

# UNITED STATES OF AMERICA

STARTUP ECOSYSTEM REPORT

DECEMBER 2021

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# OVERVIEW

Success in the United States of America (USA) market has been shown to have helped drive success globally. With an annual GDP of \$20 trillion and a population of over 325 million, the US is the world's most attractive consumer market, offering unmatched diversity, a thriving culture of innovation, and the most productive workforce. Companies of all sizes, from startups to multinationals, have access to opportunities for ideas, resources, and to market to help succeed and grow their companies.

The USA has a large and integrated domestic market, and economic and institutional infrastructure is able to quickly re-deploy resources to their most efficient use. These are accompanied by a strong higher education infrastructure, deep and flexible capital and labour markets, and strong Science and Technology institutions. Flexible managerial and organizational structures and a willingness to adopt innovative management practices and products are distinguishing features of the US economy.

The USA is home to 3 of the top 5 startup hubs in the world, Silicon Valley, New York and Boston. The Silicon Valley and San Francisco Bay area remains a vibrant place for startups, yet the external forces acting on Silicon Valley are changing how companies develop products and manage teams. 7 of the world's top 10 Artificial Intelligence (AI) investors, including Google, Facebook, and Apple, are based in Silicon Valley. Microsoft invested \$1 billion in Open AI in 2019, Databricks raised over \$650 million in two financing rounds in 2019, and Snowflake Computing, a data warehousing platform, raised \$478M in a Series G round in March 2020.

In addition, drawn by the region's strength in Fintech, more and more global financial companies are heading to Silicon Valley. JP Morgan announced plans to open a Fintech innovation hub there in 2020. The area has also produced a number of Life Sciences success stories, including Acerta Pharma and Vir Biotechnology. It is home to more than 1,400 Life Sciences companies employing over 82,000 people. In 2018, one startup, Grail, raised \$300 million in Series C funding, and Allogene went public at a valuation of \$2.2 billion.

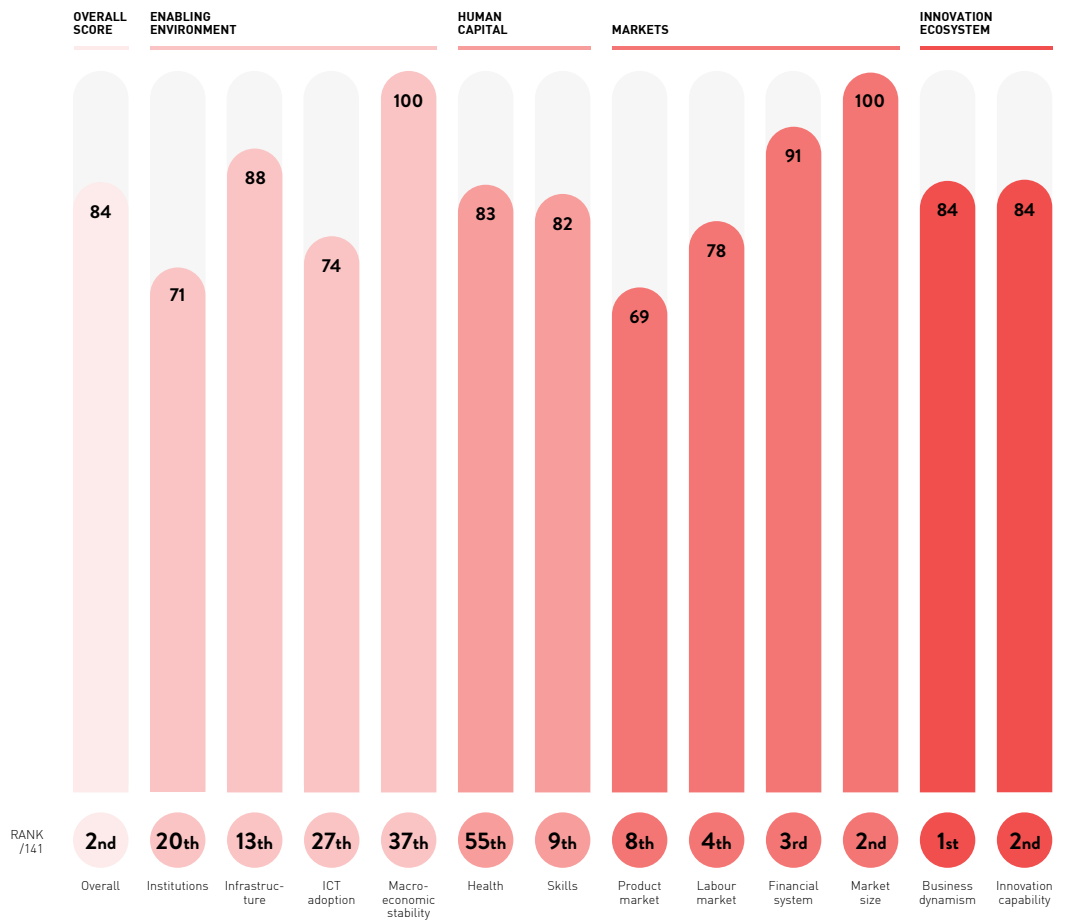
In New York, startups have continued to adapt while finding ways to serve the public during the COVID pandemic. Today there is optimism in New York City's startup culture, pursued by the entrepreneurs' ambition and underwritten confidence in local investors. New York City is known for the highest number of AI and machine learning positions in one metro area. Recent five-year growth in AI and Big Data has allowed Venture Capital funding to be higher in New York City than even in the Bay Area and Boston. One startup, CTRL Labs, specializing in allowing humans to control computers by transmitting signals from the brain through a wristband, was acquired by Facebook for an amount between \$500 million and \$1 billion in 2019.

Cybersecurity is another billion-dollar industry in New York with 100+ companies and 6,000+ employees as of 2017. Additionally, New York City also has nine academic medical centres, 50+ hospitals, and 100+ research foundations. The city's institutions receive circa \$2 billion in NIH R&D grant funding and have helped startups raise over \$1 billion in venture capital. The city is even home to Life Sciences

companies like Kallyope, which received a \$112 million Series C in 2020. Also, Schrodinger's successful IPO earlier in 2020 was valued at \$819 million.

Lastly, Boston is home to a buzzing startup ecosystem across many sectors, from cleantech, biotech, and robotics. It is strongly believed that the regional community thrives because all the stakeholders are committed to supporting local, early-stage companies. With access to world-class talent from MIT and Harvard, Boston-based robotics companies employ more than 4,700 people. The city is also bringing more access to technology

in classrooms through maker spaces and 3D printing facilities—like Desktop Metal, a developer of metal 3D printers that raised \$160 million in a Series E round in 2019. On the Life Sciences side, Boston has more than 1,100 companies, seven teaching hospitals, and five of the top six NIH-funded independent hospitals in America. Massachusetts Life Sciences Center runs a \$1 billion Life Sciences Initiative, providing research grants, accelerator loans, tax incentives, and more. In 2018, Moderna launched the largest biotech IPO in the world with a valuation of \$7.5 billion. Moderna is now valued at \$22.79 billion as of July 9, 2020.



## SELECTED CONTEXTUAL INDICATORS

Population millions	327.4	GDP (PPP) % world GDP	15.16
GDP per capita US\$	62.605,6	5-year average FDI inward flow % GDP	1.8
10-year average annual GDP growth %	2.0		

## SOCIAL AND ENVIRONMENTAL PERFORMANCE

Environmental footprint gha/capita	10.9	Global Gender Gap Index 0-1 (gender parity)	0.7
Renewable energy consumption share %	8.7	Income Gini 0 (perfect equality) - 100 (perfect inequality)	41.5
Unemployment rate %	3.9		

# STARTUP COMMUNITY

## GOVERNMENT INITIATIVES

### // STATE-LEVEL

Here are the public support offices and programs available in the key startup states in the US.

#### 01. California

In the state of California, the [Governor's Office of Business and Economic Development](#) has the [Small Business, Innovation and Entrepreneurship Office](#) that administers programs and initiatives that aim to promote the economy in California. Programs include: Get Digital CA! which is an e-commerce initiative to promote accelerators and intensive training to build the skills necessary to compete in an online marketplace. Another is the #ShopSafeShopLocal initiative which offers free or discounted resources to get digital, find e-commerce tools, learn more about industry guidance, and to locate small business centres for free business consulting and access to Personal Protection Equipment.

#### 02. New York

In New York, there is the [Empire State Development \(ESD\)](#) who aims to promote a vigorous and growing state economy, encourages business investment and job creation, and supports diverse, prosperous local economies across New York State through the efficient use of loans, grants, tax credits, real estate development, marketing and other forms of assistance.

The ESD has a program called [START-UP NY](#) which helps new and expanding businesses through tax-based incentives and innovative academic partnerships. START-UP NY offers new and expanding businesses the

opportunity to operate tax-free for 10 years on or near eligible university or college campuses in New York State. Partnering with these schools gives businesses direct access to advanced research laboratories, development resources and experts in key industries.

#### 03. Massachusetts

The state government of Massachusetts has an initiative called [MassTech](#) which supports business formation and growth in the state's technology sector, helping Massachusetts lead in the global digital economy. This initiative builds strategies, launches and manages projects to support a healthy, vibrant statewide innovation economy. Programs within MassTech include the [Global Entrepreneur in Residence Program \(GEIR\)](#), where universities partner with the Commonwealth to provide valuable, relevant part-time work opportunities which will initiate a cap-exempt H-1B visa application process. The [Massachusetts Computing Attainment Network \(MassCAN\)](#), founded in 2013, is a public-private coalition of education, industry, nonprofit, and academic partners who share a common interest in transforming computer science (CS) education in Massachusetts. The initiative works to create and offer the highest quality K-12 CS education to every student in the state.

There is also the [Collaborative Research Matching Grant Program](#), working in close collaboration with the Commonwealth's Executive Office of Housing and Economic Development, the Innovation Institute at MassTech administers the Collaborative Research and Development Matching Grant Program to support large-scale, long-term projects that have the

potential to spur innovation, promote cluster development, and grow jobs by investing in critical research & development (R&D) infrastructure. Another noteworthy program is the Mass. Manufacturing Innovation Initiative (M2I2), which aims to advance innovations and job growth within the state through cross-collaboration among companies, universities, national labs, government, incubators, accelerators and other academic and training institutions.

## // NATIONAL LEVEL

There is only one cabinet-level federal agency fully dedicated to small businesses, the U.S. Small Business Administration (SBA). Created in 1953, the SBA continues to help small business owners and entrepreneurs pursue the American dream by providing counseling, capital, and contracting expertise as the nation's only go-to resource and voice for small businesses.

Some of the SBA initiatives include National Small Business Week, where the SBA highlights the impact of outstanding entrepreneurs, small business owners, and others from all 50 states and US territories. Another initiative is called the MaTCH Pilot Competition, which seeks to address the job skills and placement gap faced by U.S. businesses by providing funding to create or expand programs within existing makerspaces that offer job-specific and soft skills training. Another initiative is also the Ignite Tour, which aimed to spread awareness of the SBA's programs and services and the SBA Emerging Leaders Initiative; an intensive executive-level series intended to accelerate the growth of high-potential small businesses in America's underserved cities.

There used to be a Startup America under the Obama administration, but

this doesn't seem to be active anymore.

The current government has provided funding grants to support startups. There are two prominent funds to know about: The Small Business Innovation Research (SBIR) program and the Small Business Technology Transfer (STTR) program. Known as America's Seed Fund, these funds are powered by the US Small Business Administration (SBA) and serve as the largest sources of early-stage capital for technology commercialization in the United States. Both are designed to help American-owned and operated small businesses engage in the research and development needed to commercialize their ideas. More specifically, the programs aim to:

- Stimulate technological innovation
- Meet Federal R&D needs
- Encourage innovation and entrepreneurship
- Increase private-sector commercialization of innovations derived from Federal funding

How the programs work is that each year, Federal agencies with extramural R&D budgets that exceed \$100 million are required to allocate a certain percentage of their budget to the SBIR and STTR programs. There are five main federal agencies that participate in the SBIR and STTR programs and these agencies are the ones that actually award monetary contracts and/or grants:

- The National Science Foundation**
  - Accepts proposals in the fields of engineering, science, or medicine (though specific topics change from year to year).
- NASA** - Looks for proposals related to energy efficiency, alternative/renewable energy, or efficient ways of building spacecraft.
- National Institutes of Health** -

- a. Accepts proposals from companies researching and developing commercially innovative biomedical technologies.
- b. **The Department of Energy** - Accepts proposals in the fields of environmental science, clean energy, and material science.
- c. **The Department of Defence** - Accepts proposals to advance defence initiatives and efforts.

Other government funding opportunities for startups and small businesses include the USDA Rural Business Enterprise Grant Program, which offers technical assistance and training to small businesses that have less than 50 workers, less than \$1 million in gross revenue, and are located in rural areas. Grant money is intended for projects benefiting rural public entities, including towns, state agencies, nonprofits, higher education institutions, rural cooperatives and federally recognized tribes.

In addition, there is also the Women-Owned Small Businesses (WOSB) Federal Contracting who seeks to award at least 5% of federal contracting dollars to women-owned small businesses annually. Through this US Small Business Association funding program, the Office of Women's Business Ownership provides support to women entrepreneurs by offering business training, counselling, federal contracts and access to credit and capital. Their goal is to offer equal opportunities for all women in business.

Although not a government initiative, leaders in the private sector have launched the Startup America Partnership, an independent alliance of entrepreneurs, corporations, universities, foundations, and other leaders joining together to fuel innovative, high-growth US startups. The Startup America Partnership is now operating around the world as UP Global, which is committed to supporting and training 500,000 entrepreneurs in 1,000 cities over the next three years.

## INCUBATORS AND ACCELERATORS

With the help of targeted business assistance, entrepreneurs are better prepared to turn business ideas into successful new ventures that have a greater-than-average chance of success. For more than 50 years, these programs have played an important role in improving struggling economies, creating jobs, and encouraging innovation.

These are today's top incubator programs in the US:

### 01. Y Combinator

Y Combinator is considered to be the

supreme startup accelerator around the globe. It is practically one of the oldest startup incubators having accelerated the success of Dropbox, Airbnb, Instacart, Stripe, Twitch, Coinbase, Weebly and Reddit. Y Combinator is a trailblazer in the startup accelerator space.

### 02. Techstars USA

Founded in 2006 with a presence in over 15 countries, Techstars is a worldwide network that allows businessmen to set forth advanced technology in the market no matter where they choose to live. Techstars helps in monetary terms,



assists in consultations and accelerates startups. Its accelerator program has produced over 1,000+ companies valued at over \$8 Billion. Techstars is the name behind Startup Week and Startup Weekend, which prompt entrepreneurs to kick dither to the restraint and establish new enterprises in a matter of hours. With numerous mentor-led acceleration programmes being put forward and 1000+of startup projects active all around the globe, Techstars assists entrepreneurs on their business journey – all the way from the flash of inspiration to IPO. Techstars Venture, the accelerator’s venture capital fund, has invested in companies like Uber, DigitalOcean, Twilio and SendGrid among others.

### 01. 500 Startups

It was founded in 2010 and is situated in San Francisco, California. 500 Startups is a worldwide venture capital company, with 150 employees from 20 countries that manage investments around 74 countries. Their main aim is to invent thriving worldwide ecosystems by innovating skilful founders and supporting them to progress through a 4-month seed program. Their

investment department and mentor network have functional wisdom at firms such as PayPal, Google, Facebook, Instagram, YouTube, Yahoo, LinkedIn, Twitter, and Apple.

### 02. MassChallenge

Headquartered in the United States with locations in Boston, Israel, Mexico, Switzerland, Texas, and the UK, MassChallenge strengthens the global innovation ecosystem by accelerating high-potential startups across all industries, from anywhere in the world for zero equity.

### 03. Plug and Play

Plug and Play was born in Sunnyvale, California, in 2006, and currently has 125 employees. They have successfully helped thousands of startups, nearly 400 of which have their office space in the Plug and Play headquarters building. One of their big wins was LendingClub, which had an IPO and has a market cap of more than \$2 billion. Plug and Play have 22 locations around the world and aims to offer its members the total entrepreneur experience. What makes them so unique is how many startups they invest in each year.

## STARTUPS

This is a list of the top innovative startups in America to watch out for now:

### 01. Solidia

When it comes to climate change, cement production is a major culprit, accounting for about 7% of the world’s greenhouse gas emissions. New Jersey-based Solidia uses a patented process to address this problem, replacing limestone with a synthetic material that requires lower temperatures and

less energy than traditional methods. The cement absorbs CO2 as it hardens, all of which amounts to a production process with a 70% smaller carbon footprint. Solidia launched commercially in the U.S. in August 2019 through a partnership with paving company EP Henry.

### 02. Shape Therapeutics

Seattle-based Shape Therapeutics is developing technology that would modify human RNA to correct mutations or

eliminate diseases. Founded in 2018 and based on the groundbreaking work of UC-San Diego bioengineering professor Prashant Mali, Shape raised a \$35.5 million Series A round in November that will help the company build its staff and open a satellite office in Cambridge, Massachusetts, in 2020. Some experts say the method that Shape is working on is more precise than the much-hyped Crispr-Cas9 process.

### 01. Better.com

New York City-based Better.com is trying to upend the antiquated mortgage application process by bringing it online. The company doesn't charge fees or commissions and instead makes its money only via interest. And whereas traditional mortgage applications can take weeks, getting pre-approved on Better.com takes just a few minutes thanks to a largely automated process. The company, which lent more than \$4 billion to homebuyers in 2019, announced a \$160 million funding round in August that brought its total funding to \$254 million. Now approved in 44 states, it launches in the New York market in 2020 and expects to be in all 50 states by March.

### 02. Afresh

U.S. retailers throw out \$18 billion worth of spoiled food every year, which

is bad for both the bottom line and the environment. San Francisco startup Afresh creates software that uses algorithms and artificial intelligence to help stores optimize their fresh food inventories and cut back on waste. Founded in 2016, the company says it has secured partnerships with several billion-dollar grocery chains and is in talks with more. Some partner stores have reported that adopting the tablet-based app has helped them cut their food waste in half.

### 03. Movandi

The rollout of 5G, the fifth-generation wireless network, began in 2019 and will ramp up in 2020. But some experts worry that the technology, which has huge potential thanks to its ability to transfer large amounts of data quickly, won't be as accessible to those outside of high-density areas. Movandi, based in Irvine, California, aims to remedy that. The startup creates technology that broadens the reach of 5G spectrum bands. And while the wireless signal loses much of its potency if not in the recipient's line of sight, Movandi's tech can bend the signal around buildings and other obstacles. The startup, which has \$30 million in funding, says it is in talks with major wireless providers about potential partnerships.

# INVESTMENT

The biggest investment outliers, not surprisingly, are the two principal metros of Silicon Valley. In the San Jose metro area, 2.4% of employer firms received venture capital as initial startup capital—this is four times the national average. In the San Francisco metro area, 1.5% of firms received VC funds when first starting out, two-and-a-half times the national average. Venture capital also is disproportionately relevant for startup capital elsewhere.

Other metro areas that are about twice as high as the national average include Salt Lake City, Austin, Baltimore, and Birmingham. Metros below average include Columbus, Hartford, Louisville/Jefferson, Sacramento, Tampa, Chicago, Detroit, Jacksonville, New Orleans, Orlando, Washington, Virginia Beach, and Cleveland.

The Silicon Valley Bank produced a [Report](#) in 2020, which despite the social and economic challenges presented this year, was overall highly optimistic for the startup ecosystem. The Report shared that while there has been no shortage of investors, they are increasingly selective with how and when to invest. Just 12% of startups say it's getting easier to raise funding, while 41% say it is getting harder. Even so, for those startups that sought capital in 2019, all but 11% were successful, and 56% said they raised their most recent round in less than six months.

At a national level, [KPMG](#) has shared that VC investment in the US has continued to hold relatively steady in the second quarter of 2020, even as VC investors and businesses juggled with the challenges of COVID-19. While the quarter included some deals that would have been initiated prior to the pandemic, it also included a significant

number of deals supporting companies offering 'go-to' solutions given the current situation.

Despite the number of deals in the US plummeting overall, numerous large deals occurred during the second quarter, including a \$3 billion raised by Waymo, an \$800 million raised by e-payments facilitator Stripe, and a \$700 million raised by IOT and AI-powered business productivity firm Samsara.

VC investors in the US appear to be taking a longer-term view of the pandemic's impacts. While VC investors may have had to rethink their assumptions as to the timing of their portfolio companies to become profitable or to hold a successful IPO, they are continuing to support the ones they expect will be able to be successful after COVID-19 has run its course.

At the same time, the sudden impact of the pandemic has caused VC investors to further enhance their focus on the efficiency, effectiveness, and profitability of companies. Changes that startups are making to improve their operations and cash flow to better weather COVID-19 could have the added benefit of helping them reach profitability sooner — a win-win for both startups and their investors.

Investors are showing interest in companies with highly relevant, scalable business models aligned to meeting the needs of consumers and businesses within the 'new normal' — particularly companies focused on B2B productivity, cybersecurity, digital services, and e-commerce.

# PORTUGAL - USA COOPERATION

Maintaining a close and productive relationship with the United States ranks amongst Portugal's foreign policy priorities. The United States is Portugal's largest trading partner outside the European Union. Bilateral trade in goods and services reached \$8.9 billion in 2019, a six percent increase from the previous year. In 2019, the United States exported \$1.72 billion in goods to Portugal, with machinery, mineral fuels, aircraft, and vehicles as the leading products. The United States imported \$3.89 billion from Portugal during the same period, with mineral fuels, cork, and machinery in the lead. The stock of U.S. direct investment in Portugal reached \$2.83 billion in 2018, and U.S. companies are significant investors in the technology, banking, pharmaceutical and chemical industries, among others. Portugal and the United States have enacted an income tax agreement to prevent double taxation, and signed an agreement on implementation of the Foreign Account Tax Compliance Act in August 2015.



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