



The Global Startup Ecosystem Report Climatetech Edition

Explore the potential of Cleantech and the Blue Economy

crunchbase









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Powered by the world's most comprehensive dataset on startup ecosystems.



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About Startup Genome

Startup Genome is a world-leading policy advisory and research organization for public and private organizations committed to accelerating the success of their startup ecosystem. We have advised more than 145 clients across six continents in 50+ countries to date.

Startup Genome's mission is to catalyze startup success and ecosystem performance everywhere. We work with global thought leaders to define and execute robust policies and programs that drive lasting change, identifying gaps and recommending practical actions to address them. Many of the world's leading governments and innovation-focused organizations have joined our knowledge network to cut through the complexities of startup-ecosystem development and fuel sustained economic growth.

Our quantitative data infrastructure is the world's most comprehensive and quality controlled. Studying 3.5 million companies across 290+ startup ecosystems, we combine data from the three leading venture-funding databases, remove duplicates, and clean using machine-learning techniques and manual review. We share our data-based findings in reports on startup ecosystems and their performance with the world's startup community including founders, talent, investors, corporate leaders, policymakers, and journalists.

Join us and boost startup success, economic growth, and job creation in your region. Follow our work at startupgenome.com, and follow us on LinkedIn, Facebook and X.





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

- Establishing a global network of innovation policy makers in 50+ countries
- Providing access to latest research and policy best practices, and facilitating shared learning
- Organizing member meetings and leadership workshops for networking and collaboration



Positioning

- Enhancing ecosystem visibility and strategic positioning
- Focusing on attracting entrepreneurs, talent, and investors through targeted efforts
- Achieving global reach through our reports, events, and media outreach



Assessment

- Utilizing renowned frameworks and data science capabilities for decision-making
- Assessing ecosystem performance and strengths through data analysis
- Benchmarking against peers for competitive advantage and growth opportunities



Strategy

- Developing strategies for ecosystem development and differentiation
- Conducting scenario modeling to determine economic impact
- Creating clear and aligned upon multi year roadmaps for implementation



Execution

- Supporting local leadership in executing key policies and programs
- Measuring and reporting the impact of initiatives
- Delivering services in collaboration with global thought leaders

Want to speak with someone from our team to find out more? Contact Adam Bregu, Head of Growth at adam@startupgenome.com





About Our Partners



The Global Entrepreneurship Network operates a platform of projects and programs in 180+ countries aimed at making it easier for anyone, anywhere to start and scale a business. By fostering deeper cross-border collaboration and initiatives between entrepreneurs, investors, researchers, policymakers, and entrepreneurial support organizations, **GEN** works to fuel healthier start and scale ecosystems that create more jobs, educate individuals, accelerate innovation, and strengthen economic growth. GEN's comprehensive global footprint of national operations and global verticals in policy, research, and programs ensures members have uncommon access to the most relevant knowledge, networks, communities, and programs relative to size of economy, maturity of ecosystem, language, culture, geography, and more.



The foremost data provider on startups, growth companies, and tech ecosystems globally. **Dealroom.co** works with many of the world's most prominent investors, entrepreneurs and government organizations to provide transparency, analysis and insights on startups and venture capital activity.

crunchbase

Crunchbase is the leading provider of private-company prospecting and research solutions. 75 million users including salespeople, entrepreneurs, investors, and market researchers — use Crunchbase to prospect for new business opportunities.





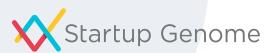
Canada's Ocean Supercluster (OSC) accelerates the development and commercialization of made-in-Canada ocean solutions in energy transition, food security, future of transport, and climate change while also growing more companies, creating more jobs, and attracting ocean talent. As Canada's national ocean cluster, the OSC is a convenor of members, partners, and networks and a catalyst for transformative growth that helps build the robust ecosystem needed to help realize Ambition 2035 — a 5x growth potential in ocean in Canada by 2035. To date, the OSC has approved more than 90 projects with a total value of more than \$400 million which will deliver more than 200 new made-in-Canada ocean products, processes, and services to sell to the world.



A Quebec-based ocean cluster with seven different Blue Economy research centers and close to one thousand scientists working on marine issues, La Zone Bleue is a Blue Economyfocused innovation campus. La Zone Bleue builds bridges between academics, industrial actors and startup communities around the world to develop innovative and sustainable solutions to preserve the oceans.



The Mississippi Development Authority (MDA) is the state's lead economic and community development agency. MDA focuses on new business recruitment, existing business expansion, workforce training, and tourism promotion.



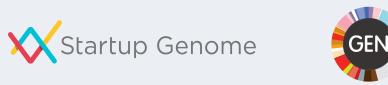


Entrepreneurial Innovation is Essential to Tackling Climate Change

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Bridging the Cleantech Scaleup Gap

"Together, we can unlock the immense potential of Cleantech entrepreneurship, not just for economic prosperity but also for the health of our planet and future generations."

JF GAUTHIER Founder and CEO, Startup Genome



At Startup Genome, we believe that entrepreneurial innovation is the linchpin in the fight against climate change. Entrepreneurs must lead the charge in addressing one of the world's most pressing challenges, and this report is a testament to our commitment to fostering Cleantech innovation, including new ways of approaching the Blue Economy.

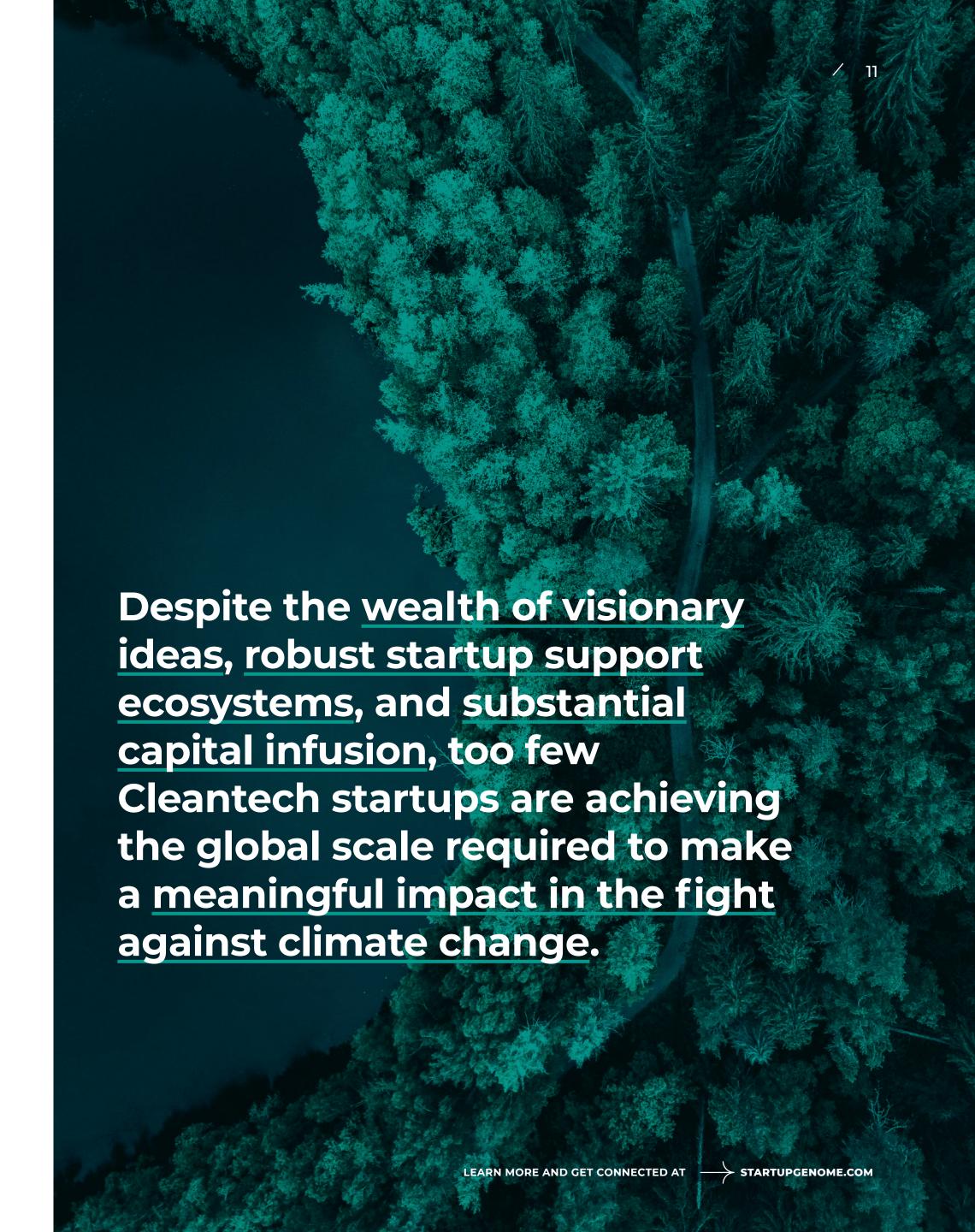
While we celebrate the resilience of investments in climate innovation in the context of the current economic uncertainty, we confront a stark reality: the Cleantech scaleup gap. Despite the wealth of visionary ideas, robust startup support ecosystems, and substantial capital infusion, too few Cleantech startups are achieving the global scale required to make a meaningful impact in the fight against climate change.

This isn't a matter of capital alone. It is about the formidable barriers Cleantech innovators encounter as they strive to bring their solutions to global markets. These barriers range from regulatory hurdles and market fragmentation to the capital intensity of their projects and extended return on investment timelines.

To bridge the Cleantech scaleup gap, we are resolute in our commitment to innovation. We're rallying governments, investors, industry leaders, and entrepreneurs to streamline regulations, foster cross-border partnerships, and pioneer innovative financing models.

The Cleantech journey, while challenging, presents a unique opportunity — one where entrepreneurial spirit meets global necessity. Together, we can unlock the immense potential of Cleantech entrepreneurship, not just for economic prosperity but also for the health of our planet and future generations.

As we navigate this complex landscape, we invite you to join us in this vital mission. By aligning our efforts and harnessing the power of entrepreneurship, we can accelerate the transition to a net-zero economy, leaving a lasting legacy for generations to come. Join us.





This contributed article was prepared by Todd Allmendinger in his capacity as Director of Consulting and Research, Cleantech Group. The opinions expressed in this article are the author's own and do not necessarily reflect the views or position of Startup Genome.

Mitigation is Not Enough: We Need More Scaling of Innovation to Adapt to a Changed Environment

The WEF's Global Risks Report 2023 identifies six of the top 10 risks over the next 10 years to be environmentally related. The top four are: failure to mitigate climate change; failure of climate change adaptation; natural disasters and extreme weather events; and biodiversity loss and ecosystem collapse. Furthermore, the perceptions around risk preparedness show that both the failure of climate change adaptation and failure to mitigate have the lowest perception of current effectiveness.

weather that are attributable to climate change," looked at several different approaches to estimating the costs for 2000–2019. These include the DICE model, which uses a proportion of GDP and estimates the cost as over \$4 trillion, and a different methodology that found climate change attributed costs of 185 extreme weather events from 2000–2019 to total \$2.86 trillion. That is \$16 million per hour. In 2021, reinsurance company Swiss Re suggested that climate change could cut world GDP by \$23 trillion by 2050. These costs are tied to fire, flood, drought, heat, and storm. They hit insurance, finance,

asset managers, supply chains, food and water supply, and infrastructure.

By 2050, more than 970 cities globally will experience average summertime highs of 35 degrees Celsius. In July 2023, United Nations chief António Guterres announced that the "era of global boiling has arrived." The Adrienne Arsht–Rockefeller Foundation Resilience Center has been helping city and state leaders to make data-driven decisions that effectively address climate change impacts and minimize risks, pledging to reach one billion people around the world with resilience solutions to climate change by 2030. Additionally, cities around the globe have appointed Chief Heat Officers in an attempt to address rising temperatures. These include Miami, Los Angeles, and Phoenix, as well as Athens, Freetown, Sierra Leone, Santiago, and Melbourne.

But mitigation — trying to limit the amount of emissions and keep the global average temp from rising — is not enough. We need to continue these efforts, but more importantly we need to adapt to the realities of a changing climate. We need to increase the supply of innovators



We need to increase the supply of innovators — from universities, labs, incubators, and garages around the world — and we need to connect them to the corporate partners and governments who can scale these innovations to have a sustainable global impact."

Todd Allmendinger, Director of Consulting and Research, Cleantech Group

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— from universities, labs, incubators, and garages around the world — and we need to connect them to the corporate partners and governments who can scale these innovations to have a sustainable global impact. This requires funding early-stage ecosystems, risk capital, growth and infrastructure capital, and policy support.

Collaboration is Already Underway

A number of corporations have already made efforts to support innovation, with climate-risk analytics providing insights for asset owners and financiers. Ratings agencies have also been acquiring innovators. Examples include S&P Global launching its Global Sustainable1 platform and acquiring The Climate Service. Moody's acquired RMS, a provider of catastrophe risk modeling, and Four Twenty Seven, providers of data and intelligence on physical climate risks.

Multinational investment company BlackRock acquired physical climate risk models from Rhodium, a climate research group, and developed **Aladdin Climate**, a climate risk analytics service for clients. BlackRock also partnered with Baringa to use its climate change scenario model in the Aladdin Climate platform.

Similarly, reinsurance company Munich Re has developed an internal climate risk modeling platform, NATHAN, and is actively looking to improve and update its capabilities as part of its **Location Risk Intelligence**. **Demex** is a spinout from Munich Re and provides physical climate, financial risk analytics and risk transfer through parametric insurance and climate derivatives. Its focus is on already observable climate-related business disruptions, rather than disaster events. The Washington, DC-based company has raised over \$18 million, with a recent Series B round of \$5 million from Blue Bear capital.

Sust Global, a U.K.-based asset-level climate risk data company, leverages satellite-validation to bias-correct global climate models and develops API-first integrations to provide risk analysis and forecasting. It has raised \$3.3 million to date from a global range of investors. Global futures exchange Intercontinental Exchange (ICE) launched ICE Climate Risk, which allows investors in the U.S. municipal bond market to incorporate climate risk into project and investment decisions. It also acquired risQ and Level11 Analytics to expand its analytics capabilities.

Policymakers are also taking note. Miami Dade was recently selected as a regional tech hub for climate resilience, unlocking access to up to \$75 million, funded by the U.S. Economic Development Administration's Regional Technology & Innovation Hubs Program (Funded by the U.S. CHIPS & Science Act 2022). The U.K's Innovation Fund is investing \$181 million in 25 projects addressing flooding and coastal resilience. The UN's Adaptation Fund committed \$998 million for climate change adaptation and resilience through 139 projects in developing countries.

Resilience Infrastructure is Essential to Tackling the Impacts of Climate Change

Identifying risk is one step, but building resilient infrastructure is another. Innovators around the world are working on novel solutions to address the effects of climate change. One example is Miami-based **Kind Designs**, which uses 3D printing and recycled ocean plastic fibers to create living seawalls with embedded sensors to collect data and mimic coral reefs and mangroves. The company recently raised \$5 million in seed funding from Florida-based investors GOVO Venture Partners, M4 Investing, and the Florida Opportunity Fund.

A changing climate presents additional risks to infrastructure, with heat, fires, ice, and wind challenging existing technologies. Canadian **RS Technologies** is developing and deploying composite utility poles and electric transmission products designed to be more resilient, easier to install, and last longer. It has raised almost \$110 million in equity, as well as \$148 million in structured debt. **ALD Technical Solutions** is another example of innovation. It wraps existing power lines in fire-retardant material that mechanically and structurally reinforces transmission lines.

Rail networks are another key piece of infrastructure that will be impacted by climate change. With over 7% of the world's freight carried by rail, extreme weather is likely to cause serious challenges. French innovator



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Technocarbon has developed a low-carbon material to replace steel and concrete traditionally used in railway ties. The material can also be used in buildings and other infrastructure in place of concrete, steel, and aluminum.

Feeding people will become increasingly difficult in the changing environment, and Agtech & New Food innovation is vital. Swedish **OlsAro** is developing salt-tolerant and heat-tolerant wheat varieties that can be grown in coastal regions with rising sea levels and salinity. Saudi Arabian **RedSea Farms** is addressing sustainable agriculture with proprietary Hot Climate technologies that save fresh water and energy in high-heat, water-scarce environments. Red Sea Farms developed these technologies in collaboration with KAUST University, demonstrating the importance of collaboration among sectors.

Biodiversity is another key vector in resilience. The World Bank **modeled** the interaction between nature's services and the global economy to 2030, showing that by a conservative estimate a collapse in select services such as wild pollination, provision of food from marine fisheries, and timber from native forests could result in a \$2.7 trillion decline in global GDP in 2030. The World Resources Institute estimates that there are more than two billion hectares of degraded land worldwide, an area twice the size of China. **Viridis Terra** is a Canadian innovator working on reducing this, using biotechnologies, technologies, and social innovation to restore industrial sites, forest landscapes, and degraded lands. **NatureMetrics** utilizes eDNA at

the microorganism level to provide nature monitoring and impact reporting. It has raised over \$36 million to support activities in more than 100 countries.

The Importance of Ecosystem Support Organizations

Tech ecosystems are increasing the supply of innovators focused on adaptation and resilience, and support organizations including climate-focused accelerators and incubators play an important role in helping start-ups to scale. The EU's EIT Climate-KIC, a pioneer in supporting climate-driven innovators, piloted its first Adaptation and Resilience Challenge and Accelerator targeting developing countries. The program started in early 2021 with climate competition support to 40 innovators, and a second stage supporting 16 innovators to support their investment readiness. Innovators in these programs include Kenya's **Drop Access**, which creates portable solar-powered fridges for healthcare and food, and India's **EF Polymer**, which provides water-retention polymers made from biowaste to farmers.

Sustainable Ocean Alliance has accelerated 45 innovators through its Ocean Solution Accelerator, which has evolved into the **Ecopreneur Network**. Some of the innovators in the 2023 cohort include **Reefgen**, developing robotic nearshore restoration platforms; and **Alora**, growing crops in high salt conditions including ocean waters. **Novarium** is focused on building an ecosystem around the Blue Economy through the development of startups from the laboratory to the market and open

Tech ecosystems are increasing the supply of innovators focused on adaptation and resilience, and support organizations including climate-focused accelerators and incubators play an important role in helping startups to scale.

innovation in industrial R&D. The **FLOTS** accelerator has supported innovators **Blue Lion Labs**, which identifies harmful organisms such as algae that can cause billions in damages and that are exacerbated by rising temperatures. **Hoola One** cleans plastic-polluted areas to restore healthy ecosystems.

There are many examples of innovators with solutions to address sustainability in a changing climate, but simply to be able to survive in a hotter, drier, stormier environment with diminishing resources, we need to increase this supply through development of Cleantech innovation ecosystems. We also need to help corporations and governments connect with relevant innovators and help them to scale.





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Global Cleantech Trends

- Between H1 2020 and H1 2023 Cleantech Series A funding has increased 73% and Series B funding has increased 166%.
- In Q2 2023, Cleantech increased its share of Series A funding to 25% compared to all other tech startup sub-sectors, up from 14% in Q4 2022. Cleantech's share of Series B funding increased from 10% to 20% over the same period.
- Cleantech has the highest number of Series A deals from Q4 2022 to Q2 2023 compared to all sub-sectors, and the second-highest number of Series B deals (after AI & BD).
- Despite the global decline in VC funding, Cleantech's Series A funding has increased 15% in absolute terms between Q4 2022 and Q2 2023 — the biggest increase among all sub-sectors. Cleantech's Series B funding has also increased 34% over this period — the biggest increase among all sub-sectors.
- Thanks to strong investment in 2022, Europe leads all regions in terms of its share of Series A funding from H1 2020 to H1 2023.

Since Startup Genome's first Cleantech report in 2021, the conditions surrounding this sub-sector have changed dramatically. When that report was published, Cleantech was experiencing a decline in early-stage funding, and the world was primarily focused on the impact of COVID-19. However, two years can make all the difference in the startup world. Soon after the release of that report, the sub-sector reached new funding heights and also started receiving more global attention as many policymakers and business leaders recognized the need for technological solutions to the climate crisis.

Like most tech startup sub-sectors, Cleantech funding peaked in early 2022. Series A funding declined 36% from H1 2022 to H1 2023, but this decrease was significantly less drastic than the one experienced by similar Deep Tech sub-sectors. Advanced Manufacturing & Robotics was down 64% and Agtech & New Food down 77% over the same period.

Looking at the long term, Cleantech funding is considerably up: 73% for Series A and 166% for Series B from H1 2020 to H1 2023. It is also up over the most recent three quarters, and while it may take time to reach the remarkable funding heights of H1 2022 again, Cleantech has shown strong indicators of health over the first half of 2023. By Q2 2023, Cleantech had experienced a 15% increase in both Series A deal count and funding compared to Q4 2022 levels. For all Deep Tech subsectors tracked by Startup Genome, Cleantech was the only one to experience growth in either deal count or funding over this period. And notably, looking at Q2 2023 alone, only AI & Big Data had more total Series A funding than Cleantech, meaning Cleantech secured more funding in that quarter in absolute terms than larger sub-sectors such as Life Sciences and Blockchain.

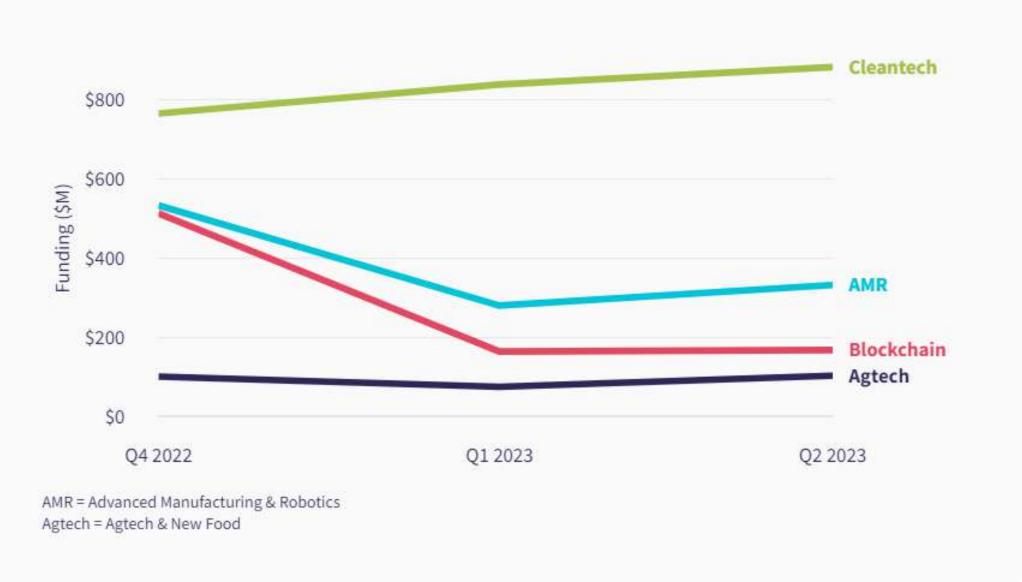




Cleantech's Series A Deal Count Grew 15% Between Q4 2022 and Q2 2023 Source: Startup Genome, 2023 120 100 Deal Count (#) 20 Q4 2022 Q2 2023 Q1 2023 AMR = Advanced Manufacturing & Robotics Agtech = Agtech & New Food

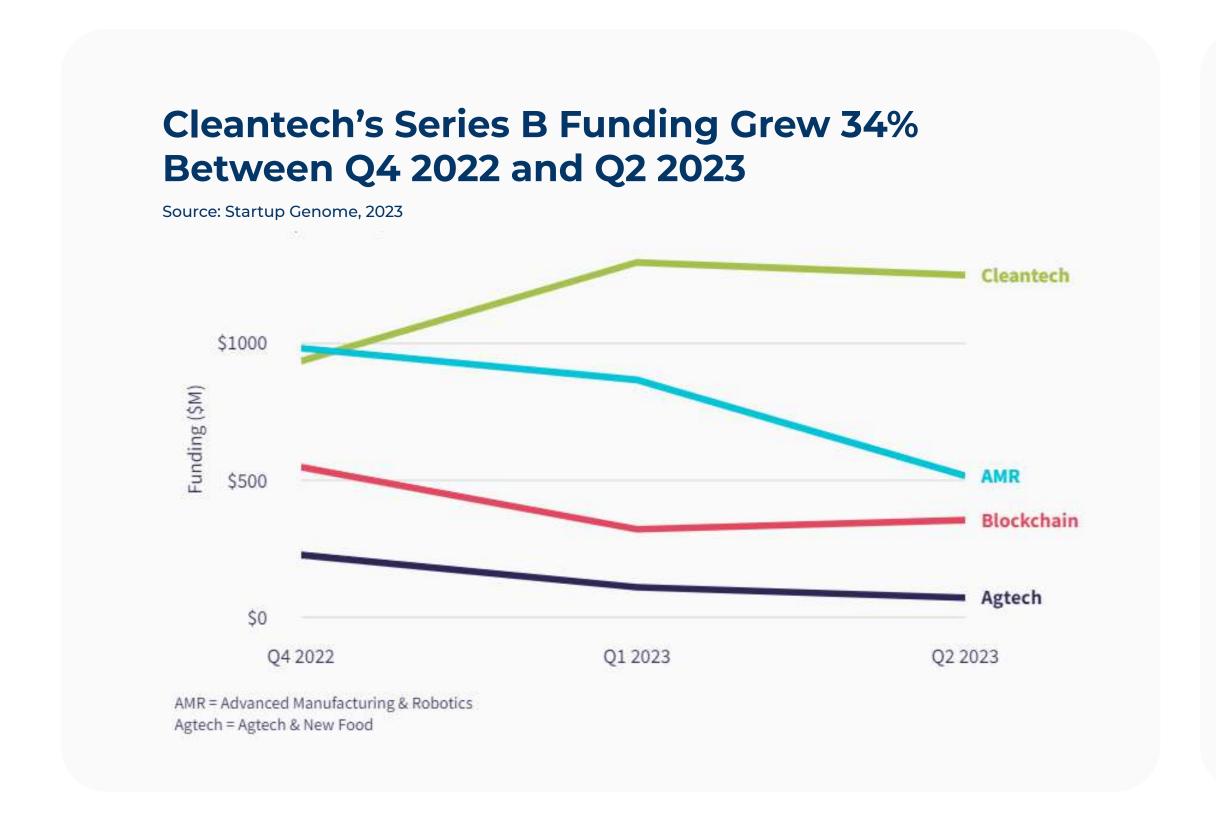
Cleantech's Series A Funding Grew 15% Between Q4 2022 and Q2 2023

Source: Startup Genome, 2023



Cleantech also led all Deep Tech sub-sectors in Series B funding amount growth, at 34% over the period Q4 2022 to Q2 2023. Other than Life Sciences, Cleantech was the only Deep Tech sub-sector tracked by Startup Genome to experience an increase in Series B funding amount during these three quarters.







Q3 2022

Looking at the amount of Series A and B funding secured by Cleantech startups over the last three quarters, it is evident that some investors, particularly in Europe and China, are increasing their Cleantech investments even as VC funding retreats broadly. As a result, Cleantech's

funding share continues to increase. What was one of the tech startup world's smaller sub-sectors in 2021 captured 25% of Series A funding amount and 20% of Series B funding amount in Q2 2023.

Recent increased investment in Cleantech reflects a series of factors including the war in Ukraine and subsequent energy crisis in Europe, as well as a host of climate policies enacted by the world's major economies aimed at spurring Cleantech solutions. These include the 2023

Q1 2022

Q2 2022

10%

Q4 2021

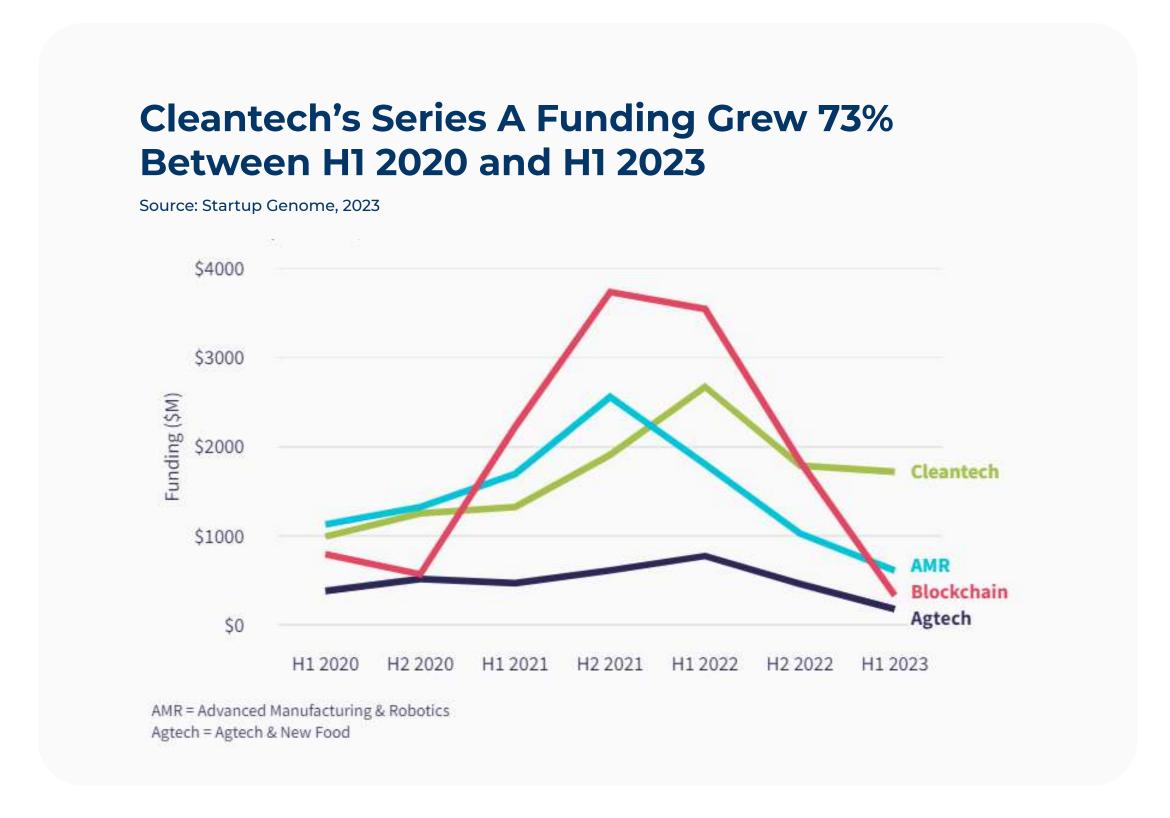
EU Net Zero Act, a suite of United States laws anticipated to trigger \$500 billion in clean energy solutions, and over \$500 billion spent in 2022 alone by China on renewable energy projects.

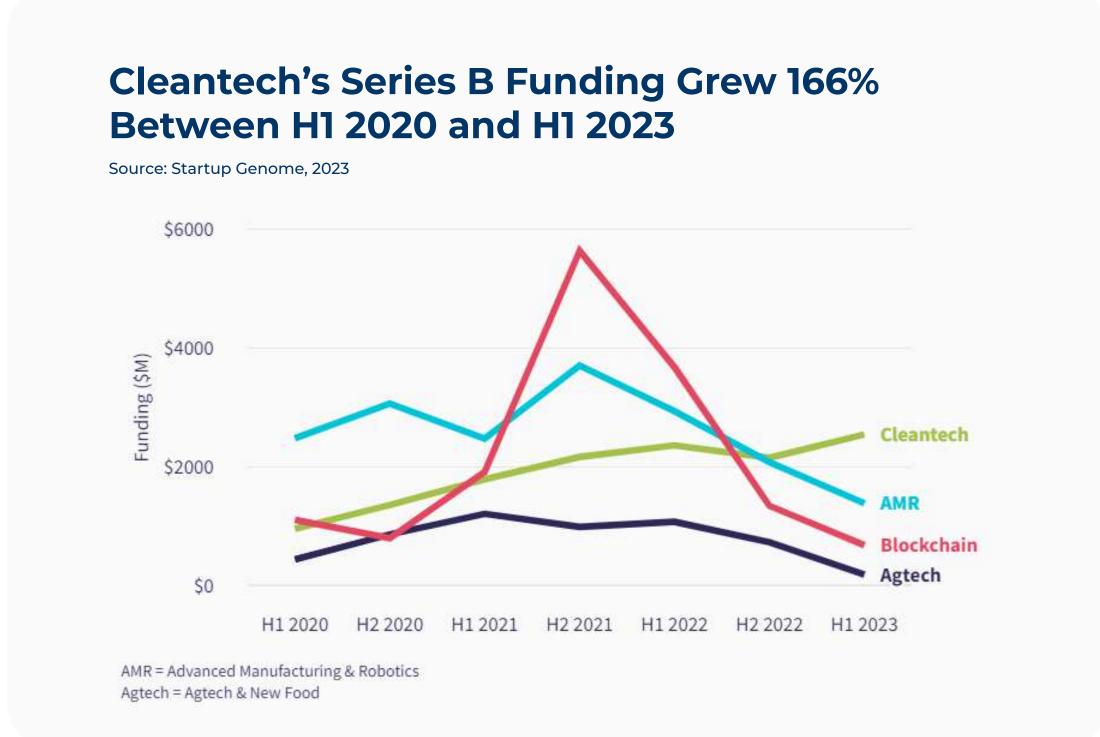
Q1 2023

Q2 2023

Q4 2022







Corporations are also participating. In 2020, Amazon announced a \$2 billion pledge to invest in technology to reduce its greenhouse gas emissions, while Google started its Climate Tech Accelerator program in 2021. Both public and private initiatives may provide critical funding sources as traditional VCs continue to pull back their investments.

Cleantech has shown significant long-term growth since 2020, demonstrating resilience by not bottoming out in funding levels to the extent of other Deep Tech subsectors. Cleantech's H1 2023 Series A funding amount was up 73% from H1 2020, the highest growth rate among Deep Tech sub-sectors over this period even as

sub-sectors such as Blockchain and AI & Big Data raised significantly more Series A funding at points.

While Cleantech's Series A funding is down in H1 2023 relative to H2 2022, this is due to the sharp, crosssectorial global decline in funding experienced between Q3 2022 and Q4 2022 as the global economic context

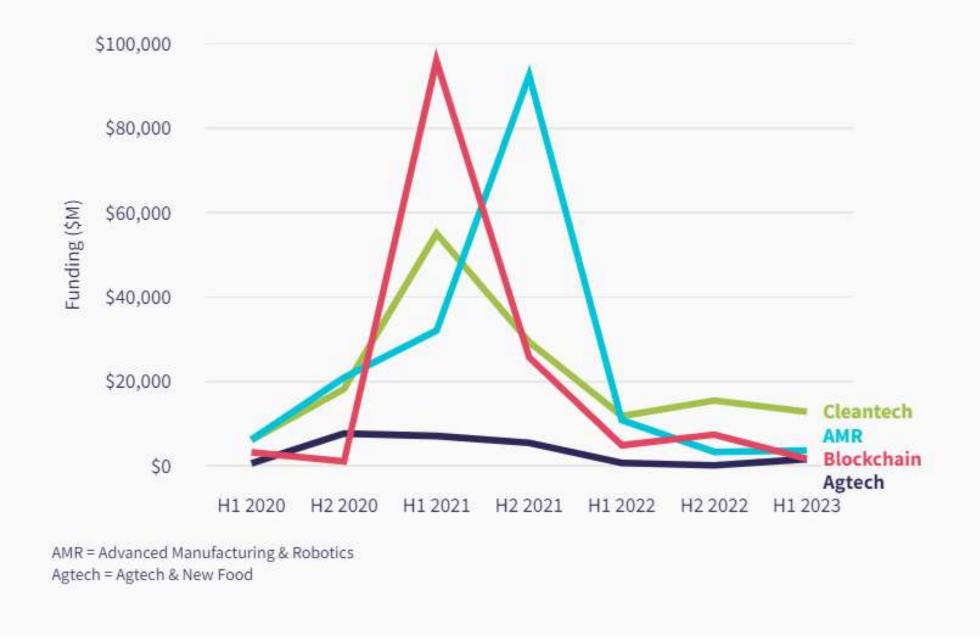
changed. However, from Q4 2022 Cleantech has since resumed its growth, as discussed above.

Cleantech's Series B funding increased 166% from H2 2020 to H1 2023. This was the second highest rate among all Deep Tech sub-sectors, after AI & Big Data.



Cleantech's Exit Value Was the Highest Among **Comparable Sub-Sectors During H1 2023**

Source: Startup Genome, 2023



While Cleantech's Exit Value (defined as the sum of all sectors such as Advanced Manufacturing & Robotics and Blockchain from 2020 to 2022, its Exit Value in H1 2023

was the highest of all sub-sectors tracked by Startup exits) did not reach the heights of other Deep Tech sub-2023 Cleantech shows the highest growth rate among comparable sub-sectors.



A majority of the technologies needed to get us to global net-zero targets are still in the early stages, and many of these will be commercialized by startups. We know this because startups have for decades demonstrated an ability to take early lab-scale inventions through an innovation cycle quickly and reliably, to arrive at usable solutions that are deployable at scale. Ultimately, a changing climate presents a multitude of opportunities, but it is up to us to opt for a development pathway toward abundance, equitable access, and zero-carbon emissions. Therefore, supporting startups is a critical imperative in addressing climate change."

Nalin Agarwal, Founding Partner, Climate Collective



Regional Trends: Europe Leads in Cleantech Funding

Thanks to strong investment in 2022, Europe leads all regions in terms of its share of Series A funding from H1 2020 to H1 2023.

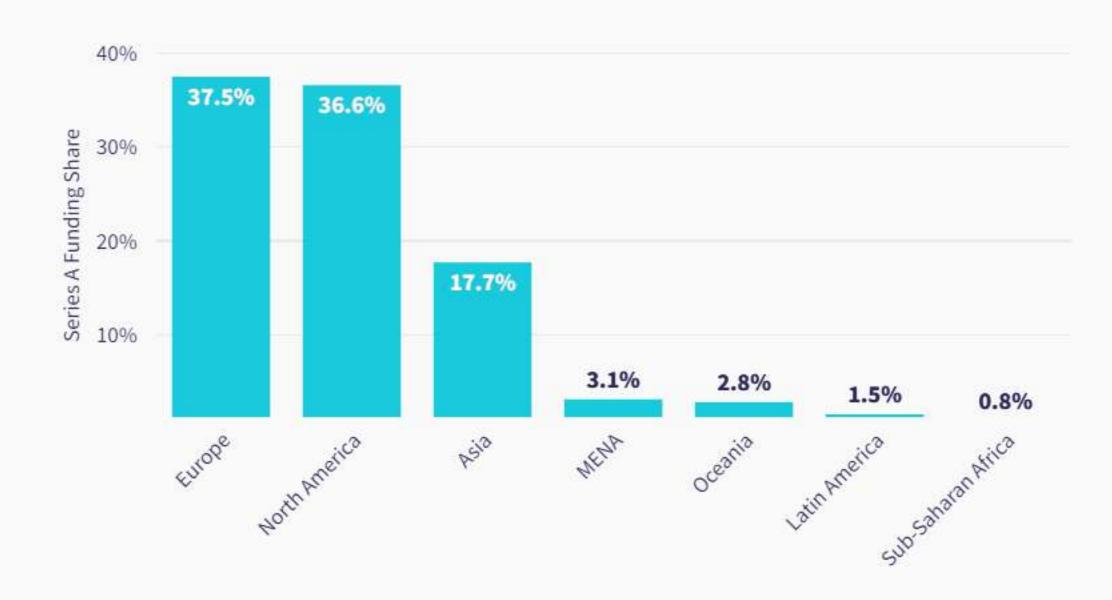
Collectively, North America, Europe, and China represented over 90% of Series A and Series B funding share for Cleantech by H2 2023. Europe has built on its lead over the U.S. as the Cleantech regional funding leader, generating a 28% funding share lead over North America by the first half of 2023. Meanwhile, China has increased its share of Series A funding by 125% since 2020, while the rest of Asia has fallen -45% over that same time.

The rise in European Series A funding share is largely driven by its number of deals — the region saw 56% more Series A deals than North America in H1 2023.

Europe Led All Regions in Series A Funding Share Since H1 2020

Share of Cleantech Series A Funding From H1 2020 to H1 2023

Source: Startup Genome, 2023

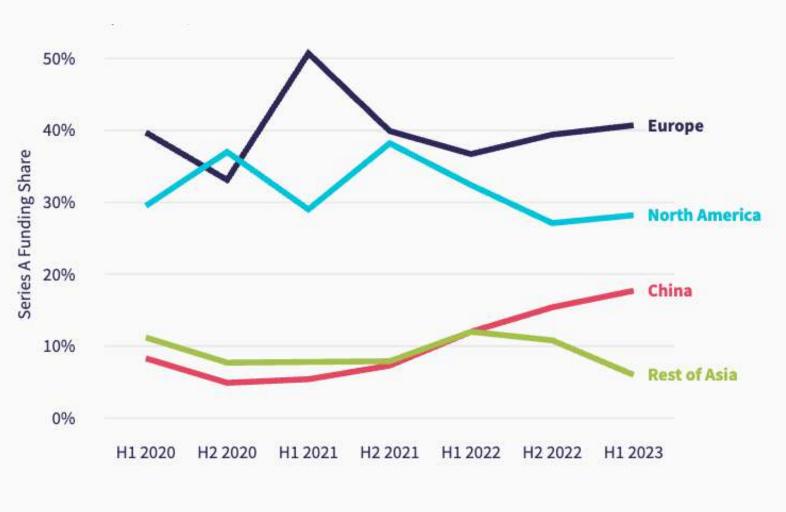




Europe Received 28% More Series A Funding Than North America in H1 2023

Cleantech Series A Funding Share by Leading Regions

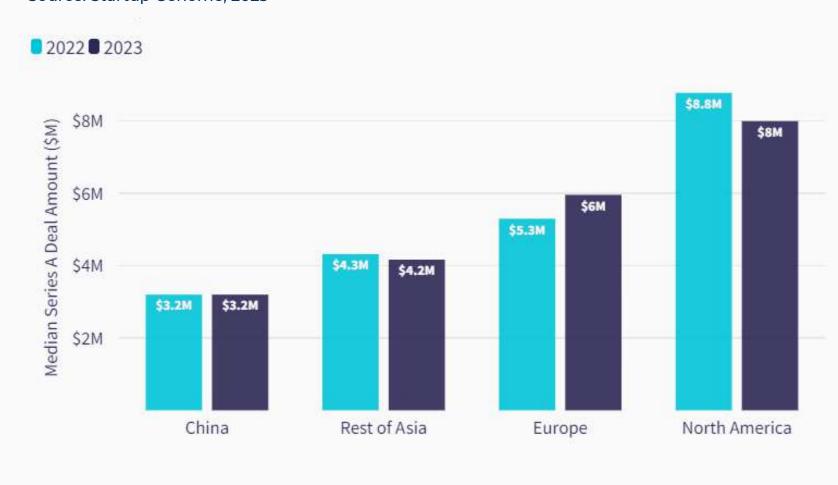
Source: Startup Genome, 2023



Europe Was the Only Region to Increase Its Median Series A Deal Amount Between 2022 and 2023

Cleantech Median Series A Deal Amounts (\$M)

Source: Startup Genome, 2023



Despite being the leader in share, Europe's median Series A deal amount is almost 25% lower than those in North America, although it is rapidly catching up. These lower round sizes are to be expected given the smaller VC fund sizes in Europe versus the U.S.

However, Europe's median round sizes are catching up

with North America's median Series A deal, experiencing a slight decline (-9%) from 2022 to 2023, while Europe was the only region to experience an increase in median funding amount, at 12%. Again, we can infer that Europe's policies to address climate change have contributed to it being the only region where the median Series A amount

has gone up from 2022 to 2023, helping explain why valuation as a revenue multiple has also gone up. While receiving much less overall funding for Cleantech than Europe and North America, MENA shows promise with a 56% growth in early-stage funding for Cleantech from 2018 to 2022.



In MENA, Cleantech Early-Stage Funding Grew 56% From 2018 to 2022 Source: Startup Genome, 2023 \$150 Funding (\$M) 2019 2020 2021 2018 2022

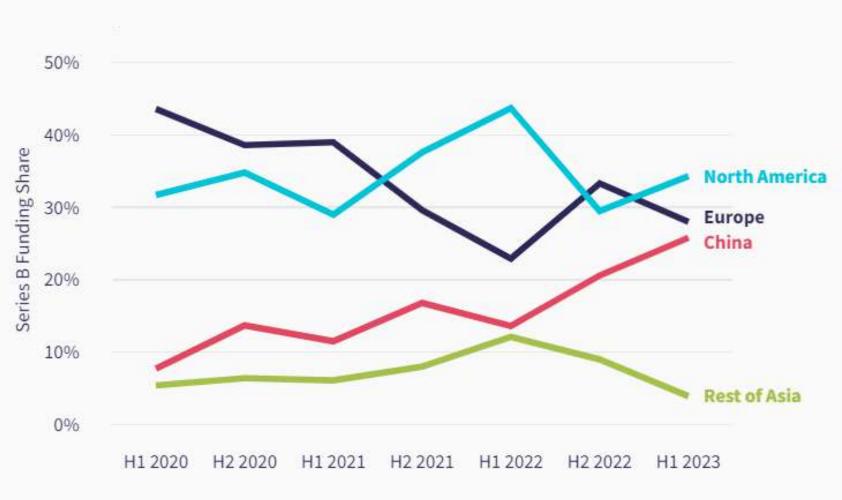
However, looking at Series B deals tells a slightly different story. For Series B deals, Europe's funding share has actually declined by 36% from H1 2020 to H1 2023, falling below North America. Meanwhile, China's rise for this round has been meteoric, increasing 225% between H1 2020 and H1 2023, nearly catching up with Europe.

How these trends play out over 2024 and beyond will be fascinating. It is hoped that the growth in Series A in Europe and China translates into more Series B funding rounds, showing a stable or growing scaleup success rate.

China Increased Its Share of Series B Funding by 225% Between H1 2020 and H1 2023

Cleantech Series B Funding by Share Region

Source: Startup Genome, 2023







Global Cleantech Ranking: Top 25 + Runners-Up

-> Key Findings

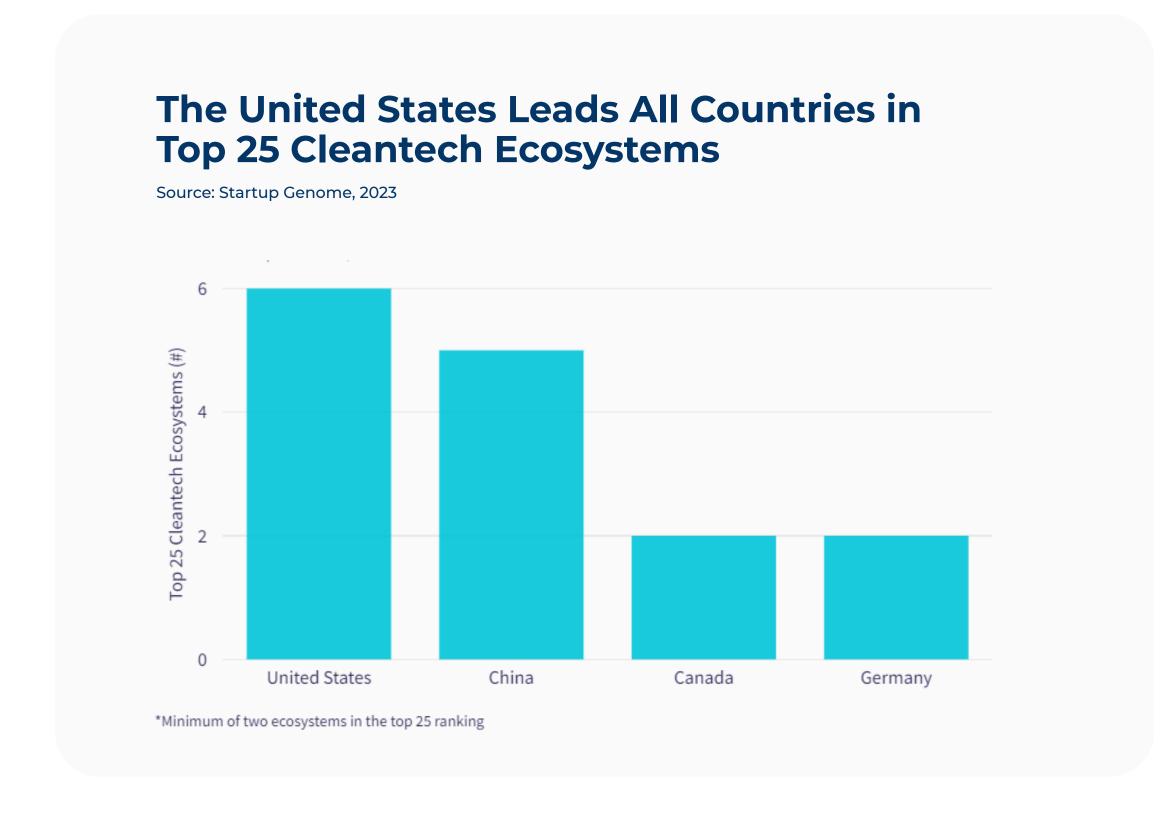
- The U.S. is the world's leading nation in Cleantech in terms of the number of ecosystems represented in the top 25.
- Silicon Valley and London are the world's leading Cleantech ecosystems, at #1 and #2 respectively.
- Amsterdam has jumped from #7 in 2021 to #3, holding the highest number of Cleantech startups in Europe outside of London.
- Singapore moved up an impressive 18 places, from #26 to #8, and is the only Asian ecosystem in the top 10.
- Seoul made its first appearance in the Cleantech rankings, at #15, reflecting its overall maturation as a startup ecosystem.
- Two new Chinese ecosystems also entered the Cleantech rankings: Wuxi at #19 and Hangzhou at #22.



As in the 2021 Startup Genome Cleantech report, the U.S. has the highest number of ecosystems in the top 25 global Cleantech ecosystems, with a 24% share. China follows, with a 20% share of the top 25 Cleantech ecosystems. However, it's worth noting that none of China's ecosystems are represented in the top 10. The only Asian ecosystem to achieve a top 10 ranking is **Singapore**.

The distribution of top ecosystems by country in this report represents a change from the first Startup Genome Cleantech report. While the U.S. led that ranking as well, China only had one ecosystem ranked. Now home to five top ecosystems, China's recent significant investment and emphasis on Cleantech is clear.





Asia, Europe, and North America each have eight ecosystems in the top 25. This indicates that as Cleantech matures, more ecosystems are generating competitive startups in the sub-sector, most notably in Asia, which only had two ecosystems in the top 25 in the 2021 Startup Genome Cleantech report.

Asia, Europe and North America All Have the Same Number of Top 25 Cleantech Ecosystems

Source: Startup Genome, 2023





Silicon Valley retains its position as the #1 Cleantech ecosystem globally. However, several other ecosystems have made substantial strides since the 2021 report. Notably, **Amsterdam** moved from #7 in 2021 to #3, overperforming in Cleantech relative to its **overall 2023 GSER ranking**. This improvement is thanks in large part to it holding the highest number of Cleantech startups in Europe outside of London, as well as the number of exits it has generated since H2 2018.

The largest improvement came from Singapore, which moved from #26 to #8 due to its strong startup talent pool — it is the only ecosystem outside of Silicon Valley to score a 10 in this factor. Two Chinese ecosystems made their first appearance in the Cleantech rankings: Wuxi (#19) and Hangzhou (#22), which both experienced large exits that boosted their Funding and Performance scores. **Seoul** also made its first appearance in the Cleantech rankings, at #15, reflecting its overall maturation as a startup ecosystem, which is now extending to emerging subsectors including Cleantech.

Due to both the emergent nature of Cleantech, as well as the particular innovative capabilities required to produce novel technologies, several smaller ecosystems outperform their overall GSER 2023 ranking. For example, Oslo (#10) is significantly punching above its weight relative to its Ecosystem Value under \$15 billion. This is due to the Norwegian ecosystem's strong Focus score. Oslo has also produced four exits over \$50 million since H2 2018 — a high number considering the size of the ecosystem. Wuxi similarly overperforms in Cleantech relative to its overall GSER rank, thanks to a high number of Series A deals and exits over the past two years.

RANK	ECOSYSTEM	COUNTRY	REGION	PERFORMANCE	FUNDING	STARTUP EXPERIENCE	KNOWLEDGE	TALENT	FOCUS
1	SILICON VALLEY	UNITED STATES	NORTH AMERICA	10	10	10	9	10	5
2	LONDON	UNITED KINGDOM	EUROPE	10	10	10	6	9	8
2	AMSTERDAM-DELTA	NETHERLANDS	EUROPE	10	10	10	5	7	7
4	LOS ANGELES	UNITED STATES	NORTH AMERICA	10	8	10	8	7	5
5	BOSTON	UNITED STATES	NORTH AMERICA	9	8	8	9	9	7
6	TEL AVIV	ISRAEL	MENA	9	9	9	6	2	8
7	NEW YORK CITY	UNITED STATES	NORTH AMERICA	9	10	8	8	4	5
8	SINGAPORE	SINGAPORE	ASIA	8	9	7	8	10	6
9	STOCKHOLM	SWEDEN	EUROPE	6	8	6	3	6	10
10	OSLO	NORWAY	EUROPE	6	6	5	2	2	10
11	PARIS	FRANCE	EUROPE	5	9	9	7	4	8
12	VANCOUVER	CANADA	NORTH AMERICA	8	5	5	3	4	7
13	TORONTO-WATERLOO	CANADA	NORTH AMERICA	6	7	6	6	6	6
14	BEIJING	CHINA	ASIA	8	6	8	10	8	2
15	SEOUL	SOUTH KOREA	ASIA	5	7	6	10	3	4
16	BERLIN	GERMANY	EUROPE	4	8	4	4	3	9
17	SHENZHEN	CHINA	ASIA	5	4	8	9	8	4
18	SHANGHAI	CHINA	ASIA	7	7	9	10	5	1
19	WUXI	CHINA	ASIA	2	6	6	6	6	9
20	MUNICH	GERMANY	EUROPE	6	3	3	7	6	4
21	ТОКУО	JAPAN	ASIA	3	5	7	10	7	2
22	HANGZHOU	CHINA	ASIA	8	2	7	4	4	2
23	GREATER HELSINKI	FINLAND	EUROPE	2	5	3	2	2	10
24	WASHINGTON DC	UNITED STATES	NORTH AMERICA	7	2	5	4	3	2
25	DENVER-BOULDER	UNITED STATES	NORTH AMERICA	4	3	2	4	8	6
26-30	ZURICH	SWITZERLAND	EUROPE	2	4	2	7	10	6
26-30	DELHI	INDIA	ASIA	4	6	4	1	1	3
26-30	SYDNEY	AUSTRALIA	OCEANIA	4	4	4	1	5	3
26-30	PHOENIX	UNITED STATES	NORTH AMERICA	7	1	2	5	8	1
26-30	EDINBURGH-GLASGOW	UNITED KINGDOM	EUROPE	2	3	1	2	2	9
31-35	CALGARY	CANADA	NORTH AMERICA	1	1	1	2	1	10
31-35	SEATTLE	UNITED STATES	NORTH AMERICA	1	4	3	5	9	3
31-35	MADRID	SPAIN	EUROPE	3	2	1	1	1	5
31-35	SAN DIEGO	UNITED STATES	NORTH AMERICA	3	2	4	8	5	1
31-35	AUSTIN	UNITED STATES	NORTH AMERICA	1	1	2	3	10	4



Top Cleantech Ecosystems by Region & Ecosystems to Watch







TOP CLEANTECH Ecosystem Players

Global Top Cleantech Accelerators & Incubators

- Plug and Play Tech Center
- ___ Techstars
- ____ Y Combinator
- ___ EIT Climate-KIC
- ___ VentureWell
- ___ MassChallenge
- ___ Elemental Excelerator
- ___ IndieBio
- ___ Venture Kick
- National Science Foundation Innovation Corps Program

Top Ecosystem Players are determined primarily by number and amount of Series A investments in Cleantech between July 2018–June 2023.

Top Cleantech Accelerators & Incubators by Region





Global Cleantech VC Firms & Investors

- ___ Breakthrough Energy
- ___ Lowercarbon Capital
- ___ Climate Capital
- ___ EIT InnoEnergy
- ___ ImpactAssets
- ___ MCJ Collective
- ___ SOSV
- ___ Alumni Ventures
- ___ Congruent Ventures
- ___ Khosla Ventures

Top Cleantech VC Firms & Investors by Region

ASIA HongShan Fund IDG Capital NORTH AMERICA Blume Ventures Shenzhen Capital Group Breakthrough Energy EUROPE Horizons Ventures Lowercarbon Capital Climate Capital EIT InnoEnergy MENA **ImpactAssets bp Ventures MCJ Collective Shell Ventures Aramco Ventures Contrarian Ventures OurCrowd Equinor Ventures Bridges Israel Doral Energy Tech Ventures Maniv Mobility** LATIN AMERICA **Bossa Nova Investimentos SUB-SAHARAN AFRICA OCEANIA TechEnergy Ventures Aurus Capital** E3 Capital **Clean Energy Finance GRIDS Capital Alitheia Capital BHP Ventures Norte Ventures Persistent Energy Capital** K1W1

All On

GreenHouse Capital

03

Main Sequence Ventures

Virescent Ventures



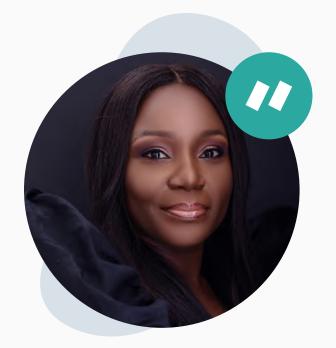
Global Blue Economy Trends

Key Findings

- In H1 2023, Series A funding in the Blue Economy increased 31% compared to H1 2021.
- The median Blue Economy Series A deal has increased 40% from H1 2021 to H1 2023.
- In 2022, Europe surpassed North America in its share of Blue Economy Series A funding.

In 2022, Startup Genome released its first **Blue Economy report**, which presented insights into a small but growing sub-sector. Blue Economy funding levels have improved, even as most tech startup sub-sectors have seen significant declines since the heights of 2021.

In H1 2023, Series A funding in the Blue Economy increased 31% compared to H1 2021. Series A growth is benchmarked against peer sub-sectors, with H1 2021 funding indexed to 1 to show the Blue Economy's relative overperformance over the past two years.



Over the past few years, there has been a proliferation and deepening of global crises — from climate change, to COVID, and to conflicts. These threaten to slow down our global economic development as livelihoods are lost, supply chains curbed, currencies lose value, and inflation and unemployment increase. Enterprise innovation and enterprise climate innovation can stem the downturn."

Ruka Sanusi, Executive Director, Ghana Climate Innovation Centre



Startup Genome

Blue Economy Series A Funding Grew 31% Between H1 2021 and H1 2023 H1 2021 Series A Funding Indexed to 1 Source: Startup Genome, 2023 **Blue Economy** 0.5 H1 2021 H2 2021 H1 2022 H2 2022 H1 2023 AMR = Advanced Manufacturing & Robotics Agtech = Agtech & New Food

Encouragingly, the median Blue Economy Series A deal has increased 40% from H1 2021 to H1 2023. This data has been annualized to incorporate enough Blue Economy deals to be statistically comparable to other sub-sectors. The growth of Series A funding, in conjunction with increasing deal medians, indicates that

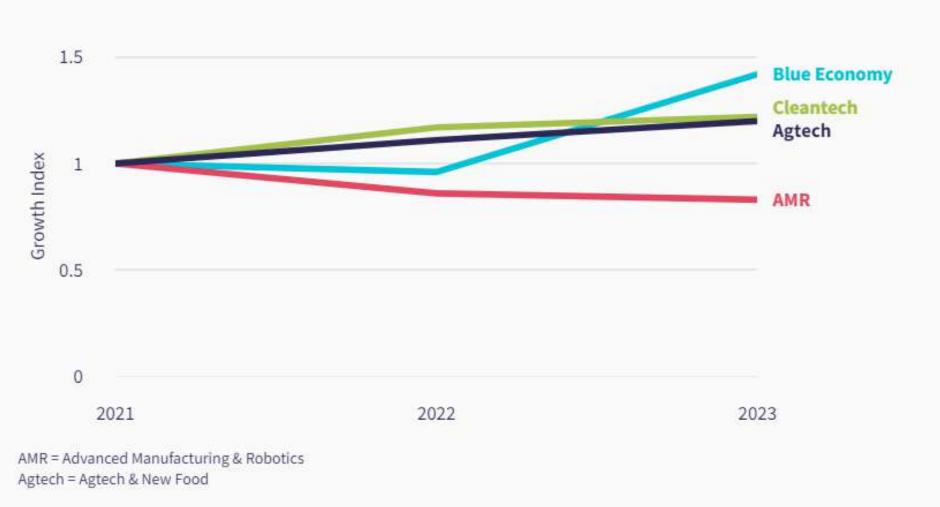
the number of high-potential Blue Economy startups is increasing and that investors are becoming increasingly optimistic about this emerging sub-sector.

The data below has been annualized to incorporate more data points for comparative Blue Economy Series A deals.

Median Blue Economy Series A Funding Deals Grew 40% Between H1 2021 and H1 2023

H1 2021 Series A Median Deal Amount Indexed to 1

Source: Startup Genome, 2023

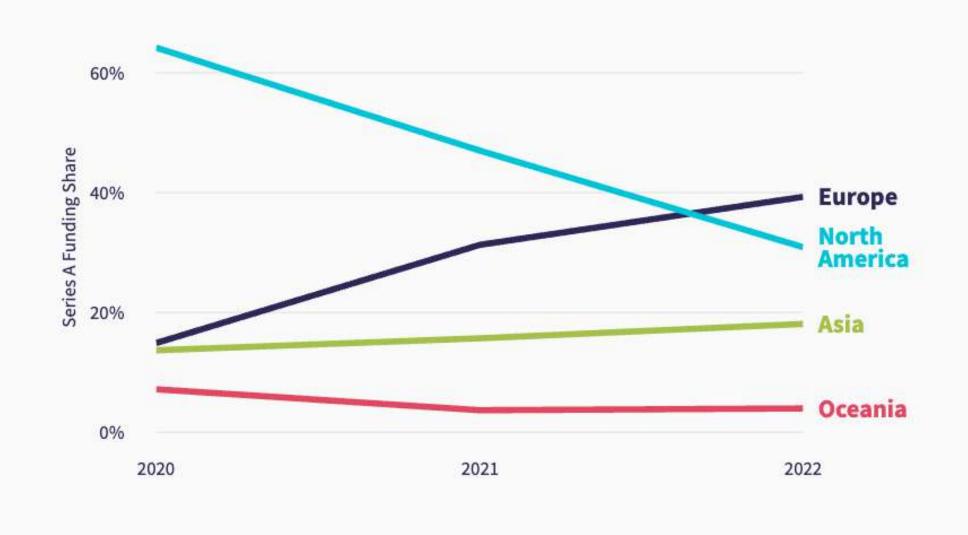


In 2022 Europe Surpassed North America in the

Share of Blue Economy Series A Funding

Share of Blue Economy Series A Funding

Source: Startup Genome, 2023



Regionally, we see Blue Economy Series A trends reflecting similar developments to Cleantech — Europe has surpassed North America in its share of all Blue Economy Series A funding in 2022, probably driven by the growth in Cleantech funding in Europe, a sub-sector that overlaps significantly with Blue Economy.

However, other regions still remain very small relative to Europe and North America. Surprisingly, despite **Singapore** being ranked the #1 Blue Economy ecosystem in both 2022 and 2023, Asia has not surpassed 20% of the sub-sector's Series A funding. This indicates that the strong Blue Economy innovation emerging from Singapore has yet to diffuse across the continent.



Global Blue Economy Ranking: Top 25 + Runners-Up

Key Findings

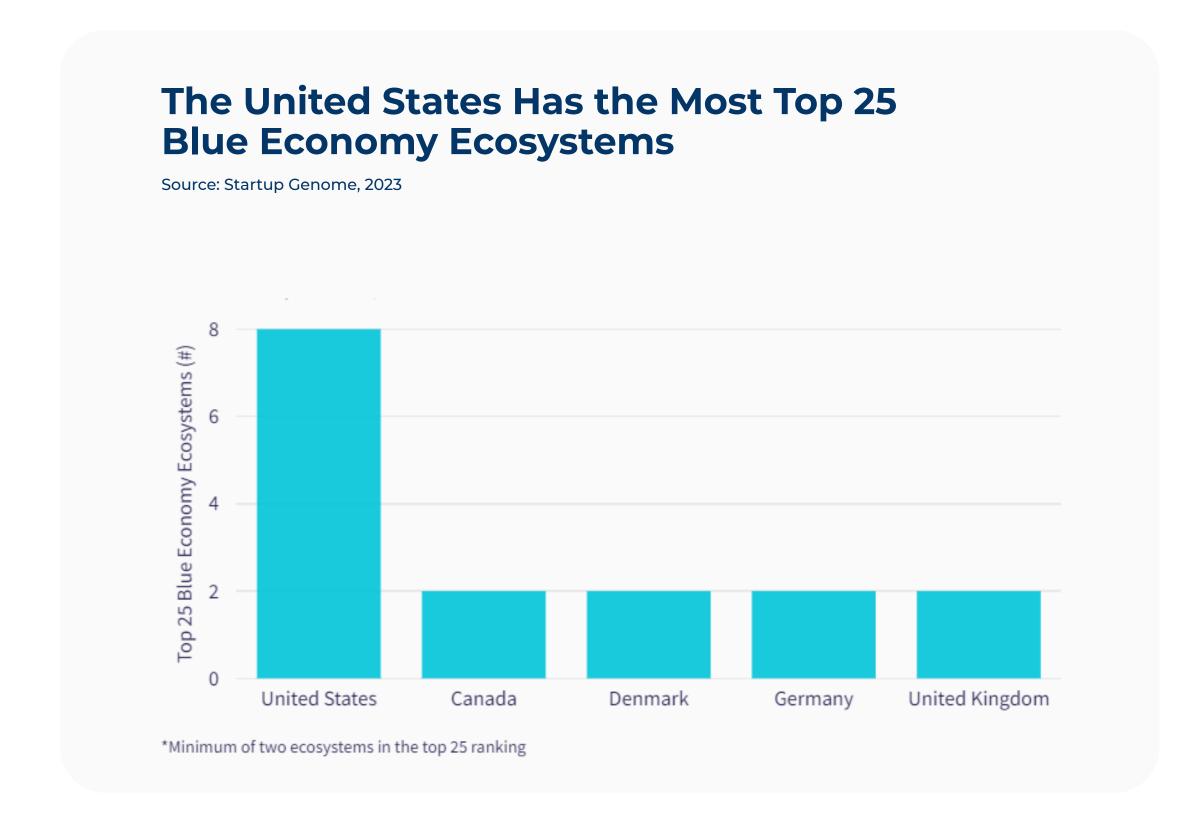
- Singapore remains the world-leading startup ecosystem for the Blue Economy thanks to its high number of relevant startups and its strong support for Blue Economy innovation in local universities.
- Oslo has surpassed Silicon Valley to become the #2 Blue Economy ecosystem, up from #3 last year.
- North America is home to 10 of the world's top 25 Blue Economy ecosystems, with 8 in the U.S.
- Tel Aviv has moved from #20 to #7 thanks to large exits and early-stage funding deals.
- Autonomous maritime solutions startup iXblue's \$407 million exit helped boost Paris from #22 to #11.
- Western Denmark, Helsinki, Houston, and Hong Kong have all entered the top 25 for the first time.

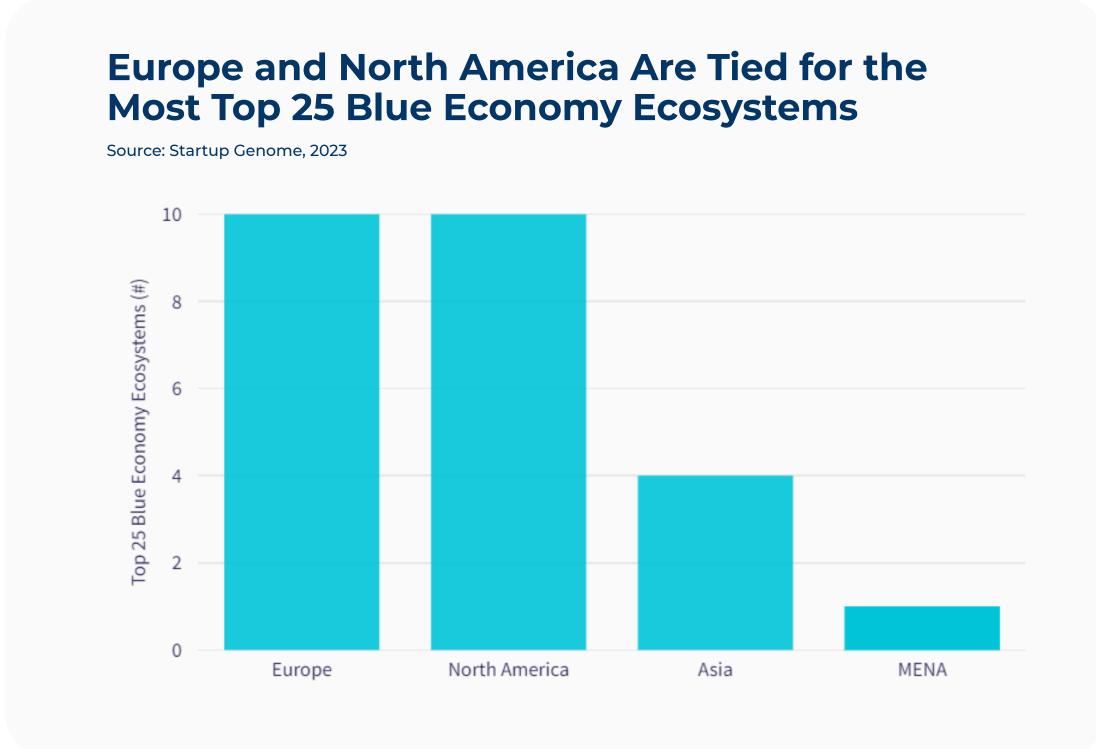


Like Cleantech, the United States has the highest number of ecosystems in the 2023 top 25 Blue Economy rankings, leading with a 32% share of all ecosystems. Four countries each have two ecosystems in the top 25: Canada, Denmark, Germany, and the U.K. The inclusion of Canada and Denmark on this list is notable given those countries' smaller populations and market size relative to Germany and the U.K.



Startup Genome





Both Europe and North America have 10 Blue Economy ecosystems in the top 25 ranking. Together, the two regions represent 80% of the ranked ecosystems. The strong representation from Europe and North America is largely due to the fact that the Blue Economy subsector is relatively new and can be capital-intensive. Therefore, it is more likely to emerge in larger, markets spot opportunities and investors learn about its potential.

Singapore remains in the top spot for the second year in a row. This is thanks to its high number of Blue established ecosystems before entrepreneurs in other Economy startups, several of which have obtained a Series A round, as well as its strong support for Blue Economy innovation in local universities. However,

Asian ecosystems only make up 16% of the top 25 compared to a 32% share in this year's Cleantech rankings. Given the strong overlap between these two sub-sectors, it stands to reason that more top Blue Economy ecosystems should soon emerge in Asia.

Oslo has surpassed Silicon Valley to become the #2 Blue Economy ecosystem, up from #3 last year. This is in large part due to the 11 exits occurring between 2018 and 2022, including Ocean Sun, a floating solar production firm that went public in 2020 at a valuation of \$87 million.

Tel Aviv has moved from #20 to #7, with Windward's listing on the London Stock Exchange in 2021 at a valuation of \$169 million contributing to the improvement in ranking. Additionally, orca-ai raised a \$13 million Series A round in 2021.

In **Paris**, the autonomous maritime solutions startup **iXblue** was acquired in late 2022 for \$407 million, helping take the ecosystem from #22 to #11. This exit will boost local Blue Economy knowledge and experience as the team shares its understandings with other Blue Economy startups.

Several ecosystems made their first appearance in the top 25. These include the advanced-manufacturing hub of Western **Denmark** at #20 and **Helsinki** at #22. Additionally, the large shipping port cities of **Houston** and **Hong Kong** cracked the top 25, leveraging their corporate and logistical expertise in maritime technologies.

RANK	ECOSYSTEM	COUNTRY	REGION	PERFORMANCE	FUNDING	STARTUP EXPERIENCE	KNOWLEDGE	TALENT	FOCUS	LEGACY
1	SINGAPORE	SINGAPORE	ASIA	8	10	10	6	9	10	10
2	OSLO	NORWAY	EUROPE	10	6	10	2	1	10	7
2	SILICON VALLEY	UNITED STATES	NORTH AMERICA	8	10	9	10	10	9	2
4	AMSTERDAM-DELTA	NETHERLANDS	EUROPE	10	8	7	7	8	9	8
5	LONDON	UNITED KINGDOM	EUROPE	8	9	10	8	8	10	8
6	NEW YORK CITY	UNITED STATES	NORTH AMERICA	4	10	10	8	7	8	6
7	TEL AVIV	ISRAEL	MENA	6	10	8	9	2	5	2
8	ATLANTIC CANADA	CANADA	NORTH AMERICA	5	6	3	1	3	10	4
9	BOSTON	UNITED STATES	NORTH AMERICA	3	7	7	9	9	8	10
10	LOS ANGELES	UNITED STATES	NORTH AMERICA	10	3	9	10	8	6	6
11	PARIS	FRANCE	EUROPE	9	4	8	7	6	4	4
12	EDINBURGH-GLASGOW	UNITED KINGDOM	EUROPE	8	8	5	2	2	6	5
13	COPENHAGEN	DENMARK	EUROPE	6	6	5	3	6	2	10
14	VANCOUVER	CANADA	NORTH AMERICA	6	7	6	6	5	7	5
15	MIAMI	UNITED STATES	NORTH AMERICA	5	8	8	2	4	5	6
16	SAN DIEGO	UNITED STATES	NORTH AMERICA	5	9	4	9	9	1	2
17	SEOUL	SOUTH KOREA	ASIA	1	8	7	10	2	8	9
18	MUNICH	GERMANY	EUROPE	9	2	1	4	5	4	8
19	токуо	JAPAN	ASIA	2	4	2	10	4	4	10
20	WESTERN DENMARK	DENMARK	EUROPE	9	1	1	6	3	6	9
21	HAMBURG	GERMANY	EUROPE	7	5	6	5	2	2	7
22	GREATER HELSINKI	FINLAND	EUROPE	10	2	3	3	3	3	2
23	HOUSTON	UNITED STATES	NORTH AMERICA	3	5	8	4	4	2	8
24	HONG KONG	HONG KONG	ASIA	4	6	4	1	7	3	7
25	PHILADELPHIA	UNITED STATES	NORTH AMERICA	2	5	6	5	8	8	2
26-30	TORONTO-WATERLOO	CANADA	NORTH AMERICA	1	7	3	8	6	9	4
26-30	NEW ZEALAND	NEW ZEALAND	OCEANIA	6	2	4	2	1	3	6
26-30	ZURICH	SWITZERLAND	EUROPE	2	4	2	7	10	6	9
26-30	BRISTOL	UNITED KINGDOM	EUROPE	1	9	3	4	4	5	3
26-30	AUSTIN	UNITED STATES	NORTH AMERICA	4	1	5	4	10	7	2
31-35	STOCKHOLM	SWEDEN	EUROPE	4	5	4	6	7	2	3
31-35	SEATTLE	UNITED STATES	NORTH AMERICA	2	6	9	8	10	1	4
31-35	DUBLIN	IRELAND	EUROPE	7	3	1	1	1	4	2
31-35	SYDNEY	AUSTRALIA	OCEANIA	3	2	2	3	5	7	5
31-35	WASHINGTON DC	UNITED STATES	NORTH AMERICA	7	1	2	5	6	1	3



Top Blue Economy Ecosystems by Region & Ecosystems to Watch



Startup Genome



TOP BLUE ECONOMY Ecosystem Players

Global Top Blue Economy Accelerators & Incubators

- ___ Ocean Startup Project
- ___ EIT Food
- ___ Sustainable Ocean Alliance
- ___ Techstars
- ___ IndieBio
- ___ BlueSwell
- ___ Y Combinator
- ___ SeaAhead
- ___ Landing Pads
- ____ Tech Incubator Program for Startups

Top Ecosystem Players are determined primarily by number and amount of Series A investments in the Blue Economy between July 2018–June 2023.

Top Blue Economy Accelerators & Incubators by Region





Global Top Blue Economy VC Firms & Investors

- **SOSV**
- **Invest Nova Scotia**
- **Sustainable Development Technology Canada**
- **HATCH**
- **Katapult Ocean**
- **S2G Ventures**
- **Artesian Capital Management**
- **Climate Capital**
- **European Innovation Council Fund**
- **Aqua-Spark**

Top Blue Economy VC Firms & Investors by Region

ASIA Sequoia Capital China NORTH AMERICA Omnivore Capital Management Shenzhen Capital Group SOSV EUROPE Legend Capital Invest Nova Scotia Sustainable Development Technology Canada HATCH MENA S2G Ventures Katapult Ocean Climate Capital European Innovation Council Fund Masdar Capital Aqua-Spark Aramco Ventures Hiventures Doral Energy Tech Ventures OurCrowd

LATIN AMERICA

Bossa Nova Investimentos Monashees **Draper Cygnus TechEnergy Ventures SP Ventures**

SUB-SAHARAN AFRICA

E3 Capital **Launch Africa Ventures LoftyInc Capital Management Consonance Persistent**

Trendlines

OCEANIA

Artesian Capital Management Blackbird Ventures Investible **Twynam Funds Management Bandera Capital**





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This contributed article was prepared in collaboration with Canada's Ocean Supercluster. The opinions expressed in this article do not necessarily reflect the views or position of Startup Genome.

The Blue Economy is Critical in Reaching Global Climate Goals

For Canada's Ocean Supercluster (OSC), the imperative is clear: without the Blue Economy, the world will not achieve its climate goals. OSC, with close to 600 members and a project portfolio valued at \$420 million, is supporting the delivery of more than 120 new ocean products, processes, and services that serve to accelerate the digital, sustainable, and inclusive growth of Canada's ocean economy. It is also bringing together the global ocean community to foster collaboration and build a broader movement.

By co-investing with industry in key growth areas, harnessing global connections, bringing together Indigenous and Western knowledge, and supporting innovative startups and projects led by companies of all sizes, OSC aims to both grow the Blue Economy and transform the Climatetech ecosystem to help reach global climate goals.

"The Ocean Frontier Institute is undertaking important work as we better understand the role the ocean plays

in regulating the planet where the North Atlantic has the most intense carbon sink in the world," says Nancy Andrews, Chief Engagement and Communications Officer at OSC. "The Paris Agreement has a goal of limiting the global temperature increase by 1.5 degrees Celsius above pre-industrial levels and reaching netzero emission levels by 2050. Thirty-five percent of that objective could be met through the ocean."

Ambition 2035

OSC has set a broader ambition for the Canadian ocean sector to sustainably grow its ocean economy from CAD\$39 billion in 2019 to CAD\$220 billion by 2035. The objective, called **Ambition 2035**, is driven by high-growth potential ocean sectors and informed by stakeholders in ocean industry, Indigenous rights holders, technology and innovation, research, economics, government, and the wider community to place Canada at the forefront of global ocean markets.

To achieve this target and in support of the Paris Agreement climate target, OSC has defined specific goals: a regulatory and policy framework that supports accelerated development must be built; organizations must focus on inclusive talent development, attraction, and retention; common data standards that support better information sharing must be adopted, and government, research, industry, and Indigenous communities must work together towards common goals and sharing knowledge. OSC also aims to strengthen international relationships to generate new market opportunities and attract new investors and clients, and to engage invested parties in delivering a common message about ocean opportunity.

OSC posits that these efforts would result in the foundation of new ocean companies and the scaling of existing companies, as well as increased participation and collaboration with Indigenous Peoples and the creation of innovative solutions that address the accelerated impacts of climate change for rural, northern, and

coastal communities in Canada. OSC also anticipates that Ambition 2035 will increase competitiveness and significant commercial opportunities for Canadian ocean companies in global markets, creating tens of thousands of new jobs and an ocean workforce that is diverse, well-skilled, and champions a healthy, prosperous ocean future.

"Ambition 2035 gives members of Canada's Ocean Supercluster and throughout the entire ecosystem in Canada something to rally behind and strive for when they're building their own strategies and investments," Andrews says. "The global economy generates 3% of GDP from the ocean economy, but in Canada that number is 1.6%. As an ocean nation, we have a huge opportunity for growth that can be transformational, helping tackle climate change globally and creating significant growth for communities in the process. Ambition 2035 and its CAD\$220 billion goal creates an important platform to help realize this significant growth potential through the Blue Economy."



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Key Investment Areas

OSC aims to achieve these goals by investing in four key areas: developing Canada's renewable ocean energy industries; increasing the provision of sustainable, secure food from ocean-based sources; transforming vessel powering, autonomy, and control; and accelerating the delivery of innovations that help tackle climate change. Its programming includes creating cross-sectoral solutions to generate new economic growth supporting small-and medium-sized businesses to scale and realize new market potential, commercializing made-in-Canada ocean innovation, connecting ocean communities, and building Canada's diverse ocean workforce.

"Our key investments focus on developing and accelerating technologies and projects that will lead to significant, sustainable economic growth, but they're underpinned by producing a healthier and more productive ocean," Andrews says. "In support of the UN's Sustainable Development Goals, we're working on immediate and long-term solutions that will put us on the path to contributing significantly to both climate and economic goals."

Harnessing Global Partnerships and Local Knowledge

For OSC, partnerships are key to developing those solutions and contributing to achieving climate goals. "The collaborative approach helps us encompass something that is bigger than just one specific problem," Andrews



It will take a collaborative, global approach to achieve our climate goals, and working with innovators and startups is key to reaching Ambition 2035 in Canada and growing the Blue Economy while the ocean community around the world works to reach its climate targets."

Jennifer LaPlante, Chief Growth and Investment Officer, Canada's Ocean Super Cluster

says. "Bringing the broader ocean network together has allowed us to find some great natural partnerships that accelerate the work we're doing."

Jennifer LaPlante, Chief Growth and Investment Officer at OSC, shares that one of the greatest strengths of the organization is its work with partners and associations such as the Launch, COVE, the PIER, Novarium, COAST and others to advocate and support new innovation and opportunities by bringing the message of climate goals to various companies. "As an example, working with organizations such as Marine Renewables Canada, which is focused on aligning industry, academia, and government to provide marine renewable energy solutions, gives us an opportunity to share ideas and

opportunities beyond our own diverse membership base," she says. "We can facilitate exposure of ocean opportunities to our members who have products and services that align well to support the overall marine energy supply chain, even if their product wasn't necessarily developed for marine energy."

The diverse perspectives and experiences of Indigenous peoples are another key partnership. "We can't talk about Climatetech and the ocean without also talking about the significant role of Indigenous experiences and knowledge systems," Andrews says. "It's not just about Indigenous participation. It's about Indigenous partnership, their connection to the ocean, and bringing their world views to the table in the projects we're supporting. Applying

an Indigenous lens is a crucial component in finding a pathway to climate solutions."

OSC is also connected with organizations around the world, facilitating opportunities and matchmaking activities to advance ocean innovation. Recently, OSC signed an MOU with an organization in the UK to coinvest in ocean projects on a broad scope. "Our global ocean brand is a connected community and a robust ecosystem that is committed to achieving our ocean and climate ambitions," Andrews says. "If we're going to do something transformational, we can't keep doing things the same way they've always been done. We need these partnerships to accelerate our growth."





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The Importance of Startups

That growth relies on a unique combination from the startup ecosystem: innovation that early-stage startups can deliver and the knowledge and funding from seasoned organizations. "We need the nimbleness of startups because they're the ones bringing solutions to the table," Andrews says. "Mature companies bring investments and knowledge of challenges. That collaboration provides the kinds of partnerships that are required to come together to achieve what we believe is possible in terms of the climate and the Blue Economy."

OSC is currently working on several projects with startups that will push ocean innovation forward toward the Ambition 2035 goal. LaPlante shares that some of the projects they're most excited about are from Ocean Startup Project, an organization that kick starts and nurtures new ocean startups in Canada from supporting ideation through commercialization and encourages existing startups to pursue ocean applications for their technologies.

"Ocean Startup Project (OSP) is now in its third phase and has created more than 90 startups in the ocean space in Canada," LaPlante says. "The entire OSP portfolio creates an evolution of programming that starts with supporting researchers to take something they've developed in a lab and explore commercialization. As these ventures progress, other OSP programs provide mentorship, guidance and access to capital to explore a seed round and beyond. The Ocean Startup Project helps educate young and new founders that have talent

and ideas, introduce the ocean to communities that may not have known there's a potential for their startup in this ecosystem, and support funding and investment so that startups can have the resources, skills, time, and financial capacity available to innovate."

As graduates of OSP programs, OSC's latest Al program has invested in **Coastal Carbon** to develop high quality inexpensive biomass monitoring that has the potential to positively impact seaweed farmers and **On Deck** Fisheries to develop electronic AI monitoring to manage fishing and sea conservation around the world.

"All of these projects are transformational and a great example of how AI, ocean data, early startup support, and funding can drive innovation and future positive environmental mitigation," LaPlante says. "It will take a collaborative, global approach to achieve our climate goals, and working with innovators and startups is key to reaching Ambition 2035 in Canada and growing the Blue Economy while the ocean community around the world works to reach its climate targets."





This contributed article was prepared in collaboration with La Zone Bleue. The opinions expressed in this article do not necessarily reflect the views or position of Startup Genome.

Creating Collaboration Among Marine Ports to Foster Global Blue Economy Innovation

"The ambition of our industry will be critical in advancing the Blue Economy agenda globally," says Martin Beaulieu, CEO of La Zone Bleue, a Quebec-based ocean cluster. With seven different Blue Economy research centers and close to one thousand scientists working on marine issues, La Zone Bleue is a Blue Economy-focused innovation campus concentrated along the St. Lawrence River. Innovation hub Novarium is part of the La Zone Bleue project. Based in Rimouski, Quebec, Novarium provides a marine accelerator and has satellite launch pads in Montreal, Quebec City, Toronto, Los Angeles, Lisbon, and Barcelona. Its latest projects — two open innovation port challenges called CANAL and Ocean Edge — aim to support larger decarbonization and sustainability efforts globally through collaborative cooperation.

"Ports are a playground for startups and innovation companies to come in and test technologies related to the Blue Economy safely. They also play the role of honest brokers in the supply chain ecosystem, and partnering with port authorities means you have access to the entire local innovation ecosystem," explains Daniel

Olivier, Senior Strategic Advisor, Commercialization at Novarium.

Novarium seeks to partner with ports both in Canada and globally to share learnings and pool resources. "With these projects, we will provide a platform to share global learnings and the sourcing of mature, commercialization-ready startups and technology to support the Blue Economy ecosystem worldwide," Olivier says.

CANAL Global Innovation Challenge

In CANAL, Novarium's goal is to form a strategic partnership with one or more startups that will develop technology to solve common challenges related to the protection, management, and monitoring of water across the ports of Montréal, Québec, and Trois-Rivières to create a cleaner and more sustainable future. Now in the startup selection phase of the project, Novarium seeks to secure agreements with service providers

who can create innovative technology to be deployed within the stormwater caption systems across each of the three geographically and physically different ports.

"Our definition of innovation is broader than simply tech," Olivier says. "It includes environmental sustainability that goes beyond digital. For the three varied ports CANAL is working with, that means organizational and engineering innovation that supports three ports that are already advanced in terms of Blue Economy initiatives."

As Novarium goes through the selection process, the strength of the startup pool is clear. "With the CANAL project, we have seen that the startups we are considering have been highly successful. In the Blue Economy, the demand for startups is outstripping the supply, which provides startups in this space a bright future, not only from a strategic standpoint, but also because there is a gap in the market. There is huge potential, and startups are realizing the potential of the Blue Economy."

Ultimately, the selected startup will be offered a customer-supplier agreement, pilot project, strategic

partnership, and co-development project, among other possible outcomes. While working with the port authorities to adapt the proposed solution to meet specific industrial needs, the selected partner is also eligible to benefit from a curated acceleration program provided by Novarium's marine-focused accelerator FLOTS and access to up to CAD\$30,000 in non-dilutive funding geared towards commercialization.

Ocean Edge: A Global, Collaborative Platform

Continuing its efforts to support ports in reaching their climate and sustainability goals, Novarium launches Ocean Edge in late 2023. A global, collaborative, open-innovation platform, Ocean Edge is focused on sourcing and deploying smart, decarbonized, and regenerative advanced technology solutions in the Blue Economy globally.

The brainchild of Novarium and Lisbon-based Climate Edge, the platform will enable ports and maritime

04

Startup Genome

This contributed article was prepared in collaboration with La Zone Bleue. The opinions expressed in this article do not necessarily reflect the views or position of Startup Genome.



The ambition of our industry will be critical in advancing the Blue Economy agenda globally."

Martin Beaulieu, CEO, La Zone Bleue

corporations to develop strategic collaborations, pilots, and investments with emerging ocean tech startups, supporting them with access to experts and peer innovation teams.

Ocean Edge has three main focus areas: decarbonization, digitization, and regeneration. The three-pronged outcome will be reached through specific strategic points for each goal. For decarbonization, Ocean Edge will prioritize decarbonized shipping through carbon reduction, cleaner energy sources, and enhanced vessel design. It will invest in marine renewable energy such as tidal, wave, and offshore wind technologies and focus on blue carbon, including marine ecosystems, mangroves, seagrasses, and carbon sequestration, with projects such as aquaculture, organic reefs, and coral restoration on the radar.

In its digitization focus area, Ocean Edge aims to streamline seafood traceability, monitoring, and managing of marine resources using IoT, AI, and blockchain; invest in autonomous vehicles for deep sea exploration and maintaining offshore installations; harness advanced GIS tools for marine spatial planning; and transform marine transportation through the use of electronic chart systems and autonomous ships.

"The ports are already doing very well with digitization, but there is still room for progress," Olivier says. "We will go beyond the smart aspect of ports to integrate the concepts of sustainability and circularity, whether it's optimizing cargo flows, increasing cargo fluidity, electronic navigation, autonomous vessels, or increasing efficiency through GIS tools."

Ocean Edge also seeks to enhance regeneration using marine biotechnology to develop marine compounds for health benefits; enhance sustainable fish farming and precision aquaculture using IoT, sensors, and drones; develop cultured cells for cell-based seafood; address

freshwater scarcity through advanced desalination technologies; and target new approaches for marine waste conversion into usable products.

Olivier says that as Novarium works toward its sustainability goals, the organization is prioritizing an approach that encompasses the economy, the environment, and a social aspect. "Economically, projects have to be commercially viable of course, and that's where the startups have a chance to demonstrate their solutions. Innovation must bring economic benefits to the ports," he explains. "Environmentally, ports are looking to accelerate sustainability initiatives to leverage innovation and resources. The final key factor, the social element, means ports reconnecting with their local communities to deepen the bond and improve the port-city interface. We would like the public to see that ports are dedicating more and more capital expenditures and resources to genuinely make an effort to contribute to the betterment of communities."

Global Partnership for Shared Success

Though it is still in the early stages, stakeholders around the world are showing interest in Ocean Edge as discussions with world-class ports with innovation capabilities of various levels are ongoing. "We're taking the initiative of CANAL and expanding it to a global level," Hendrik Tiesinga, CEO of Climate Edge and Senior Advisor for Novarium, says. "We're talking to

ports around the world with the goal of selecting a curated group of like-minded corporate innovators to jointly source startups that will eventually deploy their technology to the ports."

Olivier explains that Novarium is creating an atmosphere of cooperation in which ports can share knowledge without having to worry about giving away innovative solutions to competitors. "We want ports to cooperate by sharing international knowledge to de-risk technology and accelerate the pace of innovation so they can collectively compete better," he explains. As part of that cooperation, Tiesinga says that ports that may have individually struggled to build relationships with leading startups and experts around the world now have the benefit of sharing resources. "With Ocean Edge, the whole is more than the sum of the parts when the parts work together," he says.

"Ultimately, both projects aim to create a thriving and sustainable port and marine economy where there's more jobs, more economic activity in the ocean, and people are gaining livelihood that doesn't harm the environment," Tiesinga summarizes. "We have all the ingredients for this outcome in place," Olivier adds, "and as we watch these projects progress, we look forward to seeing the positive impact on the Blue Economy and clean ocean climate goals."



This contributed article was prepared in collaboration with Mississippi Development Authority. The opinions expressed in this article do not necessarily reflect the views or position of Startup Genome.

Mississippi Leads Gulf of Mexico Blue Economy Innovation

The Organization for Economic Cooperation and Development projects that by 2030 the global Blue Economy will generate \$3 trillion in revenue, and Mississippi is poised to lead growth for the Gulf of Mexico region. With the third highest concentration of Blue Economy jobs in the nation, 74,400 workers and access to a highly technical workforce, and 4,200 Blue Economy companies, Mississippi holds the history, geography, and maritime resources needed to lead the Gulf Coast's development of Blue Economy innovation.

At the center of that innovation is the Mississippi Development Authority (MDA), an economic and community development agency that helps small-and medium-sized enterprises become competitive in national and global economies through international trade and investment programs, business development assistance, and access to talent.

Mississippi's Blue Economy Cluster spans 120 miles along the Gulf Coast and offers connections to technical talent, academia, private partnerships, government agencies, and a booming Blue Economy community. The Blue Economy Innovation District provides unique access to collaboration, mentoring, testing, R&D, program management, light manufacturing, and physical infrastructure.

USM Programs Driving Blue Economy Development

The University of Southern Mississippi (USM) is a leading partner in the Mississippi Blue Economy, offering innovators the opportunity to work with research scientists, local partners, and federal agencies. Its Gulf Blue Initiative focuses on new discoveries and practices to position the Gulf Coast as a global leader in ocean-and maritime-related technologies, and the USM Thad Cochran Marine Aquaculture Research Center provides access to critical infrastructure and experts to promote sustainable marine aquaculture.

Additional USM Blue Economy programs include the **Gulf Blue Navigator**, the Marine Research Center, the

Roger F. Wicker Center for Ocean Enterprise, and the Gilbert R. Mason Vessel.

"The Roger F. Wicker Center for Ocean Enterprise is a classic example of a public-private partnership in which the building is designed and implemented around fostering innovation," says Brian Cuevas, Director of the Office of Innovation Management at USM. "It's a triple helix where academia, industry, and government are all working within the same building."

The center is a global hub for advancing uncrewed maritime systems, ocean data science, maritime cyber research, and Blue Economy workforce training.

The Gilbert R. Mason Vessel, capable of taking a crew of 13 and up to 16 scientists to sea for three weeks and traveling up to 5,400 nautical miles, will carry onboard laboratories and sensors for mapping the seafloor. The vessel is named in honor of activist Gilbert R. Mason Sr., a lifelong champion of the ocean, advocate for equal access to beaches in coastal Mississippi, and pioneer of nonviolent civil disobedience in the Deep South.

The ship is one of only three dedicated ocean research vessels in the U.S. to be named after people of color and carries the motto "aequa mari," Latin for "equal access to the sea."

"The arrival of the Gilbert R. Mason, Regional Class Research Vessel will provide the most state-of-the-art platform for ocean research in the nation," says Leila J. Hamdan, Associate Vice President of Research, Coastal Operations and Acting Director and Professor, School of Ocean Science and Engineering at USM. "This is an incredible opportunity and asset for Mississippi's efforts to build a sustainable and equitable Blue Economy."

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Gulf Blue Navigator Accelerator Program Builds Startup Success

The Gulf Blue Navigator aims to be globally recognized as a transformational driver of economic growth through innovation in the Gulf of Mexico region's Blue Economy.

Launched in late 2022, the accelerator program is an open innovation ecosystem that brings together entrepreneurs, investors, industry leaders, and stakeholders to support startups in the Blue Economy. It aims to explore new markets and industries within the Gulf of Mexico while providing startups with expertise, resources, industry connections, mentorship, access to infrastructure, and introductions to regional corporations and U.S. federal government agencies.

From a pool of 48 companies applying from 12 countries around the world, Gulf Blue Navigator selected six startups targeting improving ocean health for its pilot program.

Blue Ocean Gear develops intelligent tracking buoys for commercial fishing fleets, aquaculture farms, and ocean observers; Marauder Robotics is a remote work platform that collects critical ecosystem data in near real-time and automates underwater tasks done by divers to restore biodiversity; SeaTrac Systems develops multi-purpose solar-powered uncrewed surface vehicles to perform real-time data collection and communications for research, commercial, and defense applications; BeeX develops advanced underwater vehicles to help reduce the costs and risks of underwater work; Safety Net Technologies

develops solutions that enable sustainable practices in the fishing industry; and **SEATREC** develops energy harvesting systems that generate electricity from naturally occurring temperature differences in ocean waters to power deep water oceanographic research equipment.

The six startups are expected to generate more than \$17 million in investment and 350 jobs over the next three to five years while collaborating to advance innovations in ocean-related and sustainable technologies. "We have already seen important connections develop between our selected startups and local organizations and government," says Natalie Guess, Innovation and Entrepreneurship Program Manager at USM. "One of our biggest assets is relationship building, and because of the culture of Mississippi and the South, we're always looking to help each other out by putting people together to do bigger, better things."

The Gulf Blue Navigator plans to expand this focus as it moves into its 2024 cohort. "We are going to continue building relationships between startups and industry in Mississippi to help them do more with their technology and innovations using the assets we have here on the Mississippi Gulf Coast," Guess says.

Bringing International Attention to Mississippi's Blue Economy Ecosystem

Mississippi Power's Blue Economy Fam Tour program offers industry leaders, startups, and other visitors the

The Gulf Blue Navigator aims to be globally recognized as a transformational driver of economic growth through innovation in the Gulf of Mexico region's Blue Economy.

opportunity to visit the state and build relationships in the Blue Economy.

Melissa Morel, Economic Development Representative at Mississippi Power Company, says, "Our economic development staff works with local economic developers, universities, and key industry partners to showcase what Mississippi has to offer businesses in terms of partnerships, low cost of doing business, incentives, and quality of life."

Its OCEANS Conference invited startups, nonprofits, universities, community colleges, and trade schools to exhibit their marine-related capabilities. Guess says, "With an attendance of 2,000 and exhibits from more than 100 marine-related companies, plus state and

federal entities, OCEANS provided unique opportunities for organizations to showcase their research and educational programs in skilled and professional trades, coastal engineering, marine sciences, ocean observing, and marine technologies."

Following the conference, a group of 10 female students from Nova Scotia, Canada joined Blue Economy startups and Canadian business leaders at the Gulf and Ship Island Building, a collaborative workspace for Blue Economy innovation, to highlight the Gulf Blue Initiative and its efforts to create a sustainable lifecycle of innovation in the sub-sector.

"Canada saw a large percentage of their Blue Economy workforce retire during COVID-19 and is making a

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One of our biggest assets is relationship building, and because of the culture of Mississippi and the South, we're always looking to help each other out by putting people together to do bigger, better things."

Natalie Guess, Innovation and Entrepreneurship Program Manager, University Southern Mississippi

huge effort to encourage young folks — especially women — to join the Blue Economy," Guess says. "We were able to connect these students with experts to discuss many different facets, including uncrewed systems, data, and aquaculture, to get them interested in ocean sciences."

USM and Gulf Blue also hosted a group of 26 fellows from The Mandela Washington Fellowship for Young African Leaders, the flagship program of the U.S. Government's Young African Leaders Initiative that brings representatives from every country in sub-Saharan Africa to the U.S. for academic and leadership training each year.

Delegates from around the world have visited the

Mississippi Gulf Coast to learn more about innovative technologies being used, opportunities for collaboration, and investment. Guess says, "We had a wonderful visit with the Consulate General of Israel discussing how the USM School of Coastal Resilience and USM's Office of Innovation Management and Gulf Blue can partner with Israel. The Japanese delegation was very interested in ocean-friendly plastics and toured the Marine Research Center and the Gulf and Ship Island Building to discuss our assets and capabilities with the goal of startups pitching to the delegation for investment."

"We also brought industry experts and stakeholders together at the Transatlantic Conference to discuss current trends and opportunities in the rapidly growing shipbuilding industry, with keynote presentations from both German and American speakers highlighting the characteristics of the maritime industry as well as the potential for collaboration."

With these initiatives and a dedication to growing the Blue Economy, the Mississippi Gulf Coast positions itself as a leader in innovation and development. "We're excited about the incredible initiatives here," Guess says. "Come see what Mississippi has to offer."







5 Ecosystem Pages

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United Arab Emirates

Abu Dhabi

MEMBERS:

Hub71

"Abu Dhabi's thriving falcon economy is testament to the leadership's unwavering commitment to enhance a growing, prosperous, and diversified economy, anchored by technological innovations."



H.E. Ahmed Jasim Al Zaabi

Chairman of the Abu Dhabi Department of Economic Development (ADDED)







MENA Ecosystem in Performance

MENA Ecosystem in Funding

MENA Ecosystem in Talent & Experience







Highlights

Abu Dhabi is shifting gears from an oil and gas powerhouse to become a world-leading technology and innovation hub. The Abu Dhabi government is investing AED 10 billion (\$2.7 billion) to increase non-oil exports by 143% by 2031. The UAE Government aims to develop more than 8,000 SMEs and startups by 2030 with the goal of creating 20 startups valued at more than \$1 billion by 2031 as part of its Entrepreneurial Nation initiative.

Hub71, Abu Dhabi's global tech ecosystem, has grown its startup community to more than 200 companies that have raised more than \$1 billion collectively. Hub71+ Digital Assets is a Web3-focused ecosystem with partners who have committed \$2 billion of capital globally to fund startups in the Web3 and Blockchain space. In 2022, 51 startups were selected to join Hub71 in Abu Dhabi. To facilitate cross-border growth, Hub71 launched a partnership with GetFundedAfrica, a marketplace that matches startups, investors, corporations, and governments.

In May 2022, the Abu Dhabi Competitiveness Office launched Abu Dhabi Innovates to enhance innovation and boost entrepreneurship. Further Ventures launched a \$200 million fund anchored by ADQ, an Abu Dhabi-based investment and holding company that will focus on digital assets, Fintech, and supply-chain startups. The Abu Dhabi Investment Authority launched ADIA Lab, an innovation center, in December 2022.





Ecosystem by the Numbers

ECOSYSTEM VALUE (H2 2020 - 2022)

\$3.9 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$199 m



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

134%

GLOBAL AVG. 47%



NUMBER OF UNICORNS (H2 2020 - 2022)



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$670 k



GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$5 m



SOFT. ENGINEER SALARY (2022)

\$33 k



GLOBAL AVG. \$46 k

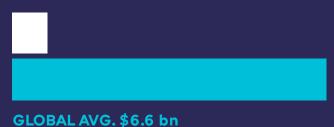
EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$735 m



TIME TO EXIT (2018 - 2022)

8.5 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$1.9 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)





Sub-Sector Strengths



Fintech

As of February 2023, there were 79 Fintech startups in Abu Dhabi. The same month, Emirates Islamic launched a global Fintech accelerator in collaboration with Plug and Play Abu Dhabi. In 2022 Abu Dhabi Islamic Bank launched its first API developer portal and First Israeli joined with ADIO's Innovation Programme to establish a Fintech R&D center in Abu Dhabi. In February 2023, NymCard and Fintech Payment Solutions announced a partnership to bring end-to-end payment solutions in the region.



Agtech & New Food

In February 2023, AeroFarms AgX opened the world's largest R&D indoor vertical farm. The company also signed an agreement with Agtech investor Silal to focus on R&D to commercialize new crops. Accelerator Dana Global promotes female-led Agtech startups tackling food insecurity in the UAE and MENA. In December 2022, it announced a partnership with Silal to attract Agtech innovation to Abu Dhabi's ecosystem. Masdar City and Dana are also building a beta site for relevant pre-seed and Series A startups.



Cleantech

Masdar City is a special economic zone with a focus on Cleantech and renewable energy. Abu Dhabi's fastest growing free zone, it provides easy registration and licensing, 100% foreign ownership, full repatriation of capital and profits, and exemption from taxes. Hub71 partnered with AIQ, the Abu Dhabi National Oil Company's Al joint venture with Group 42, to explore AI solutions to support a sustainable energy future. Hub71 also signed a partnership with Siemens Energy to support Cleantech startups.

Reasons to Move Your Startup to Abu Dhabi

Golden Visa

The UAE Golden Visa is a long-term residency visa that enables foreign nationals to live, work, and study in Abu Dhabi without the need of a national sponsor and with 100% ownership of their business. Each Golden Visa is valid for a renewable period of five or 10 years, depending on the visa category.

Government Support

Abu Dhabi has flexible health insurance for foreign entrepreneurs and investors who work in the private sector and their families, provided that their monthly income exceeds AED 5,000 (\$1,400). Hub71 provides 100% subsidized incentives for seed-stage startups that have raised between \$100,000 and \$500,000 and 50% subsidized for startups that have raised \$500,000 or more.

Strategic Location

Abu Dhabi has transformed from a desert oasis into a global business hub. Today, the UAE's capital is a gateway to markets across the Middle East, Africa, and South Asia with world-class infrastructure and connectivity. A third of the world is just a four-hour flight away and 80% of the world can be reached by an eight-hour flight.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Hub71

Hub71 is Abu Dhabi's global tech ecosystem that enables founders to build globally enduring homegrown tech companies in any sector by providing access to global markets, a capital ecosystem, a global network of partners, and a vibrant community filled with highly skilled talent, governed by forward-thinking regulation.

KEY ECOSYSTEM PLAYERS

Anghami

Abu Dhabi Global Market (ADGM)

Mubadala Investment Company

Abu Dhabi Global Market is an award-winning international financial centre strategically located in the capital city of the United Arab Emirates.

A sovereign investor managing a global portfolio, aimed at generating sustainable financial returns for the Government of Abu Dhabi.

A leading music streaming technology platform in the Middle East and North Africa, Anghami is the go-to destination for Arabic and international music, podcasts, and entertainment.

The Abu Dhabi Investment Office (ADIO)

The government entity responsible for attracting and facilitating investment in the Emirate of Abu Dhabi.

startAD

startAD is an Abu Dhabi-based accelerator, steering local and global startups to scale in the UAE and beyond.

ADQ

Established in 2018, ADQ is an Abu Dhabi-based investment and holding company with a broad portfolio of major enterprises.





United States







While Austin continues to grow in the amount of investment and diversity of startups, what's impressive is that this booming innovation hub hasn't lost its small-town sensibilities. The community is invested in companies succeeding and prioritizes collaboration. Entrepreneurs have access to an exceptional amount of resources, and that support has a direct impact on the long-term viability of ventures and the sustainability of the ecosystem.



Alicia Dean

Founder, ATX+ Entrepreneurship Program, City of Austin







Global Ecosystem Global Ecosystem in Funding

Global Ecosystem in **Talent & Experience**







Highlights

The Austin area tech industry currently employs more than 270,000 people. Like many ecosystems around the world, it saw a record fundraising year in 2021, raising \$4.9 billion, and then a decline in 2022 — to a still-impressive \$3.9 billion. VC firm Next Coast Ventures raised \$310 million in March 2022. The same month, S3 Ventures raised \$250 million to target Texas-based startups and new players Tacora announced the first close - of \$250 million - of its debut fund, which is targeting \$300 million to provide asset-based lending to venturebacked companies.

For the third consecutive year, Austin topped the CompTIA Tech Town Index in large part due to its comparative affordability. The 2022 Best Cities and States for Startups report from Crowdfund Capital Advisors also ranked Austin as the best U.S. city for startups. In 2022, at least eight tech companies opened new offices in Austin and another 13 tech companies moved their headquarters there. Supporting the ecosystem, the Austin Chamber of Commerce launched a web-based tool to provide data and resources.

SXSW is the ecosystem's globally recognized annual flagship event, bringing together internationally known artists, musicians, and technology in a collaborative multi-disciplinary festival. Austin Startup Week takes place each November, and Venture Capital Summit held an Austin event in June 2023. Local funding news includes ecommerce platform developer Cart.com raising \$240 million in equity and debt funding in March 2022. Jasper Al's \$15 million Series A in November 2022 put the company's valuation at \$1.5 billion.





Ecosystem by the Numbers

ECOSYSTEM VALUE (H2 2020 - 2022)

\$70 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$2.9 bn



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

34%

GLOBAL AVG. 47%



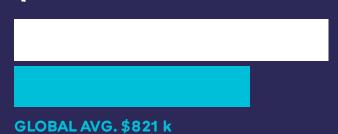
NUMBER OF UNICORNS (H2 2020 - 2022)



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$ 1.1 m



MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$8.9 m



SOFT. ENGINEER SALARY (2022)

\$87 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$17 bn



TIME TO EXIT (2018 - 2022)

8.9 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$5.9 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

270



GLOBAL AVG. 91 ◆



XX Startup Genome



Sub-Sector Strengths



Cleantech

The Electric Reliability Council of Texas is headquartered in Austin, offering Cleantech companies access to one of the largest independent electric grids in the U.S. The CleanTech Fellowship offers Texas MBA students the opportunity to deepen their knowledge. The annual UT Energy Week showcases the University of Texas at Austin's energy research, and RE+ Texas gathers solarenergy professionals. Clean-energy tech startup Energy X secured \$450 million in development capital in October 2022 and a further \$15 million in December.



Fintech

There are approximately 250 Fintech companies in the greater Austin area. Financing platform Founderpath secured \$145 million in August 2022. Online real estate investing platform CrowdStreet raised \$43 million in October, and Billd, a provider of financial solutions for commercial subcontractors, closed a \$100 million debt facility in November. StellarFi, which helps underserved communities improve their credit score, raised a \$15.5 million Series A round in March 2023.



Life Sciences

Employment in Life Sciences in the Austin area has grown by nearly 74% over the past five years and is expected to continue to rise at a rate of 6.5% per year through 2025, according to Newmark. Life Sciences made up 12% of Series B+ investment and 9.8% of all VC funding for the period 2018–2022. Triumvira Immunologics, a developer of immunotherapy-based drugs, raised a \$100 million Series A in March 2022. Alleviant Medical raised a \$75 million Series A in January 2023.

Reasons to Move Your Startup to Austin

Financial Incentives

Texas has no income taxes, and local government and economic development organizations create incentive packages to attract qualified companies. Organizations that move to Austin and create 75+ jobs paying a living wage are eligible for relocation incentives including a reimbursement of up to 3% of wages and a property tax reimbursement of up to 50%. Companies opening or expanding in Texas may be eligible for performancebased grants.

Access to Capital

With more than 100 VC firms based in Austin, the city offers founders a robust fundraising environment. The Opportunity Austin initiative is dedicated to attracting investors to the ecosystem and connecting them with local business owners who are looking to expand.

Educated Talent

The University of Texas at Austin is one of the 50 best universities in the world as ranked by Times Higher Education. Half of Austin area residents have at least a bachelor's degree, compared to a national average of 35%. Community and state technical colleges in Texas have received \$15 million for the creation and expansion of vocational programs from the Texas Higher Education Coordinating Board.



India

Bengaluru-Karnataka







MEMBERS:

Karnataka Innovation & Technology Society (KITS) / Karnataka Digital Economy Mission (KDEM)

"Karnataka has a vision to be a leading global destination for startups and cutting-edge technology solutions. The government is committed to further strengthening the incubation and acceleration infrastructure across the state to support the development of innovative solutions."



Dr. E.V. Ramana Reddy

IAS, Additional Chief Secretary, Dept. of Electronics, IT, BT and S&T, Govt. of Karnataka

in Bang for Buck

Global Ecosystem Global Ecosystem Global Ecosystem

Top 20





Highlights

Bengaluru, Karnataka's capital, is a magnet for entrepreneurs, investors, and innovators. The city has been described as the world's fastest-growing tech hub and is home to the R&D centers of some of the world's most famous tech companies, including Amazon, Microsoft, Facebook, and Google. Unicorns born in Karnataka include Byju's, Zerodha, Cred, PhonePe, Flipkart and Big Basket. The state government has ambitious plans to double the number of startups through various initiatives. Bengaluru's population is expected to grow by more than 6% in 2023, projected to be the fastest growing city in the Asia-Pacific region.

Data from Inc42 shows Bengaluru-based startups raised \$11 billion in 2022. Research from Dealroom showed that Bengaluru was the leading Asian city and fifth ranked hub in the world for tech VC investment in 2022. In 2022, Karnataka attracted \$21.5 billion in foreign direct investment, more than half of the total amount for the entire country.

In November 2022, Google signed a MoU with the Karnataka government to provide training and mentorship programs to startups, job seekers, and children. It will work with Karnataka Innovation and Technology Society (KITS) to train women-led startups. Google will also provide scholarships for its Career Certification program. In February 2023, tech company Aptiv announced the opening of a new \$14 million technical center in Bengaluru. Also in February, manufacturing firm Ducab Group set up an office here. Logiy Spaces has partnered with AA Holdings to develop a 1 million square foot industrial and logistics park in Karnataka. Samsung R&D Institute Bengaluru and Samsung R&D Institute Noida launched a startup incubation program in February 2023.





Ecosystem by the Numbers

ECOSYSTEM VALUE (H2 2020 - 2022)

\$164 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$4 bn



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

59%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

34



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

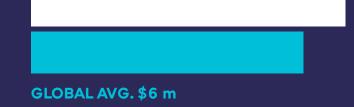
\$750 k



GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$6.9 m



SOFT. ENGINEER SALARY (2022)

\$12 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$35 bn



TIME TO EXIT (2018 - 2022)

6.8 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$27 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

242



GLOBAL AVG. 91 🔷







Sub-Sector Strengths



Fintech

The state is on track to produce 50 Fintech unicorns by 2030, according to the KDEM's FinTech Task Force. KDEM is advocating for the creation of a dedicated Fintech policy for the state, as well as supporting the creation of the Karnataka Centre of FinTech Excellence and the Karnataka FinTech StartUp Innovation Corpus. Razorpay acquired offline POS company Ezetap for \$200 million in August 2022. Personal-loan platform KreditBee raised a \$120 million Series D in January 2023.



Life Sciences

Karnataka is home to approximately 60% of India's Biotech companies, employing about 54% of the country's biotech workforce. The Centre for Cellular and Molecular Platforms (C-CAMP) has supported more than 350 startups, many in Life Sciences Bangalore Bioinnovation Centre further supports the ecosystem and academia. Digital healthcare platform Mfine was acquired by LifeCell International for \$80 million in July 2022. Diagnostics service Orange Health Labs raised a \$23.3 million Series B in June 2022.



Cleantech

Electric vehicle (EV) startups in India raised \$1.7 billion in 2022, a jump of 117% from 2021. In June 2022, the Karnataka government launched EV-awareness portal EV Jagruthi. BorgWarner opened a technical center in December 2022 and set up the India Electric Propulsion Engineering Centre in January 2023 to develop EV-specific products. EV-focused Fintech startup Turno raised a \$18.8 million Series A in February 2023. Electric scooter company Ather Energy raised a \$49 million Series E in October 2022.

Reasons to Move Your Startup to Bengaluru-Karnataka

Established Tech Scene

Bengaluru-Karnataka is home to a vast number of IT companies, tech talent, and startup support initiatives.. Karnataka hosts 44% of India's R&D centers, including Google's first AI-focused center and Intel's largest 5G technology design center. In February 2023, the Karnataka government announced plans for a new startup park near Bengaluru.

Skilled Talent

As of February 2022, Bengaluru was home to 1.5 million workers — a quarter of India's digital talent and far more than any other Indian city. Bengaluruis also home to a number of internationally recognised higher education and research institutes, including the Indian Institute of Science and the Indian Institute of Management Bengaluru.

Government Support

The Karnataka Startup Policy 2022–27 supports funding for startups, gives special emphasis to women-led startups and envisions establishing 50 innovation centers, technology business incubators, a Centre of Excellence for Rural Innovation and Assistive Technology, and a Resource Centre for Circular Economy startups. The Idea2PoC Grant-In-Aid Scheme offers seed funding to early-stage startups and has already supported 721+ startups so far.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Karnataka Innovation & Technology Society (KITS)

KITS is the Government of Karnataka's Nodal Agency to promote the state's startup ecosystem and is responsible for facilitating implementation of various schemes, programs, interventions of the policy and any new initiatives required for the growth of the startup ecosystem in the State. KITS is working closely with academia, Karnataka Digital Economy Mission (KDEM), and industry to accelerate growth and investments in the field of electronics, IT, BT, and S&T sectors in Karnataka.

MEMBER

Karnataka Digital Economy Mission (KDEM)

KDEM is the implementing agency responsible for carrying out the Government of Karnataka's initiatives.



Germany







Berlin is a living contradiction. It is a city of history, art, and techno. Yet it creates world-class tech startups, attracts leading venture capital, and maintains an industry mix that is unparalleled. Everything is possible in Berlin.



Darius Moeini

Founder & CEO, BIA Berlin Innovation Agency







in Funding

in Performance

Global Ecosystem Global Ecosystem in Talent & Experience







Highlights

Berlin is Germany's startup capital, with twice as many startups being founded in the ecosystem in 2022 than in any other city in the country. That year, the city's startups raised 390 financing rounds, 39% of all rounds in the country. Nevertheless, Germany was not untouched by the general economic downturn and ongoing global events — the number of startups founded in Germany dropped 18% compared to 2021, according to a report by the German Startups Association and Startup Detector.

Initiatives to strengthen the nation's position include the German government's new startup strategy, which was released in July 2022 and features 10 points to strengthen the country's position as a startup hub. Goals include improving the availability of venture capital, tackling a shortage of skilled workers, and removing bureaucratic hurdles. The policy roadmap will unlock €30 billion in funding by 2030. German Chancellor Olaf Scholz inaugurated Learning Factory Industry 4.0 at ABB in Berlin in September 2022. The new apprenticeship program aims to transform training opportunities for technology companies. 205 trainees are set to begin the program in Berlin in the 2023/2024 academic year.

Blue Yard Capital raised its third fund, totalling \$185 million (€172 million), in June 2022 to invest in seed-stage companies. Digital logistics and freightforwarding company Forto raised a \$250 million Series D in March 2022. The company has raised \$593.4 million over six rounds. Annual tech conference hub.berlin brings together local and international innovators each summer.





Ecosystem by the Numbers

ECOSYSTEM VALUE (H2 2020 - 2022)

\$100 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$5.8 bn



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

47%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

(C)

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$1.5 m

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$11 m



SOFT. ENGINEER SALARY (2022)

\$56 k



GLOBAL AVG. \$46 k

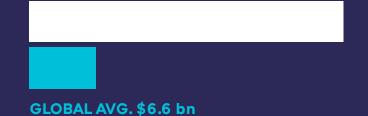
EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$31 bn



TIME TO EXIT (2018 - 2022)

7.3 years



EXIT AMOUNT (2018 - 2022)

\$18 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

337



GLOBAL AVG. 91 🔷





Sub-Sector Strengths



Fintech

Berlin's Fintech scene attracts top international talent thanks to its high level of English language adoption and startup-friendly laws. Berlin startups received 94% of total funding invested in the Fintech/Insurtech subsector in Germany in 2022, a total of €1.3 billion. The sub-sector is Germany's biggest recipient of VC funding. InsurTech platform Wefox raised a \$400 million Series D in July 2022, putting the company's pre-money valuation at \$4.1 billion.



Al, Big Data & Analytics

In July 2022, it was announced that the Berlin Al Competence Centre BIFOLD will receive €22 million annually from the federal government and the State of Berlin to establish itself as one of five National Al Competence Centers. The funding is also intended to further boost Brain City Berlin. In January 2023, the E.U. project TEF-Health committed €60 million to test and validate innovative AI and robotics solutions for the healthcare sector and accelerate paths to market.



Cleantech

In June 2022, Green Generation Fund announced it had raised €100 million to fuel Cleantech innovation. The next month, VC AENU (ex-Pirate Impact) announced the first close of its €100 million evergreen fund for Climatetech and impact startups. Berlin is home to the GreenTech Festival, which has been running since 2020. Photovoltaics leasing firm Enpal has raised €1.7 billion over 13 rounds, including a €215 million Series D in January 2023.

Reasons to Move Your Startup to Berlin

International Talent

Diversity, a high quality of life, and a creative atmosphere attract highly trained, multilingual talent to Berlin from all over the world. About 46,000 foreign students matriculated from the ecosystem's universities in 2021/22. Together they accounted for 23% of all students in Berlin. 28% of employees at Berlin's startups are international.

Market Access

Located in the center of Europe and with a dense transport network, Berlin is connectied to much of the continent. Germany ranked among the countries with the highest purchasing power in Europe in 2022. Hundreds of thousands of businesses in Germany, including many world market leaders in their fields, serve as potential partners and customers for the country's startups.

Ease of Relocation

Berlin makes it simple for overseas talent to relocate to the city, with both Berlin Investment Bank and Berlin Partners offering funding and guidance to startups. Municipal services for registering a business and other processes are available in English. An international talent pool makes it easy for companies to find experts in all kinds of fields.





Spain

Biscay Startup Bay

MEMBERS:

Diputación Foral de Bizkaia

"Biscay Bay's B Accelerator Tower (BAT) is an open innovation and entrepreneurship center that acts as a lighthouse of the ecosystem and connects the ecosystem to the main innovation and entrepreneurship hubs in the world."



Eriz Sainz GurtubayDirector, BAT



European Ecosystem in



Highlights

Biscay Bay's transformation from a former industrial and shipbuilding powerhouse to a modern, innovative startup hub continues. At the turn of the 20th century, Biscay was an economic and financial benchmark region in Europe, with growth based on shipbuilding and steel mills and one of the busiest ports in Europe. It has proved capable of transforming itself from an industrially based territory to an international reference point for business and tourism without losing sight of its roots.

Biscay pursues entrepreneurship and innovation as the mainstays of economic and social change through the Biscay Startup Bay strategy, with its B Accelerator Tower (BAT) as the guiding light of an entrepreneurship and innovation ecosystem that has become an international benchmark. BAT opened in September 2022 with the aim of welcoming a community of startups, investors, and training and support organizations. More than an entrepreneurship center, the BAT community is connected to more than 140 international hubs, allowing global leaders to interact to create solutions that will allow them to grow and lead new challenges.

The ecosystem has close ties with entrepreneurial hubs including Austin, Tel Aviv, Helsinki, Berlin and Fukuoka, global leaders in innovation and concentration of startups. It is also connected to Latin America via a partnership with the South Summit and with local players in Chile, Mexico, Colombia, and Brazil. This collaboration connects leading corporations and innovation systems and startups, thus helping to further innovation. Such connections provide access to ground-breaking technologies and talent, and enhance the reputation and brand positioning of all parties, among other values.





Ecosystem by the Numbers

ECOSYSTEM VALUE (H2 2020 - 2022)

\$720 m

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$856 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

45%



NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$287 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$3.2 m

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$33 k

GLOBAL AVG. \$46 k

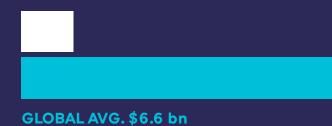
EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$1.1 bn



TIME TO EXIT (2018 - 2022)

10.7 years

GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$254 m

GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)





Sub-Sector Strengths



Cleantech

Biscay has earned a reputation as a knowledge hub and an industrial reference center in the field of energy. The ecosystem is committed to reinforcing its referential position and leadership in the energy transition, the diversification of energy sources, the promotion of renewable energy, Smart Grids, and the development of the Basque Hydrogen Corridor. The Energy Intelligence Center was designed to position Biscay as an international benchmark in the field of energy and energy transition.



Industry 4.0 and Future Technologies

The first edition of South Summit's Ecosystem Builders event, intended to connect key players in the energy transition, Industry 4.0, and mobility sectors, took place in Bilbao in November 2022. Biscay is committed to incorporating innovative technologies to address challenges and to transform the sector. An open innovation platform and startup acceleration program, BIND 4.0 is part of the Invest in Basque Country initiative, promoting, attracting, and investing in innovation and emerging technologies to enhance the entrepreneurial ecosystem and strengthen the digital transformation of industry.

Mobility

In terms of volume, Biscay is one of the leading producers of mobility in the E.U., with a strong network of skilled suppliers located within a 300 km radius. More than 45% of all Spain's automotive industry output comes from the Basque Country. The sector comprises 300 firms that collectively raise over €18 billion and provide over 40,000 jobs in Biscay. The new AIC-Automotive Intelligence Centre is adding value by encouraging the whole sector to cooperate in areas such as knowledge generation, training, technology, and industrial development.

Reasons to Move Your Startup to Biscay Startup Bay

Dedicated Support

Beaz provides several support initiatives: the i creation program, which supports the development and definition of new companies or new business units in existing companies; 2i, which support innovation projects, both technological and non-technological, and makes advanced investments; and 3i, which offers support for comprehensive innovation, investment and internationalization projects to improve the competitiveness of companies.

Tax Benefits

Thanks to its independent regulatory powers, Biscay has a number of tax measures designed to strengthen its economic ecosystem and channel it towards support for innovation, entrepreneurship, and alternative financing.

Talent Attraction

Biscay is committed to receiving professionals and digital nomads who wish to establish themselves in the region, and offers the conditions necessary to attract, establish ties with, and retain highly qualified people.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Diputación Foral de Bizkaia

The government of the Historical Territory of Bizkaia is the Provincial Council, one of the main institutions of the Basque Country. It is headed by the General Deputy and carries out a wide series of functions including tax collection, urban planning, roads and public works, environment cultural heritage, and social welfare.



Australia

Brisbane



(41-50) Emerging Ecosystems Ranking

MEMBERS:

Advance Queensland

"Boeing Aerospace Xelerated is committed to supporting earlystage founders, regardless of nationality. Partnering with the Advance Queensland team from the Queensland Government allowed us to do just that."



Jacqueline Davidson

Investment Principal, Global Accelerators and Innovation Programs, Boeing





Oceania Ecosystem

in Performance



Oceania Ecosystem in Affordable Talent

Oceania Ecosystem in Funding







Highlights

The Greater Brisbane region is the fastest growing tech jobs creator in Australia, with some 140,000 Queenslanders working in the sector. The inner city contains a digital industry super cluster that includes a large number of startups. Nineteen digital technology companies listed on the Australian Stock Exchange, with a combined valuation of AU\$13.29 billion (\$8.7 billion). Brisbane has been ranked in the top 10% for its innovation environment out of 500 cities worldwide. The city's three universities are all within the top 250 universities in the world, with the University of Queensland ranked 43, and Asian markets are easily accessible from a Brisbane base.

What makes Brisbane stand out from other Australian cities is the range of innovation and entrepreneurial activities. Defense technologies, Cleantech, unmanned aerial systems, Medtech, and Deep Tech are all well represented. This variety is reflected in the region's startup success stories, which include electric vehicle (EV) charger company Tritium, Edtech platform Go1, advanced machinery maintenance business GreaseBoss, video-editing software provider Clipchamp, needle-free vaccine maker Vaxxas, and Deep Tech-driven flood prediction company FloodMapp. The Queensland Government is an active partner in developing the innovation ecosystem, working closely with industry, other government sectors, and universities to build a strong community that will deliver jobs and business opportunities in the future economy.

Boasting 283 days of sunshine a year and proximity to some of the world's best beaches on the Gold and Sunshine coasts, Brisbane's sub-tropical lifestyle makes it an excellent place to live, work, and play.





Ecosystem by the Numbers

ECOSYSTEM VALUE (H2 2020 - 2022)

\$10.8 bn

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$448 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

65%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$895 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND

\$4 m

(H2 2020 - 2022)



SOFT. ENGINEER SALARY (2022)

\$55.1 k

GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$2.04 bn



TIME TO EXIT

9.6 years

GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$3.07 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)



GLOBAL AVG. 91

2018 2019 2020 2021 2022





Sub-Sector Strengths



Al, Big Data & Analytics

Brisbane's many research institutes include the Queensland University of Technology Centre for Robotics, Griffith University's Institute for Integrated and Intelligent Systems, the Queensland AI Hub, the Queensland Immersive Technologies (XR) Hub, and the Advanced Robotics for Manufacturing Hub. Canaria has developed an AI earpiece that monitors the vital signs of workers to prevent accidents and fatalities, FloodMapp combines engineering data and AI to predict water flow during flooding, and Smartabase provides a human performance optimization platform for elite sports teams and military organizations.



Life Sciences

Queensland's Life Sciences industry is underpinned by the state's strong research capabilities. Brisbanebased companies include medical device manufacturers Cook Medical Australia and Impedimed, voice restoration technology company Laronix, digital cardiac rehabilitation startup Cardihab, and vaccine nanopatch developer Vaxxas. Thermo Fisher Scientific and AcuraBio are based in Brisbane, specializing in manufacturing biotherapeutic products for clinical trials. Sanofi has partnered with the Queensland Government, the University of Queensland and Griffith University to establish the Translational Science Hub, focused on mRNA vaccines.



Cleantech

The Advance Queensland strategy includes focusing innovation efforts on addressing environmental challenges, including protecting the Great Barrier Reef, energy and water sustainability, and responding to climate change. Government priorities include a 50% renewable energy target and supporting the development of hydrogen and biofutures industries. Brisbane is home to EV charger company Tritium, Queensland's first double unicorn. Other local Cleantech companies include Vaulta, which produces recyclable, high-performance batteries; renewableenergy microgrid company eleXsys Energy; energystorage systems company RedEarth; and Circonomy, which repairs, repurposes, and resells imperfect and unwanted retail products.

Reasons to Move Your Startup to Brisbane

Diversity, Equity, and Inclusion

The Queensland Government's Advance Queensland initiative aims to increase the number of female, migrant, regional and rural, and First Nations' entrepreneurs in Queensland's innovation economy and to tackle the inequalities that these individuals face. This includes addressing barriers at the youth, startup, scaleup, and global stages. The field is being leveled in Queensland.

A Forward-Thinking Government

One of the big advantages in moving to Brisbane is the state Government's intent to make Queensland an innovation powerhouse, drawing on competitive strengths in advanced manufacturing, aerospace, biofutures, biomedical, defense, mining equipment, technology and services, the screen industry, Agtech, and quantum and advanced technologies

Key Infrastructure

Brisbane is home to state-of-the art infrastructure including the Queensland Institute of Medical Research, the EcoSciences Precinct, the Translational Research Institute, the Advanced Robotics for Manufacturing Hub, the Queensland AI Hub, and the Immersive Technology (XR) Hub. As part of the 2032 Games legacy, Brisbane is improving cycling and pedestrian infrastructure and encouraging flexible workplaces to contribute to the goal of a 15-minute city.



Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Advance Queensland

Advance Queensland is an innovation initiative and investment for a strong future economy from the Queensland Government. Launched in 2015, it supports the creation, scaling, and international success of Queensland scientists, researchers, innovators and businesses. In 2022, Advance Queensland: Innovation for a Future Economy Roadmap 2022–2032 was released. The roadmap sets the direction for Queensland to become a leading and sustainable world-class innovation economy as the state prepares for and drives delivery of the Brisbane 2032 Olympic and Paralympic Games.

KEY ECOSYSTEM PLAYERS

Queensland Chief Entrepreneur

The Office of the Queensland Chief Entrepreneur delivers events and initiatives that showcase Queensland innovation, attract capital, encourage collaboration, and create connections across the state's innovation ecosystem. It aims to build a sustainable and resilient innovation ecosystem in which communities, people, and the planet are supported, protected, and prosperous and that is inclusive for all.

Queensland Al Hub

Acknowledging the significant economic opportunity in AI, the Queensland Government established the AI Hub in 2020 at The Precinct in Brisbane. Home to some of Australia's top talent in AI, it is helping to accelerate adoption of AI and build capability across industry and government. The hub will host the inaugural Queensland AI Summit at the Brisbane Convention and Exhibition Centre.

Advanced Robotics for Manufacturing Hub (ARM Hub)

The ARM Hub aims to accelerate the uptake of advanced manufacturing technologies, including robotics and automation, artificial intelligence, machine learning, 3D printing, nanotechnologies, the Internet of Things, sensors, and data analytics. Since its inception in 2020, it has created hundreds of jobs and attracted numerous international and interstate companies to invest in Queensland projects and establish operations in Queensland.

The Precinct

Located in Brisbane's Fortitude Valley, The Precinct is Queensland's leading startup hub. An Advance Queensland initiative, it offers flexible tenancy options for innovators, and tenants can access various programs and events including startup accelerators and incubators, as well as networking and upskilling opportunities.

XR Hub

Located at The Precinct, the XR Hub demonstrates how immersive tech can be used across industries and showcases the technology to major investors and customers through events and partnerships.

Agtech and Logistics Hub

The Agtech and Logistics Hub, headquartered just outside of Brisbane, is Australia's premier digital agribusiness hub and is making a name across the sector worldwide. The hub is working with industry to solve some of the sector's biggest challenges, and is also a site for testing technologies including drones, sensors, and smart bots.

Startup Genome





Canada



MEMBERS:

Platform Calgary / Calgary Innovation Coalition / Calgary Economic Development

With access to a community passionate about the environment and incredible resource extraction talent, starting and growing Summit Nanotech in Calgary was an obvious choice. We're proud to be part of an ecosystem leading in clean technology.



Amanda Hall CEO and Founder, Summit Nanotech

North American Ecosystem in Performance

North American **Ecosystem in Funding** North American Ecosystem in Talent & Experience

Top 10

Top 30



Highlights

2022 was another strong year for Calgary's innovation ecosystem. The city ranked fourth in investment attraction across Canada with 64 deals totalling \$647 million, according to the Canadian Venture Capital & Private Equity Association, and increased its total VC investment 13% from 2021 to 2022. Several Calgary-based tech companies have achieved unicorn status, including Neo Financial, Benevity, and Shareworks by MorganStanley, and the CBRE's Scoring Tech Talent Report found 40,600 people were employed in tech in Calgary in 2021. Calgary is also home to the highest number of corporate head offices per capita compared to other major cities in Canada.

The Platform Innovation Centre opened in June 2022, the first purpose-built hub for tech and innovation in the province. The new center brings together more than 100 partners offering startup support services and event space. In 2022, the Opportunity Calgary Investment Fund (OCIF), a \$100 million fund to catalyze investment and drive innovation and transformative economic development, supported key ecosystem players including Combine Venture Builders, Avatar Innovations, Thin Air Labs, The 51, and anchor companies IBM and Mphasis.

The creation of Quantum City, a quantum science technology hub at the University of Calgary, was announced in June 2022. Mphasis opened its Canadian headquarters the same month, and Infosys opened its Digital Centre in September. Sidetrade and Applexus Technologies have also announced they will establish regional headquarters. IBM Canada announced it will open the IBM Client Innovation Centre for Western Canada with a focus on sustainability, and KPMG opened KPMG Ignition Calgary at the Platform Innovation Centre.





Ecosystem by the Numbers

ECOSYSTEM VALUE (H2 2020 - 2022)

\$5.2 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$436 m

9430 III

GLOBAL AVG. \$970 m

ECOS YSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

35%



NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

OLODAL ATO. 1

MEDIAN SEED ROUND (H2 2020 - 2022)

\$500 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$6.8 m

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$66 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$2.3 bn



TIME TO EXIT (2018 - 2022)

11.1 years



•

EXIT AMOUNT (2018 - 2022)

\$1.1 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)



05







Cleantech

The Government of Alberta has committed CA\$58 million (\$42.2 million) in 10 Alberta-based companies to reduce greenhouse gas emissions by 4 million tons by 2050. Two Calgary-based Cleantech companies made the 2023 Global Cleantech 100 list — Carbon Upcycling Technologies and Eavor — and 15 local companies made the Foresight 50, a list of Canada's most investable Cleantech companies. The Energy Transition Centre opened in November 2022, to support the development and commercialization of new energy technologies.



Fintech

Neo Financial broke the Canadian record for time to unicorn status after raising a \$145 million Series C in May 2022, and was the top Canadian Startup on LinkedIn's List of Top Canadian Startups 2022. EY announced Calgary as the location of its Finance Centre of Excellence. Symend has raised \$151 million over 10 rounds, and alongside Helcim is cementing Calgary's place as one of Canada's hottest Fintech ecosystems. Digital Bank Calgary launched the Calgary Fintech awards in 2022 and continues to offer opportunities for Fintech startups.



Agtech & New Food

In 2022, Agriplay set up a showcase urban farm in downtown Calgary, and SVG Ventures THRIVE and Platform Calgary created the THRIVE Agrifood Innovation Digital Hub for Canada. The THRIVE Academy has also launched an Agtech pre-accelerator program. The 51 created the \$50 million women-led Food and Agtech Fund. Olds College is home to the Olds College Smart Farm, the Smart Ag Innovation Centre, and the Werklund Agriculture and Technology Centre. In April 2022, Verge Ag raised a \$7.5 million Series A.

Reasons to Move Your Startup to Calgary

Low Cost of Doing Business

Albertans pay no provincial sales tax, no payroll tax or health premium, and have the lowest provincial corporate income tax rate in Canada. Calgary is the second most affordable major city in Canada, with incredibly affordable real estate compared to Vancouver and Toronto. In 2022, the Government of Alberta streamlined processes and reduced unnecessary duplication. The City of Calgary also has a department mandated to support local business.

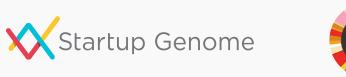
Global Talent

Calgary has the fastest tech workforce growth in North America, according to 2022 LinkedIn Talent Insights. It ranked #28 in the Top 50 North American markets for the second consecutive year in CBRE's 2022 Scoring Tech Talent report. Calgary is the second youngest and third most diverse city in Canada, with 41% of Calgarians identifying as a visible minority. The Alberta Advantage Immigration Program provides an entry pathway for immigrants.

Quality of Life

Calgary is a welcoming, inclusive, and vibrant city less than an hour from the Canadian Rocky Mountains. The Economist Intelligence Unit ranked it the third most livable city in the world, and #1 in North America in 2022. No doubt this has something to do with its access to large urban parks and the most extensive outdoor pathway and bikeway network in North America.





Selected Startup Organizations

STARTUP GENOME MEMBERS

Platform Calgary

MEMBER

Calgary Innovation Coalition

The Calgary Innovation Coalition (CIC) is a group of organizations in the Calgary region that support innovation-driven entrepreneurs, startups, and enterprises. Our collective presents a single vision and voice regarding the priorities of Calgary's innovation community, a unique model for collaboration in Alberta's innovation ecosystem.

MEMBER

MEMBER

Calgary Economic Development

Calgary Economic Development works with business, government, and community partners to position Calgary as the location of choice for the purpose of attracting business investment, fostering trade, and growing Calgary's workforce.

KEY ECOSYSTEM PLAYERS

innovation ecosystem.

Creative Destruction Lab (CDL)-Rockies

Platform Calgary is an impact organization whose

members are tech companies, large and small,

entrepreneurs to a network of 110+ partners

focused on helping startups launch and grow at

to scale. The Platform Innovation Centre is the

front door to this community — a single point of

access for people as they navigate Calgary's

every step of their journey, from ideation through

united in a vision of inclusive, innovation-driven

prosperity for Calgary. Platform Calgary connects

CDL brings together many of the region's most experienced entrepreneurs, investors, and scientists from diverse fields with a mission to accelerate the commercialization of science for the betterment of humankind.

Thrive

The THRIVE Canada Accelerator supports early-stage agrifood tech startups from across the value chain whose technologies drive our ecosystem towards a more efficient, sustainable, and secure agriculture future.

Startup TNT

Startup TNT actively works with local startups, angel groups, seed funds, and early-stage VC funds to stimulate angel investment across Western Canada!

Foresight Alberta

Foresight is supporting efforts to position Alberta as a world leader in cleantech by providing expertise to navigate the cleantech sector and by strengthening the ecosystem.

Plug and Play

A global accelerator offering three streams: sustainability, health, and a sector agnostic stream with a global learning component. Plug and Play connects the world's best startups with international corporations to bring technology to market faster.

Global 500

Alberta Accelerator by 500 is designed for startups with the shared vision of strengthening Alberta as a global hub for tech innovation.





Canada Edmonton

MEMBERS:

Edmonton Unlimited

"Edmonton is an inclusive city of innovators tackling global challenges such as the climate emergency, public health, and food security. Our entrepreneurs are creating local solutions that also meet international demand and are attractive to enlightened investment the world over."



Catherine Warren CEO, Edmonton Unlimited

in Affordable Talent

North American Ecosystem North American Ecosystem





Highlights

Despite global slowdowns, Edmonton technology and innovation companies continue to attract the interest of investors. Venture capital investment pulled in \$76.3 million across 23 deals in 2022, and Edmonton continues to grow its reputation as a low-cost, high quality-of-life destination for startups looking to access young, educated talent.

Edmonton's ecosystem is anchored by Edmonton Unlimited, the City-funded innovation agency responsible for ecosystem-building, and approximately 20 other support organizations, including Startup TNT, Amii and Health Cities. The city is also home to seven post-secondary institutions, including the University of Alberta, which is known for excellence in AI, machine learning, Life Sciences, and Cleantech.

In May 2022, the Edmonton ecosystem received an injection of CA\$4.9 million (\$3.6 million) from Alberta Innovates through the Edmonton Regional Innovation Network (ERIN) to Edmonton Unlimited. The funding is earmarked to deliver programming and support to build startups and solutions for global demands.

Edmonton Unlimited also received approximately CA\$780,000 (\$570,000) from PrairiesCan and CA\$1.8 million (\$1.3 million) from the Government of Alberta for Capital City Pilots, a novel collaboration with the City of Edmonton to develop, promote and market a novel procurement experiment where startups can test their innovative intellectual property while improving municipal property. A prominent funding deal in Edmonton includes scheduling software startup Jobber's \$100 million in growth capital. This all-equity deal more than doubles Jobber's last valuation of \$300-\$400 million when it raised \$60 million in early 2021. It's the first nine-figure financing of 2023 for a Canadian tech company and Edmonton's single largest venture deal of all time.







ECOSYSTEM VALUE (H2 2020 - 2022)

\$1.3 bn

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$106 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

54%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

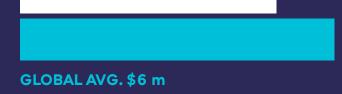
\$280 k



GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$4.9 m



SOFT. ENGINEER SALARY (2022)

\$55 k



GLOBAL AVG. \$46 k

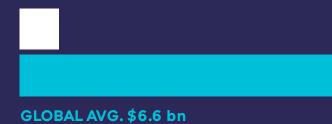
EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$819 m



TIME TO EXIT (2018 - 2022)

8.3 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

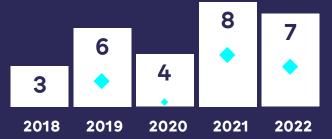
\$317 m

GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

28

GLOBAL AVG. 91 🔷













Al, Big Data & Analytics

The Alberta Machine Intelligence Institute (Amii) is a world leader in research and part of the Pan-Canadian Al Strategy, the world's first national AI strategy, as well as home to the Amii Al Career Accelerator. In early 2023, Amii announced that the Canadian Institute for Advanced Research had committed CA\$30 million (\$22 million) over five years to expand Amii's research program, including hiring 20 new AI faculty members at the University of Alberta.



Life Sciences

Around 60% of Alberta's Life Science companies are based in the Edmonton area. Support organizations include Applied Pharmaceutical Innovation, which provides support to researchers and startups in drug development, and the University of Alberta's Health Innovation Hub. Health Cities creates pathways for health technology companies to test and validate their solutions in clinical settings, accelerating them to market. Edmonton-based biotech startup Future Fields raised CA\$15.1 million CAD (\$11.2 million) in a seed extension funding round in Feb 2023.



Cleantech

The Edmonton Region Hydrogen HUB has a goal to develop the low-carbon hydrogen economy. The Commercial Vehicle Demonstrations Project provides commercial carriers with opportunities to use hydrogen-fueled trucks and analyzes the performance of hydrogen-fueled vehicles. Edmonton Global's 5,000 Vehicle Challenge has a goal of 5,000 hydrogen- or dual-fuel hydrogen vehicles in Western Canada in five years. Air Products is building a hydrogen plant expected to come on-stream in 2024, and Aurora Hydrogena, a startup developing hydrogen-production technology, raised \$10 million in a Series A fund in 2022.

Reasons to Move Your Startup to Edmonton

Skilled Talent

Edmonton was named Canada's First UNESCO City of Learners, an educationally rich urban center offering lifelong learning pathways. Over 144,000 people in the Edmonton ecosystem are enrolled in post-secondary education and 62% of the labor force has postsecondary training. The University of Alberta is a global leader in high-tech research and is home to one of the world's largest nanotechnology research centers.

Dedicated Support

The Experiential Learning in Innovation, Technology, and Entrepreneurship (ELITE) program, supports young Black founders, and the ANZA Black Entrepreneur Ecosystem also helps Black youth generate and develop business ideas. Alberta Women Entrepreneurs' Bold Leadership Program supports female entrepreneurs who want to implement technology to improve their business. Edmonton Unlimited's new downtown location is an inclusive space for networking and collaboration.

Affordability

The cost of living in Edmonton is significantly less than other major Canadian cities, such as Vancouver and Toronto. The combined federal/provincial corporate income tax rate is 23% for general businesses and 11% for small businesses with revenues below \$500,000. This is the lowest tax rate in Canada and among the lowest corporate tax rates in North America.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Edmonton Unlimited

As the City of Edmonton's innovation agency, Edmonton Unlimited positions Edmonton as an inclusive global innovation capital, supporting innovators as they create companies and solutions to solve the planet's toughest challenges, including the climate emergency, public health, food security, digital inclusion, and Reconciliation. By providing local innovators with the right assistance at the right time, it helps Edmonton's entrepreneurs translate their ideas into tangible, growing companies. These made-in-Edmonton solutions are uniquely designed to meet international market demands, attract enlightened investment, and bolster the city's reputation as a destination-of-choice for entrepreneurs, accelerators, and bold multinationals. Edmonton Unlimited contributes to the city's enduring economic vitality, resiliency, and identity, while also fueling jobs, economic opportunities, and civic pride for all Edmontonians.



Germany

Frankfurt





MEMBERS:

TechQuartier / StartHub Hessen / FrankfurtRheinMain GmbH / Frankfurt Economic Development GmbH

The innovative and technology-driven performers in the region of Frankfurt contribute greatly to the growth opportunities of Hessen as a business location. This environment favors the development of creative, promising ideas and startups.



Tarek Al-Wazir

Minister of Economic Affairs, Energy, Transport and Housing and Vice Minister-President, State of Hessen



in Knowledge

in Performance

European Ecosystem European Ecosystem European Ecosystem in Talent & Experience

Top 20

Top 10

Top 20

Highlights

Frankfurt is the economic and geographical center of the FrankfurtRhineMain region and one of the most important data-traffic hubs in the world. Cosmopolitan and fast-growing, it's an ideal home for innovative startups looking for talent and industry partners. The epicenter of finance in Europe, Frankfurt is home to about 280 banks, as well as 7,900 financial services companies, investment funds, consulting agencies, law firms, and auditing companies. The financial ecosystem employs over 155,000 people, attracting talent from around the world.

Entrepreneurs in Frankfurt are supported by a range of government, private sector, and university programs. StartHub Hessen and TechQuartier connect founders, investors, mentors, talent, and corporate innovators. TechQuartier partners with international and European companies including Microsoft, VISA, PwC, and the Deutsche Bundesbank to support founders, including more than 600 startups in the TechQuartier community and the FrankfurtRhineMain region. hessian.Al – The Hessian Center for Artificial Intelligence brings together 13 universities to drive research, education, and leadership in Al. Frankfurt School of Finance & Management opened an Entrepreneurship Centre in May 2022 and has since incubated more than 40 startups.

Some of Frankfurt's startup success stories include drone manufacturer Wingcopter and cloud foundation platform meshcloud. Mattress retailer Emma is among the fastest growing companies in Europe, and BioNTech SE — which along with Pfizer developed one of the first vaccines against COVID-19 - is based in the nearby city of Mainz. Gunzilla Games raised \$46 million in venture funding in August 2022.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$11 bn

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$476 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

10%

GLOBAL AVG. 47%



NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$603 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$6.8 m

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$56 k

GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

GLOBAL AVG. \$6.6 bn

\$2.2 bn

TIME TO EXIT (2018 - 2022)

11.1 years

GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$7.2 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)



GLOBAL AVG. 91

2018 2019 2020 2021 2022







Fintech

Approximately 33% of Frankfurt's startups are focused on Fintech and related areas. Commerz Ventures closed its third fund at €300 million in 2022, which will be used to invest in companies in Fintech and Insurtech. In February 2023, Frankfurt Digital Finance gathered key participants in the European digital finance ecosystem. The International Sustainability Standards Board is based in Frankfurt and is driving the city's development into a green finance capital. Finanzguru raised €13 million in April 2023, led by investors including PayPal Ventures.



Cybersecurity

Together, Digital Hub Cybersecurity, the Fraunhofer SIT, and Germany's National Center for Applied Research ATHENE constitute in nearby located Darmstadt Europe's largest cluster for applied Cybersecurity. Goethe University Frankfurt joined ATHENE in May 2022. Incubation and funding programs including StartUpSecure|ATHENE have contributed to the growth of the sub-sector. PwC Germany opened a Cyber Security Experience Center in Frankfurt in April 2022. The Cloud & Cyber Security Expo took place in Frankfurt in May 2023.



Cleantech

Frankfurt was among the first German cities to adopt a plan to achieve 100% renewable energy supply by 2050, and is a prominent Cleantech hub. The Green and Sustainable Finance Cluster Germany brings together key players. Impact Festival is the flagship event for B2B sustainability startups in the region. Hy2gen AG completed a €200 million round in February 2022, and energy-as-a-service startup ENVIRIA raised €22.5 million in June 2022.

Reasons to Move Your Startup to Frankfurt

Access to Talent

FrankfurtRhineMain is home to more than 43 universities and 280,000 students, including 90,000 STEM and 40,000 economics/business students. The ecosystem's schools and universities graduate 15,000 STEM graduates each year. Numerous research institutions, including the world-renowned Fraunhofer, Leibnitz & Max Planck institutes, and the Paul Ehrlich Institute are also based here.

Access to Major Players

A major European financial center, Frankfurt is home to the European Central Bank, EIOPA, Deutsche Bundesbank, Frankfurt Stock Exchange, BaFin, Deutsche Bank, DZ Bank, WIBank, BMH, KfW, and Commerzbank, as well as major players in other industries. 162 international banks as well as national and European institutions and supervisory agencies have HQs in Frankfurt.

Strategic Connections

Frankfurt is a logistics hub, with data, people, and goods streaming through the city. It boasts one of Europe's leading passenger and cargo airports, and outstanding road and rail connections. Amsterdam, Berlin, Paris, and Zurich are all within four hours by high-speed train. Frankfurt's internet hub DE-CIX is the largest dataexchange point in the world, managing peak traffic of over 12 TB/s.













Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

TechQuartier

TechQuartier builds startup ecosystems. With a powerful community of more than 600 members and curated startup programs, it builds corporate-startup relationships. As a digital innovation hub, it accelerates entrepreneurship within the region, Germany, and internationally.

MEMBER

StartHub Hessen

StartHub Hessen is the central platform for startups and the Hessen startup ecosystem. It helps startups and other players with networking and visibility, and provides an overview of funding options.

FrankfurtRheinMain GmbH

MEMBER

The official investment promotion and business development agency for the Greater Frankfurt region. Most services are free of charge, and its goal is your success.

FrankfurtRheinMain GmbH will tailor its support to your specific requirements and individual business case.

MEMBER

Frankfurt Economic **Development GmbH**

Frankfurt Economic Development is the first point of contact for Frankfurt's businesses, founders and companies planning to set up in the city. It is an independent guide and provides customized information on Frankfurt's economic structure and key industries. Through industry gettogethers and networks, it can put you in touch with other companies, as well as associations, communities, and consultants.

KEY ECOSYSTEM PLAYERS

IMPACT FESTIVAL

The IMPACT FESTIVAL is Europe's largest B2B event and platform for sustainable innovation, bringing together European GreenTech startups and scaleups and key stakeholders to accelerate sustainable transformation.

Frankfurt Forward

A project of the Frankfurt Economic Development Agency, Frankfurt Forward is the independent matchmaker and innovation driver for the FrankfurtRhineMain startup ecosystem.

FLUXUM Gernsheim

On 26 hectares of buildable industrial area, companies are offered the opportunity to produce innovative products and services in the field of "environmental technologies." The GreenTech Accelerator ryon supports startups by the development of new sustainable solutions in various areas.

The House of Logistics and Mobility (HOLM) GmbH

The independent development and networking platform for the future of the logistics and mobility industry. Companies, startups, universities, research, and political institutions come together at HOLM.





Switzerland

Greater Lausanne

*Ranking placements are for Geneva-Lausanne



(21-30) Emerging Ranking (#18) Cleantech Ranking



MEMBERS:

Innovaud

The fundraising and exits of Vaud Deep Tech startups show that our region is a proven breeding ground for success, both for entrepreneurs and investors.



Patrick Barbey Director, Innovaud



in Knowledge

in Performance

European Ecosystem European Ecosystem European Ecosystem in Funding







Highlights

Lausanne is the capital of the French-speaking canton of Vaud, one of Switzerland's fastest growing regions and a Deep Tech innovation hub. Situated in the heart of Europe, the Greater Lausanne Region has emerged as a global hub of research and innovation. Many breakthrough technologies have been developed here, including the Nespresso coffee machine, Logitech mouse, Scala programming language, and the solar-powered plane Solar Impulse.

One of the wealthiest regions in Europe, more than 2,000 technology companies employing approximately 50,000 highly skilled professionals are based here, and Vaud has the highest startup density in Switzerland. In 2022, regional startups attracted CHF 548.6 million (\$615 million) in funding, and the ecosystem saw more exits than ever before. A record 13 tech firms were acquired by private companies.

The ecosystem's success is in part due to the region's excellent universities. EPFL is a well-regarded public research university specializing in engineering and natural sciences, and the University of Lausanne launched the HUB Entrepreneurship and Innovation in 2019 to boost innovation. Eight innovation parks further support the ecosystem, including Y-Parc, one of the biggest technological parks in Switzerland, and Biopôle, which is home to over 120 Life Sciences companies and more than 25 research groups. Additionally, the Scale Up Vaud program supports 51 local scaleups, and startups in Vaud can benefit from several growth-oriented programs, including LeadiNNg to Scale-up from Innovaud. This six-month program is designed to prepare promising tech startups for scaling by connecting them with experts and seasoned entrepreneurs.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$9.4 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$470 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

35%

GLOBAL AVG. 47%



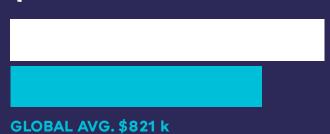
NUMBER OF UNICORNS (H2 2020 - 2022)



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$1 m



MEDIAN SERIES A ROUND

(H2 2020 - 2022)

\$5 m



SOFT. ENGINEER SALARY (2022)

\$111 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

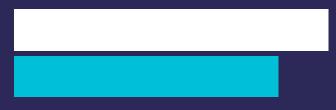
TOTAL VC FUNDING (2018 - 2022)

\$2.2 bn



TIME TO EXIT (2018 - 2022)

10.7 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$1.4 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

28

GLOBAL AVG. 91



GLOBAL AVG. \$6 m







Cybersecurity

The Greater Lausanne Region is famous for its high level of research in all sectors of Cybersecurity and trust technologies. It is home to the EPFL Innovation Park, the Trust Valley — and its Tech4Trust program — and the unlimitrust campus, which fosters startups around the notion of the economy of trust. Scaleups CYSEC, a European data security company, and NetGuardians, an award-winning Fintech helping financial institutions to fight fraud, are based here, as are world leaders in surveillance and encryption ELCA and Kudelski.



Cleantech

In 2004, Lausanne became one of the first European cities to obtain the European Energy Award GOLD label. CleantechAlps is a Swiss networking initiative led by the French-speaking cantons and Bern and supported by the State Secretariat for Economic Affairs. Its mission is to promote Western Switzerland as a European center for clean technologies. Leading companies in the sector include Agtech scaleup Ecorobotix and Spacetech/debris removal scaleup ClearSpace.



Life Sciences

Located at the heart of the Swiss Health Valley, the Greater Lausanne Region is home to many globally recognized research centers and companies active in Life Sciences and health. The region's main hospital, the CHUV, was ranked among the 10 best hospitals in the world by Newsweek in 2021. Leading Life Sciences companies include SOPHiA Genetics, DistalMotion, Lunaphore, and ONWARD. In June 2023, Lunaphore was acquired by Bio-Techne after raising a CHF 40 million (\$44.8 million) Series D round three months earlier.

Reasons to Move Your Startup to Greater Lausanne Region

Quality of Life

With its many lakes and mountains, Greater Lausanne Region offers easy access to nature and a wide range of sports. The terraced vineyards of Lavaux are a UNESCO world heritage site, and the cultural calendar includes the Montreux Jazz Festival. The Fondation L'Hermitage, the Swiss Film Archive, and the Théâtre Vidy-Lausanne are among the region's arts venues. The Platform 10 arts district includes the Photo Elysée and the MUDAC museums.

Industrial Expertise

Switzerland has an established reputation for precision and high quality, and new innovations are emerging from the Greater Lausanne Region's traditional industries. Vaud is home to a number of drone developers, and this industry has created several hundred jobs in the region. The Joux Valley Technical School, where watchmaking began in Vaud, trains future designers, builders, manufacturers and micro-mechanics. Several other technical schools also train apprentices in industrial skills.

Access to International Talent

The Greater Lausanne Region is home to a highly qualified, international talent pool. The University of Lausanne, the Ecole Polytechnique de Lausanne, IMD, and the Lausanne Hospitality & Business School are some of the world-renowned institutes that have helped establish the region as a leader in research, and the Swiss apprenticeship system creates highly specialized talent. International workers are drawn to the high quality of life and multilingual environment.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Innovaud

Innovaud is the innovation and investment promotion agency for the canton of Vaud, in Switzerland's Lake Geneva region. It has a long history of supporting innovation by startups, scaleups, SMEs, and large tech companies. It is also the gateway for foreign companies wanting to establish a presence in the heart of Europe, and nurtures a network of scaleups through the Scale Up Vaud program.

KEY ECOSYSTEM PLAYERS

Innovation Parks

The region is home to eight innovation parks designed to encourage synergies between determined innovative companies within a given geographic area by pooling local infrastructure and technical skills. They are thus an excellent springboard for innovative projects.

FIT

The Foundation for Technological Innovation provides financial support to innovative and technological projects at different development stages.

SPEI

Companies which are based in the canton of Vaud, and in particular those in the industry and advanced technology sectors, can ask for support from the canton's Office for Economic Affairs and Innovation (SPEI), which provides information and advice for companies and entrepreneurs at every stage in their development.

MassChallenge

Masschallenge is a global nonprofit organization that supports early-stage startups through an accelerator program. MassChallenge Switzerland runs The Sustainable Food Solutions Challenge, which matches later-stage startups with corporate partners in the food industry.



United Kingdom

London







"London is more than just a city ecosystem — it's a world-leading tech investment hub that flies the flag for the whole of U.K. tech. Although other U.K. cities are charting their own courses to ecosystem maturity, London will always be an important center of excellence."



Elizabeth Scott former Client Engagement Director, Tech Nation

Talent & Experience

Global Ecosystem in Funding

Global Ecosystem Global Ecosystem in in Performance

#3

Top 5

#2

Highlights

Despite the ongoing impact of Brexit, the repercussions of the war in Ukraine, and a difficult economic climate, London remains Europe's leading tech ecosystem hub. The value of U.K. tech companies reached over \$1 trillion in 2022. The U.S. and China are the only other countries to reach this milestone. London tech firms attracted \$19.8 billion in VC funding in 2022. This is double the amount of investment raised in any other European city and the fourth largest amount of any city worldwide. According to the Startups 100 Index, London startups receive an average of £15 million in early-stage investment, around eight times the U.K. average.

London is home to nearly 70% of the U.K.'s private equity and VC investors. Recently launched London-based funds include a \$1 billion fund from Northzone, a \$650 million fund from Atomico, and a \$500 million fund from Phoenix Court. Sequoia Capital, Lightspeed Ventures, and General Catalyst all recently expanded their presence in London. The Dell Technologies Women Entrepreneur Cities Index 2023 declared London the best city in the world for female entrepreneurs.

In May 2022, social enterprise builder Zinc announced the first close of its £33 million fund to support diverse entrepreneurs. Launched in January 2023, 100x Impact Accelerator nurtures high-potential social enterprises. The UK-India Startup Launchpad fosters deeper collaboration between the two nations' startup scenes. A Smarter London Together is an ongoing roadmap from the Mayor of London to make the capital the smartest city in the world. London Tech Week is a must-attend annual event on the global tech calendar.







ECOSYSTEM VALUE (H2 2020 - 2022)

\$364 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$18 bn

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

47%



NUMBER OF UNICORNS (H2 2020 - 2022)

42



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$889 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND

\$8.5 m

(H2 2020 - 2022)



SOFT. ENGINEER SALARY (2022)

\$65 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

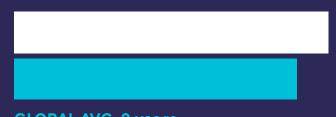
TOTAL VC FUNDING (2018 - 2022)

\$102 bn



TIME TO EXIT (2018 - 2022)

10 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$100 bn



EXIT COUNT (#) (2018 - 2022)

1529



GLOBAL AVG. 91 🔷

2018 2019 2020 2021 2022





Cleantech

London has Europe's highest concentration of Cleantech startups, with 353 calling the capital home. In January 2022, London set a goal to become a zerocarbon city by 2030 and a zero-waste city by 2050. Cleantech London links companies with investors. Launched in June 2022, Kiko Ventures is a \$450 million platform to invest in the next generation of Cleantech innovators. Announced in February 2023, Cleantech for the UK is a collaboration of Cleantech investors and entrepreneurs supported by Bill Gates' Breakthrough Energy.



Fintech

London's Fintech firms raised a total of \$9.7 billion in 2022, more than any other city globally. In December 2022 EY announced the launch of its first Fintech lab in London. EY is also launching a Fintech growth program aimed at early-stage and growing businesses. Fintech Week London 2023 took place in June. Digital payment services provider Checkout.com raised a \$1 billion Series D in January 2022, more than doubling its valuation to ~\$40 billion. In June 2022 card reader company SumUp raised €590 million. In March 2023, consumer loans startup Abound raised over £500 million.



Al, Big Data & Analytics

As of 2022, London is home to 1,300 AI companies. The sub-sector has grown on average 48% year-onyear since 2016. UK GDP will be up to 10.3% higher in 2030 than 2022 as a result of AI, according to estimates by London & Partners. The UK's Spring Budget 2023 allocated £900 million for the establishment of an Al Research Resource and the creation of an "exascale" supercomputer. The budget also calls for a new AI sandbox.

Reasons to Move Your Startup to London

Leading Tech Talent

Over 58% of the workforce is educated to at least degree level. London is home to three universities in the global top 40: Imperial College, the London School of Economics and Political Science, and King's College. LSE was named Outstanding Entrepreneurial University at the Times Higher Education Awards. The UK government offers a scaleup visa for businesses to sponsor highly skilled tech workers for two years.

Business-Friendly Environment

London has a lively funding scene with startups here raising £26 billion in VC funding between 2010 to 2022. A Designated Enterprise Zone, the availability of startup-related assistance and tax incentives make London particularly friendly for tech startups. The Royal Docks Enterprise Zone offers benefits including tax relief for companies investing in manufacturing plants and machinery. The Startup Loans Program offers personal loans of up to £25,000 and free mentoring to those that have a viable business idea but no access to finance.

Dedicated Support

London & Partners provides free advice on starting a business in London, including support for scaleups. Its Business Growth Program is open to SMEs with a turnover of less than £40 million. London Business Hub runs a range of programs to support local businesses. LSE Generate supports students and alumni, and provides mentoring for secondary school pupils. Generate also runs GAO, an accelerator for startups founded by staff members, students, or alumni.



United States

Los Angeles





"Startup success stories abound in Los Angeles. The City's commitment to the innovation economy is unwavering, and our incubators and accelerators are here to help them grow and thrive."



Carolyn Hull

General Manager, EWDD





Global Ecosystem

in Performance

Global Ecosystem Global Ecosystem in







Highlights

Los Angeles is one of the largest startup markets in the U.S., supported by a diverse network of founders, more than 100 VC firms, and a wide range of accelerators, incubators, and coworking spaces. In addition to its world-famous entertainment industry, Los Angeles is home to NASA's R&D center, the Jet Propulsion Laboratory, Northrup Grumman's 110-acre campus, and SpaceX headquarters.

The ecosystem is a major player in tech sectors ranging from the metaverse to crypto to gaming. The city also boasts some of the world's top universities, including UCLA, CalTech, and USC, which provide companies with a steady stream of talent. According to CommercialEdge, LA ranks #2 after only New York in the number of residents who hold at least a bachelor's degree in science, engineering, or related fields. Nearly 1.5 million residents have such a degree. Additionally, Los Angeles County has the largest foreign-born population of any county in the U.S., at one of every three residents, according to 2021 census estimates.

The annual dot.LA Summit, which brings together founders, investors, and operators is held in October. Venture Capital Summit 2023 took place in April, as did TECHSPO Technology Expo. A month earlier, entrepreneurs, investors, and thought leaders gathered for the Montgomery Summit.

Mobility commerce platform Metropolis raised a \$167 million Series B in June 2022. Clinical biopharma company Acelyrin raised a \$300 million Series C in September 2022. Microscale robot company Bionaut Labs raised a \$43.2 million Series B in November 2022.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$416 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$8.9 bn



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

38%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

42

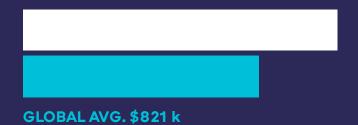




GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$1.1 m



MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$10 m



SOFT. ENGINEER SALARY (2022)

\$98 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$70 bn



TIME TO EXIT (2018 - 2022)

9.5 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$105 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

870



GLOBAL AVG. 91 🔷







Life Sciences

Built around a globally respected university network that produces thousands of STEM graduates each year, the LA Life Sciences ecosystem is growing fast. The UCLA Innovation Fund facilitates the commercialization of UCLA-owned Life Sciences technologies by providing up to \$150,000 in funding. The LAEDC Bioscience Council is a network of leaders dedicated to cultivating the industry's workforce. The Los Angeles Bioscience Ecosystem Summit showcases innovation each year.



• Gaming

Los Angeles is home to more than 200 Gaming startups. Electronic Entertainment Expo (E3), the largest Gaming trade event, was held in Los Angeles in June 2023. The inaugural Gaming X LA was held in November 2022. GamesBeat Summit 2023 took place in May. Theorycraft Games raised a \$50 million Series B in September 2022.



Cleantech

The LA100 Study charted pathways for L.A. to reach 100% carbon-free energy by 2035. As of 2022, 62% of the city's energy was carbon-free. The Los Angeles Cleantech Incubator (LACI), established by the City of Los Angeles, supports up to 50 startups each year. LACI's \$6 million Cleantech Debt Fund provides green loans of \$25,000 to \$250,000 to early-stage

Reasons to Move Your Startup to Los Angeles

Market Access

Home to nearly 4 million people, LA offers companies a huge potential market. If Los Angeles County were a country, its economy would be the 19th largest on the planet. More than 40% of American imports travel through the Ports of Los Angeles and Long Beach before connecting to a system of railways and interstate highways that distribute them across the country.

Funding & Incentives

Los Angeles offers a huge array of funding options for businesses from venture capital to small business grants. The Los Angeles County Economic Development Corporation provides support for entrepreneurs, including assistance with tax credits. Its Small Business Loan Guarantee Program boosts access to capital, while its California Capital Access Program encourages lenders to make loans to small businesses..

Diverse Talent

A remarkably diverse populace and the presence of several top universities help develop the talent necessary to propel LA's innovation ecosystem forward. Los Angeles is much more diverse than Silicon Valley, boasting residents from at least 130 countries who speak over 200 languages. One out of every three residents is foreign born.





Ireland

Mid-East Region

MEMBERS:

Meath Enterprise

The Mideast region is fast becoming a hotbed of entrepreneurial activity as exciting new projects such as the Boyne Valley Food Innovation District, the Merits Innovation Thinkspace, the Clermont Enterprise Hub, and the AgTechUCD Innovation Centre promote and support global ambition across this thriving ecosystem.



Gary O'Meara

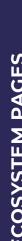
CEO of Meath Enterprise and Chair of CEAI - Ireland's Enterprise Hub Network

Highlights

The counties encircling Dublin continue to build their reputation as a thriving startup ecosystem. The Mid-East Regional Enterprise Plan to 2024 was launched in March 2022 with €180 million in funding to implement innovative ecosystem development projects. The Kildare 2025 Economic Development strategy includes the provision of high-speed broadband and remote working hubs, creation of a startup-friendly environment, and investment in green economy initiatives. The Agile Innovation Fund allows companies to access up to 50% of the cost of innovation projects up to a total cost of €300,000 with fast-track approval. Grants covering up to 25% of project costs are available. Funded by Google and announced in December 2022, the Changing Ireland Accelerator Programme supports underserved social entrepreneurs. According to the Irish Venture Capital Association VenturePulse survey, VC investment in Irish tech firms totaled €1.33 billion in 2022.

There are currently 14 purpose-built entrepreneurial hubs across the Mid-East Region, with another 5 due to open in 2023. The Kells Tech Hub is an enterprise development, training, and coworking facility that seeks to support startups to go global. Science and technology park Kildare Innovation Campus, near Maynooth University, seeks to become a leading innovation campus in Europe. In January 2022, Echelon Data Centres announced the construction of two data centers in County Wicklow. Leixlip-based Binarii Labs, a developer of SaaS solutions that de-risk and protect enterprises, raised \$1.64 million in seed funding in March 2022, putting the company's pre-money valuation at \$6.5 million.









ECOSYSTEM VALUE

(H2 2020 - 2022)

\$354 m

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$22 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

347%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$152 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$9.5 m

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$52 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

GLOBAL AVG. \$6.6 bn

\$104 m

TIME TO EXIT (2018 - 2022)

12.8 years

GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$173 m

GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

GLOBAL AVG. 91 17

2018 2019 2020 2021 2022







Agtech & New Food

Employment in climate, sustainability, and Agtech grew 13% in Ireland in 2022. Boyne Valley Food Hub, a project of Boyne Valley Food Innovation District, aims to accelerate growth in food businesses across the Mideast and Northeast regions through collaboration, innovation, and clustering. The project will create an innovative food hub with nine food-grade units, a timeshare development kitchen and food R&D lab, sensory testing facilities, a food-specific coworking hub, and a knowledge lab.



Cleantech

In January 2023, the Department of Transport announced plans to increase the number of public rapid electric vehicle charging points from around 1,700 to over 4,500 within three years. Cushaling Wind Farm is expected to be operational in late 2024. The first large-scale ground-mounted solar farm to supply electricity to the Irish grid opened in County Wicklow in 2022. INFORMBIO is a project to develop a lowcarbon roadmap for Ireland's bioeconomy. The Climate Innovation Fund 2022 aims to foster innovative climate solutions in Kildare.



Life Sciences

Launched in October 2022, Sandbox is a collaborative project from Meath Enterprise, the Boyne Valley Food Innovation District, and Maynooth University to deliver education in Life Sciences. TU Dublin's Graduate Business School, in partnership with the School of Chemical Pharmaceutical Sciences, offers Ireland's first Executive MBA in Life Sciences Leadership. A Life Sciences incubation and acceleration facility opened at The Campus, Cherrywood in South Dublin in December 2022. The center provides lab, office, and collaboration space for over 100 Life Science professionals, entrepreneurs, and researchers.

Reasons to Move Your Startup to Mid-East Region

Highly Educated Talent

Maynooth University is Ireland's fastest growing university, with over 11,000 students from more than 90 countries. A national skills platform launched in February 2023 to help close Ireland's digital skills gap. The project is being driven by Learnovate, Ireland's future of work and learning research hub at Trinity College Dublin, along with Cisco and the national workforce development agency, Skillnet Ireland.

Research & Development

Maynooth University houses seven cutting-edge research institutes and boasts one of the best records for commercializing research of any Irish university. In March 2023, two new programs were launched by the Irish Government to support innovators and researchers with more than €63 million in funding. Siemens Healthineers launched a Centre of Excellence for Immunoassay Instrument R&D in the Mid-East Region.

Government Support

Ireland offers startups and SMEs a range of grants, loans, tax breaks, and other funding. The Short-Term Enterprise Allowance supports unemployed individuals who plan to start a business. The Start-up Refunds for Entrepreneurs scheme allows entrepreneurs to claim back income tax when starting a business. New businesses are eligible for corporate tax exemption for their first three years. Microfinance Ireland provides loans for commercially viable products, and the Digital Transition Fund supports businesses at all stages and in all sectors.





STARTUP GENOME MEMBERS

MEMBER

Meath Enterprise

Meath Enterprise is a commercially focused local government (not-for-profit) enterprise-development company with a remit/mission to drive local, regional, and national innovation and enterprise development through the provision of business incubation and support services, collaboration, clustering, and creative thinking. We work with partners across all sectors from Government, Education, Corporate, SME and Social Enterprise to deliver step-change ecosystem development projects such as the Boyne Valley Food Innovation District, the new Digital Innovation and Smart Agri Hub and many other world class startup incubation and coworking projects, services, and facilities.

KEY ECOSYSTEM PLAYERS

Gary O'Meara

Gary has a clear vision for what the Mid-East Region and Ireland can realize in terms of social and economic value, and has a keen insight to know how to get there.

Owen Brennan

Executive Chairman of Devenish Nutrition, a leading global agri technology company, and current Chair of the Irish governments Regional Enterprise Strategic Plan for the Mid East Region in Ireland.

Michael Brougham

Manager of the Mid East Regional Skills Forum, a government initiative that works with and supports all ecosystem stakeholders to identify and implement proactive responses to address current and future skills needs.

John Cunningham

Co-founder and Managing Director of Complex Nutrition, John drives the strategic development of the company. He is also the Business Champion for Meath on the government's regional enterprise plan committee.

Allan Shine

Chief Executive of Kildare Chamber of Commerce, the largest business organization in the Mid-East Region of Ireland, representing an employer base of 400 businesses and over 38,000 employees.

Siobhan Keogh

Regional Director at Enterprise Ireland for the Mid-East Region of Ireland and member of the government's Regional Enterprise Strategic Plan committee for the Mid-East Region.





Oman

Muscat

MEMBERS:

The Rising Omani Startups Programme

"We are aware of the importance of the small and medium enterprises sector and the entrepreneurship sector, especially startups that are based on innovation, artificial intelligence, and advanced technologies. We are training young people and enabling them to take advantage of the opportunities offered by this vital sector to be a basic building block in the national economy."



His Majesty Sultan Haitham Bin Tarik Al Said Sultan of Oman







MENA Ecosystem in Affordable Talent

MENA Ecosystem in Funding

MENA Ecosystem in Performance







Highlights

Oman's capital, Muscat, is making huge strides to establish itself as a hub for tech entrepreneurs. Oman 2040 sets out a vision for the transition from an oiland-gas-based economy towards a more diverse, knowledge-based one. Oman Future Fund, \$5.2 billion available for investment across sectors of economic diversification, and \$26 billion National Initiative AI were launched in early 2023. Muscat was chosen as the Arab Digital Capital 2022.

The Rising Omani Startups Programme has a goal of enabling innovation, supporting the establishment of startups, linking founders with business opportunities, and identifying investment opportunities for expansion outside Oman. The Omani Start-ups Program provides support for entrepreneurs at all stages. Omantel Labs works in partnership with the Central Bank of Oman (CBO) to host a growing Fintech sandbox and provide a six-month accelerator for startups working on solutions within 5G, IoT, Cybersecurity, customer experience, and Big Data. ITHCA Group is an investment arm of the government focused on building Oman's IT infrastructure and digital capabilities. Oman Technology Fund offers OTF Techween, a pre-seed fund program that provides funding, coworking space, and mentoring.

Local startups include payments platform Thawani Technologies, IT consultancy Rihal, IoT-enabled logistics company Emushrif, and transportation app Otaxi. Crowdfunding platform Beehive connects investors with startups, and Ethisx is an investment platform focused on impact-driven crowd-investments and financing. In 2022, Qatar's Snoonu acquired Omani food-delivery platform Akeed and Mexican car-buying platform Kavak bought Muscat's Carzaty for an undisclosed sum. Saudi Healthtech labayh acquired OTF-funded Nafas in March





ECOSYSTEM VALUE (H2 2020 - 2022) \$301 m

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$20 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

70%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$200 k



GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$1.3 m



SOFT. ENGINEER SALARY (2022)

\$23 k



GLOBAL AVG. \$46 k

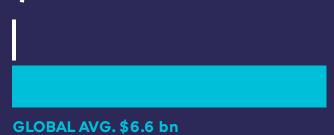
EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$28 m



TIME TO EXIT (2018 - 2022)

4 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$19 m



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)











Ecommerce

By 2025, the value of Oman's Ecommerce market is predicted to reach \$868 million. The sultanate has an estimated internet penetration rate of over 95.2%, and has high mobile broadband penetration and a robust 4G network. Tanweel, Bon, and X Garage are some notable Ecommerce startups from Oman. Delivery Hero's regional startup Talabat has operated successfully in the country since 2018. Floward is an ecommerce platform for flowers and gifts.



Cleantech

Oman is rapidly building out its Cleantech infrastructure, targeting \$140 billion investments to develop the green hydrogen sector alone by 2050. The Ministry of Transport, Communications and Information Technology has a goal of all new vehicles being electric or hydrogen-fueled by 2050. At Oman Sustainability Week 2022, Oman Shell and Oman Airports Management Company announced Shell's Green Hydrogen for Mobility project, Oman's first hybrid hydrogen station. Carbon mineralization startup 44.01 was the winner of the 2022 Earthshot Prize.



Fintech

The Central Bank of Oman (CBO) is working on Open Banking and digital currency initiatives. The country's roadmap envisions several accelerators, a regulatory sandbox, a cloud-computing framework, and an e-KYC initiative. CBO and Omantel have partnered on a Fintech accelerator for high-potential startups. Participating companies receive space at Omantel Innovation Labs and gain access to a network of over 100,000 investors, corporates, and mentors. Muscat Fintech startups include Bima, Thawani, and Wadiaa.

Reasons to Move Your Startup to Muscat

Strategic Location

Muscat is at a key position on maritime routes linking Asia with Africa and Europe, providing trade connections and ample opportunity for advanced technologies in port operations, logistics, supply-chain management, and supply-chain finance. The nation's free-trade zones include Duqm Free Zone, Sohar Free Zone, Salalah Free Zone, Maziona Free Zone, Innovation Park Muscat, and Knowledge Oasis Muscat.

Business-Friendly Environment

Companies registered in Oman only have to pay a 15% corporate tax. No personal income tax applies, and goods move free of customs duties in the GCC. Invest Oman offers free investment advisory services. Oman scores high in the IPRI ranking for IP rights, at #4 in MENA and #32 in the world. The nation has many trade agreements, including the U.S.-Oman Free Trade Agreement, which allows U.S. investors the same rights as Omani investors.

Dedicated Support

The Rising Omani Startups Programme provides programs, funding, and networking opportunities. The Oman Talent Hub offers work experience in advisory and technology fields. Invest Oman promotes Oman as a base for businesses and provides soft-landing support. The Ministry of Higher Education Research and Innovation (MOHERI) provides comprehensive higher education, leading to a knowledge society.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

The Rising Omani Startups Programme

The Rising Omani Startups Program is a three-year national program aimed at stimulating the ecosystem of emerging startups based on advanced technology and innovation in the Sultanate of Oman, contributing to spreading the culture of startups in educational institutions, enhancing community awareness of their importance, and escalating the Omani startups to the regional and global markets. The programme has three main pillars: capacity building, financing and investing, and a supportive regulatory framework.

KEY ECOSYSTEM PLAYERS

Authority for SME Development

The Authority for SMEs Development has registered over 100,000 SMEs and startups. It offers six incubation programs to empower innovation and technology based startups, and supports youth orientation toward entrepreneurship to achieve sustainable growth of the national economy. The authority provides funding to guarantee the continuity of SMEs managed by Omanis. It has loaned OMR 100 million to SMEs and startups. The 190,000 SMEs in Oman contribute 26% of Oman's GDP.

Omantel Innovation Lab

Omantel Innovation Labs engages a community of startups, corporate partners, academia, investors, and government entities to create a holistic ecosystem. It offers a six-month accelerator program that provides specialized technology and entrepreneurial support to technology startups working within 5G, IoT, Cyber Security, customer experience, and Big Data.

The Ministry of Higher Education Research and Innovation (MOHERI)

MOHERI has a vision of a comprehensive higher education, sustainable learning, and scientific research leading to a knowledge society and competitive national capabilities. It offers opportunities in entrepreneurship education, including workshops and dedicated university programs.

The Ministry of Transport, Communications and Information Technology

The Ministry strives to make transport and logistics the second source of national income and within the top 10 in logistics performance at the international level by 2040. It is also responsible for formulating and implementing digital strategies and programs, including the National Digital Transformational Program, the National Space Program, the National Digital Economy Program 2021-2025, and Sas Accelerator Program.

ITHCA Group

ITHCA Group (Oman ICT Group) was established to focus investments on the technologies of the fourth industrial revolution, as well as investing in the necessary infrastructure. Its core functionalities are to actively work on building Oman's IT infrastructures, its networks, and enhance Oman's digital capabilities. OMR 52 million is allocated for the fourth industrial revolution, with 29% for VC investments. OTF, part of ITHCA Group, has invested in 163 startups in three different stages. Ninety-two are Omani startups.

Oman Investment Authority

Oman Investment Authority is the Sultanate of Oman's investment arm that has been mandated to manage and invest the state's funds and assets to advance targeted economic sectors. It has spent 187 million OMR on SMEs and startups in 2022 whereby more than 8,000 SMEs and startups were supported. It invests in more than 40 countries worldwide in both public and private markets.





United States

New York City





#2 Global Ranking #2 Agtech Ranking #2 Fintech Ranking



MEMBERS:

New York City Economic Development Corporation / Tech:NYC

"New York continues to attract startups in many of the fastestgrowing segments of the sector — AI, Life Sciences, and Cleantech, to name a few. Thanks to the city's unmatched talent pool and funding opportunities, New York remains a top destination for startups to thrive."



Julie Samuels

President and Executive Director, Tech:NYC





Global Ecosystem Global Ecosystem in Talent & Experience

#2





Highlights

The largest city in the U.S. by population, New York City has the nation's biggest consumer base. The city's thriving startup ecosystem is valued at around \$147 billion, with more than 25,000 tech-enabled startups supported by over 200 coworking spaces and 100 accelerators and incubators. The city also ranks #3 among U.S. states in foreign direct investment jobs.

VC firms continue to flock to NYC. In May 2022, Index Ventures, a European firm with headquarters in San Francisco and London, announced the opening of an office here, and in July 2022, Sequoia Capital announced a New York office, its first U.S. location outside of Silicon Valley. New York State has devoted \$100 million, with an additional \$35 million in Small Business Credit Initiative funding, to a direct investment VC fund. New York Ventures also manages three VC legacy funds that invest in seed- and early-stage companies across the state.

The City's \$80 million CS4All initiative (Computer Science for All) has trained 100,000 students since 2015, and the CUNY 2X tech program has doubled the number of CUNY graduates with tech-related bachelor's degrees since 2017. The Founder Fellowship program, which supports entrepreneurs from historically underrepresented backgrounds, expanded to include 100 tech founders in its second cohort. At the end of 2022, the mayor and governor jointly released a set of 40 proposals intended to make NYC the best place to work and serve. As a part of it, Initiative 31 is dedicated to making NYC the global hub for urban innovation.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$647 bn



GLOBAL AVG. \$34.6 bn

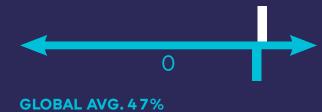
TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$22 bn



ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

50%



NUMBER OF UNICORNS (H2 2020 - 2022)

98



GLOBAL AVG. 4

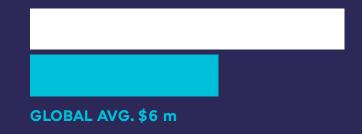
MEDIAN SEED ROUND (H2 2020 - 2022)

\$1.5 m



MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$10 m



SOFT. ENGINEER SALARY (2022)

\$104 k



GLOBAL AVG. \$46 k

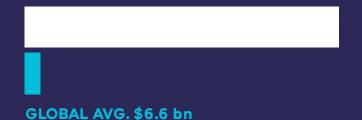
EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$138 bn



TIME TO EXIT (2018 - 2022)

9.1 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$162 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

1558











Al, Big Data & Analytics

In 2022, generative AI companies in New York raised a whopping \$483.6 million over 28 funding rounds. Alphasense, an Al-powered market intelligence search engine, reached unicorn status with \$100 million in additional Series D funding in April 2023. Canoe, makers of an Al-powered solution that captures data from documents for institutional investors, raised a \$25 million Series B in February 2023. Massive Bio, which uses AI to match cancer patients to clinical trials, made the New York City Digital Health 100 for the second consecutive year.



Life Sciences

New York sits in the middle of a corridor of Life Sciences innovation stretching from Boston to Raleigh-Durham. The metro area is home to nearly 5,100 Life Sciences companies, has received the most National Institute of Health funding in the U.S., and raised \$3.1 billion in VC deals in 2021. New York ranked #2 in the best states for Life Sciences incentive programs in CBRE's 2023 U.S. Life Sciences Outlook. Ten early-stage Life Sciences incubators have been launched across the five boroughs.



Cleantech

NYC announced two startup programs as part of its sustainability focused PlaNYC agenda: one to help early-stage companies incubate solutions for urban environments and another to attract international companies. Governors Island is being transformed into a \$700 million "living laboratory" for climate solutions, and a \$20 million biotech hub will open for startups using sustainability focused biotechnology. In 2022, Fifth Wall closed a \$500 million commitment for its inaugural climate fund and Union Square Ventures announced a \$200 million fund dedicated to investments in startups mitigating or adapting to climate change.

Reasons to Move Your Startup to New York City

High-Quality Talent

New York offers a diverse and skilled talent pool fed by a pipeline of graduates from more than two dozen world-class academic and healthcare institutions. The city ranks #1 in the Northeast in total number of STEM grads and #2 in the nation for the highest number of residents who are scientists and engineers. The number of tech jobs in New York has grown 143% over the last decade.

Tax Benefits

The START-UP NY program provides tax benefits to businesses that are based in approved locations near colleges and universities. Approved businesses operate tax-free for 10 years and gain access to advanced research laboratories, development resources, and experts in key industries. Employees hired for new jobs in a tax-free area pay no state or local income taxes for the first five years and a reduced rate for a further five years.

Dedicated Support

The \$75 million NYC Small Business Opportunity Fund is a public-private loan fund for small businesses. The Global NY Fund Grant program is a \$35 million fund for SMEs. Empire State Development, together with the US Small Business Administration, provides grants to help increase exports, along with trade education. NYCEDC supports businesses in expanding or relocating through site selection guidance, workforce development consultation, financial incentive analysis, and more.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

New York City Economic Development Corporation

New York City Economic Development Corporation is a mission-driven, nonprofit organization that works for a vibrant, inclusive, and globally competitive economy for all New Yorkers. We take a comprehensive approach, through four main strategies: strengthen confidence in NYC as a great place to do business; grow innovative sectors with a focus on equity; build neighborhoods as places to live, learn, work, and play; and deliver sustainable infrastructure for communities and the city's future economy.

MEMBER

Tech:NYC

Tech:NYC is an engaged network of tech leaders working to foster a dynamic, diverse, and creative New York. We bring together 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.





France







Paris is an epicenter of innovation, attracting individuals and startups eager to tackle complex challenges and shape a better future. In this vibrant ecosystem, startups can leverage an unparalleled combination of market opportunities, funding, infrastructure, and top talent to test and accelerate their ideas. This makes Paris ideal for those looking to make a positive impact and drive meaningful change at the intersection of societal, environmental, economic, and digital transformation.



Francesco Travagli Head of Tech & Industries, Choose Paris Region







European Ecosystem Global Ecosystem in in Bang for Buck

in Funding

Talent & Experience







Highlights

Paris dominates the French startup scene and is a consistent European leader. The capital city is home to more than 8,000 startups, as well as the world's largest startup campus, Station F. The Paris-Saclay campus, a leading R&D hub, hosts the continent's largest concentration of researchers. Launched in 2019, the French Tech Next40/120 program aims to support French startups in becoming world-class technology leaders and act as a laboratory for innovation policies.

French startups raised €11.9 billion in 2022, with a total of 358 startups raising a round at an average of €33 million each. In January 2022, the nation reached French President Emmanuel Macron's target of 25 unicorns by 2025 three years ahead of schedule. In 2020-2022, France had a 2.2x net inflow of founder and leadership talent.

Resonance, a €150 million VC fund was launched in 2022. IRIS Capital reached a €110 million first close for its new €150 million fund. In 2022, Sista, which campaigns for more funds for female founders, announced its first close of €30 million — with a final target of €100 million. Paris-based VC firm Quantonation is the first dedicated quantum fund in Europe. The Paris 2023 Q1 Venture Capital World Summit gathered a global community of investors and investees in February 2023. The Venture Capital Forum was held in Paris in October 2022. VivaTech is held in Paris each year, attracting innovators and tech leaders from around the world. The Women in Tech Global Summit was held in May 2023.



ECOSYSTEM VALUE (H2 2020 - 2022)

\$138 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$6.9 bn



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

65%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

28



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$1.6 m



MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$9.1 m



SOFT. ENGINEER SALARY (2022)

\$48 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$37 bn



TIME TO EXIT (2018 - 2022)

9.5 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$11 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

586



GLOBAL AVG. 91

2018 2019 2020 2021 2022





Fintech

Paris is France's leading Fintech ecosystem. At Paris Climate Finance Day in October 2022, the creation of the Institute for Sustainable Finance was announced. Digital native credit provider Younited has raised a total of €483.8 million over 11 rounds. Descartes Underwriting has raised \$140.8 million over four rounds. Qonto, a provider of financial tools for SMEs, raised a €486 million Series D in January 2022, one of the largest rounds in French history. Spend management software company Spendesk has raised \$311.8 million over seven rounds.



Cleantech

With more than 1,800 startups, the French Cleantech ecosystem is one of the largest in Europe. In June 2022, President Macron announced France's ambition to have 25 green unicorns by 2030. €54 billion of the France 2030 budget targets Cleantech industries. Techstars Sustainability Paris was launched in 2022, and VC firm Satgana closed a target €30 million fund to back Cleantech startups. A \$500 million funding round in June 2022 made sustainability data firm EcoVadis the first ever sustainability data unicorn.



Al, Big Data & Analytics

Paris Al Week showcases the French Al ecosystem. Big Data & Al Paris 2022 attracted 15,000 participants in September 2022. Digital experience analytics company Contentsquare closed a \$600 million growth investment round in July 2022, bringing its total funding to \$1.4 billion.

Reasons to Move Your Startup to Paris

Market Access

Companies that expand into France can take advantage of the country's population of 67.3 million domestic consumers as well as easy access to the wider European Union market. The French economy is the third largest in Europe, and the unemployment rate remains consistently low.

Transportation Links

Paris' Charles de Gaulle Airport is the second busiest airport in Europe, and France also has one of the most developed railway systems in the world. With its six train stations, Paris is well connected to much of Europe by rail. The Eurostar takes travelers from Paris to London in just 2 hours, 15 minutes. Plans to connect Paris and Madrid with a high-speed train line by the end of 2024 were announced in 2022.

Excellent Educational Institutions

Paris is home to 21 top-tier business schools and a top engineering university. Insead ranked #2 overall in the 2023 Financial Times Global MBA ranking. HEC Paris is among the top 10 universities in Europe for producing graduates that go on to produce unicorn startups. More than 10,000 students University of Paris Saclay are involved in entrepreneurial development programs.



Rio de Janeiro

"Brazil has an open and diversified economy and is the most active startup ecosystem in Latin America. As a result, it continues to produce startup success stories and unicorns. Rio de Janeiro is one of the nation's most dynamic cities, and is an exciting prospect for angel investors and entrepreneurs."



Highlights

Internationally known for its beautiful beaches and thriving cultural scene, Rio de Janeiro is also an important business hub and the home of a rapidly growing startup scene. Rio de Janeiro boasts a highly diversified economy and many national and international companies, including Petrobrás and the National Economic and Social Development Bank, have their headquarters in the city. Owing to its port, many of Brazil's export-import companies are also headquartered here. While Rio de Janeiro's startup ecosystem may still be smaller than the scene in buzzing São Paulo, local authorities have made huge efforts to make the city attractive to young, tech-savvy talent and improved both security and infrastructure in recent years.

The first edition of Web Summit Rio took place in May 2023, indicating the ecosystem's growing reputation as a startup hub. A European tech calendar event each year, Web Summit is now also the largest tech event in Brazil. Rio Innovation Week also takes place in October, and Rio2C 2023 gathered creative industry professionals in April. The Global Sustainable Technology and Innovation Conference is another Rio de Janeiro annual event.

Universidade Federal do Rio de Janeiro ranked #8 in the QS Latin America University Rankings 2023, providing a stream of educated talent to the ecosystem. The Federal University of Rio de Janeiro is the largest federal university in Brazil and is also well regarded for its teaching and research. Notable funding news includes healthcare platform Conexa Saude's \$40 million Series C in June 2022, and digital bank NG.CASH's \$10 million August 2022 seed round.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$2.4 bn

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$93 m

GLOBAL AVG. \$970 m

GLOBAL AVG. 47%

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

-52%

NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$410 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$4.2 m

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$35 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$605 m



TIME TO EXIT (2018 - 2022)

9.7 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$9.2 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)



2018 2019 2020 2021 2022

GLOBAL AVG. \$6.6 bn









Blockchain

In December 2022, Brazil passed a crypto-regulation bill that includes creating a virtual service provider license for digital asset companies, including exchanges. Shortly after, Crypto.com became the first crypto exchange to receive approval for its EMI license in Brazil. Hashtown in Rio houses companies and investors from the international crypto community, including Valor Capital, NFT company W3block, and Blockchain infrastructure firm Parfin. In 2023, Rio de Janeiro became the first Brazilian city to accept crypto payments for property taxes.



Al, Big Data & Analytics

In February 2023, researchers from the Centre for Data and Knowledge Integration for Health and the Federal University of Rio de Janeiro unveiled an Alpowered early warning system for new disease outbreaks. Big Data analytics SaaS platform Cortex raised a \$50 million Series C in September 2022.



Cleantech

Rio de Janeiro's 50-year Neutral Carbon Rio Strategy sets a goal for the city to achieve carbon neutrality by 2065. In January 2023, regional entrepreneurship acceleration Program MIT Reap held a workshop in Rio de Janeiro with the aim of transforming the city into a "Silicon Valley for sustainability." MIT Reap Rio will invest \$60 million in training, acceleration, and other support measures for Cleantech startups.

Reasons to Move Your Startup to Rio de Janeiro

Government Support

In 2021, the Brazilian government passed Bill 146/2019, broadly known as Legal Framework for Start-ups, to encourage investment in startups and improve the business environment in the country. The law enables regulatory bodies to grant special authorization to startups to test new technologies and business models for a fixed period of time and with a restricted number of consumers.

International-Friendly **Environment**

In 2022, Brazil established a digital nomad visa that allows foreign remote workers and self-employed individuals to live in the country for one year with the possibility of extension. Brazil boasts one of the world's most diverse cultures due to a history of various waves of colonization and immigration and Rio de Janeiro is the nation's cultural center, known for its lively festivals.

Wide Range of Industries

Rio de Janeiro is home to a well-established and highly diversified economy, providing large-scale employment in both heavy and light industry, manufacturing, commerce, finance, trade, and other service sectors. Combined with the strong import and export opportunities provided by the port, there is much opportunity for startups to collaborate with existing companies and to spot opportunities for innovation in established industries.



United States

San Diego







"San Diego's strength is its breadth of innovation: Tech, Life Sciences, Defense, and Healthtech are all colliding and collaborating. Nearshoring is easy with Mexico just 20 miles from downtown, and the great weather further contributes to the ecosystem being perfectly positioned for continued growth."



Mike Krenn CEO, Connect/SDVG





in Knowledge

in Performance

Global Ecosystem Global Ecosystem in Talent & Experience







Highlights

San Diego's tech startup sector has seen rapid growth in recent years, aided by the availability of tech talent from the area's many excellent universities and military bases. The city's famous sunshine, high quality of life, and businessfriendly environment have all helped attract founders and talent. But as in most ecosystems, VC fundraising in San Diego was down in 2022 compared to 2021's heights — by 45% — although 2022 totals still compared favorably to historical figures. Overall VC funding increased by 55% from 2018 to 2022.

More than 220 accelerator programs, incubators, and investors focused on San Diego tech startups have helped the ecosystem grow. San Diego State University and Techstars partnered to create Techstars San Diego Powered by SDSU, and Greater Than Tech seeks to support the next generation of female scientists, engineers and entrepreneurs. Startup San Diego supports startup founders in San Diego and fosters a cohesive, collaborative community.

The city also plays its part, with the San Diego Regional Economic Development Corporation's Inclusive Growth Initiative aiming to create 50,000 new quality jobs in small businesses by 2030. Qualified sites can take advantage of an extension of the U.S. Foreign-Trade Zone program offering international traders, importers, and exporters special customs privileges. San Diego Startup Week is one of the nation's largest startup events, taking place each June.

In September 2022, biotechnology company Capstan Therapeutics raised \$165 million in financing. Security compliance and automation platform Drata raised a \$200 million Series C round in December 2022, taking the company's valuation to \$2 billion.







ECOSYSTEM VALUE (H2 2020 - 2022)

\$96 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$3.2 bn



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

24%

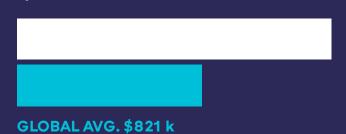
GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$1.4 m



MEDIAN SERIES A ROUND

\$12 m

(H2 2020 - 2022)



SOFT. ENGINEER SALARY (2022)

\$100 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$23 bn



TIME TO EXIT (2018 - 2022)

10.7 years



EXIT AMOUNT (2018 - 2022)

\$29 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

280



GLOBAL AVG. 91 🔷









Cleantech

San Diego's Cleantech sector has an economic impact of \$8.2 billion. Cleantech San Diego, a supporting organization of the Cleantech Forum North America, connects startups with investors and corporate partners. In July 2022, San Diego Gas & Electric, in collaboration with Cleantech Nuvve, announced the success of a pilot project to use electric school buses. In July 2022, battery materials company Wildcat Discovery Technologies raised a \$90 million Series D.



Life Sciences

San Diego is ranked the fifth strongest Life Sciences labor market for research talent in the U.S., with the highest density of biochemists, biophysicists, and other biological scientists and the second highest density of chemists. The development of Bioterra, a \$202 million biotech facility, was announced in late 2022. Targeted radiopharmaceutical company RayzeBio raised a \$160 million Series D in September 2022. Clinical-stage company Escient Pharmaceuticals closed a \$120 million Series C in November 2022.



Al, Big Data & Analytics

In July 2022, a National Science Foundation initiative created the Institute for Emerging CORE Methods in Data Science, a \$10 million institute at the University of California San Diego. The Emerging Topics in Artificial Intelligence 2022 conference was held in August. In April 2023, the Artificial Intelligence for Early Drug Discovery conference gathered experts in the field. In December 2022, defense technology company Shield AI raised an additional \$60 million in Series E financing, closing out the round at \$225 million.

Reasons to Move Your Startup to San Diego

Business-Friendly Environment

San Diego has reduced permit processing times and fees and modified codes to provide businesses with regulatory relief. Its Online Business Portal further assists entrepreneurs. The City's Economic Development Department has a proactive Business Expansion, Attraction and Retention Division that works directly with businesses in targeted industries, providing assistance and incentives.

Quality of Life

Housing is significantly cheaper in San Diego than in other top California hubs, and the overall cost of living is more affordable. Job growth for the next 10 years is estimated to be 34.9%, outpacing the 33.5% forecast for the rest of the country.. San Diego's Climate Action Plan sets a goal of net-zero greenhouse gas emissions by 2035. SANDAG's Regional Transportation Plan seeks to reduce local reliance on cars.

Tax Incentives

City of San Diego tax incentives include the Business Cooperation Program, which can provide tax rebates when a business implements new practices for sales, purchasing, or tax accounting. The Fee Payment Incentive Program allows businesses to recoup certain fees associated with submitting and securing building permit entitlements.



Sharjah

MEMBERS:

Sharjah Entrepreneurship Center

"Sharjah continues to be the leading destination for entrepreneurs creating positive impact, driving innovative solutions and contributing to the nation's socio-economic growth. Sheraa is proud to be the catalyst behind these relentless changemakers."



Najla Al Midfa
CEO, Sharjah Entrepreneurship Center (Sheraa)

XXStartup Genome

XX Startup Genome

XStartup Genome

MENA Ecosystem in Affordable Talent

MENA Ecosystem in Bang for Buck MENA Ecosystem in Performance

Top 10





Highlights

When it comes to innovation, the UAE is aiming high, and Sharjah is playing a key role in reaching these ambitious goals. The National Agenda for Entrepreneurship includes 29 initiatives and incentive packages aimed at having one million startups and 10 locally incubated unicorns. In October 2022, the UAE Ministry of Economy launched the Entrepreneurial Nation 2.0 program, which seeks to develop more than 8,000 SMEs and startups by 2030.

The Sharjah Entrepreneurship Centre (Sheraa) has supported more than 150 startups since its inception in 2016 through a soft-landing scheme and accelerator and incubation programs that provide access to mentorship, customers, and capital. Sharjah Startup Studio (s3) is a six-month equity-free accelerator program that is personalized to serve participating startups' needs. It uses a collaborative model to help founders develop an MVP and launch, including access to seed funding, dedicated experts, product development capabilities, and business framework creation and setup. Sheraa has a focus on Edtech, Cleantech, and creative industries in 2023, with the goal of producing more local impact-driven startups. The organization has the goal of developing future-ready talent and has upskilled more than 6,000 youth in entrepreneurship and skills of the future. Other local startup support programs include the Badiri Entrepreneurship Programme, which has graduated more than 1,000 female founders.

The Sharjah Investment Forum took place in February 2023, providing valuable networking opportunities and investment connections and featuring a pitch competition and hackathon. Sharjah and Hong Kong signed a strategic investment partnership at the event.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$349 m

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$46 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS. H2 2018 - H2 2020)

50%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND

(H2 2020 - 2022)

\$550 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$3 m



SOFT. ENGINEER SALARY (2022)

\$31 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$204 m



TIME TO EXIT (2018 - 2022)

6 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$9.5 m



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)









Cleantech

In February 2023, the Sharjah Entrepreneurship Center launched the Access Sharjah Challenge 2023, calling for global startups to implement solutions with corporate partners worth AED 250,000 (\$70,000) in commercial value. Sharjah Waste to Energy plant aims to make Sharjah the Middle East's first zero-waste city. Sharjah Sustainable City is a planned community designed to improve quality of life for residents without compromising future generations. It includes smarthome automation, water-saving appliances, and other Cleantech innovations.



Digital & Creative Industries

Sharjah Media City (Shams) is a free zone dedicated to creative startups. Created in collaboration with UAE-based venture building studio Grow Valley, Shams Valley aims to shape the future of media in the region. Through a partnership with venture debt platform Funding Soug, Shams also provides financing for startups and SMEs. Sheraa provides strategic connections and introductions to both public and private sector partners, which provide creative startups with a competitive advantage and allows them to kick-start their impact.



Edtech

The pandemic accelerated the adoption of digital technology education in the Gulf, and with the support of the University City in Sharjah, the subsector is poised to grow further. Sheraa-incubated Oktopi acquired the U.K. Edtech startup Tutor House in October 2022. Online learning platform Almentor partnered with HBMSU to launch an entrepreneurship initiative for Arab youth. Almentor has raised \$24.5 million over six rounds, with the most recent a March 2023 \$10 million Series C round.

Reasons to Move Your Startup to Sharjah

Skilled Talent

The University City of Sharjah is home to more than 20 educational institutions. Sheraa has hubs at both the American University of Sharjah and University of Sharjah, providing youth incubation and upskilling programs as well as the Startup Career Fair, which provides startups with the opportunity to connect with exceptional talent from both of the universities.

Growing Economy

In 2021, Sharjah's GDP was \$35.5 billion. The UAE boasted GDP growth of 7.6% in 2022 and has projected growth of 4.2% in 2023. The country offers a business-friendly environment, including modern legislation, future-ready infrastructure, a talented workforce, and an ecosystem of more than 60,000 SMEs and startups, and Sharjah is a major part of this growing economy.

Dedicated Support

The Sharjah Entrepreneurship Center (Sheraa) is a government-supported entity with a mandate to build the entrepreneurial ecosystem and support entrepreneurs. Invest in Sharjah is a strategic partner for global investors looking to grow their business in the emirate. It provides expert market knowledge, access to investment opportunities across a range of sectors and industries, and step-by-step guidance.





GSER CLIMATETECH EDITION

STARTUP GENOME MEMBERS

MEMBER

Sharjah Entrepreneurship Center

The Sharjah Entrepreneurship Center (Sheraa) is a government-supported entity launched in 2016 with a mandate to build the entrepreneurial ecosystem in Sharjah and support entrepreneurs as they build and grow innovative startups that will contribute positively to the region's economy. Sheraa works with entrepreneurs to build, launch, and scale startups that go on to make a significant impact in their communities. The organization also has a strong focus on empowering the next generation of changemakers, through hackathons and capacity building programs at university hubs. Sheraa also hosts the annual Sharjah Entrepreneurship Festival, which has attracted over 18,000 attendees over six years. Its offerings support the full spectrum of entrepreneurship, from motivating youth to scaling startups, driving Sharjah's vision of being a world-class entrepreneurship hub.

KEY ECOSYSTEM PLAYERS

Invest in Sharjah

Sharjah's investment promotion agency and a strategic partner for global investors looking to grow their business in the emirate of Sharjah.

Sharjah Research Technology & Innovation Park (SRTIP)

SRTI Park aims to develop and manage an innovation ecosystem within a free zone that promotes Research and Development and supports enterprise activities.



Sri Lanka

MEMBERS:

Information and Communication Technology Agency of Sri Lanka

"Sri Lanka is creating an ecosystem to build products for Govtech, Agtech, and Green Energy with global application. Fueled by world-renowned tech talent and award-winning coworking spaces, incubators, and accelerators, Sri Lanka boasts of a steady growth in ecosystem value targeting US\$1 billion by 2024."



Mahesh Perera
CEO, ICT Agency of Sri Lanka

XStartup Genome

Startup Genome

XStartup Genome

Asian Ecosystem in Affordable Talent

Asian Ecosystem in Funding

Global Ecosystem

#4





Highlights

The startup ecosystem in Sri Lanka has been growing steadily over the past decade with the island currently home to 748 startups. Startup SL aims to create 1,000 new startups by 2025, and there are numerous initiatives helping make this a reality. Innovate Lanka assists startups with funding and acceleration, and the winner of the Innovate Lanka 2022 competition entered the Global Entrepreneurship Network (GEN)-Global Programme. Microsoft for Startups Founders Hub was launched in October 2022. AccelerateHER, from Hatch and the U.S. Department of State, is Sri Lanka's first accelerator for female founders. John Keells X is an accelerator and open innovation program that helps startups obtain the funding, training, and connections to scale. In February 2022, work began on the first of five tech parks aiming to attract foreign investment and establish Sri Lanka as an innovation hub. Global Entrepreneurship Week Sri Lanka was hosted by the Information and Communication Technology Agency of Sri Lanka (ICTA) in December 2022.

In April 2023, the President instructed the Ministry of Technology to form an Al task force with an aim of increasing the nation's Al activity. At DIGIECON 2030, a digital economy 2030 master plan and a regulatory policy framework were developed, aimed at transforming the country into an inclusive digital economy. Colombo- and Jaffna-based Hatch was named the best coworking space in the world at the Global Startup Awards 2021.







ECOSYSTEM VALUE (H2 2020 - 2022)

\$244 m

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$11 m

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

20%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$90 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$545 k

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$6 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$128 m

GLOBAL AVG. \$6.6 bn

TIME TO EXIT (2018 - 2022)

5.8 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$75 m



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)









Cleantech

The Sri Lankan government aims to generate 70% of the nation's electricity from renewable sources by 2030 and reach net zero by 2050. In 2022, Adani Group was granted approval to develop 500MW of renewable energy projects. The group is expected to invest \$500 million. NTPC Limited and Ceylon Electricity Board, the state-owned electricity company of Sri Lanka, are collaborating to develop a 50MW solar-power plant.



Govtech

The Lanka Government Network connects over 860 state institutions, and the Lanka Government Cloud provides hosting to 150 government agencies. The National Data and Identity Interoperability Platform bridges government information systems. In 2022, the ICTA launched the Digital Libraries Project to establish 26 model digital libraries and the government announced the biometrics Unique Digital Identity program. The National Fuel Pass is a digital service that keeps track of drivers' fuel quota.he Courts Automation Project aims to improve efficiency by establishing an ICT-based court management system.



Agtech & New Food

The International Water Management Institute and the Department of Agrarian Development Sri Lanka launched the GeoGoviya monitoring and feedback system to improve coordination and information sharing in the Agriculture sector. In 2022, the Bill and Melinda Gates Foundation offered to assist Sri Lanka in the development of Farmer Data Management Systems and Digital Strategy. In early 2023, the government announced several initiatives to enhance food security, including the National Food Security Act.

Reasons to Move Your Startup to Sri Lanka

Access to Talent

Sri Lanka has a sizable talent pool that provides international startups with affordable resources. Initiatives to further strengthen the talent pool include XpressJobs and ICTA's initiative to help startups improve their recruitment. The University of Moratuwa's open learning platform provides free training in full-stack development. The National Future Talent Initiative provides youth with a guided path to pursue careers in IT and business.

Startup-Friendly Environment

Sri Lanka's proximity to the Indian sub-continent positions it as a gateway to a market of 1.3 billion people, and the nation is an established offshoring location. New economic zones are planned in the country's western and north-western provinces, as well as in Hambantota and Trincomalee districts, to attract foreign investment. Foreign investors maintain 100% ownership of investments.

Dedicated Support

The Spiralation Startup Incubator provides support for early-stage technology entrepreneurs, including seed funding, training, networking, and business promotion opportunities locally and internationally. ICTA's 10,000 Ideas Startup Challenge is an innovation program to empower the next generation of tech entrepreneurs, and ICTA's partnership with Brandix Apparel will fund 10 selected startups. SPARX Lab nurtures early-stage startups with guidance, mentoring, and networking opportunities.





Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Information and Communication Technology Agency of Sri Lanka

Information and Communication Technology Agency (ICTA) of Sri Lanka is the apex ICT institution of the government. In terms of the Information and Communication Technology Act No. 27 of 2003, (ICT Act) as amended by Act No. 33 of 2008, ICTA has been mandated to take all necessary measures to implement the Government's Policy and Action Plan in relation to ICT, in terms of the Section 6 of the ICT Act.

KEY ECOSYSTEM PLAYERS

BOV Capital

A Sri Lanka/Singapore-based VC fund that investing technology startups from seed stage to Series A. We focus on investing in early-stage ventured with proven product-market fit that can demonstrate scaling.

John Keells X

A corporate startup accelerator and open innovation program run by John Keells Holding PLC, Sri Lanka's largest listed conglomerate operating in diverse industry verticals.

Yarl IT Hub

Yarl IT is an organization by the community for the community, focused on being a catalyst for entrepreneurship and innovation development in the Northern Province of Sri Lanka.

Hatch Works Pvt Ltd

Providing startups with all the guidance and support services they might need to innovate, grow, and succeed.

Lankan Angel Network

Sri Lanka's largest network of angel investors. Founded in 2012, with the purpose of bringing together the Sri Lankan investor and mentor community and to scale the startup ecosystem.





Sweden

Stockholm





#3 Cleantech Ranking



#15 Agtech Ranking

The entrepreneurial excellence of Stockholm and Sweden comes from a long history of successful businesses based on Deep Tech innovation. This has shaped a culture of confident individuals willing to take risks in which startups work closely with both universities and capital — a recipe for creating successful unicorns.



Thomas Öström Cleantech Entrepreneur



Talent & Experience

in Knowledge

Global Ecosystem Global Ecosystem

Top 25

Global Ecosystem in

Top 35

Top 25

Highlights

Despite having just 10 million inhabitants, Sweden is a hotbed for tech innovation. Recent reports from the European Commission and World Intellectual Property Organisation ranked Sweden the most innovative country in the E.U., and third in the world. Sweden also came in third in the IMD World Digital Competitiveness Ranking 2022 thanks in part to its high number of startups.

Stockholm is the heart of Sweden's innovation economy, attracting more than 50% of the country's total foreign direct investment. The ecosystem has a strong focus on social good. Stockholm is home to more than 240 impact startups and in 2021, 57% of the \$3.6 billion raised by the ecosystem's startups went to impact startups. The Norrsken Foundation created the Impact100 annual list of the world's most promising impact startups, and has been referred to as the Nobel Prize for Impact.

Private equity and venture firm EQT closed a €2.2 billion fund in September 2022.Stockholm School of Economics' startup incubator SSE Business Lab raised 40 million SEK (\$3.6 million) for its new evergreen fund, SSE Ventures, the same month. Female founded VC firm BackingMinds closed a €50 million fund in November 2022.

The 2022 Global Impact Summit, Stockholm took place in November. The annual Stockholm Impact Week brings together startups, talent, investors, business leaders, and policymakers. Women In Tech Sweden aims to inspire and support women in tech.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$88 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$3.3 bn



GLOBAL AVG. \$970 m

GLOBAL AVG. 47%

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

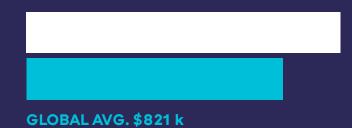
114%

NUMBER OF UNICORNS (H2 2020 - 2022)



MEDIAN SEED ROUND (H2 2020 - 2022)

\$997 k



MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$5.8 m



SOFT. ENGINEER SALARY (2022)

\$56 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$17 bn



TIME TO EXIT (2018 - 2022)

10.1 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$44 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

307



GLOBAL AVG. 91 🔷









Cleantech

Stockholm aims to be fossil free and climate positive by 2040. Sweden was ranked #5 in the Climate Change Performance Index 2023 and #5 in the Environmental Performance Index 2022. In September 2022, Hexagon announced a new venture capital arm of its sustainableinnovation investment subsidiary. H2 Green Steel joined seven European Cleantech companies to form a Cleantech scaleup coalition. Carbon-accounting engine Normative.io has raised \$45.3 million over four rounds and Volta Trucks has raised \$391 million over five rounds.



Fintech

Sweden is leading the way towards a cashless society with an increasing number of Swedes using smartphones for payments. More than 4,000 Swedes have had a microchip implanted in their arm to make payments instead of carrying bank cards. SthIm Fintech Week, held in February 2023, brought together attendees from 21 countries. Smart economy app Anyfin raised a €30 million Series C in January 2023. Fintech giant Klarna has raised a total of \$4.5 billion over 30 rounds.



Life Sciences

More than 50% of Sweden's Life Science industry is located in Stockholm. The International Vaccine Institute opened its European office here in 2022, and science city Hagastaden is one of Stockholm's largest development projects. Tenants include AstraZeneca, 10X Genomics, Immedica Pharma, GHP, Sirona and Polarium. Pfizer relocated its headquarters to Hagstaden in February 2023. Stockholm Life Tech is a project to develop research and innovation infrastructure in the region.

Reasons to Move Your Startup to Stockholm

Established Startup Community

The birthplace of Skype, Klarna, and Spotify, Stockholm has produced more unicorns per capita than any other European city. The ecosystem has a reputation for strong collaboration, as well as a keen focus on sustainability and mission. Stockholm offers a high survival rate for startups, a high density of angel investors and VCs, and support from state-run agencies.

Opportunities for International Talent

The Swedish government offers visa sponsorship jobs that allow international workers to relocate to the nation. Most jobs in the scheme are in IT, engineering, healthcare, and other skilled industries. The 2022 IMD World Talent Ranking ranked Sweden #2 among 63 economies in attracting and retaining talent. English is the office language at many Swedish tech companies.

Quality of Life

Several rankings rate Sweden highly for its quality of life, citing the country's level of freedom, environmental performance, happiness levels, and its welcoming attitude towards migrants. The nation is home to excellent universities, and tuition is subsidized for students from Sweden, the EU/EEA area, and Switzerland. There are scholarship programs that cover tuition and living costs for highly qualified students from developing nations.



Startup Genome









#20 Global Ranking #21 Agtech Ranking #13 Fintech Ranking



MEMBERS:

Investment NSW

"Sydney has the #1 ranked startup ecosystem in Oceania and with anchor tenants like Atlassian and Block, the appeal of Tech Central is genuinely global. Whether you're in London, Tokyo or Mumbai, everyone knows the value of locating near these unicorns."



Katie Knight CEO, Investment NSW







in Performance

Global Ecosystem Global Ecosystem in Talent & Experience







Highlights

With the largest economy in Australia, Sydney is also the country's financial center and a fast-growing startup hub. The ecosystem is anchored by tech success stories including Canva and Atlassian. In 2022, Atlassian began construction on a new AU\$1.4 billion (\$948.8M), 39-story headquarters, which will anchor the Tech Central Innovation District.

Sydney is home to the regional headquarters of over 600 multinational companies, including Amazon, Microsoft, and Google, which developed Google maps in the city. In early 2023, one of the world's largest pre-seed investors, Techstars, moved its flagship accelerator program to Sydney's Tech Central district. The Network Readiness Index 2022, a leading index of the impact of ICT in economies, ranked Australia #14 out of 131 economies. Leading VC firms Blackbird Ventures, AirTree Ventures, Square Peg Ventures, and Main Sequence Ventures all have headquarters or offices in Sydney.

Much of Australia's quantum research, industry capability, and investment is concentrated in Sydney, which has the full stack of quantum capabilities and a global hub of quantum expertise including over 160 active quantum PhDs and over 100 quantum university researchers. Quantum startups headquartered here include Quantum Brilliance, Diraq, and Australia's first VC-backed quantum company, Q-CTRL, as well as Silicon Quantum Computing, which received \$83 million in seed funding from shareholders including the Australian and NSW State Governments to build the world's first silicon quantum computer. Quantum Australia Conference and Careers Fair returned to Sydney in 2023. Additionally, CISO Sydney 2023 was held in February and Smart City Expo 2023 in March.







ECOSYSTEM VALUE (H2 2020 - 2022)

\$78 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$2.2 bn

GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

86%



GLOBAL AVG. 47%

NUMBER OF UNICORNS (H2 2020 - 2022)



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$1 m

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$7.5 m

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$78 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$9.1 bn

GLOBAL AVG. \$6.6 bn

TIME TO EXIT (2018 - 2022)

9.5 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$12 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)

277

GLOBAL AVG. 91









Fintech

Home to the headquarters of 60 of Australia's 64 banks, Sydney is also home to 954 Fintech startups. In 2022, Sydney was the most active city in Australia for Fintech funding, with 42 deals announced, accounting for 37% of the sub-sector total. The FinTech Summit 2023 will take place in October. Online brokerage platform Stake has raised a total of \$70.3 million over three rounds. Pocketmoney app Spriggy has raised a total of \$62.1 million over six rounds.



Cleantech

A member of the global Race to Zero initiative, NSW is set to halve emissions by 2030 and has a target to reach net zero by 2050. Sydney is also home to EnergyLab, Australia and New Zealand's largest Climatetech accelerator. In February 2023, EnergyLab announced the Supercharge Australia Innovation Challenge to drive local lithium battery innovation.



Advanced Manufacturing & Robotics

The NSW manufacturing industry produces almost one third of Australia's total manufacturing output, generating around \$33 billion. \$262 million is being invested in Western Sydney for an Advanced Manufacturing Research Facility (AMRF) with the aim of making the area the national capital of Advanced Manufacturing. Hitachi will establish a collaborative creation center in the AMRF. Al robotics company Advanced Navigation has raised a total of \$85.2 million over five rounds, including a \$68 million Series B in November 2022.

Reasons to Move Your Startup to Sydney

Supportive Business Environment

Three startup hubs support businesses from startup to scaleup across Sydney and Western Sydney: The Sydney Startup Hub, Western Sydney Startup Hub, and Tech Central Scaleup Hub.

Educated Workforce

Australia's scientific institutions rank in the top 1% in the world in 15 fields of research, including space science, computer science, and medicine. Sydney is home to five internationally ranked universities and the city ranked #8 in the QS Best Student Cities 2022 report. More than 50,000 international students come to Sydney each year, contributing to the city's diverse and inclusive culture.

Quality of Life

Diverse and metropolitan, Sydney is Australia's most populated city. According to a 2023 survey from The Committee for Sydney, 83% of Sydney residents were satisfied with their quality of life, compared to 75% of New Yorkers and 76% of Londoners. Sydney ranked #13 out of 50 cities in the Internations Expat City Ranking 2022. World famous Bondi Beach is just 8 km from the city center.



Selected Startup Organizations

STARTUP GENOME MEMBERS

MEMBER

Investment NSW

Investment NSW is the New South Wales (NSW) Government's economic development and attraction agency, with a mandate to reinforce NSW as the most desirable place in the world to visit, study, invest and do business. It helps drive the state's economic growth and transformation by showcasing NSW business, events, tourism and education for new markets and investors in Australia and around the world.

KEY ECOSYSTEM PLAYERS

Q-CTRL

Quantum technology promises to transform the economy. Q-CTRL expands the utility of quantum computers and delivers new quantum sensing capabilities, all through software.

Launch Pad Western Sydney University

Western Sydney University's Launch Pad is a Tech Startup Incubator operating since 2015. Launch Pad was established to enable the growth of a startup community in Western Sydney and drive the development of a sophisticated innovation ecosystem for the region.

Techstars

Techstars is an accelerator committed to supporting and advancing worldclass startups focused on emerging technologies across industries including Al, advanced manufacturing, Blockchain, Fintech, cloud computing, Cybersecurity, quantum computing, creative tech, and Climatetech.

Cicada Innovations

Cicada Innovations is Australia's leading Deep Tech incubator, with a 20-year track record of developing ventures focused on the world's most pressing problems and promising opportunities.

Stone & Chalk

The largest innovation community in Australia, Stone & Chalk brings together founders, investors, industry stakeholders and mentors into one network to drive growth and commercial success for tech startups and scaleups.

Startmate

The epicenter for startup ambition across Australia and New Zealand. Startmate accelerates the most ambitious founders, operators and investors through its programs, propelled by a highly-trusted mentor-driven community, and backed by the best angels, venture funds and tech startups in the region.





MEMBERS:

Smart Capital / Caisse des Dépôts et Consignations (CDC)

"Tunisia is in the top 10 emerging ecosystems in terms of available funding for startups and innovative SMEs. It is ranked first in the MENA region in terms of accessible talent."



Ms. Nejia Gharbi CEO , CDC Tunisia

XStartup Genome

XStartup Genome

MENA Ecosystem

in Funding

Startup Genome

Global Ecosystem in Affordable Talent

MENA Ecosystem in Knowledge

Top 15



Top 10

Highlights

In 2018, Tunisia was the first African country to sign a startup bill into law. Since then, Tunisia has officially recognized more than 650 startups, launched a €100 million fund of funds, and started the Flywheel program to support the ecosystem. Startup Tunisia offers grants of up to TND 200,000 (\$63,000) to support the launch of new startup support programs. Air2 offers up to TND 200,000 (\$63,000) to seed-stage startups to support them as they raise larger amounts.²

In 2022, KfW Development Bank subscribed €20 million to the ANAVA fund, which reached €60 million. ANAVA invested in two prominent VC funds in 2022: 216 Capital Fund I, a seed-stage fund that backs Tunisian tech-startups managed by 216 Capital Venture, and Badia Impact Squared, a late-stage fund investing in startups across MENA and managed by Silicon Badia. Badia Impact Squared led a \$20 million round for Expensya, a Tunisian B2B Expense Management Platform, in 2021.

The Tunisia Support Project for Innovative Startups and SMEs received a \$75 million loan from the ANAVA fund of funds, including \$17 million to the \$43 million INNOVATECH Fund, which launched in February 2022. The government's 2023–2025 Development Plan includes green projects worth €2.1 billion, including a green hydrogen project, and a national roadmap on green hydrogen was launched in March 2023. Notable deals in the ecosystem include grocery delivery company Appetito's acquisition of last-mile delivery startup Lamma for \$12.5 million in June 2022 and Edtech GOMYCODE's \$8 million Series A the same month.





ECOSYSTEM VALUE
(H2 2020 - 2022)
\$120 m

GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$22 m

GLOBAL AVG. \$970 m

GLOBAL AVG. 47%

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

17%

NUMBER OF UNICORNS (H2 2020 - 2022)

0

GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$100 k

GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$4.7 m

GLOBAL AVG. \$6 m

SOFT. ENGINEER SALARY (2022)

\$7 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$81 m

GLOBAL AVG. \$6.6 bn

TIME TO EXIT (2018 - 2022)

11 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$28 m



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)



GLOBAL AVG. 91 ◆









Al, Big Data & Analytics

The Tunisian national roadmap 2020–2023 includes investments in AI R&D, policy reforms to enable development in the area, and a focus on international cooperation. Al Hack Tunisia 2022, which took place in August, included a Machine Learning Challenge. German biotech company BioNTech acquired Tunisian AI startup InstaDeep for £562 million (\$680 million) in January 2023.



Life Sciences

Connect'Innov supports and promotes Life Sciences innovation, particularly in telehealth and biotech. The Tunisian Association for Health Promotion, in partnership with the World Health Organisation, hosted the Africa and Middle East Digital Health Conference and Exhibition in Tunisia in September 2022.



Blue Economy

The UN SwitchMed Blue Economy initiative includes a project to make Tunisia's aquaculture value chain more efficient and sustainable. SwitchMed II uses technology to improve fish farm economics and reduce environmental impact. The government has established two research institutes related to the ocean. In 2022, Tunisia released a report on the Blue Economy that includes initial guidelines for a national strategy. The World Bank is advising on institutional policies and in November 2022 announced a \$13.5 million Blue Economy program to catalyze financing on the African coast.

Reasons to Move Your Startup to Tunisia

Strategic Location

Positioned at the northern tip of Africa, Tunisia is at the heart of the Euro-Mediterranean and Middle East logistics chain and is an ideal export platform to several global growth markets. Tunisia is in the same time zone as many European countries, making it an ideal base for remote workers serving the continent.

Entrepreneurship Education

All of Tunisia's universities now offer courses in entrepreneurship. Student enterprise clubs, businessplan contests, and ideas competitions are driving interest in entrepreneurship among young people. The Tunisia Support Project for Innovative Startups and SMEs aims to build entrepreneurial skills, and there are more than 50 startup support organizations in the ecosystem.

Dedicated Support

The Startup Act makes startups exempt from corporate tax and allows them to apply for a label that provides the right to open accounts in foreign currency, enabling them to invest freely and without authorizations. It also allows startups to create subsidiaries abroad and take shareholdings in companies abroad. Tunisia has 15 cyberparks covering various specialties that work as incubators for ICT businesses.





Selected Startup Organizations

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's three components: Startup Act, the law and its incentives; Startup Invest, which oversees funding; and Startup Ecosystem, which backs 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.

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, it supports state policies in sustainable development goals and projects. The CDC distinguishes itself by its unique economic model, and is characterized by its mode of governance, its investment doctrine, and its risk management. It is a key player in the long-term economic and social development of Tunisia.

KEY ECOSYSTEM PLAYERS

Open Startup Tunisia

Open startup is a Tunisian organization aspiring to bridge the gap between the educational system and the entrepreneurial ecosystem in Tunisia, MOROCCO, SENEGAL and Jordan.

Africinvest

Africinvest is an investment and financial services company. The company has dedicated investment teams focused on North Africa and Sub-Saharan Africa.

Beta Cube

Betacube is a Tech Venture builder that invests, builds, and grows B2B-based startups in Fintech and Mobility.

Connect'innov

Connect'innov Lab is the first accelerator 100% dedicated to startups in the HealthTech vertical. It provides technical support and access to global markets.

Novation City

Novation City runs a full program from ideation to prototyping for AI Startups 216 Capital is a venture capital firm focusing on early-stage technology and Industry 4.0 solutions.

216 Capital

companies.



United States

Washington, D.C.





"Washington, D.C. is rapidly growing as a hub for startups, bolstered by supportive policy measures. D.C.'s innovation scene is uniquely intertwined with the federal government, making it an attractive location for startups seeking regulatory insight."



Caleb Watney Cofounder, Institute for Progress







North American **Ecosystem in Funding** in Performance

Top 15

Global Ecosystem Global Ecosystem in

Top 10



Highlights

Washington, D.C. may be more well known for politics than for entrepreneurship, but the U.S. capital has been gaining a reputation as a startup hub. More than 16,000 tech companies are based in Washington, D.C., making it one of the country's largest tech hubs. The ecosystem benefits from a growing tech talent pool and proximity to relevant federal government departments, including the Federal Communications Commission and the Department of Homeland Security, as well as an abundance of Fortune 1000 companies headquartered in the area.

WalletHub ranked Washington, D.C. the 3rd most educated city in America in 2022. The city is home to several prestigious universities, including Georgetown University, Howard University, and American University and has one of the nation's most educated populations. Techstars Washington, DC Powered by J.P. Morgan was announced in March 2022, with a goal of providing equitable access to funding and support for underrepresented founders. It's first cohort started the following September. In May 2022, the mayor announced that the district would invest \$5 million to develop two innovation districts to leverage existing economies to spur new ideas for growth and development: the Penn West Equity and Innovation District ("Penn West") and the Mobility Innovation District (MID).

The annual DC Blockchain Summit was held in March 2023.Recent large deals include insurtech company Pie Insurance's \$315 million Series D in September 2022 and auto Fintech Caribou's \$115 million Series C in May 2022.





ECOSYSTEM VALUE (H2 2020 - 2022)

\$81 bn



GLOBAL AVG. \$34.6 bn

TOTAL EARLY-STAGE FUNDING (H2 2020 - 2022)

\$3 bn



GLOBAL AVG. \$970 m

ECOSYSTEM VALUE GROWTH (H2 2020 - H2 2022 VS H2 2018 - H2 2020)

44%

GLOBAL AVG. 47%



15

(H2 2020 - 2022)

NUMBER OF UNICORNS



GLOBAL AVG. 4

MEDIAN SEED ROUND (H2 2020 - 2022)

\$800 k



GLOBAL AVG. \$821 k

MEDIAN SERIES A ROUND (H2 2020 - 2022)

\$10 m



SOFT. ENGINEER SALARY (2022)

\$93 k



GLOBAL AVG. \$46 k

EARLY-STAGE FUNDING GROWTH (2019 - 20 VS. 2021 - 22)



Scale of 1 (lowest) to 10 (highest)

TOTAL VC FUNDING (2018 - 2022)

\$21 bn



TIME TO EXIT (2018 - 2022)

10.8 years



GLOBAL AVG. 9 years

EXIT AMOUNT (2018 - 2022)

\$33 bn



GLOBAL AVG. 11.3 bn

EXIT COUNT (#) (2018 - 2022)



GLOBAL AVG. 91

2018 2019 2020 2021 2022







Life Sciences

The DC/Baltimore region is #2 in the U.S. for Life Sciences research talent, according to CBRE's Life Sciences Research Talent 2022 report. The report cited the area's strong industry presence and top-ranked universities, including George Washington University, Johns Hopkins University, and George Mason University. As of June 2022, Johnson & Johnson JLABS hub was home to more than 25 early-stage Life Sciences companies. Medtech Current Surgical raised a \$3.2 million seed round in February 2023.



Cybersecurity

The 2022 Cybersecurity conference was held in October, as was the most recent edition of the annual Women in Cybersecurity Reception. The Billington CyberSecurity Summit is scheduled for September 2023. Social engineering prevention and detection platform Picnic raised a \$14 million Series A in February 2022. Cybersecurity startup GreyNoise Intelligence closed a \$15 million Series A in June 2022.



Cleantech

n July 2022 the D.C. council passed the Climate
Commitment Act, pledging to reach carbon neutrality
by 2045. The District of Columbia ranked sixth among
states on the 2022 State Energy Efficiency Scorecard
from the American Council for Energy Efficient
Economy. Electric vehicles infrastructure platform
Inspiration Mobility raised \$215 million in May 2022.
Climate technology company Arcadia raised \$125
million in December 2022 after raising \$200 million in
May 2022.

Reasons to Move Your Startup to Washington, D.C.

Access to Funding

The Office of the Deputy Mayor for Planning and Economic Development's (DMPED) Vitality Fund assists businesses within targeted sectors to relocate, expand, or remain in D.C. In September 2022, DMPED and 1863 Ventures opened applications for the latest round of the Inclusive Innovation Equity Impact Fund. In September 2022, Comcast's RISE's DC program announced it was awarding an additional \$1 million in small business grants for local founders from marginalized groups.

Tax Incentives

Qualified high technology companies can claim tax benefits to support their growth, including a reduced capital gains tax rate of 3%, a new hire wage tax credit of up to \$15,000 annually for each qualified disadvantaged employee, a new hire retraining tax credit, and a five-year freeze on real property taxes for office improvements. The Creative and Open Space Modernization Tax Rebate offers qualifying companies a tax rebate of up to \$1 million annually for five years to assist with office improvements.

Tech Talent

The Scoring Tech Talent 2022 report from CBRE found that the D.C. region is the fourth best market for talent thanks to the size of its talent pool and the large number of tech graduates. The D.C. region also ranks #1 for diversity among major tech hubs, with 31.4% of IT professionals women. D.C. ranks second best for the percentage of women in the tech workforce, according to a SmartAsset analysis.



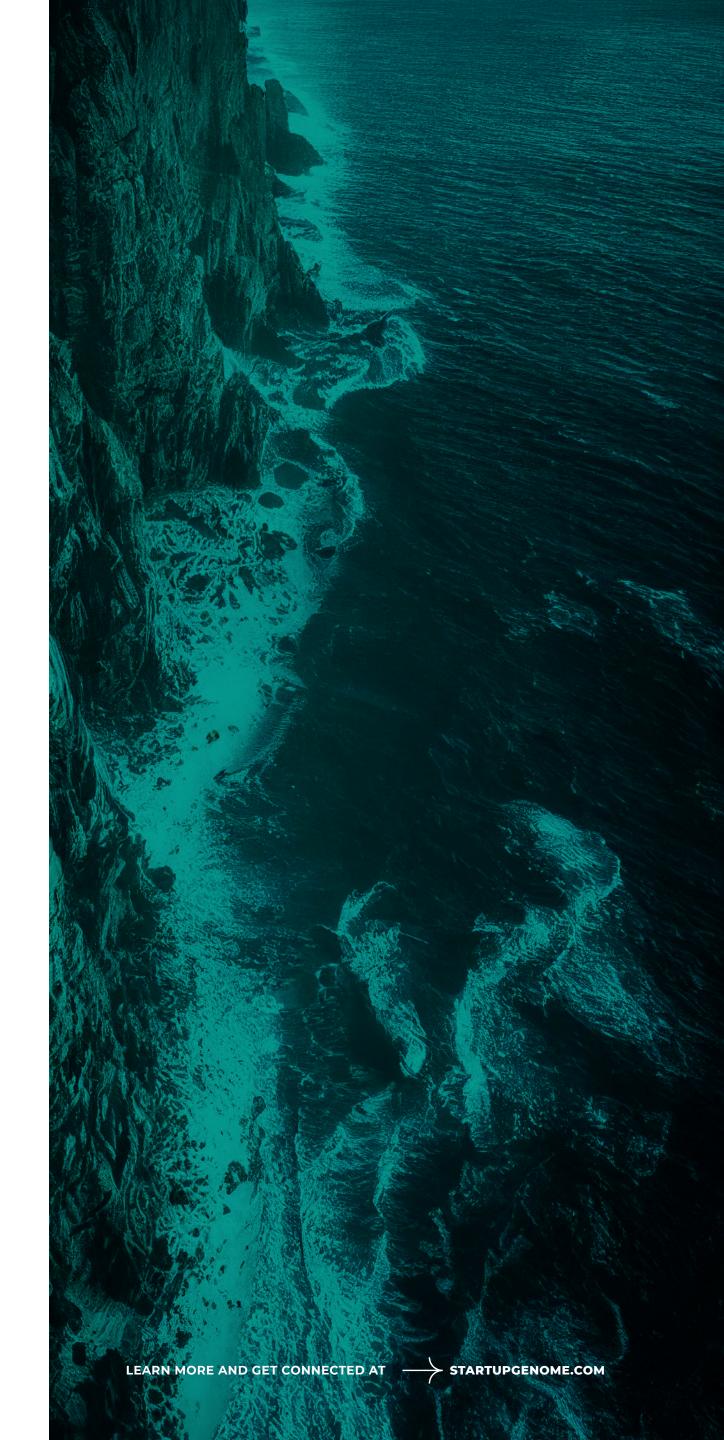


Methodology, References & Acknowledgments

137 _____ Methodology

141 _____ References

142 _____ Acknowledgments





Methodology

Our quantitative data infrastructure is the world's most comprehensive and quality controlled.

We study 3.5 million companies across 290+ startup ecosystems, combine data from the three leading venture funding databases and then remove duplicates and clean with an AI engine, machine learning techniques, and a manual review. Additionally, we work with 50+ countries to power and update the data found in our reports and policy consultancy work.

Key Definitions

Ecosystem: We define a startup ecosystem as 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 reality. 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.

- 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.

Exit: An exit, in the context of startups, refers to an event in which the founders, investors, or employees of a startup realize a return on their investment by selling their ownership stake in the company. Exits include IPOs, M&A, buyouts, and reverse mergers. Starting from this year's ranking, we are including buyouts and reverse mergers as valid exit types. We only include the first exit as relevant.

H1/H2: Fiscal periods of half a year, in which January–June is H1 and July–December is H2. Similarly, Q1, Q2, etc. refers to the four fiscal quarters of a year (January–March, April–June, etc.).

Regions: We define global regions based on UN and World Bank Definition and divide all countries into seven regions: Asia, Europe, Latin America, MENA, North America, Oceania, sub-Saharan Africa. For a full list of which ecosystems are included in each region, please see here.

Startup: We define a startup as an innovative or technology-driven company that was founded within the last 10 years and that has technology and/or scalability at the core of its business model. In addition to software, this includes startups active in Deep Tech, such as Robotics, Life Sciences, and more.

Unicorn: A startup that meets our definition and has been valued at more than \$1 billion and has not exited.







General Methodology

XX Startup Genome

The Startup Genome quantitative data infrastructure includes data on over 3.5 million companies, 280+ ecosystems, and survey data from more than 10,000 startup executives across the globe. These are the main datasets that make up this data science infrastructure:

- Startup Genome proprietary data:
- Interviews with 100+ experts
- 2017–2022 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

Data Sources

Primary Data Sources

• Startup Genome LLC (2017–2023). Startup Genome.com Database

- Dealroom.co BV. (2017–2023). Dealroom.co Database
- Crunchbase (2017–2023). Crunchbase.com Database
- CB Insights (2019–2023). CBInsights.com Database
- PitchBook (2018–2023), a private capital market data provider Database

Secondary Data Sources

- Shanghai Rankings
- USPTO
- WIPO
- Clarivate

Cleantech Ranking

Definition

Cleantech or clean technology is an umbrella term which is used to define technologies which optimize the use of natural resources, produce energy from renewable sources, increase efficiency and productivity, generate less waste and cause less environmental pollution.

Cleantech consists of sustainable solutions in the fields of energy, water, transportation, agriculture and manufacturing systems, including advanced material, smart grids, water treatment, and efficient energy storage.

Methodology

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

• Performance: 25%

• **Funding:** 20%

• Startup Experience: 12.5%

• Knowledge: 10%

• **Talent:** 7.5%

• **Focus:** 25%

The success factors are weighted by the above percentages to establish the overall rank of each ecosystem. The time frame considered for each factor score is detailed in the ranking details below.

The weights of the factors were determined from research and experience. This method takes into account what is deemed to be of importance in ecosystem mapping and analysis overall and across all ecosystem sizes. We have used our research in the period of 2009-2020 and correlation analysis and modeling work based on linear regression analyses, using factor indexes as independent variables with the performance index as dependent variable.

Adding the actual Performance Index to the ranking formula serves to include the influence of unobserved factors on the performance of an ecosystem.

Performance

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

- 50% number of exits of \$50 million+ July 1, 2018 to June 30, 2023
- 25% number of exits July 1, 2018 to June 30, 2023
- 25% log of output (number of startups in Cleantech) Jan 1, 2013 to Dec 31, 2022.

Funding

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

- 90% log of number of early-stage funding deals in time period of July 1, 2018 to June 30, 2023
- 10% log of number of Series B funding deals in time period of July 1, 2018 to June 30, 2023

Experience

Assesses the talent early-stage startups have access to and the degree of startup experience in an ecosystem.

- 80% Venture A funding (log of number of historical Series A funding deals), as a proxy for number of teams that raised funds in the ecosystem in time period of July 1, 2013 to June 30, 2023
- 20% exits (log of number of historical \$50 million+ exits),





as a proxy for number of scaled teams in the ecosystem in time period of July 1, 2013 to June 30, 2023

Talent

Assesses the talent that relevant 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:

- 40% average of TOP score from Shanghai Rankings
- 30% average of CNCI score from Shanghai Rankings
- 30% average Quality score from Shanghai Rankings

Knowledge

Quantifies the activity of technology knowledge space by measuring the published innovation.

- 40% number of patents (log of number of patents related to the sub-sector) Jan 1, 2012 to Dec 31, 2021
- 40% Technology Potential, a measure calculated at the technology class level globally and calculated for each ecosystem based on the technologies it produced Jan 1, 2012 to Dec 31, 2021
- 10% Share of Cleantech Patents Jan 1, 2012 to Dec 31, 2021
- 10% Ecosystem Complexity, a measure of the capacity of the ecosystem for producing patents in complex technology classes, calculated by measuring the diversity and commonness of the published patents globally

Focus

Quantifies the concentration of early startups and the availability of infrastructures to support their mentorship and scaling.

- 70% share of startups in the sub-sector, shows the concentration of startups in the sub-sector in the time period of Jan 1, 2013 to Dec 31, 2022
- 30% number of Cleantech-focused accelerators and Incubators

Blue Economy Ranking

Definition

The Blue Economy is the sustainable use of ocean resources for economic growth, improved livelihoods, and job creation while preserving the health of the ocean ecosystem. It is a sector that seeks to promote economic growth, social inclusion, and the preservation of livelihoods while at the same time ensuring environmental sustainability of the oceans and coastal areas.

The following sub-verticals are included in the Blue Economy:

Marine Energy: Marine energy (or ocean energy) encompasses wave, tidal stream, tidal range, ocean thermal, ocean current, run-of-river, and salinity, etc., through which energy can be harnessed from oceans. Oceans are the source of enormous untapped energy that is accessible to most coastal countries.

Fisheries: The farming of aquatic organisms including fish, molluscs, crustaceans, and aquatic plants. Farming implies some sort of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. Farming also implies individual or corporate ownership of the stock being cultivated, the planning, development and operation of aquaculture systems, sites, facilities and practices, and production and transport.

Maritime Transport: Maritime transport refers to a means of transport where goods or people are transported via sea routes. In some cases, maritime transport can encompass pre- and post-shipping activities.

Tourism: Tourism is a growth industry in many coastal communities and is based on the natural and cultural heritage of local communities. There are a number of ocean-based tourism activities, such as sailing, diving, fishing, and whale watching. Growing numbers of tourists are putting greater pressure on the environment, resources, and coastal communities.

Waste Management: Plastic marine litter has the potential to persist in the marine environment for long periods, to travel considerable distances, and to accumulate in habitats far from its point of origin. This makes it a growing transboundary global problem that recognises no national borders and spreads from coasts to open oceans. Companies that develop and scale technologies to get rid of the world's oceans of plastic fall under this category.

Methodology

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

• Performance: 25%

• **Funding:** 20%

• Startup Experience: 12.5%

• Knowledge: 10%

• **Talent:** 7.5%

• **Focus:** 15%

• **Legacy:** 10%

The success factors are weighted by the above percentages to establish the overall rank of each ecosystem. The time frame considered for each factor score is detailed in the ranking details below.

The weights of the factors were determined from research and experience. This method takes into account what is deemed to be of importance in ecosystem mapping and analysis overall and across all ecosystem sizes. We have used our research in the period of 2009-2020 and correlation analysis and modeling work based on linear regression analyses, using factor indexes as independent variables with the performance index as dependent variable.

Adding the actual Performance Index to the ranking formula serves to include the influence of unobserved factors on the performance of an ecosystem.





Performance

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

- 20% number of exits of \$50 million+ July 1, 2018 to June 30, 2023
- 40% number of exits July 1, 2018 to June 30, 2023
- 30% log of output (number of startups in the Blue Economy) Jan 1, 2013 to Dec 31, 2022
- 10% number of founders/co-founders with an active role in the Blue Economy

Funding

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

- 90% log of number of early-stage funding deals July 1, 2018 to June 30, 2023
- 10% log of number of Series B funding deals July 1,
 2018 to June 30, 2023

Experience

Assesses the talent early-stage startups have access to and the degree of startup experience in an ecosystem.

- 20% Venture A funding (log of number of historical Series A funding deals), as a proxy for number of teams that raised funds in the ecosystem July 1, 2013 to June 30, 2023
- 20% exits (log of number of historical \$50 million+ exits),

as a proxy for number of scaled teams in the ecosystem in time period of July 1, 2013 to June 30, 2023

• 60% startup creation, all time

Talent

Assesses the talent that relevant 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:

- 40% average of TOP score from Shanghai Rankings
- 30% average of CNCI score from Shanghai Rankings
- 30% average Quality score from Shanghai Rankings

Knowledge

Quantifies the activity of technology knowledge space by measuring the published innovation.

- 35% number of patents (log of number of patents related to the sub-sector) Jan 1, 2012 to Dec 31, 2021
- 35% Technology Potential, a measure calculated at the technology class level globally and calculated for each ecosystem based on the technologies it produced Jan 1, 2012 to Dec 31, 2021
- 10% share of Blue Economy patents Jan 1, 2012 to Dec 31, 2021
- 10% Ecosystem Complexity, a measure of the capacity of the ecosystem for producing patents in complex technology classes, calculated by measuring

the diversity and commonness of the published patents globally

• 10% number of published research and journal papers related to the Blue Economy Jan 1, 2017–Dec 31, 2021

Focus

Quantifies the concentration of early startups and the availability of infrastructures to support their mentorship and scaling.

- 70% share of startups in the sub-sector, shows the concentration of startups in the sub-sector in the time period of Jan 1, 2013 to Dec 31, 2022
- 30% number of Blue Economy-focused accelerators and incubators

Legacy

Quantifies the backbone and large companies in the ecosystems, which are important sources of networks, partnerships, and mentorship and attract investor attention.

- 30% sum of market value for public companies in the Blue Economy
- 30% number of employees (employees of Blue Economy public companies related to the sub-sector)
- 40% number of Blue Economy public companies with more than 250 employees







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Startup Genome



Acknowledgments

A project such as this 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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