University of California
First unicorn	eBay in 1999
Iconic companies	Salesforce, Facebook, Google, Uber and Airbnb
Top patents categories	Information, Semiconductors and Telecommunications
Notable spinouts	Keysight Technologies, Medable and OmniAB
Combined enterprise value	$7.4 trillion
Cost of living	95% of New York

#1 **Unicorns since 2019**	#1 **Early stage funding**	#1 **Breakout funding**
#1 **Growth funding**	#3 **University alumni**	#2 **Patents**

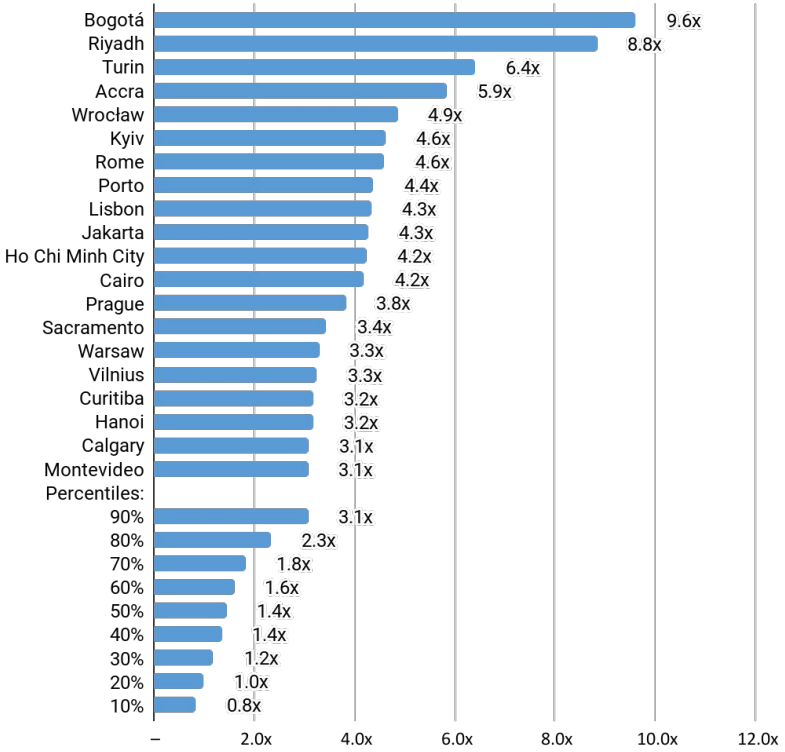
Explore Bay Area »

New Palo Alto has nearly caught up with the Bay Area in early-stage investment. Asia over-indexes in super mega rounds.



Source: Dealroom.co.

Growth of early stage capital between 2015–2018 and 2019–2022
($1M-$15M rounds size)



Bogotá COLOMBIA

Cities & towns	Soacha, Facatativá, Mosquera, Chía
Universities	University of the Andes, National University of Colombia and the Pontifical Javeriana University
First unicorn	Rappi in 2018
Iconic companies	LINE, Nexon, Rakuten, Kakao
Notable spinouts	Rappi, Habi and Addi
Combined enterprise value	$12.5 billion
Cost of living	27% of New York

#5 **Unicorn conversion**	#1 **Early stage funding growth**	#173 **Breakout stage funding growth**
#51 **Unicorn growth**	#49 **Unicorn to GDP ratio**	#6 **Affordability of living**

Explore Bogotá»

Source: Dealroom.co.

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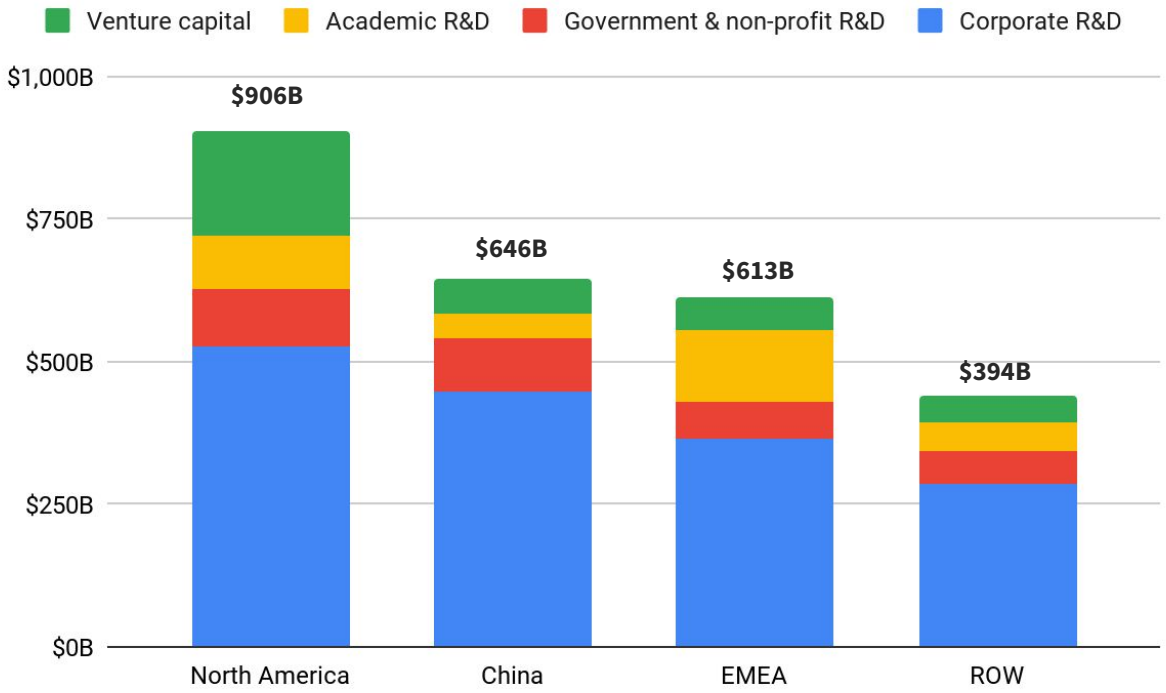
Research & Development (R&D) investment is 6.5x higher than venture capital investment. Over 70% of R&D investment is done by corporates.

Global venture capital has grown 4x over the last decade (ignoring the 2021 hype year).

But there's innovation happening beyond startups. Venture capital is still dwarfed by R&D investment, which has grown 2x over the same period.

R&D and venture capital investment (2020).



Source: Dealroom.co analysis of OECD data for R&D. EMEA region includes the EU27 countries including the UK, Israel and South Africa. VC data from Dealroom.co

Frontier R&D is dominated by formerly venture-backed companies. Ergo, there's a indirect link between corporate R&D and venture capital.

Corporate R&D spend ($ billions)	United States	EU-27	Japan	China	South Korea	United Kingdom	Germany	France	Israel	Taiwan
Internet, software, hardware	114	9	9	15	17	1	4	2	1	3
Semiconductors	39	5	3	1	2	0	1	0	0	7
Pharma, biotech, healthcare	84	52	14	1	0	13	8	8	2	0
Automotive	19	46	39	6	4	4	34	8	0	0
Aerospace and Defense	11	8	0	0	0	2	0	2	0	0
Telecom	13	16	2	3	0	1	1	1	0	0
Oil & Gas	1	3	0	3	0	0	0	1	0	0

Source: Dealroom.co analysis of 2018 PWC data on 1,000 publicly listed companies.

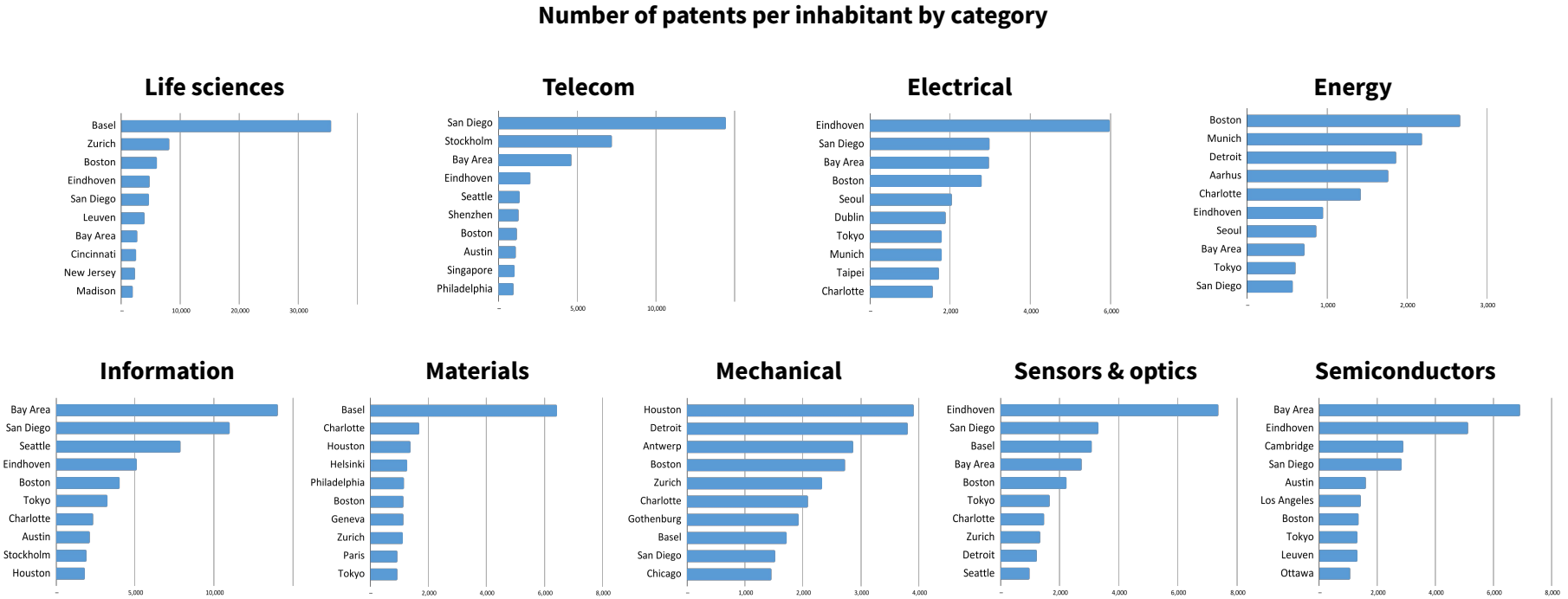
Patents are an indicator of research output. Places such as Tokyo, Seoul, San Diego become more prominent when looking through this lens.

Registered Patents breakdown per category

	Total	Information	Telecom	Electrical	Energy	Life sciences	Materials	Mechanical	Sensors & optics	Semi–conductors
Tokyo	513,182	131,819	27,575	73,044	24,681	54,852	37,923	41,372	67,690	53,053
Bay Area	287,776	108,709	35,966	23,066	5,543	20,905	6,309	10,151	21,247	53,546
Seoul	207,716	27,586	19,621	53,330	22,477	10,227	10,208	16,117	20,651	26,830
San Diego	140,394	36,233	47,700	9,856	1,873	15,618	2,168	5,004	10,929	9,369
Boston	120,420	19,818	5,840	13,795	13,154	29,740	5,612	13,463	11,000	6,642
Los Angeles	114,772	24,807	11,306	11,268	2,617	16,698	3,288	7,869	8,989	26,750
Houston	72,077	13,074	3,247	4,398	1,710	3,818	9,826	27,872	4,409	3,657
Shenzhen	65,947	12,813	29,746	8,490	1,824	1,633	969	2,491	5,001	2,419
Chicago	56,769	6,963	3,687	6,798	4,025	8,056	7,349	14,496	4,034	1,187
Seattle	56,397	32,359	5,496	3,304	783	3,173	701	3,265	4,041	3,211

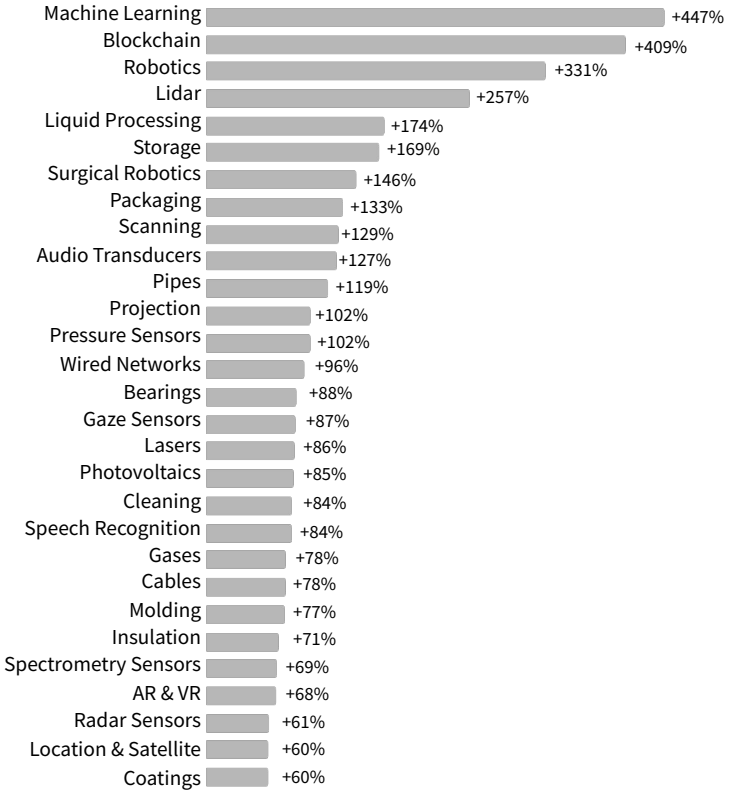
 Source: Dealroom.co analysis of Cipher data.

Hubs such as Leuven, Eindhoven, and Basel are world-leading in their field of specialisation. Patent data helps identify such hubs.



 Source: Dealroom.co analysis of Cipher data.

Fastest growing patent sub-categories (2017 vs. 2021)



Patent intelligence from Cipher.

Cipher is recognized as the leading provider of strategic patent intelligence to major patent-owning organizations.

Cipher's Universal Technology Taxonomy is a novel way to map patents to technologies using supervised machine learning.

This breakthrough makes it possible to establish objective and repeatable ways to communicate both the risk and value associated with patents to IP leaders, the board, and the investor community more broadly.

CIPHER

Source: Dealroom.co analysis of Cipher data.

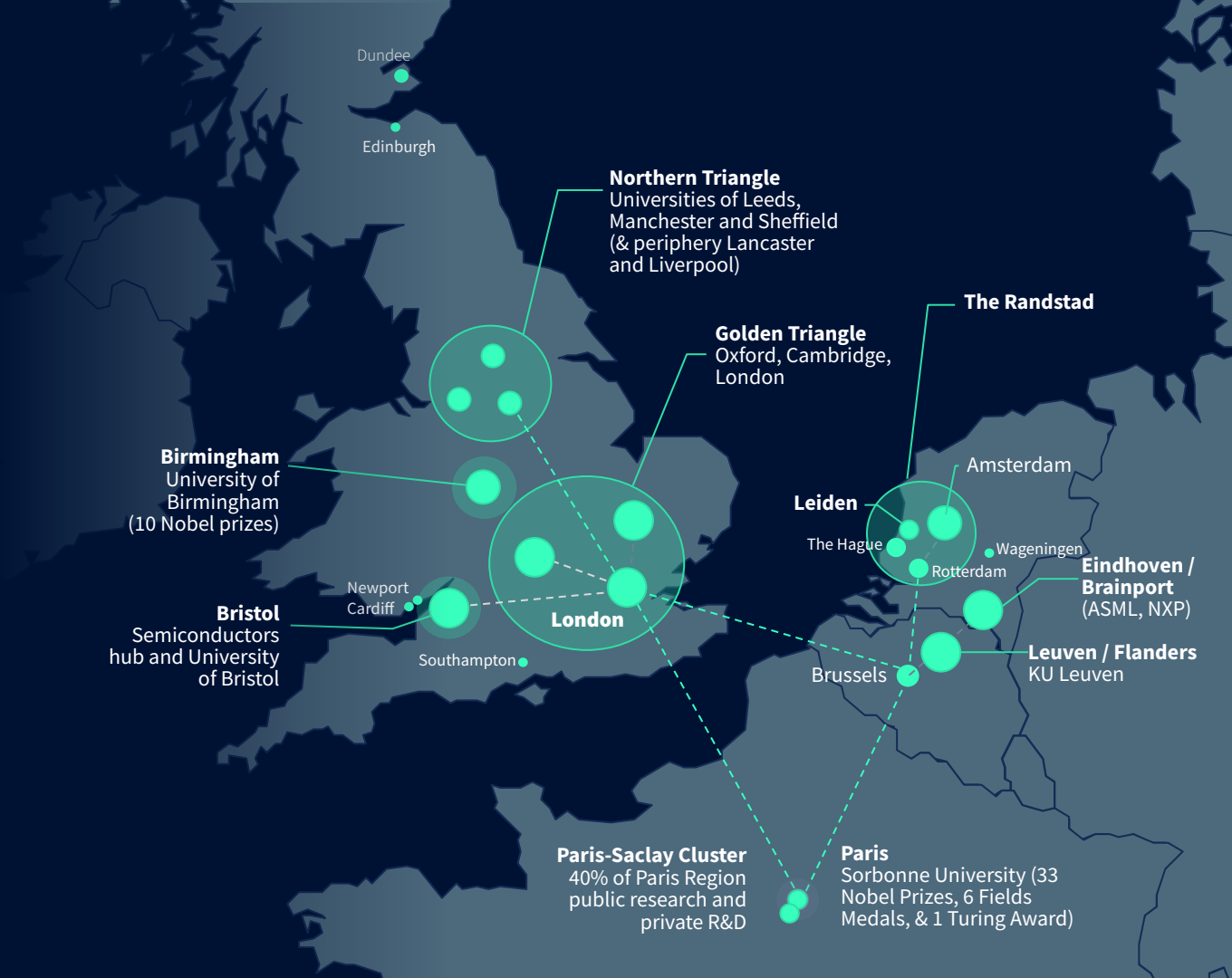
Many startups have their roots in academia. And universities are a breeding ground for entrepreneurs more generally. This report measures the linkage between universities and the startup ecosystem.

» Universities by number of startups

» University spinouts

NAME	LOCATIONS	ALUMNI-FOUNDED STARTUPS (Europe)	ALUMNI FOUNDERS (Europe)	ALUMNI-FOUNDED UNICORNS (Europe)	ALUMNI-FOUNDED FUTURE UNICORNS (Europe)	ALUMNI-FOUNDED STARTUPS
Stanford University Stanford University is one of the w…	Stanford Kentucky	828	649	7	14	5132
Harvard Business School Harvard Business School educates…	Boston Massachusetts	752	607	12	21	3780
University of California, Berkeley A wellspring of innovation, the sch…	Berkeley California	502	439	11	15	3301
Harvard University Devoted to excellence in teaching, …	Cambridge Massachusetts	619	485	11	18	3281
Massachusetts Institute of Technology (MIT) MIT - Massachusetts Institute of Te…	Cambridge Massachusetts	600	461	3	7	3038
The Wharton School The Wharton School of the Univers…	Philadelphia Pennsylvania	333	261	9	12	2450
Stanford Graduate School of Business Business research, insights, & idea…	Stanford Kentucky	405	283	11	17	2323
University of Cambridge One of the world's oldest universit…	Cambridgeshire England	1201	1058	12	26	2105

New Palo Alto is a Science Supercluster: three out of the top 10 science hubs within 4 hours commuting distance. A good example of an ecosystem that can combine science, entrepreneurship, capital, and frontier R&D.

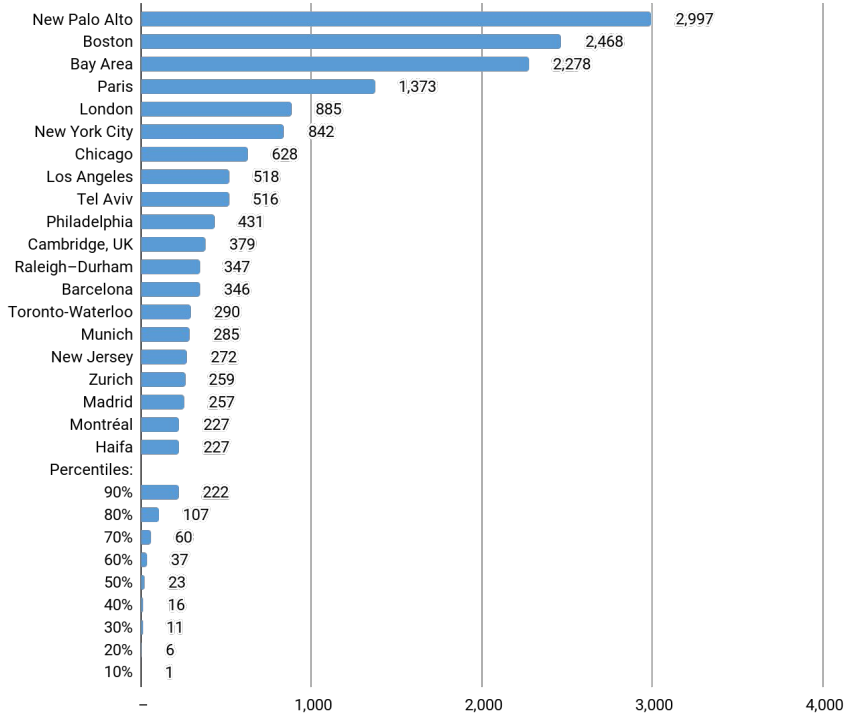


Explore New Palo Alto »

 Source: Dealroom.co.

University talent

University alumni that founded startups that raised >$10M



Boston USA

Cities & towns	Boston, Cambridge, Worcester, Providence, Lowell
Universities	Harvard, MIT, Boston University
First unicorn	Wayfair in 2011
Iconic companies	Moderna Therapeutics, Nuance Communications
Top patents categories	Life sciences, Information & Mechanical
Notable spinouts	Boston Meats and Kula Bio
Combined enterprise value	$971.6 billion
Cost of living	80.5% of New York

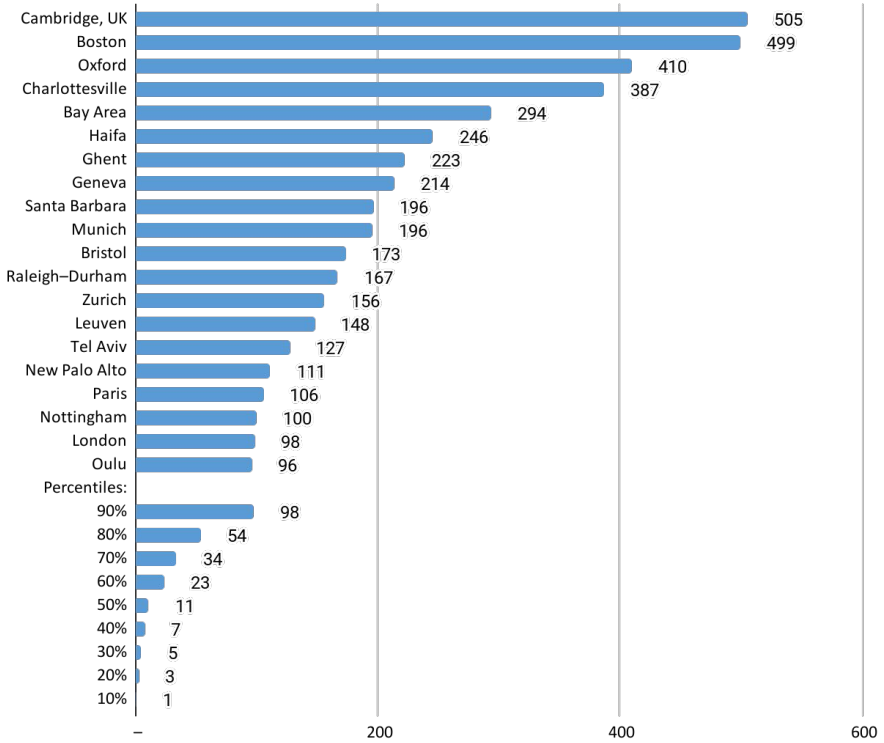
#6 **Unicorns since 2019**	#6 **Early stage funding**	#4 **Breakout stage funding**
#6 **Late stage funding**	#2 **University alumni**	#5 **Patents**

Explore Boston »

 Source: Dealroom.co.

University talent per inhabitant

Per inhabitant number of university alumni founders who raised >$10M



Cambridge UK

Cities & towns	Cambridge, St Ives and Huntington
Universities	University of Cambridge
First unicorn	ARM in 1998
Iconic companies	ARM and Aveva
Top patents categories	Semiconductors, Life Sciences and Information
Notable spinouts	CamSemi, DarkTrace and BitBio
Combined enterprise value	$66.9 billion
Cost of living	63.9% of New York

#6 Deep tech unicorns per inhabitant

#11 Early stage VC per inhabitant

#11 Breakout stage VC per inhabitant

#25 Late stage VC per inhabitant

#1 University alumni >$10M per inhabitant

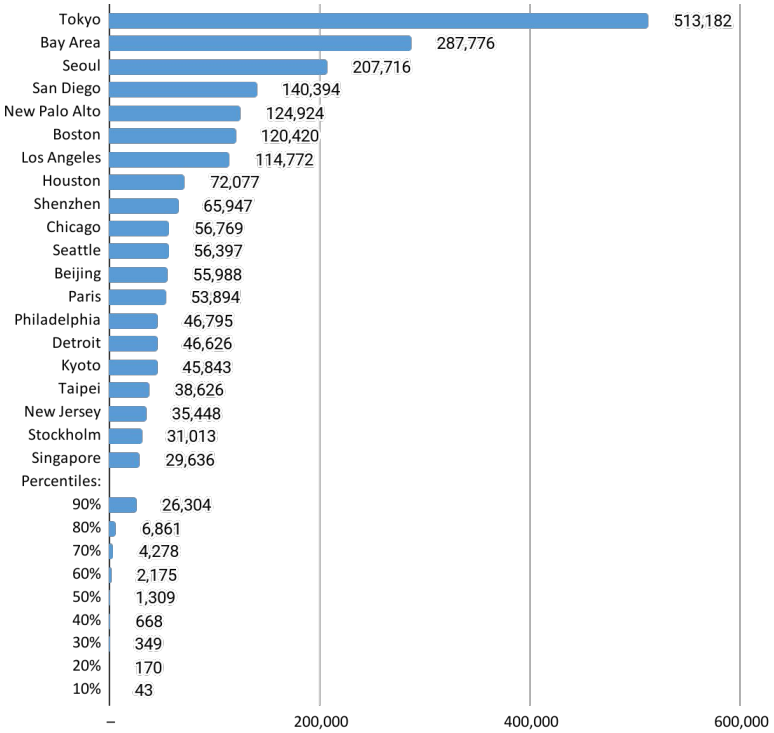
#14 Patents per inhabitant

Explore Cambridge »

 Source: Dealroom.co.

Patent development

Number of registered patents. Excluding China-only patents



Tokyo JAPAN

Cities & towns	Tokyo, Yokohama, Kawasaki, Saitama, Chiba, Sagamihara
Universities	Tokyo Institute of Technology, The University of Tokyo, Keio University
First unicorn	DeNA in 2017
Iconic companies	LINE, Nexon, Rakuten, Kakao
Top patents categories	Heptares Therapeutics and Raptuya Robotics
Notable spinouts	Information, Electrical and Sensors & Optics
Combined enterprise value	$175.5 billion

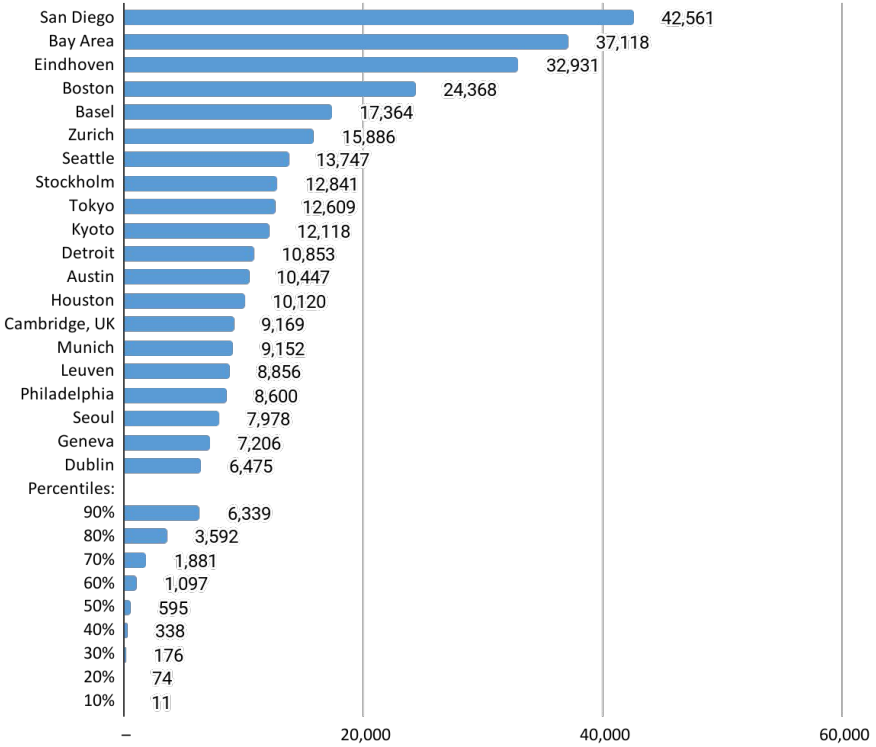
#35 **Unicorns since 2019**	#11 **Early stage funding**	#16 **Breakout funding**
#34 **Growth funding**	#142 **University alumni**	#1 **Patents**

Explore Tokyo »

 Source: Dealroom.co analysis of Cipher data.

Patent development per inhabitant

Number of active patents excl. China-only patents per inhabitant



Basel SWITZERLAND

Cities & towns	Birsfelden, Binningen, Oberwil, and Riehen
Universities	University of Basel
First unicorn	Roivant Sciences in 2014
Iconic companies	Roivant Sciences, CRISPR Therapeutics and NBE-Therapeutics
Notable spinouts	Advancience and T3 Pharma
Top patents categories	Life Sciences, Materials and Information
Combined enterprise value	$24.7 billion
Cost of living	119% of New York

#11 **Deep tech unicorn per inhabitant**	#65 **Early stage VC per inhabitant**	#26 **Breakout stage VC per inhabitant**
#37 **Late stage VC per inhabitant**	#5 **Patents per inhabitant**	#50 **University alumni >$10M per inhabitant**

Explore Basel »

Source: Dealroom.co analysis of Cipher data.

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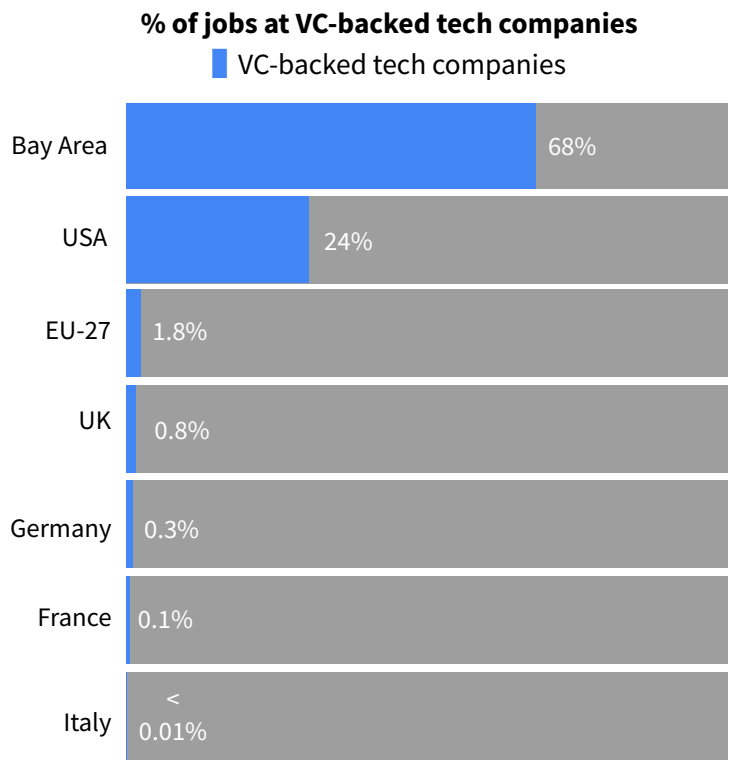
Tech has created giant companies, many of whom were venture backed early on.

Job creation potential, as demonstrated by #1 Trailblazer: the Bay Area.

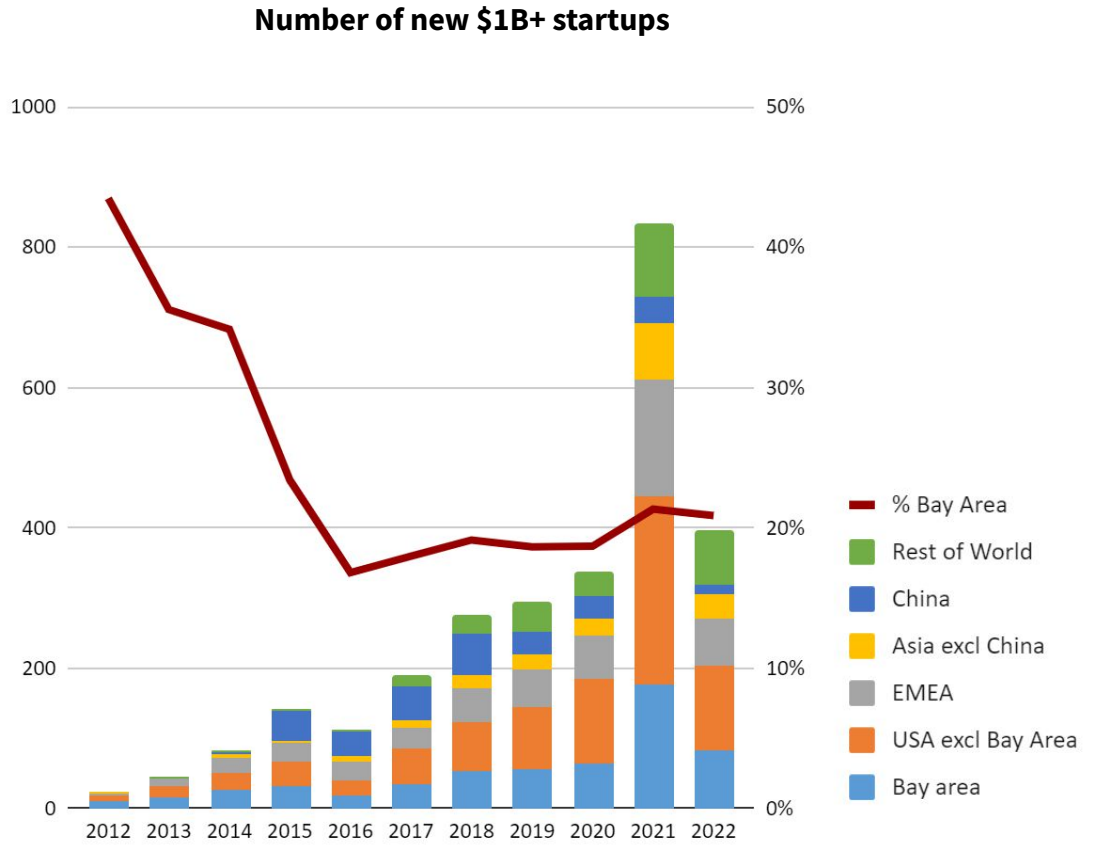


The Bay Area no longer has a monopoly on VC-backed innovation. And no Big Tech company is impervious to disruption.

The Bay Area is not in decline – far from it. However, its share of global VC-backed innovation has dropped from 40% to 20% and stabilized there.

The Tech sector is highly concentrated ("big tech") but it is not static or monopolistic. It is highly dynamic and competitive. The life expectancy of companies is shorter than ever.

Younger cohorts are able to disrupt big incumbents (e.g. Tiktok). This means there is a massive opportunity for emerging tech ecosystems.



Source: Dealroom.co.

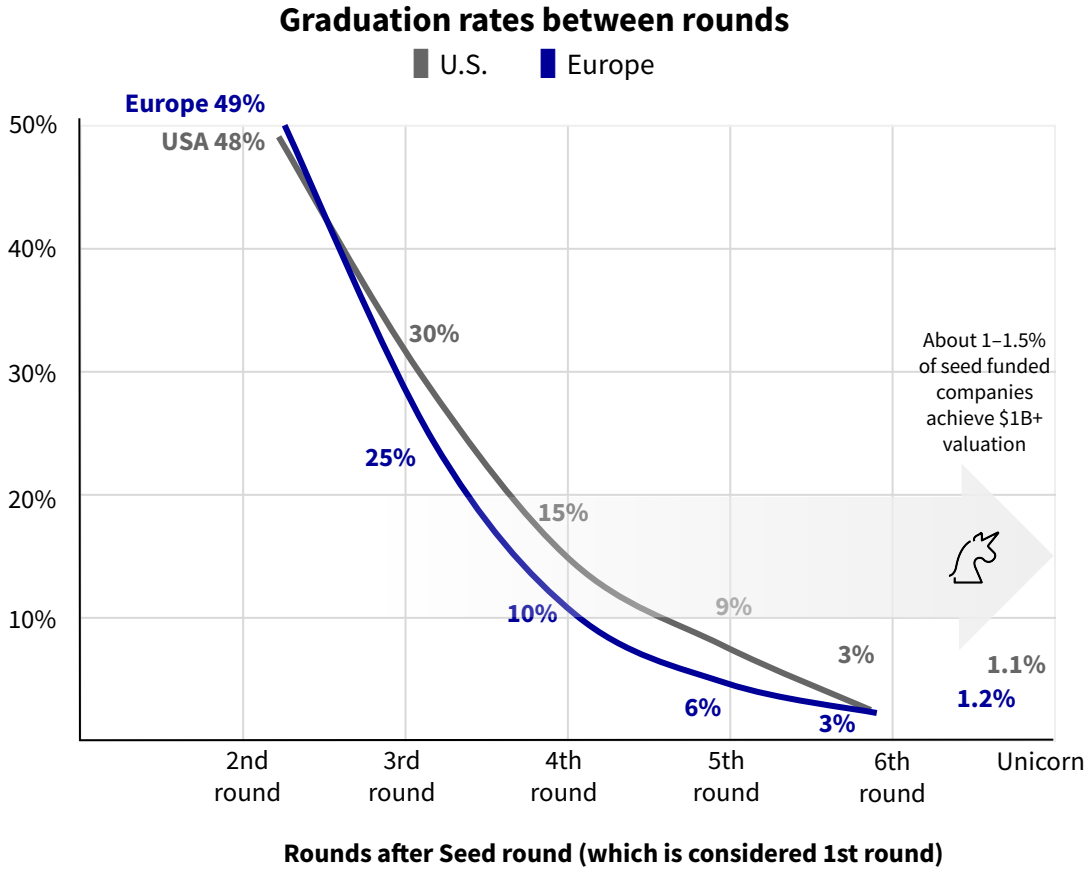
About 1.0 to 1.5% of seed-funded startups reach the $1B+ milestone – this is similar in both in the US and Europe.

Startup failure, while not desirable, is normal and likely. But are startups set up for success?

Dealroom data shows that a key success factor is the quality of the investor landscape. Dealroom conducted a European study on the performance of seed-stage investors, in partnership with VC firms Atomico and LocalGlobe.

19% of Seed companies raised a Series A after 36 months. But the probability was 40% for top-quartile investors and only 7% for bottom-quartile investors.

An Angellist study showed that in the US, graduation rates are much more uniform across investors. Lower graduation rates might also point to a lack of local follow-on capital (Series A, B, and beyond).



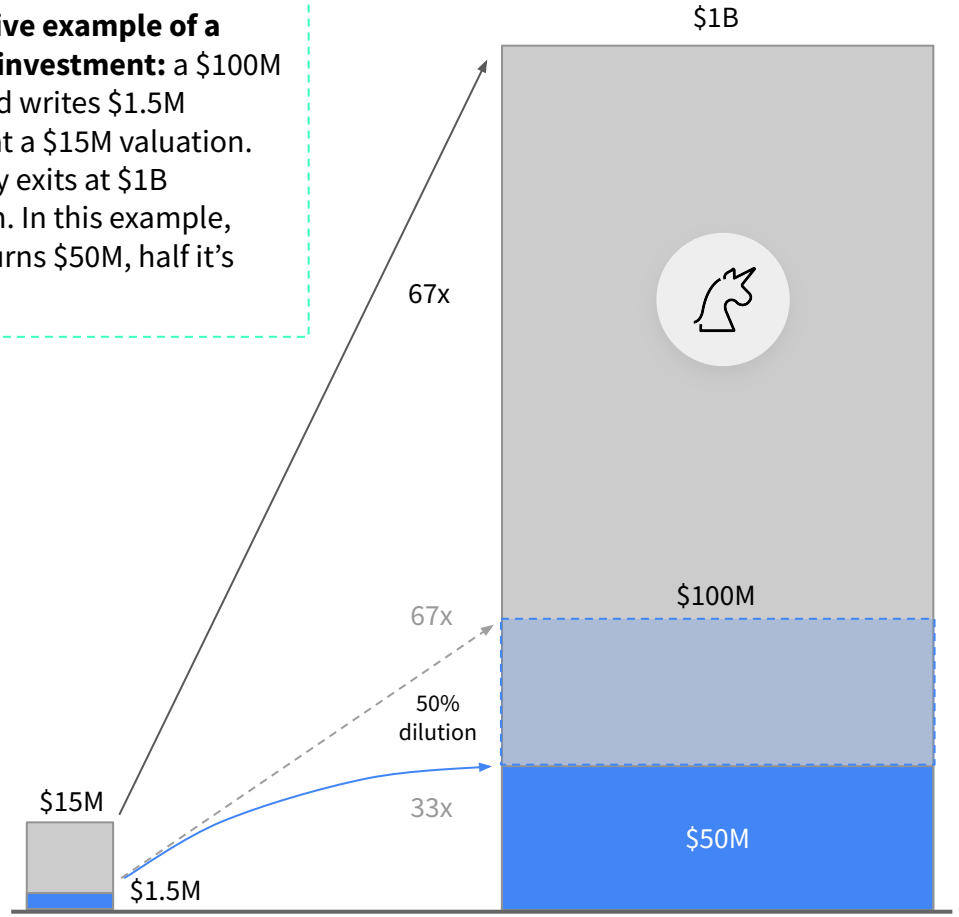
Why VCs care about $1B+ companies.

Unicorns are basically startups that are well on their way to being (very) successful. Important in the context of this report: they also have the potential to be a “fund returner” for a seed investor. The example on the right shows how that calculation works.

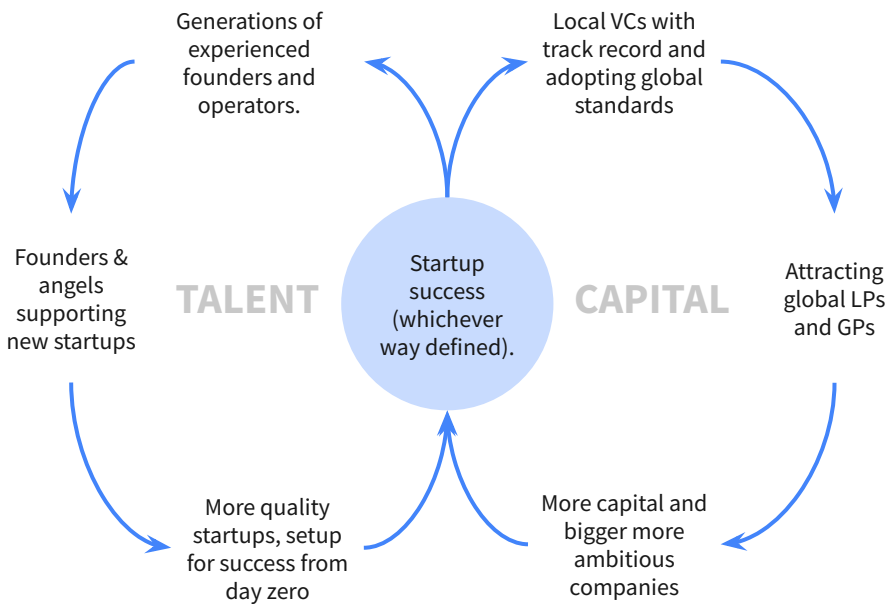
The Investor Rank assigns the same number of points to unicorns, whether they are exited or unrealized unicorns. A realized unicorn is a more tangible result. But unrealized unicorns are more forward-looking. Decacorns are valued the same as unicorns (for now).

Revenue is more meaningful than the paper value from a VC round but revenue data is reported with significant delays (if at all) and therefore a lagging indicator in the real world. Valuation, while far from perfect, is a more real-time and ubiquitous datapoint about the state of individual startups.

Illustrative example of a unicorn investment: a $100M seed fund writes $1.5M cheque at a $15M valuation. Company exits at $1B valuation. In this example, fund returns $50M, half it’s fund.



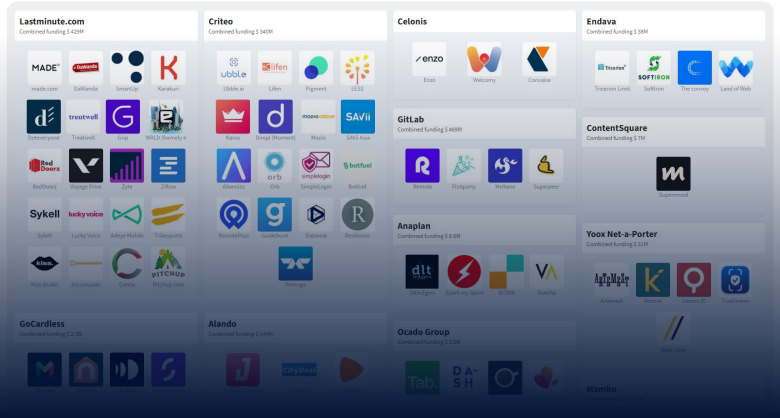
Why ecosystems care about big outcomes: the startup ecosystem flywheel.



Startup mafias identified

Success breeds success. Early tech ecosystem success not only creates value, but breeds a generation of operators with unique experience in starting and rapidly scaling successful businesses, who have the right network and at times the exit capital to start their next venture. It starts a snowball effect of success.

Most famously in the US, the founder and first-hire alumni of the "PayPal Mafia" went on to found Tesla, LinkedIn, Palantir, SpaceX, Square, Slide, Kiva, YouTube, Yelp, and Yammer. Then there are the European Startup Mafias. The training grounds that became the founder factories fuelling the European startup ecosystem. Check out 600+ startups (co-)founded by alumni of European unicorns:

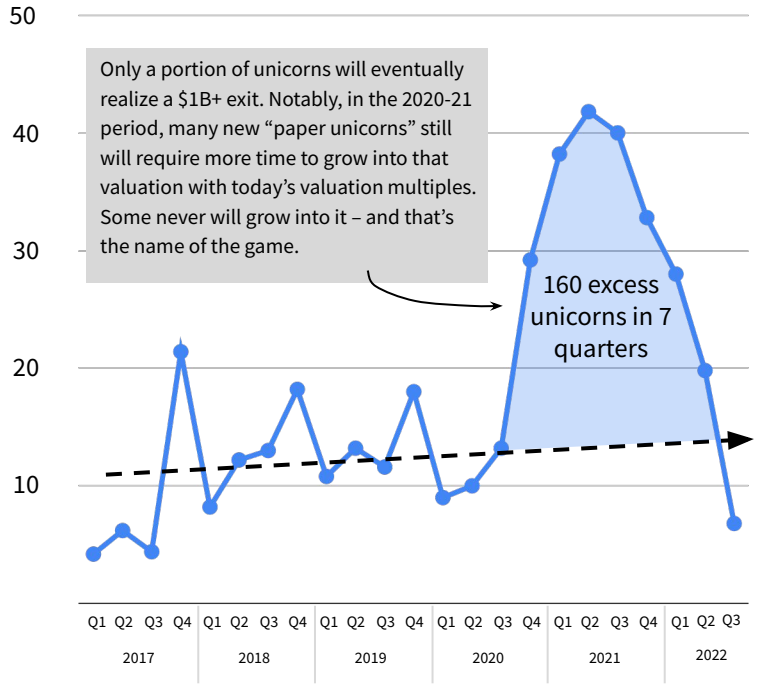


View landscape »

 Source: Dealroom.co.

New unicorn creation is back to pre-pandemic level, similar to VC investing.

Number of new unicorns and $1B+ exits » view online



Explore the unicorn data.

North America » | Europe » | Asia »

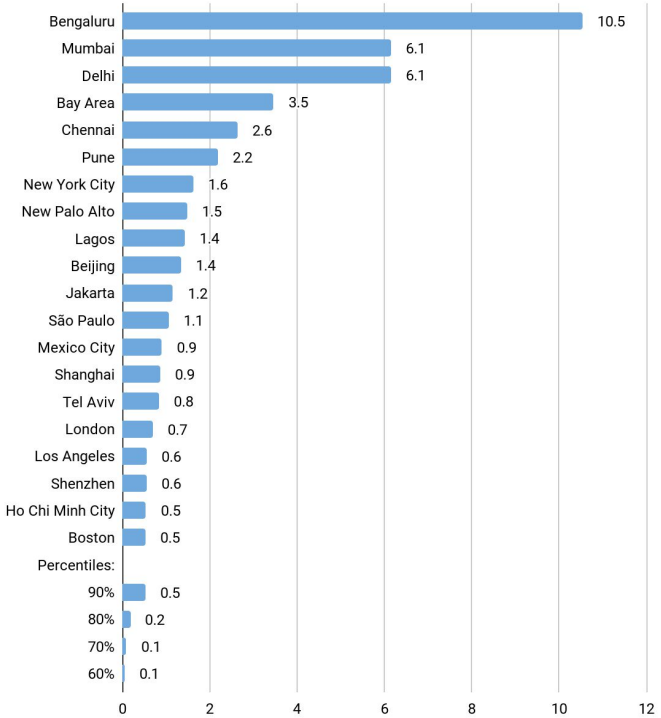
Oceania » | Africa » | South America »

VIEW BY Locations	2017	2018	2019	2020	2021	2022
Greater London	7	5	10	9	23	11
Ile-de-France (Paris Region)	0	3	4	4	11	6
Greater Stockholm	1	2	2	5	7	5
Berlin/Brandenburg Metropolitan Region	0	3	3	1	15	4
Metropolitan City of Milan	0	0	1	0	1	3
Greater Zurich area	2	0	2	0	3	2
Greater Oslo Region	0	0	0	2	4	2
Greater Dublin Area	0	0	0	1	2	2
Amsterdam Metropolitan Area	0	2	3	2	5	1
Greater Helsinki Area	0	0	0	1	2	1
Vienna Metropolitan Area	0	1	0	0	2	1
Barcelona Area	0	0	1	0	2	1

Source: Dealroom.co.

Unicorn to GDP ratio

Unicorns created since 2019 relative to GDP per capita



Bengaluru INDIA

Districts	Chikkaballapura, Chitradurga, Davanagere, Kolar, Ramanagara, Shimoga and Tumakuru
Universities	Indian Institute of Management, Bangalore University
First unicorn	InMobi in 2011
Iconic companies	Infosys and Rajesh Exports
Top patents categories	Information, Life Sciences and Materials
Combined enterprise value	$246.1 billion
Cost of living	27% of New York

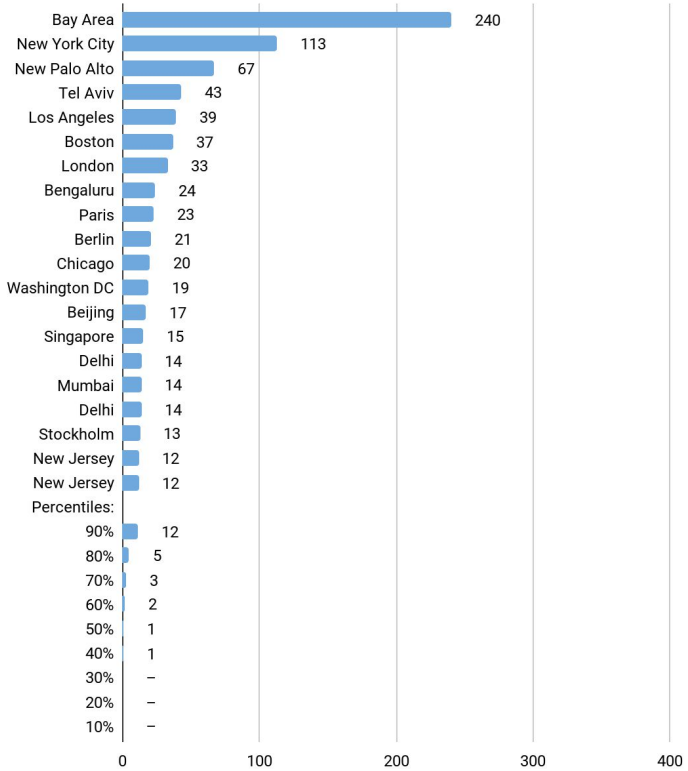
#1 **Unicorns to GDP ratio**	#68 **Early stage funding growth**	#73 **Breakout funding growth**
#47 **Series A to unicorns conversion**	#10 **Unicorn growth since 2019**	#7 **Affordability of living**

Explore Bengaluru »

 Source: Dealroom.co.

New unicorn creation

Unicorns created since 2019



Tel Aviv ISRAEL

Cities & towns	Tel-Aviv, Yafo/Jaffa, Holon and Ramat Gan
Universities	Weizmann Institute of Science, Tel Aviv University and Hebrew University of Jerusalem
First unicorn	ironSource in 2015
Notable companies	Wix, eToro and Monday.com
Top patents categories	Life Sciences, Information and Telecommunications
Combined enterprise value	$181.1 billion
Cost of living	82% of New York

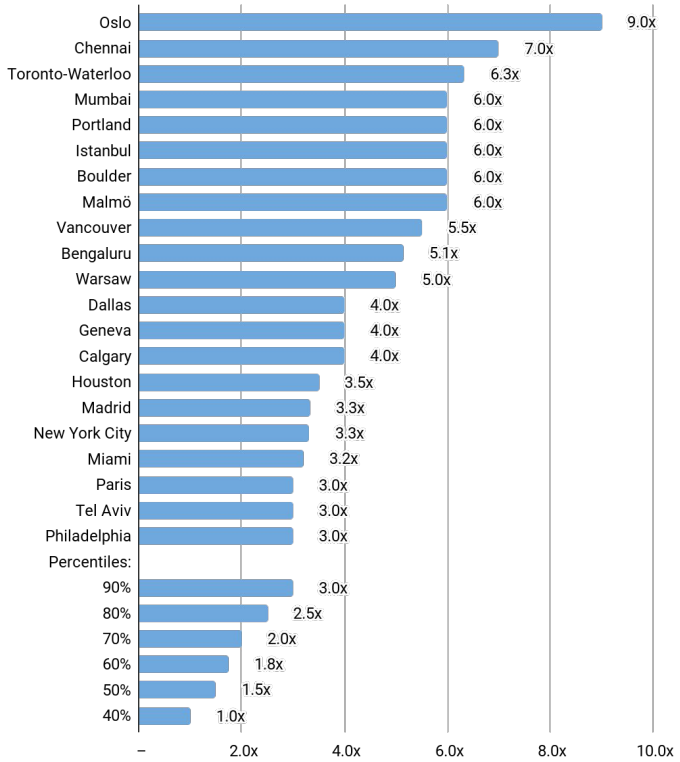
#4 **Unicorns since 2019**	#10 **Early stage per inhabitant**	#8 **Breakout stage VC per inhabitant**
#35 **Late stage VC per inhabitant**	#70 **Patents per inhabitant**	#4 **Deep tech unicorn per inhabitant**

Explore Tel Aviv »

 Source: Dealroom.co.

Unicorn growth

Growth in unicorns between 2019-22



Oslo NORWAY

Cities & towns	Oslo, Ekeberg, Grünerløkka and Frogner
Universities	University of Oslo and Norwegian University of Science and Technology (NTNU)
First unicorn	Opera in 2016
Iconic companies	Oda, Kahoot, Dune Analytics and Cognite
Notable spinouts	Cimon Medical, Elliptic Labs, and Seram Coatings
Top patents categories	Mechanical and Sensors & Optics
Combined enterprise value	$25.4 billion
Cost of living	90% of New York

#30 **Series A to unicorns conversion**	#37 **Early stage funding growth**	#35 **Breakout funding growth**
#1 **Unicorn growth**	#72 **Unicorn to GDP ratio**	#180 **Affordability of living**

Explore Oslo »

Source: Dealroom.co.

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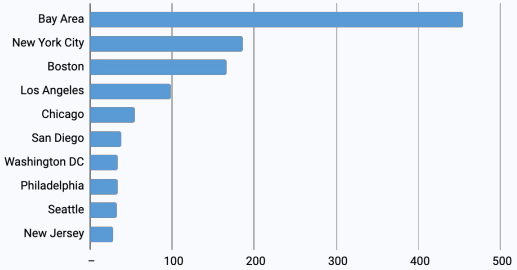
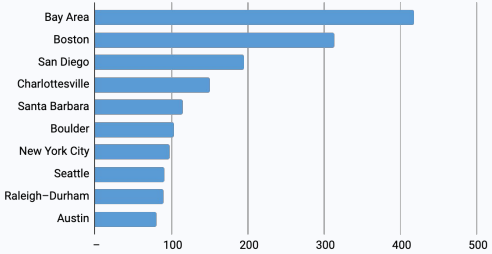
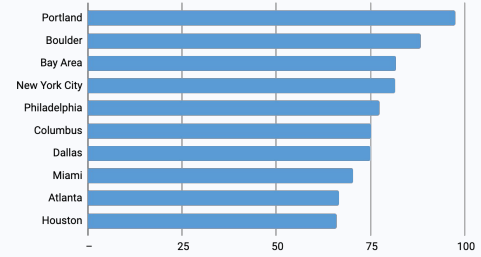
Trailblazers



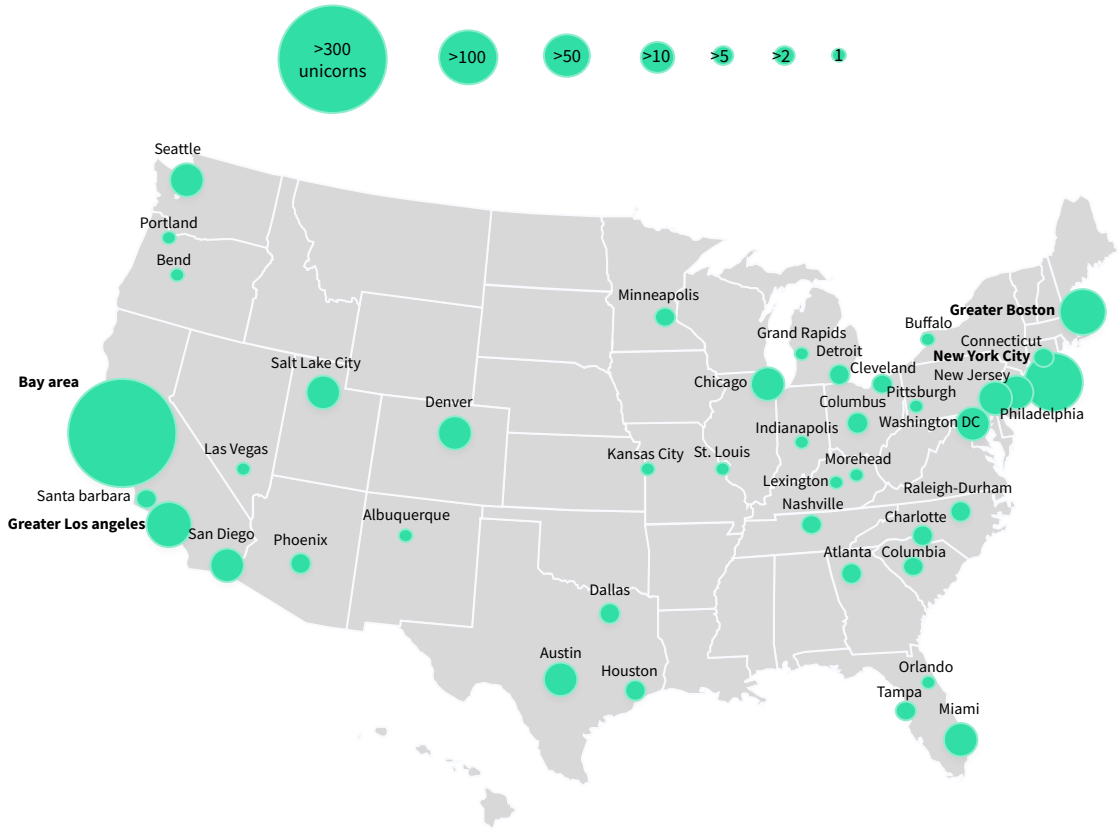
Science Hubs



Rising Stars

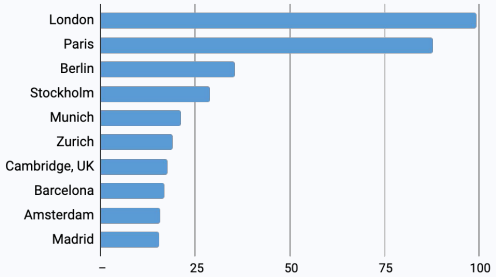


Unicorn cities in USA

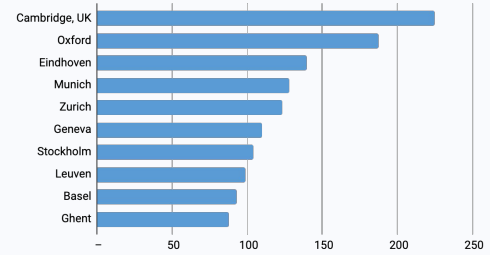


 Source: Dealroom.co

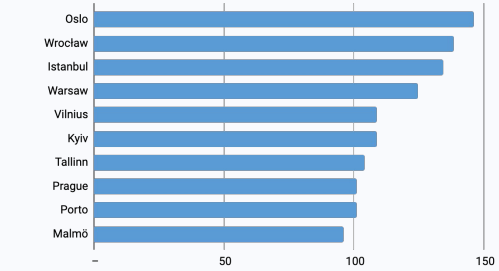
Trailblazers



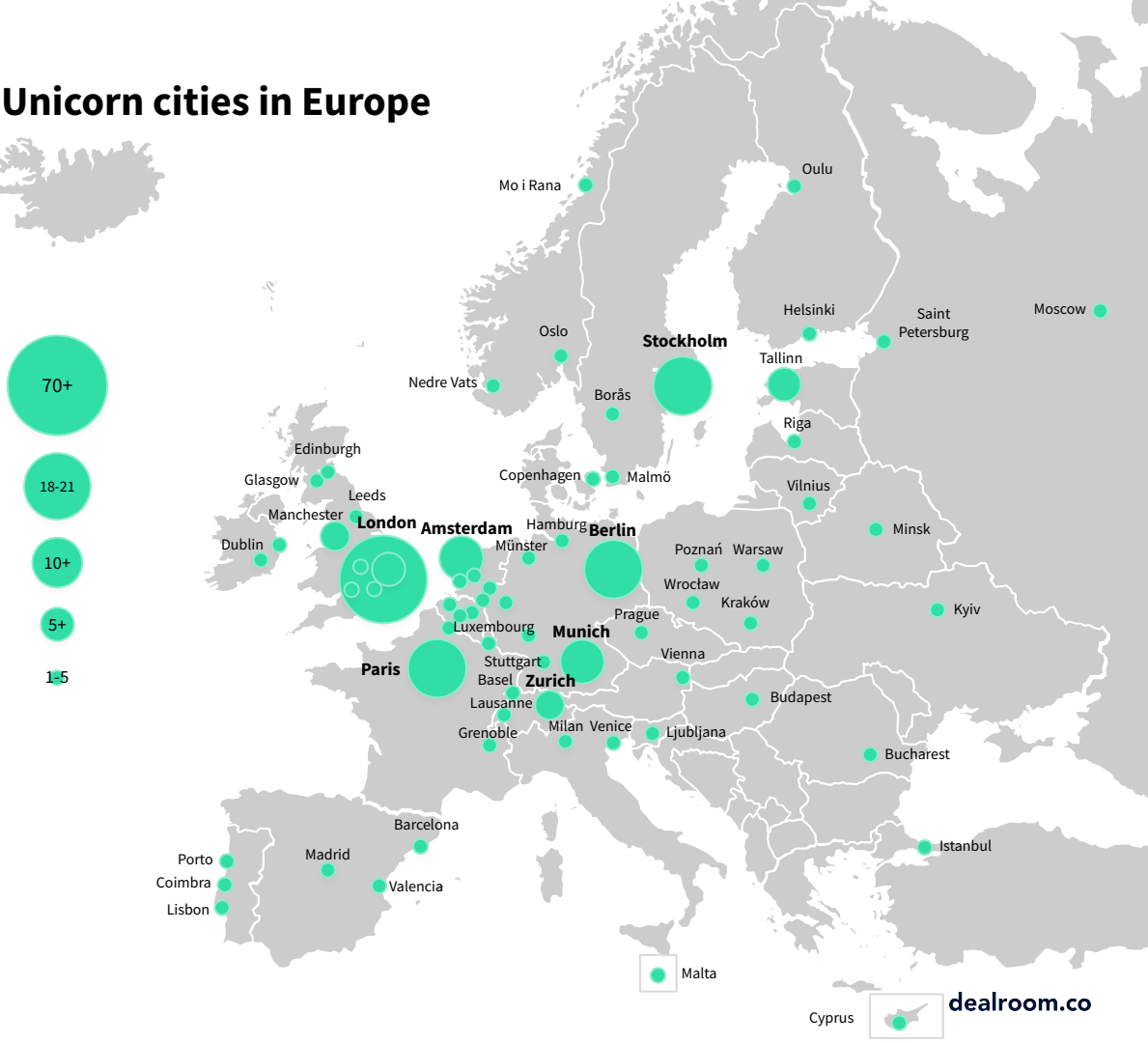
Science Hubs



Rising Stars



Unicorn cities in Europe



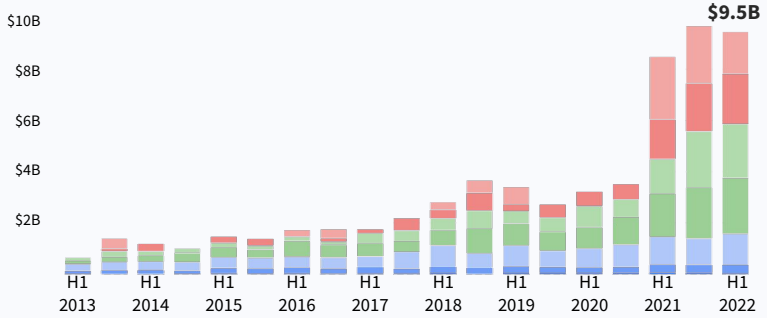
 Source: Dealroom.co

dealroom.co

Middle East and North Africa

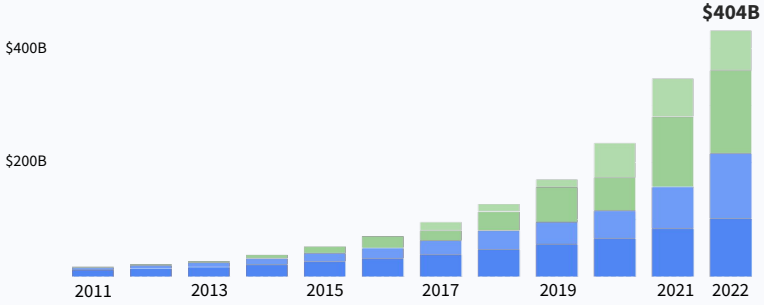
VC investment

$0-1M (pre-seed) $1-4M (seed) $4-15M (seed) $15-40M (series A) $40-100M (series B) $100-250M (series C) $250M+



Enterprise value (companies founded after 1990)

$0-200M $200M-1B (future unicorn) $1-10B (unicorn) $10B+ (decacorn)



Source: Dealroom.co

Tel Aviv ISRAEL

WiX riskified JoyTunes habana R3E WIZ Valens solaredge Playtika ORCAM NRx Nayax Mazor INSIGHTEC Gett Lightricks

See full list

Istanbul TÜRKIYE

peak Insider getir letgo dream hepsiburada

Dubai UAE

Telegram swvl EMPG careem KITOPI Network International Payment Solutions Jollychic Vini

Cairo EGYPT

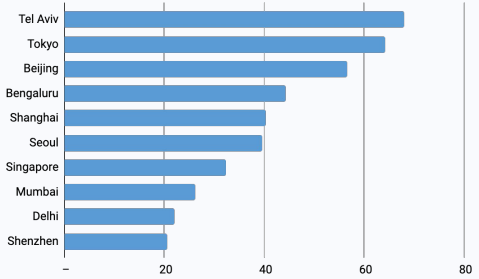
Fawry FMCG

Riyadh SAUDI ARABIA

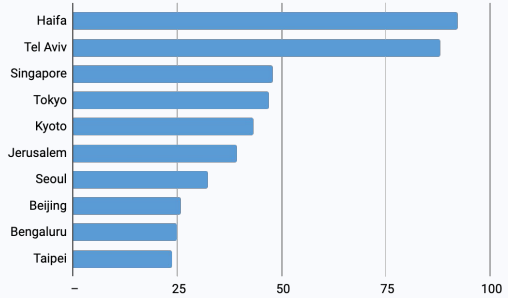
stc pay jahez

dealroom.co

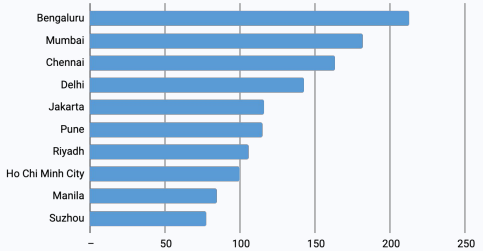
Trailblazers



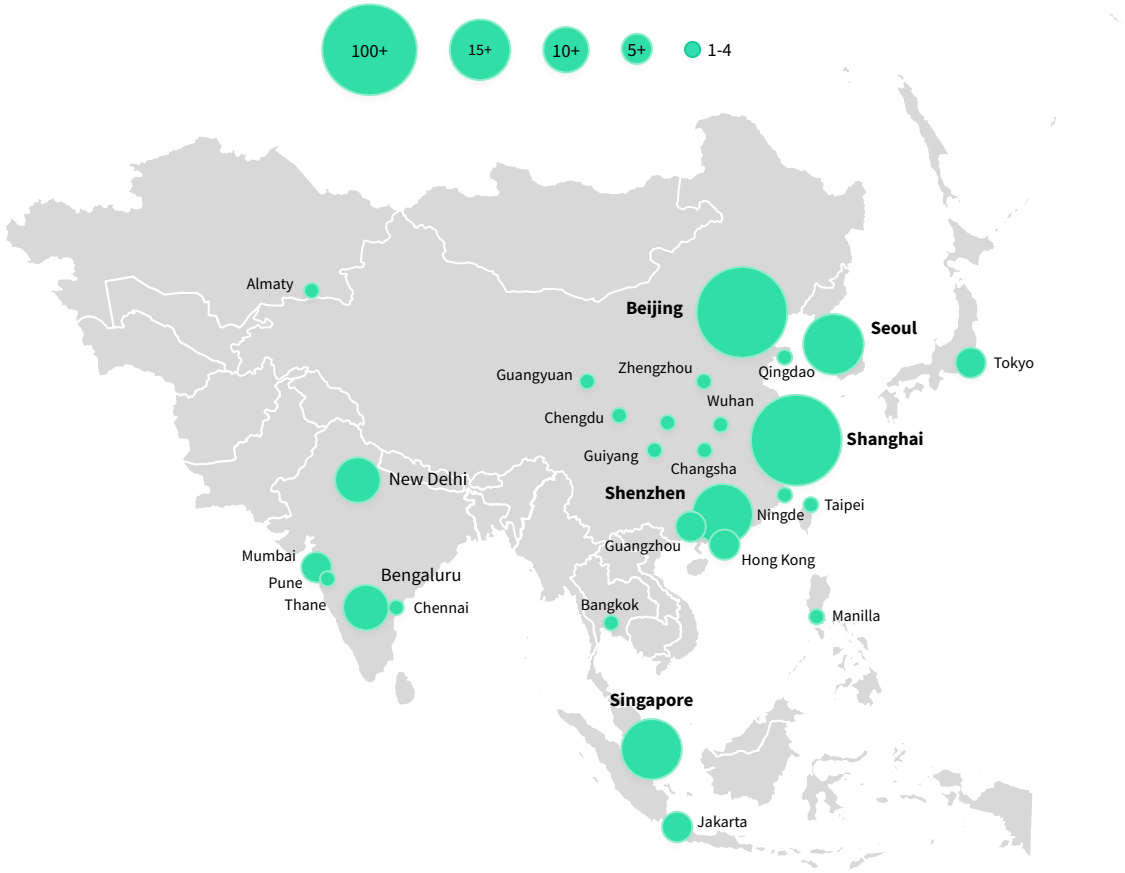
Science Hubs



Rising Stars



Unicorn cities in Asia

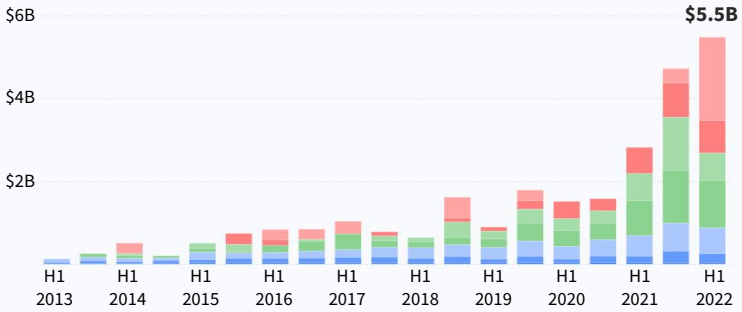


 Source: Dealroom.co

Australia & New Zealand

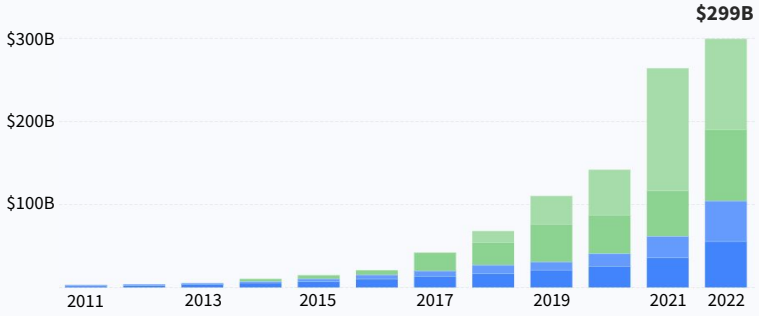
VC investment

$0-1M (pre-seed) $1-4M (seed) $4-15M (seed) $15-40M (series A) $40-100M (series B) $100-250M (series C) $250M+



Enterprise value (companies founded after 1990)

$0-200M $200M-1B (future unicorn) $1-10B (unicorn) $10B+ (decacorn)

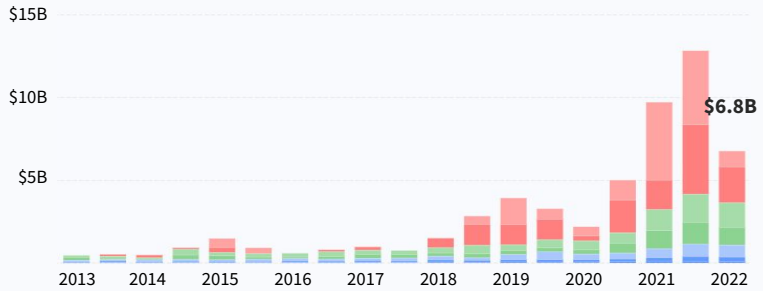


 Source: Dealroom.co

Latin America

VC investment

$0-1M (pre-seed) $1-4M (seed) $4-15M (seed) $15-40M (series A) $40-100M (series B) $100-250M (series C) $250M+



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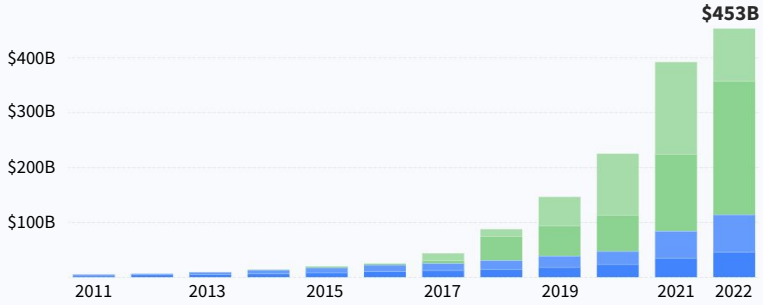

Panama
Selina

Quito ECUADOR
KUSHKI

Belo Horizonte BRAZIL
Meliuz hotmart Afya

São Paulo BRAZIL
stone C6BANK QUINTOANDAR nubank Gympass
ifood Innovation arco UNICO 2TM cloudwalk loft
credites VTEX Ascenty Dock cargo 99 XP
PagSeguro Facily neon smart fit nuvemshop Loggi

Curitiba BRAZIL
EBANX madeiramadeira olist

Santiago CHILE
betterfly NotCo

Buenos Aires ARGENTINA
ualá PRISMA despegar auth0
mercado libre Globant SATELLOGIC

Mexico City MEXICO
incode KAVAK clip Cornershop
Bitso stori CLARA Konfio
nowports merama Grupo Axo

Bogotá COLOMBIA
Rappi habi

Montevideo URUGUAY
SATELLOGIC d·local

Source: Dealroom.co

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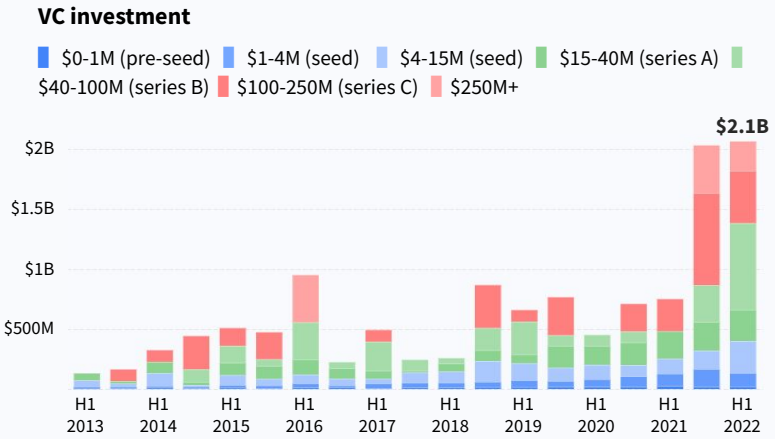
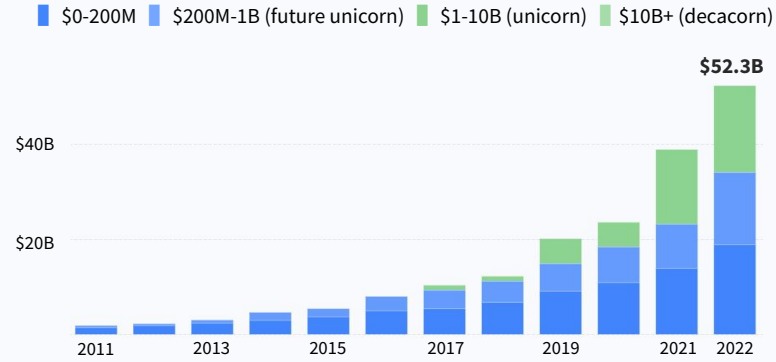
Sub-saharan Africa

VC investment



Enterprise value (companies founded after 1990)



Source: Dealroom.co

1 The next chapter in tech
2 Capital & investment
3 Innovation & talent
4 Economic outcomes
5 Regional lens
6 Methodology & about us

A unique combination of criteria and weightings is applied to each lens.

		Trailblazers Absolute values 2019-2022	**Science Hubs** Per capita values 2019-2022	**Rising Stars** Growth rates From '15–'18 to '19–'22
	Weightings / total possible points	**500**	**500**	**500**
Capital & investment	Early stage venture capital Investment in $1–15M rounds	50	50	100
	Breakout stage venture capital Investment in $15–100M rounds	50	50	33
	Late stage venture capital Investment in $100M+ rounds	50	50	33
Innovation & talent	University talent & linkage Founders from local universities that raised >$10M	100	150	-
	Number of patents developed Powered by Cipher.ai	50	150	-
	Deep tech Number of deep tech unicorns & $1B+	-	50	-
Entrepreneurship	New unicorns and $1B+ exits Startups that reach $1B+ valuation milestone	200	–	100
	Conversion score Series A to unicorn	-	-	100
Economic upside	Adjustment for GDP per capita GDP per capita from World Bank	-	-	100
	Affordability of living An index by Numbeo relative to New York	-	-	33

 Note: Dealroom.co data unless stated otherwise.

Each of the 201 hubs is benchmarked against all three lenses.

On the right is an example calculation for Boston, Massachusetts. Boston scores 13 points for early stage investing, where it ranks #6. The #1 scores 50 points. So Boston is at 13/50 of the #1 (the Bay Area).

Boston ranks #4 in the Trailblazer lens, #2 in the Science Hubs lens, and #87 in the Rising Stars lens.

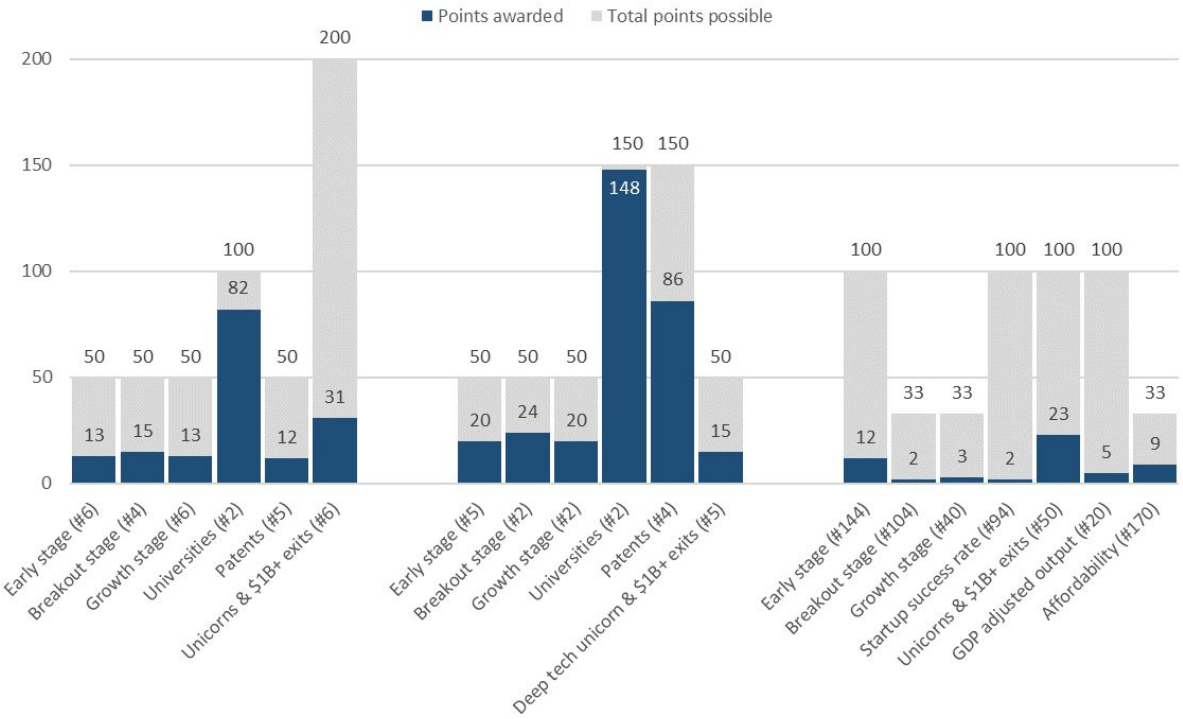
The same total quantum of points is awarded in each lens so that useful comparisons between the three lenses can be made.

Example: Boston, Massachusetts

Trailblazer lens
166 points (out of 500)
Ranked #4 (out of 195)

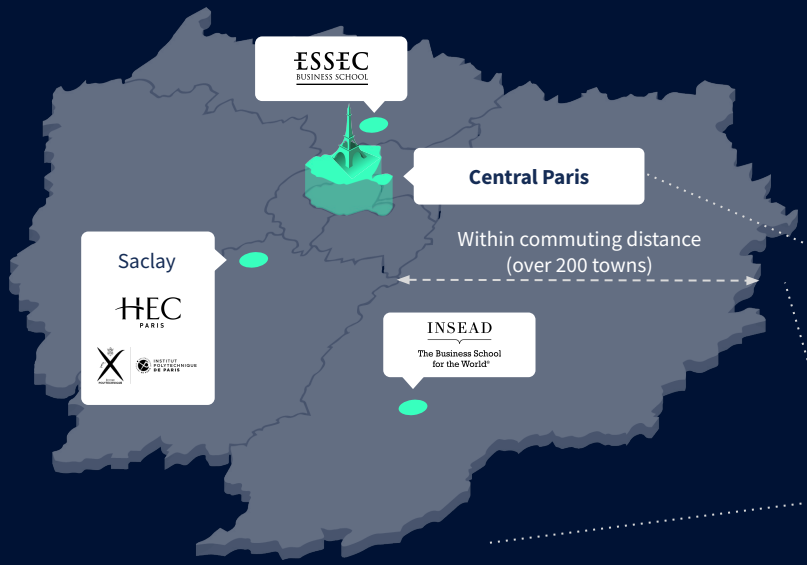
Science Hubs lens
313 points (out of 500)
Ranked #2 (out of 195)

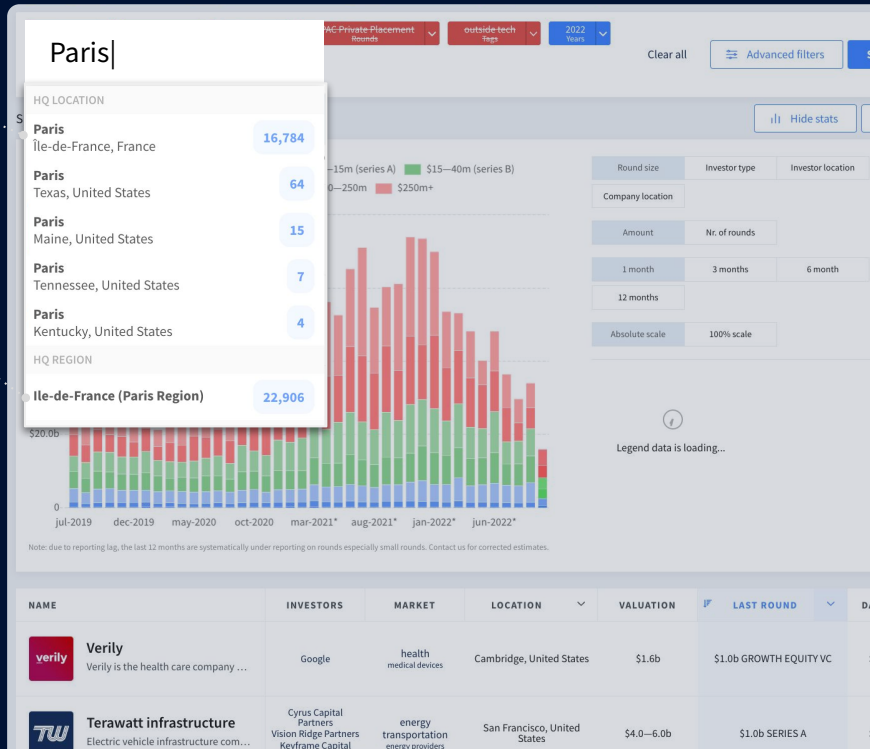
Rising Stars lens
75 points (out of 500)
Ranked #87 (out of 195)



 Source: Dealroom.co.

For each metro area, suburbs and nearby towns were consolidated. Relocated companies are also counted towards their founding location (as well as their new location).





Central Paris »
11,500+ startups
$163B enterprise value
26 unicorns

Ile-de-France »
3,600+ startups
$53B enterprise value
8 unicorns

Relocated »
Mostly to US & UK
$27B enterprise value
11 unicorns

Source: Dealroom.co.

Definitions.

What is a startup?

Companies designed to grow fast. Such companies are VC-investable but not always VC-backed. This report focuses on VC-backed companies for consistency. When startups are successful, they develop into scaleups, and grownups and result in big companies; this is their objective by definition.

What is a startup?

What is a unicorn or $1B+ exit?

Unicorns or $1B+ exits are (former) startups that reached a US$ 1B valuation or exited at one point in time.

What is a Unicorn?

Venture Capital

Investment numbers refer to rounds such as Early stage (Pre-Seed, Seed, and Series A), Breakout stage (Series B and Series C) and Late stage (Megarounds $100M+). VC investment figures exclude debt or other non-equity funding, lending capital, grants, ICOs, and SPAC Private Placement.

Valuation

The combined valuation of the tech ecosystem is based on its market cap or latest transaction value.

Transaction value is realized from an exit or implied unrealized valuation from the latest VC round, which is either announced or estimated by Dealroom based on benchmarks.

Patent data

Patent analysis based on Cipher data. Considered are all active patents per ecosystem, but excluding are China-only patents. E.g we count patents by a Chinese company when the patent rights are located in territories outside of China, otherwise it's excluded.

Underlying Data

Dealroom's proprietary database and software aggregate data from multiple sources: harvesting public information, user-submitted data verified by Dealroom, data engineering. All data is verified and curated with an extensive manual process. The data on which this report builds is available via app.dealroom.co. For more info please visit dealroom.co or contact support@dealroom.co.

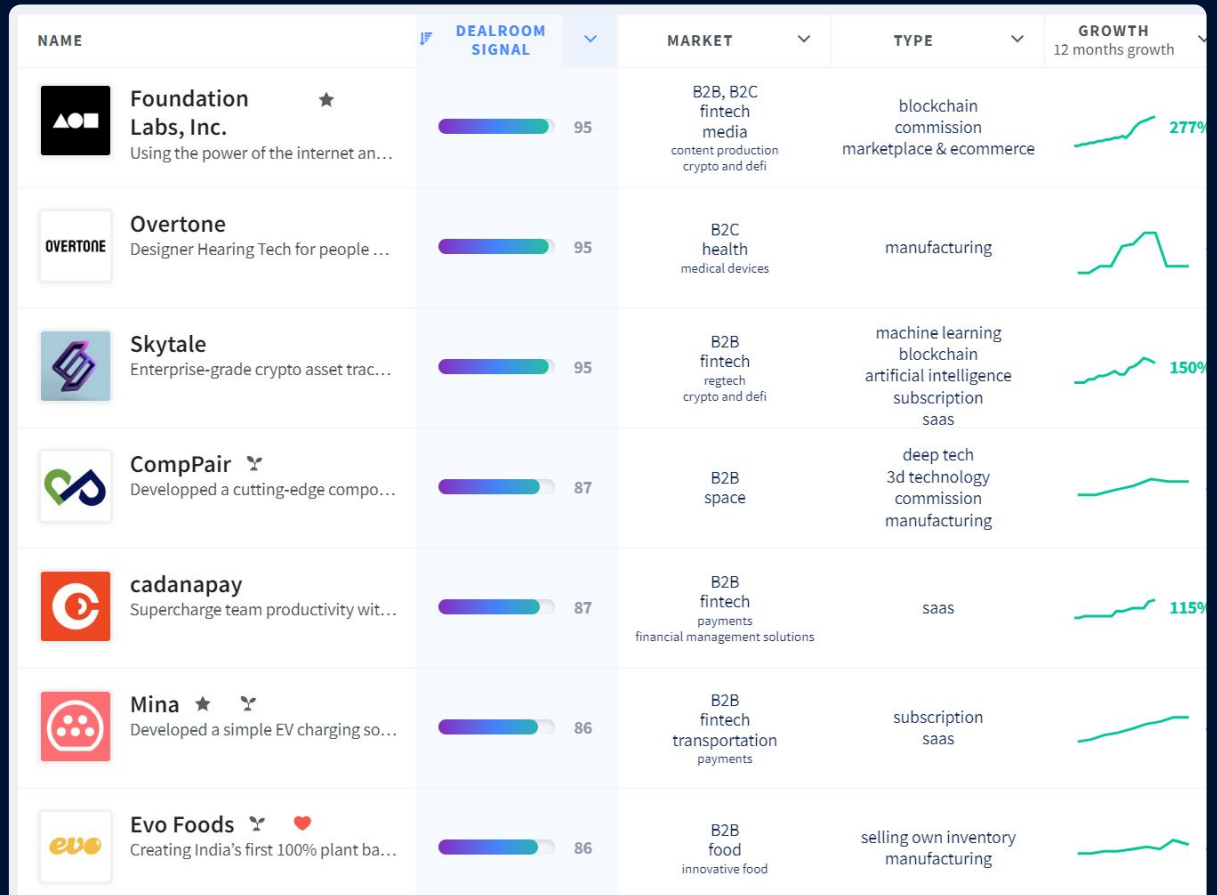
Predictive algorithms to detect emerging tech and promising companies.

(Pre)seed opportunities »

Series A opportunities »

Breakout opportunities »

Unicorns »



NAME	DEALROOM SIGNAL	MARKET	TYPE	GROWTH 12 months growth
Foundation Labs, Inc. ★ Using the power of the internet an…	95	B2B, B2C fintech media content production crypto and defi	blockchain commission marketplace & ecommerce	277%
Overtone Designer Hearing Tech for people …	95	B2C health medical devices	manufacturing	
Skytale Enterprise-grade crypto asset trac…	95	B2B fintech regtech crypto and defi	machine learning blockchain artificial intelligence subscription saas	150%
CompPair Developped a cutting-edge compo…	87	B2B space	deep tech 3d technology commission manufacturing	
cadanapay Supercharge team productivity wit…	87	B2B fintech payments financial management solutions	saas	115%
Mina ★ Developed a simple EV charging so…	86	B2B fintech transportation payments	subscription saas	
Evo Foods Creating India's first 100% plant ba…	86	B2B food innovative food	selling own inventory manufacturing	

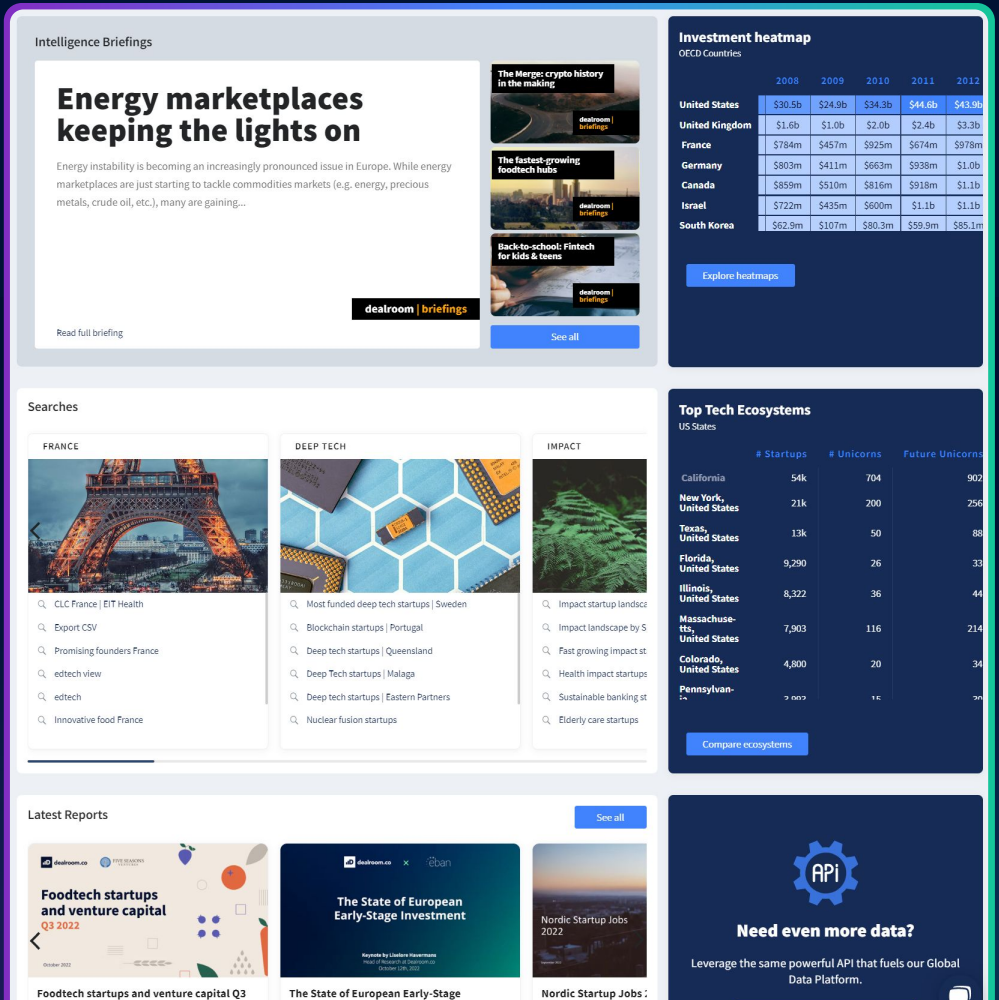
Intelligence briefings written by Dealroom Analysts

Investment trends

Market maps across thousands of niche segments

Compare any tech ecosystem

Deep-dives into ecosystems and industries



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