



The Global Startup Ecosystem Report 2021 Life Sciences Edition

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About Startup Genome



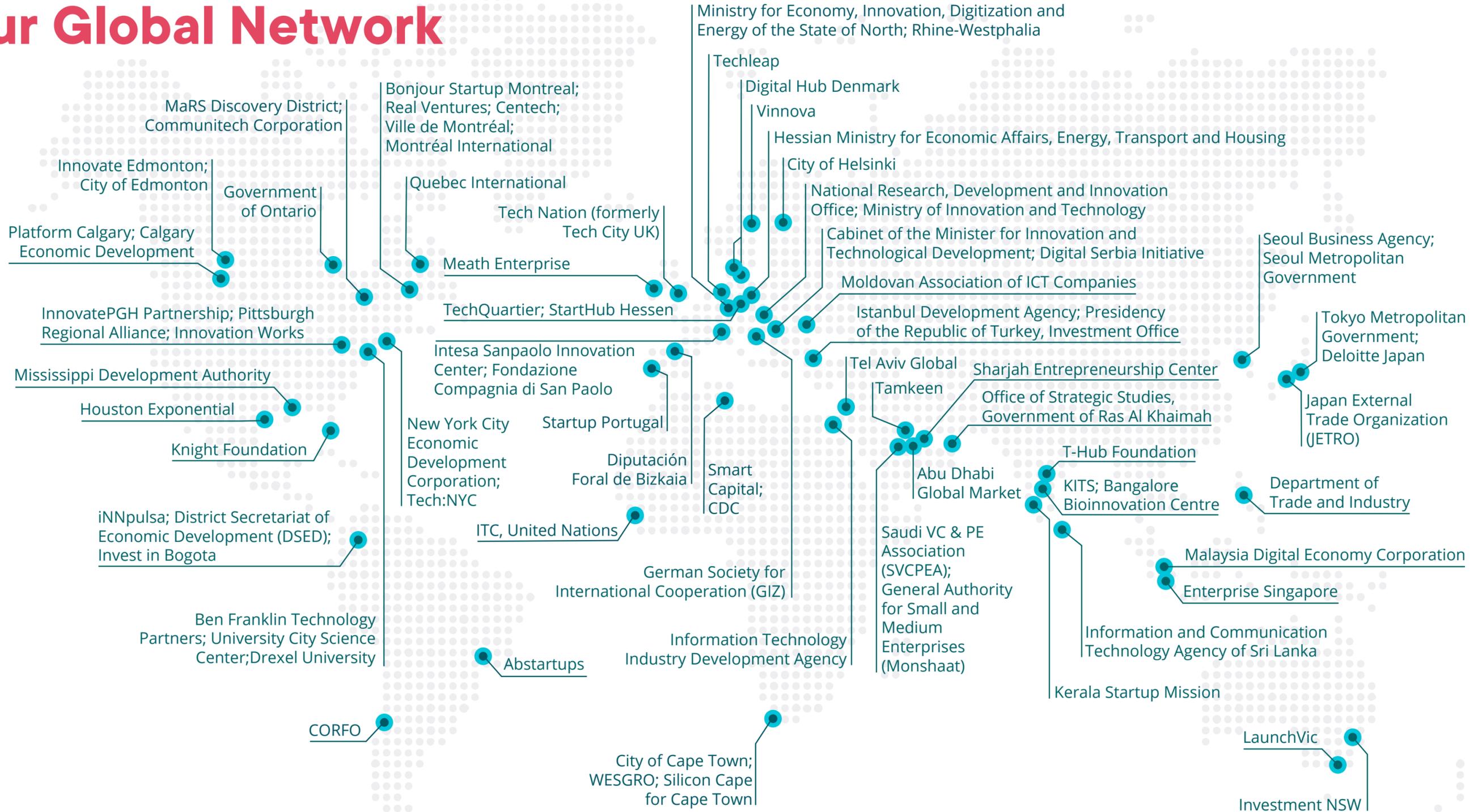
Startup Genome is the world-leading policy advisory and research organization for governments and public-private partnerships committed to accelerating the success of their startup ecosystems. We have advised more than 100 clients across more than 40 countries.

Startup Genome's mission is to accelerate startup success and ecosystem performance everywhere, working together with global thought leaders to define and execute robust policies and programs that drive lasting change. Our impact is rooted in over a decade of independent research with data on more than a million companies across 150 cities.

Join us and boost startup success, economic growth, and job creation in your region. Follow our work at startupgenome.com and follow the company on [LinkedIn](#) and [Twitter](#).

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Our Global Network



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Our Services

We work with forward-looking governments and private sector organizations to accelerate the success of their startup ecosystems to fuel the growth of more startups, sustainable economic growth and job growth.



Knowledge Exchange

- Support from our leaders
- Network of leading innovation policy makers in 40+ countries
- Access to policy best practices and shared learning
- Member meetings and leadership workshops



Attraction

- Creating awareness and profile for your ecosystem
- Highly targeted towards attracting entrepreneurs, talent and investors
- Global reach through our reports, conferences and media



Assessment

- Scientific and data-driven assessment of ecosystem performance, sub-sector strengths, and success factor gaps
- Ecosystem lifecycle
- Peer benchmarking



Strategy

- Scenario modelling for economic impact
- Ecosystem development strategy
- Multiyear implementation roadmaps
- Stakeholder engagement and steering committee formation



Execution

- Initiative execution and support for local ecosystem agencies and teams
- Impact measurement and reporting
- Delivered by Startup Genome and globally-leading organizations and experts

Want to speak with someone from our team to find out more?
 Contact Adam Bregu, Director of Business Development and Partnerships (adam@startupgenome.com)

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About Our Global Partners



TNW is a global digital brand that informs, inspires and connects people who love tech, through media, events, and spaces. Primarily known for its media outlet and award-winning tech events, TNW also incorporates a co-working label, a global start-up database, and delivers custom innovation programs to corporates and governments.



Provides actionable advice on private capital challenges. Combining rigorous academic approaches with real world industry expertise, our expert team focuses on complex, customized projects that require thorough analysis, whether quantitative or qualitative in nature, to help our clients assess or design strategies, improve performance, and chart winning strategies for the future.



Everyday investors, journalists, founders, and the global business community turn to Crunchbase for information on startups and the people behind them.



Provides data-driven intelligence on high-growth companies.



A global non-profit organization on a mission to unlock the potential of deep technologies to solve the world's toughest challenges by highlighting, empowering and connecting the most promising deeptech entrepreneurs across the globe with the right enablers. They bring together a community of actors to facilitate collaboration between entrepreneurs, industries and investors in order to propel innovation from the lab to the market.



Empowers ambitious tech entrepreneurs through growth programmes, digital entrepreneurship skills, a visa scheme for exceptional talent and by championing the UK digital sector through data, stories and media campaigns.

About LaunchVic



LaunchVic is Victoria's startup agency. We were established by the Victorian Government in March 2016 as an independent agency responsible for growing the State's startup ecosystem.

LaunchVic's role is to drive the long-term success of Victoria's startup ecosystem recognising the valuable contribution startups have on the economy through the creation of high value jobs and gross revenue for the State.

With world-class educational institutions, research facilities, Australia's largest biotech company, CSL and biotech unicorns Clinuvel Pharmaceuticals; Mesoblast; Polynovo; and Telix Pharmaceuticals – the sector has many parts that make it whole.

Unsurprisingly, HealthTech is also Victoria's largest startup sector, with one in five startups focused on health.

The healthtech sector is also a major driver of startup jobs. In 2020, Victorian Healthtech companies added new jobs 55% faster than the already-over performing healthcare sector (+9.7% growth) and were one of three key sectors responsible for more than half of new startup jobs being created in the State of Victoria, Australia.

Melbourne also attracts approximately 40% of the nation's Life Sciences funding annually.

Recognising this, LaunchVic has in the past few years invested in a number of founder and investor programs to further support its growing healthtech sector.

These investments include the MedTech Actuator, a seed-to-Series A accelerator for MedTech, HealthTech and BioTech startups; SBE by Springboard Enterprises Life Sciences Program and most recently a new sector-specific angel network dedicated to the support of early-stage healthtech startups, Australian Medical Angels.

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Global Startup Sub-Sector Analysis

Key Findings

- Deep Tech (Advanced Manufacturing and Robotics, Blockchain, Agtech and New Food, AI and Big Data) remains the fastest growing group globally. Fintech also has experienced substantial growth in the last five years.
- Startup Sub-Sectors in the Growth Phase are increasing Series A funding deals at the impressive rate of 107% over five years. Mature Phase sub-sectors have grown 33% over the same period. Decline Phase sub-sectors have declined by 28%.
- Fintech, which was in the Mature Phase in 2019, is demonstrating a resurgence in Series A funding that is more characteristic of the Growth Phase, indicating new investments and innovation in this sub-sector.
- Similarly, Edtech and Gaming, both on the edge of the Decline Phase in 2019, have experienced an increase in Series A funding that returned them to the Mature Phase.
- Series A growth rates are higher than in 2019. Exit growth rates slowed in the five-year period ending in 2020.

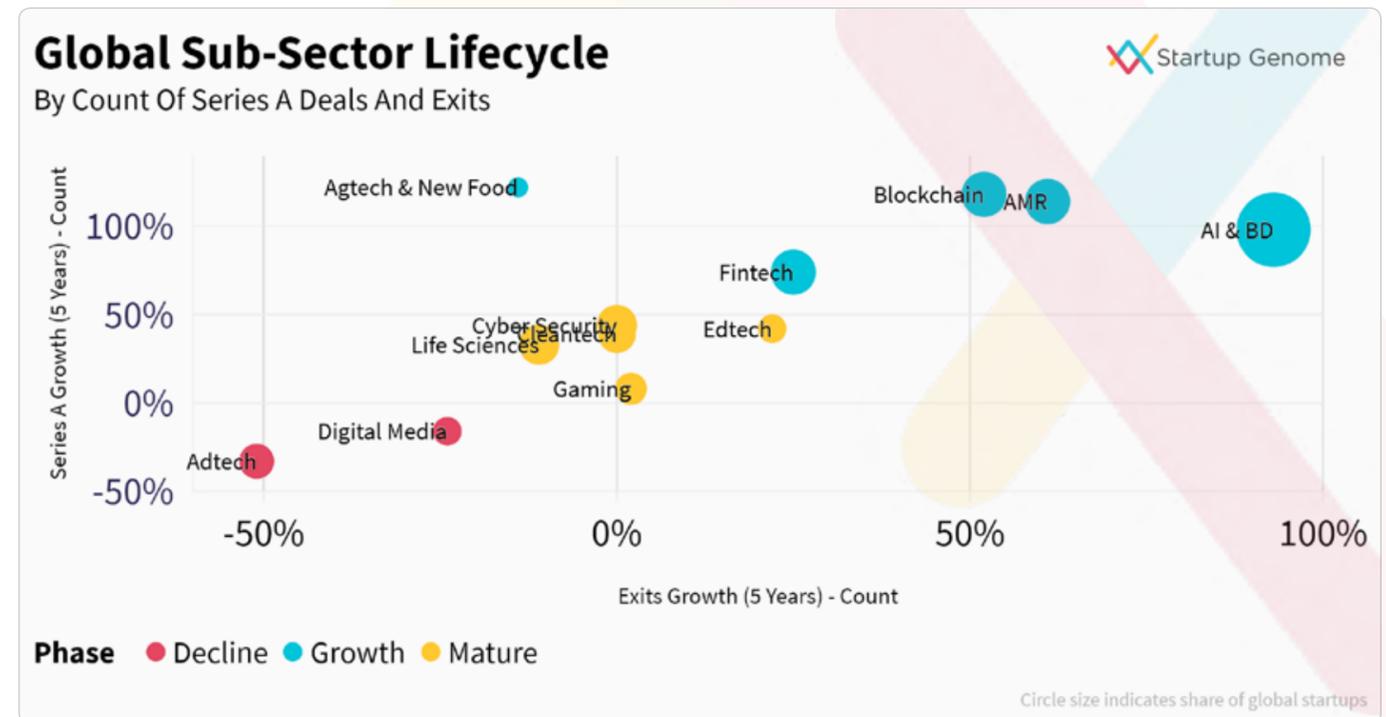


Figure 1. Global Sub-Sector Lifecycle By Count of Series A Deals And Exits

Global Trends In Startup Sub-Sectors

The Covid-19 pandemic created shifts in some sub-sectors. It revived several that were previously in decline, like Gaming and Edtech. And it caused deviations from typical lifecycle patterns, as seen in the growth of the Life Sciences sub-sector and—in Fintech—of insurance and lending. Figure 1 illustrates the current view of sub-sector Phases based on our 2019 methodology. It provides a summary of global exit and funding event counts and shows the relative share of each sub-sector as a percentage of the global startup population. Figure 2 offers an alternate perspective on the impact of sub-sectors globally: it measures their growth based on the amount of investment and exit value in each sub-sector. This second graph largely reflects the growth of sub-sectors in ecosystems with higher amounts of dollar investment and the impact of large exit events on growth. The bubble size in

Figure 2 represents the Ecosystem Value added by a given sub-sector and indicates how attractive it is for global investors.

Interestingly, measured by both number of events and amount of funding, certain sub-sectors continue to stand out. AI and Big Data, for example, and Advanced Manufacturing and Robotics are experiencing high growth by both metrics. These two lifecycle views also reveal which sub-sectors are generating outsized Ecosystem Value compared to their peers. For example, Life Sciences — which comprises just 8% of global startups — added \$183 billion in Ecosystem Value in 2020. That is the second highest amount after AI and Big Data.

Top 4 Fastest-Growing Sub-Sectors

Early-Stage Funding Deals Over Five Years

- Agtech and New Food (128%)
- Blockchain (121%)
- Advanced Manufacturing and Robotics (109%)
- AI and Big Data (98%)

Declining Sub-Sectors

- Adtech (-35%)
- Digital Media (-21%)

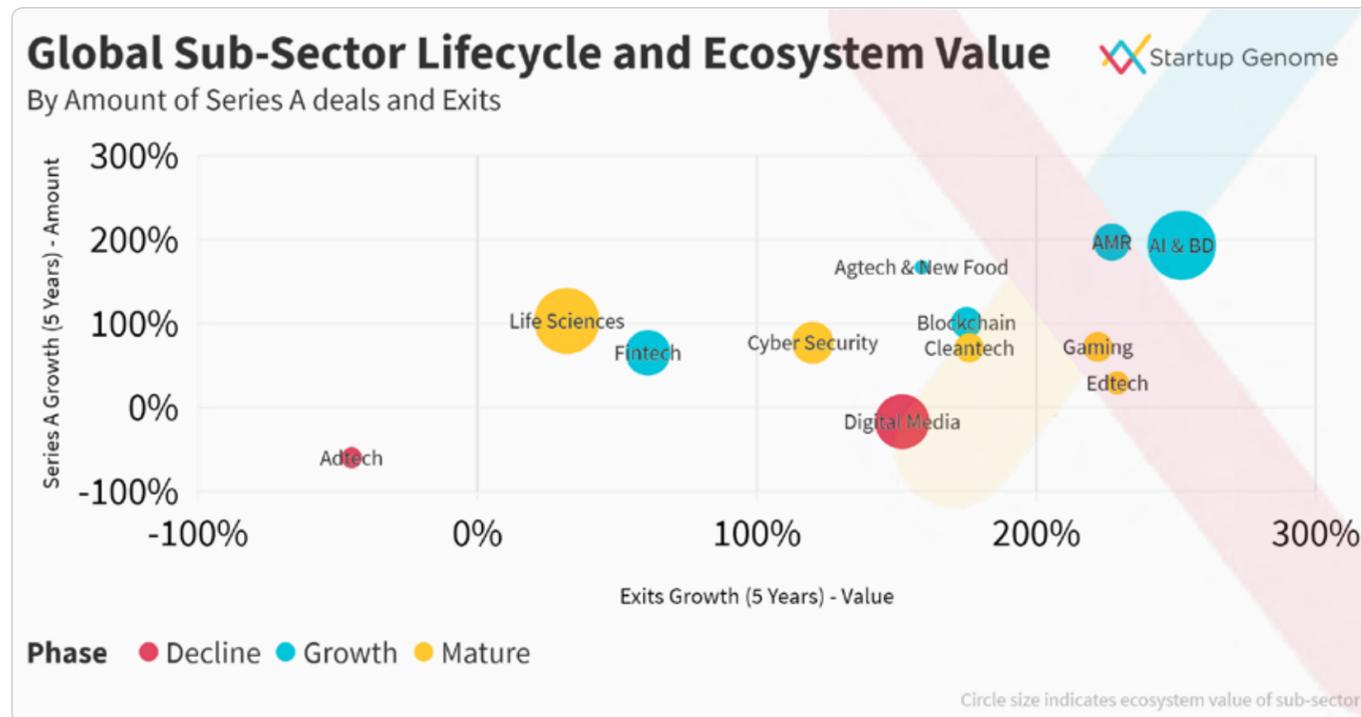


Figure 2. Global Sub-Sector Lifecycle By Amount of Series A Deals And Exits

Sub-Sector Definitions

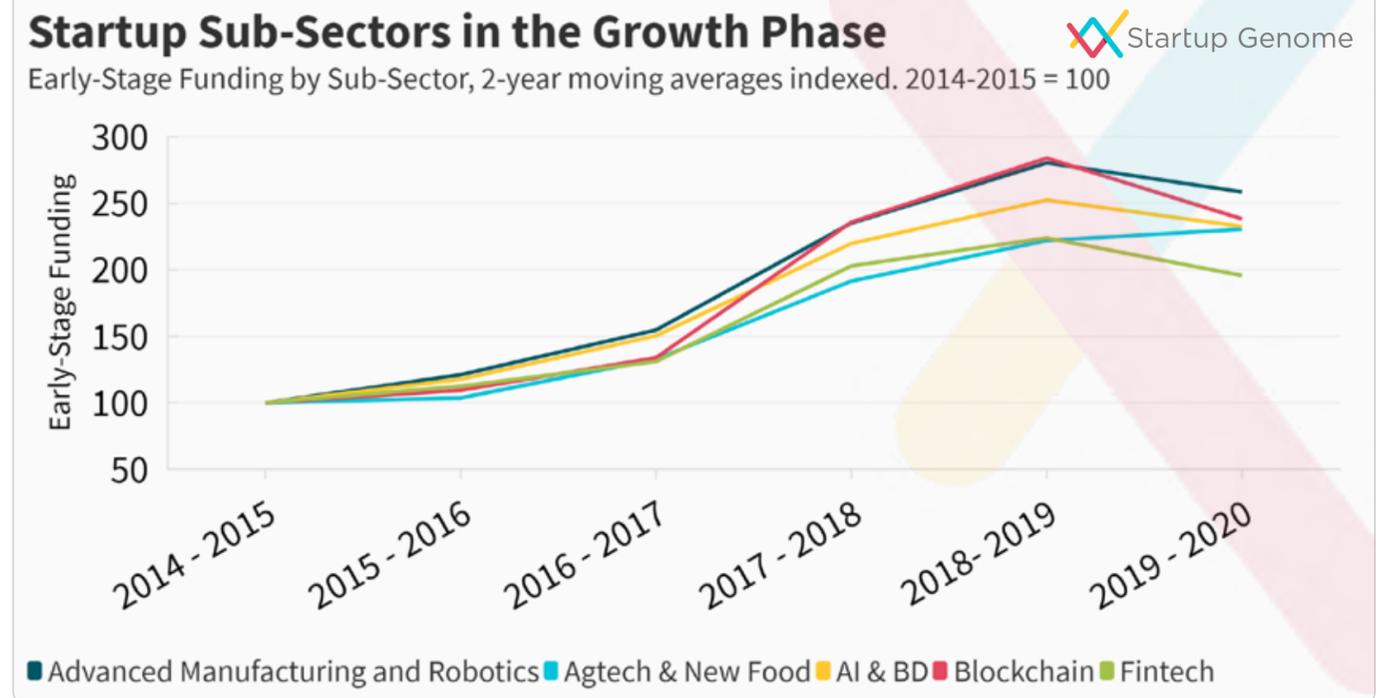
Please see the Methodology section for a full list of our sub-sectors and their definitions. Note that sub-sectors are neither mutually exclusive nor comprehensive. Some startups operate in sub-sectors we did not cover. In addition, data from patents indicates a clear convergence of technologies, with AI, for example, increasingly interacting with other fields. Over time we would expect a similar convergence of Startup Sub-Sectors. More details appear in the Methodology.

Sub-Sectors In Growth Phase

- Agtech and New Food
- Blockchain
- Advanced Manufacturing and Robotics
- AI and Big Data
- Fintech

The five Growth sub-sectors are increasing in size at an astounding pace, with an average 107% rise in early-stage funding deals over just five years and an average 43% growth in exits. Fintech is a new entrant to this group thanks to increased Series A investment atypical of its peer Mature sub-sectors.

Among Growth-Phase sub-sectors, AI, Big Data and Analytics is the largest, comprising 27% of all global startups. Agtech and New Food is the smallest, accounting for 2%. AI is the standout. On its own — separate from Big Data and Analytics — it is growing about twice as fast as the sub-sector as a whole.

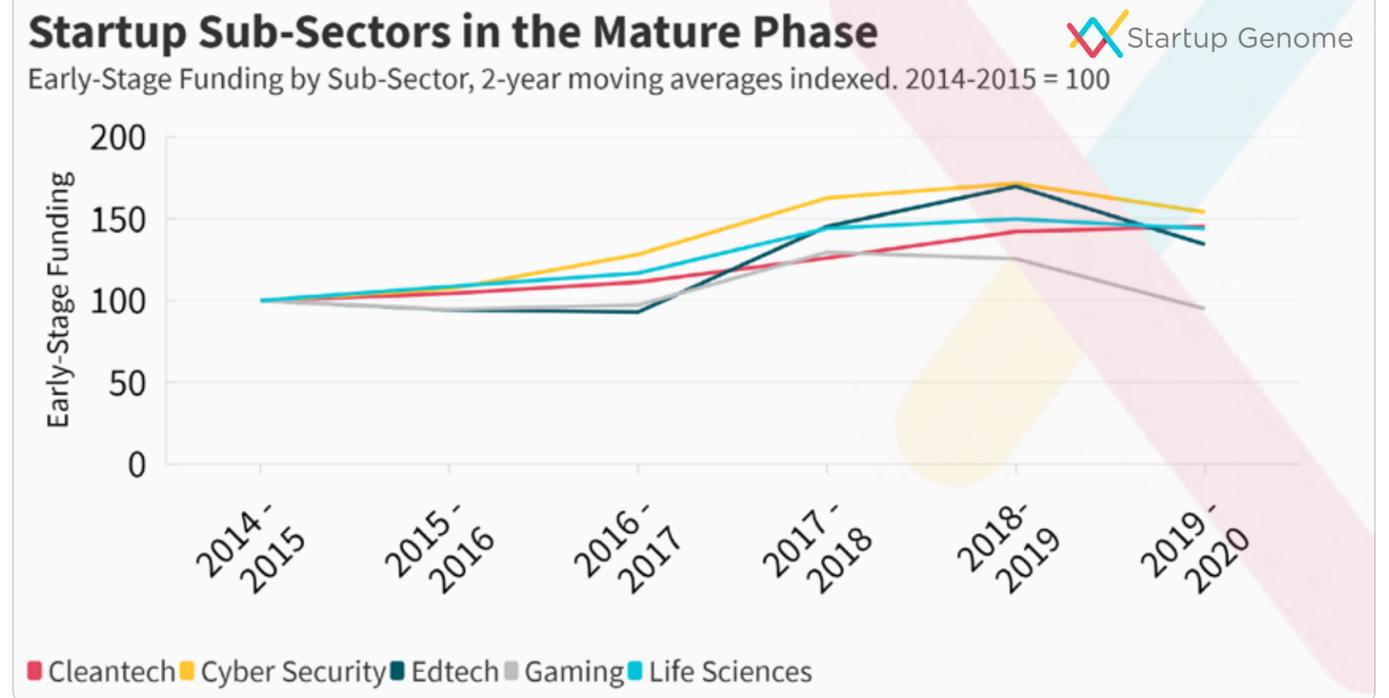


Sub-Sector	Series A Deals 5-Year Growth	Exits 5-Year Growth	Share of Global Startups
Agtech and New Food	128%	-14%	2%
Blockchain	121%	52%	10%
Advanced Manufacturing and Robotics	109%	61%	10%
AI and Big Data	98%	93%	27%
Fintech	77%	25%	10%

Sub-Sectors In Mature Phase

- Cybersecurity
- Edtech
- Cleantech
- Life Sciences
- Gaming

The composition of Mature sub-sectors has shifted since our last analysis in 2019. Cybersecurity, Cleantech, and Life Sciences remain in the Mature Phase. Edtech and Gaming are new entrants, returning from Decline in 2019. Collectively, these sub-sectors saw growth of 33% in Series A funding and 3% in exits over the past five years.

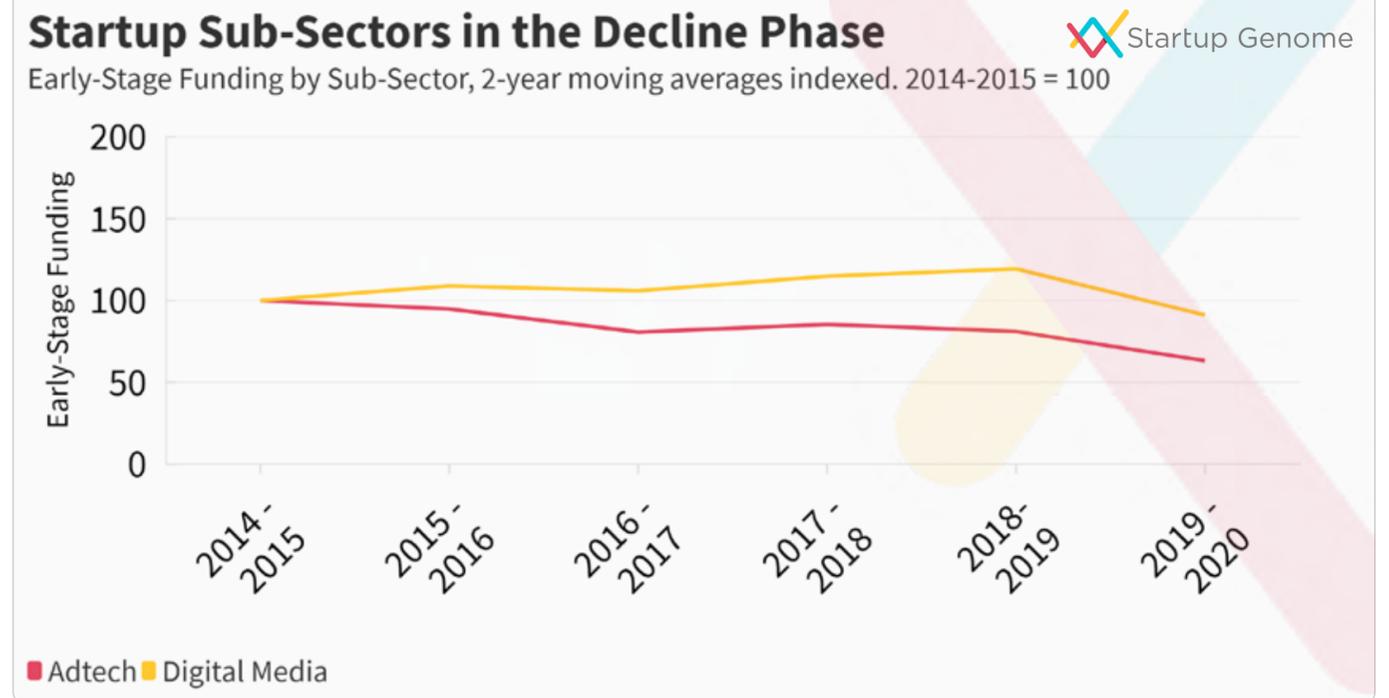


Sub-Sector	Series A Deals 5-Year Growth	Exits 5-Year Growth	Share of Global Startups
Cybersecurity	43%	0%	8%
Edtech	39%	22%	4%
Cleantech	38%	0%	7%
Life Sciences	35%	-11%	8%
Gaming	8%	2%	5%

Sub-Sectors In Decline Phase

- Adtech
- Digital Media

In the last five years, Adtech and Digital Media underperformed compared to other Startup Sub-Sectors, indicated by a decrease in the growth rates of Series A deals and exits. Gaming and Edtech — two sub-sectors previously in the Decline Phase — successfully re-entered the Mature Phase due to renewed early-stage investment interest. We predicted in 2019 that Gaming would be rejuvenated by the implementation of VR and AR. However, the most significant impact on both Gaming and Edtech was, more likely, Covid-19, which forced millions around the world to entertain themselves at home and required schools to shift to online instruction.



Sub-Sector	Series A Deals 5-Year Growth	Exits 5-Year Growth	Share of Global Startups
Digital Media	-21%	-24%	4%
Adtech	-35%	-51%	6%

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Spotlight On Melbourne's Burgeoning Life Sciences Cluster



Melbourne is at an inflection point with an opportunity to rise farther

STEPHEN TOMISICH

CEO and MD, Trajan Scientific and Medical

Melbourne, in the Australian state of Victoria, is a small ecosystem with big advantages: among them rapid clinical trials, an excellent product-development and engineering workforce; innovation-centric government investment and tax policies; and exporting muscles bulked — by necessity — in a nation of just 25 million people. For decades Healthtech companies around the world have outsourced everything from design-discovery through manufacturing to this region, where base costs are 30% to 35% lower than in Silicon Valley. Asian companies see in Melbourne a nearby launch pad for products headed back to their home countries or out into the west. Americans and Europeans see an English-speaking talent source abutting the world's fastest-growing medical market.

While mining dominates the economy in other Australian states, Victoria's ore is innovation. Medical and Biotech companies — close to 200 of them — represent 20% of startups here. In Startup Genome's 2021 rankings of Life Sciences ecosystems, Melbourne landed in the top 10% worldwide, with particular strengths in infrastructure and talent.

Melbourne began birthing giants in the late 1990s with the founding of unicorns like PolyNovo, which makes polymers used in treatments for traumatic wounds and deadly infections; and Clinuvel, whose pharmaceutical technology battles genetic and life-threatening disorders. But for many years Victoria emphasized research over commercialization. Successive Labor governments doubled down



Success Story: Smileyscope

When Evelyn Chan wanted to test her VR device for alleviating fear of needles, a city was at her side. Melbourne, Australia boasts dozens of hospitals — including two major pediatric centers — enabling the pediatrician-turned-entrepreneur to recruit 100 children to help develop the visualization experience and also to solicit feedback from experts in fields like anesthesiology and nursing. An accelerator program at the University of Melbourne had nurtured Chan’s startup, Smileyscope, with A\$20,000 in equity-free-funding, mentoring, and connections that led to a pre-seed round of \$200,000 from local angels. A Melbourne digital-design business not only built Chan’s software on a startup’s budget but also helped her hire an in-house technical team. “We’ve had fantastic support from the Melbourne system,” says Chan.

on R&D investments, targeting existing strengths like cancer, brain science and immunology. Deep veins of research and clinical expertise developed in Parkville and Clayton: neighborhoods centered on schools (University of Melbourne and Monash University, respectively) that score high in global rankings for biomedicine; multiple major hospitals; and independent medical research institutes, including leaders in diabetes and child health.

About five years ago, amid growing evidence of startups’ importance to job creation and economic prosperity, Victoria began betting big on entrepreneurship. Recognizing that ecosystems require not just centers of medical excellence but also connective tissue, the state created organizations that support both the Life Sciences sub-sector and the entrepreneurial community at large.

LaunchVic was founded in 2016 as Victoria’s startup agency. Beginning with a \$60 million fund, LaunchVic has been arming early-stage founders with the resources,

knowledge and networks to build growth companies; then giving them reason to stay in Melbourne once they’ve succeeded. BioMelbourne Network, the industry’s chief connector and dedicated advocate, had launched earlier, in 2004. It brings together businesses, government, investors and other stakeholders.

In the last year, as health-related industries have occupied ever-greater swaths of global attention, the state government established the Breakthrough Victoria Fund, with \$2 billion dispersed over 10 years to benefit the health and life-sciences sectors as well as four other industries. (LaunchVic received \$110 million, which includes \$40 million to support services for entrepreneurs; \$60 million for a startup capital fund; and \$10 million to help female founders start and scale businesses.) The goal for Life Sciences beneficiaries is commercialization: translating discoveries from labs to startups and other businesses and, in the process improving global health.



KATE CORNICK
CEO, LaunchVic

Australia’s relatively accessible regulatory regime makes that easier. Entering a clinical trial here typically takes weeks rather than months elsewhere. In addition, the multiethnic population guarantees a diverse participant pool. Consequently, foreign clients account for up to 70% of the workload for Victorian companies conducting such trials. And data generated here generally is accepted by the FDA and other international regulatory bodies, thanks to the close political and trade ties among Australia, New Zealand, the United States, Canada, the United Kingdom and Europe. “We are seen as very friendly to these countries. There are close

relationships between our regulators and European and U.S. regulators,” says Kate Cornick, CEO of LaunchVic.



JEFF MALONE
CEO, *BioMelbourne Network*

That broad acceptance is critical: Australia's small domestic market means almost every startup is international from the get-go. Because virtually everything is developed for global markets, "the daily work here is understanding those different regulatory schemes," says Jeff Malone, CEO of BioMelbourne Network, which runs master classes taught by experts in larger countries. The Victorian government also has offices in 23 cities — from San Francisco to Tel Aviv — that help local businesses connect with potential clients and partners.

Tax policy, meanwhile, recognizes the outsize upfront investments required by companies that painstakingly develop innovations over years of lab work. The federal government already offered a 43.5% tax rebate for R&D, which is competitive by global standards. But recently the Victorian government went one better: allowing companies to apply for those rebates at the start rather than the end of the tax year. "That really helps companies that are cash-strapped and bootstrapping to leverage the capital they do have," says Malone.

And Melbourne's venture capital industry "has grown very dramatically, on a hockey-stick curve over the last six years," says Cornick. Melbourne's Life Sciences startups are landing seed and Series A and B funding in less time than the global average. Firms like Brandon Capital Partners, One Ventures, BioScience Managers, and Main Sequence target Life Sciences and Healthtech startups. In addition to the Breakthrough Victoria Fund, the Victorian Government has launched a \$25.8m Venture Growth Fund for later stage startups.

Without a history of serial entrepreneurship, Melbourne is weaker on company-building skills than on science. MedTech Actuator, with Australia's largest portfolio of medical startups, is among the 7 to 10 industry-focused accelerators here that are trying to change that. Applications to MedTech have risen 10-fold since its launch in 2018, says co-founder and CEO Buzz Palmer. About half of participants are local startups; the rest comprise businesses attracted to Melbourne from other parts of Australia and beyond. "We have 12 startups that just raised really good, chunky Series A's," says Palmer. Companies start the program valued at \$1 million. After three years, the market cap of MedTech's portfolio has reached \$320 million.

Founders start companies but employees grow them. Victoria produces more engineering students than anywhere else in Australia and also has a large IT workforce. "The technical colleges are training a lot more people in emerging technologies. It is very problem-solving-based training," says Smileyscope's Chan, who hopes her own talented software engineer never learns the salary she could command in San Francisco.



BUZZ PALMER
CEO, *MedTech Actuator*

The physical infrastructure, too, is improving. Melbourne is home to around 180 co-working spaces; but those are chiefly offices. Now at least five companies are developing spaces with lab facilities, says Palmer, with the first one scheduled to open this year. Meanwhile, hospitals and universities increasingly are making lab space and equipment available to founders. "Three or four years ago they were not opening up these capabilities to the outside world," says Palmer. "But now they are open to the innovators."

Even companies in the best-established, highest-profile ecosystems find Victoria's advantages attractive. Recently Praxis Precision Medicines, a public Biotech firm based in Cambridge, Massachusetts, established its Asia-Pacific headquarters in Melbourne as well as an R&D center to develop therapies for such disorders as epilepsy, autism, and mental illness. Many Singaporean companies have turned to Victoria for product development and commercialization services, as Biorithm did recently with its wearable fetal monitor for women with at-risk pregnancies.



STEPHEN TOMISICH

*CEO and MD,
Trajan Scientific and
Medical*

"Melbourne is at an inflection point with an opportunity to rise farther," says Stephen Tomisich, who with his wife, Angela, in 2011 acquired Grate Scientific, a Melbourne-based supplier of products like specimen containers and microscope slides. Through a combination of acquisition and organic growth, the couple built up Trajan, a global analytical science and device company that in June raised \$90 million in an IPO on the Australian Securities Exchange. (The stock listed at \$1.70 per share and five weeks later was trading at \$2.90.) Tomisich says the success of companies like Trajan and Lumos Diagnostics, a Melbourne developer of point-of-

care diagnostics that went public in July, is helping Victoria's investment community "get more savvy about propositions that they can see have substance, a market, a real product platform and a strategic plan."

And Melbourne is among the best places to build a life as well as a business. Between 2011 and 2017 it was named the world's most livable city by the Economist Intelligence Unit. (It remains in the top 10 today.) There's a vibrant arts and cultural scene; a lovely coastline; a slew of inexpensive restaurants, and a year-round sports

schedule with something for every kind of fan: from football and cricket to tennis and auto racing.

The startup community itself is welcoming and collegial, with a small-town everyone-knows-everyone feel. Unlike such ecosystems as Silicon Valley, there is respect for personal time: proof that entrepreneurial life can be intense without being insane. "There is an enormous amount of support and inclusivity," says Kate. "Also, being such a multicultural city we haven't had the issues other ecosystems have had with bro culture."



EVELYN CHAN

CEO, Smileyscope

"It's an early-stage, evolving but passionate community," says Evelyn. "I think it has all the ingredients for a world-class ecosystem."

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Tech is Cheap(er): How Investing Is Changing Healthcare

**HARRY GLORIKIAN**

General Partner at Scientia Ventures

Author of three books — Commercializing Novel IVDs, MoneyBall Medicine, and The Future You — and host of the MoneyBall Medicine podcast, which discusses data and life sciences.

This contributed article was prepared by the author in a personal capacity. The opinions expressed in this article are the author's own and do not necessarily reflect the views or position of Startup Genome.

The intersection of technology with virtually every industry produces a unique effect: the costs of doing business decrease in relation to output. The price of raw goods might increase. But the costs associated with bringing the final product to market decrease because technology makes it easier for manufacturers to source cheaper materials. In addition, robotics makes the manufacturing process more efficient and less costly per unit. Just look at the automobile industry, where the number of human workers on assembly lines has shrunk as robots take over many repetitive or dangerous tasks.

Healthcare is no exception. Technology is transforming the industry, particularly for startups as cost-related barriers to entry diminish.

The crowded genetic and genomic testing environment is a case in point. The international Human Genome Project, which began in 1990, spawned breakthrough technologies that paved the way for sequencing giants like BGI and Illumina, both founded at the end of that decade. DNA sequencing costs followed Moore's Law (as seen in Figure 1), the principle that computing power doubles every two years while — for the first several years — costs stay relatively flat or decline. With the advent of next-generation (or even next-next generation) sequencing technologies, the cost of sequencing an entire genome has dropped precipitously. It once took millions of

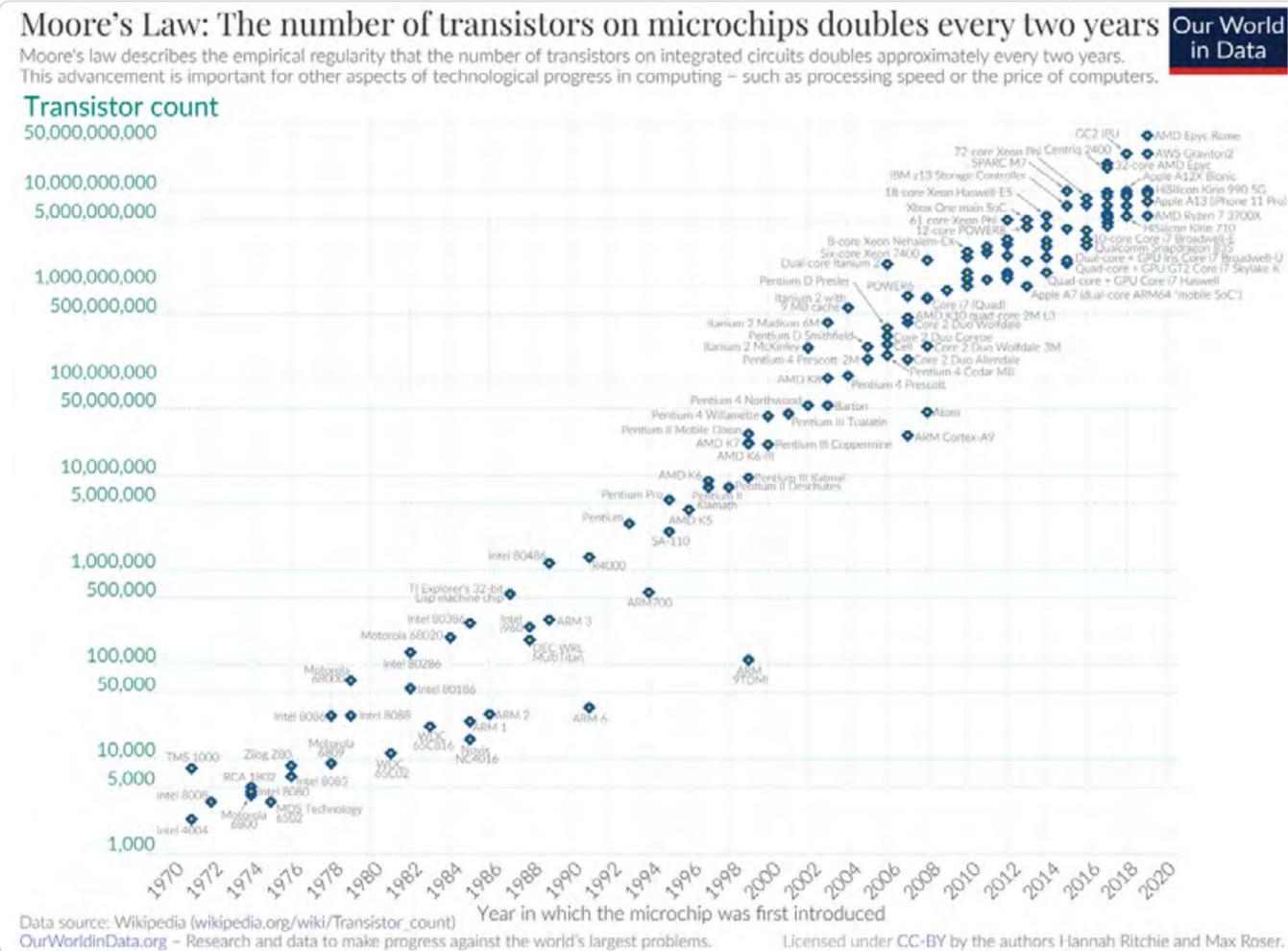


Figure 1. Moore's Law: Doubling Computing Power Every Two Years

dollars to sequence the human genome; now it can be done for less than \$1000 (as seen in Figure 2). And Illumina and BGI are pushing the cost below \$100.

In genomics, the rapid decline of costs has been a boon for testing companies. A 2018 Concert Genetics [report](#) found that more than 15 new tests were launching each week, a pace that is expected to continue, and even increase, as sequencing technology becomes more accessible. Consequently, the technological and financial

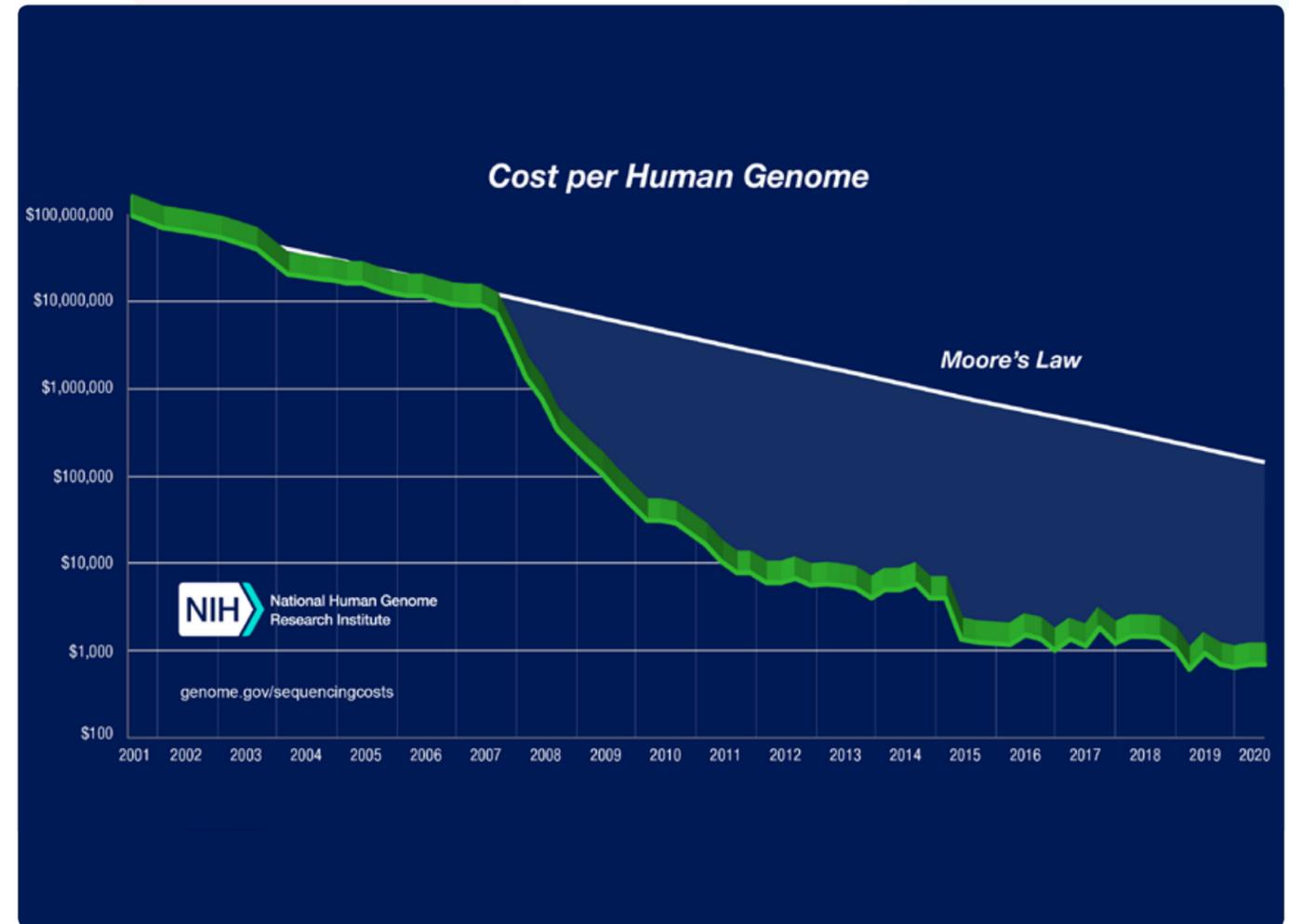


Figure 2. Cost Of Genome Sequencing

barriers to the field are lowered, both for those who seek funding and for those who provide it.

In Life Sciences, as in other industries, growing computational power matters as much as decreasing costs. The technology makes it possible to do more things more quickly than even a few years ago. The rapid adoption of AI, for example, would not have happened at 2010 or even 2015 levels. New chips and graphics cards, as well

as the scalable power of cloud and edge computing, add to the confluence of falling tech prices and increased capabilities.

The Rise Of Quantum & New Computing Architectures

Despite the increase in computational power, AI will soon reach a point at which traditional computer chips — even those like the new Apple M1, which uses ARM (advanced RISC machine) architecture — will struggle to keep up. Alternatives are being developed, including [light-based chips](#) that use the physics property of interference to perform rapid-fire calculations without the buildup of heat or excessive electricity. This could have significant energy implications for server farms: rooms with hundreds or more networked servers. Server farms currently handle most cloud-based AI development and consume enormous amounts of electricity, both to run the machines and to keep the rooms at the frigid temperatures required to dissipate the computer-generated heat.

Beyond the capabilities of new computer chips and architectures, [quantum computing](#) offers another solution. Healthcare heavyweight Cleveland Clinic is betting on the technology to support its Digital Accelerator, a new venture to speed up the rate of scientific and healthcare research. But quantum computing is in its infancy, and while there are many potential uses there are few current examples of its application. Researchers from Google demonstrated that their quantum [Sycamore chip](#) could perform a calculation in a little over three minutes that would take most supercomputers more than 10,000 years. The clear benefits over traditional chip-based technologies and potential to substantially speed up healthcare and life sciences research makes quantum an alluring option for startups.

Investing In The Future

Such changes make it easier and less risky for investors to enter new industries. But at some point you have to fund growth. Fortunately, adapting a working model is cheaper and quicker than starting from scratch. [Aria Pharmaceuticals](#) (previously twoXAR) is showing how to do it: leveraging the technology to build a drug discovery pipeline across more than a dozen therapeutic areas.

If the \$20 genome became technically possible tomorrow, it would set off an explosion of ideas in the industry. Next-generation sequencing technologies in the mid-2000s led to today's crowded genomic testing industry. In the same way, computer architectures and quantum computing will lead to new opportunities and new players. To get ahead of the investing curve you need two things. An understanding of how technological changes and decreasing costs are shifting the business landscape today. And the big-picture creativity to see where those changes will make the biggest impact tomorrow.

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Global Life Sciences Ranking 2021: Top 25 & Runners-Up

The Top 25 Ecosystems for Life Sciences Companies Today

Life Sciences Key Findings

- The top five global Life Sciences ecosystems are Silicon Valley, Boston, New York City, London, and San Diego. North America and Europe dominate the Top 25 Life Sciences ecosystems, with 48% and 24% of the Top 25 respectively, followed by Asia at 20%, and MENA and Oceania with one ecosystem each in the Top 25.
- 49% of the unicorns between 2015-2020 were created in the top five ecosystems.
- There are now 108 Life Sciences unicorns globally, with 34 companies achieving unicorn status in the first half of 2021 alone.
- Series A investment in this sub-sector crossed \$10 billion in 2020.
- The average deal size for a Series A investment in 2020 was over \$15 million.
- The total amount of Series B+ investment in 2020 was over \$18 billion, nearly double the global amount in 2019.
- The average deal amount for Series B+ is four times higher than it was ten years ago.
- In 2020, global Life Sciences exits totalled a whopping \$96 billion, double the value in 2019.

Global Top 25

The top five performing Life Sciences ecosystems globally are Silicon Valley, Boston, New York City, London, and San Diego. North America dominates this year's ranking, accounting for 48% of the Top 25 Life Sciences ecosystems globally. Europe follows with six of the top performing ecosystems, five in Asia and one each in the MENA and Oceania regions, Tel Aviv and Melbourne.

The Top 25 Life Sciences ecosystems are displayed in the accompanying table. Ecosystems are ranked on six Success Factors, which indicate the areas in which they outperform ecosystems in the rest of the world in providing Life Sciences startups the well-resourced environments they need to succeed. The most strongly correlated Success Factors with overall scoring are Performance and Funding — this means that startup success and the availability of early-stage funding are highly concentrated, especially in tier 1 ecosystems.

The top five Life Sciences ecosystems overall — Silicon Valley, Boston, San Diego, New York City, and London — are also top tier in Performance and Funding, but are being out-performed in areas like Knowledge, Talent, and Policy by some of the lower-ranked ecosystems. Notably, London, which is doing extremely well in Performance and Funding, is lagging behind in Policy, which could hinder its ability to maintain its top-five position in the long term.

35 unicorns, or 49% of the total number of Life Sciences unicorns in the six-year period between 2015-2020, were created in the top five ecosystems. 32 of these were in the United States, and three in London in the United Kingdom. While these ecosystems outperformed others in the overall sub-factor scores, two Chinese ecosystems, Shanghai and Beijing, had more exits over \$1 billion than San Diego, New York City, and London over a five-year period.

Of the five top-performing ecosystems in Asia, two are in China. South Korea, Singapore, and Japan each have one strong Life Sciences ecosystem in their country. While the Chinese ecosystems have strong scores across most of the six Success Factors, Seoul and Singapore are doing better in Infrastructure for Life Sciences, due to their high number of R&D locations, higher amounts of Life Sciences-related grants available, and strong networks of Life Sciences facilitators including incubators and accelerators. Singapore is also outperforming the other four Asian ecosystems in terms of Talent, due to their high numbers of STEM students and graduates, and high-quality Life Sciences programs offered at local universities. Tokyo's strengths in Life Sciences are in the Funding and Knowledge Factors.

In addition to four ecosystems in the top five, North America has eight more top-performing Life Sciences ecosystems. Notable among these is Philadelphia, at #8 globally, with strengths in four out of six Success Factors — Policy, Performance, Funding, and Infrastructure. While the majority of the North American ecosystems in the Top 25 and Runners-up are in the United States of America, Canada also has three strong Life Sciences ecosystems in this year's ranking. They are Vancouver at #21, and two Runners-Up, Toronto-Waterloo at #26-30 and Montreal at #30-35. Of these top Canadian ecosystems, Toronto-Waterloo is the strongest in Funding and Talent.

There are 10 European ecosystems represented in this year's rankings, six in the Top 25, including London at #5, and four Runners-Up. In addition to Performance and Funding scores that are comparable to the top performers from other regions around the world, European ecosystems are consistently strong in the Talent and Infrastructure factors. Bern-Geneva (#12), Amsterdam-Delta (#17), Zurich (#19), and Copenhagen (#22) are particularly strong in Talent.

Tel Aviv and Melbourne are the strongest Life Sciences ecosystems in their respective regions, MENA and Oceania. Tel Aviv had an impressive 10 exits over \$50 million in the last ten years, and created nearly 300 Life Sciences startups in the same period. Melbourne, with three exits over \$50 million dollars, created nearly 100 new Life Sciences startups in the last ten years, 17% of which were created in 2017. Over 70% of the deals in the Life Sciences sector in the large Oceania tech hubs are made in Melbourne, accounting for about 88% of the amount invested. On a regional level, Melbourne-based companies received over 60% of Life Sciences investment in Oceania. Melbourne also ranks highly in terms of access and quality of talent for the Life Sciences sector.

Bern-Geneva, Wuxi, and Frankfurt each had the same number of exits over \$1 billion as New York City. While Wuxi and Frankfurt are not in the Top 25 or Runners-up lists this year, they appear to have potential to grow successful Life Sciences companies if they continue to invest in and strengthen other key areas like Infrastructure and Policy.

Read more about the Top 25 Life Sciences ecosystems and ecosystems to watch in the Ecosystem Pages section of this report, and at startupgenome.com.

We work with forward-looking governments and private sector organizations to accelerate the success of their startup ecosystems by fuelling the growth of more startups, sustainable economic growth, and job growth.

Want to speak with someone from our team to find out more? Contact Adam Bregu, Director of Business Development and Partnerships
adam@startupgenome.com

Global Life Sciences Ranking 2021: Top 25 & Runners-Up

Factors are tiered from 10-1

	Ranking	Performance	Funding	Knowledge	Talent	Infrastructure	Policy
Silicon Valley	#1	10	10	10	10	10	10
Boston	#2	10	10	8	9	10	10
New York City	#3	10	10	8	7	10	10
London	#4	9	10	7	10	10	6
San Diego	#5	10	9	8	4	9	10
Los Angeles	#6	7	7	8	8	8	10
Washington DC	#7	8	8	7	4	8	10
Philadelphia	#8	9	8	5	5	7	10
Shanghai	#9	9	9	10	5	4	4
Research Triangle	#10	8	6	4	9	5	10
Seattle	#11	8	8	9	6	3	10
Bern-Geneva	#12	8	5	2	9	7	5
Tel Aviv	#13	7	9	6	2	8	3
Paris	#14	6	6	3	6	9	5
Seoul	#15	6	6	10	3	7	4
Beijing	#16	7	7	10	6	1	4
Amsterdam-Delta	#17	6	4	2	10	9	3
Chicago	#18	6	6	6	4	8	10
Zurich	#19	3	4	4	8	4	5
Singapore	#20	1	5	3	10	6	1
Vancouver	#21	5	5	4	2	4	2
Copenhagen	#22	3	2	1	8	6	1
Hartford	#23	5	1	5	2	4	10
Melbourne	#24	4	1	1	7	6	3
Tokyo	#25	2	7	9	1	3	6
Atlanta	#26-30	2	2	6	3	4	10
Berlin	#26-30	1	3	2	8	6	6
Brussels	#26-30	4	3	2	7	5	1
Denver-Boulder	#26-30	4	4	7	2	2	10
Toronto-Waterloo	#26-30	1	8	5	6	2	2
Austin	#30-35	4	2	9	1	2	10
Barcelona	#30-35	2	3	1	3	5	2
Dallas	#30-35	5	1	6	1	2	10
Edinburgh-Glasgow	#30-35	2	2	4	5	2	6
Montreal	#30-35	3	4	3	4	1	2

26-30 and 30-35 are alphabetical order

GSER 2021: Life Sciences Edition

Global Funding & Performance Trends

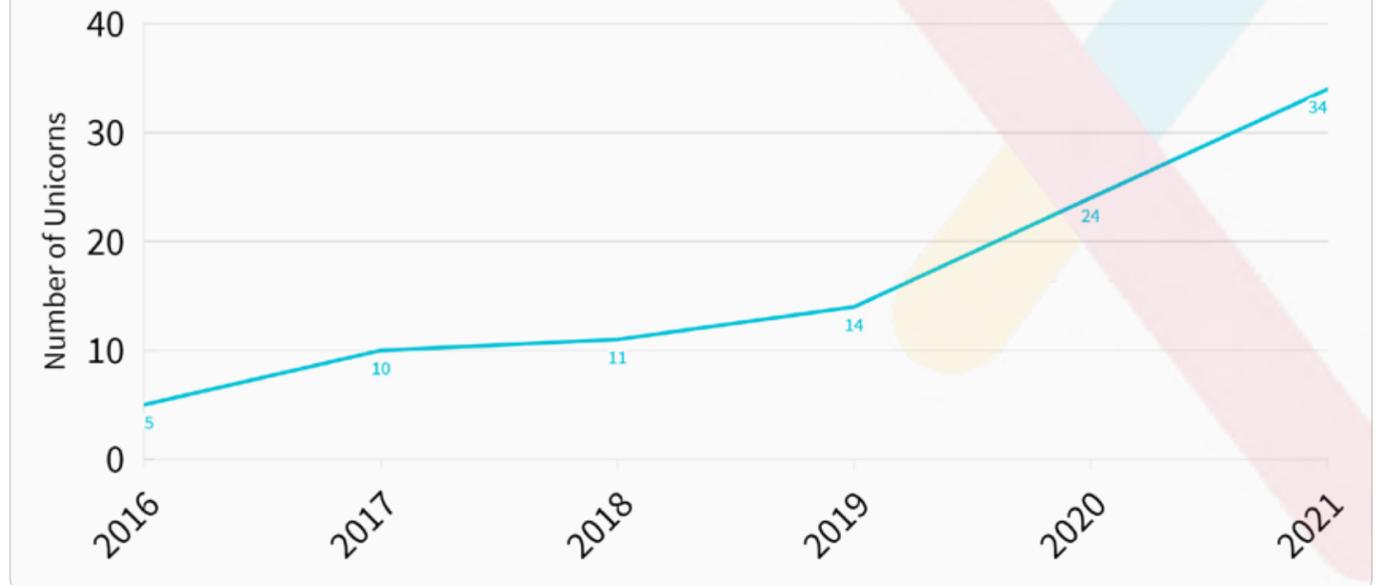
Life Sciences Unicorns

In 2020, the global Life Sciences sector saw its biggest increase in the number of unicorns since 2016, with 24 unicorns created that year, up 71% from the year before, and over four times the number of unicorns in 2016. We can expect to see even higher growth in Life sciences unicorns this year. 34 companies have achieved unicorn status in the first half of 2021 alone, and there are now more than 100 Life Sciences unicorns globally.

Asian ecosystems have created at least one unicorn a year since 2016, with 2020 being their best year so far, when eight Asian Life Sciences companies achieved unicorn status, all in China, with the majority located in Shanghai. 2019 was a good year for Europe, with five new unicorns created, just one less than North America in that period. North America is poised to have a record year for Life Sciences unicorn creation. There has been a steady increase in the number of Life Science unicorns in North America, from six in 2019 to 15 companies achieving unicorn status in 2020. That number has already increased by nearly 80% in the first half of 2021. The MENA region had one new entrant to the unicorn club in 2020, its first since 2012.

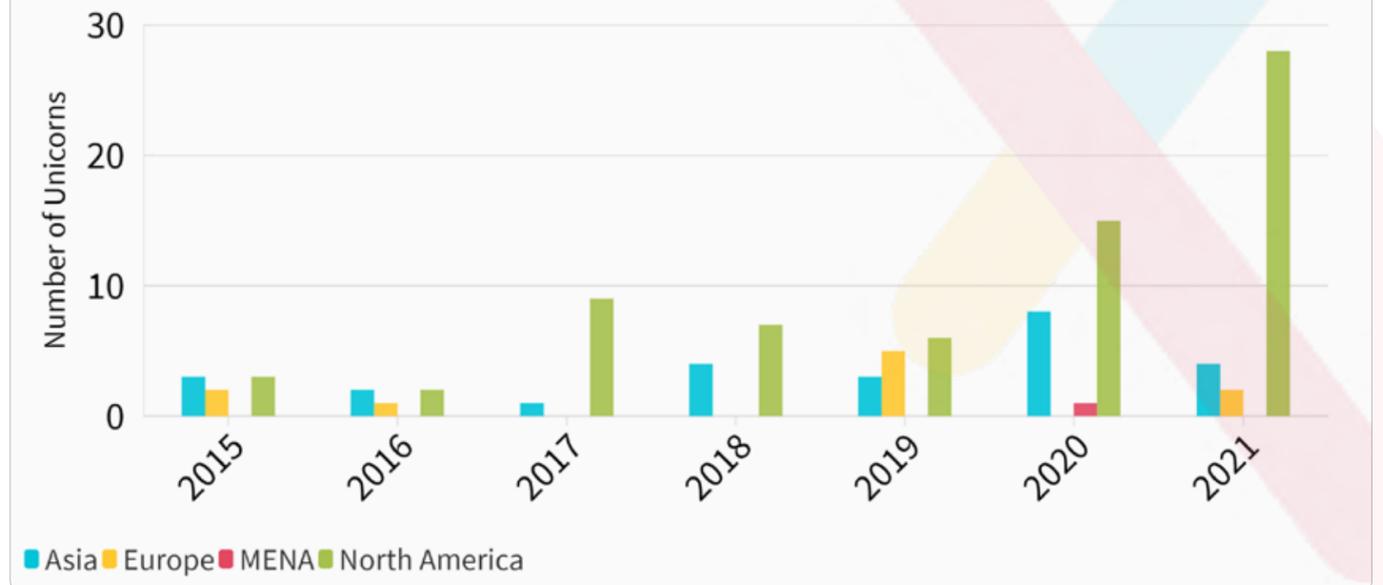
Life Sciences Unicorns Are on the Rise Globally

2021 is already looking to be a record year



North American Ecosystems Dominate

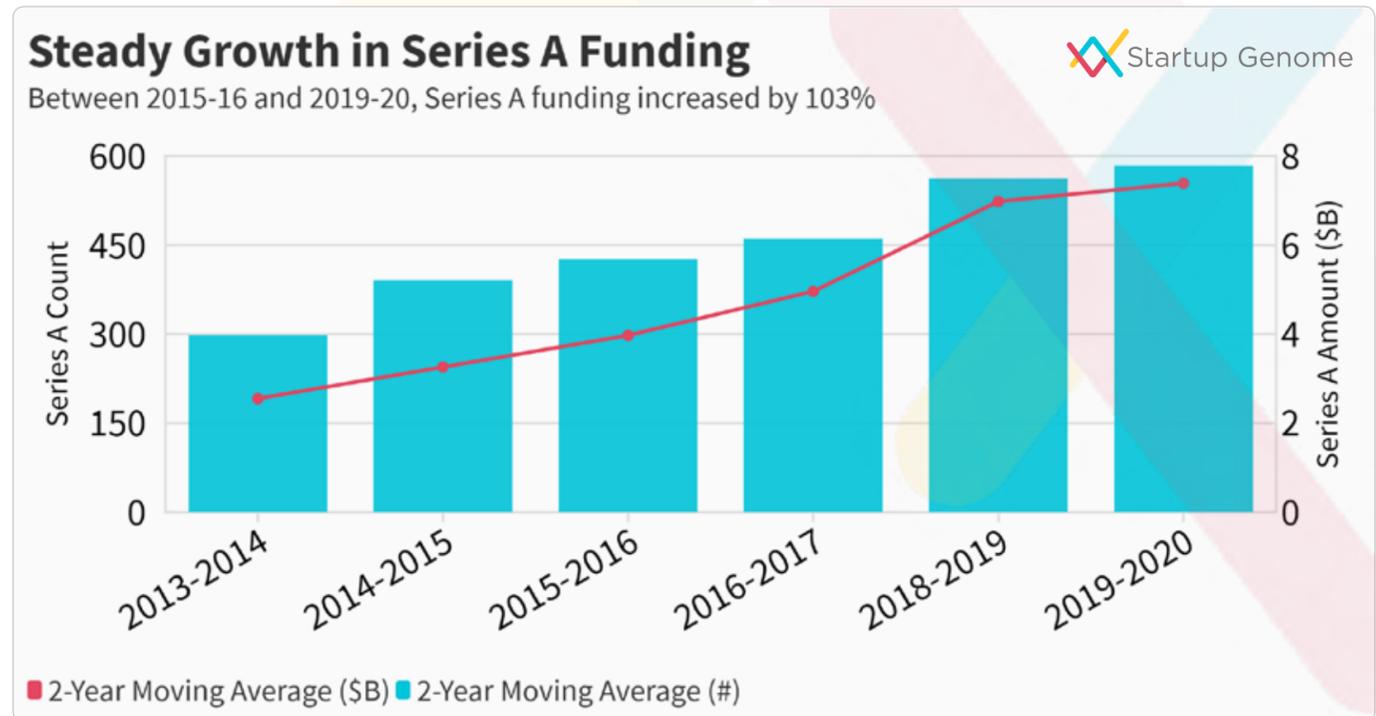
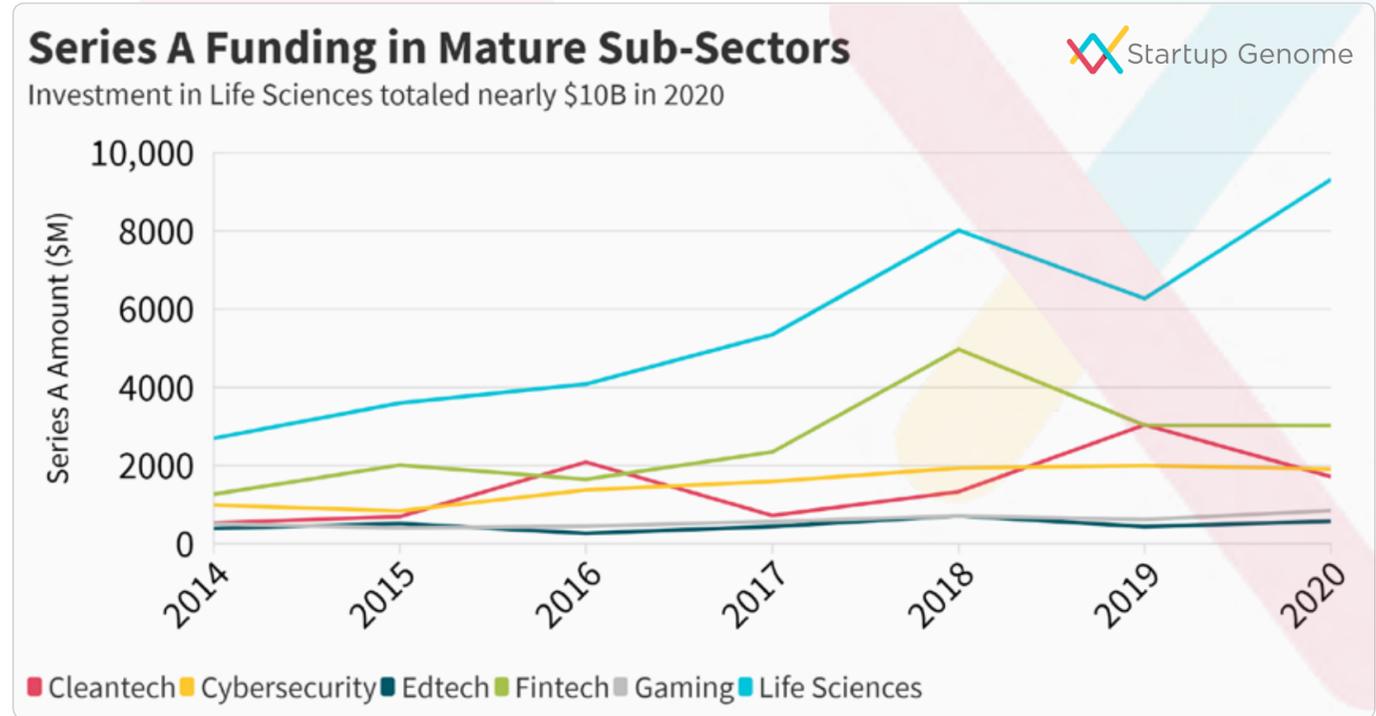
North American Life Sciences ecosystems have already created nearly 30 unicorns in 2021



Life Sciences Funding

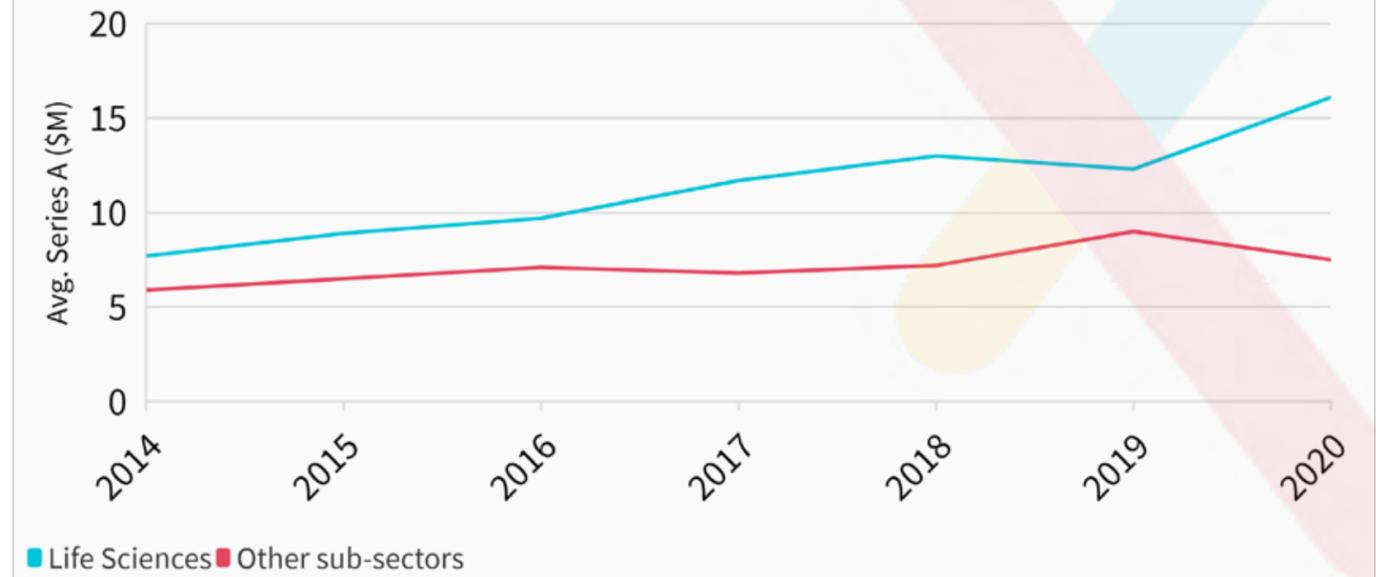
While Series A funding plateaued in the last two years for its peer sub-sectors, Life Sciences funding continues to see considerable growth since 2019 in terms of both the number of deals and investment amounts. Between 2015-2016 and 2019-2020, global Series A funding in Life Sciences startups increased by 103%, despite a slight decrease in funding in 2019. 2020 was a high-growth period for Life Sciences. The total amount of Series A funding in the sub-sector was 16% higher than 2018, and 49% higher than 2019. This change is likely due to investors' focus on more quality rounds and in specialized subcategories of Life Sciences.

The average deal size for Series A investments in Life Sciences has always been higher compared to the global average across other sub-sectors, and that difference is becoming increasingly prominent as more money flows into this sub-sector. In 2014, the average Series A amount in Life Sciences was \$2 million greater than the average deal size for all other sub-sectors. In 2020, while the average Series A for other sub-sectors has also increased by \$1.97 million, the average Life Sciences Series A amount is now over \$8 million more than other sub-sectors.

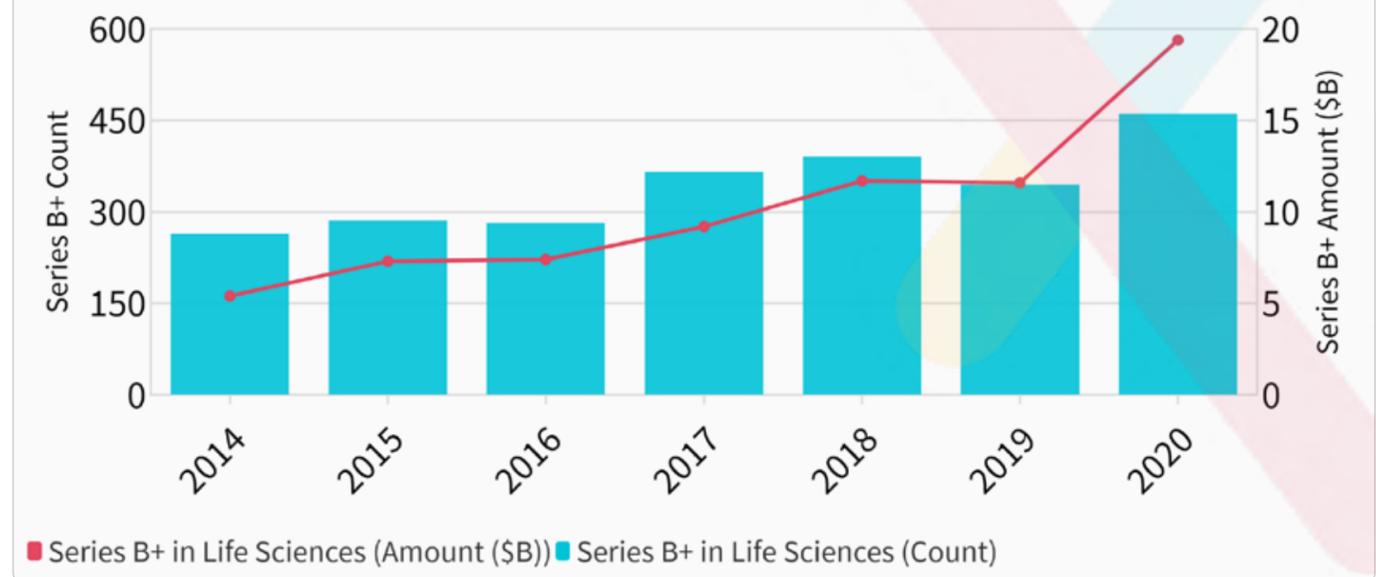


Similarly, the average deal size for Series B+ funding in Life Sciences has increased significantly in the last ten years, with the biggest growth occurring since 2019. In the first five months of 2021, deal counts for Series B+ investments have been lower than in prior years, but the average deal amount is \$81 million, with four rounds by startups headquartered in Boston accounting for the majority of the large deals. This amount is already twice the average amount observed in 2020, and four times the average amount ten years ago. This is consistent with the overall pattern in later-stage funding globally. Over \$18 billion in Series B+ rounds was invested in Life Sciences in 2020, nearly double the amount in 2019.

Avg. Series A Investment in Life Sciences is \$16M Startup Genome
2x higher than the average across other sub-sectors in 2020



2020 Series B+ Funding in Life Sciences is >\$18B Startup Genome
Nearly double of that in 2019



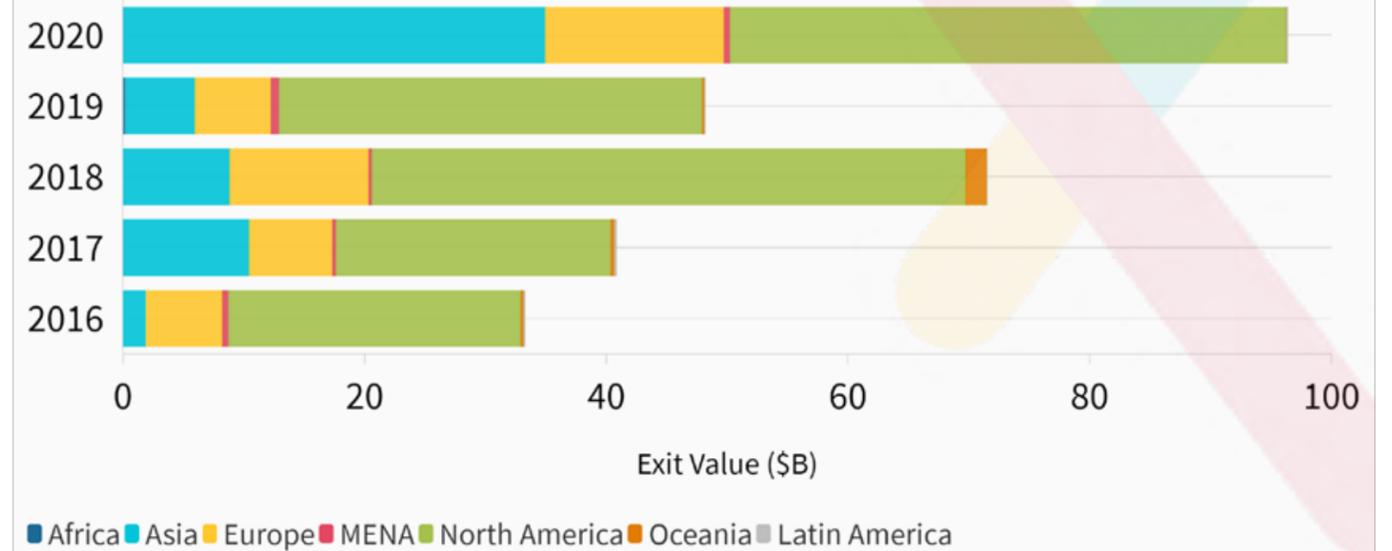
Life Sciences Exits

After a dip in the number of exits in 2019, Life Sciences exits have been increasing since 2020, accounting for 18% of overall exits globally. The Life Sciences sub-sector is seeing strong exit growth in nearly all regions around the world, particularly in North America, Asia, and Europe. Latin America, MENA, and Oceania have relatively slower exit growth in recent years.

Life Sciences exit amounts have been consistently higher than in other sub-sectors in the last five years and are growing even faster with renewed interest in the sub-sector in recent years. In 2019, Life Sciences exits contributed \$48 billion to the global economy, \$25 billion more than the next largest sub-sector by exit value, i.e. Fintech at \$23 billion. In 2020, Life Sciences exits accounted for a whopping \$96 billion, \$45 billion more than Cybersecurity, which had the next largest share of exits globally that year.

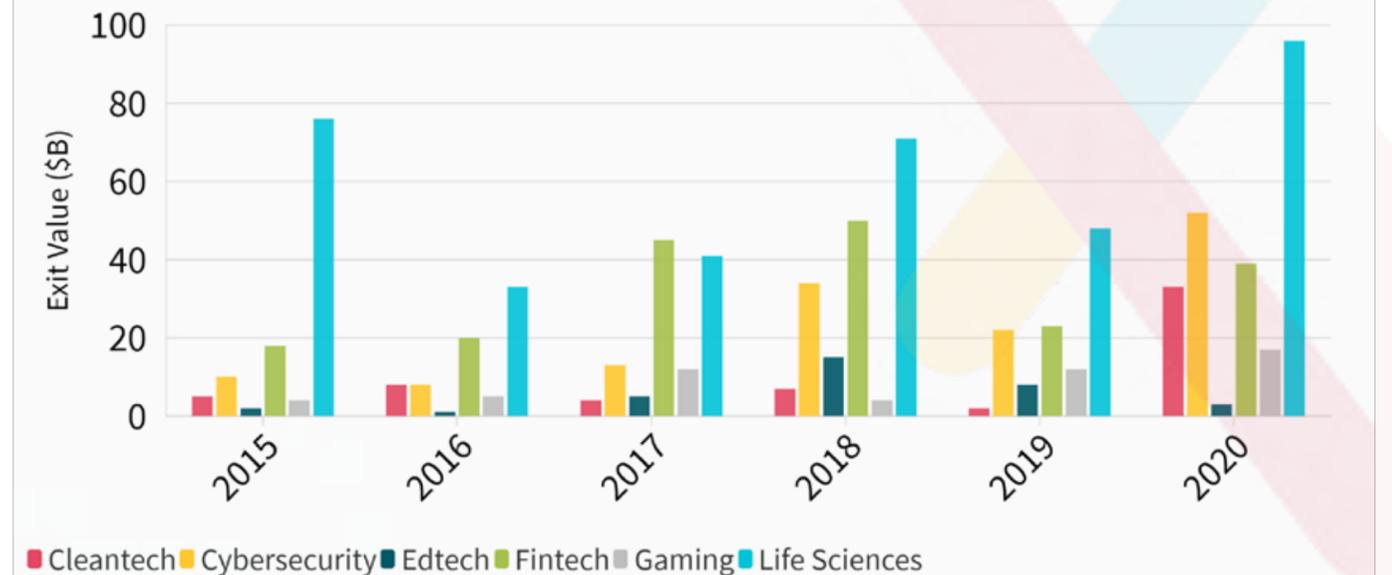
Global Exit Value Distribution

North America and Asia have the highest exit values globally



Life Sciences Exit Value Totaled \$96B in 2020

The highest among the mature sub-sectors



GSER 2021: Life Sciences Edition

Top 5 Ecosystems & Ecosystems To Watch

NORTH AMERICA

Top 5 Ecosystems

- Boston
- Los Angeles
- New York City
- San Diego
- Silicon Valley

Ecosystems to Watch

- Edmonton
- Miami
- Mississippi
- Montréal
- Pittsburgh
- Philadelphia
- Quebec City
- Toronto-Waterloo

LATIN AMERICA

Top 5 Ecosystems

- Buenos Aires
- Guadalajara
- Mexico City
- Santiago-Valparaíso
- Sao Paulo

EUROPE

Top 5 Ecosystems

- Amsterdam-Delta
- Bern-Geneva
- London
- Paris
- Zurich

MENA

Top 5 Ecosystems

- Abu Dhabi
- Cairo
- Doha
- Riyadh
- Tel Aviv

AFRICA

Top 5 Ecosystems

- Cape Town
- Johannesburg
- Lagos
- Nairobi
- Pretoria

Ecosystems to Watch

- Tunisia

ASIA

Top 5 Ecosystems

- Beijing
- Seoul
- Shanghai
- Singapore
- Tokyo

Ecosystems to Watch

- Bangalore-Karnataka
- Kyoto
- Telangana

Top 5 Ecosystems

- Brisbane
- Melbourne
- New Zealand
- Perth
- Sydney

OCEANIA

GSER 2021: Life Sciences Edition

Ecosystem Players

Global Top 10 Accelerators & Incubators



Top Ecosystem Players were determined primarily by number and amount of Series A investments in Life Sciences in the last five years

Top Accelerators & Incubators By Region

North America	Y Combinator Plug and Play Tech Center California Institute for Quantitative Biosciences JLABS Illumina Accelerator
Asia	Viva BioInnovator SparkLabs Group SPSP Venture Capital
Africa	GrowthAfrica Changelabs Egypt Meltwater Entrepreneurial School of Technology
Europe	Entrepreneur First Babraham Bioscience Technologies Paris Biotech Sante EIT Health Digital Science
MENA	Sanara Ventures VLX Ventures
Oceania	Medtech Actuator Melbourne Health Accelerator ANDHealth INCUBATE HCF Catalyst

Global Top 10 VC Investors



Top Ecosystem Players were determined primarily by number and amount of Series A investments in Life Sciences in the last five years

Top VC Investors By Region

North America	Alexandria Venture Investments ARCH Venture Partners F-Prime Capital Atlas Venture GV
Asia	Qiming Venture Partners Sequoia Capital China Lilly Asia Ventures Korea Investment Partners Morningside Group
Africa	4Di Capital Newtown Partners Alexandria Fund
Europe	Novo Holdings Boehringer Ingelheim Venture Fund High-Tech Gründerfonds Sofinnova Partners Novartis Venture Fund
Oceania	Artesian Capital Management The Medical Research Commercialization Fund Brandon Capital Partners

GSER 2021: Life Sciences Edition

Life Sciences Ecosystems - Top Performers

33	Silicon Valley	53	Paris
35	Boston	55	Seoul
37	New York City	57	Beijing
39	London	59	Amsterdam-Delta
41	Los Angeles	61	Chicago
43	Washington, D.C.	63	Singapore
45	Philadelphia	65	Copenhagen
47	Shanghai	67	Melbourne
49	Seattle	70	Tokyo
51	Tel Aviv		



United States

Silicon Valley - Bay Area #1



Despite rising real estate prices and increased scrutiny, Silicon Valley remains a vibrant place for startups. In fact, the external forces acting on Silicon Valley are changing how companies develop products and manage teams.

Robert Siegel

Partner at XSeed Capital and Lecturer in Management, Stanford Graduate School of Business



TOTAL EARLY STAGE FUNDING

\$22 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$1029 bn

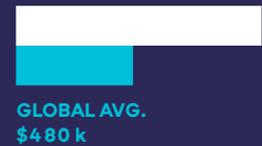
GLOBAL AVG.
\$13.68 bn

Highlights

Despite an outflux of some talent thanks to the cluster’s sky-high costs and pandemic-related remote work, Silicon Valley is still home to an estimated 40,000 startups and 1,000 VC firms, as well as many iconic tech companies. A third of total venture funding in the U.S. — more than \$25 billion — flowed into the Valley in the first quarter of 2021. It is indisputably the world’s top startup ecosystem. Stanford University is the seed that spawned the Valley and it continues to play a major role in the ecosystem. Stanford alumni generate nearly \$3 trillion in economic impact each year, which amounts to approximately 4% of the world’s total GDP. Other local universities like University of California at Berkeley, San Jose State, and several community colleges contribute to the ecosystem’s dominance and staff its startups. Silicon Valley offers some of the world’s best networking. It’s successful startups, when they grow up to become corporate giants, often continue to be based in the area. This attracts not only plentiful talent but other entities as well, from corporations like Walmart to the incubators of foreign governments. This concentration of people and ideas results in an incredibly vibrant ecosystem. The area’s energy is reflected in its many startup focused events, such as TECHSPO Silicon Valley, Palo Alto meetup 106 Miles, and Startup Grind, which describes itself as a “global community for entrepreneurs” and organizes monthly events for ecosystem players.

MEDIAN SEED ROUND

\$1000 k



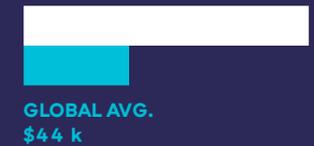
MEDIAN SERIES A ROUND

\$8.8 m



SOFT. ENGINEER SALARY

\$119 k



Sub-sector Strengths

AI, Big Data & Analytics

VCs continue to pour money into Silicon Valley AI companies. SambaNova Systems, a maker of software and hardware to run AI applications, raised a \$676 million Series D round led by SoftBank Vision Fund 2 in April. The company is now worth more than \$5 billion. Threat detection and response company Vectra AI recently raised a \$130 million round, while Placer.ai raised a \$50 million Series B, also in April.

Fintech

Both Silicon Valley behemoths and upstarts are innovating in the subsector. Google, for instance, has partnered with more than a half a dozen banks for its Cache project and is set to launch checking accounts for consumers next year. Tribal Credit, which handles payments for SMBs in emerging markets, closed a \$34.3 million round in April, while teen banking startup Step raised a \$100 million Series C also in April and boasts celebrity backers including Jared Leto and Will Smith.

Life Sciences

Life Sciences startups continue to attract large funding rounds in Silicon Valley. Following its latest raise in July 2020, ALX Oncology has raised a total of \$166 million over 4 rounds. Drug discovery and development company Eikon Therapeutics closed a \$148 million Series A in May, and Biomea Fusion, which develops precision drugs to treat cancer, closed a \$56 million Series A round in January before raising \$153 million with its April IPO.

Reasons to move your startup to Silicon Valley - Bay Area

Legal Support

Silicon Valley has efficient laws, policies, and regulations to safeguard business interests, trade secrets, and ownership of ideas. These act as a necessary shield for tech businesses, especially the ones that are starting small.

Easy Financing Opportunities

Silicon Valley may be a legendarily high-cost ecosystem, requiring large amounts of capital to get a startup off the ground, but it is also the worldwide epicenter of startup financing. U.S. VC funds invested \$69 billion in startups in the first quarter of 2021. Fully a third of that went to companies based in Silicon Valley or nearby San Francisco. The area also boasts the highest concentration of billionaires per capita in the world, which means startups have access to a huge range of experienced angel investors willing to bet on unique and innovative ideas.

Startup Community

STARTUP GENOME
PARTNERS

Engine / GSV / Manos Accelerator / Parisoma / RocketSpace

United States

Boston #5



Boston is home to a buzzing startup ecosystem across many sectors—cleantech, biotech, and robotics. We strongly believe that our regional community thrives because of all the stakeholders that are committed to supporting local, early-stage companies.

Dr. Emily Reichert

CEO at Greentown Labs



TOTAL EARLY STAGE FUNDING

\$6.4 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$133 bn

GLOBAL AVG.
\$13.68 bn

MEDIAN SEED ROUND

\$1000 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$6 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$90.8 k

GLOBAL AVG.
\$44 k

Highlights

Boston is home to exceptional tech talent and a storied history of innovation, particularly in biotech, but what really sets the city’s startup ecosystem apart is its positive climate for women. In Massachusetts generally the number of women in tech grew at a 21.4% rate between 2009 and 2013, putting the state second nationally by this measure. In Boston specifically, 29% of startup founders are female, second only to Chicago, according to the Global Startup Ecosystem Ranking report. The leaders of several local ecosystem standouts such as Care.com are female, and when a local journalist recently attempted to pull together an exhaustive list of Boston startups led by women that raised venture funding in the previous decade, the crowdsourced effort came up with 164 women at 154 companies. The prominence of female founders shows up in the statistics on where VC dollars are going. According to Alice Rossiter, founder of live stream experience startup Alice’s Table, in Boston more than 10% of companies “invested in by some top venture capital firms are women founded.” Crunchbase puts the figure at 9%. Whichever number is correct, both favorably compare to a national average of 3% of VC dollars going to female founders. Boston is also home to several women-founded venture capital firms like Boston Seed Capital, Victress Capital, and Glasswing Ventures.

Sub-sector Strengths



Life Sciences

Boston has more than 1,100 Life Sciences companies, seven teaching hospitals, and five of the top six NIH-funded independent hospitals in the U.S. MLSC runs a \$1 billion Life Sciences Initiative, which provides research grants, accelerator loans, tax incentives, etc. Boston Biotech companies pulled in a little over \$616 million in total in March 2021. Notable successes include cancer early detection startup Mercy BioAnalytics’s \$27.3 million raise in January 2021, and machine learning based pharma company Reverie Labs’s \$25 million Series A round in February 2021.



Advanced Manufacturing & Robotics

Boston has access to world-class talent from institutions like MIT and Harvard. Robotics companies employ more than 4,700 people. The city is also bringing more access to technology in classrooms through makerspaces and 3D printing facilities. The sub-sector had a strong start to the year, with Locus Robotics now a unicorn after its \$150 million Series E raised in February, followed by another \$50 million Series A round in September.

Reasons to move your startup to Boston

Tech Talent

The Boston region is home to around 60 colleges and universities, including world-leading institutions such as Harvard and MIT. It's no surprise then that Boston made the top 10 markets in the U.S. and Canada for technology talent, according to CBRE's annual "Scoring Tech Talent" report. The particular focus on engineering at many of these universities produces a steady flow of highly qualified engineers for area startups.

Startup Community

STARTUP GENOME
PARTNERS

[4GenNow](#) / [Cambridge Innovation Center](#) / [Capital network](#) / [Mass Challenge](#) / [Pitchfull](#)

Access to Venture Capital

Boston, just behind Silicon Valley, consistently ranks towards the top of lists of most venture capital invested per capita in the U.S. The city is also home to many angel and super angel groups, creating a broad range of seed stage funding options for founders.

Funding Research and Development

Several institutions outside of the universities also invest heavily in R&D in the Boston area. CARB-X pledged to invest up to \$550 million in antibacterial R&D between 2016 and 2021, while restaurant technology company Toast is set to invest \$1 billion in hardware and software R&D over five years.

New York City #2

MEMBERS:

New York City Economic Development Corporation / Tech:NYC



The resiliency of the NYC tech ecosystem throughout the pandemic — seen through blockbuster IPOs, record fundraising rounds, and hiring commitments — proves we can stand toe-to-toe with any tech hub in the world. This report is reason to be optimistic that the entrepreneurial culture New York City is known for is stronger than ever.

Julie Samuels

Founder and Executive Director, Tech:NYC



TOTAL EARLY STAGE FUNDING

\$10.2 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$189 bn

GLOBAL AVG.
\$13.68 bn

Highlights

New York trails only Silicon Valley in the number of venture deals completed in 2020 with the city raking in a total of between \$12 and \$20 billion. Combine the huge range of companies closing impressive deals with the city’s traditional position as a hub for finance, fashion, media, and the arts, and it’s clear New York City is one of the world’s premier startup ecosystems. Key to New York’s success is ensuring investment is shared beyond what is seen as traditional venture opportunities. Women.nyc offers a comprehensive set of business services to women entrepreneurs from underserved communities. This year, New York City also became the largest US city to recognize LGBTQ-owned companies as minority-owned businesses, making them eligible for billions in city contracts and business support services. Additional programs to support entrepreneurs include the Entrepreneurs Roundtable Accelerator which offers seed capital, mentoring, and co-working space, and Techstars NYC which connects founders with world-class resources to help them grow and scale. NY-based companies have investor support from Primary Venture Partners, a venture capital firm focused on transformative startups that has raised \$404 million across six funds to date to invest in early- and late-stage NY-based startups, and Starta, which funds early-stage tech talent. New York City Economic Development Corporation’s \$1 billion LifeSci NYC program builds on the city’s strong foundation across life sciences and aims to solidify New York as the public health capital of the world. New Energy Nexus New York is a not-for-profit accelerator focused specifically on clean energy companies looking to scale in New York.

MEDIAN SEED ROUND

\$810 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$6 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$106 k

GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

New York is home to the AI Summit, which brings together representatives from the world’s leading organizations to discuss an AI-powered future. Real-time information discovery platform Dataminr closed a \$475 million financing round in March 2021. AI startup Verbit raised \$157 million in June 2021. AI and machine learning platform Dataiku raised a \$400 million Series E in August 2021.

Cybersecurity

New York City Economic Development Corporation’s (NYCEDC) \$100 million Cyber NYC initiative aims to transform New York into a global hub of cybersecurity innovation. As part of the initiative, NYCEDC partnered with Israeli VC firm Jerusalem Venture Partners (JVP) to launch the JVP accelerator program with the goal of connecting entrepreneurs to investors and other major cybersecurity players. Industrial cybersecurity company Claroty raised a \$140 million Series D round in June 2021.

Life Sciences

New York’s LifeSci NYC program will spend \$1 billion over the next five years to support Life Sciences, initiating a Request for Proposals (RFP) that invites nonprofit organizations or joint ventures led by nonprofit organizations to submit proposals for new or expanded facilities. BioLabs New York is partnering with NYU Langone Health to build biotech co-working, acceleration, and R&D facilities, to attract promising early-stage life sciences companies. Aetion, a real-world evidence (RWE) and outcomes-based analytics company, raised a \$110 Series C round in May 2021.

Reasons to move your startup to New York City

Ease of Doing Business

NYC Business Quick Start, a new \$11 million initiative from the Mayor's Office and the NYC Department of Small Business Services (SBS), is focused on cutting red tape to make New York City the easiest place in the United States to start a small business.

World-class Talent

Approximately 3.2 million New Yorkers hold a bachelor's degree or higher, more than Los Angeles, San Francisco, Philadelphia, Washington DC, and Boston combined. New York is home to more than 1 million college students and some of the leading law, business, medical, engineering, maritime, design and fashion, and film schools in the country. In addition, 3.2 million immigrants from over 150 countries call New York home, broadening the skills and perspectives available to employers.

Startup Community

STARTUP GENOME MEMBERS

MEMBER

New York City Economic Development Corporation

NYCEDC is the City's primary vehicle for promoting economic growth across all its neighborhoods. NYCEDC's mission is to stimulate growth through expansion and redevelopment programs that encourage investment, generate prosperity, and strengthen the City's competitive position. NYCEDC serves as an advocate to the business community by building relationships with companies that allow them to take advantage of New York City's many opportunities.

MEMBER

Tech:NYC

Tech:NYC is an engaged network of tech leaders working to foster a dynamic, diverse, and creative New York. It brings together principled New Yorkers to support a successful technology ecosystem, attract and retain top-tier talent, and celebrate New York and the companies that call it home.

STARTUP GENOME PARTNERS

Starta Venture Accelerator / Blue Ridge Labs / Brooklyn Chamber of Commerce / Bunker Labs / Cela / Civic Hall / Coindesk/Consensus / Company (previously Grand Central Tech) / Entrepreneurs Roundtable Accelerator / Flatiron Partnership / Gary's Guide / Innovative Collective / Mayor's Office of International Affairs - NYC / MeetUp / New Lab / New York Angels / NY Fashion Tech Lab / NY Tech Alliance / NYC Blend / SAP / TechStars / Urban-X / VentureOut

United Kingdom

London #2



London has an established position at the cutting edge of tech. Previously in Fintech, but now also AI and Healthtech. It's critical we leverage this advantage — attract the best talent and build a supportive ecosystem.

Suranga Chandratillake

Partner at Balderton Capital



TOTAL EARLY STAGE FUNDING

\$8.5 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$142 bn

GLOBAL AVG.
\$13.68 bn

Highlights

London remains a tech powerhouse, with local startups in the British capital valued at an astronomical \$4.7 billion, but the ecosystem faced considerable headwinds this year. In addition to the global disruption caused by the pandemic, the finalization of Britain's protracted and messy breakup from the EU left many commentators wondering whether London would retain its spot near the top of startup ecosystem rankings. So far, signs are good. VC investment into Britain is the third highest in the world, after the United States and China, and hit a record high of \$15 billion in 2020. Despite the uncertainty surrounding Brexit, 63% of that funding came from overseas last year, up from 50% in 2016. Previous to Brexit, London excelled at attracting overseas talent, which led to concerns about the impact of the end of freedom of movement for Europeans. However, Britain boasts plenty of homegrown tech talent, and ecosystem insiders note that the end of the drawn-out Brexit process at least brings clarity, allowing startups to plan. Britain's new freedom to craft its own regulatory regime could potentially offer benefits to the ecosystem as well. Finally, the City of London continues in its status as a global financial hub, suggesting the greater ecosystem will retain its dominance in the Fintech sector. Edtech is a growing sub-sector in London as well. The bottom line is that the gloomiest predictions regarding the impact of Brexit on Britain's biggest startup ecosystem don't seem set to have come to pass, though London startups have faced a year of adjustment and recalibration.

MEDIAN SEED ROUND

\$653 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$4 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$76 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths



Thanks to its status as a pre-eminent global financial hub, London hosts 2,183 fintech companies, more than New York or San Francisco. Those fintech companies raised more than £2.7 billion in investment last year, with an average early-stage investment of \$486,000 per startup, compared to a global average of \$286,000. Local success story Transferwise (now known as Wise) was founded in 2011. As of July 2020 it was valued at \$5 billion, on par with Europe's biggest fintech companies, including Revolut and Klarna.



London's Edtech ecosystem is one of the largest in Europe with an estimated value of US\$3.4 billion, and London is the one European city to feature in Dealroom's global Edtech top 10 by investment. Edtech VC firm Brighteye Ventures closed its second \$54 million fund last year, bringing assets under management to more than US\$112m, while Edtech startup Kano secured US\$15.46 million in funding in March 2021.

Reasons to move your startup to London

Talent availability

Thanks to its proximity to world-class universities and educated, cosmopolitan workforce, London is a leading global talent hub. Of the world's top ten universities, four are located close to the city, and 54 percent of residents have a tertiary degree. According to Accenture's UK Tech Talent Tracker Report, there are 422,000 data analytics, artificial intelligence, blockchain, extended reality, and quantum computing professionals in the UK. About 37 percent of them are located in London.

Tax incentives

While there is no difference between taxes paid by early-stage and established businesses in the UK, there are various deductions startups can use to reduce their tax bills. England also offers 24 Enterprise Zones, including the Royal Docks in southeast London, in which businesses are 100% tax exempt for their first five years (for a maximum discount of £275,000). Other schemes reduce tax on income from the development of patents and intellectual property and on UK taxpayers who invest in startups.

Startup Community

STARTUP GENOME
PARTNERS

Tech Nation (formerly Tech City UK) / Accelerator Network / Balderton Capital / City of London / GEN / GSMA / KPMG / Level39 / MassChallenge / Microsoft Ventures / Microsoft for Startups / Northzone / Tech London Advocates / TechUK / Techstars London / Wayra London

United States

Los Angeles #6



We built a rock hard community, and seeing LA now, as one of the top startup cities in the world, is a testament to the power of community.

Cam Kashani

Cofounder and CEO at COACCEL: The Human Accelerator



TOTAL EARLY STAGE FUNDING

\$5 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$119 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Long known more for movie magic than technology and overshadowed as a startup hub by Silicon Valley to the north, Los Angeles has shifted in recent years to become not just one of America’s top startup ecosystems, but a global hotspot as well. That shift has been partially driven by changes in taxation policy. Los Angeles has delivered more than \$90 million in tax relief to local businesses since 2013, which has assisted with the growth in startups of all kinds. More than 212,000 new businesses have been licenced in the city over the last 5 years. Despite a tumultuous year Los Angeles companies managed to land \$9 billion in VC funding in 2020. What sets the growing startup ecosystem in Los Angeles apart from many established tech hubs is its inclusivity. PledgeLA, an organization that includes more than 80 venture capitalists, entrepreneurs, mayor Eric Garcetti and the non-profit Annenberg Foundation, aims to increase diversity in the city’s tech scene. For instance, recognizing that a “friends and family round,” where wealthy personal contacts fund an entrepreneur’s earliest efforts, is often an impossibility for minority founders, PledgeLA set up a South LA Fund to distribute \$25,000 each to 20 companies led by Black or LatinX founders. Los Angeles is also amongst the top 20 cities with the highest number of female-owned businesses, which average a gross annual revenue of between \$1 billion to \$5 billion.

MEDIAN SEED ROUND

\$627 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$5.2 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$96 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths



Life Sciences

L.A. County receives more than \$1.15 billion in NIH funding, more than any other county in California. Appia Bio, Inc., an early-stage biotechnology company developing engineered allogeneic cell therapies for cancer patients, emerged from stealth made in May 2021 backed by \$52 million in Series A funding.



Gaming

Los Angeles based mobile gaming unicorn Scopely raised \$340 million in Series E funding in October 2020 at a \$3.3 billion valuation, nearly double the company’s \$1.7 billion valuation from March. Meanwhile, game studio Theorycraft Games raised a \$37.5 million Series A round in March 2021, while fractional sports card trading startup Dibbs raised a \$2.8 million seed round in October 2020.



Adtech

The pandemic made 2020 a rough year for advertising and Adtech everywhere, but with the end in sight, the sub-sector is now rebounding with 51% of digital advertisers planning to increase their ad budgets in 2021. Popcorn, an L.A.-based platform that connects brands and podcasters, was acquired for \$14.6 million by Entercom Communications in March.

Reasons to move your startup to Los Angeles

Startup Ecosystem

Los Angeles boasts a vibrant network of local incubators and accelerators, including Bixel Exchange's Startup Launch program for emerging startups and the Tech Talent Pipeline Program for underprivileged students. SAP Next-Gen supports startups aligned with the UN Sustainable Development Goals. Make in LA (MiLA) targets hardware startups and is housed at Toolbox LA, which boasts both maker spaces and a biotech lab. MuckerLab runs a mentor network and accelerator programme. Starburst is an aerospace accelerator with a branch in L.A.

Startup Community

STARTUP GENOME
PARTNERS

Bixel / Bixel Exchange / Cross Campus / Mucker Capital / WeWork

United States

Washington, D.C. #11



Startups in Washington, D.C., have a refreshing focus on taking on significant global challenges and bringing their unique entrepreneurship lens to problems historically left to governments.

Donna Harris

Cofounder, 1776 General Partner, 1776 Ventures

Highlights

Washington, D.C. may be more well known for politics than entrepreneurship, but the numbers suggest the U.S. capital is actually an undersung startup hub. The area is home to more than 1,000 tech startups, and it ranks first in the nation for growth in entrepreneurship, according to the Kauffman Foundation. Various rankings have named Washington, D.C. the third most future-ready economy among American cities, third best tech city in the nation, and the country's top city for social entrepreneurs working to solve social challenges. Washington, D.C. was ranked number 2 in North America on the 2020 Scoring Tech Talent by CBR. Local government initiative #innoMAYtion hopes to build on this momentum by encouraging local entrepreneurs to help solve the city's challenges and create opportunities for its residents. 1776's Challenge Cup, a worldwide competition organized by local startup incubator 1776, spotlights the globe's most promising startups. Finally, DC Startup Week attracts over 10,000 entrepreneurs for 5 days of connection, collaboration, and celebration. Success stories to emerge from the ecosystem include risk management firm Interos, which has raised a total of \$128.4 million over 3 rounds, and international student loan company MPOWER Financing, which has raised \$375 million over 13 rounds.

TOTAL EARLY STAGE FUNDING

\$2.1 bn

GLOBAL AVG.
\$548 m

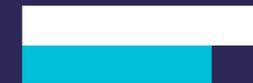
ECOSYSTEM VALUE

\$28.9 bn

GLOBAL AVG.
\$13.68 bn

MEDIAN SEED ROUND

\$625 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$5 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$96 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths



Cybersecurity

Companies headquartered in Washington, D.C. won more than 22% of the \$656 billion the federal government awarded in prime contracts in 2020. Threat intelligence platform ThreatQuotient has raised a total of \$87.6 million in funding over 9 rounds. Cybersecurity solutions provider Two Six Technologies, which resulted from the merger of Two Six Labs and IST Research, raised \$18.9 million in February 2021. The company counts the Department of Defense and intelligence community among its clients.



Edtech

Education is one of the most important sub-sectors in the Washington, D.C. region, accounting for \$3.9 billion of GDP and 44,000 jobs. Post-secondary education alone accounts for 27,000 jobs. Student lifecycle and retention management company Full Measure Education raised a \$10 million Series A in June 2021. Edtech company EVERFI raised a total of \$251 million before selling its higher education business to Florida's Vector Solutions for \$100 million.

Reasons to move your startup to Washington, D.C.

Skilled Workforce

Washington, D.C. is the most educated city in the U.S. according to the Census Bureau and ranks #1 in the country for high-tech employment concentration. Neighboring states Maryland and Virginia lead the nation in concentration of bachelor's degrees in STEM disciplines. The area is home to more than 10 colleges and universities, and 50% of residents have a college degree compared to 33% nationally.

Startup Community

STARTUP GENOME
PARTNERS

1863 Ventures / Acceleprise / Beacon DC / Conservation X Labs / DC Fashion Foundation / Halcyon Incubator / PeaceTech Accelerator / Village Capital / Women's Business Center (DCWBC)

United States

Philadelphia

MEMBERS:

Ben Franklin Technology Partners of Southeastern Pennsylvania / University City Science Center / Drexel University



Taking advantage of the power of diverse talent, being creative and being inclusive, is going to attract people and make people want to come here.

Jeff Marrasso

co-founder and CEO, Spark Therapeutics



TOTAL EARLY STAGE FUNDING

\$994 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$18.8 bn

GLOBAL AVG.
\$13.68 bn

Sub-sector Strengths

AI, Big Data & Analytics

In 2021, Philadelphia was ranked 26th among North American cities for tech talent by CBRE. The city also ranked 10th for tech degree completion in North America. In June 2020 The Wharton School announced the establishment of Wharton AI for Business to support cutting-edge research in AI and help business leaders develop innovative applications for the technology. Fishtown Analytics, now rebranded to dbt Labs, announced a \$150 million Series C round in June 2021.

Life Sciences

CBRE ranked Philadelphia as the 7th top Life Sciences cluster in the USA, based on its jobs, lab space, and VC funding. Pennsylvania's Keystone Innovation Zone (KIZ) tax credit program offers upto \$15 million in tax credits annually. Philadelphia-based gene therapy pioneer Spark Therapeutics was purchased by Roche in 2019 for \$4.3 billion. Biopharmaceutical company Carisma Therapeutics announced a \$59 million Series B in March 2021, and data management platform HealthVerity raised \$100 million in June 2021.

Highlights

With its underdog energy and vibrant population, Philadelphia is built on the foundation of innovation, from American democracy to cures for cancer. Millennials are relocating to Philadelphia at growth of 1.5 times the rest of the country. Alumni from Philadelphia's universities launched more than 600 VC-backed companies in the past 10 years, raising an average of \$6 million in their first round. Led by corporations like Comcast Corporation and established startup ecosystem partners like the Philly Startup Leaders' accelerator and the Science Center's Launch Lane Accelerator, a vibrant network of startup support organizations and events support MVP-stage and early-stage tech-startups. Philly Tech Week is an annual week-long celebration showcasing local innovation. The 3rd most diverse US city for STEM, Philly's startup scene is also inclusive. In November 2020 the city announced its Most Diverse Tech Hub initiative, investing \$500,000 to retain Black and brown students and expose them to careers and entrepreneurship. In June 2020 Philly Startup Leaders committed \$550,000 to underrepresented founders, with contributions from delivery company GoPuff and civic partners including Ben Franklin Technology Partners. In February 2021, Drexel University and the Science Center announced the \$500,000 Raynier Institute & Foundation Seed Fund, supporting local underrepresented founders. VCs have noticed this energy. \$1.8 billion was invested across 221 deals in Philadelphia in 2020 with an average disclosed round value of \$8.1 million. Deals continue in 2021 with GoPuff, founded by two Drexel University alumni, announcing another \$1.15 billion raise with an \$8.9 billion valuation.

MEDIAN SEED ROUND

\$550 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3.3 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$81 k

GLOBAL AVG.
\$44 k

Reasons to move your startup to Philadelphia

Tech Talent

According to CBRE, Philadelphia ranks 13th in the number of tech-related workers nationally, with tech-related jobs making up 3.9% of Philadelphia's workforce. Its many academic institutions turned out more than 25,000 tech graduates between 2015 and 2019, and continues to attract a young talent pool with millennials comprising almost 28% of Philadelphia's population.

Low Cost of Living

Compared to other nearby east coast tech hubs, Philadelphia offers a substantially lower cost of living, including affordable rents and home prices. The median home cost is \$680,500 in New York and \$714,400 in Washington, but only \$153,400 in Philadelphia, for instance.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Ben Franklin Technology Partners of Southeastern Pennsylvania

Ranked among the most active seed and early stage investors in the US, Ben Franklin Technology Partners of Southeastern Pennsylvania is a venture development organization that helps high-growth innovative enterprises plant and nurture their roots in the Philadelphia region. The nonprofit has supported more than 2,000 companies to deliver an economic impact of more than \$5 billion and over 32,000 jobs created in the Philadelphia region.

MEMBER

University City Science Center

The University City Science Center is Philadelphia's premier catalyst of entrepreneurial activity, healthcare innovation, and economic growth. Established in 1963, the nonprofit has been globally recognized by The Brookings Institution as a best-in-class investor, mentor, and economic development partner for young technology companies. Working alongside industry partners and leading research and academic institutions across the globe, the Science Center has supported over 1,000 early-stage companies. Today, the organization advances healthcare innovation from idea to the marketplace through startup support services, allocating capital, gathering the innovation community, and building inclusive STEM career pathways for Philadelphia youth and adults.

MEMBER

Drexel University

Drexel is a comprehensive global research university with a unique model of experiential learning that combines academic rigor with one of the nation's premier cooperative education programs. Drexel is classified as "R1: Doctoral Universities" by the Carnegie Classification of Institutions of Higher Education, a designation given to US research institutions with the highest level of research activity. In 2021, the Princeton Review ranked Drexel's Close School of Entrepreneurship #12 in the US for undergraduate entrepreneurship programs.

China Shanghai #8

“ Shanghai has a very impressive mix of global corporate innovation, startup co-working and investment hubs that helps startups connect dreams to innovation, make ideas to reality.

Howard Wang

Incubation Director, Shanghai Caohejing Innovation Center



TOTAL EARLY STAGE FUNDING

\$5.1 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$157 bn

GLOBAL AVG.
\$13.68 bn

Highlights

As a global financial hub and location of one of the world's busiest container ports, Shanghai is China's gateway to the world. The city's population of 24 million includes a large base of sophisticated and cosmopolitan consumers, as well as 250,000 expats. It is no surprise then that the city is a popular home base for foreign companies. Its startup ecosystem is particularly strong in the fintech, gaming and ecommerce subsectors. Shanghai was home to 42 unicorn companies worth more than \$1 billion as of the end of last year. Despite its historical strengths the Shanghai ecosystem was already facing a funding crunch when it was hit hard by the coronavirus crisis in early 2020. Startups in the city raised just \$7.5 billion in the first quarter of last year. However, thanks to China's success containing the outbreak, combined with a gusher of funding from the central bank to get the economy back on track, investment shot back up \$13.2 billion and \$12.2 billion in the next two quarters. In the final quarter of 2020, Shanghai was home to three of Asia's top 10 largest funding rounds, a \$735.85 million Series B for electric car company Enovate motors, a \$315 million Series E round for industrial parts e-commerce platform Zhenkunhang, and \$310 billion for early-stage biotech startup LianBio. Online medical care and remote learning companies have been particularly hot thanks to the impact of Covid-19.

MEDIAN SEED ROUND

\$1440 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$4.7 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$37 k

GLOBAL AVG.
\$44 k

Sub-sector Strengths

Edtech

In response to the pandemic the number of online learners in China shot up last year, reaching 423 million by March 2020, an increase of 110.2% from the end of 2018. The Edtech sector boomed too, reaching USD \$70.40 billion in 2020, a 12.3% increase from the previous year. Shanghai-based education company Zhangmen raised USD \$400 million in October 2020, while Zhangmen, another Shanghai-based company in the subsector, reached unicorn status last year.

Gaming

China boasts a massive domestic market of over 600 million gamers, while Shanghai recently broke ground on The Shanghai International New Cultural and Creative E-sports Center, a \$898.2 million, 500,000 square meter e-sports event hub where teams and companies can be based and compete. The city also hosted the 'League of Legends' world championship last year, cementing its status as a global leader in e-sports. Shanghai-based game developer Moonton was acquired by ByteDance for \$4 billion in March 2021.

Reasons to move your startup to Shanghai

Government Funding

In partnership with state-owned investing parties like Shanghai International Trust, Shanghai International Group, Shanghai Zhangjiang Hi-Tech Development, and the Shanghai Guosheng Group, the Shanghai government is offering \$4.6 billion in special funds to encourage the growth of startups in the information technology, advanced manufacturing, new energy, and biomedicine sectors. Startups can receive additional government support in the form of rent reductions, entrepreneurship subsidies, and subsidies for innovation in line with the implementation of China's 2030 Innovation Megaprojects like 5G, smart city and AI.

Startup Community

STARTUP GENOME
PARTNERS

[ChinaAccelerator](#) / [Ether Capital](#) / [Founder Space](#) / [Innoclub](#) / [Innospace+](#) / [Innospring](#) / [NakedHub](#) / [People Square](#) / [Shanghai valley](#) / [Sinavation Ventures](#) / [Startup Grind](#) / [Technode](#) / [Xnode](#)

United States

Seattle #10

“ Founders appreciate the dynamic world-class tech ecosystem Seattle offers. We’re generous leaders in AI, Cloud, IoT, Robotics, Big Data, Fintech, Biotech, VR/XR, and more for you to connect with.

Brett Greene

CEO and Founder of New Tech Northwest



TOTAL EARLY STAGE FUNDING

\$3 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$49 bn

GLOBAL AVG.
\$13.68 bn

Sub-sector Strengths

AI, Big Data & Analytics

The University of Washington, a national leader in the field of machine learning and Big Data, has helped nurture these subsectors in the Seattle area with creative programs including its Washington Fund, an early-stage venture fund that aims to invest in promising startups spinning out of local research institutions, and New Embark facility. Several startups have spun out of the university’s Computer Science department. Local machine learning startup OctoML raised a \$28 million Series B in March of this year.

Life Sciences

Success in a particular sector tends to breed further success in the sector, with Seattle’s life sciences companies being a prime example of this virtuous cycle. After Juno Therapeutics, a developer of novel immunotherapies, was sold to Calgene for \$9 billion just five years after it spun out of the Seattle-based Fred Hutchinson Cancer Research Center, it’s co-founders reinvested some of that payday in engineered cell startup Sana Biotechnology, which recently raised over \$700 million.

Highlights

The home town of Amazon and Microsoft was well situated to weather the coronavirus crisis with one of the highest proportions of tech workers in the U.S. No wonder investors have been pouring money into Seattle’s vibrant startup ecosystem. Over the last two years the area’s venture capital firms have raised more than \$1 billion for their next round of early stage funds including Madrona VII (\$300 million), West River Group (\$150 million), Maveron VII (\$180 million), Frazier Healthcare IX (\$419 million), Voyager V (\$100M), and Founders’ Co-op IV (\$25M). Those new funds add to existing funds, including Ignition VI (\$200 million), Tola Capital II (\$300 million), Arch Venture Partners (\$400 million). Seattle startups brought in \$3.2 billion in venture capital through the first three quarters of 2020, according to Pitchbook, putting the city on track to easily break its previous high of \$3.6 billion in 2019. “Mega-deals” of over \$100 million are also on pace to set a record this year, with 167 deals already completed in Q1. Angel and seed deals hit a Q1 record for deal count. Seattle is also home to highly successful accelerators, including Amazon’s Alexa Accelerator, a program that connects entrepreneurs building voice-first products to the resources of Amazon’s Alexa team. The local Techstars accelerator is also the most successful city in the program’s history in terms of dollars raised by graduates, which include three unicorns: Zipline (\$1.2 billion), Outreach (\$1.1 billion), and Remitly (\$1 billion).

MEDIAN SEED ROUND

\$1200 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$4.5 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$105 k

GLOBAL AVG.
\$44 k

Reasons to move your startup to Seattle

Talent

More than 130 research centers are now located in Seattle, and more than 50 percent of all new leases in the city last year were for technology companies. At the time of this writing there were more than 19,000 engineering job openings on LinkedIn within the broader area. The tech talent pool in the ecosystem is clearly broad, deep, and growing.

University talent

The University of Washington is one of the nation's premier research universities and home to 286 specialized research centers. The school receives more than \$1 billion in total research grants and contracts each year, which means that more than 2 percent of all federal research funding currently goes to UW. In addition, the school has also benefited from private funding, including a gift of \$40 million to the university's distinguished School of Computer Science and Engineering by late Microsoft co-founder Paul Allen.

Accelerators, incubators

There are 25 startup accelerators, incubators and other programs supporting the next wave of founders in the Seattle area. These include traditional accelerator programs like Techstars, but also newer studio models, like PSL and Madrona Venture Labs, which recruit talent from big tech companies to join growing startups.

Startup Community

STARTUP GENOME
PARTNERS

ARI / Alliance of Angels / Angel Resource Institute / Fledge / Lighter Capital / MS Accelerator / Microsoft Ventures / Microsoft for Startups / New Tech Northwest / SURF Incubator / Seattle Angel Conference / Seven Peaks Ventures / Startup Grind / Startup Seattle / Techstars

Israel Tel Aviv #7*

Ecosystem rank and metrics for Tel Aviv - Jerusalem

MEMBERS:

Tel Aviv Global



Tel Aviv has shown tremendous growth and maturity with many startups evolving into scaleups, unicorns and public companies. As a leading global investment business, we are excited for the opportunities presented in one of the most dynamic and innovative markets in the world.

Yifat Oron

Senior Managing Director, Blackstone . Head of Tel Aviv Office



TOTAL EARLY STAGE FUNDING

\$4.5 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$61.6 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Tel Aviv might be of modest size but Israel's high-tech capital is one of the leading cities in the world for innovation and technology. The beating heart of the "Startup Nation" boasts one startup for every 154 residents, the world's highest ratio. Creative and experienced talent, a mix of local and international investors and 2,750 startups call this ecosystem home. The "Startup City" hosts 115 foreign R&D centers with a vast range of multinational companies using the city as a base for innovation. The well known tech giants like Google, Microsoft, Facebook, Amazon and Apple, together with Nike, Mastercard, Ford, booking.com, bosch, come for the talent and entrepreneurial spirit and benefits from the country's high expenditure on R&D - the second-highest rate of R&D spend per capita in the world. A recent surge in VC money into Tel Aviv has only improved the conditions for growing companies. The ecosystem saw a 25% increase in capital raised in 2020, with over \$6.8 billion flowing into its startups last year which doubled the number of unicorns in Tel Aviv. It is now home to more than 20 private companies worth more than \$1 billion. With rounds of \$200 or \$300 million not uncommon, local success stories are numerous and include Monday.com, which raised \$150 million from Zoom and Salesforce in June 2021 as part of its IPO, and mobility-as-a-service startup Moovit, which was acquired by Intel for \$900 million in May 2020. Notable ecosystem events include Axis Tel Aviv, DLD, Fintech Week, and CybertechGlobal which provide local entrepreneurs the opportunity to network with leading members of the international startup scene.

MEDIAN SEED ROUND

\$1500 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$5.8 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$90 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

Tel Aviv is seventh in the world by number of AI startups, with 714 companies and a total of \$3 billion invested in 2020. A new AI plan calls for \$1.6 billion to further grow the sub-sector over the next five years and has already unlocked initial funding of \$168.2 million. In June 2021, ZenCity, an AI solution for governments, raised \$30 million and digital adoption platform WalkMe raised \$286.75 million in an IPO.

Cybersecurity

2020 was a record-breaking year for Tel Aviv-based Cybersecurity companies, raising \$2.9 billion in total. In just Q1 2021, the sub-sector raised \$1.5 billion across 17 deals. Three unicorns continued their growth in 2021, enterprise networking and security company Cato Networks raised a total of \$332 million, cloud infrastructure company Wiz raised a total of \$350 million and Aqua Security raised a total of \$265 million. Tel Aviv University hosts Cyber Week, one of the top cybersecurity events in the world.

Reasons to move your startup to Tel Aviv

Intellectual Property Incentives

A company that creates IP assets in Israel, or is willing to transfer some IP to Israel, is entitled to reduced corporate, dividend, and capital gains tax rates. The country's Angel's Law also provides tax benefits and deductions to single investors who invest in Israeli companies during their initial R&D (seed) stage.

Employment Aid Programs

The Israeli Ministry of Economy offers wage subsidies for new employees for a specific period of up to several years depending on the program. Subsidy rates range from 10% to 40% depending on the employee's background (i.e. students, workers from minority groups), and the amount of time the employee has been already working in the position.

R&D Grant Programs

The Innovation Authority operates more than 40 R&D grant programs for multinational companies, individual entrepreneurs, research institutions, and NGOs. The programs offer a unique, customized, and comprehensive incentive "toolbox," including Innovation Labs programs, which offer up to a 50% deduction in R&D expenses for specific sub-sectors.

Startup Community

STARTUP GENOME
MEMBERS

Tel Aviv Global

MEMBER

Tel Aviv Global & Tourism is a municipal company that reports to the Mayor's Office at the Tel Aviv-Yafo Municipality. It facilitates the global quantum leap taken by the city of Tel Aviv-Yafo in creating economic and tourism growth.

STARTUP GENOME
PARTNERS

[Future Block Coworking](#) / [Future Block Programs](#) / [Geektime](#) / [Microsoft Ventures](#) / [Microsoft for Startups](#) / [SOSA](#) / [Startup Nation Central](#) / [Techstars](#)

France

Paris #12



France has taken over Europe as the place where the most funding rounds happened in 2018. The next step is to turn our eurocentric scale-ups into global leaders.

Nicolas Brien

CEO at France Digitale

Highlights

With more than 10,000 startups nationwide, France has ambitions to become Europe’s largest startup ecosystem, with the government promising to invest \$6 billion in the technology sector. One of the top attractions of Paris for startups is its central location with easy access to Europe’s most important capitals. London, Amsterdam, Berlin, Madrid, Rome, and Luxembourg are all less than 3 hours away. The city also boasts 21 of the best-ranked business schools in the world, which provide companies with a large pool of highly skilled talent. This wealth of talent also drives the ecosystem’s success as a center of innovation. Paris has the most research professionals, high-tech patents, and highest annual R&D spending in Europe. Paris is also a major business hub and hosts many corporate headquarters. Companies and labs are organized in 9 competitiveness clusters with over 4,300 members across sectors including cosmetics, high-tech healthcare, aeronautics, digital transformation, and sustainable cities. The city also hosts a number of top startup events, including Big Data & AI Paris, Hello Tomorrow Global Summit, and Viva Technology, Paris. Local success stories include online home improvement marketplace ManoMano, which has raised a total of \$705.5 million over six rounds, crypto security company Ledger, which has raised a total of \$468 million over eight rounds, and digital health insurance platform Alan, which has raised a total of \$363.9 million over six rounds.

TOTAL EARLY STAGE FUNDING

\$3.5 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$47.1 bn

GLOBAL AVG.
\$13.68 bn

MEDIAN SEED ROUND

\$1100 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3.3 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$64 k

GLOBAL AVG.
\$44 k

Sub-sector Strengths



Fintech

The Paris Fintech Forum is one of Europe’s biggest FinTech events. Paris is also home to Euronext, the EU’s biggest stock exchange by market capitalization (\$4902 billion). Top-tier financial engineering programs at Paris Dauphine, Polytechnique, HEC and ESSEC business schools provide talent to the sub-sector. October, an online marketplace for business loans, raised \$304.2 million in September 2020. AnaCap Financial Partners acquired payments platform Market Pay in a \$362.93 million deal in February 2021.



AI, Big Data & Analytics

The Paris region’s “2021 AI plan” aims to spur investment in AI. It includes 3 AI challenges, each offering €1 million to develop innovative solutions in three fields: industry, health and citizen’s life. The plan also funds AI proofs of concept in local SMEs and mid-caps, as well as the INNOV’up program, which makes Paris-based R&D centers eligible for funding and tax credits. Digital experience analytics platform ContentSquare raised a \$500 million Series E in May 2021.

Reasons to move your startup to Paris

Access to Large Markets

Startups in Paris enjoy unrivaled access to one of the largest domestic markets in Europe, and easy access to a European market of more than 500 million consumers. The city is also a convenient gateway to African and Asian markets. A high-speed rail network offers fast and frequent connections to all major European cities. The area's three international airports, all connected to the city center via the underground, offer direct connections to 260 destinations in 191 countries.

Startup Community

STARTUP GENOME
PARTNERS

50 Partners / France Digitale / Numa / Station F / The Family

Supportive Ecosystem

An extensive network of 400+ incubators, digital fabrication labs, and coworking spaces help international startups grow and succeed. The cost of office space in Paris is also well below that of other major international cities such as London, Tokyo, and San Francisco.

South Korea

Seoul #16

MEMBERS:

Seoul Business Agency



The Seoul Metropolitan Government (SMG) has set the goal of turning Seoul into a “startup-friendly city for the youth” in our belief that young entrepreneurs are treasures of the city. We plan to enhance entrepreneurship training across Industry 4.0 sectors so that the city can give birth to more unicorn companies. We will also keep on supporting entrepreneurs beyond their start-up phase.

Se Hoon Oh

Mayor of Seoul



TOTAL EARLY STAGE FUNDING

\$2.5 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$47.2 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Seoul, already home to most of South Korea’s 11 unicorns, is aiming to become one of the world’s top 5 startup hubs by 2022. And the government is putting its money where its mouth is. In July the South Korean government announced plans to invest 114 trillion won (\$94.5 billion) over the next 5 years into two ambitious new policies — the Digital New Deal and Green New Deal. Korean companies and local governments will contribute another \$37.2 billion to the initiatives for a total of \$132.6 billion. Complementary programs from the Seoul Municipal Government include the establishment of the IoT Incubation Center to support startups working to find solutions to urban problems, the creation of the Gyaepo Digital Innovation Park, and the creation of the Seoul App Business Center startup hub. The Seoul Global Startup Center supports foreign entrepreneurs moving to Seoul. The ecosystem also boasts plenty of privately run incubators and events. COMEUP 2020 was Korea’s biggest startup event to date attracting 1076 startups from 88 countries. Venture Capital World Summit helps connect entrepreneurs and investors. TIPS provides startups with incubation spaces in collaboration with universities and research institutes. Its angel matching fund scheme offers financial assistance to growing companies. Seoul startup success stories include global research firm and unicorn CB Insights, AI tutoring company Riid, which has raised a total of \$248.1 million, and Fintech startup Viva Republica, currently valued at \$7.4 billion.

MEDIAN SEED ROUND

\$485 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3.3 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$47 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

The big data analytics market in Korea was worth 1.674 trillion won (~\$1.5 billion) in 2019, a 10.9 percent jump from just a year earlier. The market is predicted to be worth 2.569 trillion won (~\$2.55 billion) by 2023. South Korea plans to invest \$2 billion by 2022 in strengthening its AI research capabilities, including the development of 6 AI graduate schools. The government is also spending to strengthen its 5G and cloud computing infrastructure. Industrial AI company OnePredict has raised a total of \$17.5 million in funding.

Life Sciences

Finnish business accelerator Aalto Startup Center teamed up with the Korea Institute of Startup & Entrepreneurship Development (kised) to launch the Korean Startup Center in order to support Korean Life Sciences companies hoping to break into European markets. Standigm, an AI-based drug discovery and development company, raised a \$44.5 million Series C round in March 2021.

Gaming

South Korea’s game market size is projected to exceed 18 trillion won (\$16.6 billion) in 2021, according to a white paper released by The Korea Creative Content Agency (KOCCA). In 2020, Korean gamers created around 265,000 jobs in the country. Seoul also hosts top global gaming event, the PAX Game Convention, which spotlights PC, online, arcade, console, VR/AR, and mobile gaming, as well as offering esports tournaments and talks with game developers. Game developer Npixel raised a ₩60 billion/\$54 million Series A round in January 2020.

Reasons to move your startup to Seoul

Talent Pipeline

The Seoul Municipal Government (SMP) plans to train 1,600 technologists annually through six new industrial hubs, including Hongneung (Bio), Mapo (Fintech, Blockchain), and Gaepo and Yangjae (AI, Big Data). The SMP is also opening an “Innovation School” in the Gaepo Digital Innovation Park to train a total of 2,000 software engineers.

R&D

Seoul is home to an incredible 22,000 research facilities, and 24.7% of Korean’s research personnel live in the city. South Korea invested almost 90 trillion won (US\$83 billion) in research and development (R&D) last year, making it the fifth-largest spender among members of the Organization for Economic Cooperation and Development (OECD).

Startup Community

STARTUP GENOME
MEMBERS

Seoul Business Agency MEMBER

SBA provides a variety of public services such as support for start-ups (including business of foreign residents in Seoul through Seoul Global Center), R&D, intellectual property, development of market outlet for small businesses, overseas export, SETEC(Trade exhibition for SMEs) and so forth. These services aim to help SMEs increase their market competitiveness.

STARTUP GENOME
PARTNERS

[Born2Global Centre](#) / [Chain.Asia LLC](#) / [Dream Plus](#) / [InterValue Partners](#) / [Koisra Seed Partners](#) / [Korea Entrepreneurship Foundation](#) / [Medici Investment](#) / [Pathfinder H](#) / [Quantum Ventures Korea](#) / [Sema Translink Investment](#) / [Seoul Center for Creative Economy and Innovations](#) / [Seoul Startup Hub](#) / [Seoulz](#) / [Sopoong](#) / [Thenews.Asia](#) / [Venture Square](#)

China Beijing #4



Beijing's greatest innovation asset lies in its preeminent education resources. Among Beijing's yearly 200,000 college graduates, many enter the startup scene one way or another, making this city a leading innovation highland as today.

Jordan Zhu

Senior Manager at Innoway in the Global Incubation Department



TOTAL EARLY STAGE FUNDING

\$10.8 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$445 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Silicon Valley might be the most famous of all startup hubs, but in 2020 Beijing was actually the ecosystem with the most unicorn companies with 93 local startups valued at \$1 billion or more, including the two most valued unicorns in the world, Alibaba spin off ANT Group (valued in April at around \$200 billion) and TikTok parent company ByteDance (valued at \$140 billion). Though the coronavirus pandemic rattled the Chinese economy, particularly in early 2020, pandemic related disruptions also provided opportunities for Beijing based startups. With students pivoting to remote learning, China's online education companies saw rapid growth. Yuanfudao, an EdTech giant based in Beijing, raised US\$1 billion in funding. Xiaomawang, a coding education company, raised US\$21.2 million. Other Chinese startups were able to thrive thanks to changing trends in consumer spending and habits driven by the pandemic. Beijing's Calorie Technology, which operates the Keep Fitness app, surged to more than US\$1 billion in value in May 2020 and boasts 200 million registered users, for instance.

MEDIAN SEED ROUND

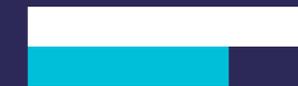
\$1455 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

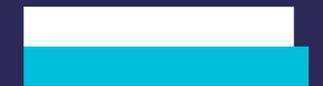
\$4.3 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$42 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

Beijing's startup ecosystem is ruled by AI, big data and analytics, and the city houses 1,070 AI companies, more than a quarter of China's total. Beijing tech hub Zhongguancun is home to 10 AI labs and 9,000 tech companies, including Baidu, Sina Corp and Lenovo. AI-based business risk control company Shumei Technology raised a total of \$208 million in funding over 2 rounds, the last of which was a Series D round of \$135 million in April.

Fintech

Beijing is a global fintech powerhouse that is home to 13 public Fintech companies worth \$16.35 billion in total and more than 60 highly well-funded Fintech startups, including JD Digits and Baidu's fintech arm Du Xiaoman Finance, which provides short-term loans and other investment services.

Reasons to move your startup to Beijing

Funding Activity

Beijing is home to the greatest concentration of commercial bank headquarters in China. Incubators and accelerator programs are also plentiful and include both private and government programs. The Zhongguancun Science Park in Beijing is home to many of them, including Huailongsen International Enterprise Incubator, Innovation Works, Beijing Zhongguancun Shijingshan Science Park, Huailongsen International Enterprise Incubator, and Bo Ao Liang Chuang. Together these programs serve 3,000 startups annually, including both local and international companies.

Startup Community

STARTUP GENOME
PARTNERS

91Maker / China Accelerator / Creative Young Community / Cyzone Innoway BJ / Dao Ventures / DayDay Up / Legend Star / Magma Partners / Makes-global / Noodle & Meetup / Plug and Play China / Sinavation Ventures / Startup Grind / Suhehui / Technode / Ventures Lab

Amsterdam-Delta #13



In the current crisis, the world is increasingly dependent on digital and technological solutions from startups and scaleups. In the Netherlands, we understand it is more important than ever to empower our leaders in tech to futureproof the world.

Nils Beers

Growth Expert and Entrepreneur-In-Residence, Accelerate Practice

Highlights

In 2020, Dealroom named Amsterdam Europe's number 3 ecosystem in terms of the total value of tech companies founded in the city. The ecosystem is valued at US\$83.3 billion, up from just US\$11.1 billion in 2015. While success stories like Adyen and Takeaway.com may dominate media coverage of Amsterdam's vibrant startup scene, the city is working to make the ecosystem inclusive and ensure prosperity is broad based. In December 2020 the City of Amsterdam announced it will invest US\$856,500 in RISE – Female Hub Amsterdam to empower women entrepreneurs and tech professionals. Over a dozen partner organisations, including StartupAmsterdam, TheNextWomen, Startupbootcamp, and The Code to Change, are backing the hub. In November 2020, 2 influential tech communities, the Founder Institute and WomenTech Network, announced they are partnering to create the Female Founder Program. Aimed at bridging the gap between Silicon Valley and Europe, the program prioritizes supporting women entrepreneurs. In December 2020 the final Women in AI ACCELERATE pitch event took place in an immersive VR environment. Amsterdam's startups also benefit from access to superior facilities and support services. Product is a space for scaling stage companies, while the Amsterdam Science Park is an internationally recognised hub for research, and entrepreneurship. Incubator Viisi Labs focuses on startups that develop sustainable FinTech. Incubator and social enterprise community center, Impact Hub, offers a suite of resources for founders.

TOTAL EARLY STAGE FUNDING

\$1.1 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$26.9 bn

GLOBAL AVG.
\$13.68 bn

MEDIAN SEED ROUND

\$446 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$2.3 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$74 k

GLOBAL AVG.
\$44 k

Sub-sector Strengths



Agtech & New Food

The government's Vision on Circular Agriculture sets out a vision to make the Netherlands a global leader in circular agriculture by 2030. In April 2021, leading AgTech company CropIn announced its first international office in Amsterdam. Wageningen University & Research ranks first in the world in the field of Agriculture and Forestry and regularly produces sub-sector spin-offs. AgTech smart village Hacchu Dachhu Incorporation raised €25 million/\$28.55M in January 2020. Livestock monitoring software company Connecterra raised US\$7.8 million in July 2020.



Life Sciences

The Amsterdam Life Sciences District, centered around Amsterdam UMC and the Amsterdam Health and Technology Center (AHTC) is a magnet for talent. Healthcare incubator HealthInc offers an intensive 10-week program for early-stage Life Sciences startups at AHTC. Smart Health Amsterdam fosters collaboration between researchers, the business community, and policymakers. Drug development company NewAmsterdam Pharma raised US\$192.5 million Series A in January 2021. In September 2020 cancer therapy company Lava Therapeutics raised \$83 million in Series C funding.

Reasons to move your startup to Amsterdam-Delta

Welcoming International Talent

Highly skilled immigrants can qualify for the 30% tax reimbursement ruling, international graduates get one year to find work or start a business post-graduation, and there are entrepreneur visas available.

Digital Connectedness

Amsterdam has one of the world's highest broadband concentrations and is also home to the best possible digital foundation: the Amsterdam Internet Exchange (AMS-IX) is one of the largest data transport hubs in the world.

Tax Benefits

The government's R&D tax credit offers innovative companies compensation for part of their R&D expenditures. The Environmental Investment Deduction allows companies to deduct up to 36% of the cost for environmentally friendly investments. The Energy Investment Allowance allows companies to deduct 45.5% of the cost of energy-saving equipment, and a network of nearly 100 bilateral tax treaties helps firms avoid double taxation.

Startup Community

FEATURED ARTICLES FROM
LOCAL AMBASSADORS

Chicago #15



In bringing entrepreneurs from around the world to Chicago, we have found that this city has one of the most collaborative and diverse entrepreneurial communities in the world.

Peggy Parfenoff

President of WorldChicago

Highlights

With 35 of the Fortune 500 headquartered in the city and a host of satellite offices for many of the world’s biggest tech companies, Chicago has the bones of a thriving business hub. An infusion of VC cash, government initiatives, and a community of veteran entrepreneurs are building on this foundation to create a thriving startup ecosystem. The Chicago Technology Plan outlines 28 linked initiatives, including digitizing government services, broadband infrastructure, and innovation-friendly regulations, all designed to revitalize the city and transform it into a leading innovation hot spot. Venture Capitalists are investing in Chicago as well. Inflows of VC funds into Illinois grew 90 percent between 2016 and 2020, among the highest rates in the nation. The number of Chicago-based investors has also shot up in recent years. Lightbank, Chicago Ventures, Hyde Park Angels, and 1871, which offers Black entrepreneurs funding and support as they build their businesses, are all based in the city. The success of locally grown startups, including Braintree’s acquisition by PayPal, IBM’s purchase of Cleversafe and Merge Healthcare, and Groupon’s IPO and subsequent strength, have also created a pool of experienced entrepreneurs willing to give back to the ecosystem and help nurture up-and-coming entrepreneurial talent. Chicago hosts a variety of tech industry events, including TECHSPO and ThinkChicago, which connects talent from Chicago’s many universities to opportunities in the tech ecosystem. Chicago Venture Summit brings together investors around the country to explore opportunities in Chicago and the Midwest.

TOTAL EARLY STAGE FUNDING

\$1.3 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$28.6 bn

GLOBAL AVG.
\$13.68 bn

MEDIAN SEED ROUND

\$550 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3.1 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$83.9 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

The Center for Applied Artificial Intelligence at The University of Chicago’s Booth School of Business brings together MBA students and researchers from across the university to drive AI-powered innovation in sectors from finance to healthcare. Data analytics solutions company Ocient closed a \$40 million Series B round in January 2021, bringing total invested capital to \$65 million. Tempus Labs, which applies AI to healthcare, raised \$450 million in December 2020, putting its valuation at \$7.9 billion.

Fintech

Chicago is the second-largest central business district in the United States and home to the Chicago Stock Exchange and eight Fortune 1000 financial services companies. The City’s ChicagoNEXT program includes initiatives like the Blackstone Inclusive Entrepreneurship Challenge, ThinkChicago, and a new Fintech Committee. Success stories include Avant, an online lending platform which is valued close to \$2 billion. In 2019, Snapsheet raised \$29 million from Tola Capital in Series E round.

Reasons to move your startup to Chicago

World-class Universities

The greater Chicago region is home to some of America's best MBA and engineering programs, which provide a talent pipeline for local businesses. The University of Chicago, Northwestern, Loyola University, DePaul University and Columbia College all run popular entrepreneurial programs. The program at Northwestern's Kellogg School of Management, The Garage, is currently incubating more than 60 student-founded startups.

Startup Community

STARTUP GENOME
PARTNERS

1871 / [Catapult Chicago](#) / [Matter Chicago](#) / [The Shift Chicago](#) / [University of Chicago](#) / [WorldChicago](#) / [mHUB](#)

Singapore

Singapore #17

MEMBERS:

Enterprise Singapore



As the gateway to SE Asia, with the rise of Grab, Sea, GoTo and the GSG alumni network, Singapore’s ecosystem is set to accelerate. It also has the right elements to be a hub for deep tech startups.

Lim Ee-Ling

Regional Director, Asia Pacific, 500 Startups



TOTAL EARLY STAGE FUNDING

\$2 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$22.5 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Singapore, a vibrant commercial hub ranked the most innovative city in Asia by Bloomberg and Insead, is a natural magnet for entrepreneurial talent and is now home to over 3,800 tech-enabled startups. The government has continually supported this growing ecosystem with programs and funding, especially for nascent deep tech sectors. The Singaporean government works closely with ecosystem players including universities, 190 accelerators/incubators and over 200 investors to provide all-rounded support including financing, mentorship and talent. With Singapore’s strong foundation in science and technology, the Government has doubled its efforts to support deep tech startups in Singapore, including additional S\$300mil to catalyse investments and increased its co-investment ceiling to S\$4million for early stage deep tech startups. To actively facilitate international connections, the Open Innovation Network was launched to facilitate the co-development of innovative solutions between the startup community and the wider innovation ecosystem while the Global Innovation Alliance supports business internationalisation. Such efforts have propelled several startups to attain unicorn status. Notable unicorns include Carro and Patsnap, who secured US\$360 million in June 2021 and US\$300 million in March 2021 respectively.

MEDIAN SEED ROUND

\$600 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$4.8 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$48 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

Fintech

The Monetary Authority of Singapore (MAS) announced a S\$125 million support package to sustain the growth of financial institutions and fintech firms amidst COVID-19. In efforts to further liberalize the financial industry, MAS has awarded licenses for digital banks, which include awardees in the startup space: Sea Group and Grab-Singtel consortium.

Cleantech

Under the Singapore Green Plan 2030, the government has identified S\$19 billion of green projects to be funded by green bonds. The sector is supported by various incubators and accelerator programs, such as Sustaintech Xcelerator which was launched by Temasek and other partners to identify and nurture climate innovators.

Agtech & New Food

To enhance national food security, the government is investing S\$144 million in research for urban agriculture, cultured meat and microbial protein production. It was also the world’s first country to approve cell-cultured meat for human consumption in December 2020. As an emergent sector, more than 15 alternative protein startups have anchored themselves in Singapore.

Reasons to move your startup to Singapore

Government support

The Singaporean government backs entrepreneurship with startup-friendly policies in various aspects including grants for first-time entrepreneurs, talent placements and co-investments. To support growth in deep tech sectors, the government has earmarked S\$25 billion for research and development investments in strategic domains as part of the Research, Innovation and Enterprise (RIE) 2025 plan.

Talent development and attraction

Singapore welcomes entrepreneurs and tech talent to anchor themselves in Singapore with talent initiatives like Entrepass visas for foreign entrepreneurs while Tech@SG and TechPass provide visas for Singapore-based startups to hire foreign tech talents who are strategic to the startup's growth.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Enterprise Singapore

Enterprise Singapore is the government agency championing enterprise development. We work with committed companies to build capabilities, innovate and internationalise. We also support the growth of Singapore as a hub for global trading and startups.

STARTUP GENOME
PARTNERS

Action Community for Entrepreneurship (ACE) / 500 Startups / FocusTech Ventures / Starburst Accelerator / 500 Ecosystems Singapore PTE. LTD. / Startup X PTE. LTD. / Trendlines Medical Singapore

Denmark

Copenhagen

MEMBERS:

Digital Hub Denmark



With a growth close to 40% since 2019 it's an incredibly exciting time for the Danish ecosystem. With record-breaking rounds, increased global attention and a very strong talent pool, Denmark's startup scene will only continue to grow.

Ulla Brockenhuus-Schack

Managing Partner at SEED Capital



TOTAL EARLY STAGE FUNDING

\$641 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$15.1 bn

GLOBAL AVG.
\$13.68 bn

Sub-sector Strengths

Healthtech

Health Tech Hub Copenhagen is a unique community and co-working space of leading health tech startups, determined to solve global health issues with solutions built on scalable software, technology and data. BioInnovation Institute, an initiative of the Novo Nordisk Foundation, will house up to 500 researchers and aims to attract international talent to the cluster. Biotech company Cytoki Pharma raised \$45 million Series A in May 2021. MedTrace, which specializes in the diagnosis of heart diseases, raised \$30 million also in May.



Fintech

The number of Fintech jobs in Denmark grew to approximately 3,000 in 2019, up 44% since 2015. The amount of VC funds flowing into the sub-sector likewise skyrocketed with \$540.7 million invested in the sub-sector in 2020, a growth rate of 106%. In April 2021 cluster Copenhagen Fintech announced a partnership with Infosys to provide masterclasses and hackathons to up-skill the ecosystem's tech talent. The Infosys Innovation Network (IIN) also provides members investment opportunities via the Infosys Innovation Fund. Banking app Lunar has raised a total of \$122.1 million over 7 rounds.

Highlights

Denmark has already churned out an impressive eight unicorn companies and its capital, Copenhagen, looks set to produce many more thanks to the city's combination of a supportive and experienced entrepreneurial community, hassle-free business environment, and highly educated workforce. The success of Copenhagen-founded companies like Just-Eat and Zendesk has produced a new generation of mentors and angel investors to support the city's early-stage companies. The ecosystem's newest unicorns Fintech Pleo, which just raised \$150 million at a \$1.7 billion valuation and Lunar which raised \$249 million in a series D round to achieve unicorn status in July 2021. Entrepreneurs here also lean on a large network of tech-focused events, organizations, and investors. Every year TechBBQ gathers approximately 8,000 entrepreneurs and investors for the largest innovation summit in Denmark. Danish Startup Group (DSG) is a non-profit organization offering events, workshops, and networking opportunities. A new VC fund, 2150, launched in 2021 with the first close of a €200 million fund to back technologies aimed at reducing the carbon footprint of cities. Sector-specific events and organizations include Copenhagen Fintech Week, which connects startups with financial institutions, researchers, governments, and NGOs, and 2150, a new \$228 million fund targeting sustainable tech startups in Copenhagen, London, and Berlin. PropTech Denmark is dedicated to nurturing tech-driven innovation in real estate. Danish proptech startups attracted more than \$26M in investments in 2020. Two notable companies are LifeX which raised \$6.9M in October 2020, and Proper, which closed a \$4.6M seed round in March 2021.

MEDIAN SEED ROUND

\$740 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$1.9 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$78 k

GLOBAL AVG.
\$44 k

Reasons to move your startup to Copenhagen

Ease of Relocation

Start-up Denmark provides a single point-of-entry for entrepreneurs wishing to relocate and grow their startups in Denmark. The program is targeted at early-stage companies and can accept up to 2 founders. Those accepted receive a residence and work permanently for up to 2 years, with the possibility of extension for an additional 3 years.

Educated Talent

The Technical University of Denmark (DTU), one of the leading engineering institutions in Europe, and Copenhagen Business School, one of Europe's largest business schools, are both located in Copenhagen. Thanks to these institutions, startups will find an abundance of highly qualified talent to hire in the region.

Startup Community

STARTUP GENOME
MEMBERS

Digital Hub Denmark

MEMBER

Digital Hub Denmark works to make Denmark an even better digital playground. The hub will support the digital ecosystem in Denmark by matching private companies, researchers, tech-entrepreneurs, and students in the development of new digital products, services, and business models. Digital Hub Denmark connects great ideas with robust experience. FORSLAG TIL TILLÆG: Our work includes a service for international investors looking to familiarize themselves with the Danish startup ecosystem; talents looking into new job opportunities and customers looking to explore the Danish world-leading products and services.

STARTUP GENOME
PARTNERS

TechBBQ / #CPHFTW / Accelerace (and Symbion) / Copenhagen Fintech / DTU Skylab / InnoFounder / LEO Innovation Lab / PreSeed Venture / Talent Garden Rainmaking / The Creators Community / The Danish Growth Fund / Thinkubator (and SingularityU) / Venture Cup

Australia

Melbourne

MEMBERS:

LaunchVic



The growth of our local startup sector continues to go from strength to strength. In the past year we have had some of the largest exits and acquisitions on record including Square’s commitment to acquire Afterpay for a record \$39 billion.

Kate Cornick

CEO at LaunchVic



TOTAL EARLY STAGE FUNDING

\$529 m

GLOBAL AVG.
\$54.8 m

ECOSYSTEM VALUE

\$7.6 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Melbourne’s maturing startup scene is home to more than 2,100 startups, nearly 500 investors, and close to 50 accelerators including , and continues to grow. According to Dealroom, year-over-year startup job growth reached 10.75% between 2018 and 2020, translating to more than 5,900 jobs created. Total VC investments in Melbourne surged to a record of over US\$1 billion in 2019-2020. Local leaders are committed to continue supporting the city’s startup scene. The State’s \$2 billion Breakthrough Victoria Fund will drive investment in translational research, innovation and commercialisation outcomes to accelerate growth in key industry sectors and create jobs. Victoria’s startup agency, LaunchVic, received record funding of \$110.5 million in the government’s 2020-2021 budget to continue its work to drive the long-term success of Victoria’s startup ecosystem. Of this, \$60.5 million was allocated to the Victorian Startup Capital Fund - a Fund of Funds designed to catalyse investment in early-stage startups, and \$10 million was earmarked for the Women’s Angel Sidecar Fund to support female founders. Private funding will provide significant supplemental support to all these programs. In addition to this the city also offers small business grants to support innovative, market-ready products. The University of Melbourne’s MAP Accelerator Program and the Wade Institute’s VC Catalyst program support startups making a positive impact on the world. With 60,000 people in its network, Startup Victoria based in Melbourne is the largest grassroots startup community for founders in Australia and aims to create more and better founders.

MEDIAN SEED ROUND

\$400 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3.5 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$65 k

GLOBAL AVG.
\$44 k

Sub-sector Strengths



Life Sciences

Melbourne is home to four Biotech unicorns, Clinuvel Pharmaceuticals; Mesoblast; Polynovo; and Telix Pharmaceuticals and the city attracts approximately 40% of the nation’s Life Sciences funding annually. With five of Australia’s largest independent medical research institutes and two top-ranked universities for biomedical research, Melbourne was ranked among the top 5 Life Sciences hubs in Asia in 2021 by CBRE.



Fintech

More than 200 Fintech startups, and, as of Q4 2020, five homegrown Fintech unicorns are headquartered in Melbourne. These include Airwallex, Afterpay, Judo Bank, MYOB and PEXA. In August, Square announced its intentions to acquire Afterpay for \$39 billion which would be the largest public M&A deal in Australia’s history and the largest cross-border Fintech deal globally. Groups such as Fintech Australia support startups looking to pilot digital solutions in partnership with some of Melbourne’s largest financial and insurance corporations. Melbourne’s annual industry conference Intersekt is the leading Fintech gathering in Australia.

Reasons to move your startup to Melbourne

Tax Incentives

The AusIndustry R&D Tax Incentive provides targeted R&D tax offsets designed to encourage more companies to engage in R&D. The Victorian Budget 20/21 includes \$250 million for direct wage subsidies and \$836 million in payroll tax relief to encourage employers to hire new workers.

Dynamic, Educated Workforce

Melbourne is projected to become the largest Australian city as early as 2031 and is home to one of the most educated workforces in the country. More than half of all Victorians aged 20-64 hold some form of post-secondary qualification, while almost 30% aged 15-74 have a university degree. The University of Melbourne is the highest-ranked university in Australia and the 4th highest in the Asia-Pacific region. The Financial Times ranked Melbourne Business School the highest among Australian MBA programs.

Startup Community

STARTUP GENOME MEMBERS

LaunchVic MEMBER

With the help of startup founders, entrepreneurs and investors, corporates and universities, we aim to build a startup ecosystem that can strengthen the economy, encourage more people to work with and for startups, and represent all Victorians.

STARTUP GENOME PARTNERS

Potential(x) / ygap First Gens Accelerator Program / ASTN HeadStart / Cyrise / SBE Australia, Springboard Tech / SBE Australia, Springboard Life Sciences / SBE Australia, E3 / Runway Hq / ACMI X / BioMelbourne Network / Inspire9 / Rome2rio / Runway Geelong / Startup Bootcamp / Startup Victoria / York Butter Factory

Melbourne's Key Ecosystem Players: Life Sciences

Presented By LaunchVic



BioMelbourne Network



The industry's chief connector and dedicated advocate brings together businesses, government, investors and other stakeholders.



MedTech Actuator



A seed-to-Series A accelerator for MedTech, HealthTech and BioTech startups offering intensive mentorship, industry collaboration, and capital raising support.



Breakthrough Victoria Fund



A \$2.3 billion Fund to drive investment in translational research, innovation and commercialisation outcomes. Health and life-sciences is one of the Fund's focus industries which will see many investment outcomes realised for the sector.



Brandon Capital Partners



Leading life science venture capital investors in Australia. They are also the managers of the Medical Research Commercialisation Fund (MRCF), working with scientists, clinicians and entrepreneurs from company formation and seed investment through to expansion capital.



Australian Medical Angels



Australian Medical Angels is an angel network with over 350 members predominantly drawn from the medical profession across the country. Victorian-based companies they represent include Medtasker and Smileyscope.

Japan

Tokyo #9

MEMBERS:

Tokyo Metropolitan Government / Deloitte Japan



Tokyo's startup ecosystem has continuously been expanding because of the digitalization in various industries even amidst COVID-19. Tokyo launched the "Tokyo Consortium" in 2020 with 220+ VCs, leading companies and universities etc, to enter the new era together with startups.

Eiichirou Kodama

Director General for Global Financial City Strategy, Office of the Governor for Policy Planning, Tokyo Metropolitan Government



TOTAL EARLY STAGE FUNDING

\$2.8 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$40.7 bn

GLOBAL AVG.
\$13.68 bn

Sub-sector Strengths



Advanced Manufacturing & Robotics

Japan has long dominated the Robotics sub-sector, leading the world in supplying industrial robots in 2017, according to the International Federation of Robotics. The city's startups are now exploring new frontiers by supplying robots and satellites to the growing global space industry, which is set to generate more than \$1 trillion in revenue in 2040, according to Morgan Stanley. Space startup Gitai raised a \$17.1 million Series B round in March 2021, while Axelspace raised a \$23.8 million Series C in May.



Fintech

Japan's fintech market is expected to grow by 51% annually to \$11 billion by 2022, according to FinCity.Tokyo, an organization founded by the Tokyo Metropolitan Government to promote the city as a Fintech hub. Mobile banking startup Kyash raised a total of \$68.9 million over 4 rounds. Online security brokerage service Folio offers has raised \$87.5 million also over 4 rounds. Automated investment advice company Money Design has raised \$107.2 million in funding, over 9 rounds.



Life Sciences

Hundreds of Life Science startups have emerged from the University of Tokyo, and an increasing number of companies in the sub-sector are bringing solutions to clinical trials. BNV launched a \$50 million+ fund primarily focused on healthcare startups. Mizuho Financial Group also established a ¥5 billion (~\$47 million) investment fund for Life Sciences startups. More than 4,000 Japanese clinics and hospitals now use startup Micin's telemedicine solution. Microbiome analytics company bitBiome secured a JPY700 million (~US\$6.6 million) Series B in September 2020. Fitness app maker Finc raised \$46.1 million in February 2020. Drug development company Modalis Therapeutics raised JPY 3.24 billion (~\$30.4 million) in its IPO in August 2020.

Highlights

For decades Japan has been known as an industrial powerhouse, but also an economy that's relatively closed to international talent. That's beginning to change as the government rolls out the welcome mat in an effort to boost local startups. A new startup visa is available in National Strategic Special Zones, including Tokyo. Depending on the area, successful applicants are granted a 6-month or 1-year temporary residence permit. In December 2020, Tokyo ranked third in the Mori Global Power Cities Index, which analyzes cities' attractiveness for relocation based on startup activity, levels of R&D, and livability. This new spirit of openness and innovation can be felt at Tokyo's many startup hubs and events. Venture Café Tokyo, founded on the principle of "serendipitous collision," connects founders, investors, and students. Non-profit Startup Lady Japan helps women conduct business locally and internationally. It runs a 60-day Startup Challenge and a 6-week startup boot camp featuring intensive workshops and mentorship. Tokyo also hosts the Gartner IT Symposium/Xpo, where IT executives and experts convene virtually to share insights, as well as the Tokyo Financial Information & Technology Summit, which focuses on data and technology in capital markets. Notable funding news coming out of the ecosystem includes the announcement of US\$100 million in financing for mobile gaming company Playco in September 2020, bringing the company's valuation above \$1 billion and adding it to the list of Japanese unicorns. Space technology company Axelspace raised a \$24 million Series C in May 2021.

MEDIAN SEED ROUND

\$565 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$2 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$70 k

GLOBAL AVG.
\$44 k

Reasons to move your startup to Tokyo

International Connections

In 2020 the Tokyo Metropolitan Government established Startup Ecosystem Tokyo Consortium, an association of businesses, universities and local governments aimed at nurturing local startups. Foreign investors are engaged in the effort, including U.S. startup workspace company Cambridge Innovation Center (CIC), which recently opened a hub in Tokyo. The JETRO Innovation Program aims to facilitate connections between Japanese Life Sciences startups and the Massachusetts Life Sciences ecosystem through 3 months of tailored mentoring, pitch preparation, and networking.

Startup Community

STARTUP GENOME MEMBERS

Tokyo Metropolitan Government

MEMBER

TMG aims to create the world's leading ecosystem where innovations are continuously generated through the organic collaboration of players such as large corporations, start-ups, universities, and accumulated funds and information by utilizing various resources in Tokyo. Also, the Tokyo Consortium has been established to support creating the ecosystem.

Deloitte Japan

MEMBER

Deloitte Japan has supported 3,000 startups in Japan and supports the Tokyo ecosystem's creation through Morning Pitch and Open innovation support for large companies. Also, Deloitte Japan was entrusted with the Tokyo Innovation Ecosystem Formation Promotion Support Initiative for FY 2020 and worked with Startup Genome to organize data about the Tokyo ecosystem.

STARTUP GENOME PARTNERS

Japan Venture Capital Association (KII, UTEC) / Keidanren / Keio University / Mitsubishi Estate / Mitsui Fudosan / Mori Building / Plug n Play / The University of Tokyo / Tokyo Chamber of Commerce and Industry / Tokyu / Tokyu Land Corporation / Waseda University

GSER 2021: Life Sciences Edition

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India

Bangalore-Karnataka

MEMBERS:

Karnataka Innovation & Technology Society (KITS) / Bangalore Bioinnovation Centre



Bengaluru-Karnataka Innovation Ecosystem has catalysed, and scaled up startups at an unprecedented pace. This nurturing ecosystem has steadily given birth to numerous unicorns and is now evidencing signs of logarithmic growth.

Dr C N Ashwath Narayan

Minister of Science & Technology, Higher Education & Information Technology and Biotechnology, Government of Karnataka



TOTAL EARLY STAGE FUNDING

\$1.4 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$53 bn

GLOBAL AVG.
\$13.68 bn

Sub-sector Strengths



In January 2020 The Bahrain Economic Development Board (EDB) and Karnataka government signed a pact to develop the state's Fintech ecosystem and promote partnerships between startups and corporates, universities, research institutions, and government agencies. Neo-banking platform Razorpay raised a \$160 million Series E in April 2021 at a valuation of \$2.84 billion. Digital lending platform KreditBee closed a \$145 million Series C round in March.



With 60% of India's biotech companies, 35+ clinical research organizations and 7.5k biotech graduates annually, Karnataka is the biotech capital of India. Karnataka Innovation and Technology Society (KITS) acts as a liaison between industry and government and works closely with Bangalore Bioinnovation Centre (BBC) works closely to help implement schemes of the government of Karnataka. With Bangalore Helix biotechnology park and Bangalore bio cluster and pharma parks, the state boasts world-class facilities. Pandorum Technologies, an incubatee of BBC and a biotechnology company, raised \$5.5 million in September 2020, getting their total to \$9.2 million.

Highlights

Name a multinational tech titan— from Amazon to Uber to Microsoft — and chances are excellent it will have a headquarters in Bangalore. The city and surrounding state of Karnataka is the world's 4th largest technology and innovation cluster, and home to more than 400+ global R&D centers. The state government is working hard to leverage this tech dominance to create a thriving startup and innovation ecosystem. Already more than 4,000 startups call Karnataka home. The Government of Karnataka was the first Indian state to announce the establishment of a dedicated Startup Cell to promote the state as a startup destination. Through its Innovate Karnataka initiative it also provides financial support to startups through various funds, including the semiconductor venture fund, the bio venture fund, and the AVGC venture fund which focuses on companies in the animation, visual effects, gaming and comics (AVGC) sector and related businesses, and Idea2PoC grants, which provide early-stage funding to concepts which have yet to establish the proof of concept. Private investors are also betting on local startups. Local unicorns Swiggy and Flipkart have raised \$1.5 billion and \$7.5 billion respectively. The Tata Group recently finalized a \$1.2 billion deal to acquire a majority stake in online grocery store BigBasket. Karnataka is also home to a number of successful tech unicorns like Byjus, CRED, Meesho, Groww, Dailyhunt, Digit Insurance, InMobi, Mu-Sigma, Razorpay, Udaan, ShareChat, BlackBuck and Unacademy. Karnataka also hosts a number of notable tech events, including the Bangalore Tech Summit which draws some of the best minds from across the globe to discuss the future of tech.

MEDIAN SEED ROUND

\$480 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3.9 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$13 k

GLOBAL AVG.
\$44 k

Reasons to move your startup to Bangalore-Karnataka

Tech Talent

With between 1,800 and 2,300 active startups, Bangalore is the hottest startup ecosystem in India, attracting IT job seekers from across the country. This influx of young talent makes it easy for startups to hire hardworking employees at low-cost.

Access to Investors

Bangalore offers founders relatively easy access to a large number of venture capitalists and angel investors. Startups can also apply to the Karnataka Government for funds. Since setting up its startup policy in 2015, the state government has set up several funds totalling over Rs. 300 crores/\$ 40.5M to back startups across different sectors such as biotechnology, tourism, and animation.

Infrastructure

Karnataka, a leader in technological innovation, has 44% of India's R&D centres, including some of the biggest R&D centres, such as Google's first AI and machine learning focused center, Intel's largest 5G technology design center, GE's largest IoT R&D center, all of which are second only to their centres in the US, and Samsung's largest R&D center outside South Korea. The state's Startup Cell aims to create top tier incubation infrastructure and promote Bangalore and Karnataka as premier startup destinations.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Karnataka Innovation & Technology Society (KITS)

KITS is a nodal centre for implementing schemes of the Department of Electronics, IT, BT and S&T, Government of Karnataka & its startup cell.

MEMBER

Bangalore Bioinnovation Centre

Bangalore Bioinnovation Centre (BBC) is a joint initiative of the Department of Biotechnology, Government of India and Department of Electronics, IT, BT and S&T, Government of Karnataka. It is a State-of-the-art translational research and entrepreneurship centre catering to all the needs of start-ups in life science.

FEATURED ARTICLES FROM
LOCAL AMBASSADORS

Japan Kyoto

MEMBERS:

Startup Capital Kyoto



Kyoto has a wide range of industrial communities such as biotechnology, precision machining, robotics, AI, games, foods, etc. It also has a concentration of university research institutes and the optimal environment for startups, working and living that is close to history, culture, and nature. People with drive and ambition will be able to achieve wonderful new things in 'Startup Capital Kyoto'.

Akimasa Yamashita

Vice-Governor, Kyoto Prefectural Government



TOTAL EARLY STAGE FUNDING

\$54 m

\$548 m

ECOSYSTEM VALUE

\$424 m

\$13.68 bn

Sub-sector Strengths



Advanced Manufacturing & Robotics

The presence of more than 30 large manufacturers, including Kyocera, Shimadzu, and Horiba, has accelerated the growth of the advanced manufacturing and robotics startups in the Kyoto region. Plug and Play Kyoto works with corporate partners to support more than 133 startups in the sub-sector, while Monozukuri Venture offers comprehensive support to hardware startups, including early-stage funding and a prototyping facility. Success stories include Atmoph, an IoT startup manufacturing the window-type smart display, that raised a total of \$5 million in funding and a recent Series B round of \$1.4 million in November 2020.



Life Sciences

The Kansai region (Osaka, Kobe and Kyoto metropolitan areas) is the heart of Japan's biotech industry and home to biomedical clusters that include more than 300 life sciences companies, top medical institutions, and institutes for advanced research. Kyoto University is a mecca for regenerative medicine studies with Professor Shinya Yamanaka, currently the director of the Center for iPS Cell Research and Application(CiRA), who was awarded the Nobel Prize for his iPS study in 2012. Rege Nephro, a maker of renal disease therapeutics, and drug developer AlphaNavi Pharma both recently raised Series rounds, while Hacarus, a maker of AI tools for the medical field, has raised a total of \$12 million, including an undisclosed round in April 2020.

Highlights

Japan's ancient capital, Kyoto pairs a centuries' long tradition of excellence and innovation in craftsmanship with the dynamism and technical know-how of a university town, making it a natural home for original thinkers. Kyoto University, one of Japan's most elite educational institutions, has been actively nurturing entrepreneurs in recent years. The Kyoto University Venture Fund was set up in 2007 and is now managed by Miyako Capital. The ecosystem is also home to The Kyoto Institute of Technology (KIT), which recently established Kyoto Startup Summer School34, an English language entrepreneurship program aimed at connecting entrepreneurs and educators. KIT's Design Lab (D-lab) facilitates collaborations in the fields of architecture, design, innovation, and entrepreneurship. Venture capitalists are the main players investing in startups in the ecosystem, though recently both large corporations and government agencies have also formed funds to nurture fast-growing businesses. The number of accelerators in Kyoto is also increasing, providing startups with additional sources of mentorship and early-stage funding. Success stories are already emerging from this nexus of talent and institutional support. Founders of Notion Labs, a San Francisco-based maker of a popular workplace productivity platform, completely revamped the product after moving to Kyoto in 2018. It has since raised a total of \$67 million at a valuation of more than \$2 billion. Kyoto-based electric car manufacturer GLM is another local unicorn, while Hacarus, a maker of innovative AI tools, raised a \$12.22 million Series B in November 2020.

MEDIAN SEED ROUND

\$886 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$2.2 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$45 k



GLOBAL AVG.
\$44 k

Reasons to move your startup to Kyoto

Startup Visa program

The Startup Visa program provides support to foreign entrepreneurs to set up their business in Kyoto, including immigration assistance, free co-working space, a subsidy for company registration fee, and others.

Academic Powerhouse

There are more than 40 universities in Kyoto, accounting for 10% of Kyoto's population. Kyoto University, one of the world's top 30 universities according to the Shanghai Rankings, supports the startup ecosystem through a range of programs including incubation, venture funding, and industry-academia collaboration.

Presence of global firms

Companies such as Kyocera, Shimadzu, NIDEC, Omron, Horiba and NISSHA have their roots in Kyoto, and their presence on the global stage links new entrepreneurs based here to the business world outside the city.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Startup Capital Kyoto

Startup Capital Kyoto is an initiative by JETRO Kyoto, Kyoto Prefecture and Kyoto Municipal City, in order to support overseas entrepreneurs starting their business in Kyoto. With its thousands of history and rich culture, Kyoto is an ideal place to live and start a business. In addition to start-up visas, Startup Capital Kyoto provides coworking space, assistance with company setup, various consultation services, and referrals to the ecosystem in Kyoto. If you start your business, why don't you start your business in Kyoto?

India Telangana

MEMBERS:

T-Hub Foundation



Telangana is unique in the way it has created a world-class Innovation Ecosystem through pioneering efforts in Startups, research, high-calibre talent and policy framework.

Ravi Narayan

CEO, T-Hub



TOTAL EARLY STAGE FUNDING

\$120 m

GLOBAL AVG.
\$54.8 m

ECOSYSTEM VALUE

\$1.56 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Telangana, India's newest state, displays all the energy, growth, and path-breaking thinking you'd expect from a young, upstart ecosystem. Despite the pandemic, Telangana's IT sector recorded an 18% growth rate year on year in 2020, compared with a national rate of 8.09%. Telangana may be a young state, but the roots of its success go deep. The state's capital, Hyderabad, boasts eight universities and is home to one of the largest populations of students seeking technical education in India. Hyderabad also hosts several research centers focused on pharma, biotech and defence-related technology. The state government is deploying a range of policies building on this strong foundation. The Telangana Social Startup Network (TSSN), for instance, aims to help establish 5,000 startups in the next 5 years, with a particular focus on social startups. Telangana startups also benefit from access to numerous local investors, including Hyderabad Angels, Anthill Ventures, Sri Capital, Endiya Partners, and Indian Angel Network. Earlier in their journey, startups can access a range of incubators and support programs. WE-Hub is India's only incubator for women. It has supported more than 3,000 female entrepreneurs since its establishment. The state also boasts two of the largest incubation centers in the country, IIIT Hyderabad and T-Hub. TiE Hyderabad Bio/Agri-Startup Demo Day brings together AgriBusiness incubators from across the country.

MEDIAN SEED ROUND

\$150 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$12 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths



Life Sciences

Telangana's Life Sciences sub-sector, dubbed Genome Valley, is already robust, accounting for 35-40% of India's pharma production. The government's Genome Valley 2.0 initiative aims to further grow Telangana into a world-class R&D hub with the goal of doubling the region's Life Science ecosystem to \$100 billion in 10 years. A medical devices park is currently under development as part of the initiative. BioAsia, Asia's largest Biotech and Life-sciences forum, is held in Telangana.



AI, Big Data & Analytics

In June 2020 Telangana became the first state in India to launch a policy framework for developing Hyderabad and the surrounding region into a global AI innovation hub, declaring 2020 the "Year of AI." Telangana Academy for Skill and Knowledge (TASK), Telangana State Council of Higher Education (TSCHE), Microsoft, and Nasscom FutureSkills have partnered to implement the March to Million initiative aimed at training 1M youth across India, including at least 30,000 youth in Telangana in the skills necessary to work in the growing AI sub-sector. Corporate Risk AI platform SignalX.ai has raised a total of \$1.6 million in funding.

Reasons to move your startup to Telangana

Recruitment Assistance

To promote the growth of local idea-stage companies, the Telangana government offers recruitment assistance of INR. 10,000 per employee for their first year of operation.

Performance Grant

Telangana-based startups that record a year-on-year growth rate of 15% as per their audited accounts during their first three years since incorporation are eligible for a grant of 5% on turnover, subject to a limit of \$13600.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

T-Hub Foundation

T-Hub leads India's pioneering innovation ecosystem that powers next-generation products and new business models. Since its incorporation in 2015, it has provided 1,100+ national and international startups access to better technology, talent, mentors, customers, corporations, investors and government agencies.

Tunisia

MEMBERS:

Smart Capital / Caisse des Dépôts et Consignations (CDC)



The recently launched Fund of Fund will help strengthen the role of the VC community and widen the opportunity for Tunisia based Startups to go global.

Mr Alaya Bettaieb

General Manager of Smart Capital The national operator of Startup Tunisia initiative



TOTAL EARLY STAGE FUNDING

\$6.7 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$80 m

GLOBAL AVG.
\$13.68 bn

Highlights

With 39% of its increasingly educated and urban population under the age of 24, Tunisia was ranked the most innovative country in Africa by the Bloomberg Innovation Index. It has been ranked first in Africa for the quality of its entrepreneurial environment. Startup investment in Tunisia increased 31% between 2017 to 2021, totalling US\$38.2 million across 54 deals in the 2020-21 period. Tunisia has long been an exporter of talent, but increasingly the country has focused on capitalizing on its local human capital. GoMyCode, a fast-growing coding school, has trained 5,000 developers and opened three local offices, and launched branches in Morocco and Algeria. Innov’i – EU4Innovation is a 5-year program aimed at strengthening the innovation ecosystem in Tunisia. Major regulatory improvements in Tunisia include the 2018 Startup Act, designed to spur innovation, foster entrepreneurship and transform the country into a "Startup Nation." The law simplified the process of launching a startup, consolidated hubs and created a €200 million “Fund of Funds”. The “Startup Tunisia” initiative aims to create 1,000 startups by 2024. These efforts have begun paying off in the form of ecosystem success stories. Tunisian-French SaaS startup Expensya raised a US\$20 million Series B round in April 2021. Tunisia-founded Instadeep has raised US\$7 million and was nominated as one of the 100 most promising AI startups in the world. It recently partnered with BioNTech to support the discovery and development of novel immunotherapies, including against COVID-19.

MEDIAN SEED ROUND

\$70 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$0.15 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$8.3 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

Artificial Intelligence

In 2016, the Tunisian government set out its 5-year development plan for AI. In 2019 the country was ranked 54th in the world for government AI readiness by the Oxford Insights Foundation and the International Development Research Centre. In July 2021 the Africa Internet of Things (IoT) and Artificial Intelligence (AI) Challenge was launched in Tunisia to encourage young African innovators to address these sub-sectors. Tunisia’s first-ever national open data hackathon was held in 2020 with the support of the World Bank.

Life Sciences

Tunisia announced an agreement with Britain to collaborate on the development of medicines in Tunisia in February 2021. In 2020, Make-IT in Africa, Tunisian Startups, and the Tunisia Ministry of Higher Education, and Scientific Research together launched the HealthTech Challenge COVID-19 to encourage all ecosystem players to join Tunisia’s fight against COVID-19. The Sfax Technology Park-based cluster "HealthTECH" will represent Tunisia in the European "BETTEReHEALTH" project aimed at supporting the deployment of e-health in Africa.

Reasons to move your startup to Tunisia

Ideal Location

Tunisia enjoys a privileged geographical position at the junction of the eastern and western Mediterranean basin, making it a regional hub for investment, trade, and production. Sharing a border with Algeria and Libya, and an under three hour flight from European capitals and major Middle Eastern cities, Tunisia is at the heart of the Euro-Mediterranean logistic chain and provides a market of 500 million consumers.

Educated Talent

The education system in Tunisia produces graduates armed with the linguistic, technical, communication, and behavioral skills necessary to work for foreign companies. The country produces 325,000 students per year, including 65,000 multilingual university graduates, 12,000 graduates in ICT, and 20,000 graduates in engineering. 35% of the population reaches tertiary education.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Smart Capital

SMART CAPITAL, a management company approved by the Financial Markets Council, is in charge of the implementation of STARTUP TUNISIA with its 3 components, Startup Act the law and its incentives, Startup Invest nurturing the funding mechanisms, and the Startup Ecosystem backing supporting structures such as incubators, accelerators and Startup studios. Smart Capital operates under the authority of both the Ministry of Communication Technologies and Digital Transition and the Ministry of Economy, Finance and Support for Investment. Its mission is to deploy the STARTUP TUNISIA initiative.

MEMBER

Caisse des Dépôts et Consignations (CDC)

Caisse des Dépôts et Consignations (CDC) is a public institution, created in 2011, as the Private Equity arm of the government supporting state policies in sustainable development goals and projects. The CDC distinguishes itself by its unique economic model characterized by its mode of governance, its investment doctrine and its risk management. Its status gives it the role of key player in the economic and social development of Tunisia to serve the interest on a long-term horizon.

Canada

Edmonton

MEMBERS:

Innovate Edmonton



The world needs what Edmonton offers: a passionate and vibrant innovation ecosystem committed to the principles of equity, diversity and inclusion, aimed at solving some of the world’s biggest challenges - climate emergency, public health, digital education and inclusion, food security and social and cultural innovation.

Catherine Warren

Innovate Edmonton CEO



Regional Ecosystem
Affordable Talent

#3

TOTAL EARLY STAGE FUNDING

\$89 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$435 m

GLOBAL AVG.
\$13.68 bn

Highlights

With its educated population, high quality of life, and low cost of living, Edmonton is a magnet both to young tech talent and startups eager to hire them. The local innovation ecosystem is anchored by the University of Alberta, which is well known globally for its particular excellence in the field of AI and machine learning, as well as more than 20 startup support organizations and incubators. Innovate Edmonton acts as a community hub, connecting innovators with the skills, space, and advice they need to start and grow their businesses. Part of a global network of cities under the Techstars umbrella, Edmonton Startup Week brings together the city’s entrepreneurs and business leaders for a 5-day celebration of big dreams and fresh ideas. ATB Entrepreneur Center offers entrepreneurs advice and banking solutions, as well as connecting them with necessary expertise. Local accelerators and incubators include the ATB X Accelerator, NAIT, Northern Alberta Business Incubator, and Innovate Edmonton, which offers support and programs to help entrepreneurs navigate the innovation system. In 2021, Innovate Edmonton also launched a new \$5M fund for high-value accelerators with an Edmonton footprint. The Alberta LeanStack Accelerator Program is a 4-month program created by Alberta Innovates in partnership with LeanStack founder Ash Maurya. Recent ecosystem success stories include Jobber, a provider of home service management software, which announced a USD \$60 million round in January 2021.

MEDIAN SEED ROUND

\$400 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$4.2 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$53.7 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

The Alberta Machine Intelligence Institute is #3 in the world in the field of core AI and machine learning. The Alberta Data Institute helps innovators prepare and secure their data as they develop new technologies. A partnership between AltaML, supply chain startup Attabotics, and Alberta Machine Intelligence received a CA\$3.25 million grant from the Opportunity Calgary Investment Fund to develop new AI/ML capabilities. AI and IoT company Nanoprecise Sci Corp raised a \$4 million Series A in April 2021. Social Asset Management (SAM) raised \$2.7 million in May 2020.

Life Sciences

Alberta Innovates’ Accelerating Innovations into Care (AICE) helps companies commercialize new Health tech. In June 2021 Alberta Enterprise invested \$5 million in Amplitude Venture Capital’s precision medicine venture fund to support the growth of Life Sciences companies in Alberta. Pharmaceutical knowledge database DrugBank is one of Edmonton’s fastest-growing startups, currently serving customers in 24 countries. University of Alberta spinout and Merck Invention Accelerator participant Pacylex Pharmaceuticals is planning phase 1 trials of its new cancer-fighting drug.

Reasons to move your startup to Edmonton

Low Taxes

Edmonton has some of the lowest taxes in Canada, with no provincial sales tax, no payroll tax, no health care premiums, and some of the lowest personal and corporate income taxes in the country.

Access to Affordable Tech Talent

Edmonton boasts one of Canada's youngest populations, including over 125,000 students. The city's universities produce more than 550 tech-sector graduates each year. The University of Alberta is consistently ranked in the global top 3 for AI and Machine Learning. Meanwhile, GDP per capita in Edmonton is \$67,302 and the average cost of living is 37% cheaper than London, allowing startups in the city to access highly educated talent at reasonable cost.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Innovate Edmonton

The Innovate Edmonton division contributes to Edmonton's economic growth and diversification through the creation of new tech-enabled businesses, by helping high potential businesses scale up, and by inspiring action to fuel growth in our city's innovation and technology business community.

STARTUP GENOME
PARTNERS

Edmonton Research Park / TEC Edmonton / Startup Edmonton / University of Alberta Health Accelerator / Startup TNT / Valhalla Private Capital / Advanced Technology Centre

United States
Miami

MEMBERS:

Knight Foundation



There has never been a better time to be an entrepreneur than right now, or a better city to do it from than Miami.

Marcelo Claure

Chief Executive Officer of SoftBank Group International and Chief Operating Officer of SoftBank Group Corp



TOTAL EARLY STAGE FUNDING

\$650 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$17 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Miami was already a vibrant international business hub before the pandemic struck. Thanks to a business-friendly climate, a coronavirus-related influx of talent, and the vision of local leaders, its startup scene is now on a rapid ascent. The 2017 federal tax policy changes made Florida, with its favorable tax structure — including one of the lowest corporate tax rates in the US (5.5%) and low sales and property taxes — an appealing alternative to high-tax states like California and New York. Covid exacerbated many coastal hubs’ challenges, and in turn accelerated interest in Miami. In January 2021, SoftBank announced plans to invest \$100 million in Miami-based startups, with its \$5 billion Latin America Fund and \$100 million Opportunity Fund already headquartered in Miami. Since then, renowned VC firms Founders Fund, Atomic, and General Catalyst have also decided to open offices here. In February 2021, the Knight Foundation announced \$14.3 million in funding to expand computer and data science programs at Florida International University and the University of Miami to supply the ecosystem’s growing tech talent demand. Many local organizations are creating spaces that are of, by, and for tech builders and connecting new arrivals with Miami’s existing stakeholders. The Local Leaders Collective creates communities of founders helping each other through the entrepreneurial journey, and groups like Out in Tech and Haitians in Tech are creating on-ramps for more Miamians to participate in the city’s startup community. Several hundred VCs and tech leaders from both in and out-of-state joined an impromptu inaugural Miami Tech Week in 2021, already slated to return in 2022.

MEDIAN SEED ROUND

\$675 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$2.3 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$78 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths



Life Sciences

Rapha Capital Management announced its \$100 million Rapha Capital BioVentures (RCBV) focused on Investment in early-stage biotech startups in April 2021. Heru, a medtech spin out from the University of Miami’s Bascom Palmer Eye Institute building an AI-powered platform to diagnose and correct vision problems, announced it had a \$30 million Series A round in May 2021. Neocis, a maker of advanced robotics for dental surgery, raised a \$72 million Series D round in October 2020.



Blockchain

Blockchain.com, one of the most widely-used consumer crypto products, moved its U.S. headquarters to Miami in June 2021 and plans to hire aggressively in the city. The company also struck a deal with Israeli crypto trading platform eToro to bring 50 jobs to the area. In June, Borderless Capital announced it would move its headquarters to Miami and launch a \$25 million fund focused on local cryptocurrency startups. Blockchain company QuickNode raised \$5 million in seed funding in May 2021.

Reasons to move your startup to Miami

The Economic Landscape

Miami may be most famous for its sun and beaches, but the city boasts equally impressive economic infrastructure. A strategic gateway to the Americas and a privileged route for trade with Europe, Asia, and Africa, Miami offers Florida's number one deep-water container port, doing business with 250 ports in 100 countries. Miami International Airport is the top U.S. airport for international freight and second for international passengers. Miami-Dade County is home to more than 70 foreign consulates and trade offices, as well as more than 1,100 multinational corporations.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER Knight Foundation

Knight Foundation is a national foundation with strong local roots. We invest in journalism, in the arts, and in the success of cities where brothers John S. and James L. Knight once published newspapers. Our goal is to foster informed and engaged communities, which we believe are essential for a healthy democracy.

STARTUP GENOME
PARTNERS

500 Startups / Miami Angels / Endeavor Miami / eMerge Americas / Venture Cafe Miami / Refresh Miami / Venture for America / Florida International University / University of Miami /
LAB Miami / Babson WIN / Idea Center at Miami Dade College / CIC Miami / Code Fever / The Venture City / WeWork / WhereBy.Us

United States

Mississippi

MEMBERS:

Mississippi Development Authority



Mississippi is well-known for our work with companies in the advanced manufacturing, agriculture and automotive sectors, but we have so much more to offer, especially in emerging technologies. Some of the areas we are focusing on include marine technology, renewable energy, information operations and biotechnology. These types of companies are especially important to Mississippi and would benefit greatly from locating here.

Laura Hipp

Interim Executive Director at Mississippi Development Authority



TOTAL EARLY STAGE FUNDING

\$11.4 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$50 m

GLOBAL AVG.
\$13.68 bn

Sub-sector Strengths



Life Sciences

The Mississippi Healthcare Innovation Conference is a collection of renowned innovators, educators and investors leading the future of healthcare in the U.S. Mississippi also is home to EnRICH, a “pre-accelerator” program for healthcare innovators at the state’s Historically Black Colleges and Universities. The Healthcare Industry Zone Act provides tax exemptions to eligible healthcare companies that locate in Mississippi Healthcare Zones. Currently, three Industry-leading, Fortune 100 healthcare companies and numerous Fortune 500 healthcare companies have operations in the state.



Advanced Manufacturing & Robotics

Mississippi’s four research universities offer undergraduate degrees in 16 different engineering fields. The University of Mississippi’s Center for Manufacturing Excellence partners with industry to produce skilled workers, like electronics engineering technician roles. The state’s pro-business environment includes tax credits for eligible manufacturers, energy costs below the national average, low cost of doing business and sales tax exemptions on energy used in manufacturing. Local and Industry-leading shipbuilder Huntington Ingalls produces 70 percent of the U.S. Navy’s fleet of warships.

Highlights

Unlike other areas with over-crowded markets, the state of Mississippi offers businesses the freedom to build something new and has an abundance of resources for businesses to start and scale. With eight public universities and 15 community colleges bridging the gap with the local business community, Mississippi businesses have fresh access to innovative talent and opportunities to commercialize cutting-edge research and development. A dynamic startup ecosystem is beginning to take root in Mississippi, thanks to the state’s world-class universities, diverse talent, low cost of living and the energies of a handful of boosters. The recently launched Gulf Blue initiative brings together research scientists, federal agencies, industry partners and entrepreneurs to establish Mississippi as a global leader in blue technology, with an accelerator and 24-hour connected space to help new startups and innovators. Another forward-thinking initiative is that of startup veteran and Jackson native Dr. Nashlie Sephus, who is transforming 12 abandoned acres in her hometown into a new \$25 million tech hub. These projects join a growing number of startup support programs that are changing the face of innovation and entrepreneurship in Mississippi. Mississippi’s four renowned research universities, University of Mississippi, Mississippi State University, University of Southern Mississippi and Jackson State University partner with MDA developing a targeted innovation-driven economic development strategy that further leverages Mississippi’s research expertise in sub-sectors including, Advanced Materials, Autonomy, Agriculture, Data Science, Sensors, Diagnostics, and Biomedical/healthcare while perfecting emerging technologies and preparing the next generation of talented workers to take on the jobs of the future. The diversity of the partnerships and programs centered around startups and innovation in Mississippi are bringing great change to the world - one brilliant idea at a time.

MEDIAN SEED ROUND

\$350 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$2 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$78.5 k



GLOBAL AVG.
\$44 k

Reasons to move your startup to Mississippi

Highly Trained Workforce

In 2016, the Mississippi Works Training Fund allocated \$50 million over 10 years to enhance training opportunities at the state's 15 community colleges, which customize training programs to meet companies' needs. The state's four major public research universities offer world-class programs in biotech, aerospace, polymer science, and advanced manufacturing, and have a strong reputation for partnering with industry. The University of Mississippi Medical Center and School of Pharmacy also located in the state. Companies eligible for the state's Jobs Tax Credit may opt to monetize it to use for job training. Mississippi puts significant emphasis on digital education through MS Coding Academies.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Mississippi Development Authority

Mississippi Development Authority is Mississippi's premier economic and community development agency. Companies of every size – from homegrown Mississippi start-ups to international corporations – depend on MDA's team of employees for business development assistance, support with business incentives and access to talent from workforce training programs, colleges and universities.

Canada

Montréal

MEMBERS:

Bonjour Startup Montréal / Real Ventures / Centech / Ville de Montréal / Montréal International



Montréal has become one of the most-watched ecosystems of North America over the last years. We welcome all entrepreneurs who want to create maximum social and economic impact for the city and its citizens.

Liette Lamonde

CEO, Bonjour Startup Montréal



TOTAL EARLY STAGE FUNDING

\$706 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$10.2 bn

GLOBAL AVG.
\$13.68 bn

Highlights

The COVID-19 pandemic did not limit the ambitions of Montréal's startup ecosystem. In 2020, more than \$1.2 billion was invested in startups through venture capital, thanks to megadeals such as AppDirect (\$185M) and Sonder (\$170M). The first two quarters of 2021 are continuing to be record-breaking for the metropolis with a 37% increase from last year's numbers, supported by funding rounds by Hopper (\$170M) and AlayaCare (CAD 225M). This growth in venture capital is proof that the city's startups have international intentions. As stated by Chris Arsenault, partner at Inovia Capital: "What were early-stage tech companies 10 years ago, have grown into growth-stage companies." Montréal also saw two impressive exits, with Telehealth startup Dialogue going public at a valuation of \$779M and Fintech company Nuvei going public at a valuation of \$3.4B, raising \$700M in the biggest initial public offering of a technology company in the history of the TSX. Montréal is also attractive to international investment and talent. In the first semester of 2021, foreign direct investment accounted for \$1.86 billion and fDi Magazine (Financial Times) placed the city at first place in the FDI strategy category of the Tier 2 Cities of the Future 2020/2021 global ranking, and second, after San Francisco, in the Economic Potential category. Talent and affordability have a lot to play in these rankings as it is a pole of attraction for Quebec and foreign students with its four major universities and its deep research capacities. With all this in mind, Montréal is truly a top-tier ecosystem that plays among the best.

MEDIAN SEED ROUND

\$700 k

GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$5 m

GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$64 k

GLOBAL AVG.
\$44 k

Sub-sector Strengths



Life Sciences

Greater Montreal has 620 organizations, 150+ research centers, 11 post-secondary institutions, and 80 multinational subsidiaries, many of which collaborate via open Innovation programs and AI-driven public-private partnerships. Innovators benefit from the lowest cost of clinical trials and R&D centers in North America, 29% tax credit for scientific research and experimental development, and newly added support organizations including Montreal General Hospital's Healthtech incubator and District3's BioHub accelerator. Local biotech Ventus Therapeutics raised a \$100 million Series B round in April 2021.



AI, Big Data & Analytics

Greater Montreal has seven AI accelerators, nine research centers, 17 corporate labs, AI-powered supply chain hub SCALE AI, the world's largest academic research center in deep learning MILA, and the Institute for Data Valorization IVADO. AI contributes to the strength of Montreal's Advanced Manufacturing & Robotics, Medtech, and Mobility sectors. Notable successes this year include Dialogue's IPO raising US\$80 million in March, AlayaCare's US\$185 million Series D in June, and HeyDay's US\$48 million acquisition by Hootsuite after only three years post-launch.

Reasons to move your startup to Montréal

A Place to Be

Montréal is affordable, friendly and has a buzzing social scene. It ranks ninth best student city in the world, and best-ranked in North America. Praised for its laid back yet lively lifestyle, it has one of the most affordable markets in North America for tech talent and office space. For working, studying or starting your business, Montréal is the place to be.

Export and Innovation Hub

Canada gives investors market access agreements through 15 trade agreements to 49 countries making Montreal an export hub supported by its port and airport, both close to the downtown area. 38% of local startups export internationally.

Funding Support

Montreal is the investment capital in Canada with six of the 10 most active VCs in Canada in 2020 based in the city. There are also seven investment funds (\$876M total) and access to \$33M from PME MTL, Montréal's entrepreneurial support network.

Startup Community

STARTUP GENOME
MEMBERS

Bonjour Startup Montréal MEMBER

Bonjour Startup Montréal is a non-profit organization whose mission is to facilitate the creation, growth and influence of Montréal startups and position Montréal among the world's most dynamic ecosystems.

Real Ventures MEMBER

Real is a leading source of capital for game-changing entrepreneurs and a driving force behind emerging tech ecosystems.

Centech MEMBER

Centech is dedicated to accelerate the creation and growth of deep-tech companies that market globally.

Ville de Montréal MEMBER

Montréal International MEMBER

For more than 20 years, Montréal International (MI) has contributed to building Greater Montréal's international reputation and prosperity by acting as a driving force for economic development.

STARTUP GENOME
PARTNERS

FounderFuel / Techstars AI / Tandemlaunch / Montréal Inc. / MT Lab / BCF Ventures / Founder Institute / Ministère de l'économie et de l'innovation du Québec / Numana / Ivado / District 3 / La Base Entrepreneuriale / MTL Newtech / Notman House / PME MTL / Quartier de l'innovation / Réseau Capital / Startupfest / Cycle Momentum / Montreal InVivo

United States

Pittsburgh

MEMBERS:

InnovatePGH Partnership / Pittsburgh Regional Alliance / Innovation Works



Duolingo was founded in Pittsburgh due to talent, technology, and lifestyle. It's a great place to start a business, and a great place to live once the workday is done.

Luis von Ahn

CEO & Co-Founder at Duolingo



TOTAL EARLY STAGE FUNDING

\$180 m

GLOBAL AVG.
\$54.8 m

ECOSYSTEM VALUE

\$5.2 bn

GLOBAL AVG.
\$13.68 bn

Highlights

Pittsburgh is leveraging its technical strength in AI and autonomous systems to build a dynamic and diverse startup ecosystem. The birthplace of AI, Carnegie Mellon University, and regional partners are driving the future of AI across all innovation sectors. The city's many notable companies include Aurora Innovation — the \$10B autonomous vehicle startup that acquired Uber ATG — as well as home-grown startup Argo AI, Motional, Waymo, and a dozen other mobility companies who have put down roots to solidify Pittsburgh as a global hub for self-driving technology. It's also home to AI XPrize finalist Marinus Analytics, a women-founded startup that uses facial recognition to disrupt human trafficking and cyber fraud. Pittsburgh is growing its startup ecosystem with a focus on inclusion, widening the tech talent pipeline to ensure more women and people of color can access careers in tech. Black Tech Nation (BTN) also offers education and funding for Black technologists to create a more welcoming, inclusive community. VCs are doing their part, too. Innovation Works, Magarac Venture Partners, and BTN Ventures are all prioritizing investment in diverse founders. Entrepreneurs are inspired in an ecosystem alongside Duolingo — a language learning app that IPO'd in August 2021 at \$6.5B — as well as R&D offices for tech giants that choose Pittsburgh for their most challenging projects: Facebook Reality Labs, Amazon Alexa, and Google Cloud. Pittsburgh's startup ecosystem makes you part of a community of purpose-driven builders, makers, and innovators who work local but have global impact.

MEDIAN SEED ROUND

\$75 k



GLOBAL AVG.
\$48 k

MEDIAN SERIES A ROUND

\$3.4 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$81 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths



Advanced Manufacturing & Robotics

Corporate innovation and academic R&D collide in Pittsburgh's 20+ robotics research centers to commercialize advanced technologies. Robotics leads the local investment scene, accounting for over half of all investments in 2020. Success stories include RE2 Robotics, a maker of robotic tech that improves workers' safety and efficiency; and Gecko Robotics, which raised a \$40 million Series B round to develop robots for inspecting utilities. The Pittsburgh Robotics Network includes over 100 regional robotics companies.



Life Sciences

Home to over 150 life sciences companies, multiple accelerators, and two major healthcare systems driving commercialization, Pittsburgh provides startups with access to world-class research through the University of Pittsburgh and Carnegie Mellon University. Gene therapy company Krystal Biotech raised \$125.12 million in its second public offering in May 2020; immunotherapy startup BlueSphere Bio raised \$105 million in a tranching Series B investment after spinning out of UPMC Enterprises.



Cleantech

Pittsburgh is home to a UN Center of Excellence on High Performance Buildings and was the second city globally to commit to the UN Sustainable Development Goals. A founding member of the 2030 District Network to reduce energy use and carbon emissions, Pittsburgh has 73 cleantech companies, 35,000 employed in the region's energy industry, and over \$103 million invested by the Department of Energy in university-based R&D in the last 5 years.

Reasons to move your startup to Pittsburgh

High-quality tech talent

Pittsburgh startups have access to a robust talent pool of 142,000 working in tech, advanced manufacturing, and life sciences companies. A pipeline of nearly 21,000 graduates with degrees in those fields stems from the 96 colleges, universities, and post-secondary institutions in the greater region, including three R-1 research universities.

The Pittsburgh Innovation District

Defined in part by the overlapping campuses and historic collaboration of four research anchors — Carnegie Mellon, the University of Pittsburgh, Carlow University, and UPMC — the Innovation District is among the top 10 concentrations of R&D spending in the US and a premier source of talent, investment, research, and startup assets.

COVID-19 Policy

In 2020, Governor Wolf allocated \$225 million in CARES Act funding for small businesses in Pennsylvania through Community Development Financial Institutions (CDFIs) in addition to available federal resources. With the passage of the American Rescue Plan, there will be another \$7.25 billion available in the U.S. through the Paycheck Protection Program and \$15 billion in Targeted Economic Injury Disaster Loan Payments.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

InnovatePGH Partnership

InnovatePGH is a next-generation public/private partnership built to accelerate Pittsburgh's status as a global innovation leader. Powered by a coalition of civic, university, and business leaders, the partnership is Pittsburgh's platform to rapidly translate the city's R&D strengths into a high-growth, inclusive, and equitable tech-based economy.

MEMBER

Pittsburgh Regional Alliance

The Pittsburgh Regional Alliance (PRA) is the economic development affiliate of the Allegheny Conference on Community Development. The PRA attracts strategic investment opportunities and diverse talent to the 10-county southwestern Pennsylvania region and supports the growth of existing regional businesses.

MEMBER

Innovation Works

Innovation Works (IW) is one of the top US investors in early-stage technology startups and supports the startup & entrepreneurial ecosystem within Southwestern Pennsylvania. IW provides the investment, programing – including software, hardware, and life science accelerators – and critical resources startups need to reach the next stage of growth in Pittsburgh.

Canada

Québec City

MEMBERS:

Québec International



The arrival of new international entrepreneurs and startups has promoted dynamism and innovation in Québec City’s economy. The Groupe des incubateurs-accélérateurs de Québec, created in 2019, is helping to maximize the strengths of all stakeholders in order to accelerate the growth of local businesses.

ALAIN CHANDONNET

PH.D., President and CEO, INO

Highlights

Québec City might not be the biggest city in Canada, but when it comes to tech innovation the city punches above its weight. Already home to more than 500 high-tech companies generating almost \$2 billion in sales annually, the city’s ecosystem is continuing to grow thanks to funding and support initiatives from both the public and private sector. The City of Québec, Secrétariat à la Capitale-Nationale, and Québec International have together laid out their vision to make Québec City the entrepreneurial capital of the country within 5 years. More than \$75.8 million has been committed to this Entrepreneurial Vision – Québec 2023 project, which includes various forms of funding and support for startups. Efforts to make this growth inclusive are underway. In August 2020 the Canadian government announced \$4.2 million in funding to support Indigenous businesses, including 18 Québec-based projects. Femmessor, which supports women-owned businesses, received \$23.4 million investment in 2021. The private sector is doing its part too. In June Montréal-based AQC Capital announced the creation of a new \$64 million fund to back tech startups in Québec and help support their international ambitions. To get a fuller picture of existing players in the ecosystem, incubator-accelerator Le Camp undertook a project of mapping the Québec City ecosystem. The initiative showcased the region’s vibrant companies and pinpointed clusters of strength, including Life Science, AI, and Innovative Manufacturing.

TOTAL EARLY STAGE FUNDING

<\$50 m

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$541 m

GLOBAL AVG.
\$13.68 bn

MEDIAN SEED ROUND

\$636 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$3.5 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$63.5 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

Québec City is already home to more than 80 companies that produce or use AI solutions, but efforts to further bolster the sub-sector continue. The Université Laval and Québec’s Ministère de l’Économie et de l’Innovation are together creating the Institute Intelligence and Data (IID) to accelerate innovation in AI. The Government of Québec is providing \$2.9 million in funding to the Consortium for Research and Innovation in Aerospace in Quebec (CRIAQ) to support adoption of AI in the aerospace sector. SCALE.AI facilitates cross-sector collaboration and provides funding to help Canadian companies stay ahead of the AI curve. Rendez-vous IA Québec provides a forum to discuss breakthroughs in AI.

Life Sciences

Québec VITAE is a cluster dedicated to developing the Life Sciences sub-sector in the Québec City region. Incubator-accelerator Le Camp supports local startups, including Life Sciences companies such as diagnostic solutions maker BioMark Diagnostics. In October 2020 vaccine company Medicago received a grant worth \$129.1 million from the Government of Canada to support the country’s Covid-19 response. “Des succès inspirants!” conferences offer networking opportunities to those working in the sub-sector.

Reasons to move your startup to Québec City

Educated Workforce

Quebec City is home to 5 universities, including Université Laval, the oldest French-language university in North America, as well as 22 vocational schools and specialized institutes. Together these institutions graduate 20,000 students each year.

Tax Credits

Québec's investment and innovation tax credit (C3i) encourages businesses from all sectors to acquire manufacturing and processing equipment, hardware, and software. To encourage the retention of intellectual properties developed in Québec, a deduction was introduced for the commercialization of innovations developed in the province. Any person that carries out R&D in Québec can benefit from these tax credits.

Cost of Living

Compared to similar cities in North America, Québec City offers a reasonable cost of living. For example, the median selling price for a home in Quebec City is \$196,957, compared to \$258,388 in Montreal, \$515,550 in Toronto, and \$990,581 in Vancouver. Average rental costs are also lower than in Calgary, Edmonton and Ottawa.

Startup Community

STARTUP GENOME
MEMBERS

MEMBER

Québec International

Québec International is the economic development agency for the Québec City provincial capital region. We work everyday to develop and showcase our local businesses and professionals. We are here to support you, whether you are an entrepreneur, a professional or an investor.

STARTUP GENOME
PARTNERS

BDC / PwC Québec / ROBIC / Ville de Québec / Quebec City Group if incubators / Quantino / Entrepreneuriat Laval

Canada

Toronto-Waterloo #14

MEMBERS:

MaRS Discovery District / Communitech Corporation



The Toronto-Waterloo corridor is Tulip's home and it's been essential to our growth. The access to talent, capital, and customers is world-class — and it's a wonderful place to live.

Ali Asaria

CEO, Tulip Retail



TOTAL EARLY STAGE FUNDING

\$2.3 bn

GLOBAL AVG.
\$548 m

ECOSYSTEM VALUE

\$20.8 bn

GLOBAL AVG.
\$13.68 bn

Highlights

The Toronto-Waterloo corridor is one of the fastest-growing and densest innovation clusters in the world. Between 2013 and 2018, the region created more tech-sector jobs than New York, Seattle and Boston combined. It is home to 20 percent of Canada's university students, many of them attending the University of Toronto and the University of Waterloo. This ecosystem is also rich with some of North America's leading innovation hubs, including MaRS and Communitech. In the face of many pandemic-related challenges, the Toronto-Waterloo corridor nevertheless excelled, attracting record investment, while also boosting the economy, relieving front-line workers and creating jobs. In 2020, the region pulled in \$4.4 billion in V.C. funding and fostered several new unicorns, such as Clearco and PointClickCare. Hundreds of the region's companies also pivoted their everyday business practices — for financial survival, but also to join the fight against COVID-19. And Toronto and Waterloo remain hotbeds for talent. With what's widely considered the most diverse population on the planet, the corridor represents 17 percent of Canada's GDP and roughly 275,000 tech workers. The result of this sustained progress is a still-thriving ecosystem. With unprecedented investment, strong public institutions, favourable immigration policies and one of the most-vaccinated citizenries on the globe, the Toronto-Waterloo corridor is well-positioned to advance the Canadian and global economies post-pandemic.

MEDIAN SEED ROUND

\$500 k



GLOBAL AVG.
\$480 k

MEDIAN SERIES A ROUND

\$4.4 m



GLOBAL AVG.
\$3 m

SOFT. ENGINEER SALARY

\$70 k



GLOBAL AVG.
\$44 k

Sub-sector Strengths

AI, Big Data & Analytics

Few countries command as much trust as Canada. Global concerns about how technology is developed and used have created opportunities for Corridor tech companies to lead in sectors where trust is critical: Applied AI, fintech, cybersecurity, healthcare, sustainability and smart cities, among others. Waterloo and Toronto have pushed “Tech for Good” to the top of the country's tech agenda.

Life Sciences

The Toronto-Waterloo corridor is home to the University of Toronto (famous for the discovery of insulin and stem cells) and the University of Waterloo, soon to be equipped with a \$35-million innovation health facility, offering wet labs, biosafety labs and product development space for 75 ventures. In the first nine months of 2020, the region's 600 life-sciences firms raised more than \$1 billion, translating to \$54 billion in annual revenue.

Reasons to move your startup to Toronto-Waterloo

Strong social values

Canada's quality of life and social values provide a safety net that is actually a trampoline — a jumping-off point for startups to solve big problems and capitalize on opportunities. Tobi Lütke (Shopify), Martin Basiri (ApplyBoard), Michael Katchen (Wealthsimple) and Joshua Liu (SeamlessMD) are among many who typify this ethos.

Rich and diverse talent pools

Companies located in Toronto-Waterloo benefit from open and welcoming communities, as well as a highly diverse and talented workforce. The Universities of Toronto and Waterloo bookend the corridor, and produce some of the world's best graduates for growth companies in AI, cybersecurity, health and medical technologies, and fintech.

Data privacy and sovereignty

Canada possesses robust and evolving data privacy and sovereignty laws making it an ideal place to build a company and store data for advanced applications. Data privacy equivalency status with key economic zones and countries continues to make Canada a compelling geographic zone for customers and businesses alike.

Startup Community

STARTUP GENOME MEMBERS

MaRS Discovery District

MEMBER

MaRS brings together the innovation community to grow the economy and make an impact. From advisory services to connections to talent, capital, customers and more, MaRS offers a range of high-value services that help high-growth companies succeed. We also provide access to the MaRS ecosystem, a curated community of entrepreneurs, investors, corporates, academics and government partners.

Communitech Corporation

MEMBER

Communitech was founded in 1997 by a group of entrepreneurs who came together to help one another build successful companies to help ensure the future prosperity of Canada. They created an organization to support the entire "Community of Tech" and gave us a mission to help companies start, grow and succeed.

STARTUP GENOME PARTNERS

Brookfield Institute / Centre for Social Innovation / City of Toronto / Creative Destruction Lab / DMZ / Haltech / Innovation Factory / Invest Toronto / Next 36 / OneEleven / RIC Centre / The Founder City Project / Venture Lab / World Canada

GSER 2021: Life Sciences Edition



Methodology, References, & Acknowledgments

96 Methodology

102 References

129 Acknowledgments & Partners

GSER 2021: Life Sciences Edition

Methodology

The Startup Genome quantitative data infrastructure includes data on over 1.27 million companies, 250+ ecosystems, and survey data from more than 10,000 startup executives across the globe — the Voice of Entrepreneurs.

Below is a description of the main datasets that make up this data science infrastructure:

- Startup Genome proprietary data:
 - Interview with 100+ experts
 - 2017-2021 Startup Ecosystem Survey with more than 10,000 participants per year
- Crunchbase: global dataset on funding, exits, and locations of startups and investors
- Dealroom: global dataset on funding, exits, and locations of startups and investors
- PitchBook: private capital market data provider

- Local partners (accelerators, incubators, startup hubs, investors):
 - list of startups
 - list of local exits and funding events
- CB Insights: global dataset on unicorns

Sub-Sector Definition

Life Sciences: Companies involved in sciences dealing with living organisms and life processes, including biology, pharmaceuticals, biomedical technology, and nutraceuticals.

List of Verticals falling under Life Sciences:

- Diagnostic Equipment
- Medical Supplies
- Monitoring Equipment

- Surgical Devices
- Therapeutic Devices
- Healthcare Services
- Clinics/Outpatient Services
- Distributors
- Elder and Disabled Care
- Hospitals/Inpatient Services
- Laboratory Services
- Managed Care
- Practice Management
- Healthcare Technology Systems
- Decision/Risk Analysis
- Decision-making Processes
- Enterprise Systems
- Medical Records Systems
- Outcome Management
- Biotechnology
- Discovery Tools
- Drug Delivery
- Drug Discovery
- Pharmaceuticals

Data Sources

Primary Data Sources

- Startup Genome LLC (2017-2021). StartupGenome.com Database
- Dealroom.co BV. (2017-2021). Dealroom.co Database
- Crunchbase (2017-2021). Crunchbase.com Database
- CB Insights (2019-2021). CBinsights.com Database
- PitchBook (2018-2021), a private capital market data provider Database

Secondary Data Sources

- Forbes 2000
- Github API
- International IP Index
- Meetup.com
- H-Index calculated by Scimago
- Life Sciences facilitators, organizations and grants from Hello Tomorrow.
- OECD, R&D Spending
- Other sources from Life Sciences Rankings
- Salaries data from Glassdoor, Salary.com, and PayScale
- Shanghai Rankings
- Techboard
- Times Higher Education Rankings

- Top 800 R&D Hospitals, Webometrics
- USPTO
- WIPO
- World Bank, Ease of Doing Business

Selected Data Timeframes

- Exit and Funding: count of exits, early-stage funding and Series B rounds of 2009 to 2020.
- Based on our previous analysis we assessed that it takes one year for half of the seed rounds in a given period to find their way into major data sources. Therefore, we use the first half of 2020 as the latest period for which earlier-stage metrics can be computed to create reliable benchmarks at the ecosystem level.

Life Sciences Sub-Sectors Ranking Methodology (For Top Ecosystems)

Overall Ranking

The overall global ecosystem ranking is a weighted average of the following factor scores:

- Performance: 30%
- Funding: 25%
- Knowledge: 15%
- Talent: 15%
- Infrastructure: 10%
- Policy: 5%

The ecosystems scores were multiplied by the above weights to establish the overall rank of each ecosystem. The weights of the factors were determined from 2009-2020 through correlation analysis and modeling work based on linear regression analyses, using factor indexes as independent variables with the performance index as dependent variable. Finally, adding the actual Performance Index to the ranking formula serves to include the influence of unobserved factors on the performance of an ecosystem.

Ranking Details

Performance

Captures the actual leading, current, and lagging indicators of ecosystem performance.

- 45% Exits (the number and value of exits — IPOs and acquisitions — over \$1 billion and \$50 million in Life Sciences)
 - 80% number of exits of \$50M+ in the time period of April 01, 2016 - March 31, 2021.
 - 20% number of exits of \$1B+ (90% count of exits and 10% sum of value of exits) in the time period of April 01, 2016 - March 31, 2021.
- 45% Software Startup Output (this encompasses both the overall number of Life Sciences startups in an ecosystem and the share of overall Startup Output that Life Sciences startups account for)
 - 80% log of Output (number of startups in Life Sciences) in the time period of April 01, 2011 - March 31, 2021.
 - 20% Focused Output (% of startups in Life Sciences)
- 10% Growth Stage Success (the number of Life Sciences startups with valuations over \$1 billion).

Funding

Quantifies funding metrics important to the success of early-stage startups. Access:

- 90% Access (the amount of early-stage funding and number of early-stage deals (seed and Series A) in an ecosystem)
 - 50% log of number of early-stage funding deals in the time period of April 01, 2016 - March 31, 2021.
 - 50% log of amount of early-stage funding deals in the time period of April 01, 2016 - March 31, 2021.

- 10% Quality (measured by the number of local investors, experience of investors (average years of experience and exit ratio), and percentage of active investors in the time period of 2021Q1).

Knowledge

For this Factor we analyzed 600+ technology classes in patents to match them to Life Sciences when relevant to calculate the following metrics:

- 80% Patent
 - 50% Log of number of patents in Life Sciences
 - 30% Growth in Patent Creation in Life Sciences
 - 10% Ecosystem Knowledge Space Complexity, a measure of the capacity of the ecosystem for producing patent in complex technology classes
 - 10% Technology Potential, a measure calculated at the technology class level globally and calculated for each ecosystem based on the technologies it produces
- 20% Research = H-index, a measure of publication impact, this metric looks at the production of Life Sciences research at the country level.

Talent

Assesses the talent Life Sciences startups have access to. For this Factor, we analyzed all subjects included in Shanghai Rankings and matched to the relevant Startup Sub-Sectors to calculate the following metrics:

- 60% Quality
 - 66.6% log of average quality score of top universities with Life Sciences-related programs

- 16.6% log of average research impact of top Life Sciences universities in the ecosystem
- 16.6% log of average research production score of top Life Sciences universities in the ecosystem
- 40% Access
 - 90% Life Sciences-Specific Talent Access (60% log of number of top feeder degree programs associated to Life Sciences, and 40% log of number of top universities ranked in Life Sciences-related subjects)
 - 10% STEM Talent Access (Estimated number of STEM students in top universities, as ranked in Times of Higher Education)

Infrastructure

Life Sciences-focused measure of accelerators and incubators, research grants, and R&D anchors in the ecosystem (e.g., top research hospitals and R&D corporate labs).

- 90% Accelerators and Incubators (log of number of Life Sciences-focused accelerators and incubators).
- 10% count of R&D location

Policy

Compared to startups in software, Life Sciences startups are more affected by public policy because of the need to undergo clinical trials and receive government approval. The policy components identified here are measured at the national level, rather than the ecosystem level.

- 60% Public R&D Spending (log of the value of public R&D expenditures)
- 30% Commercialization of IP Assets (indicator of how much the policy environment encourages the commercialization of tangible IP, scored from 1 to 5)
- 10% Clinical Trial Authorization (count of days required to authorize clinical trials, a measure of speed in the regulatory environment for Life Sciences)

Key Concepts & Definitions

Ranking Score

The ranking is primarily driven by one question: In which ecosystems can early-stage startups have the best chance of building global success?

Startup

A technology-enabled business that is less than 10 years old. Steve Blank defines a startup as a “temporary organization in search of a repeatable and scalable business Model.

We use this definition to look across sectors and sub-sectors, including software, hardware, health, energy, and others, and we use these parameters for data collection purposes.

Startup Ecosystem

A shared pool of resources, generally located within a 60-mile (100-kilometer) radius around a center point in a given region, with a few exceptions based on local realities. Resources typically include policymakers, accelerators, incubators, coworking spaces, educational institutions and funding groups.

Ecosystem Success Factors Model

Our principal analytical tool, this measures different dimensions that support the performance of local startups. We look at multiple factors for our rankings: one measuring actual performance, with other Success Factors associated with performance, each comprising sub-factors and metrics. These factors are highlighted in our Ranking Methodology section, as well as in each rankings section.

- **Performance:** A combination of leading, lagging, and current indicators that capture economic outcomes in a startup ecosystem.
- **Funding:** The level and growth of early-stage funding, looking at both access and quality.
- **Startup Experience:** The depth and diversity of the pool of prior startup experience in an ecosystem.
- **Talent:** Measures the accessibility, quality, and cost of software engineering expertise.

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Acknowledgments & Partners

A project like the Global Startup Ecosystem Report can only be realized with an enormous effort from both the project team and external supporters. Several partners have invested significant resources into the project. Numerous advisors, founders, investors, and industry experts have given us access to their knowledge, networks, and time because they support our vision and want to move their ecosystem and the whole startup sector forward. Startup Genome and Global Entrepreneurship Network (GEN) would like to express our deep gratitude and appreciation to everyone who contributed towards making this project possible.

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District Secretariat of Economic Development (DSED)

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Bangalore - Karnataka

Karnataka Innovation and Technology Society

Bangalore Bioinnovation Centre

Kerala

Kerala Startup Mission

Kuala Lumpur

Malaysia Digital Economy Corporation

Kyoto

Japan External Trade Organization (JETRO)

London, United Kingdom

Tech Nation (formerly Tech City UK)

Manila, Philippines

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LaunchVic

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Meath Enterprise

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Moldova

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Ras Al Khaimah

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Ministry for Economy, Innovation, Digitization and Energy of the State of North Rhine-Westphalia

Riyadh

Saudi VC and PE Association (SVCPEA)

General Authority for Small and Medium Enterprises (Monsha'at)

Santiago-Valparaíso

Corporación de Fomento de la Producción de Chile (CORFO)

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