

The Global^{*} Startup Ecosystem Ranking 2015

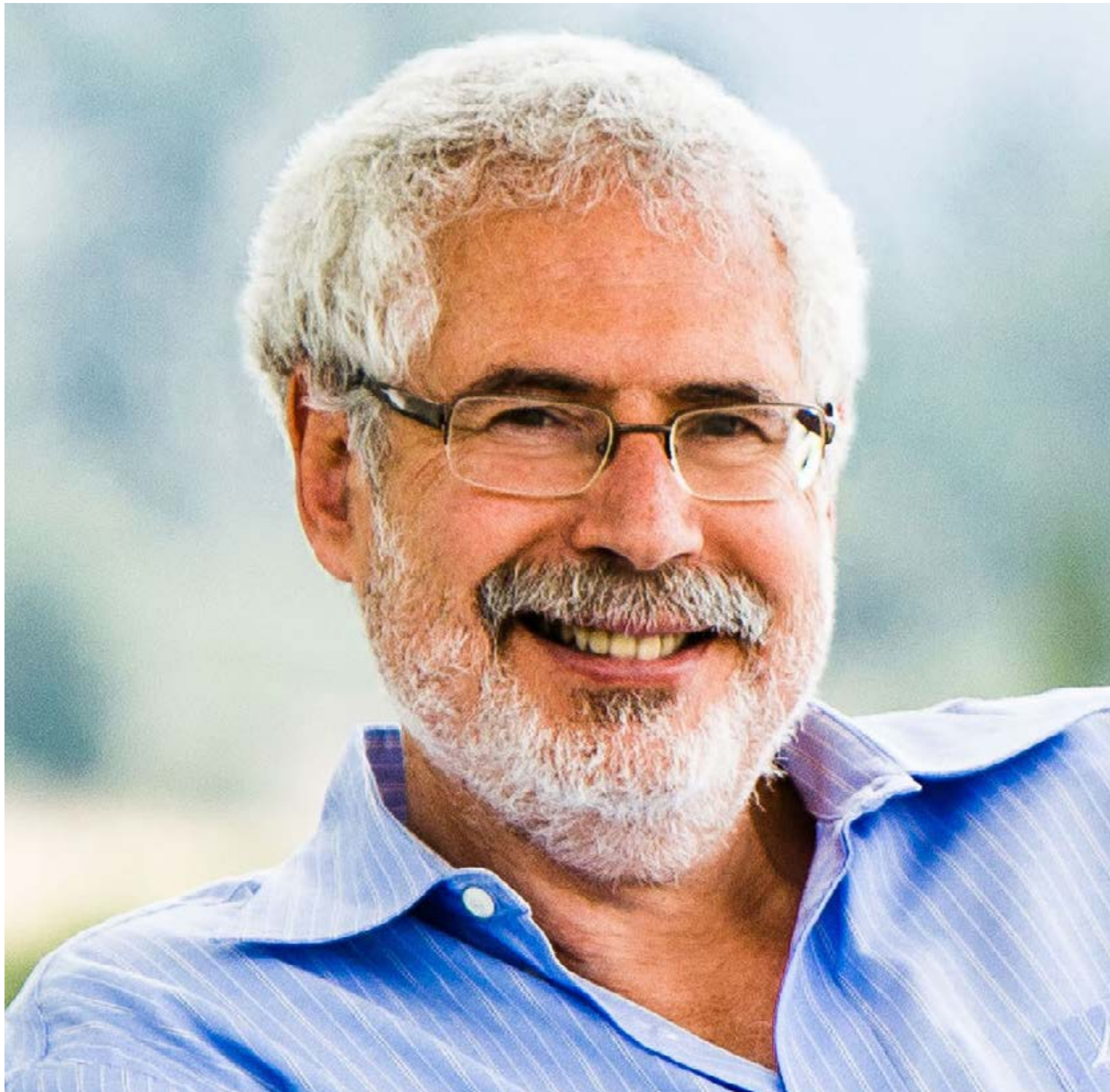
*excluding China, South Korea and Japan

with
from
by

Foreword by Steve Blank
The Startup Ecosystem Report Series
Compass (formerly Startup Genome)
with the support of Crunchbase

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Mene, mene, tekel, upharsin - The Writing is On the Wall

50 years ago Alfred DuPont Chandler, a business historian at Harvard, wrote *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*. The book chronicled the transformation of four American companies, DuPont, Standard Oil, General Motors, and Sears in the first decades of the 20th century. It charted how they grappled with a series of strategic changes; expanded markets, vast geographic distances, multiple customer segments, diversified product lines, and so on. These four companies were the first to realize that their existing centralized functional organizations — organized into sales, marketing, engineering and manufacturing departments — were inadequate to deal with these strategic shifts.

In response to the changing strategic needs, CEOs and their boards began to experiment with new corporate organizational structures. Eventually they shifted from functional organizations into organizations comprising vertically integrated divisions. The corporate central office provided planning and coordination, while each division contained all the necessary resources and functions and is individually responsible for profit and loss. Forty years later, the multi-division firm was the standard form of organization and management for complex industrial firms.

Companies in the 21st century are dealing with strategic issues as large as those in the beginning of the 20th. The old rules for corporate growth and profit no longer apply. We see the symptoms of this everywhere, particularly in declining firm performance and declining Return On Assets (ROA). In fact, the average life of a company on the S&P 500 has declined to about 15 years from 65 since the 1920s.

The problems companies were trying to solve in the early 20th century were how to manage an enterprise across vast geographic distances, how to build and manage multiple customer segments, and how to build brands to engage the newly emerging U.S. middle class. In the 21st century the problems are now inverted. The world is not only flat but it's instantaneous. Consumers are connected. Entrepreneurs are connected. The cost of entry for most new ventures has plummeted. The speed to reach new users is growing in record and accelerating time. Competition comes not only from companies in local, regional or national markets, innovation now comes from everywhere on earth. The Internet accessible to a wired planet means most markets are being re-imagined as part of a connected world. This relentless wave of disruptive innovation is marching through not only technology industries such as computers and communications, but is destroying industries thought of as forever stable and predictable: newspapers, entertainment, energy, healthcare,

education, construction, transportation, retail commerce, finance, and even governments themselves.

Most of the innovation and disruption are coming from new entrants — young, fearless, and not afraid to take on the status quo.

So now what? Existing corporate strategy and structures have proven unequal to adapt to this changing economy.

Every existing company will have to deal with this common economic problem: how do you build an effective organization in a time of continuous disruption — one where the old rules and structures no longer work. Companies will need to adapt a new strategy that embraces disruption, sustaining innovation, and execution. Crucially, they need to build new organizational structures that embrace those changes.

Only then will we look back and realize
that we were just beginning the economic
revolution of the wired world

The democratization of entrepreneurship from Silicon Valley and from startup ecosystems all over the world is creating new strategies and structures for that disruption and innovation. It is the strategy lessons from startups that will light the way for the massive restructuring of all corporate structures by the middle of this century. Only then will we look back and realize that we were just beginning the economic revolution of the wired world.

Steve Blank

STARTUP REVOLUTION SERIES

- Part 1 The Great Transition: Industrial to Information Revolution
- Part 2 The Decline of the Blue Chip
- Part 3 The Rise of the Startup
- Part 4 The Critical Role of the Startup Ecosystem

The Startup Revolution Series | 1

The Great Transition: Industrial to Information Revolution

Have we reached a critical tipping point in the transition between the Industrial Era and the Information Era? It is difficult to define a precise moment when major economic epochs swap places of relative dominance, but there is an increasing amount of evidence that points to a significant decline in businesses founded in the Industrial Era or which operate under Industrial Era principles. At the same time, one can hardly fail to notice the explosive rise of the Information Era.

If we look at the performance of the types of companies that have been the lifeblood of the economy for several centuries, we see worrisome trends. The [Shift Index](#)¹, by the Deloitte Center for the Edge, notes a 75% decline in Return on Asset (ROA) performance for U.S. companies over the past 45 years, despite increasing labor productivity over the same time frame. Meanwhile, the success of market leaders appears to be increasingly short lived, with the length of time a company remains on S&P 500 declining by almost 80%.

Over the last 15 years, a significant portion of job and economic growth in the U.S. has come from high-growth technology companies such as Apple, Amazon, Google, Salesforce, VMware, Facebook, Twitter, Groupon, and Zynga. And while Apple was officially incorporated in 1977, it was only when Steve Jobs returned to helm in 1997 that the company reinvented itself using the process of what one might call disruptive technology intrapreneurship, which later led to the development of the iPhone, iPad, and their corresponding suite of app ecosystems. These new product innovations transformed Apple from a struggling organization to the company with the largest public market cap on the planet—quadrupling its value in just the past five years alone.

¹ Hagel, J., Brown, J.S. & Davidson, L. (2009)

Consider this: The entire U.S. GDP is \$15 trillion. Collectively, these nine big-hitters of the tech world that barely existed a decade and a half ago have created almost a trillion dollars in new wealth. Will the trend of multi-billion dollar tech startups that have a disproportionate effect on the needle of the global economy continue? As we will discuss in the following set of essays, many signs point to a definitive yes. The virtual explosion of startups below the radar is so substantial, The Economist recently likened it to the [Cambrian moment](#) of species evolution².

Humanity doesn't see transitions between major economic eras very often, but when they come, every aspect of society gets reinvented: government, business, finance, education, medicine, energy, technology, art, and science all get upgraded. In fact, most historians would argue there have only been three such transitions before in human history: 1. Foraging to horticulture 2. Horticulture to agriculture 3. Agriculture to industrialization. The Industrial Revolution was the last great full spectrum societal transformation, and the Scientific Enlightenment that ensued gave rise to modernity. With two billion broadband Internet users and billions of smartphones now entering circulation, the necessary tools and infrastructure are in place for the Information Age to burst into full bloom, moving beyond the confines of just the technology world to transform all aspects of society. Therefore, the role of technology entrepreneurship in our global economy is now more important than ever. Increasingly, it is becoming clear that technology entrepreneurship will be the primary growth engine of this new economic era.

Having gone through a fairly severe dot com boom and bust cycle only fifteen years ago, it is understandable that many people imagine a similar fate for the current tech boom. Yet while it is human nature to expect the future to look like a

² Siegele, L. (2014)

linear progression of the past, that thinking does not produce good predictions when the pace of change is accelerating, and is especially inaccurate in the midst of epochal transitions. So rather than seeing the recent boom as a sign of a coming bust, we see it as a harbinger of long-term exponential wealth creation over the coming decades.

Yet making the case that exponential wealth creation is on the horizon should not produce unbridled optimism. The development from one era to the next requires dangerous periods of transition, where a society can either slide into turmoil or rise to the occasion, using foresight to summon fortitude and grace. We will have to be thoughtful but bold about how we shed our industrial skin—and the institutions, business, jobs, culture, and traditions that have come with it.

Undeniably, this kind of change is not an easy thing. Adaption requires the release of much of what was previously familiar, comfortable, and secure. But if we can adopt new skills, beliefs, and values appropriate for the new Information Era, we can reap the prosperous potential the Information Era would like to sow. The Industrial Revolution brought wealth and prosperity unseen before in the likes of human history. In 1750, the total wealth of the world sat at an estimated \$126 billion dollars. Today the world's wealth is calculated at over \$70 trillion. But the hard truth is that the Industrial Era strategies, mindsets, and behaviors that got us here will no longer take us much further. To successfully make the transition to the Information Era, much of the socioeconomic fabric of society needs to be reinvented. If we do not adapt and release much of our now expiring industrial era mindsets and practices, then the dark days of the 2008 economic recession may return. To avoid this fate, we must let go of the past and engage with the future to ensure that the greatest era in human history is closely in front of us.

This Startup Ecosystem Report will explore why we believe technology startups are the primary growth engine of the Information Era and how nurturing startup ecosystems can keep the world on a path to greater prosperity.

Together we can lay the groundwork for a successful transition into the new socioeconomic era of the Information Age.

Let's dig in.

The Startup Revolution Series | 2

The Decline of the Blue Chip

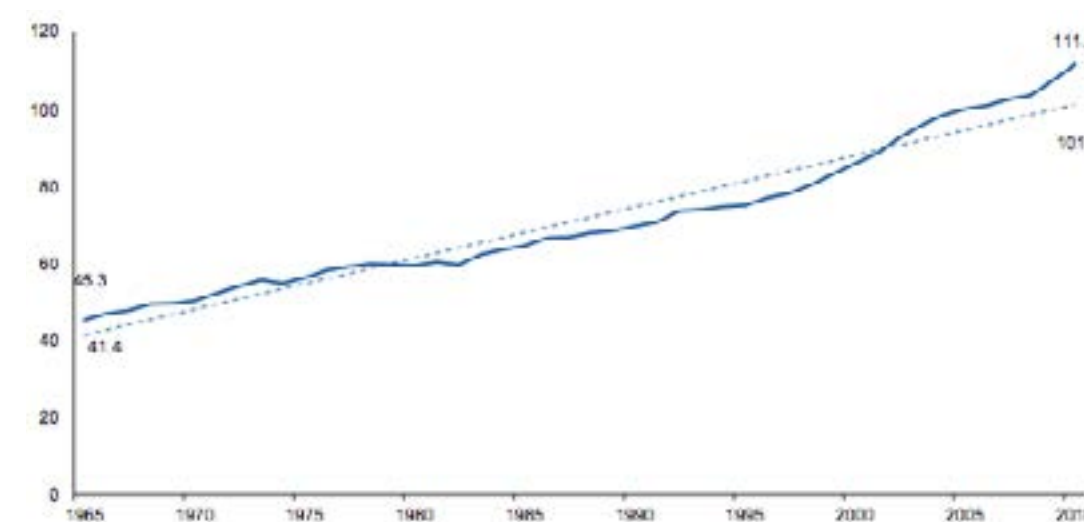
Humanity may be approaching—or have already passed—the tipping point between the Industrial Era and the Information Era. Now we will dive deeper into why much of the old business and economic wisdom no longer seems to apply with blue chip companies becoming far from the reliable investments they used to be.

Let's start with the good news.

Since 1965, labor productivity has more than doubled. Economists define the inputs to this calculation as number of hours worked and the outputs as industry growth. In some industries, such as technology and telecommunications, labor productivity has grown by more than 800%. Productivity is usually considered a key performance indicator for economic growth, so with all the productivity gains companies should be growing faster than ever, right?¹

Exhibit: Labor Productivity (1965-2010)

Source: Compustat, Deloitte analysis



¹ Hagel, J., Brown, J.S. & Davidson, L. (2009)

Not so fast.

During the same time period, companies experienced a 75% decline in Return on Assets (ROA) and a decline of almost 80% in the length of time an S&P 500 company could expect to remain on that list.

Better productivity, worse results. What is going on behind the scenes to lead to such diverging indicators?

For answers, we turn to the monumental Shift Index, released in 2009, by John Hagel, John Seely Brown, and Lang Davidson of the Deloitte Center for the Edge, which documents the long-term decline of business profitability. While the report focused solely on American companies due to the availability of data, it would be a mistake to assume their conclusions are purely U.S.-based. Rather, we believe their findings are generalizable to Industrial Era industries all around the world.²

They found two clear trends that cannot be ignored: declining company performance and an increasing topple rate from positions of market dominance. First let's look at "the what," then we'll explore "the why".

Declining company performance

While there are a number of ways to measure growth metrics (such as return on invested capital), the Shift Index authors focused on Return on Assets, or ROA, as it measures how much a company is able to do with what it has—in other words, how much profit it can make by turning its inputs into outputs.

² Hagel, J., Brown, J.S. & Davidson, L. (2009)

When they reviewed data for the past 45 years, the authors and the community at large were equally surprised to find a drop of 75%. And while recessions in 2001 and 2008 clearly added to poor performance, the graphed results show a long-term trend that is as challenging to explain away as the result of anomalies.³

At the same time, anyone who has spent much time with statistics knows that averages can provide useful high-level perspective, but can also skew conclusions if a small number of data points vary widely from the rest. So to gain a sharper perspective, the authors separated the companies into performance quartiles. The results from The Shift Index, showed that “the ROA Performance Gap between winners and losers has increased over time, with the winners barely maintaining previous performance levels, and losers experiencing rapid deterioration in performance.”⁴ In other words, not only were poor performers dropping rapidly, even the best companies were only stagnating.

Exhibit: Economy-wide Asset Profitability (1965-2008)

Source: Compustat, Deloitte analysis



The authors surmised, “after questioning and re-questioning our data and our assumptions, we came back to the same conclusions. The downward trend in company performance is accurate, the assumptions are reasonable, and further analysis confirms these persistent trends.”

Increasing Topple Rate

In addition to the declining performance of the blue chip category, it also appears the success of market leaders is increasingly short-lived.

In the following graph, topple rate is defined as the propensity of market leaders on the S&P 500 list to “topple” from their leading rank, and thus fall off the list. The authors describe the meaning of this dynamic as such: “Back in the 1930’s, a company coming on the S&P 500 list could expect to remain there for 65 years.

In recent years, the average life-time of a company on the S&P 500 has declined to about 15 years, a decline of almost 80%.⁵

So those at the top aren't staying there long. What about those at the bottom of the market?

“The churn for the lowest decile (0-10th percentile) has been declining, implying that fewer firms are performing poorly enough to sink to the bottom, but those that do are experiencing long, drawn-out declines.”⁶ Another way of interpreting this information might be that now that the ground Industrial Era economic conditions have shifted, businesses that were adapted to those conditions do not know how to adapt to the new conditions of the Information Era, and thus await a languishing future to be followed soon by death.

Exhibit: Economy-wide Asset Profitability quartile (1965-2008)

Source: Compustat, Deloitte analysis

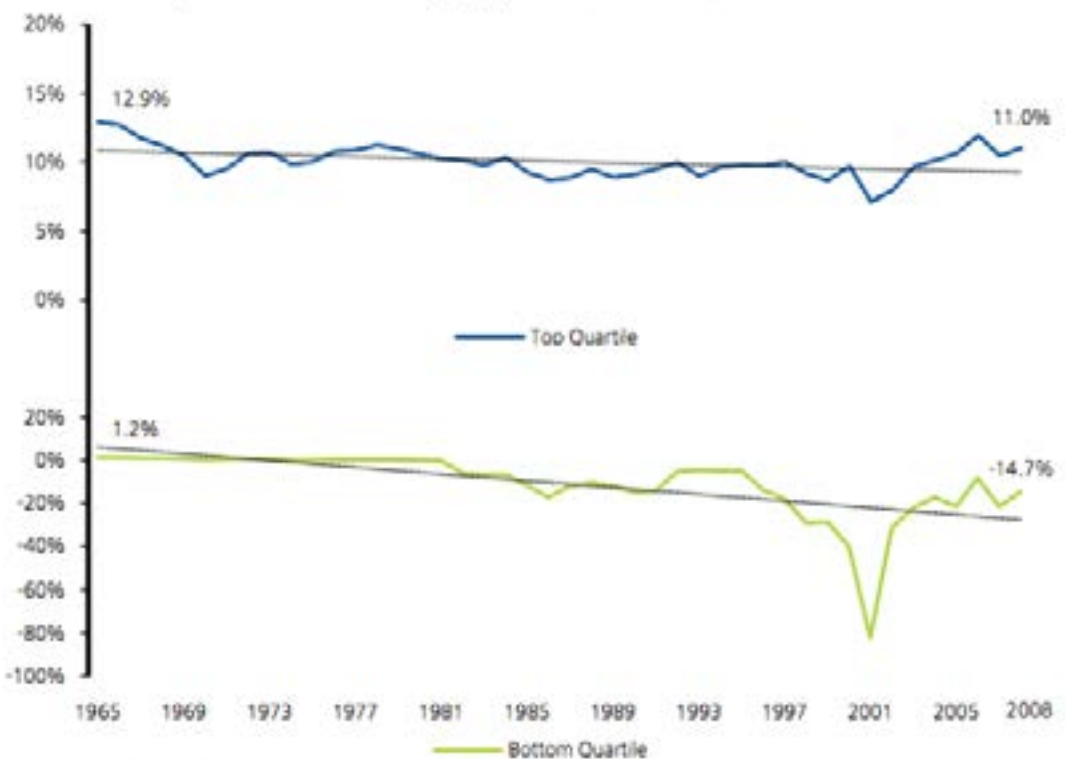
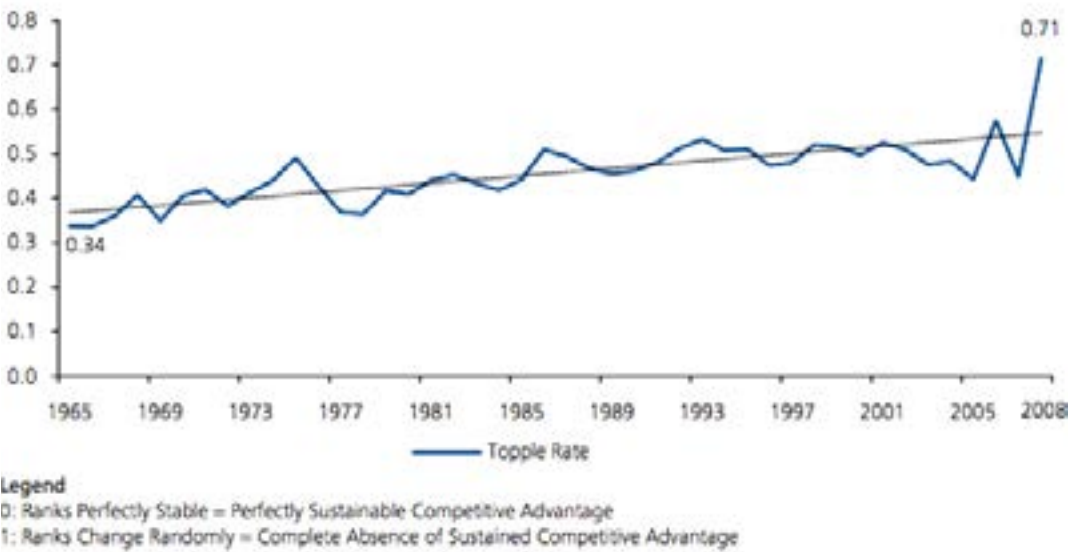


Exhibit: Economy-wide Firm Topple Rate (1965-2008)

Source: Thomas C.Powell and Reinhart, “Rank friction: an ordinal approach to persistent profitability.” Compustat, Deloitte analysis



3 Hagel, J., Brown, J.S. & Davidson, L. (2009)
4 ibidem

5 ibidem
6 Hagel, J., Brown, J.S. & Davidson, L. (2009)

Why Is Performance Declining?

Now that we understand more about the decline that is taking place, the most important question to answer is why. It would seem paradoxical—increasing productivity coinciding with declining results, but there is an answer. In a word, it's pressure. During the Industrial Era, companies were somewhat insulated by low levels of competition, information obscurity, and growing consumption. But the Information Age has made those barriers more obsolete than castle walls after the introduction of gunpowder.

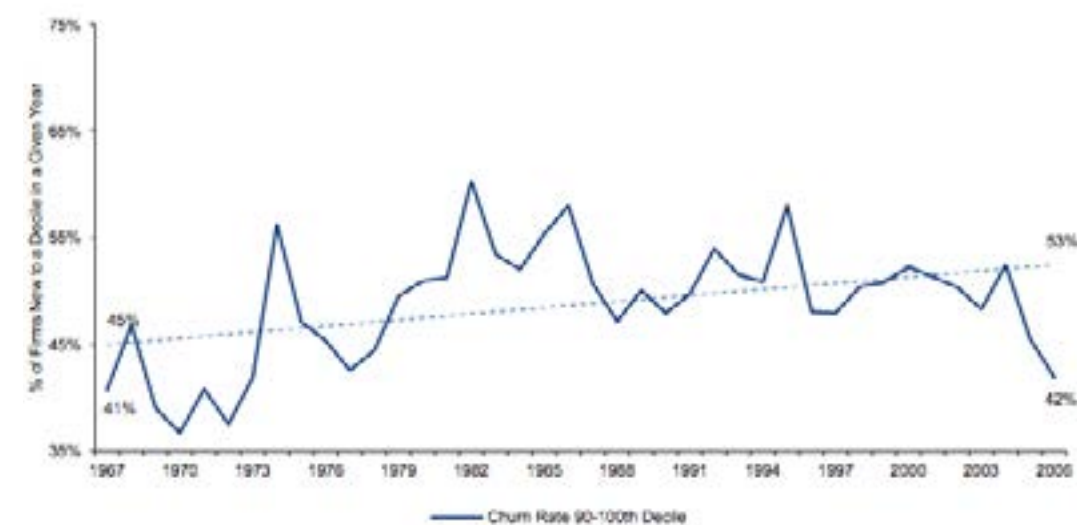
Let's look at these three new competitive pressures they must face in more detail.

Factor 1: Greater competition

Competitive intensity has more than doubled during the last 40 years—as measured by market concentration—due to falling barriers to entry and economic liberalization.

Exhibit: Churn Rate in 90th-100th Decile (1967-2006)

Source: Compustat, Deloitte analysis



Falling barriers to entry: It used to be far more difficult to start a company. Product production was very capital intensive and slow, customers were hard to find and also expensive to reach. Today's technology means a business can be started inexpensively and quickly with cloud-based services, freelance talent, and plug and play technologies. This equates to more entrants, and consequently, a dramatic increase in competitive intensity.

Economic liberalization: We live in an increasingly globalized world, where global communication and shipping is exponentially easier than it at any other time in human history. In many instances, once a business is up and running, global markets can be reached overnight. Companies no longer compete solely in their domestic geography, but against firms from all over the world.

Factor 2: Information transparency

The world has changed so completely it can be hard to recall the "quaint" days when most of what we knew about a product was from a TV commercial or what the local salesman had to tell us. These were the glory days of branding, when a company could define its own image, irrespective of critical review, and then communicate that identity with clever marketing as long as they had the money to spend on ads.

But this advantage of large companies has disappeared in the wake of information transparency. Consumers can find the best price for a flight on Kayak and the most inexpensive product on Google. Increasingly, pricing information is available real-time at the point of purchase, lowering prices and squeezing profit margins. They can also find the highest rated service providers on Yelp and best rated products on Amazon based on the crowdsourced intelligence of hundreds or thousands of fellow

consumers. This same transparency applies to B2B offerings as well, with price and quality comparison tools available for almost every industry. If there is a niche left where transparency doesn't exist, you can be sure someone is working on a solution to fill the gap.

Branding is far from useless today, but it is no longer the golden goose it once was. The Shift Index found 47% of people strongly agree there isn't much cost associated with switching brands.

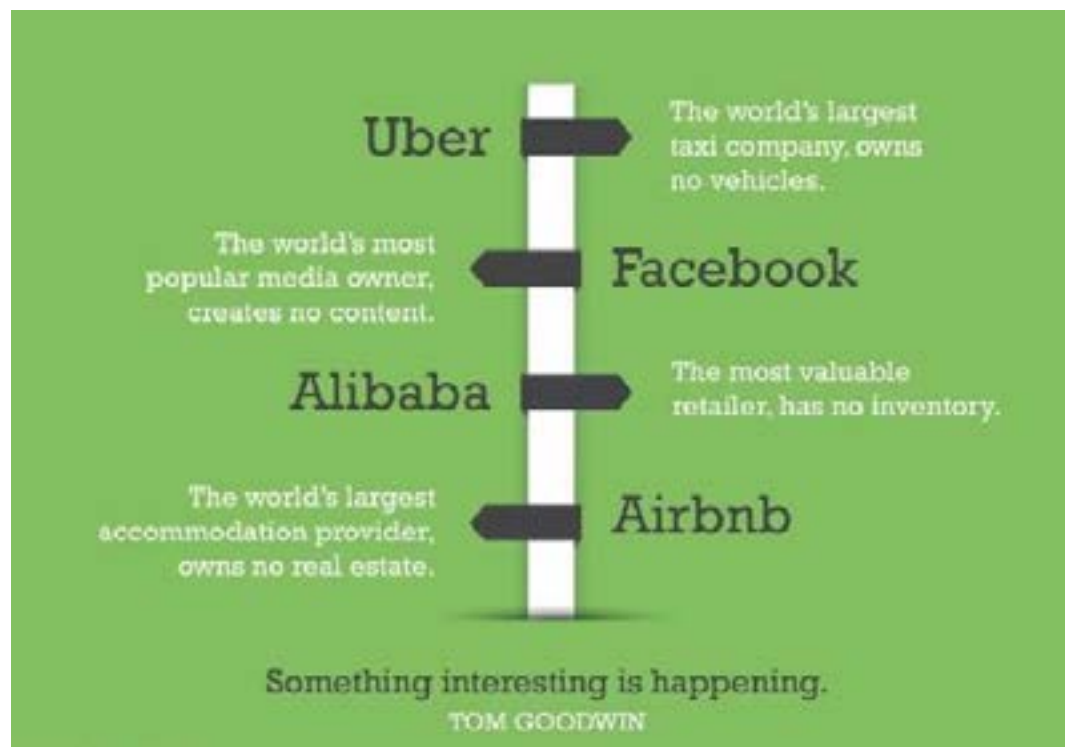
A simple way of summing up the effect of information transparency might be, that in the Industrial Era, sales & marketing were arguably the most important functions of a successful organization. Yet in the Information Era, design & engineering reign supreme as the superior product is now far more likely to win.

Factor 3: Declining consumption

After a long period of post-war consumption increase, people are buying fewer new goods than ever before. Not only did the 2008 economic downturn thin the pocketbooks of the middle class, consumers are now more fully embracing engaging experiences and lasting relationships as reliable sources of fulfillment, decreasing the demand of shiny new goods that promised happiness but consistently failed to deliver.

Consumers are also increasingly selling or renting their fixed assets when they aren't being used. Craigslist and eBay created a thriving used-goods marketplace, ZipCar showed the world that owning a car wasn't always necessary, and AirBnB built an entire industry out of previously unused guest bedrooms. These trends are supported not just by frugality, but an increasingly environmentally conscious population that wants to minimize their impact by reusing what has already been produced.

More dollars in the sharing or renting economy means fewer dollars in the traditional producer-consumer marketplace, and many of the companies thriving today are facilitators of existing physical assets rather than producers of new ones.



How can blue chips respond?

There are generally two main levers to increasing profitability—either increase revenue or decrease costs. Many business schools have trained executives in the science of cost cutting efficiency. Think just-in-time manufacturing, workforce reduction, and economies of scale. This worked very well as a profitability lever for decades, until the point where efficiency reached a critical point of diminishing returns, competition still continued to increase. Essentially, you can't cost-cut your way to profitability ad infinitum, at some point your cost cutting efforts begin degrading the essential qualities of the organization itself.

What about the other lever of profitability, increased revenue? The traditional Industrial Era approach is more and better marketing. Focus on marketing can create a spike in revenue if this area is unoptimized or when new Information Era tools like segmentation and analytics suites are developed that allow further optimization. Marketing is powerful, but it isn't the silver bullet either. Marketing approaches can quickly reach a point of diminishing returns, just like the strategy of pursuing cost cutting efficiencies.

If the traditional Industrial Era approach to decreasing costs and the traditional approach to increasing revenue have both reached a point of diminishing returns, what then is the solution? The answer is disruptive innovation; achieved through the creation of new Information Era products and services.

Yet, while this solution provides plenty of hope for the global economy, it provides plenty of gloom for Blue Chip Industrial Era incumbents. Information Era disruptive innovation requires completely new ways of working, new culture, new tools, new economics, new everything. Who is figuring out how to adapt and succeed in this brave new world better than anyone else? Technology startups.

The Startup Revolution Series | 3

The Rise of the Startup

This is the third essay in the “Startup Revolution Series.” In the first part, we suggested humanity may be approaching—or have already passed—the tipping point between the Industrial and Information Eras. In the second, we provided data that demonstrates fairly conclusively that over the last 50 years, Industrial Era focused blue chip companies have lost significant value and much of their potential for renewed growth.

So what is rising in their place? This post will focus on the Information Era businesses that are best adapted to this new Darwinian business environment: Startups.

The Startup Explosion

So many startups have burst on the global scene that The Economist likened the entrepreneurial explosion to the Cambrian Explosion in earth’s biological history. High-growth technology companies have penetrated nearly every area of society, and for every declining or transforming Industrial Era company, one can usually find an emergent Information Era replacement—or a suite of them. As Marc Andreessen famously put it: “Software is eating the world.”¹

The following is a list of some very successful Information Era companies that have succeeded by upgrading Industrial Era products and processes for the Information Era.

- Kodak > Instagram (Photography)
- Borders Books > Amazon (Book)
- Tower Records > Apple, Spotify (Music)
- Hotel Chains > Airbnb (Travel)

¹ Andreessen, M. (2011)

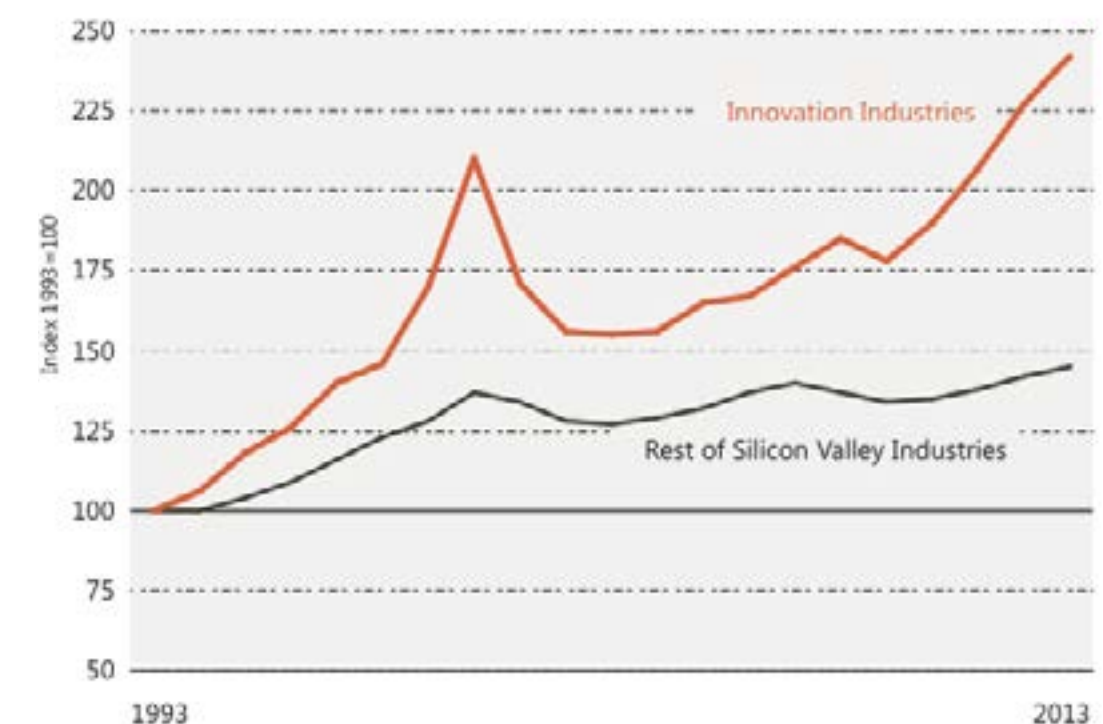
- Taxis > Uber/Lyft (Transportation)
- Resumes & Recruiters > LinkedIn (Human Resources)
- Newspapers > Social media (Information Consumption)
- Retail stores > eCommerce (Shopping)

How big is this trend? Quantifying change while it is occurring can be a fool’s errand, but varied indicators suggest that a hockey stick best describes startup category growth. The graph below demonstrates the growth of Innovation Industries in comparison to traditional industries in Silicon Valley.

Exhibit: Innovation Industries and Overall Economy Silicon Valley (2003-2013)

Source: Moody’s Analytics

Analysis: Collaborative Economics



Why startups are exploding

To what extent is talk of a revolution too much inflated hype? Will this bubble burst like the last one? While no one can accurately predict the future, we can confidently echo The Economist in saying that “Today’s entrepreneurial boom is based on more solid foundations than the 1990s Internet bubble, which makes it more likely to continue for the foreseeable future.”

What is happening behind the scenes to foster this kind of “sudden” explosion? The answer is many factors have been building to this moment for some time. Steve Blank, an entrepreneur, thought leader, and faculty member at Stanford and Berkeley proposed four key reasons for the startup explosion.

1. Startups can now be built for thousands, rather than millions of dollars

The cost of product development has fallen by a factor of 10 over the past decade. Code is available in free snippets, integrations are easy thanks to application programming interfaces (APIs), development comes cheap with temporary freelancers wielding plug & play tools, and once costly servers have given way to pay-as-you-go services.

2. A higher resolution venture finance industry

When a VC is required to spend millions of dollars on an investment, they must make a small number of big bets. But the decrease in capital needed to start a software company has opened up the VC space to new types of investors: angels, accelerators, and micro-VCs. The checks they write are smaller, generally in the \$10,000 to \$500,000 range, which means they can make a whole lot of small bets and give birth to a larger number of startups. Since many can be started on such a shoestring, they don’t even

look for outside funding until later stages of development—an idea that was all but impossible a decade ago.

3. Entrepreneurship developing its own management science

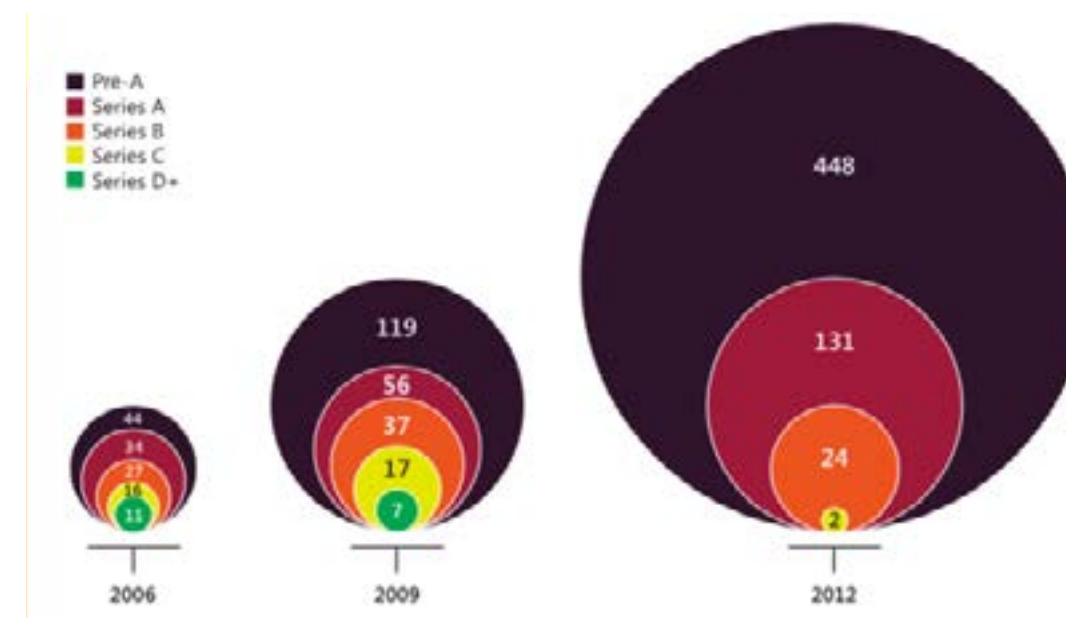
In 1602, the Dutch East India Trading company formed the world’s first multinational corporation. Around three hundred years later Frederick Taylor, Henry Ford, and Alfred Sloan invented the foundations of modern Management Science and disseminated this knowledge in Business schools and MBA programs throughout the world. The first wave of Information Era venture backed software companies began in the 1970’s. For the first few decades many entrepreneurs and investors in the startup community misapplied the formalized lessons they had learned in business school to the startups they were running.

Exhibit: Progression of Early Stage Investment

Silicone Valley Based Startups - For companies that Launched 2006, 2009 and 2012

Source: CB Insights

Analysis: Collaborative Economics



Over time, many entrepreneurs began to recognize they were playing a different game where the old rules did not apply in this new context. Forty years after the inception of the modern startup era, Steve Blank with The Four Steps to the Epiphany and Eric Ries The Lean Startup laid the foundation for a Management Science for Entrepreneurship which has come to be known as the Lean Startup Movement.

The Lean Startup philosophy formally recognized that startups were not shrunken down versions of large corporations (what Eric Ries’ has called the Startup Dollhouse fallacy), where Industrial Era management fundamentals—from hierarchical organizational structures to rigid long-range plans—simply did not work well for the rapidly evolving and uncertain markets and landscapes of the Information Era. As the practices and principles of the Lean Startup have continued to evolve and spread into mainstream consciousness entrepreneurs have become significantly better at creating startups.

Entrepreneurs who have internalized the Lean Startup understand that incorrect assumptions are no longer disasters, they are opportunities to pivot. Unfinished products aren’t hidden behind closed doors, they’re called public betas. Development doesn’t proceed from a binder full of requirements, but from a flexible list of incremental improvements that are re-prioritized every two weeks based on customer feedback.

[Compass](#) has been laboring in this same vein, analyzing data to help determine what structures, processes, and people are most conducive to a startup’s success. The [Startup Genome Report](#) provided the first hard data behind the factors that increased the likelihood of startup success—from the critical role of mentors to the make-up of a founding team. [Why Startups Fail and Premature Scaling](#) looked at the other side, demonstrating that attempts to scale a business before product/market fit is

conclusively achieved is the strongest predictor of failure. And the [2012 Startup Ecosystem Report](#) was the world's first map of the global expansion of high-growth technology businesses, viewed by an estimated 10 million people and referenced by the Obama administration, Chancellor Merkel, and countless other global leaders.

4. Speed of consumer adoption of new technology

As *The Economist* feature noted, “The Internet is now fast, universal, and wireless.” Not unlike what Gutenberg’s printing press gave nascent publishers, this technology provides a mechanism for startups, to inexpensively, distribute new products and services around the world almost instantaneously. From day one, a startup can now be what Steve Blank refers to as a “micro-multinational.”

Large companies used to adopt technology from startups very slowly. The old business adage, “no one got fired for choosing IBM or McKinsey” governed their decision making process. In just the last 5-10 years and increasingly so with each passing year, corporate decision makers are more willing than ever to try out new cheaper, faster, more elegant solutions from emerging startups.

The ease of global access to users and customers all around world and the increasing speed of technological adoption by consumers and businesses has enabled startups to grow at a significantly faster rate.

What Startups Mean To Economic and Job Growth

While the most successful tech startups in the last two decades like Google, Facebook and Amazon now loom large in the global economy, it is highly likely that the powerhouses that will drive

the global economy in 2025 are companies you’ve never heard of today. Many don’t even exist yet. They will be launched from Silicon Valley, certainly, but increasingly from unexpected places like Bangalore, São Paulo, Singapore, and the many startup ecosystems around the globe that are increasingly in frenzied competition for the magic combination of investment dollars, founders, talent, and culture that leads to a thriving startup ecosystem. With trillions of dollars of GDP at stake, it’s no wonder governments are paying rapt attention.

But beyond wealth, startups also bring jobs. Lots of jobs. In fact, they’re the only ones who bring new net job growth. The highly influential [Kauffman study](#) demonstrated that over the past 28 years, startups were responsible for all net new job creation in the U.S. On average over that period, Industrial Era companies shed more jobs than they created, while startups added to the total. Moreover, this stunning finding held up even when looking at individual years. In 21 out of 28 years (75%), startups were the only net job creators.²

Together, these circumstances make for a very simple equation: In the coming decades, the ecosystems with the most thriving startups will enjoy the most thriving economies.

What Startups Mean To Power Structures

In the first post we mentioned that while humanity doesn’t see transitions between eras very often, when they come, every aspect of society gets reinvented: government, business, finance, education, health, energy, technology, art, and science. As the Information Era bursts into full bloom, we are seeing its dramatic impact quite notably in new values related to politics and power.

² Kane, T. (2010)

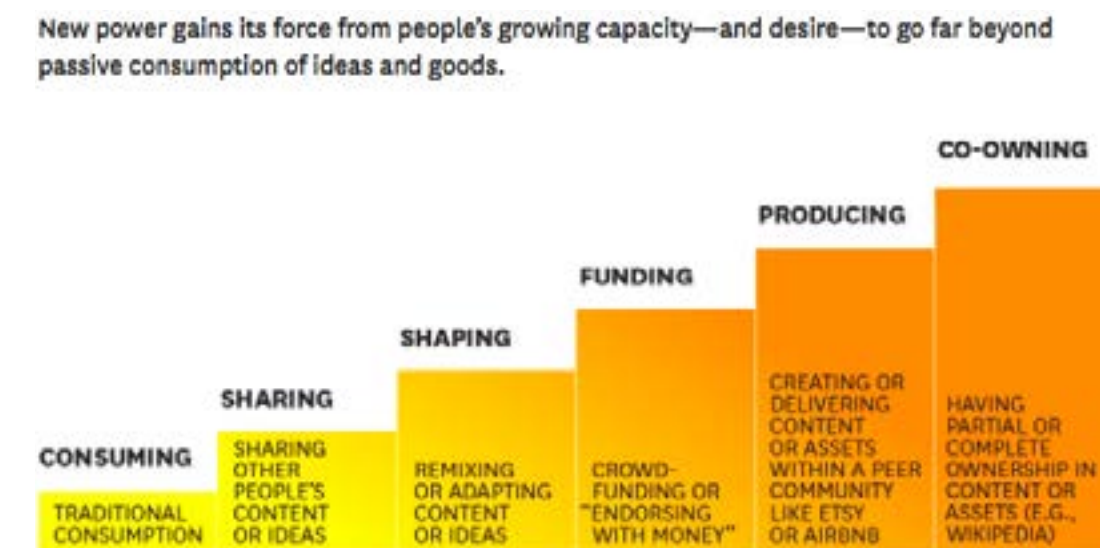
A recent [Harvard Business Review](#) article studied the cultural shifts taking place in real-time. Where “old power” is held by a few and jealously guarded, “new power” is participatory and held by many.³ Increasingly, new power structures and values are pressuring, replacing, or transforming older power structures that were reliant merely on consumption.

New power structures cater to the new ideals of an Information Era society: People expect to share, shape, fund, produce, and co-own companies, products, ideas, governments, and even art. They feel an inalienable right to participate and value informal decision-making, collaboration, do-it-yourself ideals, transparency, and informal affiliation over long-term allegiance.

While the authors of *The Harvard Business Review* article argue that some old power structures are necessary for forward momentum (as evidenced by the failure of both Occupy Wall Street and the Tea Party to effect lasting change), there is little doubt that the Information Era values are thoroughly transforming

Exhibit: The Participation Scale

Source: Jeremy Heimans and Henry Timms www.hbr.org



³ Heimans, J., & Timms, H. (2014)

expectations of Industrial Era power structures. To be successful moving forward, both structures must learn from each other.

What Startups Mean To Society

Innovation is never clean. It is never linear. Our way forward in the Information Era will invariably have many fits and starts. It will take false turns. We’re still waiting for the personal jet packs promised by earlier visionaries. But nor can we hold back the tides of change. We must reinvent ourselves with care but also with courage.

We must objectively study the data, rationally evaluate its implications and boldly incorporate its implicit recommendations in order to ensure and maximize our society’s future prosperity.

We must be prepared to continuously evolve, to push through boom and bust cycles with an eye towards the longer horizon and understand that what drives growth today will be different from what drives growth tomorrow. The innovation history of Silicon Valley is a valuable model to consider.

From the perspective of today, tomorrow may appear murky, but there is one thing we can see with the clarity of a crystal ball. Our future will be constructed from the building blocks of the Information Era. As we speak, entrepreneurs are crafting our path forward on laptops around the world.

Welcome to the rise of the startup.

Exhibit: A World of Difference

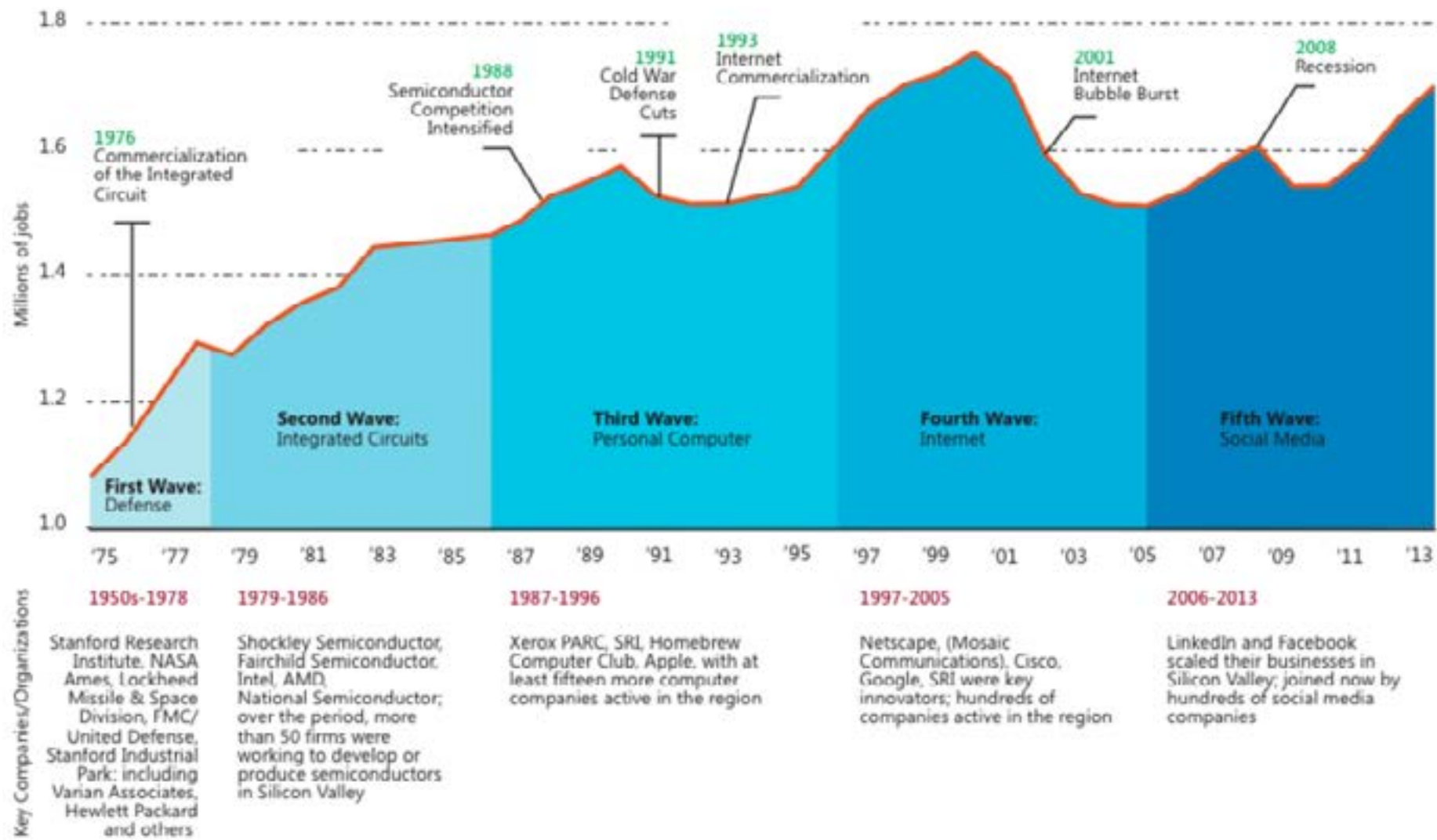
Source: Jeremy Heimans and Henry Timms www.hbr.org

“New power” players increasingly expect to actively shape or create many aspects of their lives. That expectation gives rise to a new set of values centered on participation.

OLD POWER VALUES	NEW POWER VALUES
Managerialism, institutionalism, representative governance	Informal, opt-in decision making; self-organization; networked governance
Exclusivity, competition, authority, resource consolidation	Open source collaboration, crowd wisdom, sharing
Discretion, confidentiality, separation between private and public spheres	Radical transparency
Professionalism, specialization	Do-it-ourselves, “maker culture”
Long-term affiliation and loyalty, less overall participation	Short-term, conditional affiliation; more overall participation

Exhibit: Evolution of Silicon Valley

Source: Employment Development Department, Labor Market Information Division
Analytics: Collaborative Economics



The Startup Revolution | 4

The Critical Role of the Startup Ecosystem

So if our entire global economic future rests on our ability to support the growth of startups, how do we help them thrive?

By supporting the evolution and development of the ecosystems in which they are born.

Wait... what? Aren't Internet businesses inherently global? Haven't tools like Skype and Slack made location meaningless? If successful traditional businesses get started every day around the world, why do startups need the special support of a local ecosystem?

If you're an experienced entrepreneur, the challenges described below may seem all too familiar. For the rest of the world who is still trying to understand the complex and unique drivers that either support or suppress startup growth, we hope this provides some additional perspective on the importance of startup ecosystems.

The Difference Between Startups and Small Businesses

High growth technology startups are very different from other businesses. If you begin a traditional small business, your odds of succeeding for the first two years are pretty good—around 75%. On the other hand, if you found a startup, even if your idea, team, product, and plan are good enough to gain VC backing, you have a [75% chance of failing](#).¹

That said, you'll never find a local auto-body shop that reaches a Fortune 500 market cap or hires 10,000 employees, but there are hundreds of startups quickly pushing into those upper echelons of growth. This is such a critical point that it bears repeating—

startups rarely succeed, but when they do, they can succeed brilliantly.

Different Financing Needs

Banks make loans to traditional small businesses. If you want to start a dry cleaners, you can make a good business case to a bank for why their loan to you is a solid investment. The bank can compare your projections to millions of other dry cleaners and plug it all into the time-worn risk/reward ratio for making loans. For a well-run bank, this is like being the house at a casino. You may win some and you may lose some, but at the end of the day, the odds are clear and in your favor, so you will win a lot more than you lose.

Venture Capital firms invest in late-stage, proven startups. If your startup has achieved profitability and can show a hockey-stick growth chart, you'll have to hire a team of bouncers to keep away VC firms from all over the planet looking to fund the next stage of growth in exchange for a piece of your company. VC firms are, by and large, structured to make multi-million dollar investments in a small number of late-stage startups that they can shepherd from strong to stratospheric results.

If you want to start a startup company from ground zero, you may fail before you can even agree on a catchy name. Plus, from the point of view of any standard bank your business model is so new there's almost nothing to compare it to, which makes you a completely unacceptable risk. From the perspective of a VC firm, you're also too new to be worth the time of day. So who fills the gap for early-stage startups?

¹ Blank, S. (2013)

The A team: Angels and Accelerators.

The angel investor spreads their investment over a large number of early-stage startups and takes a larger percentage of equity in return. The vast majority of their investments fail, just as one might lose many hands of poker. But the hope is that eventually that royal flush will come up and they'll find themselves owning a huge chunk of the next ZenDesk or Salesforce.

The business model of accelerator programs centers around “hacking” the early stage funding environment by preparing companies for their first investment, usually within three months of the end of their program. They invest at market terms, provide access to mentors and training on a broad set of startup-related subjects. In exchange they take 5-10% equity in the company.

How do angels and accelerators decide how to invest their resources when a startup entrepreneur has neither a traditional business plan nor multiple years of strong start-up results to show? Is it that killer idea that grabs their imagination?

The “great idea” is perhaps one of the most mythical and misunderstood elements to the entire startup process. Ask anyone in Silicon Valley these days and they will tell you there are no more new ideas. The secretive culture of the late '90s that operated on 10-page non-disclosure agreements and NSA-like hierarchies of classified knowledge, has given way to a culture that understands execution trumps ideas. Today, walk into any coffee shop south of Market Street in San Francisco, you will hear a dozen fully transparent pitches, challenges, value propositions, target customers and funding needs. It's not that ideas don't matter, it's that Silicon Valley has learned that the hard work that differentiates winners from losers comes not in dreaming things up but in getting them done.

If the A Team doesn't invest primarily in plans, results or ideas, what does that leave for companies that don't yet have traction? People.

For all the modern tools the Information Era has produced, early-stage startup capital investment still relies on an old fashioned network of trust. Video-conferencing may allow people to communicate from afar, but the “growth hack” for building human trust has still yet to be discovered. The vast majority of early stage investment dollars are found through the networks of trusted human relationships.

Where can founders and early-stage investors find each other? In a thriving local startup ecosystem.

Different Talent Needs of Startups & Large Corporations

Rare Personalities

Working for a large company requires having the appropriate experience to match a job description. Day in and day out there are written goals, established processes, and predictable routines to help facilitate output. This type of work is analogous to traveling in a first world country where the trains run on time and the hotel can be booked in advance with your credit card.

Working for an early-stage startup requires figuring out what your job should be every day, how to accomplish things that have never been done before and when you should throw out everything that's already been done and start over. This type of work is analogous to traveling in a third world country where the ferry is suddenly delayed at least two weeks and you don't even know if the next town will have a hotel. Myers-Briggs typology? Keirsey temperament sorter? Pick your personality classification

system and it will tell you that it is a rare sort of person indeed who has just the right combination of vision and execution, risk-taking profile, and fear of failure motivation, leadership qualities, and listening skills to be successful on a small startup team.

Rare Talent

Many people can read, write, and solve math problems. Very few people can design a user experience to make a completely new process feel intuitive, or decide the right way to parse and visualize data to generate useful insights, or write a string of C# code that solves an unprecedented problem in a scalable way. To gain a sense of just how rare some of these necessary talents are, consider the ***Silicon Valley Competitiveness and Innovation Project 2015*** report that demonstrated a stunning 70% of Silicon Valley software developers are foreign born. This finding is even more astounding considering an immigration environment that requires considerable work and investment by companies to get and keep visas for non-U.S. employees.

Single Geography

In-person conversations lead to innovation, especially for early-stage startups where the strategy is likely to change three times between 9am and 5pm, and the best work is often done by a core team after midnight over late-night pizza delivery. Success requires moving fast and pivoting even faster, in a race to find product/market fit before the money runs out. Often there is precious little time to send thoughtful updates to far-flung employees or account for multiple time zones. Look at the office layout of early-stage startups and often you won't even find desks separated. Instead, the whole team sits around one large table so they can all hear every conversation and informally stay on the same—fast moving—page.

Where can an entrepreneur find the doubly rare combination of personality and talent necessary to build a successful start-up team? In a thriving local startup ecosystem.

Different Inputs

If you start a pool cleaning service, odds are you don't need several months worth of research to tell you what customers need. But for startups, the strategy changes and pivots happen when entrepreneurs get surprising feedback from customers that invalidate some of their core assumptions. This means founders need ready access to potential customers to shape their product as much as they need access to the talent to build it. They need to sit down with these customers, ask questions, watch their processes, uncover their needs. They need structured usability sessions as well as tons of informal conversations about a particular space or pain point. Whether the target is a teenager for a mobile game or a CFO for an ERP system, easy access to a wide variety of potential customers is a requirement.

The same holds true for inputs from mentors. In a fast-paced world, no small early-stage startup team can be expected to know everything about growth strategies, financing, taxes, hiring laws, new technologies, marketing, and how to set appropriate expectations internally and externally. Enter the mentor to provide crucial perspective, advice, context, contacts, and inspiration to the founding team. This role is so critical, a Compass.co study, ***The Startup Genome Report***, found that entrepreneurs with mentors had three and a half times more growth and raised seven times more money than those without.

Again, for all the technology being glamorized behind startup success, the truth is that human relationships are the lead actors of this movie and new technology is merely playing a supporting role.

Where can an entrepreneur find the right concentration of many different types of customers and engaged mentors—where the culture runs so deep that even the local gym offers free services in exchange for equity in your startup? In a thriving local startup ecosystem. (And yes, this is a Silicon Valley reality.)

Ecosystem Winners and Losers

All of these factors have led certain geographic locations to have dramatically higher concentrations of startups for decades. While it hasn't yet been proven if a thriving ecosystem improves the success rates of each startup individually, it does act as a giant factory, producing massive numbers of startups by lubricating every step of the process. After that, it's a numbers game. You produce enough startups and many of them are bound to be successful. Several of them even wildly successful.

"If you look at a list of U.S. cities sorted by population, the number of successful startups per capita varies by orders of magnitude. Somehow it's as if most places were sprayed with startupidicide. I wondered about this for years. I could see the average town was like a roach motel for startup ambitions: smart, ambitious people went in, but no startups came out. But I was never able to figure out exactly what happened inside the motel—exactly what was killing all the potential startups. A couple weeks ago I finally figured it out. I was framing the question wrong. The problem is not that most towns kill startups. It's that death is the default for startups, and most towns don't save them." — Paul Graham, founder of the leading startup accelerator YCombinator

To extend Paul's analogy, startups are like seeds sprinkled onto the earth. Most will die. A few will cling to life. A few will take root and thrive into huge fields that feed entire populations—something needed by the entire world economy. So what is fertilizer for startups?

Paris in the 20s was a hotspot for art. It wasn't just the presence of painters alone that created the environment, but their support by a vast network of art dealers who could sell paintings and wealthy people who could buy them, which in turn attracted more painters, who saw what people were buying, who helped inspire the existing painters, who created more interesting work that better supported the art dealers, and so on.

So, too, is the word ecosystem applied to a successful startup environment for a reason. There is no one item that makes an ecosystem fail or thrive, but a combination of many contributing factors. ***The Startup Ecosystem Report 2015*** from Compass.co and many global partners will delve deep into these factors and provide answers, ecosystem by ecosystem, across the globe.

Let's get to it.

INTRODUCTION

Introduction to the Startup Ecosystem Ranking 2015

Welcome to the Global Startup Ecosystem Ranking part of our Startup Ecosystem Report Series. It has been almost three years since the last Startup Ecosystem Report was released in November 2012, and since then the startup sector has grown at a booming pace.

The centerpiece of the 2015 Startup Ecosystem Ranking is our updated and revamped Global Ecosystem Index, which ranks the top 20 startup ecosystems around the world. The Index is produced by ranking ecosystems along 5 major components: Performance, Funding, Talent, Market Reach, and Startup Experience.

The primary basis of each component:

- Performance on the funding and exit valuations of startups headquartered in an ecosystem
- Funding on VC investment in the ecosystem and the time it takes to raise capital
- Talent on the quality of technical talent, its availability and cost
- Market reach on the size of the local ecosystem's GDP and the ease of reaching customers in international markets
- Startup Experience on first-party survey data that is linked to success of startups, such as having veteran startup mentors or founders with previous startup experience

The rest of the report includes detailed deep dives into the top 20 startup ecosystems.

About Compass

Compass is a provider of automated reporting and benchmarking software for 34,000 startups and tech companies around the globe.

Compass, formerly Startup Genome, has previously published 3 critically acclaimed reports on startups. The 2012 Startup Ecosystem Report was downloaded more than 100,000 times, added to the curriculum of more than 100 universities, and written about in more than 100 publications, including the Financial Times, The Economist, and the Wall Street Journal.

The newest 2015 Startup Ecosystem Ranking was a collaborative effort involving:

- Insights from over 200 interviews with entrepreneurs from 25 countries
- Insights from 11,000 startup surveys completed in the last 5 months
- Insights from data and content partners from 10 countries including: Deloitte, Crunchbase, Global Entrepreneurship Week, Orb Intelligence, Dealroom, and many other incubators, accelerators, VCs, policy makers, and academics
- Support from Ron Berman at Wharton Business school, Dr. Thomas Funke from the German Federal Ministry for Economics and Steve Blank, who wrote the foreword for this report

The Increasing Socioeconomic Importance of Startup Ecosystems

Twenty to thirty years ago, almost all tech startups were created in startup ecosystems like Silicon Valley and Boston. Today, technology entrepreneurship is a global phenomenon, with startup ecosystems similar to Silicon Valley rapidly emerging all around the world. An interconnected, global startup landscape is taking shape and we've gathered the data and crunched the numbers that nobody else has to help you understand how to best navigate this brave new economic world.

In September 2011, we wrote a blog post about the coming [“Entrepreneurial Enlightenment”](#) and the factors behind its emergence. The era is in full bloom now and there has never been a better time to be a tech entrepreneur, as entrepreneurs are now blessed with the tools, resources, and market conditions to scale a company to billion dollar “Unicorn” status faster than ever before.

The rise of the startup ecosystems all around the world should also be seen in the context of the larger socioeconomic structural shift taking place. Information era businesses have become the dominant source of economic growth, significantly automating or altering much of the industrial and service businesses of the previous economic era. Many others have described aspects of this structural shift under different names, such as Marc Andreessen's widely circulated Wall Street Journal essay, [“Why Software is Eating the World”](#)¹, Deloitte Center for the Edge's semi- annual [“Shift Index”](#)², or Richard Florida's [Creative Class Group](#), which has published numerous books on the topic, such as the [“Rise of the Creative Class”](#)³.

Given technology startups' critical role in the information economy, the importance of healthy startup ecosystems only stands to increase in the future. With this report we want to accelerate the development of startup ecosystems around the world by answering critical questions for entrepreneurs, investors, and policy makers that are difficult to answer without the data we have gathered and analyzed in this report, as well as to raise the general populace's awareness of the increasing socioeconomic importance of startup ecosystems.

One of our main goals with this report is to help various stakeholders answer the following kinds of questions:

For Entrepreneurs:

“Where should I start my new company?”

“Is Silicon Valley the best place to start my company because it's the global mecca of startups?”

“Has the cost of living in Silicon Valley and the lack of available tech talent made it a sub-optimal founding location?”

“When I'm ready, where should I open up my startup's second office?”

For Investors:

“How can I find new startup investment opportunities around the world instead of simply settling for solely investing in my local startup ecosystem due to familiarity?”

“Given the dearth of information out there about emerging startup ecosystems, how do I evaluate which ones I should focus on for finding new opportunities?”

For Policy Makers:

“What initiatives should I prioritize in my startup ecosystem to maximize growth?”

“How should I measure the progress of these initiatives?”

For All Stakeholders:

“What is the best way to strengthen the overall vibrancy and entrepreneurial spirit my ecosystem?”

¹ Andreessen, M. (2011)

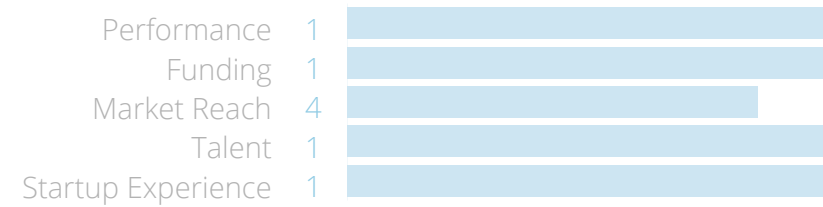
² Hagel, J., Brown, J.S. & Davidson, L. (2009)

³ Florida, R. (2002)

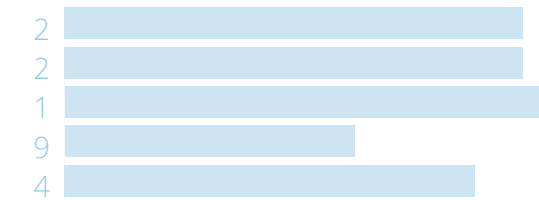
THE GLOBAL STARTUP ECOSYSTEM RANKING

The Global Startup Ecosystem Ranking

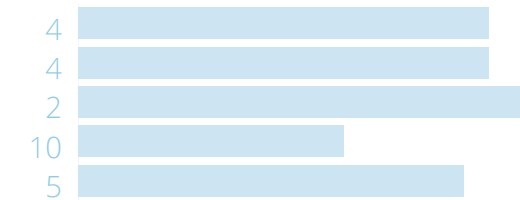
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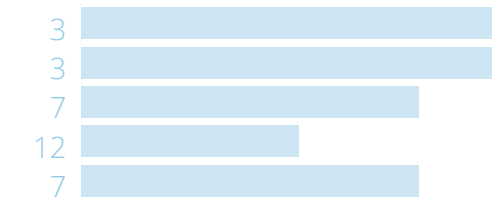
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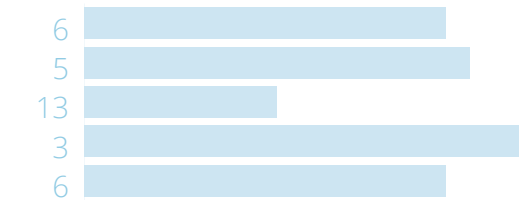
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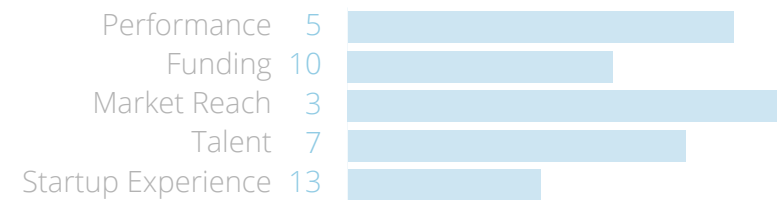
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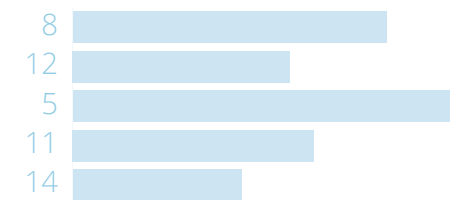
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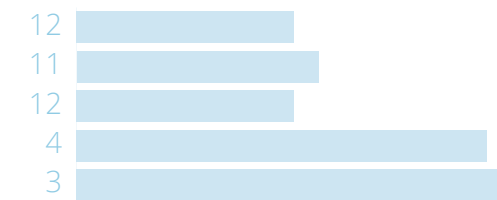
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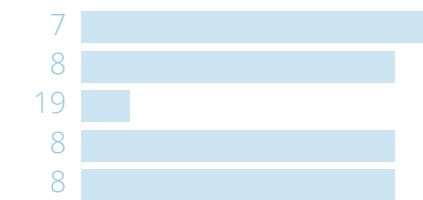
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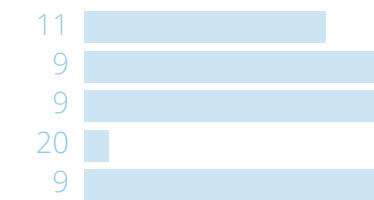
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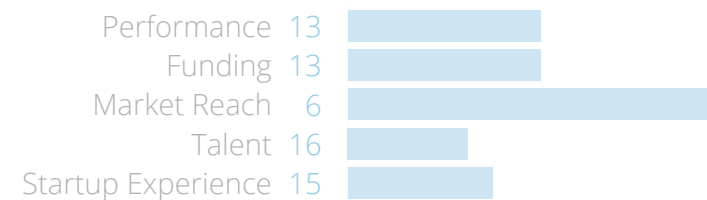
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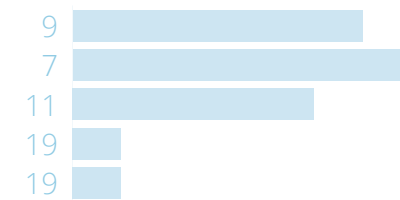
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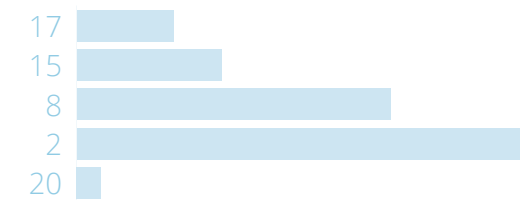
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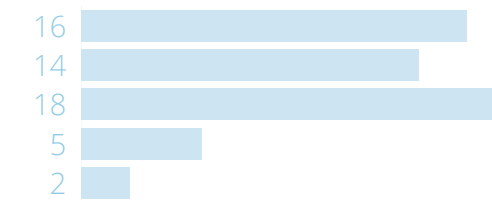
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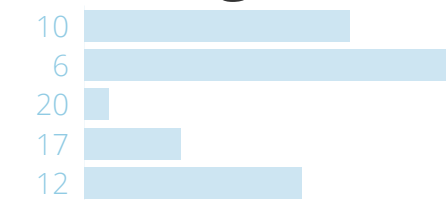
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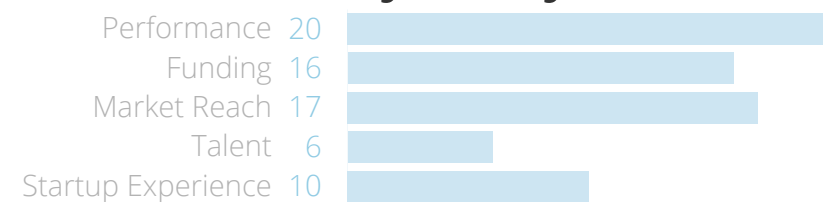
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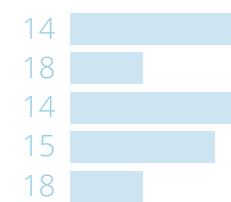
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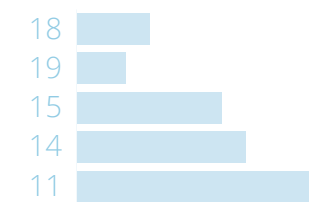
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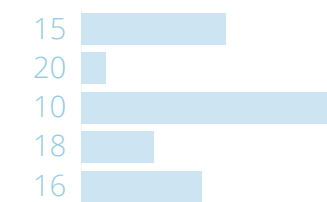
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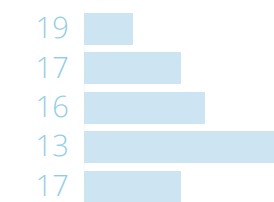
18 Vancouver



19 Amsterdam



20 Montreal



	Ranking		Performance	Funding	Market Reach	Talent	Startup Exp.	Growth Index
Silicon Valley	1	◀	1	1	4	1	1	2.1
New York City	2	▲ 3	2	2	1	9	4	1.8
Los Angeles	3	◀	4	4	2	10	5	1.8
Boston	4	▲ 2	3	3	7	12	7	2.7
Tel Aviv	5	▼ 3	6	5	13	3	6	2.9
London	6	▲ 1	5	10	3	7	13	3.3
Chicago	7	▲ 3	8	12	5	11	14	2.8
Seattle	8	▼ 4	12	11	12	4	3	2.1
Berlin	9	▲ 6	7	8	19	8	8	10
Singapore	10	▲ 7	11	9	9	20	9	1.9
Paris	11	◀	13	13	6	16	15	1.3
Sao Paulo	12	▲ 1	9	7	11	19	19	3.5
Moscow	13	▲ 1	17	15	8	2	20	1.0
Austin	14	NEW	16	14	18	5	2	1.9
Bangalore	15	▲ 4	10	6	20	17	12	4.9
Sydney	16	▲ 4	20	16	17	6	10	1.1
Toronto	17	▼ 9	14	18	14	15	18	1.3
Vancouver	18	▼ 9	18	19	15	14	11	1.2
Amsterdam	19	NEW	15	20	10	18	16	3.0
Montreal	20	NEW	19	17	16	13	17	1.5

Without further adieu, here is the 2015 Startup Ecosystem Index, with analysis to follow.

One important caveat to note: Our index does not currently include startup ecosystems from China, Taiwan, Japan, and South Korea. The language barrier slowed our ability to get enough of some components of data to include them in the ranking. We expect to have these ecosystems included in our index later this year.

Key Findings

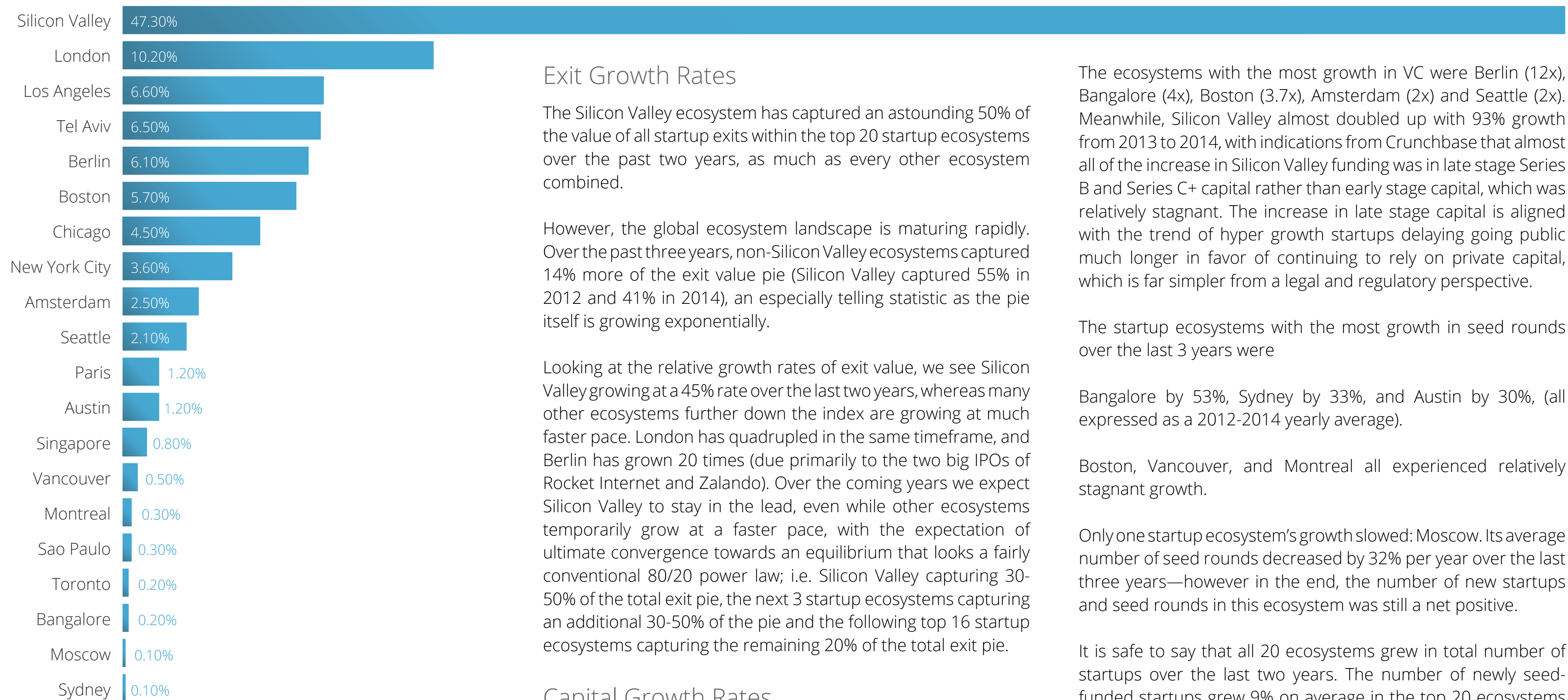
Silicon Valley continues to dominate. The Bay Area, which is practically synonymous with high growth technology startups, has again achieved top rankings in Performance, Funding, and Talent—making for an overall ranking of #1. The only component where it is not ranked #1 is Market Reach, where it is #4.

The predominant Startup Ecosystems are located in North America and Europe, occupying 16 of the top 20 spots.

São Paulo is the only Latin American ecosystem in the top 20. São Paulo has an abundance of venture capital in the ecosystem, but very few exits, so the lack of liquidation in their ecosystem is likely stifling the growth of the ecosystem.

Startup Ecosystems in Asia have grown significantly, highlighted with Singapore moving from #17 to #10 and Bangalore from #19 to #15.

Total Exit Volume 2013 & 2014 in USD



Exit Growth Rates

The Silicon Valley ecosystem has captured an astounding 50% of the value of all startup exits within the top 20 startup ecosystems over the past two years, as much as every other ecosystem combined.

However, the global ecosystem landscape is maturing rapidly. Over the past three years, non-Silicon Valley ecosystems captured 14% more of the exit value pie (Silicon Valley captured 55% in 2012 and 41% in 2014), an especially telling statistic as the pie itself is growing exponentially.

Looking at the relative growth rates of exit value, we see Silicon Valley growing at a 45% rate over the last two years, whereas many other ecosystems further down the index are growing at much faster pace. London has quadrupled in the same timeframe, and Berlin has grown 20 times (due primarily to the two big IPOs of Rocket Internet and Zalando). Over the coming years we expect Silicon Valley to stay in the lead, even while other ecosystems temporarily grow at a faster pace, with the expectation of ultimate convergence towards an equilibrium that looks a fairly conventional 80/20 power law; i.e. Silicon Valley capturing 30-50% of the total exit pie, the next 3 startup ecosystems capturing an additional 30-50% of the pie and the following top 16 startup ecosystems capturing the remaining 20% of the total exit pie.

Capital Growth Rates

Total venture capital investment across the top 20 ecosystems rose 95% from 2013-2014.

The ecosystems with the most growth in VC were Berlin (12x), Bangalore (4x), Boston (3.7x), Amsterdam (2x) and Seattle (2x). Meanwhile, Silicon Valley almost doubled up with 93% growth from 2013 to 2014, with indications from Crunchbase that almost all of the increase in Silicon Valley funding was in late stage Series B and Series C+ capital rather than early stage capital, which was relatively stagnant. The increase in late stage capital is aligned with the trend of hyper growth startups delaying going public much longer in favor of continuing to rely on private capital, which is far simpler from a legal and regulatory perspective.

The startup ecosystems with the most growth in seed rounds over the last 3 years were

Bangalore by 53%, Sydney by 33%, and Austin by 30%, (all expressed as a 2012-2014 yearly average).

Boston, Vancouver, and Montreal all experienced relatively stagnant growth.

Only one startup ecosystem's growth slowed: Moscow. Its average number of seed rounds decreased by 32% per year over the last three years—however in the end, the number of new startups and seed rounds in this ecosystem was still a net positive.

It is safe to say that all 20 ecosystems grew in total number of startups over the last two years. The number of newly seed-funded startups grew 9% on average in the top 20 ecosystems from 2012-2014. 10 North American ecosystems are currently in the top 20 in 2015, versus seven in 2012. Six European

ecosystems made it into the top 20, which is one more than in 2012, with Amsterdam emerging as a strong—and unexpected—newcomer.

Growth in Canadian startup ecosystems has slowed relative to the rest of the world. Exits remained fairly stable while venture capital investments increased by only 13% compared to an 82% growth in the other top 20 startup ecosystems from 2013-2014.

Exit value grew much faster in the top European ecosystems than the top ecosystems in the U.S.: 4.1x Europe versus 1.5x U.S. (2012-2014), yet in 2014 the volume of exits was still on average 34% higher in American startup ecosystems than in European ecosystems.

Most Significant Changes In Ecosystem Ranking since 2012

The startup ecosystems which made the biggest leaps are New York, Austin, Bangalore, Singapore, Berlin and Chicago. New York City made a significant leap among the established players, moving from position #5 to #2 to take the silver medal. Austin, Texas, meanwhile leapt all the way into #14th place, whereas three years ago they didn't even crack the top 20. Bangalore moved from #19 to #15, Singapore from #17 to #10, and Chicago from #10 to #7.

The startup ecosystems which made the biggest falls are Vancouver, Toronto, Sydney, and Seattle. Vancouver slipped out of the top 10 from position #9 to #18, Toronto slid from #8 down to #17, Sydney dropped from #12 to #16, and Seattle fell from #4 to #8. Again, all of these ecosystems did grow in the past three years, but not as fast as other ecosystems, which puts them at risk of eventually being left behind.

Three ecosystems fell out of the top 20 completely since 2012: Santiago, Melbourne, and Waterloo. Santiago experienced fast “catch up” growth for several years but is now just a bit above average with a growth index of 2.6 (average = 2.4). The growth of Melbourne likely took a hit due to its close proximity to the larger startup ecosystem of Sydney. Smaller ecosystems with close proximity to larger ecosystems often have a hard time continuing to grow due to new and existing talent and capital migrating to the larger nearby ecosystem. Regarding Waterloo, our methodological change of removing output per capita as a performance metric is the main reason for its lower ranking, given it has a growth index of 2.45, which, while only slightly above average, is significantly higher than most of the lower ranked ecosystems in the top 20.

Individual Startup Ecosystem Highlights

The New York City startup ecosystem moved from #5 in 2012 to #2 in the world, solidifying its position as the dominant ecosystem on the East Coast of the U.S., with Boston coming up from #6 to #4.

One of the major reasons for NYC's growth is that it is the most popular location for startups foreign to the U.S. to open a second office or to move their whole headquarters there. We noticed that once many startups around the world have a functional, saleable product in their home ecosystem, they look to set up a sales office in NYC versus Silicon Valley in order to gain access to the US Market. However, a significant drawback to the NYC ecosystem is a scarcity of well-priced technical talent due to competition from other local sectors, such as Finance, Media & Health Care.

Austin, Texas, made a big leap in the 2015 ranking, emerging from the unranked to slotting in at #14. Austin's strengths

include its high talent quality (ranked #5), its very entrepreneurial culture (ranked #2 in mindset), and its popularity as a second office location for Silicon Valley startups due to its lower cost of acquiring technical talent.

Berlin moved into the #9 position on the ecosystem index, jumping up from #15 in 2012. This is an impressive jump and means Berlin has gone from being a local powerhouse to having supreme global relevance. In our 2012 ecosystem report many stakeholders involved in the Berlin ecosystem felt they were under-ranked given the local energy and enthusiasm. In this case, their provincial conviction turned out to be a harbinger for future progress.

Boston is ranked #4 in 2015, two places higher than in 2012. Boston has exceptionally strong late-stage performance metrics highlighted by the fact that its exit volume grew 52% faster than the global average over the last three years. However, its early-stage performance metrics were not as strong. In every year since 2012 there were, on average, 4% fewer seed rounds in Boston than the year before. The average for the top 20 ecosystems over the same time frame is a 9% increase. In contrast, Austin's number of seed rounds grew at a 30% rate. Boston's slowing early-stage performance could be a signal of future decline.

The Indian hub of Bangalore has had explosive growth in the last few years. To many eyes, this rise is unexpected. For the last couple of decades, Bangalore has been mostly an outsourcing center, hardly characterized for the innovative culture required for creating new technology startups. \$2.256 Billion of venture capital was deployed in Bangalore in 2014, #7 among all startup ecosystems ([fifth strongest ecosystem in the world](#)). Bangalore also boasts an incredibly youthful startup ecosystem, with the youngest average founders' age of all the top 20 ecosystems.

The lack of gender equality is common across all startup ecosystems. No ecosystem comes close to an equal share of male and female founders, although psychologists and sociologists continue to debate whether 50/50 is the target to strive [[see this article on gender differences by Florida State Psychology professor Roy Baumeister](#)]¹ for what's the target to strive for is debatable. Overall, the trend for female entrepreneurs is significantly up—the number of female founders in the global startup ecosystem has grown by 80% over the last three years. In 2012, 10% of startups had a female founder, as compared to the 18% global average among the top 20 in 2015. Chicago, with 30% female founders, has the greatest percentage of women entrepreneurs out of the top 20 startups ecosystems.

US startup ecosystems (and to a lesser degree Canada) are the only places in the world where a software engineer gets paid a higher salary for working at a startup than at a comparable position at a larger, more established corporate firm. Whereas, in almost all other startup ecosystems worldwide, the salary for working at a startup versus a large corporation is about the same [1]. However, even this is surprising. Proper supply and demand equilibrium would have startup employees earning a much smaller salary than if they worked in a traditional corporation, but with the upside of having various and generous forms of stock-based compensation. This dynamic speaks to the hot war for talent in the top startup ecosystems, but also highlights the huge imbalance in supply and demand for technical startup talent as a pervasive global issue.

Top Recommendations for Each Set of Stakeholders

For Entrepreneurs:

Use the global startup ecosystem to distribute your organization, aligning with the strengths of each ecosystem. For example, that would translate to recommendations such as:

- Have your executive team headquartered, or at least spend a lot of time, in a well-capitalized ecosystem like Silicon Valley.
- Work in a smaller, and cheaper startup ecosystem when your startup is pre-product market fit. Then move your headquarters to a larger startup ecosystem after product market fit is reached and you're ready to raise a big financing round.
- Set up a second office focused on engineering in an ecosystem with a lot of inexpensive and plentiful tech talent, such as Austin, Tel Aviv or Sydney.
- Set up a second sales office in NYC to get access to the US Market and many big potential customers.

For Investors:

We analyzed which ecosystems might be undervalued by investors and have strong investment opportunities. We also compared valuations at each funding round to the baseline of Silicon Valley, looked at the averaged investment per company in an ecosystem, and measured the total investment value to exit value ratio.

Based on this analysis we'd recommend investors spend more time looking for opportunities in the undervalued ecosystems of Amsterdam, Paris, Chicago, and Berlin. Spend less time looking

for opportunities in NYC, Toronto, Seattle, and Boston, which have reached financial equilibrium and are likely to have fewer underpriced, under-discovered gems of companies.

For Policy Makers:

We see three areas where improved policy can impact the success of an ecosystem:

1. The first is to create policy that minimizes the friction of incoming flow of foreign capital and foreign talent.
2. Next, simplify the tax code for startups, allowing for low legal cost of startup formation, startup bankruptcy, and liquidation on startup exit.
3. Lastly, differentiate your startup ecosystem and accentuate its strengths. Startup ecosystems can differentiate by focusing on a stage of the startup lifecycle such as how the Start-Up Chile Grant Program has done for very early stage startups. Or, focus on particular markets or product types, such as media in Los Angeles or hard science in Boston.

¹ Baumeister, R. (2007)

DEEP DIVES

Deep Dives into Top 20 Global Startup Ecosystems

The essays at the beginning of this report discussed the broader idea of a startup revolution in the midst of the transition from the Industrial Era to the Information Era. Now it is time to take an indepth look at the ecosystems where startups are born. The following section assesses and compares the world's top 20 startup ecosystems based on Performance, Funding, Market Reach, Talent, and Startup Experience. As established in the methodology section each of these five components are comprised of selected quantitative and qualitative variables. Underlying data has been sourced from this year's survey (with data gathered from approximately 11,000 participants), more than 200 expert interviews, and a wide range of trusted secondary sources such as CrunchBase—the world's largest startup dataset which rich data on variables such as funding, office locations, and exits.

Our overarching goal with the deep dives is to provide actionable insights for entrepreneurs, investors, and policy makers on the ground so they can better understand the ranking and take beneficial actions.

The deep dives aim to give insightful answers to questions such as:

- How many days does it take for startups in Bangalore to hire talented software engineers?
- What is the average amount of money invested in a series A in Boston?
- How many jobs have been created by startups that are located in Berlin?

To better understand our main audience and their expectations, we collected feedback from roughly 500 people about the 2012 Startup Ecosystem Report (SER).

Here's what we found:

- Entrepreneurs are the main audience, representing 53% downloads of the Startup Ecosystem Report (SER) 2012
- 87% of the roughly 500 survey respondents recommended the SER 2012 to someone else and 99% would like to read the SER 2015!
- 82% considered the ranking to be the most valuable part of the SER 2012

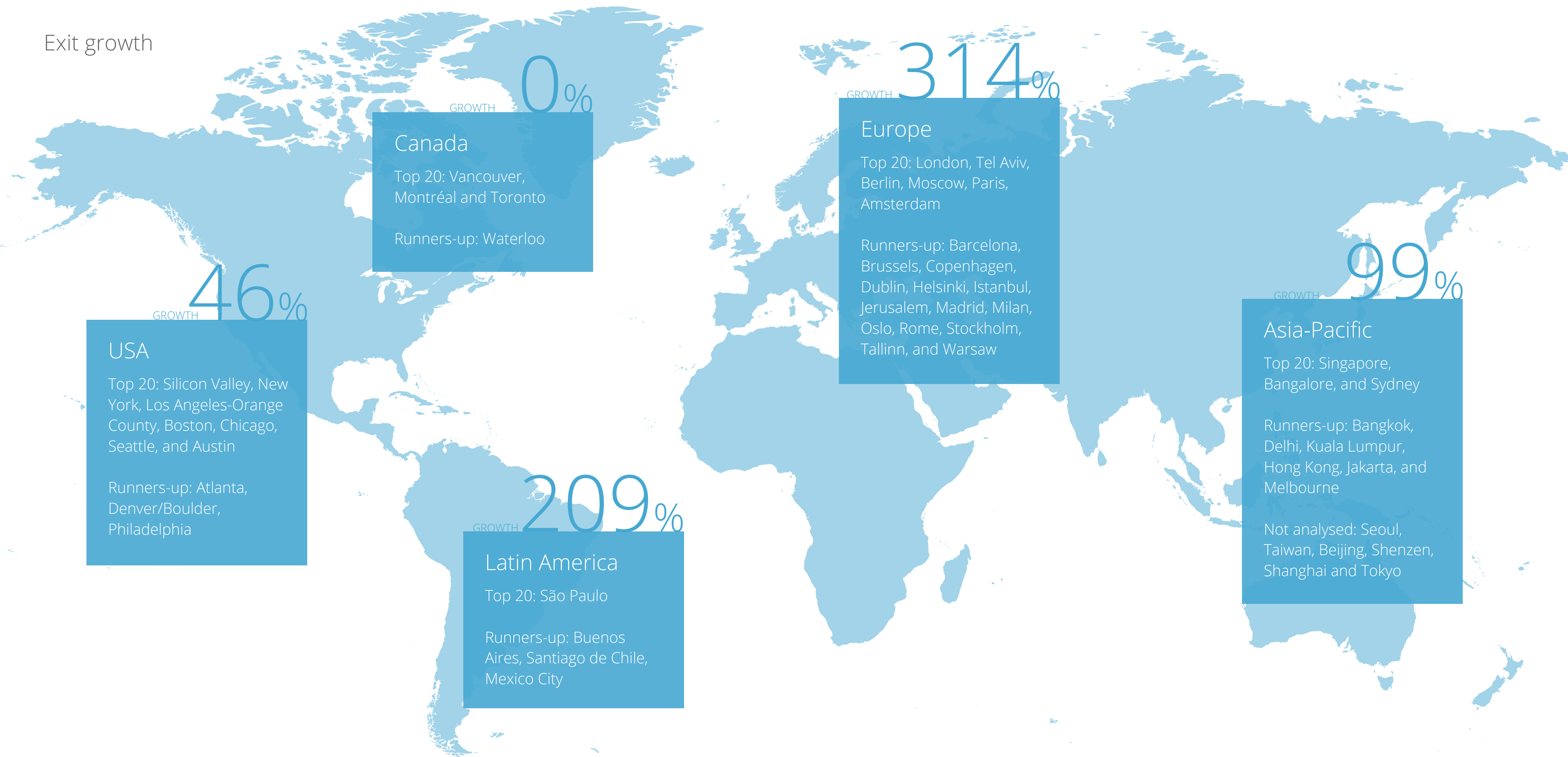
The most frequent feedback on our 2012 report was:

- More information about funding in a startup ecosystem
- More information about methodology and general framework
- More in-depth information per ecosystem
- Coverage of more ecosystems

Although we were able to analyze over 40 startup hubs across the globe, the first version of this year's report focuses exclusively on the global top 20. We may analyze additional cities, for example in China, and release additional deep dives for the remaining ecosystems of our top-40 ranking in the coming months. Email us if you have any questions at feedback@compass.co.

To allow for better benchmarking, we did not only compare each ecosystem with Silicon Valley, but also with regional peer groups. Having defined the global top 20, average values have been produced based on the following groupings:

Exit growth



- 
- A world map with a light blue background and white landmasses. Twenty white dots are placed on the map, each corresponding to a number in the list on the left. The dots are located in North America (Silicon Valley, New York City, Los Angeles, Boston, Chicago, Seattle, Toronto, Vancouver, Montreal), Europe (London, Berlin, Amsterdam), Africa (Tel Aviv), Asia (Singapore, Moscow, Bangalore, Sydney, Austin), and Australia (Sydney).
- 1 Silicon Valley
 - 2 New York City
 - 3 Los Angeles
 - 4 Boston
 - 5 Tel Aviv
 - 6 London
 - 7 Chicago
 - 8 Seattle
 - 9 Berlin
 - 10 Singapore
 - 11 Paris
 - 12 Sao Paulo
 - 13 Moscow
 - 14 Austin
 - 15 Bangalore
 - 16 Sydney
 - 17 Toronto
 - 18 Vancouver
 - 19 Amsterdam
 - 20 Montreal

Intro

Silicon Valley has earned its reputation as the global tech mecca with 14,000 to 19,000 startups and 1.7 to 2.2 million high-tech workers. It is the home to success stories such as Apple, Google, Facebook, and countless others. Just these three companies combined have a market cap of \$1.5 trillion and employ more than 165,000 people worldwide. Silicon Valley's local and global impact is undeniable.

The Silicon Valley Competitiveness and Innovation Project's report on Silicon Valley shows that each high-tech worker in its ecosystem helped to generate roughly five jobs in the service sector, ranging from physicians and teachers to restaurant workers and landscapers.¹ In its impact study, Facebook itself claims to have created 4 million jobs globally, including app developers and Facebook marketers.

Even though startup ecosystems have exploded globally, Silicon Valley still has about as much capital and exit volume as the rest of the top 20 ecosystems combined. Decades of lessons learned in high tech entrepreneurship in Silicon Valley have been synthesized into a new management science for entrepreneurship. This is highlighted by the foundational work of Steve Blank and Eric Ries, which gave rise to the Lean Startup movement, and whose principles and frameworks now guide entrepreneurs all around the world.

As the poster child for the global startup ecosystem, Silicon Valley continues to be an inspiration to other startup communities and a gravitation center for founders and high tech talent. More than 50% of startups are founded by immigrants and more than 70% of engineers are immigrants.²

¹ Henton, D., Kaiser, J., & Held, K. (2015)

² Deloitte LLT. (2015)



Silicon Valley
& Bay Area
USA

Performance

1

Funding

1

Market Reach

4

Talent

1

Startup Experience

1

Growth Index

2.1

1

Selected Findings

Silicon Valley captures about 45% of the top 20's VC investments and exit value, almost 5x its closest competitors—New York and London, respectively.

Silicon Valley has the highest absolute growth in VC investments and exit value. It captures 43% and 30% of the top 20's absolute total growth, respectively.

Silicon Valley has a highly dynamic labour market. At a 40 day average SV has the shortest time to hire an engineer in the US.

Silicon Valley's products cover 19% more languages than the North American average.

Silicon Valley has the most Startup Experience: for instance 48% of all startup employees have previously worked in another startup.

Silicon Valley is the ecosystem with the highest startup density in the top 20. Silicon Valley has 3 times more Startups per capita than Seattle or Bangalore.

Silicon Valley's main challenges are access to talent, affordable housing, and adequate public transportation. This year's U.S. work visa cap of 85,000 was reached within the first week. 233,000 application were filed, the majority of which were for the tech industry. Due to the lack of work visas it has become common practice among Silicon Valley companies to build out remote teams or to open second offices in other startup ecosystems inside and outside the U.S. such as Austin, Seattle, Sao Paolo, and Moscow.³ Leading Silicon Valley figures such as Paul Graham and Mark Zuckerberg or organizations such as FWD.us and the Silicon Valley Leadership Group advocate for immigration reform to allow more international talent into the U.S. This would further boost the growth of the high tech industry in Silicon Valley and benefit the overall economic prosperity of its surrounding areas. In addition to the stifling effect of the U.S.' immigration policy, in the last six years prices for 1 and 2 bedroom apartments in the most popular neighborhoods in the Bay Area have almost tripled—making it the most expensive place to live in the United States. On top of significant financial barriers to housing, housing is limited due to insufficient transportation, slow permits for new buildings, and rigid zoning rules.⁴

Ecosystem Partners: [StartupGrind](#), [Computer History Museum](#), [GSV Labs](#)

"I have been living in San Francisco for almost three years now and if there's something you can feel in the air here: its speed. I've never felt this in any other place. The pace at which companies move around here is just insane."

– Stefano Bernardi, Co-Founder at Kickpay

³ H-1B Fiscal Year (FY) 2016 Cap Season. (2015)

⁴ SVCIP Report. (2015)

"If you've ever struck a golf ball so perfectly that you don't even feel the club making contact and the ball just jumps – that's means you hit the sweet spot and similarly, Silicon Valley is the Earth's startup sweet spot. I'm a card carrying member of the Silicon Valley rollercoaster, being on the receiving end of much success and much failure. There's just no other place on the planet where you can graduate with a class of Y Combinators, snag funding and starting growing a business, fail, pick up the pieces and be a success all in under 5 years! I've had so many great friends, advisors and investors, all of whom you'd never find in one tiny pinpoint location vying for the same prize of building a startup dream into a burgeoning business."

– Jessica Mah, Founder & CEO Indinero

Ecosystem Characteristics¹

Metropolitan GDP



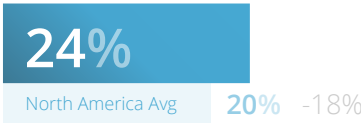
Startup output²



Startup density³



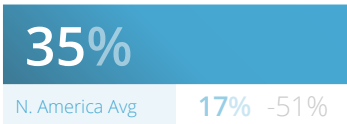
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



Funding¹

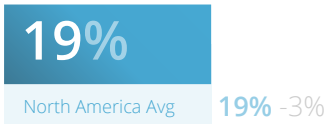
Average seed round



Average Series A round



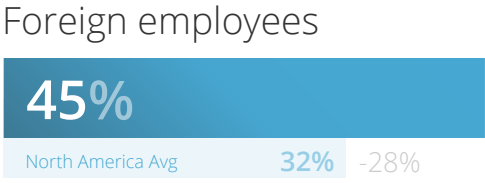
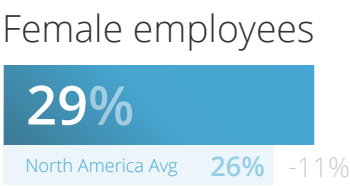
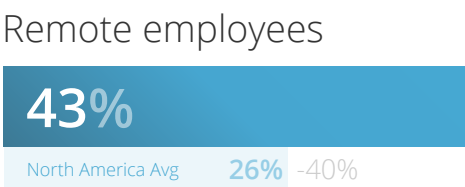
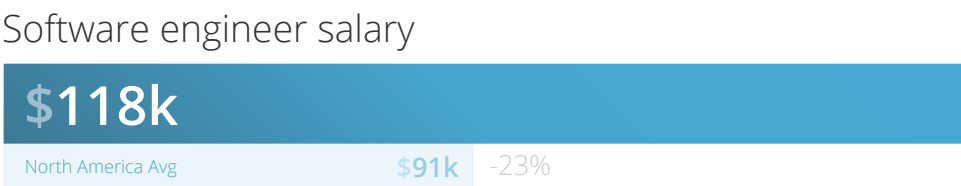
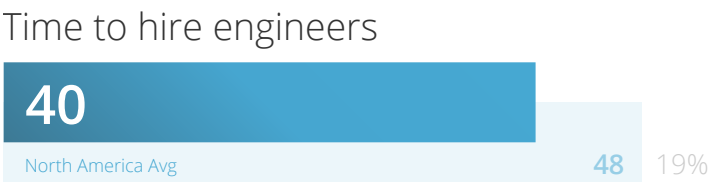
Dilution



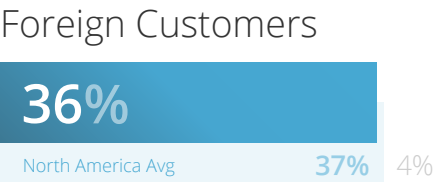
Rounds with local only investors



Talent¹

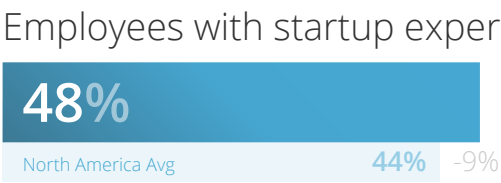


Market Reach¹



- Top target Markets
-  USA
 -  United Kingdom
 -  India

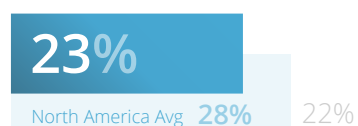
Startup Experience¹



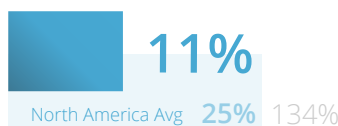
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost of living
- Cost & availability of workspace
- Immigration

“Our parents used to go to the capital to have a career. Today is no different. The world has just become a village and capitals are not defined by countries anymore but by industries. For technology, Silicon Valley is the capital. I moved from Belgium 6 years to create a startup in SF. What makes SV unique is that people never push back on an idea. That gives entrepreneurs the freedom they need to prove the world that their ideas are worth something.”

– Xavier Damman, CEO Co-Founder Storify

“There are magical places and times where things HAPPEN - Athens in the Classical period, Florence in the late 15th century - these place/times reach a critical mass and produce inventions and ideas that become a part of our collective human experience from that point on. When you are in a place like that, the feeling is totally unmistakable and impossible to describe to someone who hasn't felt it. Different people react differently - some give each other high fives and chase money and power, others surf the bleeding edge of discovery and get their kicks from peering over the abyss, some sell shovels to the gold miners - but fail or succeed, you are part of something big, magical, and irresistibly important.”

– Ilya Druzhnikov, Serial Entrepreneur

¹ % Delta to Regional Average, % Delta to Silicon Valley

Intro

New York has evolved into the second strongest startup ecosystem in the world over the past three years, with approximately 7,100 to 9,600 active tech startups and the second highest amount of total funding volume in 2013/2014. According to Jones Lang LaSalle, local tech employment has grown by as much as 40% since 2008—a slightly higher rate than in Silicon Valley. In total, New York has created approximately 90,000 tech jobs. The city has recognized that supporting startups is an opportunity for the city to upgrade itself and fully adapt to the Information Era. In this spirit, NYC Mayor Bill de Blasio is continuing to build on former mayor Michael Bloomberg's tech-focused agenda.¹

With a local GDP of approximately \$1.5 trillion, the New York ecosystem is a large playground to test and market all kinds of products. This is a key reason why the city has become the most popular ecosystem for startups to build out a second office for sales and marketing.

According to recent statistics, the city is home to only 500,000 high-tech workers—50% less than estimations for smaller cities such as Austin, Seattle, or Boston. This is due to its relatively recent rise, and therefore, lower number of late-stage startups and mature tech companies.² Big success stories like Etsy or Shutterstock, both with a market cap just below \$2 billion, are lagging behind the success stories of Boston, Chicago, Seattle, and L.A. However, rising stars such as WeWork, recently valued at \$10 billion³, illustrate New York's growth potential.

The biggest challenge to remain at #2 overall is the cost and availability of engineering talent. Startups in NYC compete with numerous Fortune 500 companies, and as a result it takes 60% longer to hire a software engineer than in Silicon Valley.

¹ Perry, T. (2015)

² Henton, D., Kaiser, J., & Held, K. (2015)

³ Austin, S. (2015)



Selected Findings

New York ranks second in Ecosystem Performance. It is #2 in both output (# of startups) and ecosystem value (estimated value of all startups at or prior to exit). The cumulative exit value is lagging; NYC is # 8.

New York is #2 in funding with 20% more VC investments and a 17% shorter time to raise than Boston.

New York is the global distribution powerhouse ranked #1 in Market Reach.

The cost of capital in New York City is lower than in Silicon Valley with an average dilution of 16% vs. 19% in Silicon Valley.

New York startups employ 1/4 less foreign team members than Silicon Valley startups.

New York-based startups employ 10% more females than the North American average.

35% of the customers of New York startups are located abroad.

53% of all startup employees previously worked in another startup. This is the highest value in North America.

Ecosystem Partners: Rubicon VC and DreamIt Ventures

“Business, entrepreneurship, and innovation come naturally to NYC. It’s a city that built its foundations on challenging the status quo. As such, New York is home to all sorts of businesses including a healthy startup scene. The well-rounded nature of the city makes it much more difficult for the ‘cult of tech’ to take root. There is no room for techno-elitism here, because the city is more diverse than just tech startups. The community is more tolerant of outsiders, not elitist, and lacks the self-aggrandizing hyperbole of other communities. Few are running around yelling about how they are ‘changing the world’; instead founders talk about how they plan to turn a profit.”

– -Kosta Grammatis, CEO Oluvus

“New York City is now the second biggest city in the world for venture capital. And there’s a good reason for this – it’s the melting pot of the world. Millions of people come from all over to try their hands at success, whether it’s in fashion, finance, food, entertainment, advertising, or more and more often, entrepreneurship and startups. And yet, New York City’s startup scene has a very different vibe

from that of Silicon Valley. It’s a much smaller and more tightly knit community. You have direct access to many more traditional companies and industries. And most importantly, there’s the excitement of living in one of the most fast-paced and energetic cities in the world.”

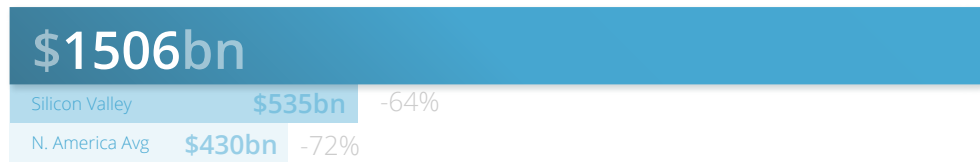
– -Mattan Griffel, Co-Founder & CEO at One Month

“What I love about the NYC startup ecosystem is that, it’s so diverse. Because NYC is the #1 city within industries such as finance, real estate, advertising, fashion and media there are a lot of smart people entering the startup community from these industries - especially since the financial crisis. Now tech is trendy and banking is out. That mixed with the general diversity in NYC gives an interesting blend to the startup community which is much different from the Valley. It is certainly more driven by business, cash flow and tangible value. If your business is tied to any of the major NYC industries I think there is no better place to be. “

– -Oscar Jung, Founder at BookBuses

Ecosystem Characteristics ¹

Metropolitan GDP



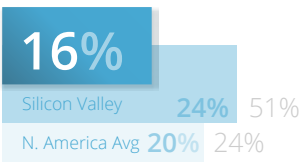
Startup output



Startup density



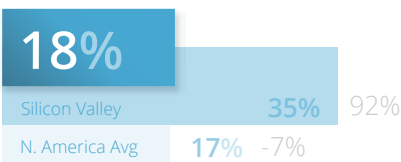
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



Funding ¹

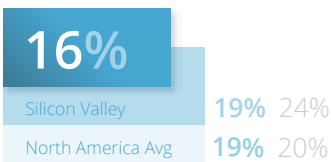
Average seed round



Average Series A round



Dilution



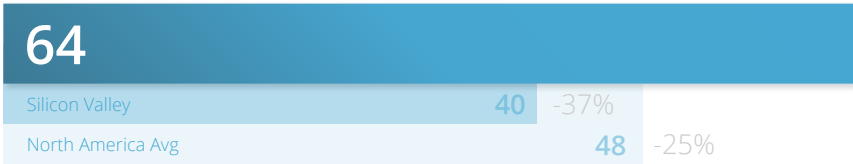
Rounds with local only investors



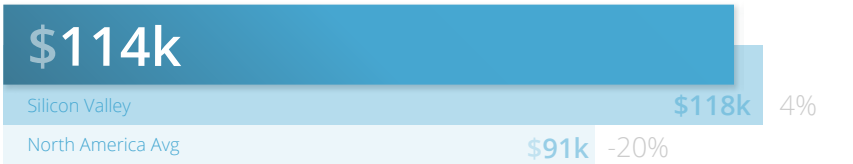
¹ % Delta to Regional Average, % Delta to Silicon Valley
² Estimated number of active tech startups in scope
³ Estimated number of active tech startups in scope created per 1,000 people

Talent¹

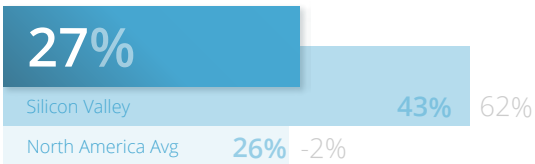
Time to hire engineers



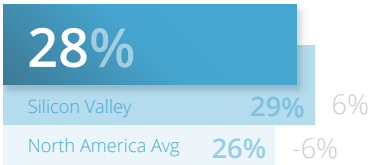
Software engineer salary



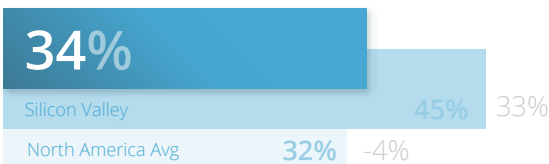
Remote employees



Female employees

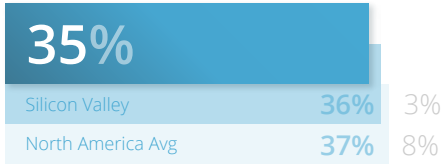


Foreign employees

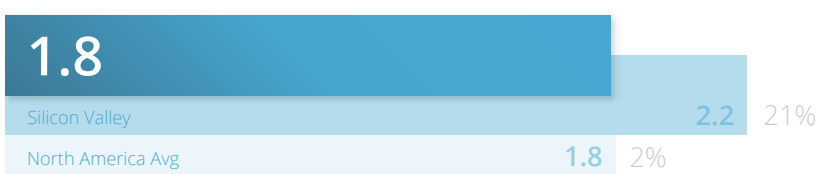


Market Reach¹

Foreign Customers



Number of product languages



Top target Markets

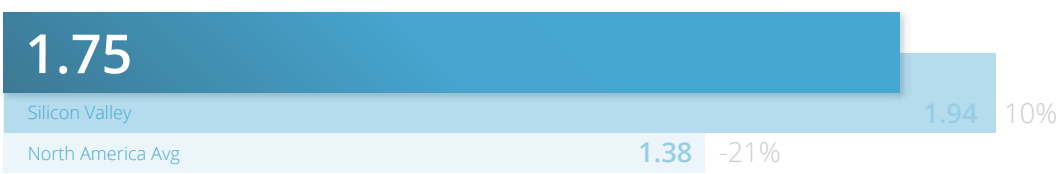
-  USA
-  China
-  India

Startup Experience¹

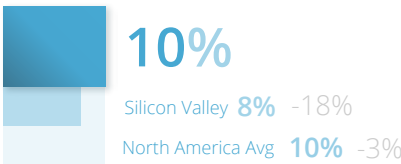
Employees with startup experience



Advisors with equity



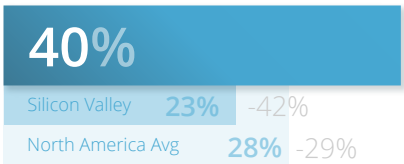
Equity to employees



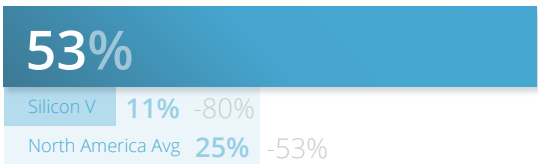
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost & availability of workspace
- Cost of living
- Taxes

“If you are building a traditional technology startup, go to Silicon Valley. If you are building any other organization, go to NYC. While 99% of my conversations in San Francisco are about tech startups and I appreciate its one singular focus, in NYC you are exposed to the best of class talent from media, art, advertising, finance, large corporations, fashion and much more. If you are building an organization that interacts with other industries on a global scale, there is no better place than New York.”

– Fabian Pfortmueller, Co-Founder Holstee

¹ % Delta to Regional Average, % Delta to Silicon Valley



Los Angeles Orange County

USA

Performance	5
Funding	4
Market Reach	2
Talent	10
Startup Experience	5
Growth Index	1.8

3

Intro

As in 2012, Los Angeles is ranked the third-strongest ecosystem in the world. It is estimated to have between 5,500 to 8,300 active tech startups, the highest startup output after Silicon Valley and New York.

Los Angeles boasts success stories such as Snapchat, SpaceX, Whisper, and Tinder—just a few reasons why stakeholders around the world pay close attention to L.A.-based tech startups these days.

The city is estimated to have 200,000 engineers hailing from a variety of talent pools such as the California Institute of Technology.

L.A.'s key challenge is the same as Silicon Valley's—cost and availability of technical talent. This lead to its ranking of only #10 in Talent overall. In Los Angeles startups have to cope with annual engineering salaries of more than \$108,000, which is 19% higher than the regional average of U.S. and Canadian ecosystems. This may explain why L.A. startups have one of the highest shares of remote employees (around 32%, which is 24% above North American average).

Aside from this drawback, the Los Angeles ecosystem is strong in virtually all other critical areas. For instance, the local market in L.A. is 61% bigger than in Silicon Valley. Los Angeles also ranks #5 in startup experience, enabling entrepreneurs to draw on significant past startup experience and access to a deep pool of seasoned employees and mentors.

Ecosystem Partners: [Mucker Capital](#), [Cross Campus](#) and [TechStars](#)

Selected Findings

Los Angeles ranks #4 behind Boston in both Performance and VC investments, yet it is #3 in Output and ties Tel Aviv in #3 for exit value.

It has the second largest local market for startups in North America right after NYC.

L.A.'s Growth Index is the lowest among top 10 ecosystems, just behind NYC and Singapore.

The average seed round in Los Angeles is 15% lower than in Silicon Valley, though Series A rounds are about the same size.

L.A. startups have teams that are 28% female, 10% above the North American average.

L.A. startups have 28% fewer foreign customers than the average startup in North America.

Almost 50% of startup employees in L.A. have previous startup experience, and 18% of all founders previously worked at hyper-growth startups.

“Perhaps the most exciting thing about L.A.’s startup ecosystem is that the founders have such diverse backgrounds, many of them creative. In L.A., it’s not just about what you can do with tech, but possibly even more about how technology shapes today’s culture. It’s no surprise that companies like SnapChat and Tinder are based in L.A.”

– Yohei Nakajima, Program Manager at Techstars LA

“With an annual output of around 3,000 graduates, Southern California produces more software engineers than any other major U.S. hub—including Silicon Valley. Ten years ago, the best engineers typically had to move up to the Bay Area to work for big tech companies such as Google and Yahoo. Today, we have all these companies down here, enabling our talents to stay with many of them, ultimately creating their own startups. Brain-drain is no longer the case.”

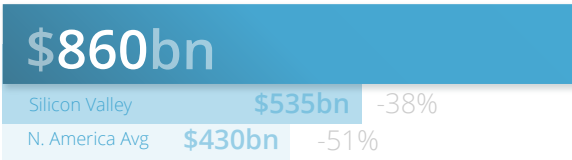
– William Hsu, Co-Founder and Managing Partner at Mucker Capital

“Although the awareness of L.A.’s startup community is a relatively new thing, it’s been clicking for decades. As a result, the L.A. startup team is more experienced than one might expect.”

– Dan Dato, Co-Founder at Cross Campus

Ecosystem Characteristics¹

Metropolitan GDP



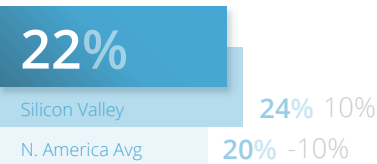
Startup output



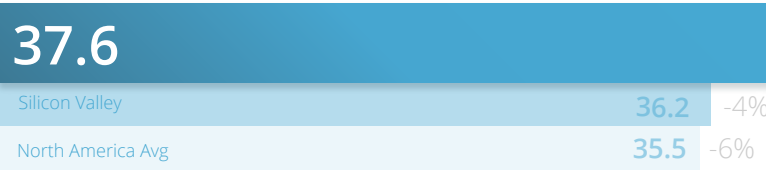
Startup density



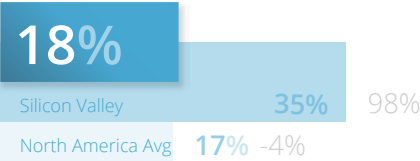
Female founders



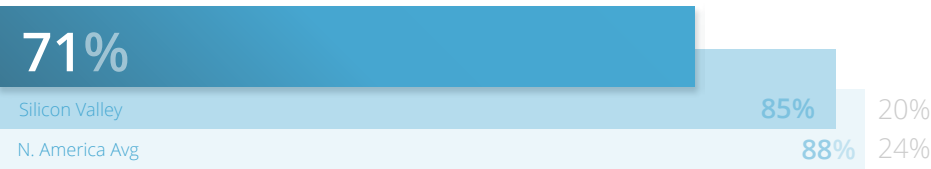
Founder age



Founder with work experience in hypergrowth startup

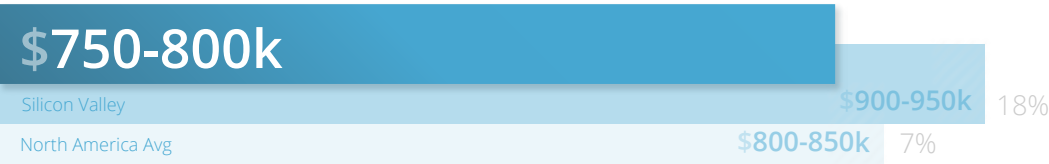


Startups with at least 1 tech founder

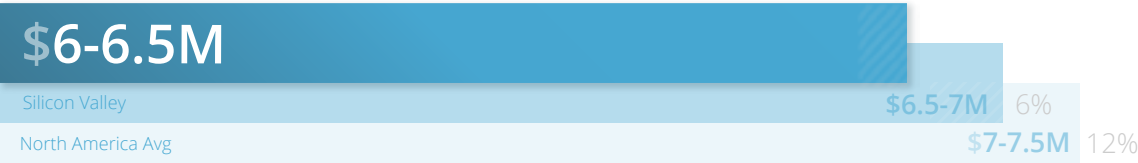


Funding¹

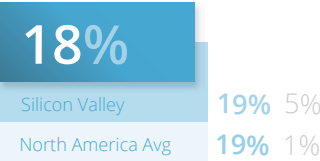
Average seed round



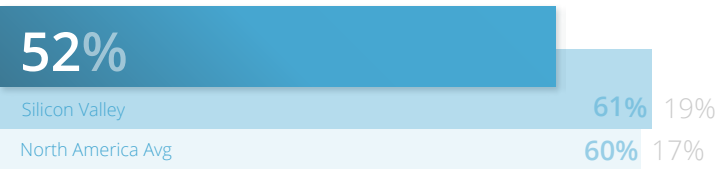
Average Series A round



Dilution



Rounds with local only investors



¹ % Delta to Regional Average, % Delta to Silicon Valley
² Estimated number of active tech startups in scope
³ Estimated number of active tech startups in scope created per 1,000 people

Talent¹

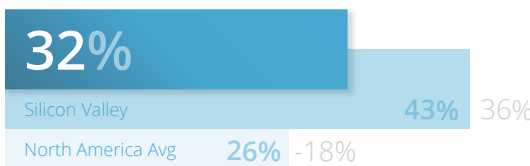
Time to hire engineers



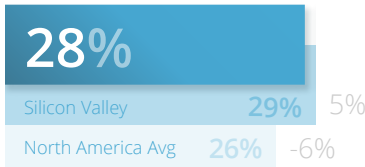
Software engineer salary



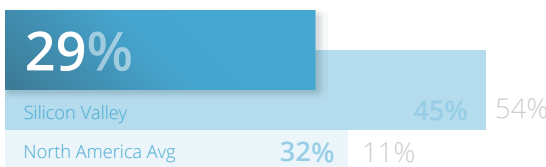
Remote employees



Female employees



Foreign employees



Market Reach¹

Foreign Customers



Number of product languages



Top target Markets

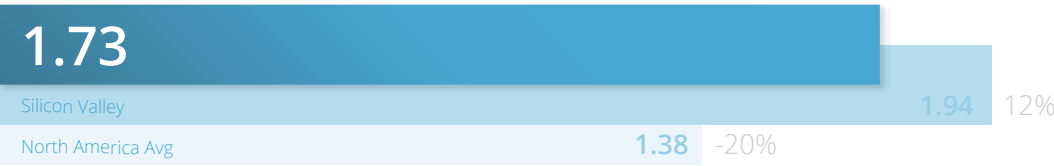
-  USA
-  India
-  South Korea

Startup Experience¹

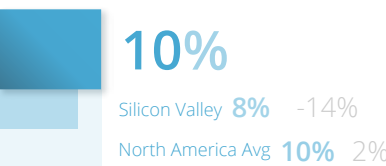
Employees with startup experience



Advisors with equity



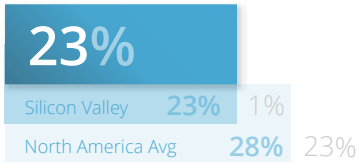
Equity to employees



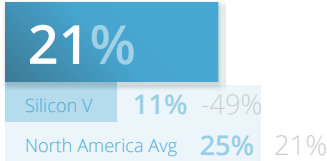
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

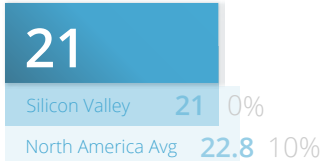
Local government rated positive



National government rated positive



Immigration time



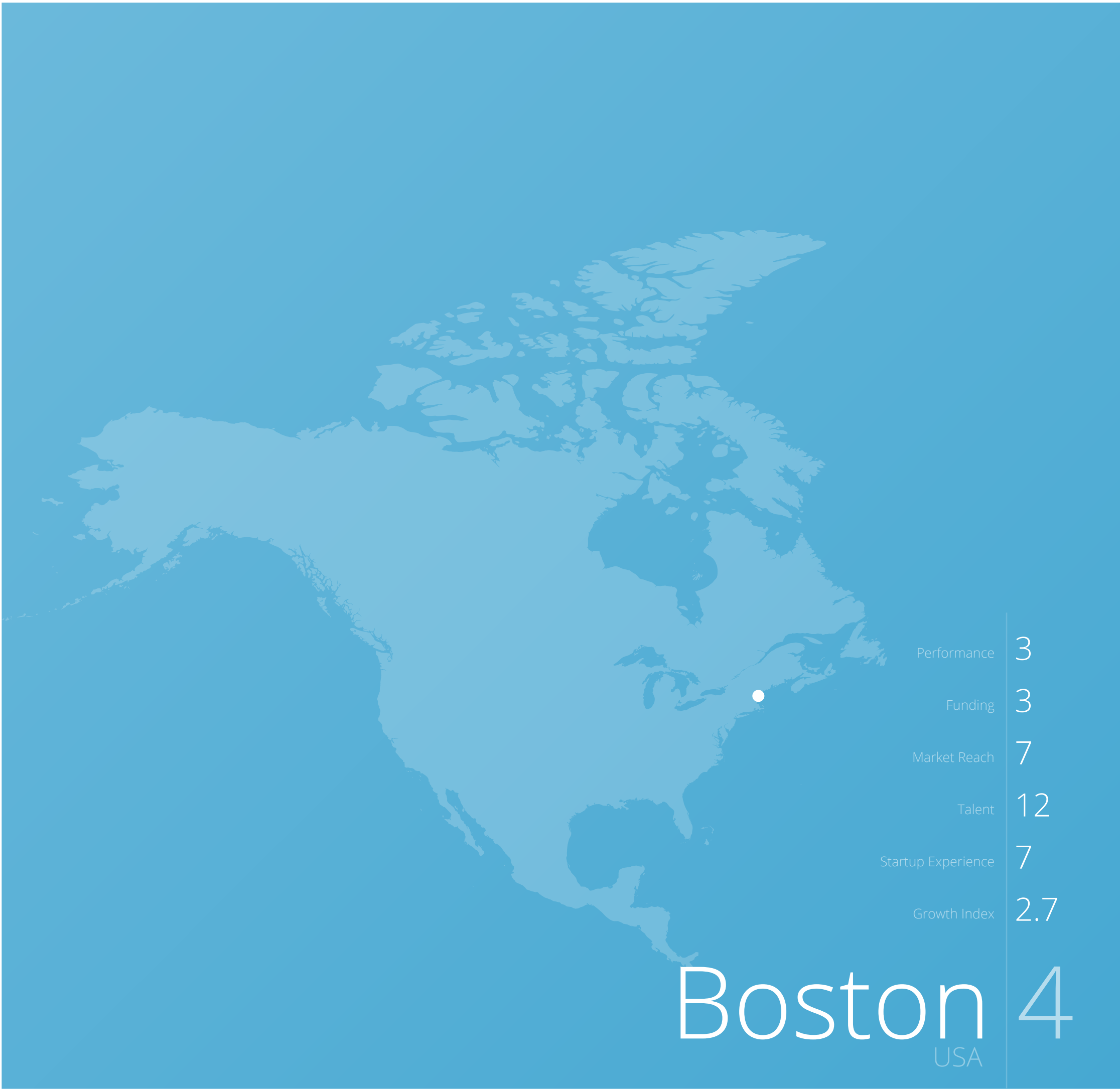
Top Policy Issues

- Cost of living
- Cost & availability of workspace
- Taxes

“There is something magical happening in Southern California. Local investors are increasingly adopting a pay-it-forward attitude and accepting being “long” on their investment with startups. More exits bring entrepreneur-investors to the funding pool and helping with hands-on coaching and mentorship. Entrepreneurs are now staying home and do not need to travel to the Bay Area to make it. The region is extremely entrepreneurial, and the tech talent pool is now considering startups as an alternative in a career plan. The wealth of industries, abundant creativity, and lifestyle oriented environment is creating interesting approaches to innovation and the SoCal region is defining its identity that is somehow different from Silicon Valley. Virtual Reality for example is now anchored in Orange County and also LA and is going to be one of the largest markets globally and Silicon Valley investors have recognized it. The Southern California ecosystem has bred innovations in entertainment, technologies, and design, but to date hasn’t reached the level of recognition Silicon Valley is enjoying. However, as TED talks are conveying ideas worth sharing, Socal ventures are telling stories that will define the dream and imaginations that move us globally, with a different twist. These new ventures may be defining the new eclectic and cultural oriented startup ecosystems.”

– Amir Banifatemi, Managing Partner, K5 Ventures

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Boston has a long-standing history of entrepreneurship, with a significant number of tech companies that have gone public. Today, a majority of its startups are science driven and B2B, so they have often flown under the radar of the international media’s coverage of the startup sector. Our data shows that Boston’s ecosystem currently counts between 3,700 and 6,400 active tech startups, making it the 4th most prolific startup ecosystem in the world. A notable success story highlighting that Boston is not only focused on B2B models is WayFair. The eCommerce startup raised \$305 million during its IPO and is currently worth more than [\\$3B](#)¹.

Boston’s startup ecosystem is a worldwide leader in science and technology-based enterprises in areas like pharma, life sciences, biotech, and robotics. The city has also been successful at producing enterprise software and big data companies. Entrepreneurs in Boston generally benefit from a dense network of mentors and supportive organizations such as Bolt, Techstars Boston, Harvard Innovation Lab, and MassChallenge—the latter claiming to be the [largest startup accelerator](#) in the world².

At the core of Boston’s community are top-class higher education institutions such as Harvard University, MIT, Emerson, Boston University, and Tufts. Without a doubt, these schools produce some of the world’s best and brightest minds, including plenty of entrepreneurial and engineering talent. However, it takes an average of 60 days for a startup to hire an engineer in the Boston ecosystem, 20% longer than the North American average. Recruiting difficulties are inflated by competition from more mature companies in established industries. Moreover, Boston-based startups have a hard time attracting international talent, as reflected by the comparably low percentage of foreign employees. Stats like this led Boston to have a fairly weak rank

¹ Keohane, D. (2014)
² MassChallenge. (2015)

Selected Findings

Boston's third rank in Performance is achieved despite its 5th place in Output and 6th place in exit value, but thanks to the higher average valuation of its ~4,000 startups. This is due the high average age of Boston startups.

Boston ranks #3 in Funding with 70% higher VC investments than #4 L.A..

Boston Startups raise the highest amount for their series Series A globally with an average of \$10M to \$10.5M.

Software Engineers earn \$109,000 on average—19% more than the North American average.

Boston startups share 67% more equity with their employees than startups in Silicon Valley.

In Boston, 64% less startups have a founder with hyper-growth experience than startups in Silicon Valley.

on the Talent index; it comes in at #11. To attract and retain the right people, Boston-based entrepreneurs resort to to sharing 14% of equity with employees.

Ecosystem Partners: [TechHub](#) and [TechStars](#)

“Boston is known to have a very loyal pool of talent, genuinely interested in a long and enriching engagement with the startup companies they join. And so they get rewarded with the amount of equity that reflects that deeper relationship expectation from both sides, founders and employees.”

– Eveline Buchatskiy, Director at Techstars Boston

“We solve real hard problems. Not just at MIT—this echoes around the whole ecosystem. We don't do consumer well. Some people think that's a weakness. I actually think that's a strength. Let the Bay Area do flashy mobile stuff while we focus on big problems and companies that are backed by hard science.”

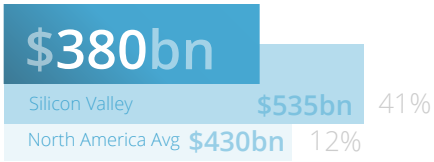
– Kyle Judah, Program Director at Martin Trust Center for MIT Entrepreneurship

“An increasing number of European and Israeli companies are moving to Boston. They are voting with their feet. New York is expensive and California is hard to recruit. Boston is a good mix of resources and personnel.”

– Roger Krakoff, Managing Partner at Cloud Capital Partners

Ecosystem Characteristics¹

Metropolitan GDP



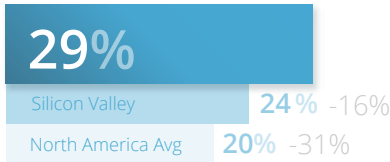
Startup output



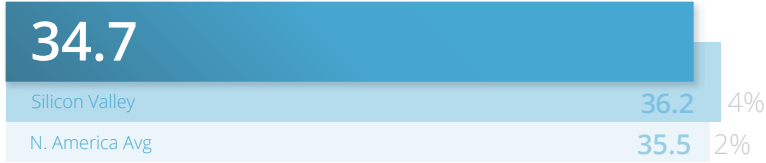
Startup density



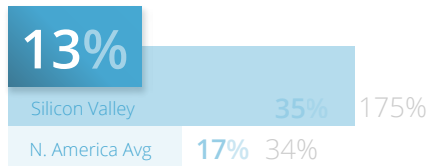
Female founders



Founder age



Founder with work experience in hypergrowth startup

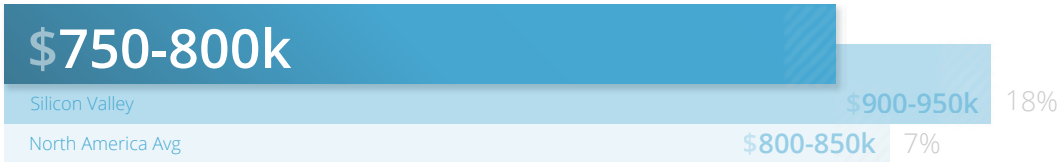


Startups with at least 1 tech founder



Funding¹

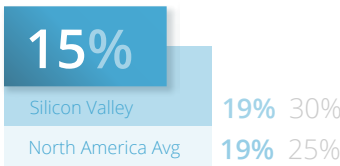
Average seed round



Average Series A round



Dilution



Rounds with local only investors



¹ % Delta to Regional Average, % Delta to Silicon Valley
² Estimated number of active tech startups in scope
³ Estimated number of active tech startups in scope created per 1,000 people

Talent¹

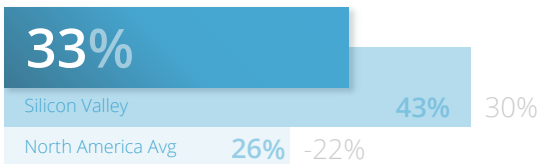
Time to hire engineers



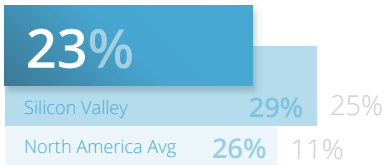
Software engineer salary



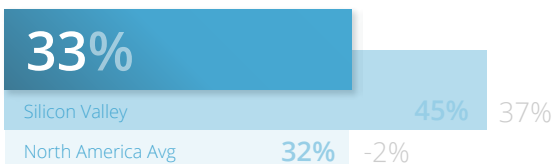
Remote employees



Female employees

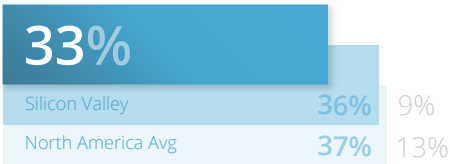


Foreign employees

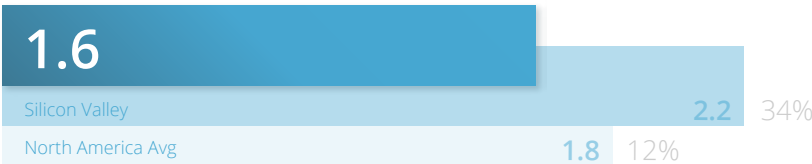


Market Reach¹

Foreign Customers



Number of product languages



Top target Markets

-  USA
-  China
-  India

Startup Experience¹

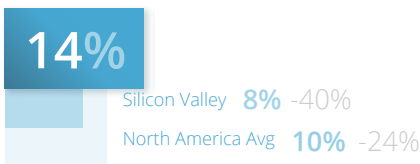
Employees with startup experience



Advisors with equity



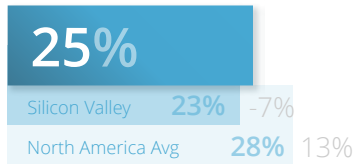
Equity to employees



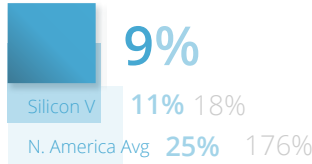
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

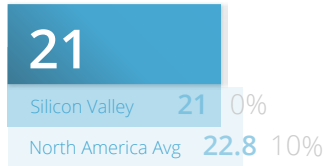
Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost of living
- Cost & availability of workspace
- Immigration

“Boston has depth across the board, from funding ecosystem to engineering talent. It’s a very balanced ecosystem. It is particularly strong in areas related to SaaS and all areas related to SaaS marketing, hard innovation, infrastructure, gaming and e-commerce. It’s also super strong in biotech of course, where it’s impact is much bigger than the size of the town would suggest. The is extremely high density of general ecosystem around the Kendall Square area, which is without a doubt one of the most vibrant hubs in the world.”

– Fred Destin, Partner at Atlas Ventures

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Tel Aviv is a prominent startup ecosystem in the global landscape, ranked #5 overall. According to our estimations, the ecosystem currently consists of 3,100 to 4,200 active tech startups, #7 overall and #2 in Europe after London. After being ranked #2 overall in 2012, Tel Aviv moved to #5 in large part due to improvements in our methodology which de-emphasized the metric of density of startups per capita (for more detail see IV. Methodology: 5. Ranking Changes from 2012). However, Tel Aviv is still an exceptionally strong startup ecosystem providing entrepreneurs with a well-balanced set of quality resources, which have been refined throughout the last few decades.

Startups in Tel Aviv traditionally focused on areas such as enterprise IT, security and networking technology. These startups were often based on cutting technology developed in the Israeli military. Today's entrepreneurs are engaged in far more diverse sectors, such as ad-tech, eCommerce, big data, SaaS and much more. The success story of Wix, a cloud-based web development platform, which raised \$127m at 750M valuation with its NASDAQ IPO two years ago, illustrates this broader diversification.

Tel Aviv's consistent innovation over the last few decades has given it a strong international reputation amongst startup investors, and as such the ecosystem has plenty of capital at every stage of funding (Seed to Series C+), giving it a rank of #5 overall in funding. For this reason it comes as no surprise that 47% of all investment rounds include foreign investors, 38% more than European average.

Due to renowned universities such as Tel Aviv University and the Israeli Defense Forces, local tech talent is abundant. While the inflow of international venture capital is strong, the integration of international talent remains weak (Israel has a 40% lower share of foreign employees than Silicon Valley). A more diverse workforce would likely increase the performance of Tel Aviv's startups.

Selected Findings

Tel Aviv claims the #1 spot outside of the U.S., #3 to #6 ranking in all Indexes except Market Reach.

With a 3.5X growth in exit values and 2X in VC investments, Tel Aviv achieves the third highest Growth Index in the top 10 (after Berlin and London).

Tel Aviv startups attract more foreign capital than any other European ecosystem. 38% more than the European average.

Tel Aviv's #13 ranking in Market Reach is a mixed story: while its small local market presents a challenge, its startups rank #1 in Global Market Reach.

Startups in Tel Aviv employ less females than Silicon Valley, but slightly more than the European average.

Tel Aviv has one of the best connected and experienced startup communities around the globe. 49% of all startup employees have previously worked in a startup (26% above the European average).

The ecosystem has the highest startup density in Europe (between 0.85-1.15 startups per 1,000 inhabitants).

Startups from Tel Aviv have had great success reaching customers in the U.S., Europe, and Asia. This led to them having the #1 ranking in Global Market Reach, a sub-component of Market Reach (where it is #13 overall due to its very small local market). Many experts expect Tel Aviv to continue to increase its global impact —especially in upcoming verticals such as the Internet of Things, Big Data, and Bitcoin.

Ecosystem Partner: Start-Up Nation Central

"I believe the phenomenal success of the hi tech sector in Israel, is due to unique symbiosis between small, fast, nimble start ups and established large companies. As a result of rapid acquisitions, the economy benefits from the infusion of expansion capital, access to markets, strategic interests, management know how and technical back up. The acquired entrepreneurs then go on to immediately build new companies."

– Yossi Vardi, Investor

"With an extremely vibrant startup ecosystem, and ever strong technological talent — but a very small domestic market -- Israeli startups aim toward global markets from the day they launch. The presence of more than 270 multinationals, operating R&D centers in Israel, such as Apple, Google, and Facebook, contributes to potential

collaboration between Israeli start-ups and global players. "

– Inbal Arieli, VP Strategic Partnerships, Start-Up Nation Central; Head of 8200 EISP

"In Israel, if you come with a big company's logo, your parents will ask you why you haven't started your own company. The dream in Israel is innovation—it's to build a successful company. If you aren't running your own company, it's because you haven't found the right idea yet."

– Amir Shevat, Program Manager, Global Startup Outreach, Google

"It's no wonder Tel Aviv ranked highest among non US cities, with high similarity to the valley's culture and start up density. Yet, Tel Aviv enjoys an arbitrage in valuations and talent availability."

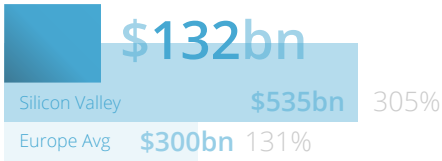
– Oded Hermoni, Venture partner, Rhodium.

"We have 'chutzpah'—drive, motivation, candid, anything to get to their goals and overcome their obstacles."

– Gil Sadis, VP of Product at BlazeMeter

Ecosystem Characteristics¹

Metropolitan GDP



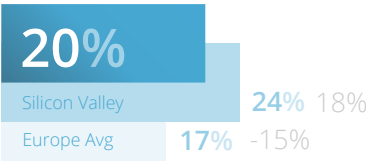
Startup output



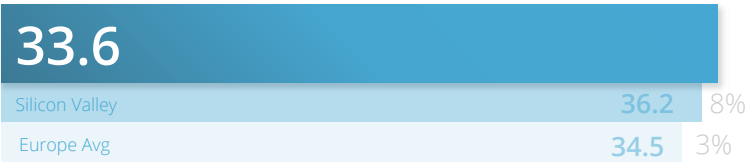
Startup density



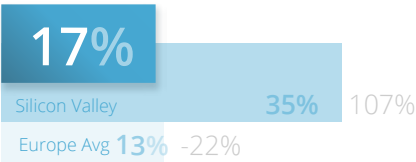
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder

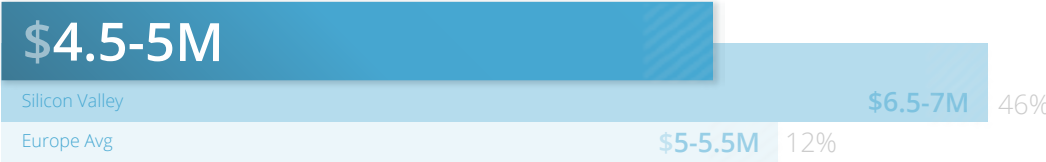


Funding¹

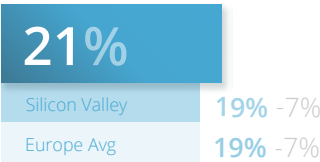
Average seed round



Average Series A round



Dilution



Rounds with local only investors



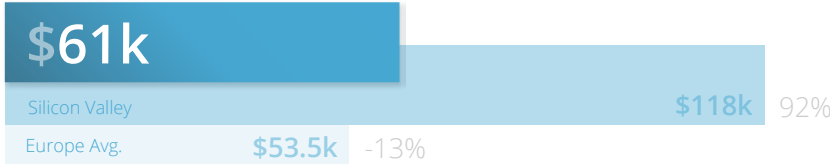
1 % Delta to Regional Average, % Delta to Silicon Valley
2 Estimated number of active tech startups in scope
3 Estimated number of active tech startups in scope created per 1,000 people

Talent¹

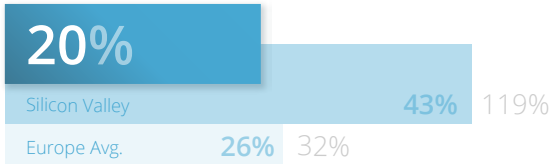
Time to hire engineers



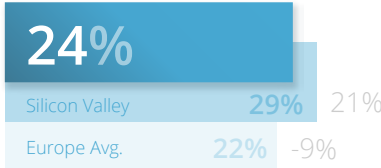
Software engineer salary



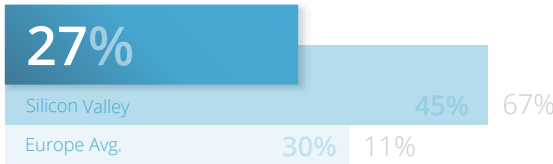
Remote employees



Female employees

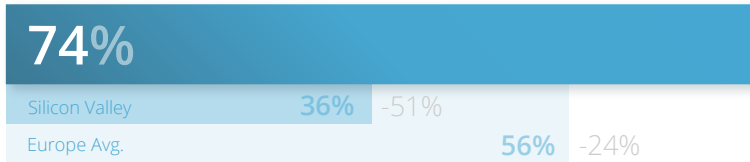


Foreign employees



Market Reach¹

Foreign Customers



Number of product languages

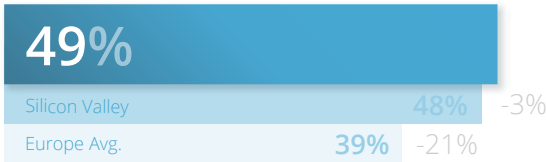


Top target Markets

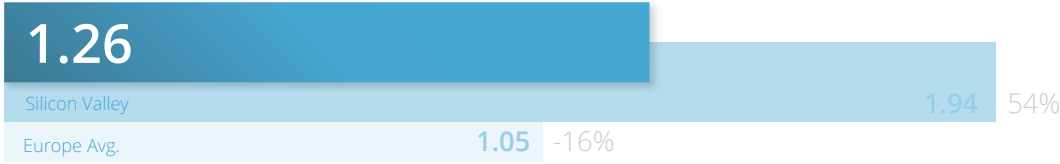
-  United States of America
-  China
-  India

Startup Experience¹

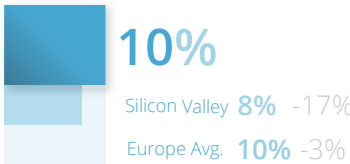
Employees with startup experience



Advisors with equity



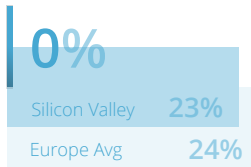
Equity to employees



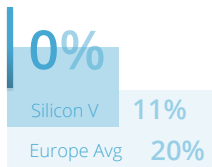
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost of living
- Cost & availability of workspace
- Taxes

“A key lesson from Israel is that innovation is not just something that goes on inside companies; it comes from a wider culture that fosters both innovation and entrepreneurship. Israel is a country of immigrants — there are over 70 nationalities represented in this tiny country. Two out of every three Israelis are newcomers, or the children or grandchildren of newcomers. Immigrants are natural risk takers since they were willing to uproot themselves and start over.”

– Orit Mossinson, General Partner at Globe International Holdings VC

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

London is in many ways the cultural and business capital of Europe and it has continued its growth as a startup ecosystem by moving up in the rankings to #6 overall, from #7 in 2012. With an estimated Output of 3,200-5,400 active tech startups, the city's ecosystem is the fourth largest in the world, and the largest in Europe.

Research by the government-funded startup initiative Tech City UK suggests London-based tech startups will create around [10,000 jobs in the second half of 2015](#).¹ Success stories such as Powa Technologies (valued at \$2.7B) and Shazam (valued at \$1B), which together have already created more than 1,000 jobs in the United Kingdom, are strong indicators for the actualization of this forecast.²

The London startup ecosystem stands out for its exceptional access to affluent consumers and powerful corporations, solid funding landscape, and ambitious government initiatives. The ecosystem is a strong draw for world-class entrepreneurs and startup employees, with a ranking of #7 in Talent, because it offers a conducive environment for building startups that can grow into category leaders on a global scale.

London's rankings in Market Reach (#3) and Performance (#5) underscore the fact that this is an ecosystem that has come of age. In London, we see many hyper-growth startups in diverse sectors such as Media, Fashion, FinTech, and e-commerce.

London's downsides are in its culture and labor market. Many experts have noted that its culture lacks a fully authentic entrepreneurial spirit, with an aesthetic feeling similar to London's more established sectors. This is supported by our Startup Experience Index, which shows that, by and large,

1 20,000 New Jobs to be Created by UK Tech Investment in 2015. (2015, May 29)

2 Austin, S. (2015)

Selected Findings

London is Europe's largest ecosystem, above Tel Aviv in number of startups, Ecosystem Value and exit value.

London is the second fastest growing ecosystem in Europe, after Berlin and above Tel Aviv.

It ranks #3 in Market Reach. Its startups count 50% of foreign customers on average, 12% above European average.

London is also the most diverse ecosystem in the world with 53% of foreign employees and 18% of female founders.

Seed and series A investments are much higher than the European average (+20% and +36% respectively).

London is very open to international talent with a 25% shorter immigration time than the European average.

23% of London-based founders gained previous experience from hyper-growth startups, this is the highest value in Europe but 35% below Silicon Valley.

startups only give low amounts of equity to their mentors. To stay competitive in a hot labor market, London startups have been giving higher amounts of equity to employees compared to other startup ecosystems. London startups also compensate for the sub-optimal local hiring conditions by hiring 33% of their employees from remote locations, which is 27% above the European regional average. Outsourcing engineering work to Eastern European countries such as Romania, which is only one timezone and a few hours flight away has become a major trend.

Ecosystem Partners: Centre For Entrepreneurs and StartUp Britain

"The international nature of London's startup ecosystem has always stood out, but the data here makes it even more apparent. As a result of this diversity, I have found the community is very open and welcoming and companies are thinking globally from day one."

– Jess Williamson, Director, Techstars London

"These findings provide strong analytical support to the common perception of London as the European city being as farthest ahead in overall ecosystem strength: from funding to consumer demand, and from international talent to diversity. But there is still a significant upside when compared to Silicon Valley. Other European cities would do well to study London's strengths."

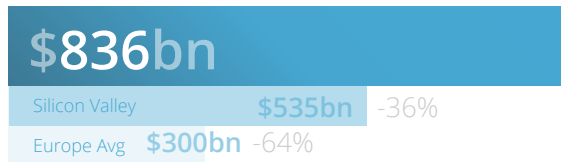
– Yoram Wijngaarde, CEO at Dealroom.co

"The great challenge is to make London not feel debilitatingly expensive to live in. We need to create ways to isolate non-millionaires from the rat race of wealthy people who flock to London and buy large properties that they don't live in. Ideally, we'd be able to insulate the people who are building and running growth companies from the high priced property market."

– Alex Asseily, CEO at State, Chairman at Jawbone

Ecosystem Characteristics¹

Metropolitan GDP



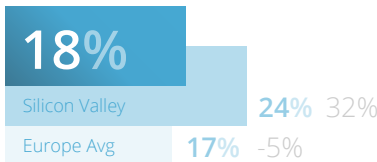
Startup output



Startup density



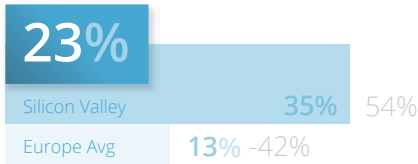
Female founders



Founder age



Founder with work experience in hypergrowth startup

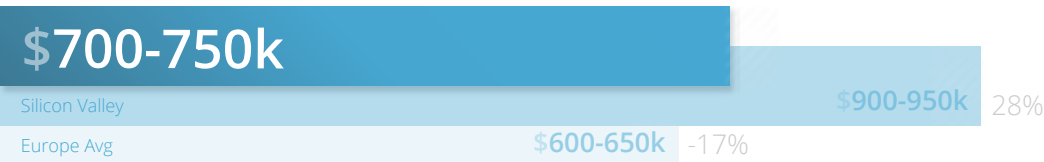


Startups with at least 1 tech founder



Funding¹

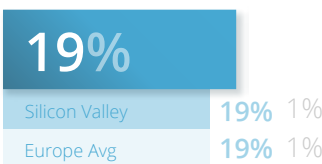
Average seed round



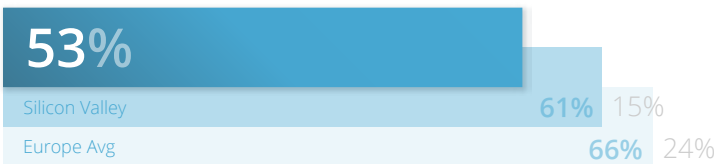
Average Series A round



Dilution



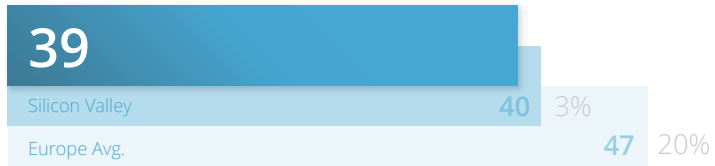
Rounds with local only investors



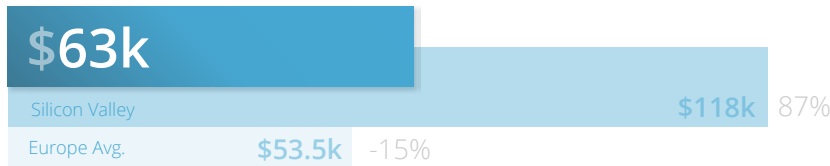
¹ % Delta to Regional Average, % Delta to Silicon Valley
² Estimated number of active tech startups in scope
³ Estimated number of active tech startups in scope created per 1,000 people

Talent¹

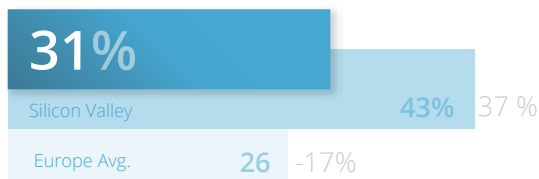
Time to hire engineers



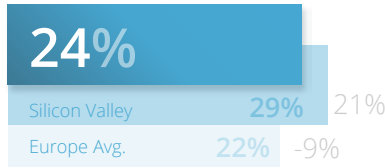
Software engineer salary



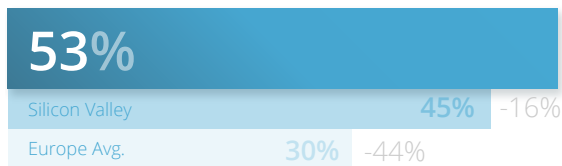
Remote employees



Female employees

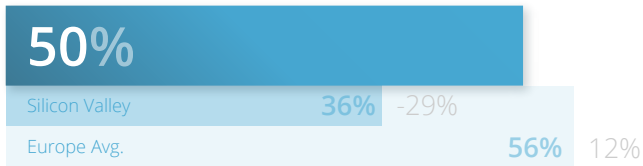


Foreign employees



Market Reach¹




Foreign Customers



Number of product languages

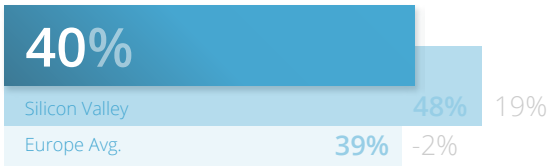


Top target Markets

-  United Kingdom
-  United States of America
-  China

Startup Experience¹

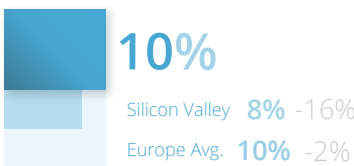
Employees with startup experience



Advisors with equity



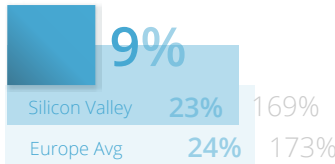
Equity to employees



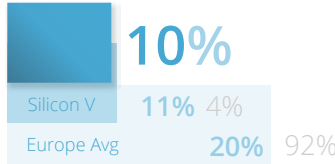
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

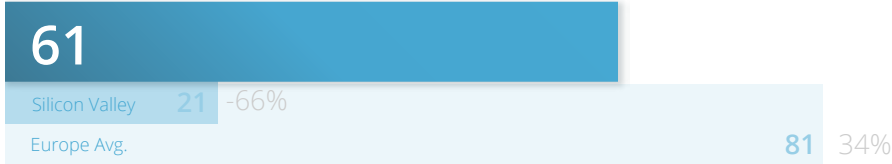
Local government rated positive



National government rated positive



Immigration time



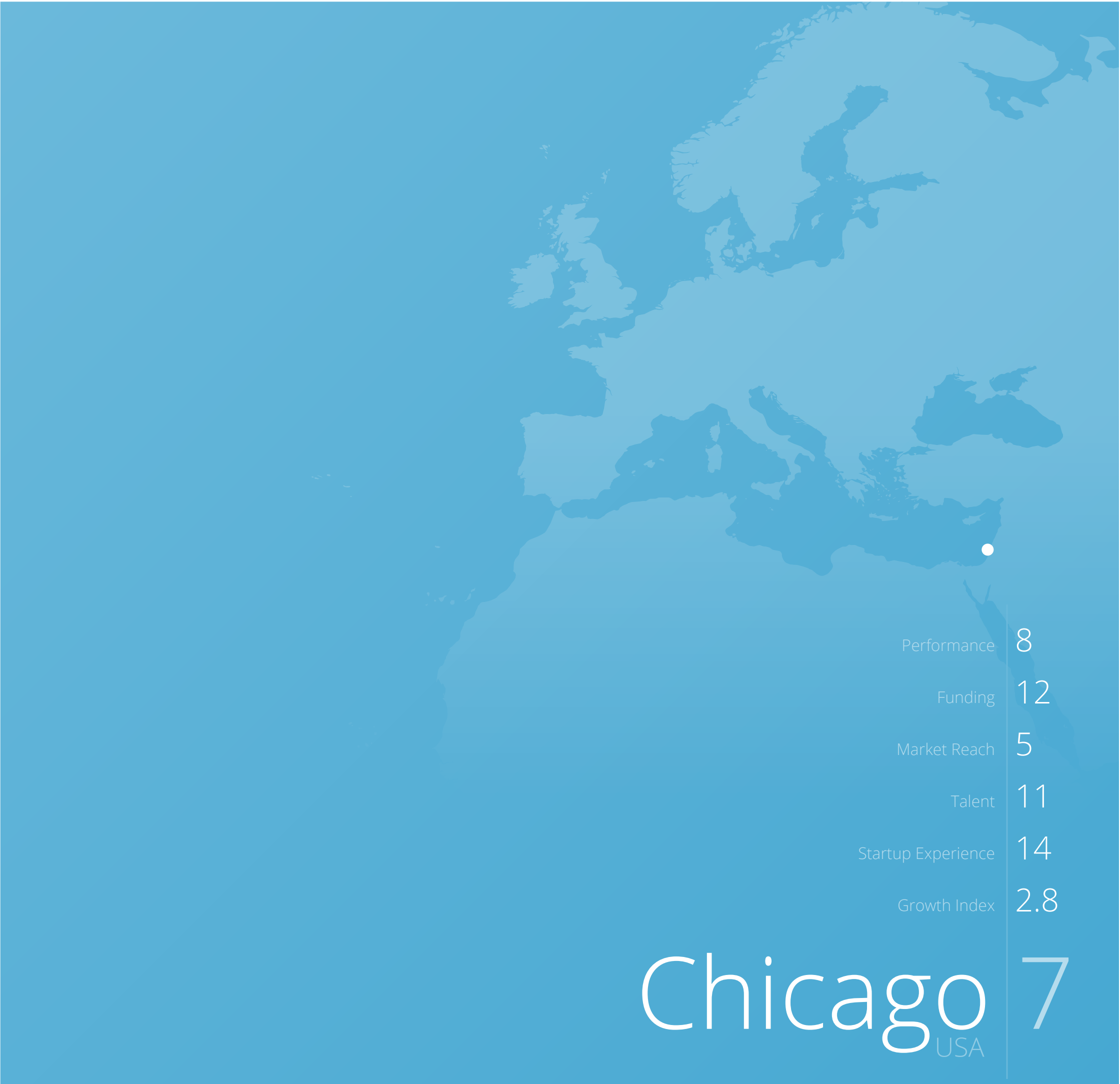
Top Policy Issues

- Cost of living
- Cost & availability of workspace
- National Laws

“These findings show that it is viable to have technology companies succeed outside the hub of Silicon Valley, making London an example for other would-be technology hubs to emulate. It reinforces my choice of keeping London as our European base.”

– Odera Ume-Ezeoke, CEO & Founder, Viewsy

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

As the largest city in the midwest of America, Chicago is home to between 1,800-3,000 active tech startups and is now ranked #7 (up from #10 in 2012). Stakeholders including Mayor Rahm Emanuel, local investors, and 1871 (an incubator that is home to around 240 startups) have worked hard to measurably improve the local startup ecosystem—and they have succeeded. Chicago now has more than 40,000 tech jobs, 15,000 of which have been created in just the [last four years](#).¹ Given the fact that Chicago has achieved the third highest Output growth rate in this year’s ranking, this trend is likely to continue.

A key reason for Chicago’s growth is, without a doubt, the exceptional success of a few local startups. Chicago is the birthplace of Groupon and GrubHub, and is currently home to over ten unicorns - startups with a valuation over \$1 Billion. In the case of Chicago, the high density of such startups significantly accelerates the circulation of both wealth and proven expertise within the ecosystem. Chicago’s startup hub also benefits from the established corporate community, which is reflected by its ranking as the 5th strongest local market of all startup ecosystems.

For the time being, the relatively young startup ecosystem is inhibited by a still developing funding landscape. According to experts, its series A investments are picking up in size and pace, but both seed and series A investments are still 20% below the North American average. Another area for improvement is in the startup culture. One data point we interpret as having a negative effect on culture is the limited willingness of founders to give equity to advisors and employees. Chicago based founders give 45% less equity to their employees than the North American average.

Ecosystem Partner: 1871

¹ Dallke, J. (2015)

Selected Findings

Highest Growth Index of all U.S. ecosystems and 4th among the top 10, thanks to a 2.4X growth in VC investments and the 3rd fastest growth for # of startups.

Chicago's best index ranking is #5 in Market Reach. While its startups benefit from the 5th largest local market among top 20 hubs, it trails in Global Market Reach, namely with a 30% lower proportion of foreign customers.

Chicago startups operate in fewer languages and have fewer foreign customers than the regional average (23% and 40% respectively).

With 85% Chicago has the highest rate of exclusively local funding rounds in North America (40% above average).

Dilution is 23% higher than in Silicon Valley.

Chicago ranks 11th in Talent with good quality and availability--time to hire a software engineer is 11% shorter than North America's average.

With an average of 5%, Chicago startups provide the lowest equity share for their employees in North America (45% below average).

"Chicago is a heart-filled, thriving ecosystem of ingenuity and talent that can only be found in the bustling midwest. Often described as friendly and hard-working, your typical Chicago entrepreneur is solving problems across the board. Chicago is enjoying a business renaissance. I have been working and living in Chicago for nearly 30 years and I've never felt the city alive with so much energy as I do walking around this enchanted town."

– Don Bora, Partner/Owner Eight Bit Studios

"I arrived in Chicago at the turn of the year from London, and was instantly welcomed into the start-up community. The ecosystem in Chicago is supportive, enthusiastic and endlessly energetic. Dedicating time to help other people in the community is expected; sharing contacts, experiences and resources are the norm. The ecosystem is compact, open and full of innovation: an excellent breeding ground for investors and entrepreneurs."

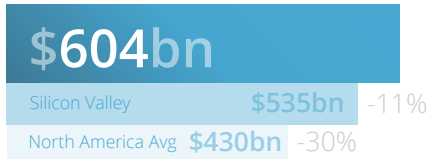
– Gregory Kris, Serial Entrepreneur

"The beauty of Chicago is that no individual sector accounts for more than 15% of its GDP. Chicago boasts the most diverse economy in the U.S., well-balanced across finance, manufacturing, healthcare, real estate, and technology. And that provides a fertile field for B2B sales-led models as well as related technologies to scale these industries online. While the city cannot compete with the best of Silicon Valley in terms of UX design or B2C growth hacking or any massive VC-led land grabs, we are also not beholden to such immediate investor return driven models. Indeed, the discipline forced on us in having to bootstrap or internally fund through client sales, the efficiency required for such bureaucratic alignment, and the patience afforded from our more humble cap tables actually provides a briar-patch type defense against all the new Silicon-Valley hot money start-ups."

– Christopher Nyren, Founder of Educelerate

Ecosystem Characteristics¹

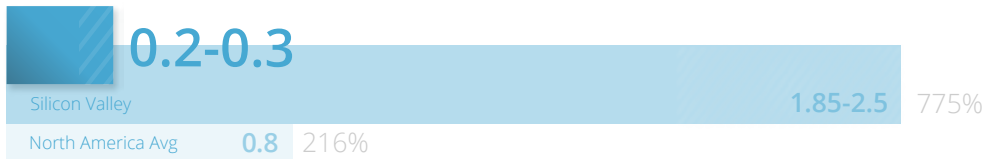
Metropolitan GDP



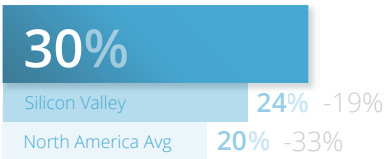
Startup output



Startup density



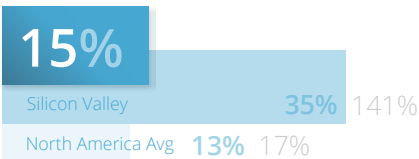
Female founders



Founder age



Founder with work experience in hypergrowth startup

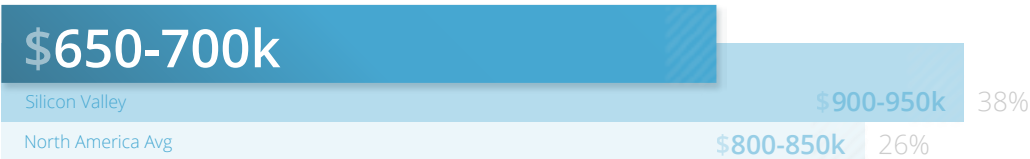


Startups with at least 1 tech founder

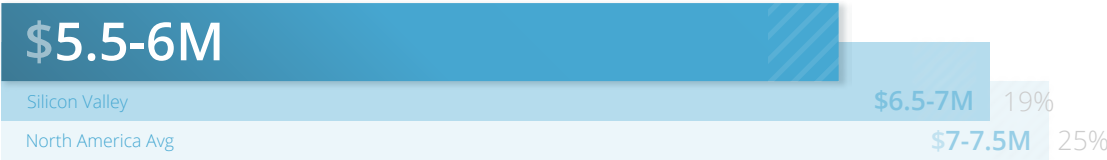


Funding¹

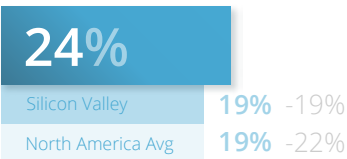
Average seed round



Average Series A round



Dilution



Rounds with local only investors



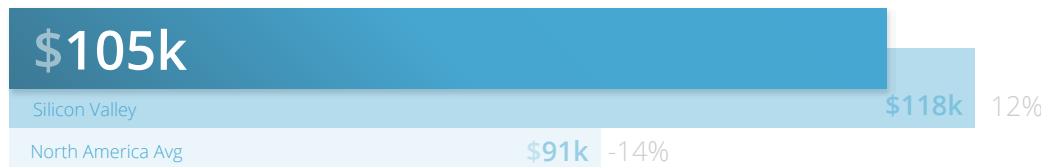
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Talent¹

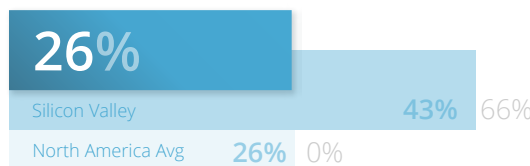
Time to hire engineers



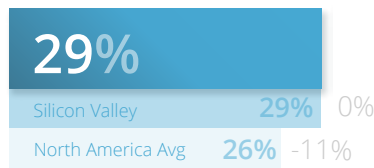
Software engineer salary



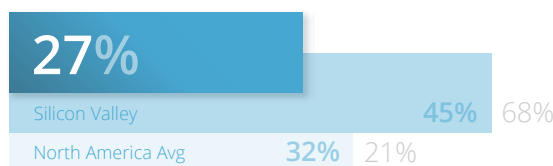
Remote employees



Female employees

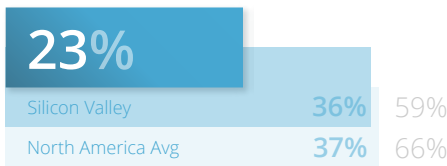


Foreign employees



Market Reach¹

Foreign Customers



Number of product languages



Top target Markets

-  United States of America
-  Canada
-  United Kingdom

Startup Experience¹

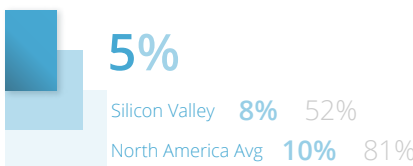
Employees with startup experience



Advisors with equity



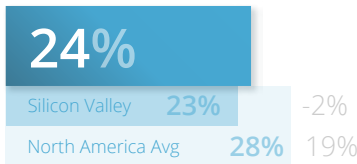
Equity to employees



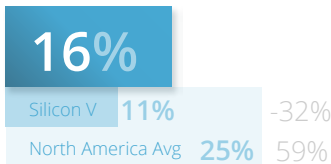
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

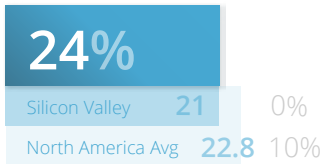
Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Formation and training of software engineers
- Taxes
- Cost of living

“As a transplant from San Francisco, I have had the pleasure of watching Chicago really come into it’s own. When I first arrived here in the early 2000’s, the tech entrepreneurial community was reeling from the dot come crash and a negative sentiment from the media and local bloggers. There wasn’t much swagger here. But what it did have is a strong core of people who believed in what was possible. The JB Pritzkers, The Steve Millers, the Matt McCalls, Mayor Daley, David Weinstein and all of the other believers. And the entrepreneurs started to emerge, companies like GrubHub, Cleversafe and Groupon came on to the scene and the entrepreneurial community started to get some mojo. Then entrepreneur support organizations like 1871 and more capital (both from the coasts and locally) the new Mayor reinvigorated City and State involvement (as contributors and supporters) and then some successes started to happen, with exits like Braintree, GrubHub and Groupon. While that was going on, the bigs started to step up with companies like Google, Microsoft, Cysco and locals like Walgreens and Execlon all started to dabble in the local tech/ entrepreneurial scene. More and more entrants like TechStars Chicago and Impact Engine with their mounds of experienced entrepreneurs like Troy Henikoff and Sam Yagan spent more and more time focused locally and giving back. Now there is a thriving community that isn’t trying to be Silicon Valley or Silicon Alley, but has it’s own identity, with it’s own ecosystem that is turning the Chicagoland area into a force. It’s been excited to witness the transition I have seen over the past 10+ years.”

– Cuck Templeton, Founder of OpenTable

¹ % Delta to Regional Average, % Delta to Silicon Valley



Seattle 8 USA

Performance 12

Funding 11

Market Reach 12

Talent 4

Startup Experience 3

Growth Index 2.1

Intro

Seattle has a deep history of software expertise due to the prominence of local companies like Microsoft and Amazon. Our research suggests that Seattle's cluster is currently home to 1,500 and 2,200 active tech startups. Although Seattle dropped four positions from #4 in 2012 overall to #8 in 2015, Seattle remains a vibrant place for tech entrepreneurship.

The state's Employment Security Department (ESD) estimates that around [12% new job growth¹](#) has been created during the last 2 years in Seattle's tech space. This growth has been spurred by recent success stories such as PayScale and Attachmate, as well as tech powerhouses from Silicon Valley such as Google, Facebook and Apple, opening fast-growing [second offices in Seattle](#).

Seattle's startup ecosystem ranks #4 for talent and offers a [higher concentration²](#) of software developers than any other tech region within the U.S. Compared to their peers in Silicon Valley, startups in Seattle resort 46% less often to hiring remote employees. Also, many Silicon Valley entrepreneurs relocate to Seattle due to high living costs and rising salaries. Based on Seattle's geographic proximity to Silicon Valley and its lower cost for engineering talent, Seattle has become an attractive option for talented startup entrepreneurs and the tech-savvy workforce alike³.

Seattle's weak spot is funding. While it is sufficient to fund a major share of promising early stage startups, a lack of big VC funds causes a noticeable gap of later-stage investments—a key reason why the Seattle ecosystem is not among the global elite in 2015. Competing ecosystems like Boston or Los Angeles experienced 2.5x and 3.3x higher VC investments, respectively,

¹ Kalning, K. (2015, January 9)

² Partovi, H. (2015)

³ Cook, J. (2015)

Selected Findings

Seattle ranks #12 in Performance and #11 in Funding.

At 2.1, its Growth Index is slower than average and similar to Silicon Valley's despite fast growth rates in both exit value and VC investments. Its Output growth is second to last among the top 20.

Seattle ranks #3 in Startup Experience and #4 in Talent—in line with its long history of tech success.

It ranks #12 in Market Reach because of its smaller local market and comes in with a next-to-last finish in the Global Market Reach sub-index, with 41% less foreign customers than North American average.

Series A rounds are 17% lower than regional average.

Female founders are 56% less represented compared to the North American average.

With more than two equity compensated advisors on average, Seattle-based startups have the highest regional average.

in 2013 and 2014. However, Seattle's venture capital is growing 40% faster than the U.S. average, so the funding gap is likely to narrow in the future.

[Ecosystem Partners: Microsoft Ventures and TechAlliance](#)

“Seattle has transformed over the last 12 to 18 months. There has been an influx of fresh talent and less brain drain to Silicon Valley, with Facebook, Dropbox, Uber, Google and others opening offices in Seattle. Being just a 2 hour flight away from Silicon Valley, Seattle offers a great alternative for founders. They benefit from the close proximity to investors in SV and the lower cost, great talent plus high living standard in Seattle.”

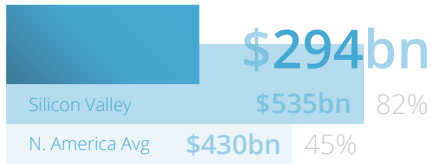
– Jon Staenberg, Founder and CEO at Hand of God Wines

“Seattle is a dynamic technology community, anchored by large players such as T-Mobile, Amazon, Expedia, and Microsoft, as well as a thriving startup ecosystem that has spawned companies such as Zillow, Zulily, and Tableau. It is not a surprise that people from California—and elsewhere—are locating to Seattle. It is quite simply a more pleasant—and cheaper—place to live. A recent report by Seattle real estate company Redfin found that Seattle is increasingly being chosen in searches by Bay Area residents who are looking for new homes.”

– John Cook, Co-Founder at GeekWire

Ecosystem Characteristics¹

Metropolitan GDP



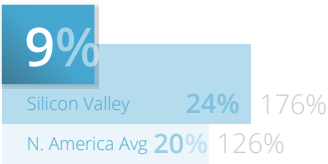
Startup output



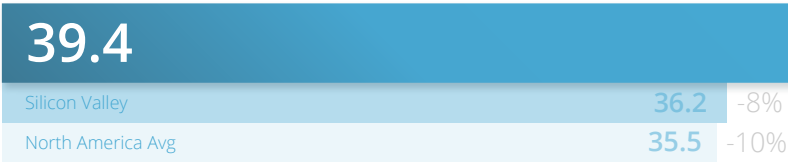
Startup density³



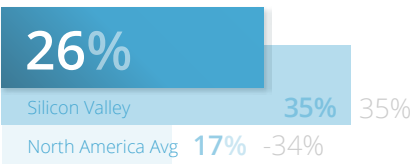
Female founders



Founder age



Founder with work experience in hypergrowth startup

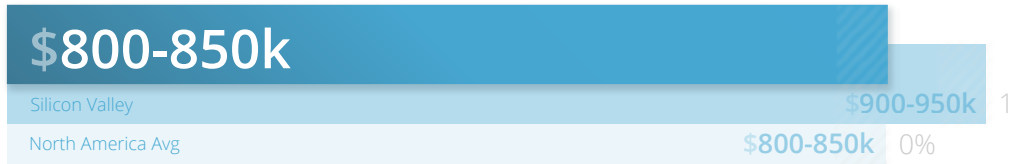


Startups with at least 1 tech founder

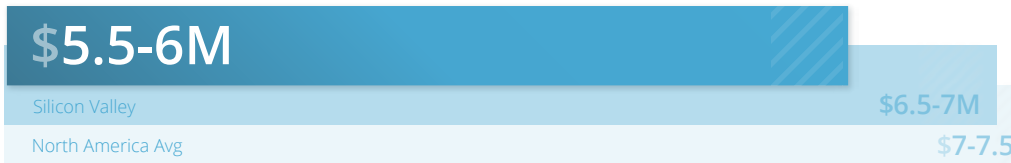


Funding¹

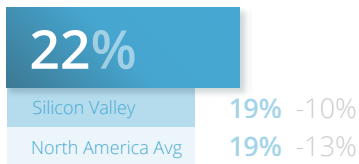
Average seed round



Average Series A round



Dilution



Rounds with local only investors



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Talent

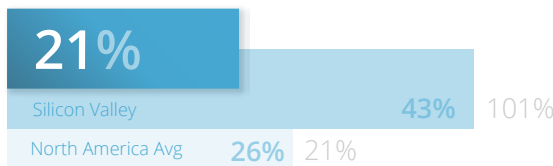
Time to hire engineers



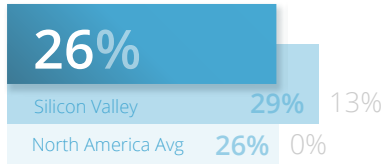
Software engineer salary



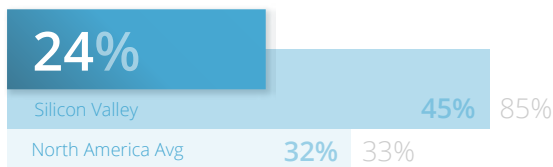
Remote employees



Female employees

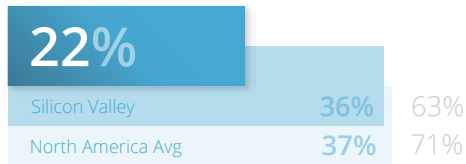


Foreign employees



Market Reach¹

Foreign Customers



Number of product languages



Top target Markets

-  United States of America
-  China
-  India

Startup Experience¹

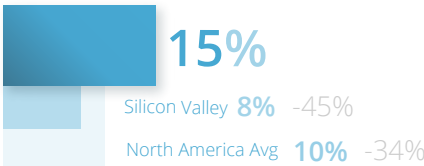
Employees with startup experience



Advisors with equity



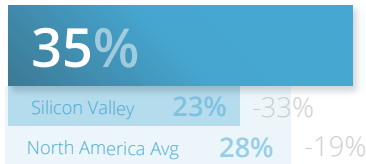
Equity to employees



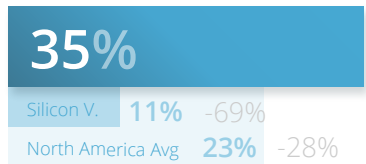
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Supporter & Policy Maker Insights¹

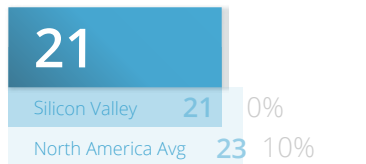
Local government rated positive



National government rated positive



Immigration time



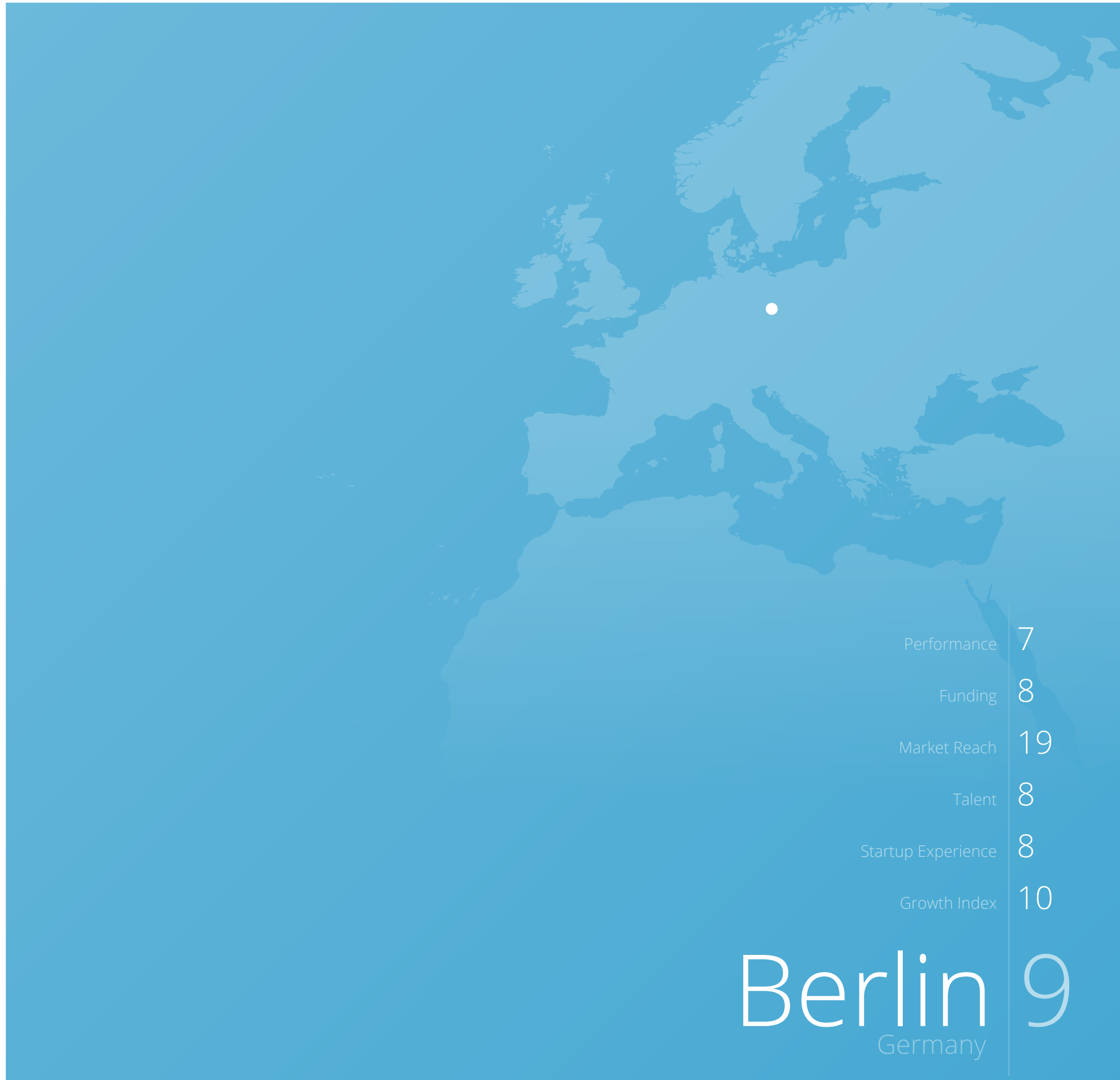
Top Policy Issues

- Taxes
- Cost & availability of workspace
- Cost of living

“Seattle is an amazing city with rich culture and expanding opportunities that are creating tremendous fast-paced growth resulting in housing, traffic, and cultural challenges. We are the cloud computing capital of the world, with many additional thriving tech sectors, while having to import talent to fill the growing number of tech jobs available. Initiatives are underway to create more tech education for underserved minorities and women to fill this gap, and we realize these are good problems to have.”

– Brett Greene, CEO at New Tech Seattle

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

After a decade of slow growth, Berlin’s tech scene has grown very fast since 2010. It was ranked #15 in 2012 and is now #9 in 2015. According to our data, Berlin is home to between 1,800 to 3,000 active tech startups. By 2020, Berlin’s startups could potentially create as many as 40,000 new jobs.¹

Startups in the Berlin ecosystem have historically been successful in markets like e-Commerce, gaming, and marketplaces, with new startups showing potential in other verticals such as SaaS and adtech. A strong creative scene and low living costs have resulted in a soaring inflow of national and international tech talent.

Berlin’s weak spots have traditionally been the vibrancy of its funding landscape and lack of exits. Yet its recent history has more than reversed that trend. With two back-to-back IPOs above \$6 billion in the Fall of 2014 (Rocket Internet and Zalando), an [exponential growth in exit volume](#) due to startups like Sociomantic, Wunderlist, and Quandoo, and more than 2x growth in VC investment, there is no doubt the Berlin is on its way into the upper echelon of startup ecosystems.²

By surpassing the \$2B mark in VC investments, the ecosystem attracted even more growth capital than London last year., This amount, however, was raised by a few rapidly scaling startups such as Delivery Hero (~\$520M) and does not lead to the conclusion that Berlin’s funding landscape has come of age. Experts argue that the rigid regulatory investment environment, as well as a weak local exit market curb Berlin’s growth. As a consequence it remains a challenge to raise late-stage funding in Berlin.

Berlin has established a strong national pull, and its next emerging step is to become more of an international attraction.

¹ McKinsey Berlin. (2013)

² Valerio, D. (2015)

Selected Findings

Berlin tops our Growth Index among all measured ecosystems with a maximum score of 10, (twice that of #2-ranked Bangalore), thanks to an explosion in exits and VC investments.

Berlin's VC investments ranked #2 in Europe, just behind Tel Aviv, and #8 among the top 20.

Berlin has the second highest Startup Experience in Europe, with a 26% higher percentage of employees with prior experience in a startup and the highest number of advisors with equity in Europe (yet it's still 34% below Silicon Valley average).

It ranks third among Europe's six top 20 hubs in Global Market Reach, namely due to a 19% lower proportion of foreign customers.

With 49% foreign and 27% female employees, Berlin is the most gender equal and second most diverse ecosystem in Europe.

Berlin's dilution rate is 10%, which is 48% below the European average.

Berlin-based Software engineers earn less than half of their Silicon Valley counterparts (~\$63,000 vs. ~\$140,000).

Berlin can also achieve greater global impact by leveraging its strengths in collaboration with other nearby ecosystems—for example, focusing on natural German strengths of management efficiency while relying on talent in Scandinavian ecosystems for product design.

Ecosystem Partners: [Microsoft Ventures](#), [Gruenderszene](#), and [Tech Berlin](#)

“Being situated in its geographical centre, Berlin has become the beating heart of the European startup community. A colorful and vibrant city, where tech innovators, digital entrepreneurs and the creative class are jointly creating great international startups.”

– Marius Sewing, CEO in Residence at Microsoft Ventures Accelerator Germany

“Times are changing and capital is following the talent, so that there are more and more local financing sources available on the ground in Berlin. I would argue that you can now raise a good Seed (a few hundred thousand to million-ish) or a smaller Series A round (up to 2-3 million) entirely in Berlin and this from people who really know what they are doing and can be helpful.”

– Pawel Chudzinski, Managing Partner at Point Nine Capital

“The Berlin ecosystem is going to continue to mature. With the next batch of successful exits, capital will finally flow to Berlin in an order of magnitude that matches the city's wealth of ideas. Once the funding ecosystem comes anywhere close to what exists in London or Silicon Valley, Berlin will experience another phase of transformative growth.”

– Hannes Klöpper, CEO, iversity

Ecosystem Characteristics¹

Metropolitan GDP



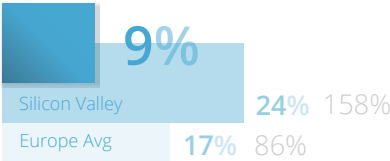
Startup output



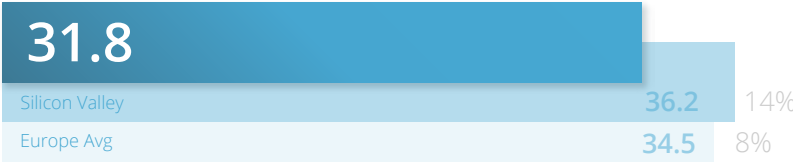
Startup density³



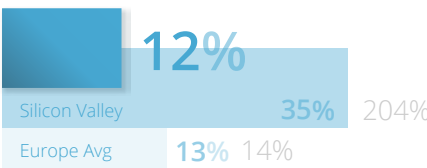
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder

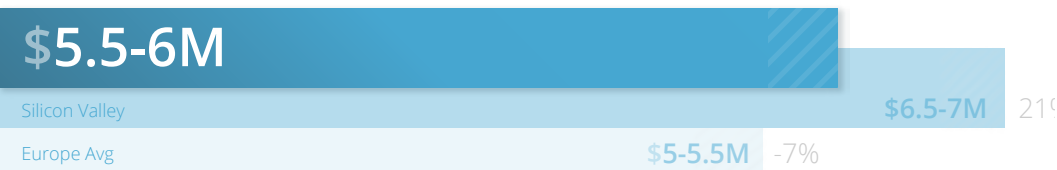


Funding¹

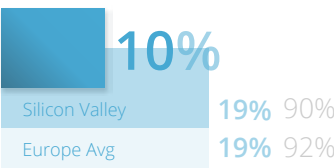
Average seed round



Average Series A round



Dilution



Rounds with local only investors



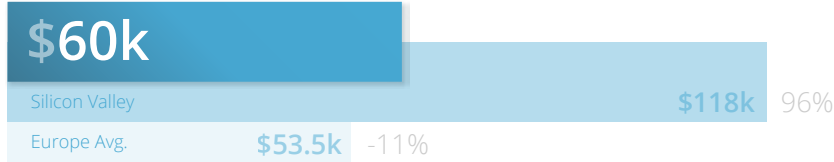
1 % Delta to Regional Average, % Delta to Silicon Valley
2 Estimated number of active tech startups in scope
3 Estimated number of active tech startups in scope created per 1,000 people

Talent¹

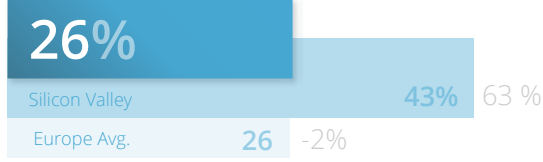
Time to hire engineers



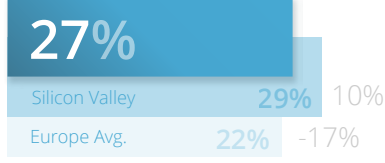
Software engineer salary



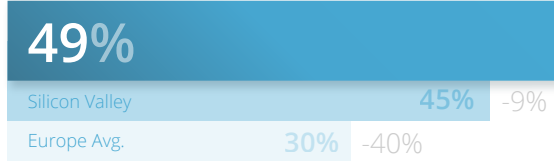
Remote employees



Female employees

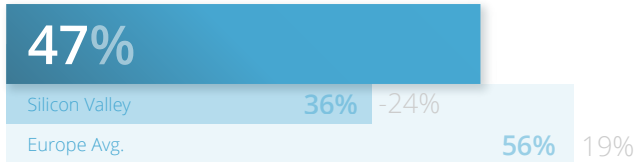


Foreign employees

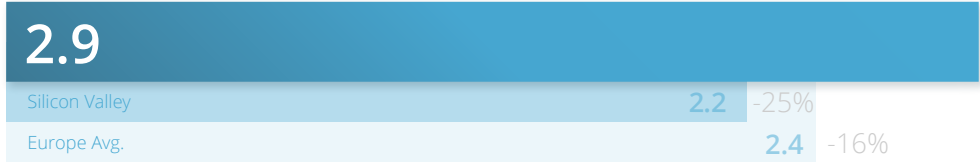


Market Reach

Foreign Customers



Number of product languages

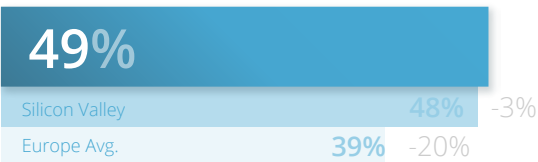


Top target Markets

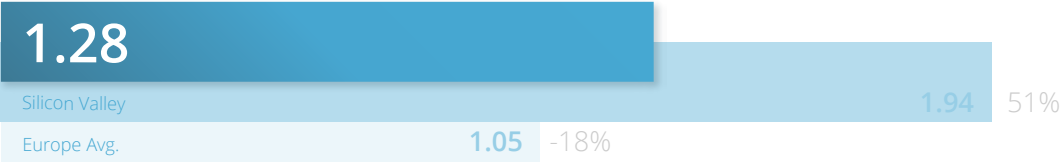
-  United States of America
-  Germany
-  United Kingdom

Startup Experience

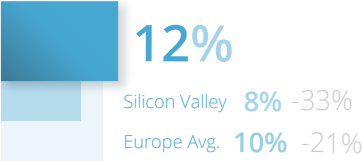
Employees with startup experience



Advisors with equity



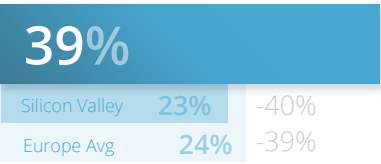
Equity to employees



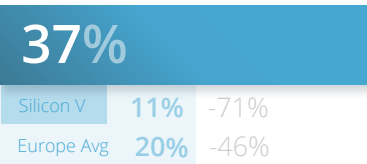
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

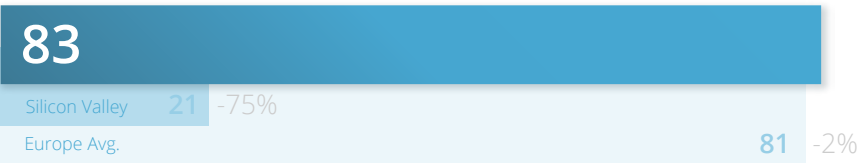
Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Local regulations
- National Laws
- Taxes

“Berlin stood out a long way for us when we were looking for a place to establish SoundCloud, not least for the fact that it offers such a vibrant intersection of artistic creativity and technological knowledge. The city operates very much on a mantra of ‘going your own way’; a counterculture mind set that embodies the startup spirit of looking at the world differently and trying to do something better. We are always hearing about fresh ideas and interesting opportunities cropping up across the city, and the network of fellow startups we’re proud to be a part of makes our working lives that bit more interesting every day.”

– Alexander Ljung, Founder & CEO, SoundCloud

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Singapore is known for being one of the world’s top financial centers, and increasingly as the premier startup launchpad of South-East Asia. Its business friendly environment is a fertile ground for startups, with 2,400-3,600 active tech startups calling the city state home. Singapore climbed seven ranks to become Asia Pacific’s¹ first e cosystem to the top 10 of our ranking.

Stakeholders agree that the government’s support of Singapore’s startup ecosystem played a major role in its rapid development. Initiatives include tax incentives for startups and investors and government funds. The government’s sizable \$1 billion Technopreneurship Investment Fund offers up to \$2 million per startup. This program attracted entrepreneurs from the entire APAC region and other parts of the world.² Paired with Singapore’s strong VC community Singapore makes rank #9 in the Funding Index.

Singapore’s geographic location and deep business relationships with booming Asian markets means local startups benefit from access to affluent consumers and multinational corporations to scale their business. Garena, a social gaming platform, valued at \$2.5 billion, is one of Singapore’s bright stars, which has benefited greatly from the strength of Singapore’s funding environment and its market reach. As an example of Singapore’s attractiveness to international investors, it was actually the Ontario Teachers Pension Fund which lead Garena’s last round.

One major challenge for startups in the Singapore ecosystem however is the lack of experienced software, this despite the surplus of talent from the region and its efficient immigration system.

Ecosystem Partners: Infocomm Investments, Startupbootcamp,

¹ excluding China, South Korea and Japan
² Youn, S. (2015)

Selected Findings

At 1.9 Singapore had one of the lowest Growth Index among the top 10 despite above average growth in exit value, mainly due to anemic growth in VC investments.

Nevertheless Singapore still ranks #9 in Funding, second only to Bangalore in the APAC region.

Singapore ranks #9 in Market Reach, mostly because of its strong global scaling performance. 49% of its customers are located abroad, which is the highest value for the APAC region.

More than 52% of all Singapore startup employees are foreign born (85% above APAC average).

Talent is Singapore's biggest bottleneck (ranked at #20). It takes 21% longer to hire an engineer than in Silicon Valley and salaries are higher than in the rest of the APAC region.

With 1.27 mentors per startup (35% above regional average), Singapore has the highest number of advisors with equity in the region.

With 10% equity to employees, Singapore has the highest share in the APAC region (16% above regional average).

TechInAsia, and The Innovators Institute

“Singapore is one of the easiest place in the world to start a business, and is in the backyard of a very exciting South-East Asia region. I feel like a kid in a sandbox.”

– Zhihan Lee, Co-Founder and CEO at BagoSphere

“There has never been a better time to be an entrepreneur in ASEAN, and specifically in Singapore - the past few years has seen a huge influx of investor money, incubators/accelerators, and corporate venturing fuelling the startup ecosystem. Many founders and startups like to set up here, due to the strong government support and business-friendly environment for technology startups. Although a company's headquarters may be based in Singapore, the real market opportunity actually lies in the surrounding emerging economies and their large growing middle class, e.g. Indonesia, Thailand, the Philippines. A region of 80m households.”

– Peng Ong, Managing Director, Monk's Hill Ventures

“Singapore has always asked the question “How

can we stay competitive?”. The country that is purely dependent on import of any of its resources gets it. And so the start-up ecosystem gets similar levels of attention from both the local government & ventures, attracting the third largest VC investments in the APAC region, after China & Japan. Singapore for many is the “easy” gateway to (South-East)Asia. The legal, financial, political...virtually any stability of the country is infamous - literally everything works. The strategic proximity to all the surrounding super-fast growing markets, such as Indonesia (population 250m people) adds to this. So it's no surprise all the hubs for the once US startups are based here (from Uber and Airbnb, to Facebook or Google).”

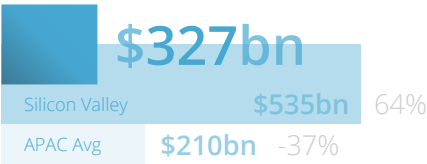
– Tomas Laboutka, Co-Founder and CEO at HotelQuickly

“Singapore is well-positioned to be the leading FinTech Hub for South-East Asia, given the access to key decision makers in financial institutions, the expertise of mentors and investors. Because Singapore has deep business relationships with all Asian countries, startups can leverage these corridors and scale efficiently in the region. The challenges lay in talent.”

– Markus Gnirck, Co-Founder & Global COO at Startupbootcamp FinTech

Ecosystem Characteristics¹

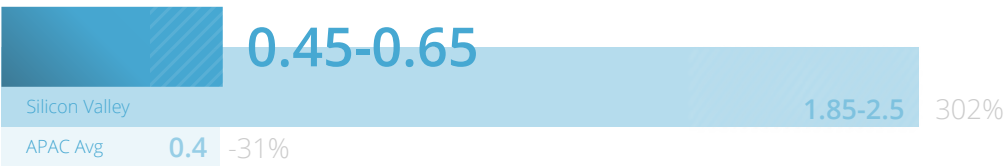
Metropolitan GDP



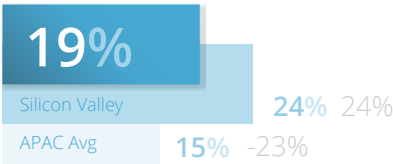
Startup output



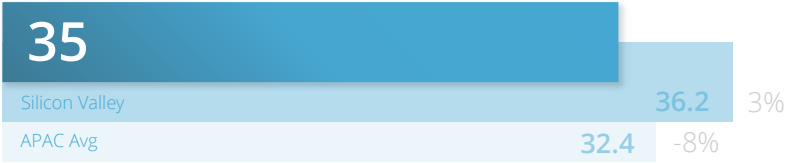
Startup density³



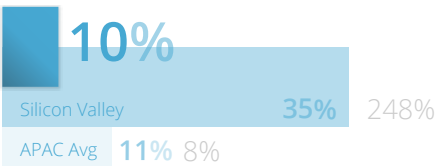
Female founders



Founder age



Founder with work experience in hypergrowth startup

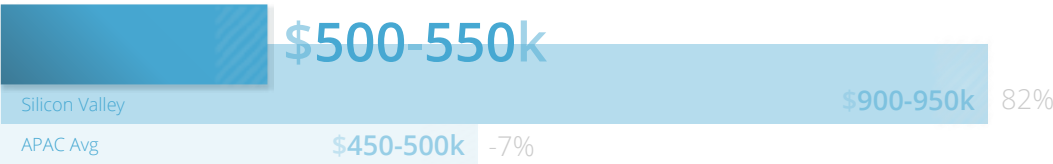


Startups with at least 1 tech founder



Funding¹

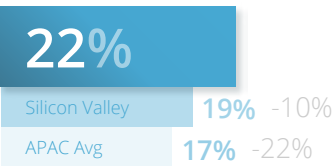
Average seed round



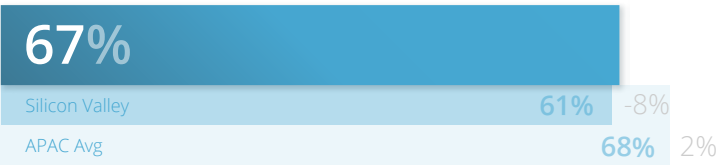
Average Series A round



Dilution



Rounds with local only investors



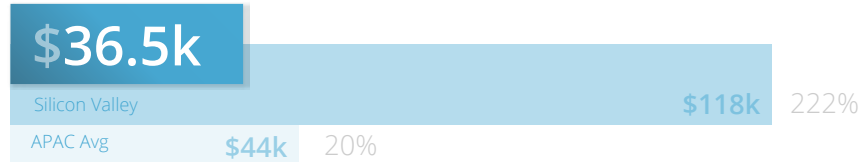
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Talent¹

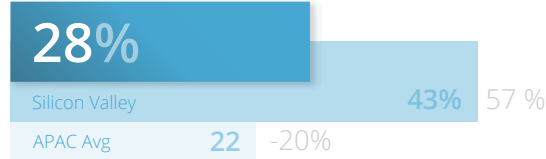
Time to hire engineers



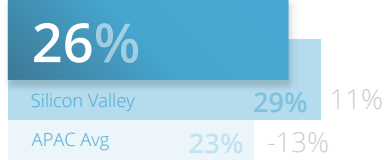
Software engineer salary



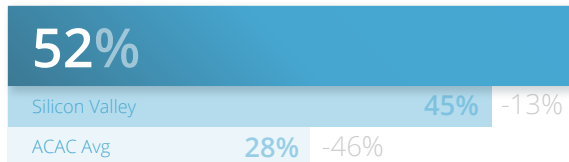
Remote employees



Female employees



Foreign employees



Market Reach¹




Foreign Customers



Number of product languages

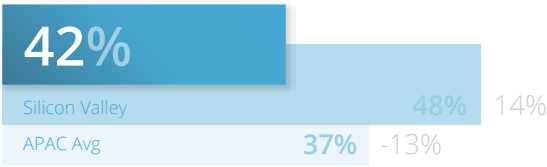


Top target Markets

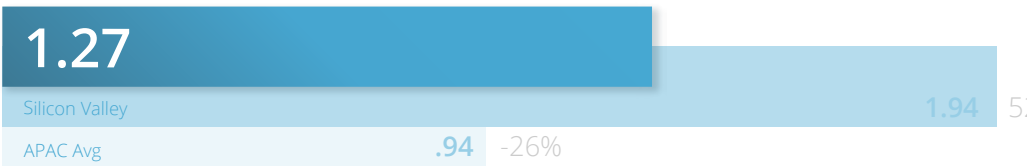
-  United States of America
-  China
-  Indonesia

Startup Experience

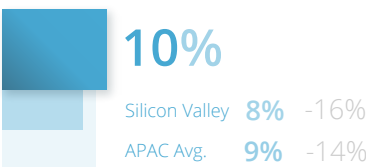
Employees with startup experience



Advisors with equity



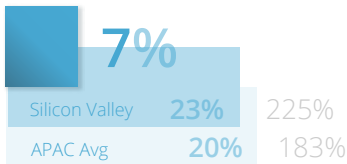
Equity to employees



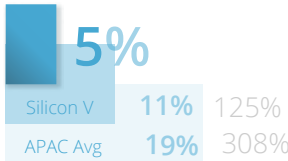
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost of living
- Workspace
- Immigration

“Singapore turns 50 this year. If it was a company, it would probably be one of the most remarkable entrepreneurial success in recent history. In this sense, I think the basic tenets of entrepreneurship such as innovation and hard work have always been part of the Singapore DNA. After a generation of infrastructure development and wealth accumulation, I think Singapore is ready to project its dynamism into the region, especially with plans to integrate the huge and growing economies of South East Asia.”

– Danny Tan, CEO at HipVan

“Singapore is a perfect symbiosis of high quality of living and entrepreneurial activity. The uptick of entrepreneurship over the past five years has been phenomenal. Singapore’s ecosystem is spearheading the region including dozens of large VC funds, many incubators and accelerators, and most importantly a lot of local and international talent willing to join the ride.”

– Rico Wyder, RVP of Product at Tickled Media

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Paris has the second largest GDP for any metropolitan region in Europe and incorporates one of the continent’s largest dedicated business district: La Défense. As the government has begun to acknowledge the importance of tech startups, the availability of public grants, subsidies, and loans has increased. The French capital boasts of between 2,400 and 3,200 active tech startups and has maintained its #12 rank.

Parisian entrepreneurs have a reputation for building dominant startups in industries such as EdTech, the sharing economy, collaborative consumption, and artificial intelligence.

Two of the ecosystem’s recent success stories are Criteon (worth more than \$2B) and BlaBlaCar (undisclosed valuation, but [expected to be the next French billion dollar company](#)¹). It is because of these and many other great startups that Paris-based entrepreneurs are beginning to attract attention from U.S.-based venture capitalists. For example, Fred Wilson of Union Ventures did his first French investment in La Ruche Qui Dit Oui, and Palo Alto-based The Hive just invested in Snips.net.

With only \$1 billion in VC investments, an influx of capital is much needed, and particularly so for later-stage funding. Finally, Paris’ weakest indicator is not funding, but Talent (#19)—despite the high-quality education system. The city’s best engineers tend to favor large, stable employers rather than fledgling, or even established startups.

Ecosystem Partners: France Digital, TheFamily, NUMA, and 50 Partners

¹ Picker, L., & David, R. (2015)

Selecte Findings

Paris' Growth Index is the second lowest in the top 20. It exhibits anemic growth in Output and exit value, and a surprising 7% reduction in VC investments.

It ranks a notable #9 in Market Reach, with the 4th largest local market among the other top 20 hubs, but a 25% lower percentage of foreign customers than European average.

Seed rounds are 15% higher than the regional average, but Series A are 23% lower.

Paris ranked #16 in Talent, placing it in the lower tier in both quality and availability. Time to hire an engineer is the longest in Europe (16% above regional average and 35% above Silicon Valley average).

Only 22% of employees are from abroad (26% below regional average), resulting in little diversity.

"In the last 5 years the parisian startup scene simply boomed. From 1 accelerator in 2009 there are now more than 50 incubators verticalized on every sectors. ... Being an entrepreneur in Paris is no more anecdotal!"

– Maëva Tordo, Co-Founder and Head of Blue Factory

"Paris is the "techiest" hub in Europe, with a lot of Internet of Things, Big Data and Artificial Intelligence companies being created each year."

– Rand Hindi, CEO at Snips

"Unicorns like Criteo and BlaBlaCar are still an exception for the Parisian tech scene, but they represent a larger entrepreneurial movement which is taking over French society. While there are still many challenges to overcome, this new generation is making entrepreneurship the new politics. With top-quality engineering schools, a booming network of experienced entrepreneurs and a growing supply of capital from local and international funds, Paris has all it needs and it's well on its way to becoming a tech powerhouse."

– Erika Batista, Head of Partnerships at TheFamily

"In Paris we don't have oil, but we do have startups! Thanks to billion dollar valuations like Blablacar and Deezer, the Parisian tech ecosystem has seen a boost both in volume and quality of new projects. The government is also pushing the ecosystem along with financial incentives, making France a fiscal paradise for innovative companies."

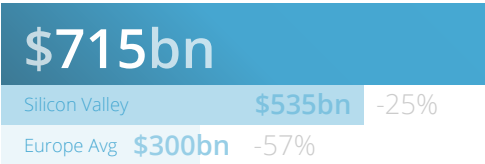
– Clément Alteresco, Co-Founder and CEO at Share Your Office / Bureaux A Partager

"As there so few investors, in France, that take risks with the entrepreneurs at the beginning of their Journey, we have developped an art of the startup bootstrapping."

– Jean Francois Ruiz, Startup Academy

Ecosystem Characteristics¹

Metropolitan GDP



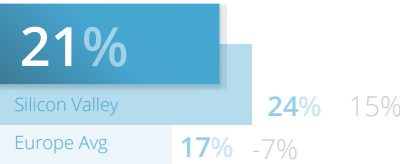
Startup output



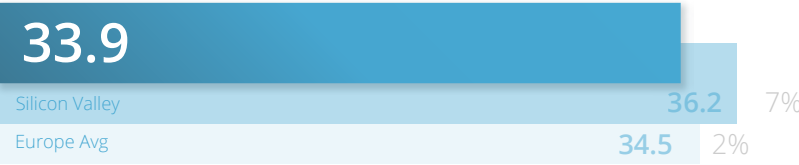
Startup density³



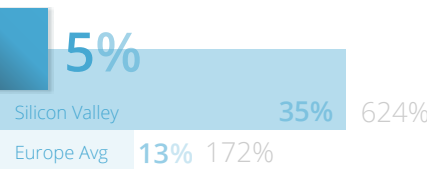
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



Funding¹

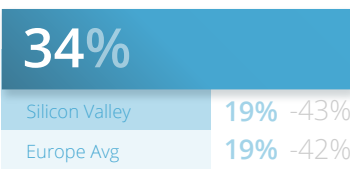
Average seed round



Average Series A round



Dilution



Rounds with local only investors



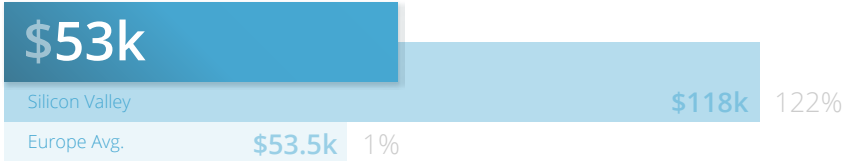
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Talent¹

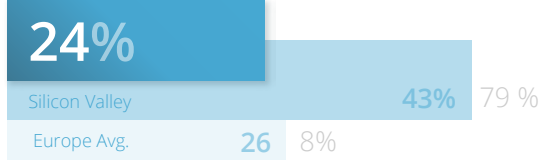
Time to hire engineers



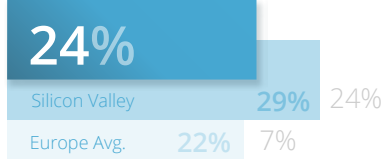
Software engineer salary



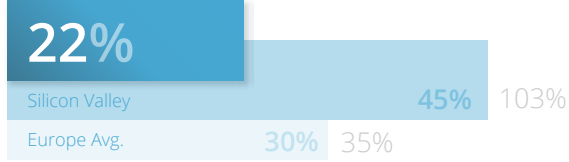
Remote employees



Female employees

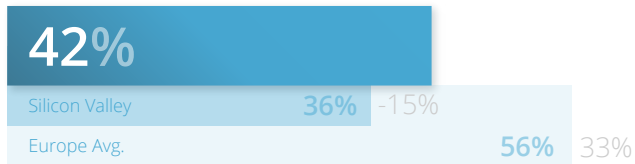


Foreign employees

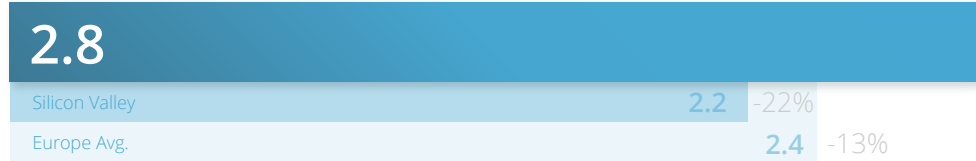


Market Reach

Foreign Customers



Number of product languages

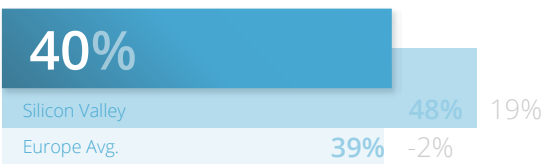


Top target Markets

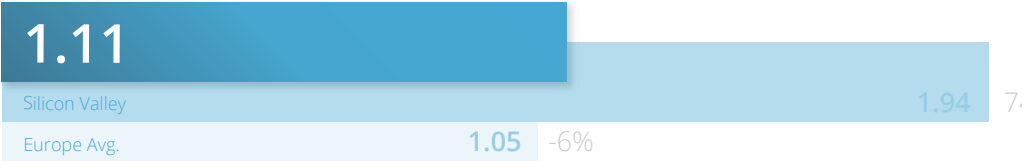


Startup Experience

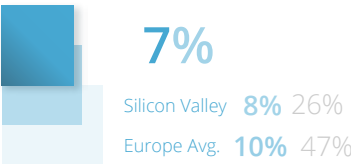
Employees with startup experience



Advisors with equity



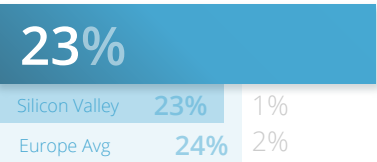
Equity to employees



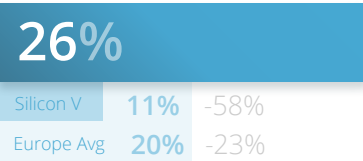
1 % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost & availability of workspace
- Taxes
- Attractiveness of ecosystem to foreign investors

“You certainly know Paris. City of lights, museums, cafés, restaurants and romantic getaways. Let us face it: startup is not in this list and unicorns don’t seem to drink from the Seine river. But the city that gave the word “entrepreneur” and the engineer Eiffel to the world knows a thing or two when it comes to revolutions. The change that I have witnessed from the front line in the last 15 years has been spectacular. Champions have arisen: Free Telecom, Vente-privée, Parrot, Criteo, Blablacar, ... and the seeds are so much more abundant and the roots much deeper. You can now, every single day, attend a good tech, english speaking, event, in the city of cheese and unpolite waiters. The young generation dreams of electronic sheeps and every single student I met recently was considering to go for the entrepreneurial journey sometimes, and quite soon if possible. France is now the number one country in Europe for VC investments. And if one swallow does not make a summer, I guess a few first tier US VCs now hunting in Paris is a strong sign. A french proverb says “Paris has not been built in one day”. Silicon Valley neither I guess. And all the great cities and ecosystems in the world Tel Aviv, London, Berlin, Stockholm, New York, ... don’t wait for us. From my experience, the only metrics that counts is acceleration. And I know Paris is moving fast these days. I am sure it will pay and give you one more reason to visit Paris next time.”

– Stéphane Distinguin, Founder and CEO at FABERNOVEL

¹ % Delta to Regional Average, % Delta to Silicon Valley



Sao Paulo

Brazil

Performance	9
Funding	13
Market Reach	11
Talent	19
Startup Experience	19
Growth Index	3.5

12

Intro

São Paulo is the economic capital of Latin America. The city has around 20 million people and is a vibrant cultural and financial hub with more than \$2 billion in daily trade on its local stock exchange. Although affected by Brazil's economic downturn, this previously fast-growing ecosystem moved up one position (from #13 in 2012) and is currently home to around 1,500-2,700 active tech startups. With a Growth Index of 3.5 it was the third fastest growing ecosystem in the top 20.

Notably, 2014 VC investments were higher than in Seattle and just below Tel Aviv. The active VC climate is highlighted by notable Silicon Valley funds like Redpoint Ventures and 500 Startups. However, the majority of venture capital funds have limited long-term experience, having only started their first investment cycle after 2009.

São Paulo boasts the best talent of any South American startup ecosystem. Recent success stories like Dafiti, Netshoes, and EasyTaxi have inspired more talent to reconsider the traditional corporate career path and see entrepreneurship as a viable alternative.

Sectors such as eCommerce and SaaS remain strong in São Paulo, while new startups with more innovative business models are beginning to gain traction in the fields of mobile, marketplaces, and services.

Finally, the recent economic downturn, combined with the lack of exists, have lowered investor confidence in the ecosystem. Other key challenges include its relative high costs, bureaucracy, and its burdensome transportation system. As the city gears up to position itself not just as the Latin American startup capital, but a top 10 ecosystem, overcoming these problems will be essential.

Selected Findings

It ranks #7 in Funding. The average seed funding amount is half of Silicon Valley, and Series A is 10% lower. Despite the presence of some marquee international institutional investors, 86% of all investment rounds count only local investors.

São Paulo ranks #11 in our Market Reach index due to the size of its local and cultural markets. It captures the last spot in Global Market Reach with its startups counting only 18% foreign customers.

At 7%, the proportion of foreign employees is the third lowest in the top 20.

São Paulo ranks #19 in Startup Experience. The average number of mentors with equity per startup is less than one (56% lower than in Silicon Valley). The proportion of employees with prior startup experience is 42% lower than in Silicon Valley.

Ecosystem Partners: Startup Brazil, Startup Farm, and ABStartups

“São Paulo congregates the main factors for a successful startup ecosystem, including the highest concentration of startups, PE/VCs, angel investors, and global companies in the LatAm region.”

– -Guilherme Junqueira, Executive Manager at Brazilian Startups Association

“There is a lot of opportunity in Brazil. We have big problems like education, health, etc, that can be fixed by startups. It is a huge local market.”

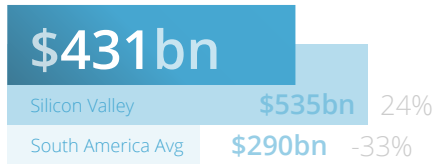
– -Gustavo Caetano, CEO at SambaTech

“The main barrier holding back more capital flowing into startups is the supply of good entrepreneurs with good ideas.”

– -Felipe Matos, CEO at Startup Farm

Ecosystem Characteristics¹

Metropolitan GDP



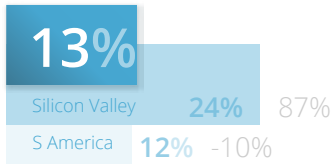
Startup output



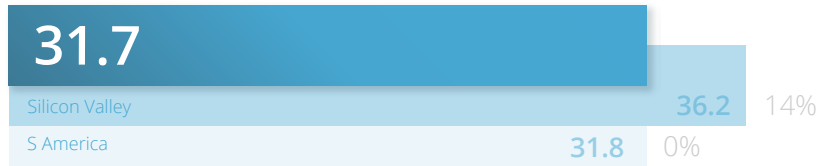
Startup density³



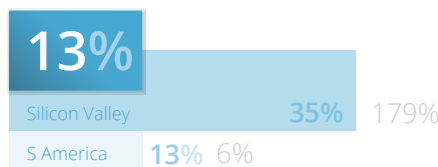
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder

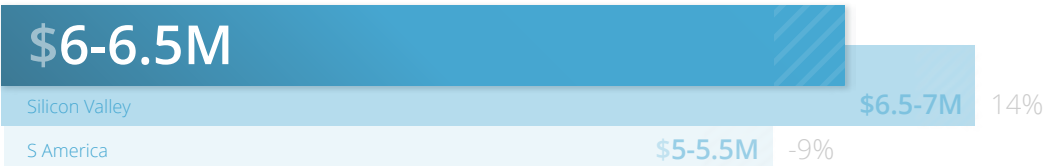


Funding¹

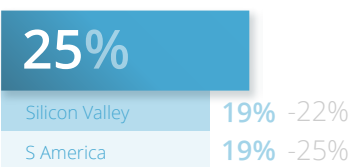
Average seed round



Average Series A round



Dilution



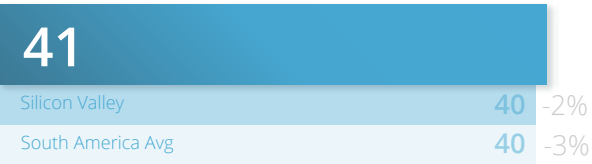
Rounds with local only investors



1 % Delta to Regional Average, % Delta to Silicon Valley
2 Estimated number of active tech startups in scope
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Talent¹

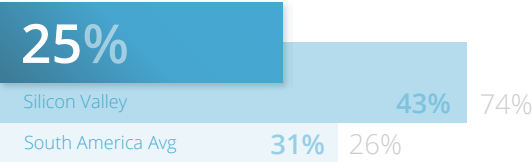
Time to hire engineers



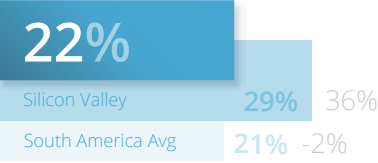
Software engineer salary



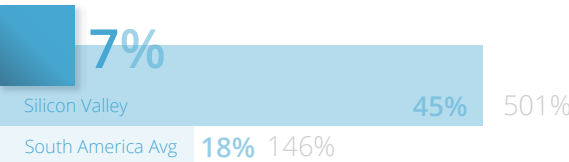
Remote employees



Female employees

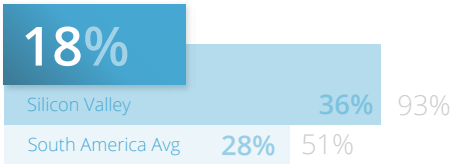


Foreign employees

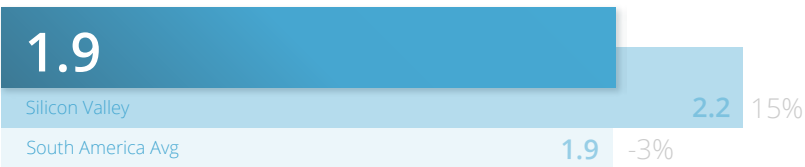


Market Reach¹




Foreign Customers



Number of product languages



Top target Markets

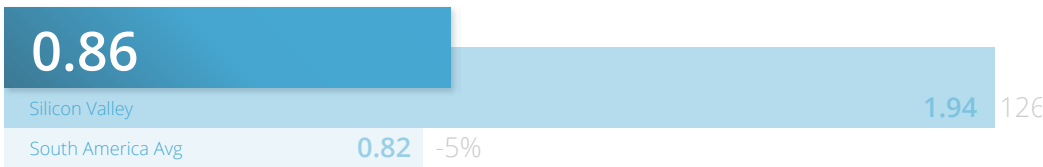
-  Brazil
-  United States of America
-  China

Startup Mindset¹

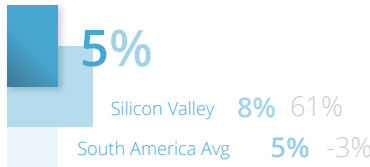
Employees with startup experience



Advisors with equity



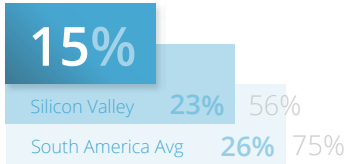
Equity to employees



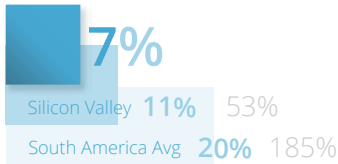
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Supporter & Policy Maker Insights¹

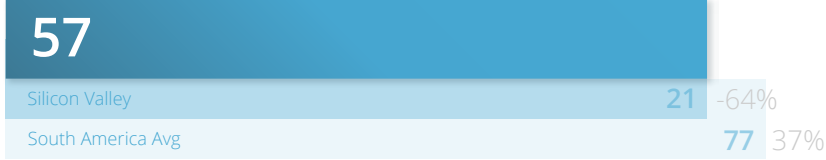
Local government rated positive



National government rated positive



Immigration time



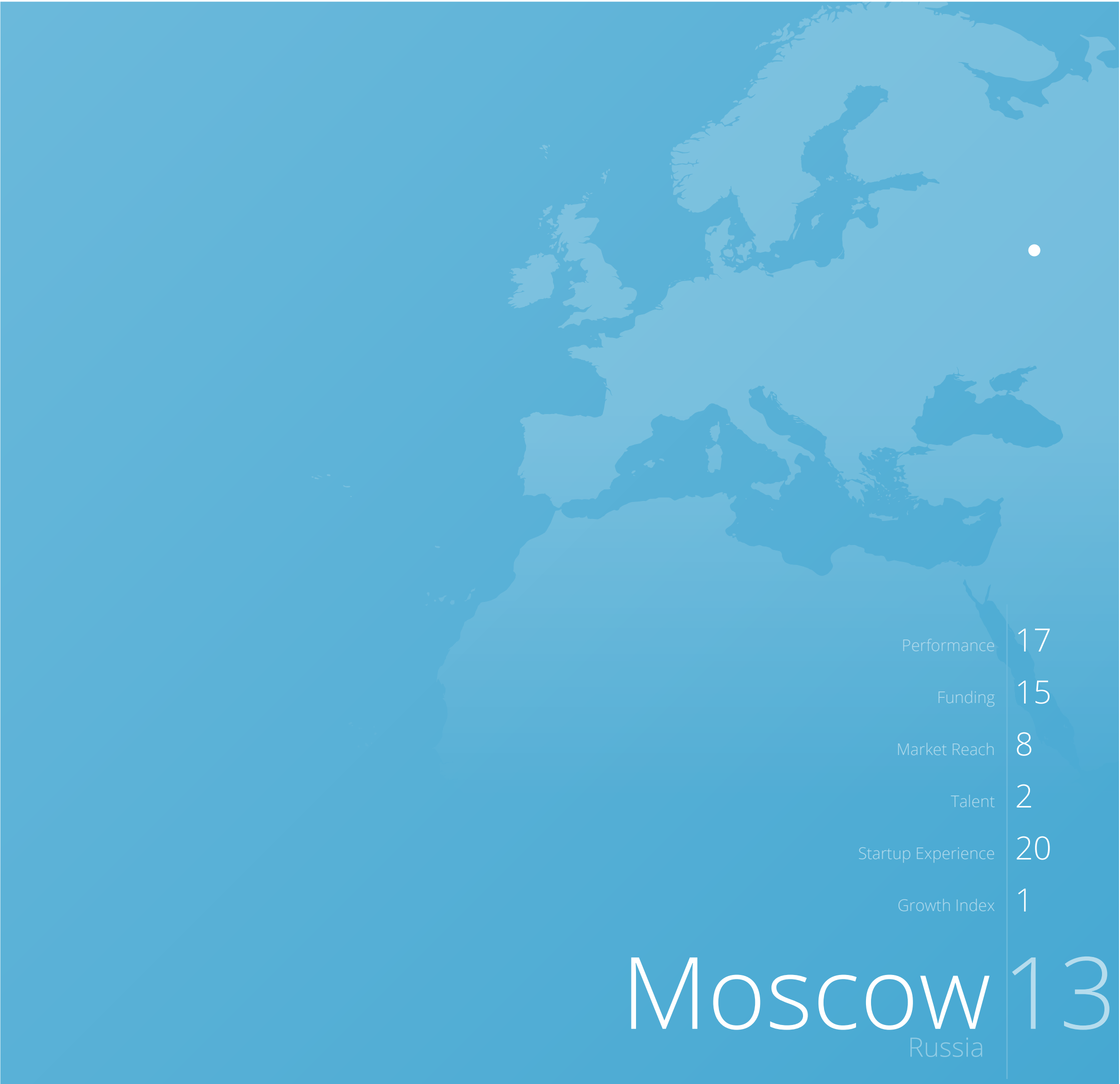
Top Policy Issues

- Taxes
- Local regulations
- Cost & availability of workspace

“Although it’s new, the Brazilian startup ecosystem evolved rapidly, combining the best of mature markets with high quality local entrepreneurs and talent. It’s just the beginning of solid landscape here.”

– Everson Lopes - Brazilian Venture Capitalist

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Russia’s capital city accounts for about 22% of the Russian GDP and is home to 2,300 to 3,800 active tech startups. Moscow moved up by one position in our ranking (from #14 in 2012), but recent political and economic turmoil has considerably affected its growth. It has the lowest Growth Index in the top 20, with very slow to no growth recorded across the board.

Entrepreneurship has become trendy and aspiring founders have opportunities to form talented teams, secure VC funding, and test new business models locally (Moscow is #8 in Market Reach). Success stories that majorly contributed to the development of the Moscow ecosystem are Yandex, the Russian version of Google, and Mail.ru, which went public in 2010 and 2011, respectively, raising \$2 billion in total capital. Despite these successes, Moscow still falls far short in exit value and ranks only 17 in Performance Index, despite having the tenth highest number of startups.

Moscow’s higher education infrastructure feeds the ecosystem with some of the best software engineers in the world, namely taking the top spot in the TopCoder challenge. Yet, annual software engineer salaries are just a fraction of those in mature ecosystems. With salaries averaging less than \$40,000 per year, employing a software engineer in Moscow is 75% cheaper than in Silicon Valley, a difference that was accelerated by the Ruble’s plunge at the end of last year. Combined with a 24% faster time to hire, these factors explain why Moscow ranks #2 in Talent.

Access to funding has arguably improved in recent years. Historically, investments were concentrated in late stage funding rounds, while earlier stage startups had poor access to capital. This funding gap decreased in 2011, when numerous startup education programs, coworking spaces, and venture funds appeared. [Initiatives such as the \\$2.7 billion strong Skolkovo](#)

Selected Findings

Moscow has the third largest number of startups among Europe's top 20, but the lowest Ecosystem Value.

Its very low immigration success rate (9%) underlines why Moscow has the lowest proportion of foreign employees in Europe with only 5% (1/6th the European average and 1/9th of Silicon Valley).

Moscow ranks #8 in Market Reach thanks to large local and national market, and despite a #15 ranking in Global Market Reach. Its average proportion of foreign customers is 45% below European average.

[Innovation Center](#)¹ and the Internet Initiatives Development Fund (IIDF) have been particularly influential. With regards to foreign venture capital, the high percentage (80%) of investment rounds with local-only investors underscores the fact that the political conflict has led many international investors to [withdrawing their funds from Moscow](#)².

Moscow has many areas with room for improvement, especially their Startup Experience, where they rank last among the top 20. Its startups count the lowest number of advisors in the world and give 49% less equity to their employees compared to startups in the rest of Europe.

[Ecosystem Partners: #tceh, IIDF, and Russian Ventures Company](#)

"We currently see the first generation of venture capitalists and tech entrepreneurs here in Moscow. The latter are educated and ambitious but often lack the skills to scale their business beyond the local market."

– Gulnara Bikkulova, Capital and Market Access Programs Director and Executive Board Member at RVC

"The startup boom is really here. In the last several years we saw a lot of amazing companies who had appeared on the market in marketing technologies, fintech, security, sales automation and e-commerce

startups. The Russian startup market is very active, crowded and one of the most developed in Europe - but few people know."

– Maxim Chebotarev

"We had pretty bad consumer product and service design during the Soviet union period. That's why many good companies are built around "better" customer experience"

– Igor Khmel, Managing Director at Sberbank Digital Ventures

"The Russian startup-scene is relatively young. But it has a growing number of mature innovative companies who can successfully compete on global level. Recent political changes, fallen ruble and decreased purchasing power of russian customers are forcing more and more startups to think globally. Talented engineers, managers, office spaces with new ruble exchange rate are very affordable. Venture capital availability is better than ever and even government is trying to support innovative projects with number of different programs. A new chapter of russian startup life is opening."

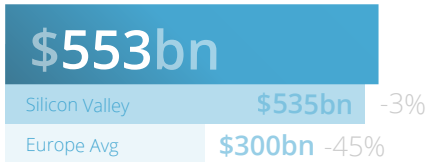
– Michael Balakin, Managing Director Russia at sociomantic labs

¹ Strong, R. (2015)

² Lunden, I. (2015)

Ecosystem demography¹

Metropolitan GDP



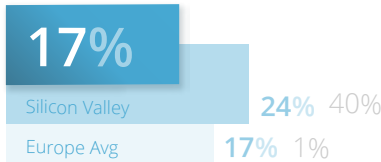
Startup output



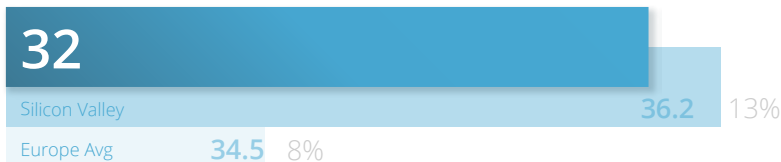
Startup density



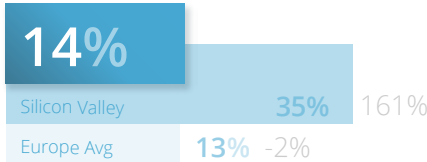
Female founders



Founder age



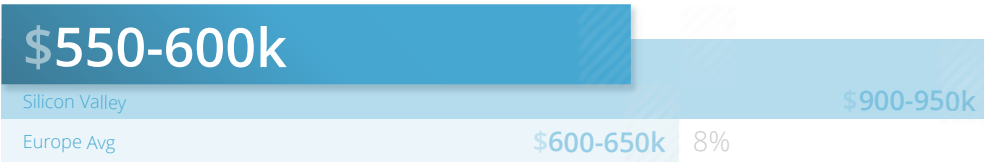
Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



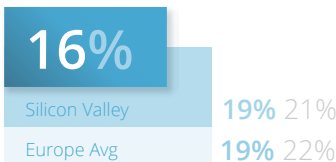
Seed funding



Series A funding



Dilution



Rounds with local only investors



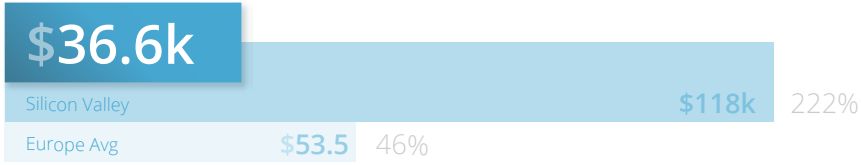
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Talent¹

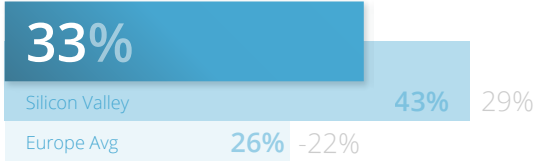
Time to hire engineers



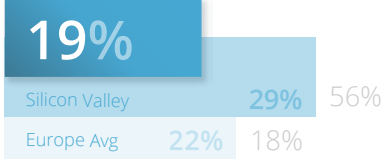
Software engineer salary



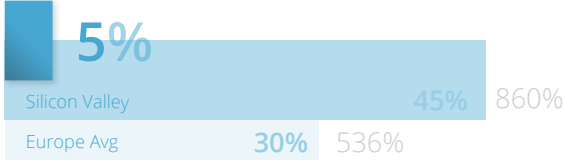
Remote employees



Female employees

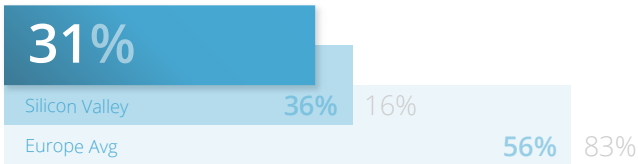


Foreign employees

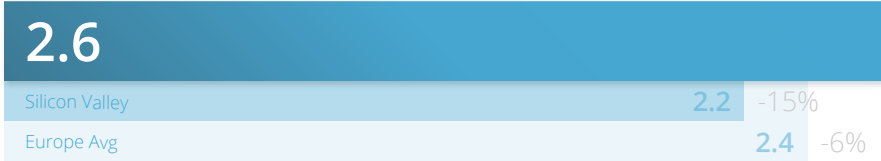


Market Reach¹

Foreign Customers



Number of product languages

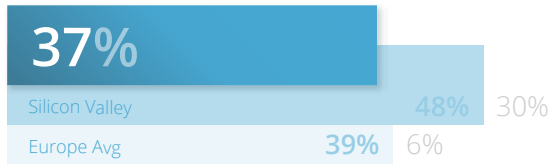


Top target Markets

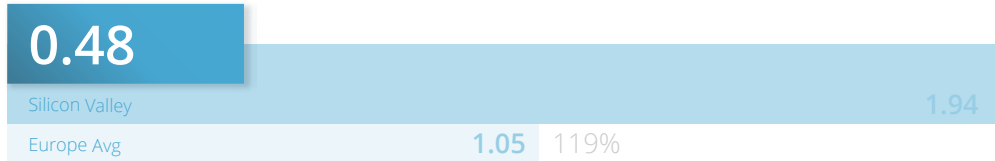
-  United States of America
-  Russia
-  China

Startup Mindset¹

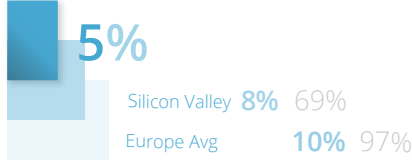
Employees with startup experience



Advisors with equity



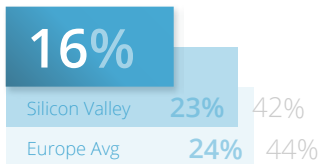
Equity to employees



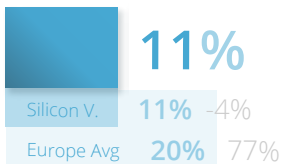
¹ % Delta to Regional Average % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

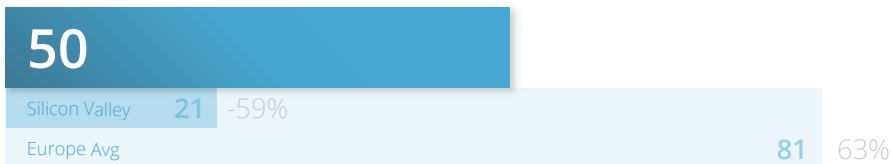
Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost of living
- Cost & availability of workspace
- Taxes

“The crisis has changed the startup ecosystem in Moscow. Now entrepreneurs have fewer opportunities to raise money. They have to take greater risks. That is why many young high potentials prefer to be employed by big international or government owned companies than to found a startup. Unfortunately, some of the brightest minds choose to move to the Silicon Valley, Singapore or EU and start a company there. But it does not mean that startup ecosystem has been destroyed. Great companies with best teams can survive in Moscow. Entrepreneurs got to find the way to use crisis as an opportunity to make money. People in Russia are trying to save more money on products and services and startups are trying to help them. IT is the best way to decrease the costs for many of the offline services and if entrepreneur does it well, he/she will get as much money as he/she needs.”

– Alena Popova, CEO at Gov2Project

If you are in a fancy bar in Moscow, it’s cool to tell to a girl that you are an Internet entrepreneur. You can hear startup pitches all around when having a breakfast and there are more accelerators than startups to fit them. Tough the funding capabilities (even the local ones) have seriously decreased during the sanctions war. Looks like a good motivator for Russians to make something outside of Russia.

– Alex Alpern, CEO & Founder at Webinar-COMDI

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Austin's tech sector originally formed due to the presence of industry giants such as Dell and IBM. The city's startup ecosystem steadily formed as an outgrowth of that gravitation center, and over the last decade has managed to develop a diverse portfolio of startups engaged in hardware, software, and software services. The cluster consists of 1,600 to 2,200 active tech startups and now ranks #14 overall. Recent success stories include HomeAway ([Market cap of around \\$2.84 billion](#)¹) and RetailMeNot ([Market cap of around \\$850 million](#)), which have together created over 5,000 new jobs.

Austin's consistent performance in the tech sector has led to a tech-savvy workforce, counting over 100,000 people, a high number considering its 1.8M population. As local talent is not only skilled but also slightly cheaper than the North American average, the startup ecosystem ranks #6 in Talent. Yet, Austin supply can still not keep up with demand. [A recent study](#) by the Austin Technology Council pointed out that the local demand for skilled tech workers will outpace supply by more than 2,000 people each year². This figure is also in line with our numbers for the average amount of time it takes to hire tech talent in Austin, which is 6% longer than the North American average, and 26% longer the Silicon Valley average. Austin is not alone, however, in this hiring dynamic, the shortage of skilled IT workers is an endemic problem for nearly all U.S. startup ecosystems. .

Austin ranks #2 on our Startup Experience index, due to its strong collaborative culture, proportion of employees with prior startup experience (52% in Austin vs. 48% in Silicon Valley), and reliance on veteran mentors (startups on average give equity to two mentors).

¹ Yahoo Finance. HomeAway Inc. Retrieved July 26, 2015
² An Assessment of the Workforce Pipeline in Austin's Technology Sector. (2015)

Selected Findings

In Market Reach Austin ranks last among U.S. ecosystems in the top 20 due to its small local market and low Global Market Reach score. It has the second lowest percentage of foreign customers (24%) and second-lowest number of product languages at 1.4.

Seed funding in Austin is 8% higher than the regional average. Series A, is 15% lower than the regional average, indicating a funding gap.

The density of startups in Austin is 33% higher than the North American average.

Two main areas for Austin to improve our in its funding climate (currently at #14) and Market Reach (#18).

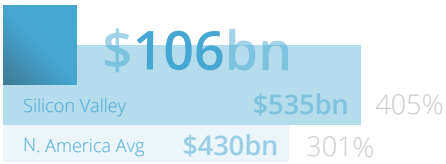
Ecosystem Partners: [TechStars](#) and [Central Texas Angel Network](#)

“The talent and mentor network in Austin is growing both in size and sophistication. Capital Factory & Techstars are leading Austin’s second coming, creating great companies, and setting the stage for an explosive future.”

– -Colin Anawaty, Co-Founder at Patient IO

Ecosystem demography¹

Metropolitan GDP



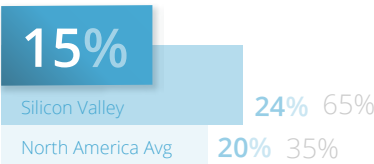
Startup output



Startup density



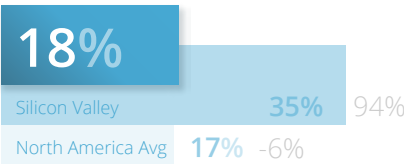
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Founder with work experience in hypergrowth startup



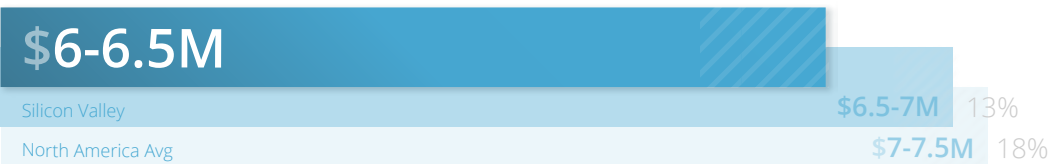
Startups with at least 1 tech founder



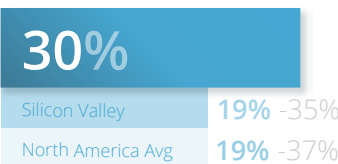
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Series A funding



Dilution



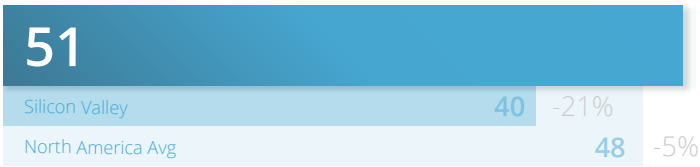
Rounds with local only investors



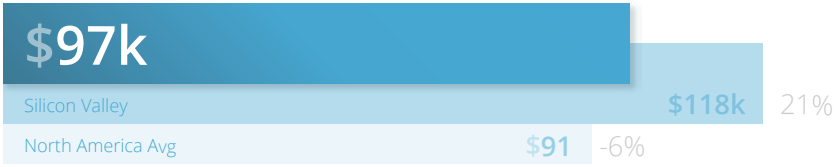
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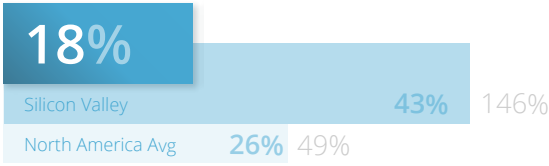
Time to hire engineers



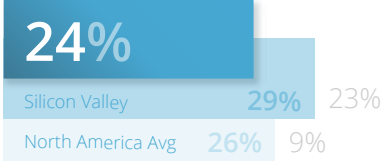
Software engineer salary



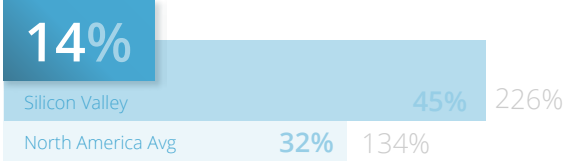
Remote employees



Female employees

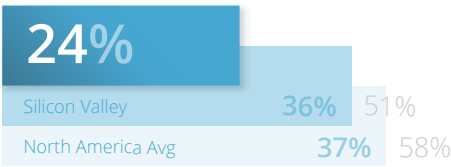


Foreign employees



Market Reach¹

Foreign Customers



Number of product languages

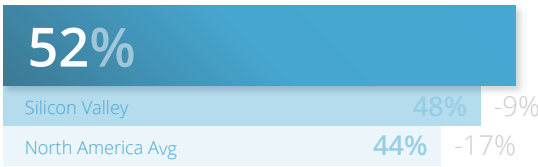


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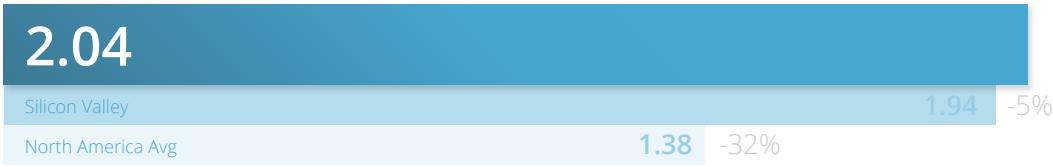


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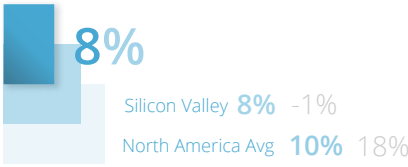
Employees with startup experience



Advisors with equity



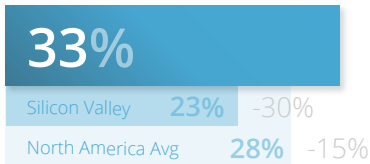
Equity to employees



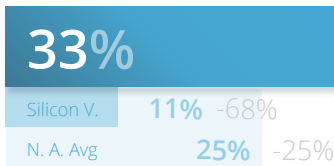
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

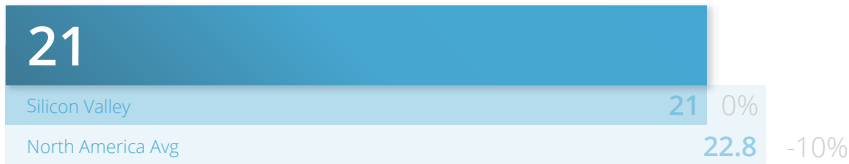
Local government rated positive



National government rated positive



Immigration time



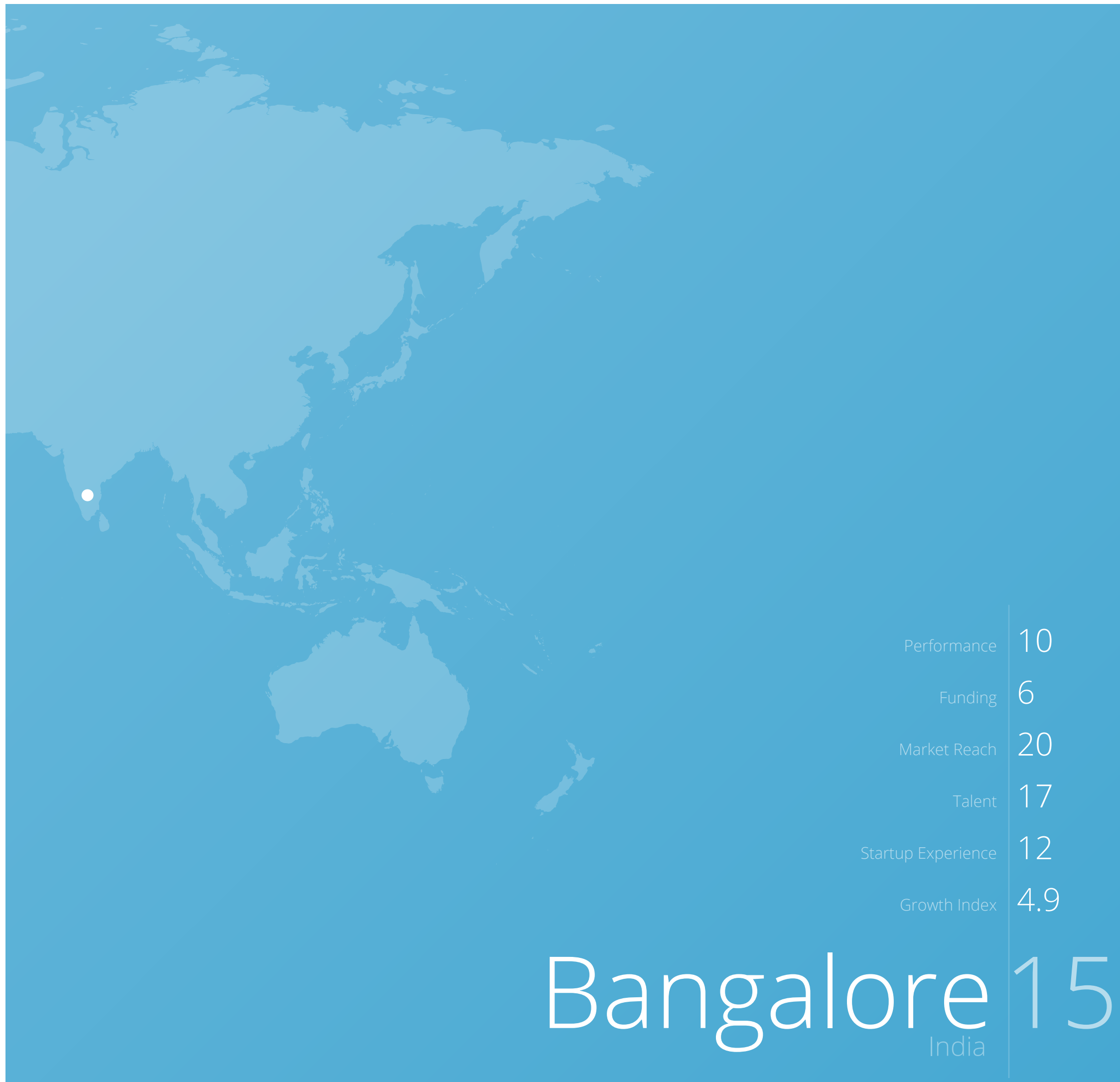
Top Policy Issues

- Cost & availability of workspace
- Cost of living
- Formation and training of software engineers

“The fact that Series A investments are relatively low in Austin should signal opportunity to the venture community. There are great companies in Austin and low competition for these investments locally.”

– -Jason Seats, Managing Director at Techstars Austin

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Bangalore, India's third most populous city, has emerged as the startup capital of India. The city is home to approximately 3,100 to 4,900 active tech startups and has achieved the second highest growth rate for exit volume and VC investment among the top 20. As a result, Bangalore moved up four positions to #15 in 2015, advancing from #19 in the 2012 ranking.

The ecosystem, which has historically been known as “the world’s back office”, has transformed itself into a high octane environment that offers early-stage startups the opportunity to turn into billion dollar companies. Recent success stories such as Flipkart and InMobi are part of the unicorn club with valuations beyond \$1 billion. Their success helps recirculate wealth and expertise back into the ecosystem. This in turn increases the attention of the international investor community who are eager to find high potential, under-valued new startup.

Bangalore has a solid pipeline of cost-efficient talent, ranking #17. Our data shows that Bangalore-based startups benefit from the second lowest time to hire, and software engineering salaries that are below \$40,000 annually. However, the analysis also suggests the average quality of the local talent is not yet on par with the elite startup ecosystems around the world.

Most startups in Bangalore target India’s large local market. Bangalore’s inflow of venture capital in 2014, amounted to approximately \$2.25B, ranked 7th in VC investment among the top 20.

Ecosystem Partners: [Microsoft Ventures](#) and [TLabs](#)

Selected Findings

Bangalore has approximately 3,100 to 4,900 active startups, making it the largest ecosystem in India.

It's #6 ranking in Funding result from a 4X growth in VC investments, the fastest pace of VC growth among the top 20.

Average seed funding amount is low (27% below APAC¹ average) while Series A investments is slightly above APAC average.

Ranking #17 in Talent, Bangalore ranks among the lowest in quality, with average availability and a dramatic cost advantage (respectively 47% and 64% cheaper than average APAC and Silicon Valley)

It ranks #12 in Startup Experience. Compared to Silicon Valley the ratio of employees with previous startup experience is 15% lower and the number of advisors 59% lower.

Bangalore-based startups give 7% equity to employees, 23% lower than regional average.

With a median age of 28.5 years, Bangalore is home to the youngest entrepreneurs in the region (12% below regional and 21% below Silicon Valley average).

¹ Not including China, South Korea and Japan

"I believe Bangalore is easily the best place to startup in India right now. There is easy access to capital and a relative abundance of talented youth who are passionate about working for startups. More importantly, being in India puts us at the heart of a very large market where the demand for new solutions is growing faster than anywhere else in the world. In addition, there are two more advantages that nicely compliment the large market - 1. You can prototype new solutions, both technology driven and otherwise, even with an extremely low budget. This allows you to experiment rapidly and perfect your solution without losing too much time or money before scaling up. 2. Indian market is so large, diverse and complex that if you can make a solution work reliably across India, you can make it work anywhere else in the world. And oh, Bangalore also has the best weather among all the big cities in India. Trust me, it counts for more than you think."

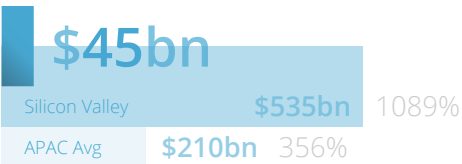
– -Amruth BR

"What makes Bangalore so special is the people here. The locals form just 30% of the population and are very friendly and hospitable and the immigrants add to the culture fusion. Bangalore has always been the Science and Technology capital including Space and Avionics, it is also home to the largest no. of Engineering colleges (within city limits) in the world - so the availability of quality talent with innovation mindset has made Bangalore an ideal environment for starting up. Also large set of returning Valley experienced Indians choose Bangalore, which adds to the availability of international experienced talent pool as well. Almost all of the Indian VCs have an office here. Average cost of living wise Bangalore is definitely cheaper than Delhi/NCR or Mumbai and people just love the Bangalore Weather!"

– -Chandan Raj, COO at YourStory

Ecosystem Characteristics¹

Metropolitan GDP



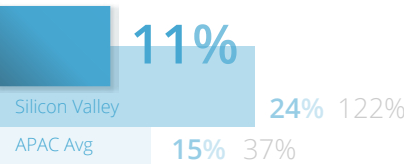
Startup output²



Startup density³



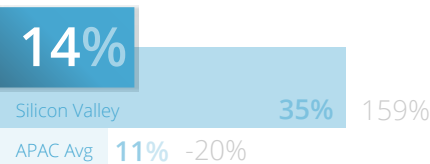
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



Funding¹

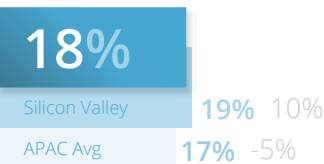
Average seed round



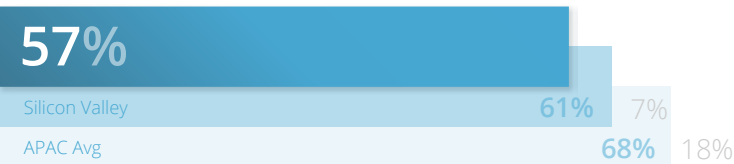
Average Series A round



Dilution



Rounds with local only investors



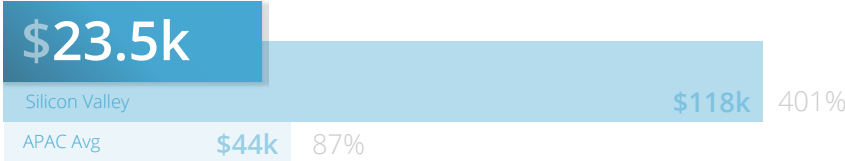
1 % Delta to Regional Average, (APAC region excl. China, Taiwan, South Korea and Japan) % Delta to Silicon Valley
2 Estimated number of active tech startups in scope
3 Estimated number of active tech startups in scope created per 1,000 people

Talent¹

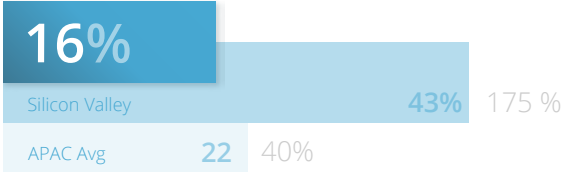
Time to hire engineers



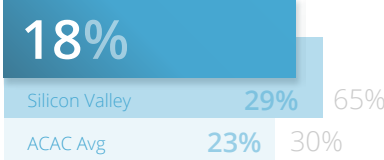
Software engineer salary



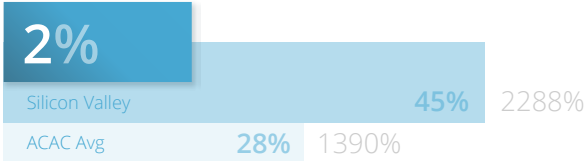
Remote employees



Female employees



Foreign employees

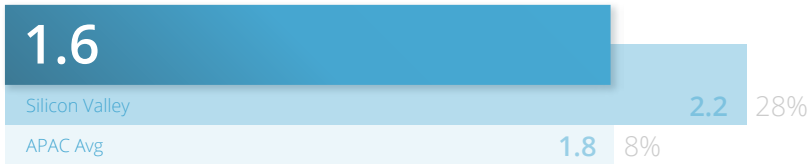


Market Reach




Foreign Customers



Number of product languages

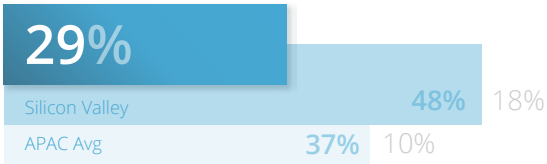


Top target Markets

-  India
-  United States of America
-  United Arab Emirates

Startup Experience

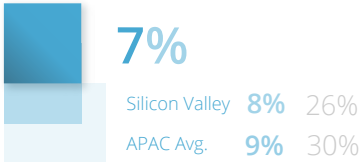
Employees with startup experience



Advisors with equity



Equity to employees



¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost & availability of workspace
- Local regulations
- Taxes

“India should be the world’s next hub for tech startups — we should see billion dollar exits. We have big markets, talent, growth, technology and mindset. In the next few years we should see a dramatic change in the types of companies and types of exits that we create.”

– Sanjay Jain, Partner at GSF India

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Sydney is home to 1,500 to 2,300 active tech startups and half of Australia’s 500 largest companies. Due to its position as the second lowest on the Growth Index within the top 20, and its comparably weak statistics around Performance, Funding, and Market, Sydney now ranks #16 (down from #12 in 2012). Still, the ecosystem is clearly capable of producing dominant startups, as Atlassian, Campaign Monitor, and recently Freelancer.com demonstrate. Cumulatively, these three startups already add up to a market capitalization of around [\\$3.5 billion](#).

Around two-thirds of Australia’s [startup activity](#) takes place in Sydney, and almost half of all employees have prior experience in a startup (only 4% below Silicon Valley).¹

Despite the relatively high cost of software engineers in Sydney (around \$88,500), the quality and availability of tech-savvy talent helped Sydney rank #6 in Talent overall. Stakeholders in the ecosystem highlighted that Sydney’s popularity inside and outside the country helps the ecosystem access young, capable, and diverse talent.

Sydney still faces challenges in Market Reach (#17) and Funding (#16). The availability of later-stage venture capital is a key bottleneck, a dynamic that can be attributed to the traditionally risk-averse Australian investment culture. Despite a rising inflow of U.S. capital, this lack of funding currently hurts Sydney’s growth and its Performance (#20). A recent report by [StartupAUS](#) makes a strong plea for government interventions, similar to the successful measures taken by governments in the United Kingdom, Israel, and Singapore, which among other things, could help solve the sub-optimal funding environment².

Ecosystem Partners: [Pollenizer](#) and [Deloitte, Australia](#)

¹ PricewaterhouseCoopers. (2013)

² Turner, A. (2015)

Select Findings

Sydney's Startup Experience ranks #10, thanks to advisors with equity and founders with hypergrowth experience at 26% and 43% higher than the APAC average, respectively.

Average seed investments are the highest in APAC, while average Series A amounts are 30% lower than the regional average.

Sydney has the highest engineer salaries in the region, 46% above regional average, but still 25% lower than Silicon Valley.

It ranks #17 in Market Reach, with a relatively small local market, and comes in at 11th place in Global Market Reach, thanks to an average of 40% foreign customers (equal to the regional average).

Equity shared with employees is 26% higher than in Silicon Valley and is 23% above regional average, reflecting the open and collaborative nature of local entrepreneurs.

"The Sydney ecosystem is now vast. There are thousands of people making great startups with evidence that we can make global businesses. As the city grows we struggle with a very high cost of living which drives up the cost of talent and generally makes it harder for people to commit to sustained periods in a new venture."

– Phil Morle, CEO at Pollenizer

"Australia has a great trajectory of organic growth of our Australian Ecosystem with companies like Seek, REA worth >\$4.3 Bn, however we're lacking government packages to accelerate maturation, which have already been implemented by other similar countries such as New Zealand, the UK and Canada. There's serious competition for Australia's best and brightest entrepreneurs however, as noted recently by Australia's Chief Scientist, Professor Ian Chubb, Australia is one of only three countries in the OECD without a science or innovation strategy."

– Peter Bradd, CEO and Founding Director at StartupAUS

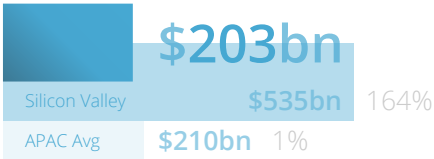
"Sydney based entrepreneurs have great access to early stage deal flow opportunities whereas Series A rounds represent a real challenge. Here many startups face higher fund raising cliff risk."

US VC houses have become increasingly active in our market but only starting at the Series B \$10m investment level."

– Joshua Tanchel, Partner at Deloitte Private

Ecosystem Characteristics ¹

Metropolitan GDP



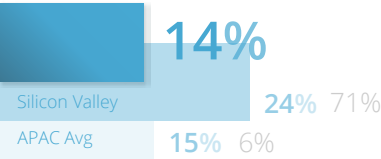
Startup output



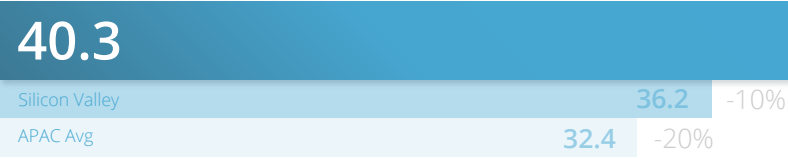
Startup density ³



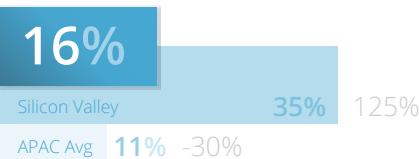
Female founders



Founder age



Founder with work experience in hypergrowth startup

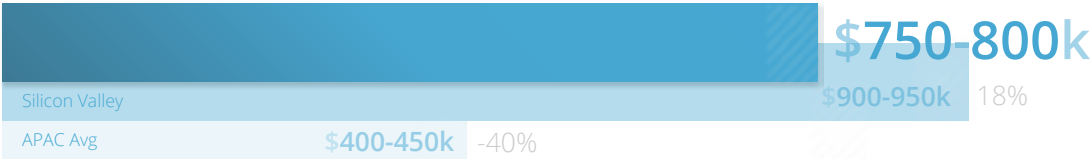


Startups with at least 1 tech founder



Funding ¹

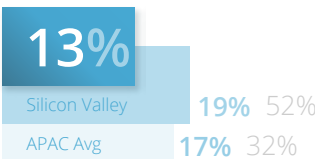
Average seed round



Average Series A round



Dilution



Rounds with local only investors



1 % Delta to Regional Average, (APAC region excl. China, Taiwan, South Korea and Japan) % Delta to Silicon Valley

2 Estimated number of active tech startups in scope

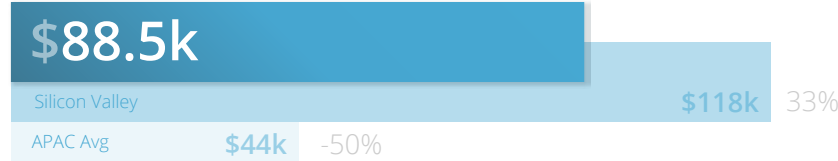
3 Estimated number of active tech startups in scope created per 1,000 people

Talent¹

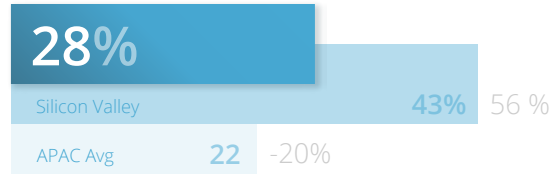
Time to hire engineers



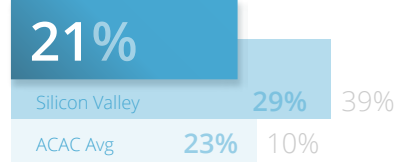
Software engineer salary



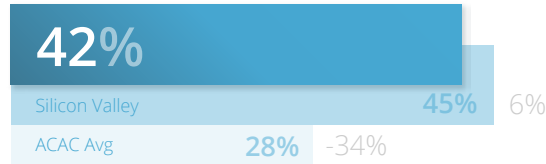
Remote employees



Female employees



Foreign employees

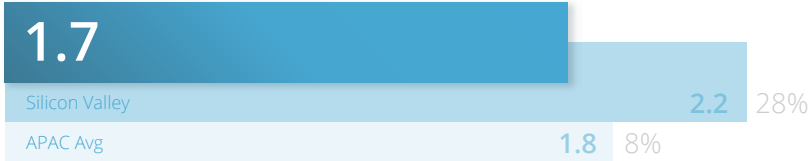


Market Reach

Foreign Customers



Number of product languages

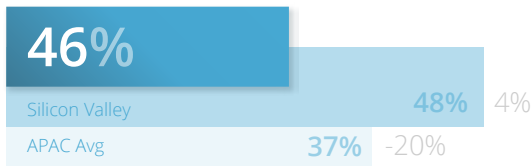


Top target Markets

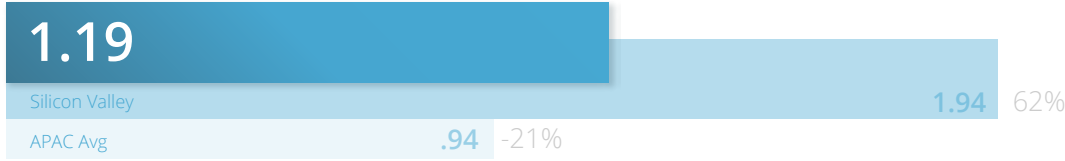
-  United States of America
-  Australia
-  China

Startup Experience

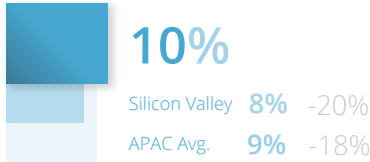
Employees with startup experience



Advisors with equity



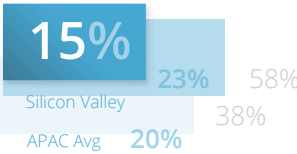
Equity to employees



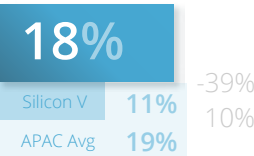
1 % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost & availability of workspace
- Attractiveness of ecosystem to foreign investors
- Transportation infrastructure

“In the global tech arena, Sydney continues to punch above its weight but below its potential. In the past year another set of companies shot past \$100m in value but still too many early stage entrepreneurs are lamenting the lack of venture capital rather than wearing out shoe leather in the big markets of China, USA or Europe, or even South East Asia - which is right on our doorstep. Our domestic market is just too small. On the plus side, some groups are building stronger bridges to those larger markets and some speciality is growing in education, health, marketplaces and business software. 2016 is going to be a huge year for Sydney.”

– Mick Liubinskas, Entrepreneur in Residence at muru-D and Co-Founder at Pollenizer

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Toronto is the most populous and economically powerful city in Canada. It is home to the world’s seventh largest stock exchange, and is a vibrant hub for innovation and entrepreneurship. Despite Toronto’s significant drop of nine spots in the overall ranking (#17 in 2015 from #8 in 2012), the ecosystem has grown over the past three years and now comprises between 2,500 to 4,100 active tech startups. As with all other ecosystems that slid in the ranking (with the exception of Tel Aviv). This drop in position owes to Toronto’s relatively slower growth (5th slowest of the top 20) rather than erosion. Toronto still maintains its position as the strongest startup ecosystem in Canada.

It is competitive in Market Reach (ranked #14) and Talent (#15) with a skilled and low cost talent pool, even without taking into account the government’s R&D tax credit. Toronto is also a culturally diverse city, as reflected in the international composition of startup teams (48% of foreign employees). As the CEO of Toronto’s poster child startup Wattpad (a member of the Canadian “Narwhal Club” with a valuation beyond \$1 billion)¹ stated, the company’s international expansion plans were largely centered around the diverse and multilingual talent pool of Toronto.

To ensure the city’s competitiveness on a global level, Toronto has to improve local access to venture capital (ranked #18). Most experts agree that access to seed and Series A funding are less of a concern as established angel communities exist and government programs supported the development of institutional investment firms. However, startups have been strongly dependent on U.S. VC firms for later-stage investments. A growing number of startups have been able to secure later-stage funding, sometimes with local venture capitalists taking the lead, yet the structural gap around series B funding persists.

¹ Orton, T. (2014)

Selected Findings

Toronto ranked higher than Vancouver and Montreal in the Performance Index with higher Output and Ecosystem Value, and in Market Reach, due to its larger local market.

Toronto startups reports an average of 48% foreign customers, about 20% lower than for Montreal and Vancouver.

Software engineers in Toronto are 41% cheaper than their peers in Silicon Valley.

Only 5% of startups benefited from having a founder with experience in a hypergrowth startup (69% below regional average and 85% below Silicon Valley average).

The second weakest point of the Toronto ecosystem is the low Startup Experience (#18), where Toronto ranked lower than its Canadian counterparts.

Ecosystem Partner: [Startup Canada](#)

“Across the entire world, Toronto is a unique gem of a city. It brings the entire world together in one place. It is geographically in the American market, historically in the European market, and its rapidly changing population is building new ties to Asia. It has world leading universities, top talent, an incredible media landscape, huge government entrepreneurship grants and private capital. Toronto has world leading companies in nearly every vertical, all in one city. And as a culture, Toronto prides itself on integrating and celebrating diverse peoples.”

– -Sunir Shah, VP Marketing Olark

“There are 3.7 million high net worth individuals in North America with only about 320k of those with more than \$1 million in investable assets in Canada. There should be no surprise to readers that there is a funding gap. Canadians are conservative investors by nature and the 2014 NACO Report shows a decrease of angel investors from 2100 in 2013 to 1700 in 2014. Notwithstanding that there has

been increases in the number of start-ups seeking funding. Maple Leaf Angels, a Toronto based angel group, has seen a doubling of applicants for funding in FY 2014 vs. 2013.”

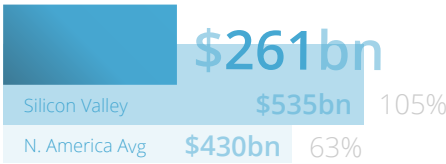
– -Gerard Buckley, President and CEO at Jaguar Capital

“Toronto is Canada’s New York and Los Angeles combined. We’ve got access to lots of capital if you want to develop natural resources, but tech startups have a strong and growing ecosystem as well. Toronto is a 24 hour metropolis that draws the best and brightest, not just from across Canada, but from around the world. Talent is just as good as what can be found in the US, but overall prices more affordable than Silicon Valley. With our world renowned social safety net, I just wish that we took bigger risks. Only then will we approach Silicon Valley’s ranks.”

– -Connor Dickie, Co-Founder and CEO at Synbiota

Ecosystem Characteristics

Metropolitan GDP



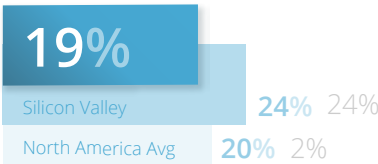
Startup output



Startup density



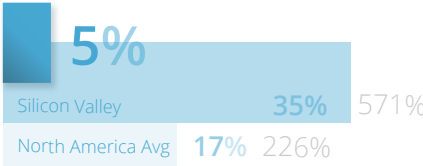
Female founders



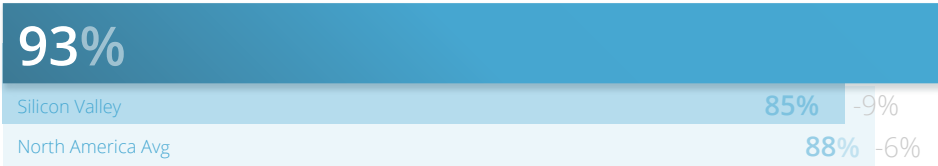
Founder age



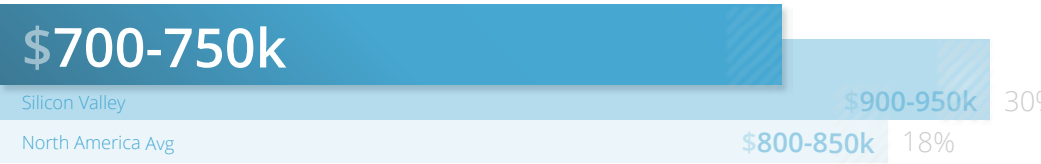
Founder with work experience in hypergrowth startup



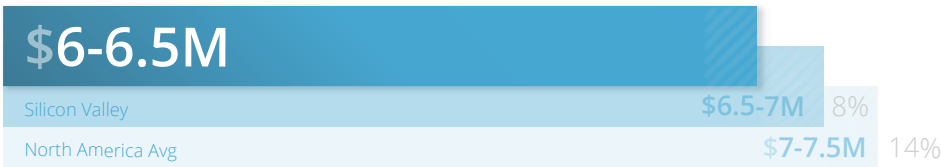
Startups with at least 1 tech founder



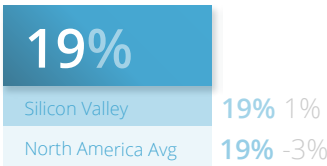
Seed funding



Series A funding



Dilution



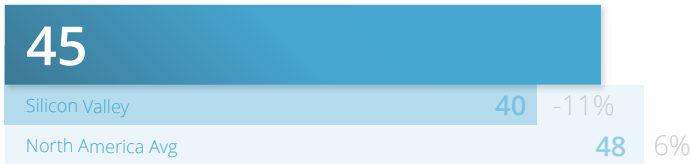
Rounds with local only investors



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Talent¹

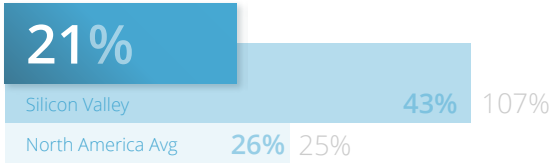
Time to hire engineers



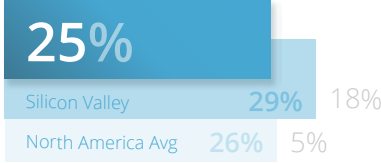
Software engineer salary



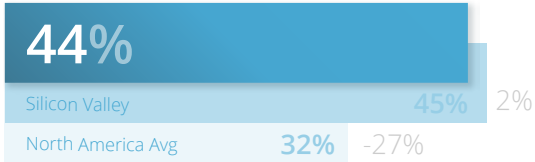
Remote employees



Female employees

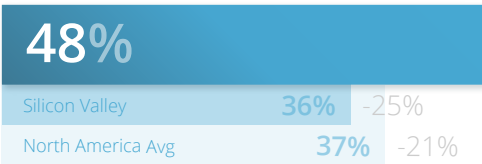


Foreign employees



Market Reach¹

Foreign Customers



Number of product languages

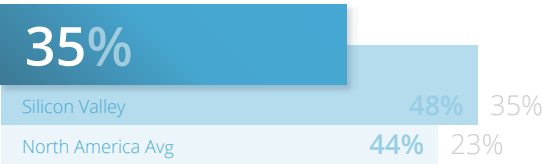


Top target Markets

- United States of America
- Canada
- United Kingdom

Startup Mindset¹

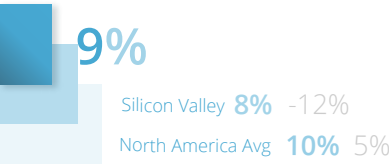
Employees with startup experience



Advisors with equity



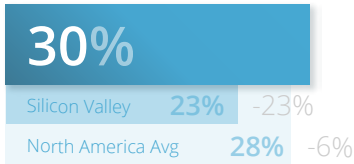
Equity to employees



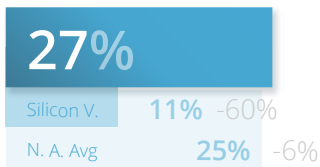
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

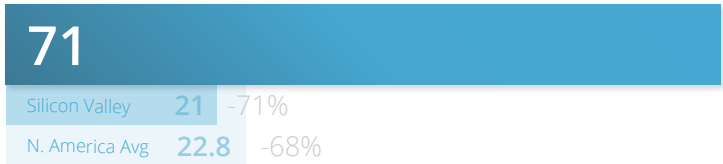
Local government rated positive



National government rated positive



Immigration time



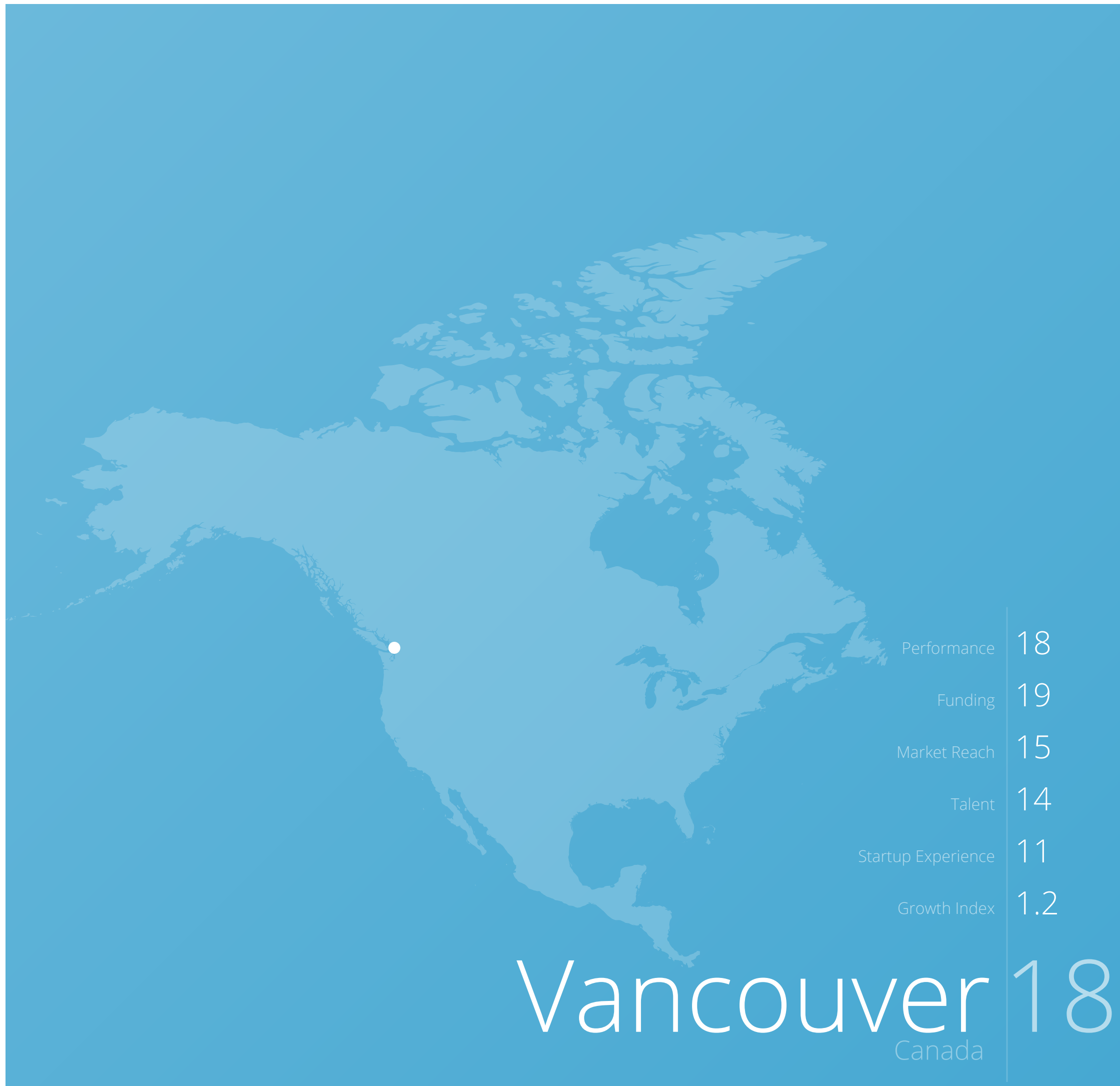
Top Policy Issues

- Cost & availability of workspace
- Cost of living
- Attractiveness of ecosystem to foreign investors

“Toronto is a world-class city in every way possible with a strong and expanding startup ecosystem. Three critical factors are holding us back from breaking through to the top level. First, it’s our Canadian-ness. We wear an albatross of modesty that you don’t see in the Silicon Valleys and Tel Avivs of the world. We can sometimes be too meek and apologetic to clearly convey our desire for top-level success. The second is that the investment community simply isn’t where it needs to be. Too many Toronto entrepreneurs seek early-stage venture funding from the US and internationally out of necessity rather than choice. Finally, while the greater Toronto area has 6 million people, our startup community has yet to shed what can often be a restrictive small-town mentality.”

– Aron Solomon, Aron Solomon, JD, Senior Advisor and Founder at LegalX

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Vancouver is the largest city on the West Coast of Canada and shares many cultural similarities with Seattle and San Francisco, its American counterparts. Originally fueled by the forestry, mining, and shipping industries, its economy is now fueled by software development, biotechnology, aerospace, and entertainment. Vancouver is currently home to between 1,600 and 2,700 active tech startups and ranks #18, compared to #9 in 2012. This is explained by its relatively slow growth (the third lowest Growth Index of the top 20), and an update in our methodology away from the number of startups per capita.

Recent success stories include HootSuite and Avigilon, which together created more than 1,000 jobs and became part of the Canadian “Narwhal Club” for startups with valuations beyond \$1 billion. Hyper-growth tech startup Slack opened a sizable office in Vancouver, taking advantage of Canadian immigration policies while being in the same time zone as San Francisco.

Funding is Vancouver’s big bottleneck, with a #19 rank. 2014 venture capital investments were around \$382 million, an amount of capital far below other leading startup ecosystems.

However, its access to skilled software engineers is quite good—it ranks #14 in Talent due to its lower talent cost, even without considering the impact of Canada’s R&D tax credits. Still, entrepreneurs complain that the city has become expensive and that attracting high-quality talent in a timely fashion is a challenge.

[Ecosystem Partner: Startup Weekend Vancouver](#)

Selected Findings

Average seed and Series A funding amounts in Vancouver are 34% lower than in North America, while the percentage of local-only investments is slightly higher than the average.

Vancouver achieves an excellent #11 ranking in Startup Experience thanks to high average number of advisors with equity (1.54, which is 12% above North American average) and average percentage of startups with an employee option program.

The time to hire a software engineer is 10% longer than in Silicon Valley, but the cost of engineers is 42% lower than in Silicon Valley.

While ranking #15 in Market Reach, Vancouver achieves an impressive #2 in Global Market Reach. Like its Canadian counterparts, Vancouver startups focus on the U.S. market from an early stage, as captured by an average of 60% foreign customers (62% above North American average) and an average number of product languages of 1.8.

Very few founders (7%) have gained experience at a hyper-growth startups (61% below regional average).

“Vancouver has grown into an incredible location for startups across a wide variety of industries. With excellent support from the C100, VC firms like VersionOne Ventures, and incubators and accelerators like Launch Academy and Highline, startups have never been in a better position to launch their businesses in Vancouver. In order to truly evolve into a world class startup hub, Vancouver continues to need broader access to quality angel investors and professional capital, with extensive experience in scaling businesses. Too many amazing Vancouver companies sell or otherwise exit prior to successfully raising a Series B or C round. We need more entrepreneurs willing to follow in the bold footsteps of companies like Hootsuite, BuildDirect, Avigilon that are building \$1 Billion companies right here in Vancouver. As more startups achieve scale in our own backyard, the knowledge, experience and capital required to fuel the local startup scene will continue to expand.”

– Rob Goehring, CEO at RewardStream

“With Canadian cities being geographically far from each, combined with a much lower population density compared to the United States, Vancouver startups need to focus on growing and expanding south of the border, as well as internationally, to survive.”

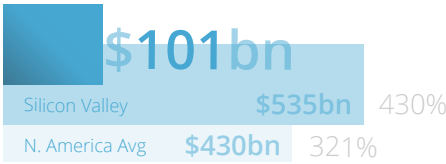
– Charlene Tessier, CFO at Dana.io

“Vancouver’s tech scene is a growing and undiscovered market with emerging talent that is on par with major US tech hubs. People are slowly starting to discover startups with roots in Vancouver such as Slack, Hootsuite, Clio and PlentyOfFish. Surrounded by water and mountains with an emphasis on lifestyle and health this picturesque city will continue its tech boom and attract interest from VCs and techies alike for many years to come.”

– Milun Tesovic, Founder MetroLycris.com

Ecosystem Characteristics¹

Metropolitan GDP



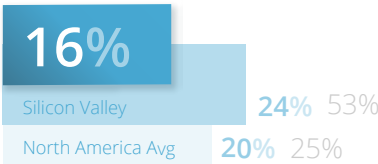
Startup output



Startup density



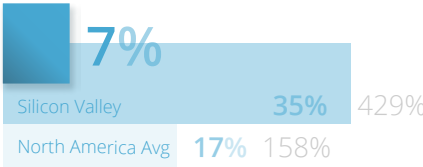
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



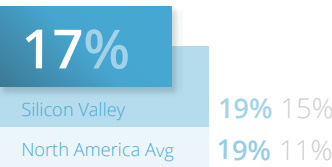
Seed funding



Series A funding



Dilution



Rounds with local only investors



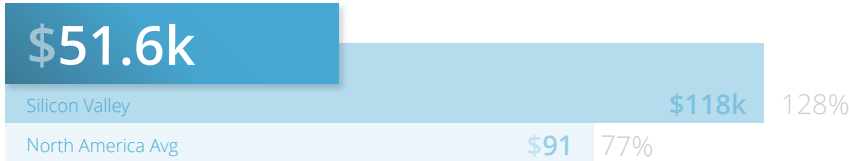
1 % Delta to Regional Average, % Delta to Silicon Valley
2 Estimated number of active tech startups in scope
3 Estimated number of active tech startups in scope created per 1,000 people

Talent¹

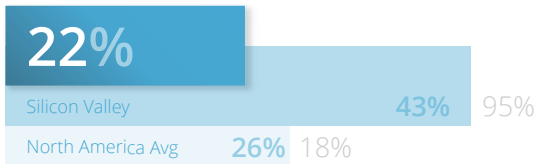
Time to hire engineers



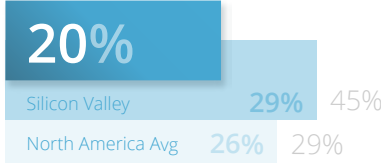
Software engineer salary



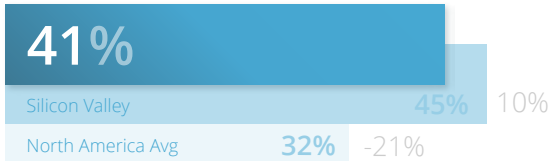
Remote employees



Female employees

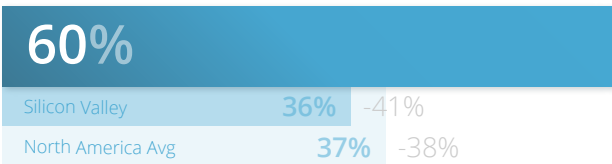


Foreign employees



Market Reach¹

Foreign Customers



Number of product languages



Top target Markets

-  United States of America
-  Canada
-  China

Startup Mindset¹

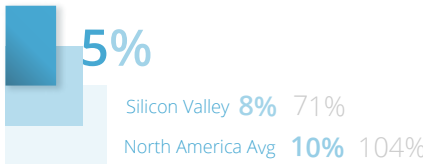
Employees with startup experience



Advisors with equity



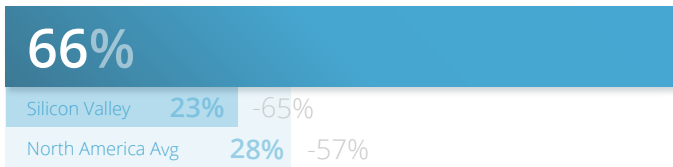
Equity to employees



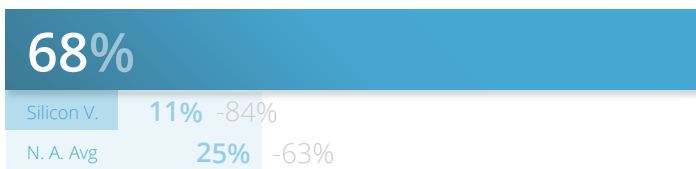
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

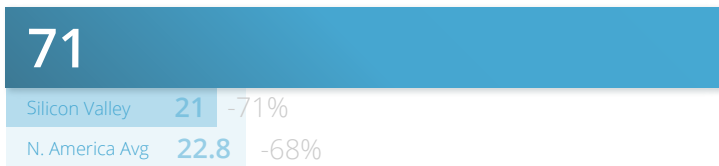
Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Cost & availability of workspace
- Formation and training of software engineers
- Attractiveness of ecosystem to foreign investors

“With conferences like TED, TractionConf.io, and GrowConf hosted in Vancouver, there is no doubt that the world is anticipating a startup boom in this city. We have the talent, entrepreneurial mindset and the infrastructure to support high growth startups to compete on the global stage. More and more high quality startups will come out of Vancouver which will in turn attract more capital flowing into this city. The ecosystem is poised for big and rapid growth.”

– Ray Walia, CEO at Launch Academy

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Amsterdam-StartupDelta, the only European newcomer, enters the ranking at #19 with more than 1,900-2,600 tech startups and the 5th highest Growth Index of the top 20. It is geographically defined by the Amsterdam-The Hague-Eindhoven triangle.

Amsterdam is an attractive location for tech startup founders due to its unique lifestyle aesthetic and great startup infrastructure, and while it's not as big of a startup ecosystem as more prominent European counterparts like London or Berlin, it certainly has the ambitions to become like them.

The Ecosystem's success stories include Startupbootcamp, a global accelerator program now operating in more than ten countries, Nimbuzz, and the first Dutch tech unicorn, Ayden. Hyper-growth startups such as Uber established their European headquarters in Amsterdam and use it as the [gateway to continental Europe](#).

To further enhance the ecosystem's global impact, the Dutch government recently launched an initiative called [StartupDelta](#), which is trying to unite and better allocate the startup resources of the Netherlands that are currently scattered across the country.

Despite these promising developments, there is a long way to go. Amsterdam ranks last among top 20 in Funding. The lack of seed and growth capital impedes entrepreneurial success, especially with regards to later stage startups.

Due to the small size of the Dutch market, Amsterdam startups tend to think global from day 1, which explains an impressive #10 ranking in Market Reach. On average 50% of their customers are foreign and they offer their product in more than two languages from the outset.

Selected Findings

Amsterdam is Europe's 3rd fastest growing ecosystem behind Berlin and London.

The average seed round amount is 18% below the European average.

Talent quality is around regional average, however the proportion of engineers with prior experience is lower. 35% of all employees are foreigners, 17% above European average.

Nearly 1/5 of all founders have worked for a hyper-growth startup, 41% more than European average.

Finally, the historical tendency for entrepreneurs in Amsterdam to relocate to other cities when their startup is ready to scale may partly explain the noticeable gap of experienced serial founders and mentors in Amsterdam (#16 in Startup Experience).

Ecosystem Partners: [Startup Foundation](#), [StartupDelta](#), and [Dealroom](#)

“Amsterdam; There's money, there's vision, there's ideas, unfortunately not necessarily working together.”

– Hans Koning, Managing Director at Biting Lynx

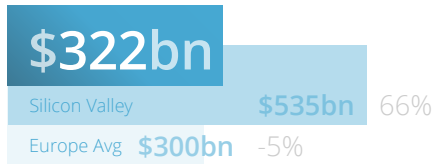
“I just founded my third startup in Amsterdam but previously lived in Silicon Valley. And even though the two make a nice comparison, the Dutch culture is fundamentally different from what I've seen in the Silicon Valley. But to herald Dutch innovation as it currently stands is to unveil a project that's still in its most nascent state. It's particularly exciting, since Amsterdam, since a few years, is playing catch up at a rate similar to which Tesla upgrades the speed on their Model S's. For one, the Dutch, on the whole, speak better English than probably any non-native population in continental Europe. And with an excellent educational system in especially Math and Science, the pool of tech talent is growing

rapidly. While most people think of Amsterdam as the World's capital of red lights, cheese, drugs and tulips, very little know that entrepreneurship - in its most fundamental form - actually originates from the Netherlands. Second, our biking climate and affordable office space and housing are particularly interesting to more founders. Third, consider that the Netherlands has 17 million people crammed into an area half the size of South Carolina. Thus, with more startups raising venture rounds north of a few million, the infectious nature of Amsterdam's capital, can only become a profound breeding ground to more prominent and talented startups from across the globe.”

– Steven Lammertink, Founder and CEO at Cirqle

Ecosystem Characteristics¹

Metropolitan GDP



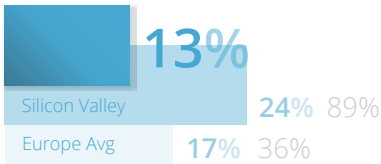
Startup output



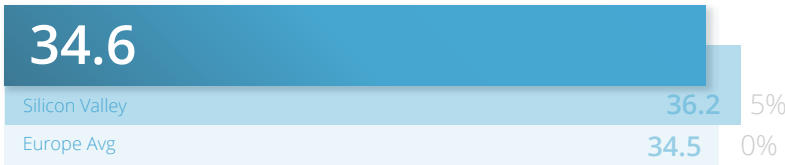
Startup density³



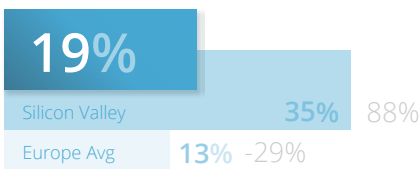
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



Funding¹

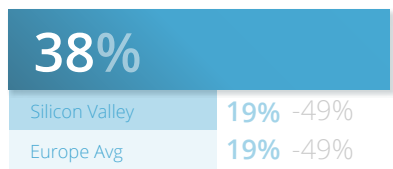
Average seed round



Average Series A round



Dilution



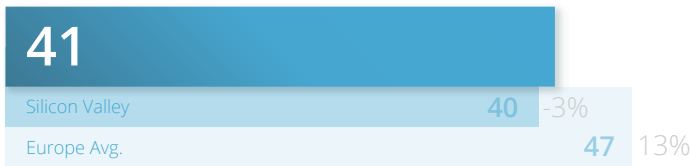
Rounds with local only investors



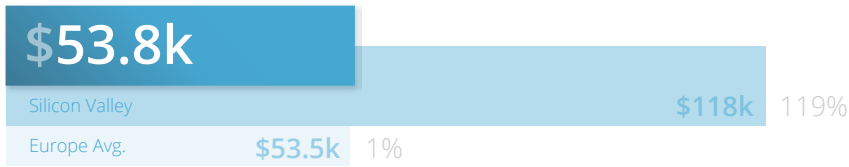
1 % Delta to Regional Average, % Delta to Silicon Valley
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Talent¹

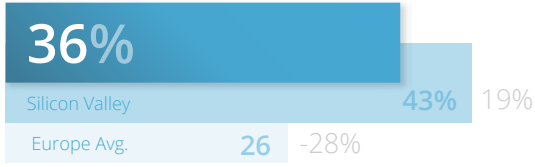
Time to hire engineers



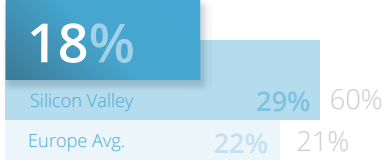
Software engineer salary



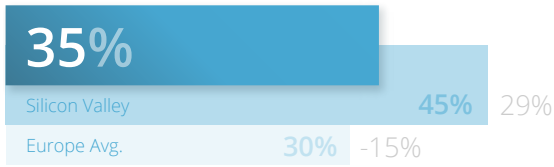
Remote employees



Female employees

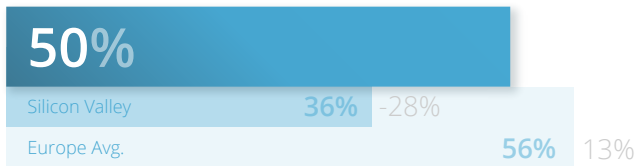


Foreign employees

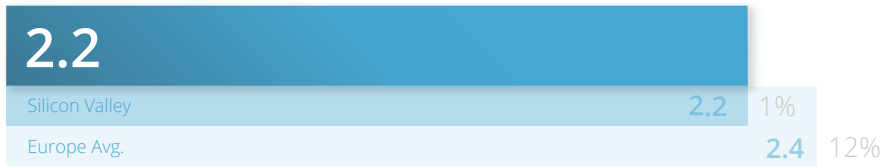


Market Reach

Foreign Customers



Number of product languages

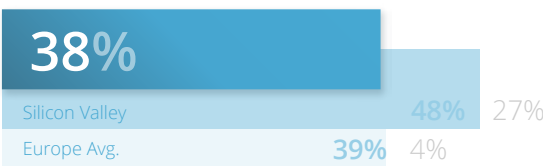


Top target Markets

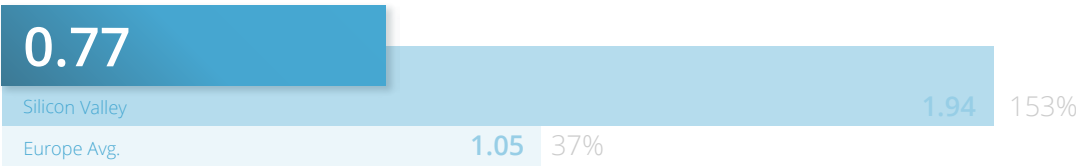
-  United States of America
-  Netherlands
-  Germany

Startup Experience

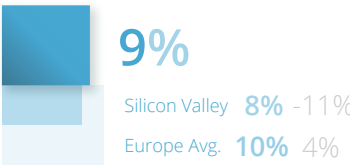
Employees with startup experience



Advisors with equity



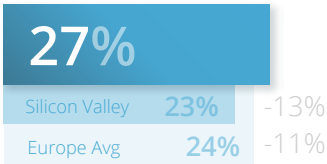
Equity to employees



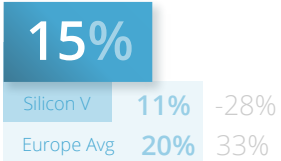
1 % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Attractiveness of ecosystem to foreign investors
- Cost & availability of workspace
- Cost of living

“Amsterdam is trying hard to put itself on the map as an innovation hub alongside London, Berlin and Silicon Valley. It is one of the few places where people actually want to live and can afford to, even on a startup budget. That is one of the reasons it has a large labor pool, which is important when starting a business. Walking around the streets of Amsterdam and talking to many of the entrepreneurs you will notice the city has a lot of the ingredients to be a European startup hub. I, however, believe that the access to capital will be the biggest challenge for Amsterdam. It is the only way to retain the talent it’s producing.”

– David Wyler, Co-Founder and COO at Humin

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Montreal makes its first appearance in this year's Startup Ecosystem Ranking at #20. With its cultural diversity and high quality of life, Montreal has proven to be a fertile ground for entrepreneurs and innovative tech startups. Our analysis suggests that Montreal is home to around 1,800 to 2,600 active tech startups.

From its early successes with large exits in the animation industry in the mid-90s, Montreal has grown into a top 20 startup ecosystem with a good balance across the key indexes we measure startup ecosystems on. On the funding side it ranks #17, having complemented its good institutional investor community with a number of well-organized, active angel investor groups such as Anges Quebec. However, as with the rest of Canada, startups here still find themselves needing to cross the border to secure later-stage capital.

Montreal enjoys good access to skilled software engineers and ranks #13 in Talent, thanks to the attractiveness of the city, combined with four well-known engineering schools that annually educate more than 5,000 computer science graduates. It also offers significant cost advantages; it has the lowest engineering salaries among North America's top 20, and additionally benefits from Canada's generous R&D tax credits of up to 70%. This combination of quality and low cost talent explains why several larger tech companies, such as Silicon Valley's Electronic Arts and France's Ubisoft, have chosen to open large software development offices in Montreal. While those are large companies, it builds the tech-savviness of the ecosystem and many of the employees go on to found or work at startups.

However, there are a few areas where Montreal's startup community seriously lags behind the top U.S. and European hubs, namely its ability to support rapidly scaling companies and its lack of large exits which are needed to energize the ecosystem. Improved global sales, marketing, and business development skills are also lagging prerequisites needed to fulfil these goals.

Ecosystem Partner: [International Startup Festival](#)

Selected Findings

Despite an above-average growth in the number of startups, Montreal's growth index ranks 14th due to the relatively slower growth of exits and VC investments.

Montreal ranks #17 in Startup Experience, with a much lower proportion of employees with startup experience, advisors with equity, and founders with hypergrowth experience.

Series A round amounts are 12% higher than the top 20 North American hubs, while seed investment are 28% lower.

Montreal has the cheapest tech talent of top 20 North Americans hubs (24% below average) and 44% of startup employees are foreigners (37% above the regional average).

It ranked #3 in Global Market Reach with an average of at 57% foreign customers. Additionally, its bilingual character contributes to its higher than average number of product languages.

Montreal's startups have a proportion of foreign customers averaging 57% (53% above North American average) and an average number of products languages of 2.4 (32% above regional average).

“Historically, Montréal was a strategic city. It's an island, poised like a blockade on the St. Lawrence River, and for centuries it controlled trade from the Great Lakes to Europe. But history passed it by with the advent of global shipping and air travel. It has a few tech titans: CGI, Bombardier Aerospace. And it has always had a creative side: the software for Jurassic Park came from here, and Cirque du Soleil blends athleticism with tech. Until recently, it hadn't found its feet. Risk-averse Canadian investors, concerns about linguistic regulation, and a tendency to think locally and constrain aspirations had plagued the ecosystem. In the past five years, this has changed. The discipline of entrepreneurship—codified by Steve Blank, Eric Ries, and their disciples—has laid out a clear path to launching new ventures. Pre-accelerators like Startup Weekend, Up Global, and Founder Institute have minted a new generation of founders. A number of respectable mid-sized exits have peppered the landscape with Angels, mentors, and returning founders. Real Ventures' FounderFuel accelerator and Notman House workspace have given the city a center of gravity. And the International Startup Festival, now in its sold-out fifth year, is the closest thing Canada has to Websummit. The city is finally remembering how much it has to offer: a blend of art and science;

a gateway to Europe; access to a pool of smart, loyal, multilingual talent; and favourable economic incentives. And with this memory is a flourish of new ideas, new risks, and ultimately, world-class startups ready to bloom.”

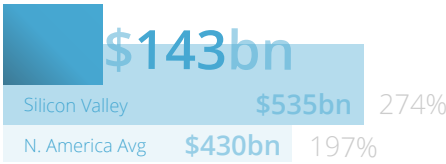
– Alistair Croll, Founder at Solve For Interesting

“Montréal has made incredible strides over the last few years. We have an extremely tight and cohesive startup ecosystem, with tremendous community and government support. Beyond being a great city to start a business in, Montreal is a fabulous place to live and play.”

– Philippe Telio, Founder at The International Startup Festival

Ecosystem Characteristics¹

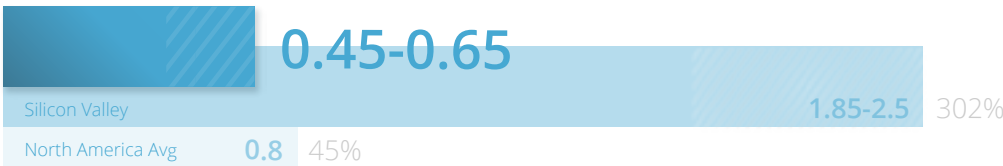
Metropolitan GDP



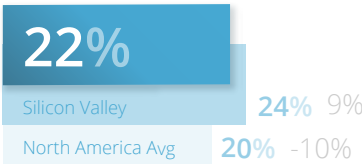
Startup output



Startup density



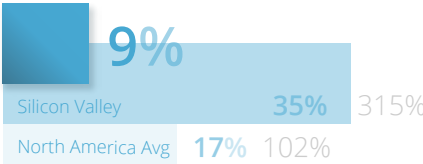
Female founders



Founder age



Founder with work experience in hypergrowth startup



Startups with at least 1 tech founder



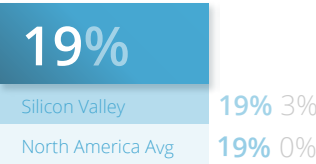
Seed funding



Series A funding



Dilution



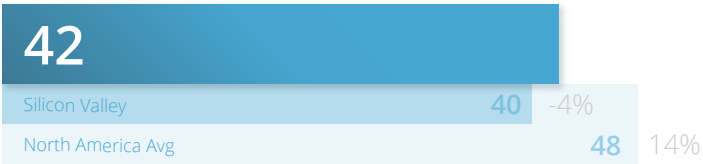
Rounds with local only investors



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Talent¹

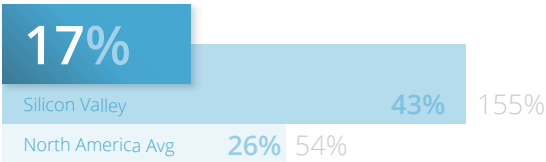
Time to hire engineers



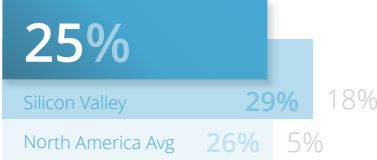
Software engineer salary



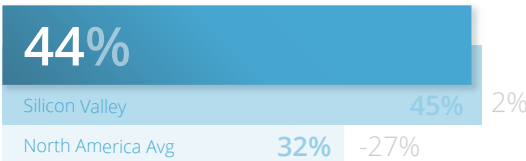
Remote employees



Female employees

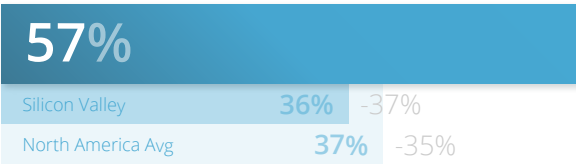


Foreign employees



Market Reach¹

Foreign Customers



Number of product languages

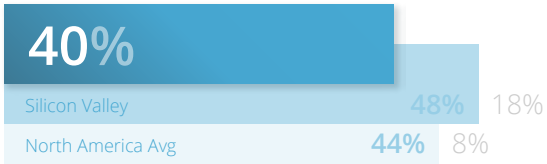


Top target Markets

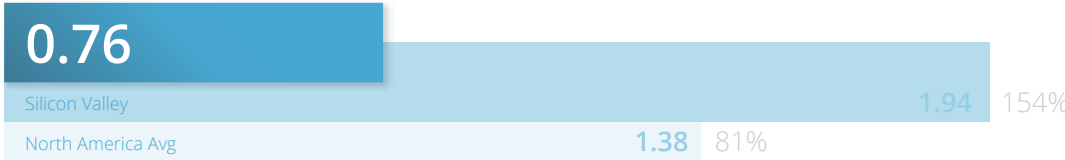


Startup Mindset¹

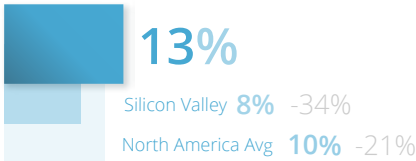
Employees with startup experience



Advisors with equity



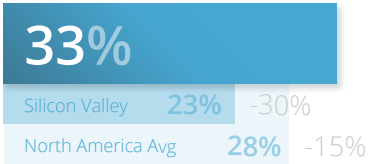
Equity to employees



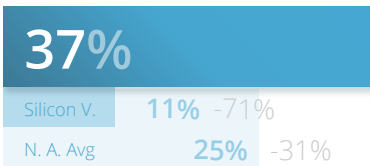
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

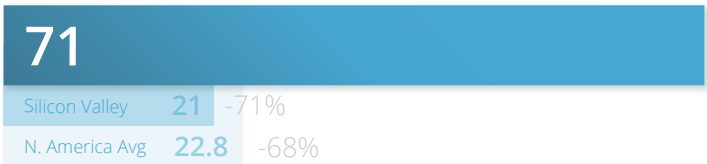
Local government rated positive



National government rated positive



Immigration time



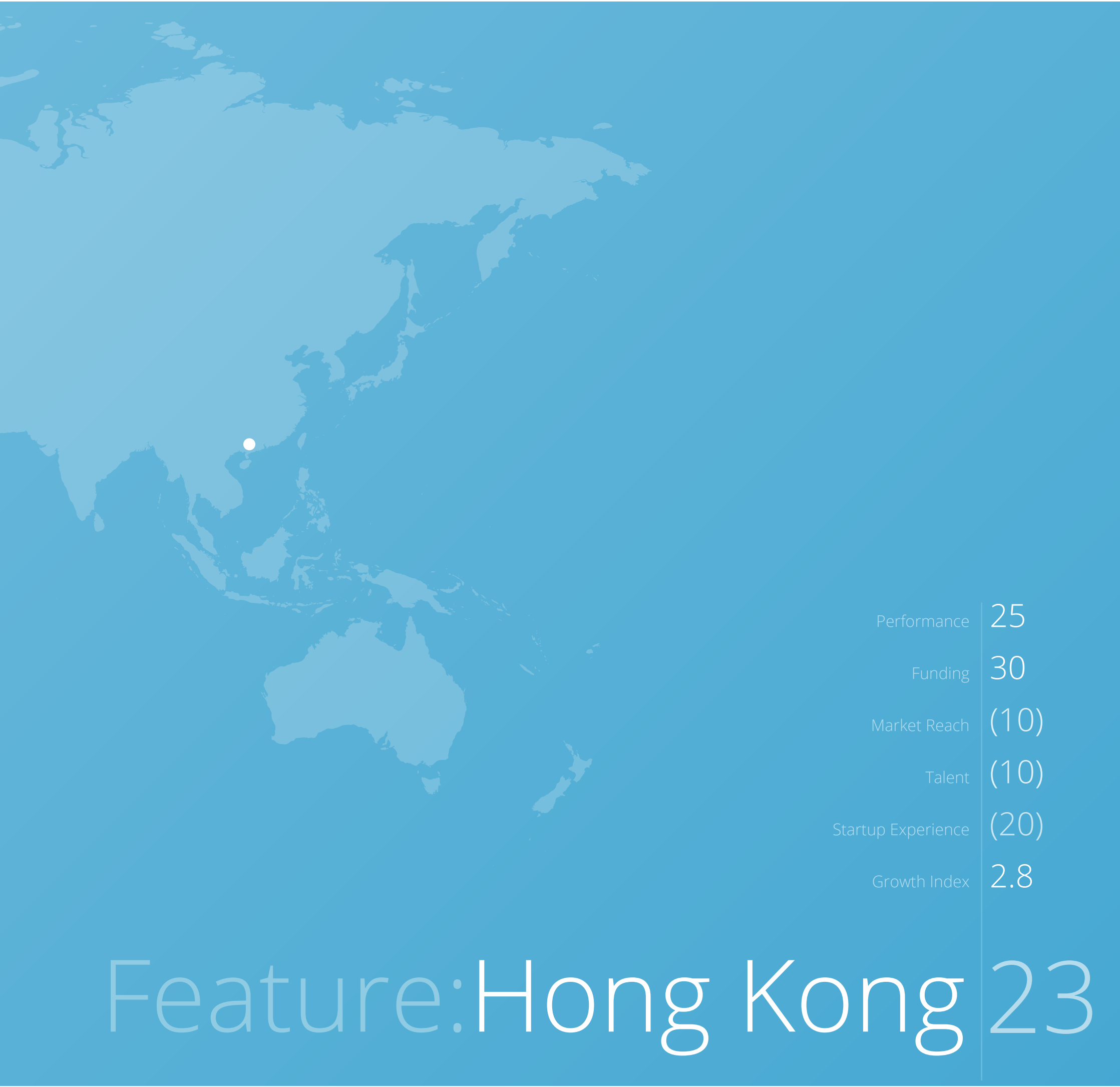
Top Policy Issues

- Attractiveness of ecosystem to foreign investors
- Taxes
- Local regulations (permits, licenses, etc.)

“When you visited Montréal 5-10 years ago it was hard not to notice the city’s glorious past; the cobbled streets, the stone mansions and the converted warehouses, but you had the sense that it might be a city that had almost lost touch with its history of entrepreneurship. But the collaborative mindset, that had been instrumental in the worlds’ most successful startup hub(s) perfectly suited the naturally informal, creative psyche of Montrealers. Benefiting from this, a small, close-knit startup community was able to leverage this mindset to build a thriving startup scene that now has the scale and density of talent and capital to produce companies capable of being leaders on a global scale. While the city shows massive promise, it’s hasn’t yet quite proven its sustainability as a startup hub. More of the current crop of promising startups need to realize their potential - and a few “acorns” will then need to drop from those companies, either as investors or entrepreneurs, and themselves go on to be successful. The table is set, the potatoes are chopped, the gravy is bubbling and the squeaky cheese is on the side, but the poutine isn’t quite ready for eating yet. “

– John Stokes, Partner at Real Ventures

¹ % Delta to Regional Average, % Delta to Silicon Valley



Intro

Hong Kong’s startup community has grown rapidly in the last two years, with an estimated number of some 2,000 early- to late-stage tech startups. It now solidly ranks among the top-25 startup ecosystems in the world with a Market Reach score that would rank among the top 10 due to its proximity to the Chinese Mainland with its large market, and its history of open markets and deep international trading expertise. This makes Hong Kong an attractive launchpad for startups to scale globally.

Despite its more than healthy growth, Hong Kong’s startup ecosystem is still at an early stage of development. Entrepreneurship is becoming more popular among the younger generation but the culture still dampens risk-taking in general. This also makes recruiting local talent more difficult.

On the Funding front the city is still lagging behind despite the high number of high net worth individuals and deep-pocketed financial institutions. As with many other developing ecosystems the small number of sizeable tech exits has produced relatively few angel and venture investors experienced in, or comfortable with, tech startups. While the growth in exits is improving the situation, more is needed to close Hong Kong’s Funding and Startup Experience gaps.

Building on its traditional strengths as a supply chain management hub, Hong Kong has strong potential in the development of startups combining hardware and software such as wearables and Internet of Things. The proximity to Shenzhen adds to this potential by providing easy access to inexpensive and rapid prototyping. Fintech is another promising growth area, given Hong Kong’s long-held position as one of the major international financial centres.

Ecosystem Partners: [InnoFoco](#) and [University of Hong Kong](#)

Selected Findings

Performance

- Rapid growth in the number of startups, thanks to growing entrepreneurship (organic growth) and the attraction of some international entrepreneurs (inorganic growth). The number of co-working spaces has mushroomed in recent years.

Funding

- Significantly lower access to venture investments than in top-20 ecosystems.
- No shortage of capital but high-net worth individuals favor traditional investments with few of them having tech experience, even though their interest is rising.
- Outlook: a continued increase in the quantity/quality of startups and successful exits could rapidly turn the abundance of local capital and financial institutions into a venture funding strength.

Talent

- Despite world class universities, attracting high-quality technical talent is challenging for startups due to the risk-averse culture and the competition of large companies.

Market Reach

- Long tradition of international trade and the presence of expats and western-educated locals translate into an excellent, demonstrated ability to penetrate foreign markets.
- Proximity to Mainland China market and convenient access to other Asian markets.

Policy

- Recognition of the importance of startups by the government (notably InvestHK) stepping up marketing of Hong Kong as a startup hub.
- New initiatives to promote startups from universities and institutions like Cyberport and Hong Kong Science and Technology Parks.
- Can be more proactive in adapting Government policies and regulations to facilitate the development of the startup ecosystem.

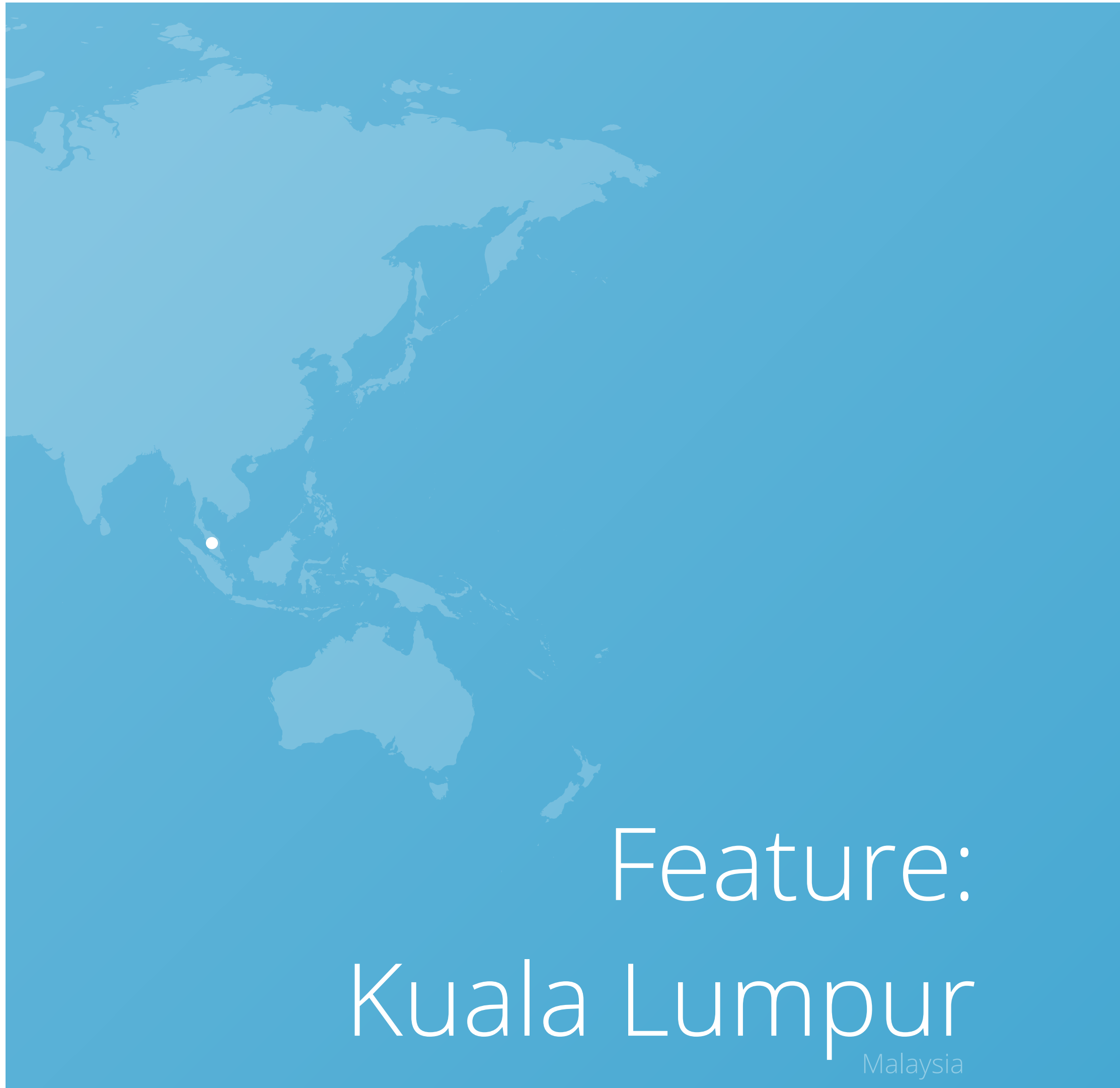
“To realise its full potential as a startup hub, Hong Kong should further develop its position as an integrator and packager of ideas, talents and capital from around the world.”

– Rachel Chan, Founder and Chief Catalyst at InnoFoco

“Startups are an important component of the disruptive innovation process that is redefining the global economic, social and political order. Historically, Hong Kong has always been very successful in capturing business opportunities by integrating and harnessing the talents and resources in the region and around the world, especially in manufacturing, trading and services. We have now arrived at a stage when Hong Kong will perform this role in innovation”

– Prof Richard Wong of the University of Hong Kong

Hong Kong's data will be published in the upcoming Hong Kong Startup Ecosystem Report.



Intro

With its entrepreneurial spirit, advantageous location in the middle of Southeast Asia, and high English proficiency, Kuala Lumpur is well-positioned to claim a spot among the top Asian startup ecosystems.

For several years, its government has actively invested in the development and success of startups, namely with the creation of MaGIC, a startup hub whose objectives are to develop, educate, expose, and accelerate entrepreneurs. With an impressive growth in successful exits, Kuala Lumpur is experiencing the rise of a new generation of Malaysian tech entrepreneurs. Although weaknesses of the ecosystem still exist, access to funding and talent has improved thanks to responsive government policy. Finally, despite Malaysia's smaller economy, its central location near larger Southeast Asian markets makes it a good platform for international growth.

Ecosystem Partner: MaGIC (Malaysian Global Innovation & Creativity Centre)

Selected Findings

Rapid growth in the total value of exits and in the number of startups, due government support.

Much lower access to Series A and later-stage capital than in top 20 ecosystems.

Government funding has been instrumental in closing the angel funding gap. While there is no lack of high-net worth individuals, few have experience with tech investments and/or the risk appetite for them.

Local technical talent, favors more stable jobs. This has led startups to turn to foreign talent, made easier via special immigration regulations.

Kuala Lumpur startups can count on a modern economy with very good infrastructure, but the low availability of electronic forms of payments remain a challenge.

Kuala Lumpur ranks low in ability to go global despite its privileged location at the center of Southeast Asia's larger markets and the English proficiency of the general population.

Policy: proactive policy-making from the national government lead to easier hiring of foreign talent, better ecosystem coordination (namely through MaGIC) and improved early-stage funding.

"2014-2015 is a breakthrough year for Malaysia in the tech startup space. Within the year, we have seen the introduction of 7 new accelerators, each with a different focus: gaming (GameFounders), fintech (Maybank), IoT (Brinc), travel (Tune Labs), MaGIC's very own MAP early stage accelerator, and 500Startups' Distro Dojo growth-stage accelerator. Our startup darling GrabTaxi has raised \$530M from VCs (and is well-positioned to become the dominant player in SEA. We believe Malaysia has all the ingredients to be the best launchpad for any Southeast Asian startup; from a track record of successful regional founders, to its lower startup cost as compared to Singapore and its multicultural and multilingual advantage."

– Cheryl Yeoh, MaGIC

"The ASEAN startup ecosystem is at a new stage of maturity, with plenty of companies having already gotten very far with their product and fundraising. We want to equip local startups with world-class tools, methods, and tactics. With MaGIC's support, world-class support for growth stage companies is accessible right here in Malaysia."

– Khailee Ng, 500 Startups

"Malaysia is a good place to grow regional businesses. It needs to believe in its strong offering within the South East Asia ecosystem. From a rules and regulations perspective, it is relatively easy to employ foreign talent in Malaysia, especially with the recent introduction of the MSC Status that permits startups to hire up to 20 foreign employees without restriction."

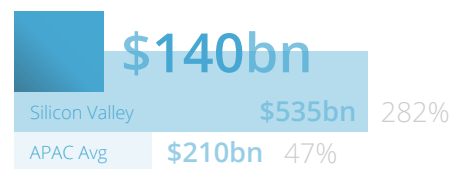
– Hugh Batley, Lion & Lion

"We have everything here. The environment is good and business-friendly. Besides a multicultural background, our English-speaking base is also an added advantage. And we are doing our part to draw in more private sector funding to increase the capital pool available for startups. "

– Jamaludin Bujang, MAVCAP

Ecosystem Characteristics¹

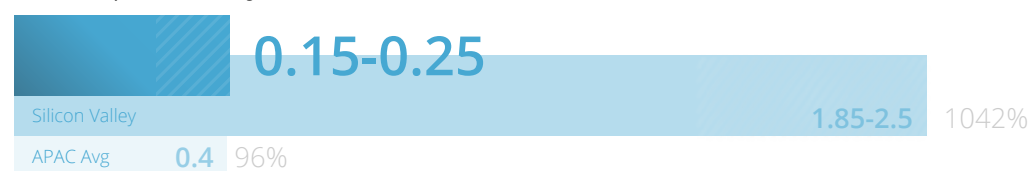
Metropolitan GDP



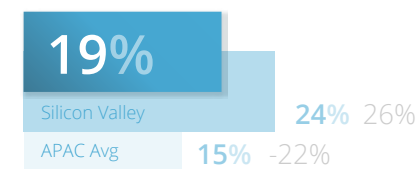
Startup output



Startup density³



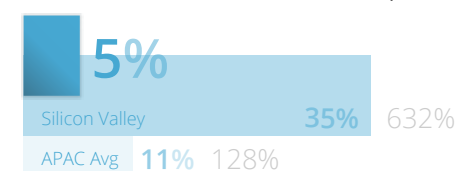
Female founders



Founder age



Founder with work experience in hypergrowth startup

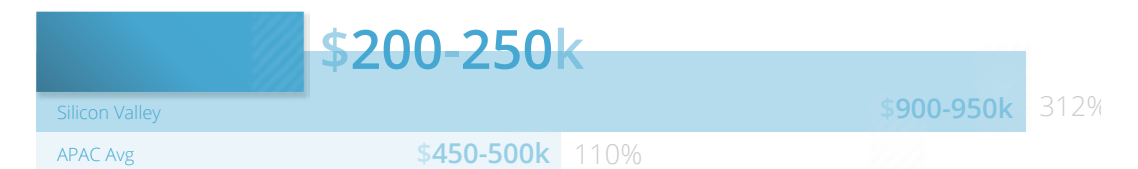


Startups with at least 1 tech founder



Funding¹

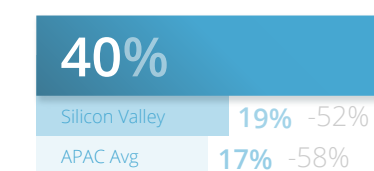
Average seed round



Average Series A round



Dilution



Rounds with local only investors



¹ % Delta to Regional Average, % Delta to Silicon Valley

² Estimated number of active tech startups in scope

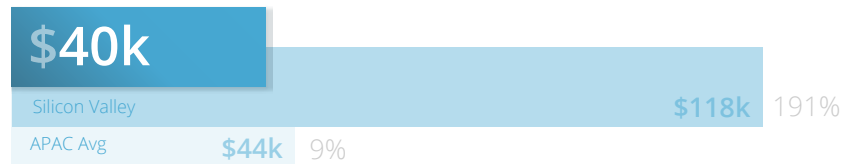
³ Estimated number of active tech startups in scope created per 1,000 people

Talent¹

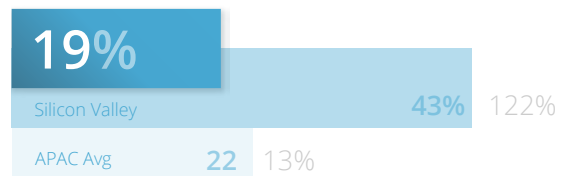
Time to hire engineers



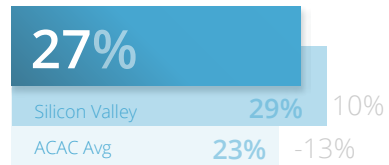
Software engineer salary



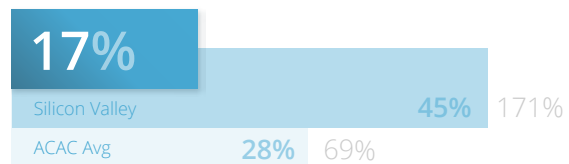
Remote employees



Female employees



Foreign employees



Market Reach

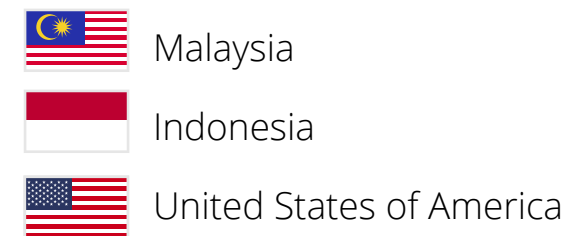
Foreign Customers



Number of product languages

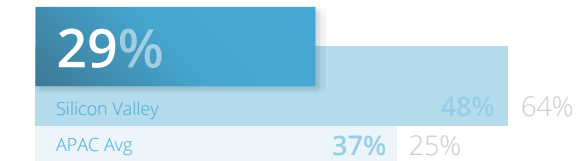


Top target Markets



Startup Experience

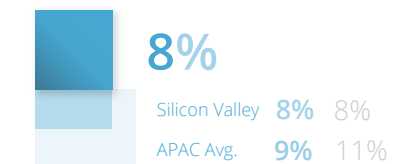
Employees with startup experience



Advisors with equity



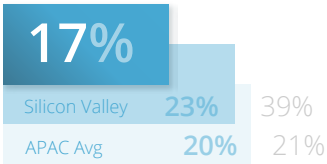
Equity to employees



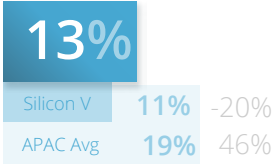
¹ % Delta to Regional Average, % Delta to Silicon Valley

Supporter & Policy Maker Insights¹

Local government rated positive



National government rated positive



Immigration time



Top Policy Issues

- Formation and training of software engineers
- Cost & availability of workspace
- Digital Infrastructure

¹ % Delta to Regional Average, % Delta to Silicon Valley

METHODOLOGY

Methodology

The ranking methodology focuses on the following aspects:

- **Stakeholder Objectives:** informing our stakeholders' strategic decisions.
- **Objectivity and Transparency:** producing a data-driven, objective ranking based on a transparent weighting formula and factors.
- **Data sources:** using multiple data sources to assess a large sample of startups.
- **Robustness and Stability:** testing multiple formulas to make sure the ranking is robust to different data selection methods.

1. Stakeholder Objectives

We took three different perspectives when defining the objectives of this report.

1. An entrepreneur seeking a location for starting or expanding a startup.
2. An investor looking for funding gaps.
3. A policy maker looking for high impact to quantify impact of policies.

2. Data Sources

We have focused our efforts on collecting measurable and verifiable information from startups and investors, local ecosystem partners, and third-party sources. Here's a description of our main datasets:

- Compass proprietary data
 - Interview of Experts: ~ 200 interviews across 25 countries with founders, investors, and industry experts
 - 2015 Startup Ecosystem Survey with ~11,000 participants in 40 ecosystems.
 - Compass.co: performance data on traffic from ~35,000 technology businesses.
- Crunchbase: global dataset on funding, office locations and exits;
- Orb Intelligence: global dataset on startup location, type and status;
- Dealroom: European dataset on funding, office location funding flow;
- AngelList: list of startups by city;
- Local partners (accelerators, incubators, startup hubs, investors): list of startups by city.

3. Definitions Used

Tech Startup - Steve Blank defines a startup as a "temporary organization in search for a repeatable and scalable business model". We then define tech startups around the usage of the term

in Silicon Valley: startups whose products are mostly software-based. This includes web, mobile, and telecom software, as well as eCommerce. We excluded hardware, biotech, nanotech, and cleantech from our analysis. This definition allows us to analyze a more homogenous set of startups. In terms of size, our analysis is focused on startups that have raised at least \$10,000 USD in financing, and/or hired at least one employee. This means very early startups are not considered part of this analysis, although sometimes hard to exclude, for instance when estimating the number of startups in an ecosystem.

Startup Ecosystem - A metropolitan city or geographic area with a shared pool of resources. We applied a 60-mile/100 km radius around the city center, then worked with our local partners to refine the geographic boundaries, i.e. which smaller city shall be in or out.

4. Ranking Methodology

The ranking is a weighted average of the following factor rankings:

- Performance Index: 30%
- Factor Indexes:
 - Funding: 25%
 - Market Reach: 20%
 - Talent: 15%
 - Startup Experience: 10%

We calculated an ecosystem index value for each index, based on the sub-factor and component variables detailed below. The ecosystems were ranked under each factor, then multiplied by index weights to establish the overall rank of each ecosystem.

The weights of the factors were determined through multiple correlation analyses and modeling work based on linear regression analyses, using factor indexes as independent variables with the performance index as dependent variable. We then varied the weights and scoring sensitivity for each sub-factor and component variables to measure the fit of the model as measured by the regression's r-squared (0.87) and variables' t-values. Finally, adding the actual Performance Index to the ranking formula serves to include the influence of unobserved factors on the performance of an ecosystem.

5. Changes from 2012

Having access to a larger volume of data combined with the development of a mathematical model with a high degree of fit drove a few changes in this year's ranking methodology. The most significant change was the removal of the metric "Output per capita" (number of startups per capita, a measure of density) from the Performance Index. This changes the scoring formula away from density to overall value and size of the ecosystem.

This change is one reason why Tel Aviv—despite its continuous and well above-average growth rate—and the Waterloo Region in Canada—with its very small population (slightly above half a million)—are ranked lower in our 2015 ranking than in our 2012 one.

6. Index Details

Performance Index

The Performance Index is based on the Value of the Ecosystem, made of the sum of all valuations of startups at exits and at funding events (80%) and Output, the number of startups (20%).

- The Ecosystem Value is based on an analysis of Crunchbase and Dealroom exit and funding data complemented with our own research, using CrunchBase's and Orb Intelligence's product tags, status (whether the startup is active or not) and location.
- The Output, or number of startups, is estimated using the mark-and-recapture model and several lists of startups for each ecosystem from CrunchBase, 2015 survey participants, Dealroom, Compass' local partners (adding up to more than 130,000 domains) obtained with the help of Global Entrepreneurship Network (GEN) and its affiliated Global Entrepreneurship Research Network (GERN) team, and analyzed with the help of Orb Intelligence to confirm location, activity and status.

Factor Indexes

A) FUNDING:

Availability of venture capital as measured by the amount of VC investments and the average time taken to raise a round.

- 2014 Total Venture Capital Investments (80%); and Time to Raise a Financing Round (20%).

B) MARKET REACH:

Access to customers allowing the startup to scale rapidly, based on its local and cultural markets, and its ability to scale globally to markets with different languages and needs.

- Local and Cultural Market Sizes (60%) comprised of: Local Market Size based on metropolitan city GDP (50%); Cultural Market Size based on national GDP and a portion of the GDP of countries speaking the same language (50%);
- Global Market Reach (40%) comprised of: Proportion of Foreign Customers based on survey data (80%); Number of Languages offered based on survey data (10%); Proportion of Foreign Employees based on survey data (5%); Proportion of Funding Rounds with International Investors based on survey data (5%).

C) TALENT:

Quality, availability and cost of technical talent.

- Quality (80%) comprised of: 2012 Startup Ecosystem Report Talent Index excluding the 2012 metric on proportion of employees with prior experience in a startup (33.3%); Proportion of Employees with Prior Experience in a Startup based on survey data (33.3%); Coding Skills based on the TopCoder country scores (33.3%);
- Availability (10%) comprised of: Time to Hire Engineers based on survey data (66.7%), Immigration Success Rate based on survey data (16.7%), Immigration Time based on survey data (16.7%);
- Cost (10%) based on average engineer salaries from Compass' proprietary 2014-2015 startup salary survey, the input from some of Compass' 60+ local partners and in a few

instances mean salary data points from Glassdoor, Salary.com, and Payscale.

D) Startup Experience:

Captures the degree of startup experience in an ecosystem and the degree to which its startups espouse practices that are known to positively impact a startup's success factors based on The Startup Genome Report series.

- Number of Startup Advisors with Equity based (25%); Proportion of Employees with Prior Experience in a Startup (25%); Proportion of Startups with Founders with Prior Experience in a Hyper-Growth Startup (25%); Proportion of Startups Providing Stock Options to their Employees (25%), all based on survey data.

7. Growth Index

In addition to ecosystem ranking, we provide a Growth Index for each ecosystem based on average z-scores across the following indicators, converted into a 10-point index.

- Annual growth in the number of startups (33%) estimated based on CrunchBase data;
- 2013-2014 growth in VC investments (33%);
- Two-year moving average growth of the annual sum of exit valuations (33%).

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Partners and Collaborators

Global Partners

- **CrunchBase**: Everyday investors, journalists, founders, and the global business community turn to CrunchBase for information on startups and the people behind them.
- **Dealroom** is a data-driven marketplace for private capital, providing direct and secure access to the world's most sophisticated investors.
- **Global Entrepreneurship Network** is a year-round platform of programs and initiatives created by the communities that celebrate Global Entrepreneurship Week each November.
- **Microsoft Ventures Accelerator** offers entrepreneurs a platform to accelerate their startups with a 150+ mentor network and associations with notable organizations.
- **Orb Intelligence**: Business Information for B2B Marketing and Sales. Orb provides company information and smart algorithms as a service to marketing software vendors and B2B agencies.
- **Startupbootcamp** is a global network of industry focused startup accelerators. We take startups global by giving them direct access to an international network of the most relevant partners and investors.

Regional Report Partners

We expect to publish regional reports over the coming months in partnership or collaboration with the following organizations.

Australia

Deloitte is the brand under which thousands of professionals collaborate across a network of offices in Australia to provide audit, economics, financial advisory, human capital, tax and technology services.

Pollenizer builds incubation and acceleration programs that help entrepreneurs and big companies all over the world get started with high growth, tech-powered businesses. We call this “startup science”.

Belgium

iMinds inspires and trains people to turn their innovative ideas into successful businesses. iMinds’ Incubation & Entrepreneurship programs connect (future) entrepreneurs and researchers.

Canada, Waterloo Region

Communitech is an industry-led innovation centre in the Waterloo Region that supports a community of nearly 1,000 technology companies at all stages of development—from startups to high-growth mid-size companies and large global enterprises.

Denmark

DAMVAD is a specialized Nordic socioeconomic and policy consultancy. They deliver studies, reports, and data to provide evidence that makes effective policy decisions possible.

Estonia

Eesti Arengufond/ Estonian Development Fund is designed to support the positive changes in Estonian economy, investment activity, and growth programs.

Hong Kong S.A.R.

InnoFoco: Working at the interface of the private, public and nonprofit sectors, InnoFoco is a network of catalysts who aspire to make a meaningful difference to the world, with expertise in branding, design, and innovation.

The **University of Hong Kong** (HKU) is the oldest institute of higher learning in Hong Kong and also an internationally recognized, research led, comprehensive university. HKU strives to attract and nurture outstanding scholars from around the world through excellence and innovation in teaching and learning, research and knowledge exchange, contributing to the advancement of society and the development of leaders through a global presence, regional significance and engagement with the rest of China.

India, Chennai

MaxBlox boosts your startup over roadblocks! It is the provider of a Platform-as-a-Service (PaaS) enabling startups and independent software vendors to build, deliver, market and sell their ideas to the world.

Local Ecosystem Partners

Multiple Ecosystems

BuiltIn get connected to your local startup community.

Techstars is a mentorship-driven seed stage investment program. We run a three-month-long program in Austin (TX), Berlin (DE), Boston (MA), Boulder (CO), Cloud (San Antonio, TX), Chicago (IL), New York City (NY), Seattle (WA), and London (UK).

Amsterdam-StartupDelta, Netherlands

StartupDelta tackles challenges that hinder the growth of startups. It closely collaborates with the 10+ tech hubs to make the Netherlands the largest startup ecosystem in Europe.

Startup Foundation The Startup Foundation is an independent non-profit, run by entrepreneurs, for entrepreneurs. They support founders in building more successful startups.

Atlanta, USA

Fueled by the same entrepreneurial spirit that drives the folks we cover, Hypepotamus generates awareness about Atlanta’s innovative tech & creative community to retain local talent by connecting them with opportunities.

Austin, USA

Techstars: see ‘Multiple Ecosystems’ above

Central Texas Angel Network is committed to provide startup capital and business mentorship in order to increase companies likelihood of success to the maximum extent possible.

Bangalore and Delhi, India

Microsoft Ventures: see Global Partners.

TLabs is India’s leading tech startup accelerator and early stage seed-fund focused on internet and mobile. Powered by a panel of 100+ mentors, TLabs has invested in 43 startups in its last three years of existence.

Barcelona, Spain

Barcelona Activa integrated in the Area of Economy, Enterprise and Employment, is the executive tool of the Economic Development policies of the Barcelona City Council.

Berlin, Germany

Gruenderszene is the online magazine with the hottest stories about and for the digital economy in Germany.

TechBerlin believes that entrepreneurship is a force for good and that a thriving startup community is essential to nurturing entrepreneurship. We're building a platform to support the community, a place where it shares news, events and resources.

Microsoft Ventures: see Global Partners.

Boston, USA

TechHub is a unique environment where technology startups can start up faster. We nurture an international network of like-minded and focused tech entrepreneurs, providing places where they can work, meet, collaborate, network, learn and have fun. By getting the right people together in a physical space, good things happen.

Techstars: see 'Multiple Ecosystems' above

Chicago, USA

1871 is Chicago's entrepreneurial hub for digital startups. Come to a place where you can share ideas, make mistakes, work hard, build your business and, with a little luck, change the world. Welcome to 1871.

China

IPV Capital is a venture capital firm dedicated to delivering exceptional investment performance to early stage, high-growth technology firms in China. IPV brings together people, capital, and ideas to help realize the next great technology leaders of tomorrow.

Legend Stars

GWC's mission is to build connections and trust among mobile industry leaders and innovators around the world to make business easier and improve the world through innovation.

InnoSpace is an Internet and Mobile service platform focused on startups. It settled in the well-known knowledge innovation community, KIC Shanghai Wujiaochang deputy city center.

Denver/Boulder, USA

TechStars: see 'Multiple Ecosystems' above

Dublin, Ireland

The Dublin Commissioner for Startups is an independent office promoting Dublin as a global tech hub for startup and scaling companies, supported by Enterprise Ireland and Dublin City Council.

Jakarta, Indonesia

Kejora is a tech business incubator. They focus their investments on early stage startups related to telecommunication, media, and technology sectors.

Kuala Lumpur, Malaysia

MaGIC's mission is to catalyze the entrepreneurial ecosystem in Malaysia, bringing together the abundant resources from partners and communities alike.

London, UK

Centre for entrepreneurs promotes the role of entrepreneurs in creating economic growth and social well-being. The Centre is an independent organisation chaired by Financial Times columnist and serial entrepreneur Luke Johnson.

StartUp Britain is a national campaign by entrepreneurs for entrepreneurs, harnessing the expertise and passion of

Britain's leading businesspeople to celebrate, inspire and accelerate enterprise in the UK.

Los Angeles / Orange County

Cross Campus is the leading collaborative workspace and business event venue in L.A. With a superior design & user experience, best-in-class event programming and execution, and a diverse community of innovative members, it has become known as "the nerve center of Silicon Beach."

Mucker Captial is the leading pre-seed and seed stage venture fund based in Los Angeles.

Techstars: see 'Multiple Ecosystems' above

Montreal, Canada

The International Startup Festival puts a new spin on entrepreneurship each year with content ranging from back-of-the-napkin ideas to champagne-popping exits.

Moscow, Russia

#tceh brings together startups, experts, and investors. It is a new form of infrastructure for business development, providing structure and expert advice to IT coworking.

Internet Development Fund initiatives (IIDF) provides funding and expert resources, as well as acceleration programs, for online startups in the early stages of development.

Russian Venture Company (RVC) is a government fund of funds and a development agency aimed at building a national innovation system in Russia.

New York, USA

DreamIt is an accelerator programs providing synergistic innovation models that assist companies—from startups to multinational corporations—in de-risking their businesses

quickly and cost effectively.

Rubicon strives to deliver real value through our extensive global network of institutional limited partners, angels, and advisors. Got challenges? We've got seasoned entrepreneurs and industry leaders ready to go to bat for you.

Paris, France

France Digitale is an initiative to help startups and investors join forces to create the French digital champions.

NUMA combines co-working, startup acceleration, events, and open innovation programs for companies, startups and communities at large.

TheFamily nurtures entrepreneurs through education, unfair advantages and capital.

50 Partners: Mentorship for innovative young startups--resources and expertise through an established network of successful entrepreneurs.

Rome, Italy, INcube

INcube is at the "Convergence Point of Innovation" where international Investor relationships and our Intesa Sanpaolo Start-Up Initiative meets the innovation needs of mature corporations, as well as the commercialization needs of startups.

Santiago, Chile

Start-Up Chile's goal is to increase the number of customer-validated and scalable companies that will leave a lasting impact on the Latin American ecosystem. We have built a program to help them accelerate.

Sao Paulo, Brazil

The Brazilian Startup Association (ABStartups) is a nonprofit

entity that has more than 3,000 startups registered and the mission to promote the Brazilian entrepreneurship market globally.

Start-Up Brazil is a national program for startup acceleration, a federal government initiative created by the Ministry of Science, Technology and Innovation (MCTI) with Softex, in partnership with Brazilian accelerators.

The Startup Farm is the bridge between entrepreneurs and the success they seek, supporting them through our accelerator program and other initiatives.

Seattle, USA

Microsoft Ventures: see Global Partners.

TechAlliance

Silicon Valley, USA

GSVlabs is a global innovation accelerator that supports the growth of talent, startups, and corporate partners.

Startup Grind is a global startup community designed to educate, inspire, and connect entrepreneurs. We host monthly events in more than 150 cities and 65 countries featuring successful local founders, innovators, educators, and investors.

Computer History Museum is a nonprofit organization with a four-decade history as the world's leading institution exploring the history of computing and its ongoing impact on society.

Singapore

Startups, technology and Asia. Infocomm Investments brings them together.

The Innovators Institute is a professional development center, peer support network, and global expert resource for Innovation. Our role is to inspire, nurture, and accelerate

innovators to drive the Innovation Economy and re-invent the world for the better.

Tel Aviv, Israel

Start-Up Nation Central: Inspired by the story of how Israel made the leap from being an isolated nation to an international innovation powerhouse SNC will plug you in the heart of Israel's innovation ecosystem.

Toronto, Canada

Startup Canada: We are entrepreneurs working together to build an environment and culture for entrepreneurial growth and success.

Vancouver, Canada

Startup Weekend Vancouver is part of the Up Global community and brings entrepreneurs, local leaders, and friends together over five days to build momentum and opportunity around your community's unique entrepreneurial identity

Startup Package Partners

To reward participants of our [online survey](#), multiple great companies agreed to offer huge discounts on their product:

New Relic is a monitoring software for your web or mobile application. Once you have your first product up and running, it saves you a lot of pain and frustration.

Zendesk is a customer support application. Being responsive and in touch with your customers makes a big difference no

matter in what stage your company is.

Olark is a lightweight chat tool that you can integrate on your site or application within a few minutes. It's great for engaging and learning from your customers right when they use your product.

Close.io is a intuitive CRM with integrated calling, emailing, and search capabilities. You can get setup and start calling within minutes. Close.io also offered their guides on Outbound Startup Sales and Inbound Startup Sales.

Pipedrive is a low-cost multi platform CRM for small teams. It has great reporting and sales forecasting.

Iron.io is a hosted message queue service that is at the core of many modern web applications.

Wix is a website builder for quickly testing new value propositions with professionally looking websites and landing pages.

Foundersuite is a comprehensive compilation of tools and legal documents to help early startups get off the ground.

Survey Promotion Collaborators

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 - Jerusalem City Administration
- Netherlands
 - Startupjuncture
 - Dutchstartupmap.nl
 - Poland
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