

# MIAMI'S TECH ENTREPRENEURSHIP ECOSYSTEM 2012 TO 2022

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Photo: Ryan Parker





**Diversity  
in Tech**



# LETTER FROM KNIGHT FOUNDATION

For the past decade, Knight Foundation has focused on positioning entrepreneurship, technology and innovation to play a more central role in Miami's growth and increase resident participation in the life of the city. Our work was born *from community*—from entrepreneurs who aspired to build their companies right here in the 305. From the beginning, the foundation has sought to connect and support an ecosystem of entrepreneurs and venture builders with the ultimate aim of attracting and retaining competitive talent, improving access to opportunity for the broader community and creating a more engaged city. We believe this work to attach people to place is compounded by what today is 16 years of Knight Foundation investments in arts and culture in Miami.

Since embarking on this path, Miami's startup community has grown by leaps and bounds. Venture capital flowing to the region has steadily increased, growing from \$940 million in 2013 to a record \$5.6 billion in 2021. Companies like Chewy, MAKO Surgical, Nearpod and Terremark have found great success, which in turn has given rise to new companies—Cyxtera, Magic Leap and Neocis, among others. Be they homegrown or recently arrived, a growing number of high-impact ventures are calling Miami home, and the pace of growth is accelerating.

With this growth has come increased demand—from companies, which need more skilled talent to power their rise, and from Miamians, who seek to participate in the tech and innovation economy. In 2018, Florida International University enrolled 2,000 students in undergraduate computer science programs. By 2021, that number was more than 3,200 and is projected to grow to 5,000 in the next four years. Similarly, from 2013 to 2020, the number of software jobs in Greater Miami increased faster than in any of the country's other large metropolitan areas. Over this period, those employed in software development grew 44%, more than double the U.S. average of 21%, to 58,000 residents.

In short, the grassroots of Miami tech are healthy and green shoots are coming up organically. And, if 2021 is any indicator, Miami is just getting started as a destination for tech entrepreneurship.

As Miami's tech community has grown and matured, so, too, has Knight's funding evolved. Early on, we sought to connect and grow a community of tech builders. From coworking spaces to meetups to catalytic events, our focus was on building community and nurturing a grassroots vision for Miami as a home for tech and innovation. As early wins took shape and momentum built, we continued to take our cues from community, seeking to accelerate organic trends past the tipping point for social transformation to take root. It is community that informed our program's most recent evolution toward meeting local demand for careers in tech and our commitment of \$22 million in 2021 to expanding the pipelines for tech talent development.

As social investors, we take the long view and make a sustained commitment to trends with growing momentum. The success we are seeing today in Miami tech is the result of years of investment by many stakeholders that aligned with and accelerated the direction our community was moving in. The story of Miami's rise as a hub for tech and innovation is a testament to our community's ambition and grit, and to the power of tenacious social investments. Knight Foundation commissioned the Center for American Entrepreneurship to assess Miami's evolution as a technology hub, this report is what they found.

**Raul Moas**

Senior Director / Miami





Photo: Tech Equity Miami



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# EXECUTIVE SUMMARY

Throughout 2021, Miami<sup>1</sup> made headlines for cryptocurrency, blockchain and the efforts of Mayor Francis Suarez to attract Silicon Valley to Miami. To some, it may have appeared that the city was an overnight success. However, for at least ten years, many had been setting the table so that as this moment arrived, and Miami was ready. Knight Foundation, a longtime investor in Miami's tech entrepreneurship ecosystem, commissioned the Center for American Entrepreneurship (CAE) to investigate how Miami's tech entrepreneurship community has evolved over the past decade, the role the foundation's grantees played in that evolution and what investment is needed for future success.

**Over the past decade, Miami has matured into a unique tech entrepreneurship ecosystem on a growth trajectory.** South Florida is a destination for those seeking to build and create (53% foreign-born<sup>2</sup>), and its quality of life is regularly cited as a key draw. As a city of makers, Miami is leveraging the strengths that residents and newcomers bring into a distinctive tech community. Most notably, we see that:

- **Key benchmarks like venture capital, exits and software employment are on the rise.** Miami has seen rapid increases in the number of local workers employed at software jobs, as well as consistent, positive growth in the amount of capital that is invested in local technology companies. Perhaps most importantly, the number of exits valued at over \$100 million has also increased in recent years along with the number of privately held “unicorns.”<sup>3</sup>
- **Attitudes about Miami's potential have changed both locally and among outsiders.** Local entrepreneurs and investors have a positive view of the sector's past and its future. In addition, Miami is attracting founders and venture capitalists who are excited about the local momentum.
- **Founders have support.** A large number of organizations have launched in the region during the past decade to support founders. Where there was only a handful of these organizations in 2012, there is now a full network.

**Miami's distinctive approach to supporting the growth of local tech entrepreneurship, led in large part by Knight Foundation and its grantees, has contributed to the community's evolution.** Since 2012, Knight has funded more than 150 grants, program-related investments and endowments that total more than \$60 million to building a tech entrepreneurship hub in Miami. The foundation is unique among philanthropies for making tech entrepreneurship an investing priority and for focusing its giving on organizations with a plausible path toward financial viability beyond grant funding.

<sup>1</sup> This report uses the terms “Miami,” “Greater Miami,” “the Miami region” and “South Florida” to refer to the Miami-Fort Lauderdale-West Palm Beach, Florida, metropolitan area, which is defined by the federal government to include Miami-Dade, Broward and Palm Beach counties.

<sup>2</sup> QuickFacts, Miami-Dade County, Florida, United States Census Bureau, <https://www.census.gov/quickfacts/fact/table/miamidadecountyflorida/POP060210>.

<sup>3</sup> “Unicorns” are technology companies valued at \$1 billion or more.



**We believe there are clear links between the work of Knight grantees and the local tech sector's growth described in the previous section.** Our interviews and analyses suggest that the greatest impact likely came from four areas:

- **Changing the narrative.** Grantees have been very active in working to reshape national and local perceptions of the tech sector to be better aligned with current realities.
- **Increasing access to capital.** Grantees who work in investor education, angel investing groups and the attraction of venture capital have helped activate the dramatic increases in the supply of local angel and venture capital seen in recent years.
- **Fostering effective entrepreneurship support organizations.** Several grantee organizations have supported some of the most successful local tech companies of the last decade, which have produced large numbers of local jobs and economic value.
- **Improving local quality of life.** When asked about Miami's advantages as a tech hub, local entrepreneurs and investors were very likely to mention things like "quality of life," "lifestyle" and "cultural activities" directly connected to the foundation's longtime efforts to support local arts and culture.

It is possible to draw a number of initial conclusions from the work of the foundation and its grantees that could be relevant to foundations and leaders in communities outside Miami. Those interested in fostering tech entrepreneurship communities should recognize it takes a significant amount of time. Knight and its grantee partners have also seen firsthand the importance of continually engaging with and listening to the broader community to inform local strategies. Miami's experience also suggests that just a few entrepreneur support organizations can have an outsized impact in terms of job creation and capital raised.

**The continued success for Miami's tech ecosystem will require enduring investment in a few key areas.** The recent exits and acquisitions of entrepreneurial tech companies in the region will continue to be very important for demonstrating credibility and for building a self-sustaining ecosystem in which the wealth generated by founders is invested back into the ecosystem. There are three areas the authors of this report recommend for consideration as priorities for future local funding based on our analyses and project interviews with local entrepreneurs and technology investors.

- Continue fostering a more inclusive community by gender, race and local geography.
- Grow technical talent to meet community demand for careers in technology and address local technology company's need for workers.
- Work to address broader threats to the local tech entrepreneurship community, such as the quality of local transportation infrastructure, the housing supply and the existential threats of climate change and sea-level rise.







# INTRODUCTION

The year 2021 was the most successful in the history of Miami's technology community. The region produced nine new unicorns and saw a number of successful exits of businesses led by local technology entrepreneurs. More than \$5 billion of venture capital was invested into local tech companies, and LinkedIn named the region a top destination for relocating technology workers.

However, the success of the local technology community was a long time in the making. In 2006, Brian Breslin and others began bringing people together under the umbrella of what eventually became Refresh Miami. Manny Medina began working in 2011 to launch the eMerge Americas conference to bring technology executives from across the globe to the region.

Positive signals were evident in the region by the early 2010s. Medina sold the local technology services company Terremark to Verizon for \$1.4 billion. Rony Abovitz and Maurice Ferré sold MAKO Surgical, a South Florida medical device business, for \$1.7 billion in 2013.

In these trends, Knight Foundation's Miami Program Director, Matt Haggman, saw something authentic to Miami. A community of entrepreneurs combined with digital technology created a new opportunity. With support from president Alberto Ibargüen, Knight embarked on a series of grants to create opportunity and networking in tech entrepreneurship. At the beginning of 2013, the foundation publicly announced the first grants it would be making to accelerate the growth of more local founders like Medina, Abovitz and Ferré. After nearly a decade of giving, the foundation has invested more than \$60 million to support an entrepreneurship ecosystem in Greater Miami.

Since 2013, dozens of new organizations have begun working in the region to connect members of the local technology community, host major events, foster mentorship and funding networks, and create education programs that help to close the opportunity gap. Investment funds, including SoftBank, have opened offices in the region or made Miami their permanent headquarters. As has often been the case in Miami's history, new immigrants have also arrived to take part in the tech community as both entrepreneurs and employees.

During this time, the technology community has gone on to much greater growth with local success stories—including companies like Chewy and Nearpod—selling for hundreds of millions or even billions of dollars. More than 50,000 people now work in software jobs in the Greater Miami area. The sector even captured national attention in 2020 when Mayor Francis Suarez responded to a tweet from a Bay Area investor offering help in support of moving Silicon Valley to South Florida. People inside and outside the region now believe in the potential of Miami's technology sector.





Photo: Florida International University

Over the last year, researchers affiliated with the Center for American Entrepreneurship have interviewed and surveyed more than one hundred local stakeholders while analyzing local and national data in order to evaluate Greater Miami's technology entrepreneurship community and the role of Knight Foundation and the grantees it has worked with. The findings of our analyses below are structured as answers to three research questions set out for this project.

1

How has Miami's tech entrepreneurship community evolved from 2012 to the present?

2

What was the role of Knight Foundation and the grantees it partnered with in Miami's entrepreneurship community during this time?

3

Where are opportunities for further investment in Miami's tech entrepreneurship community to support the success of the broader community?

## How has Miami's tech entrepreneurship community evolved from 2012 to the present?

### Summary

Our analyses identified seven key trends listed below that are expanded on in this section.

- 1. Expansion of venture capital.** The number of local venture capital deals has increased significantly since 2013, and the total amount of capital invested in local tech firms has been greater in each of the last seven years than every year prior to 2013. Dozens of venture capital firms are now based in the region or maintain a significant presence, including many that arrived in 2020 and 2021.
- 2. More exits and unicorns.** Between 2019 and 2021, there were seven exits of \$100 million or more among local technology companies compared to five exits of this size in the previous three years (2016–18) and the two seen in the three-year period before that (2013–15). Miami also has produced more than a dozen unicorns in total.
- 3. Growth in software employment.** From 2013 to 2020, the number of software jobs in Greater Miami increased faster than in any of the other largest metropolitan areas for software employment. The number of jobs grew 44%, more than double the U.S. average of 21% during that time. LinkedIn data suggests continued growth in 2021.
- 4. Heightened local optimism.** Entrepreneurs and investors believe that the tech community in Greater Miami “has improved significantly during the past ten years” and “is likely to improve significantly in the next ten years.” Over half of founders and local investors also agreed that “entrepreneurs who live outside of Florida think that Greater Miami is a great place to build a technology company or startup.”
- 5. Attraction of leaders and builders.** About 20% of local founders and investors who responded to our surveys and interviews moved to the region in the last five years.
- 6. New forms of support for tech entrepreneurs.** In 2012, there were only a handful of local organizations supporting technology founders or creating events for the local technology community. Today, there are dozens.
- 7. A unique community.** As the tech sector has evolved in recent years, it's important to note that one important differentiator has remained the same. Miami's tech entrepreneurship community has more Hispanic and Black participants and more immigrants than many other tech hubs in the country.

The analyses in the following pages highlight the evolution of the local tech community by considering several objective measures of its size, analyzing the demographics and attitudes of community members, and examining key organizations providing support.

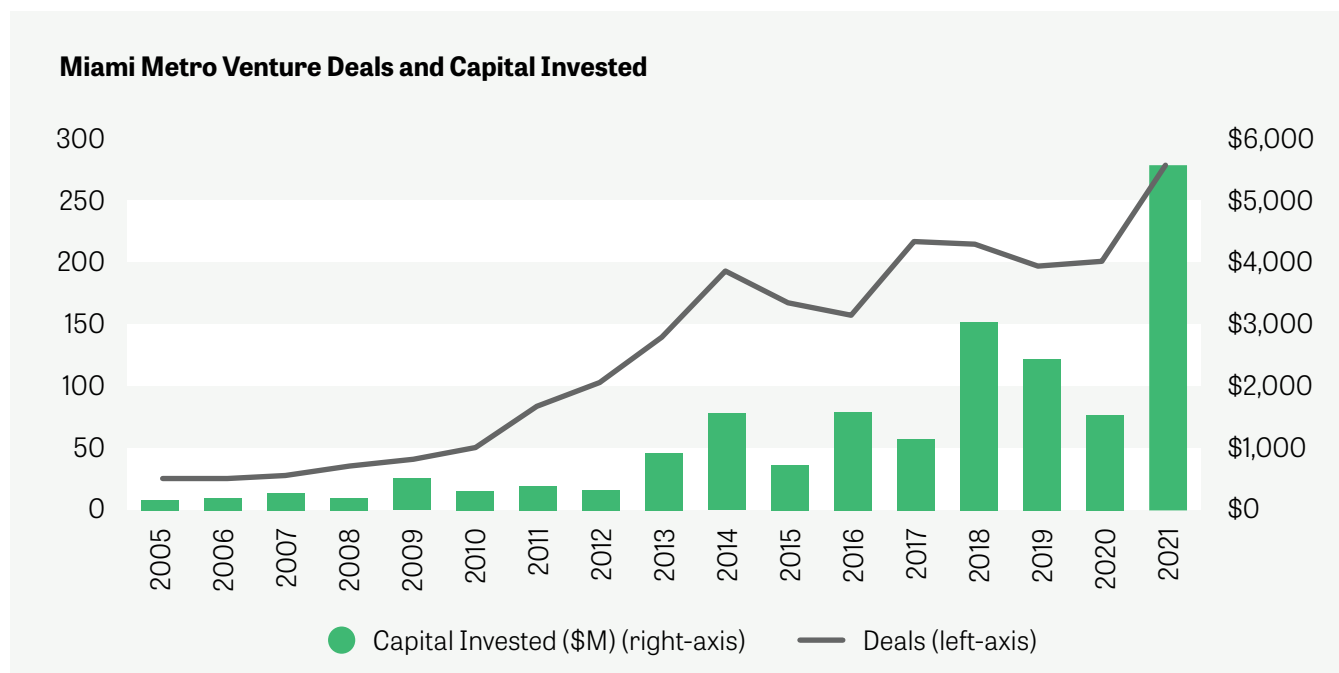


# EXPANSION OF VENTURE CAPITAL

Miami is changing. During the past decade, the Greater Miami region has become the home of increasing numbers of growing, entrepreneurial software companies.

We can see the evidence of this in the amount of venture capital funding going to local companies. **The number of venture capital investments into businesses in Greater Miami has increased significantly since 2012.** In addition, more than \$1 billion of venture capital has been invested into local companies in each of the past six years.

Initial analyses of data from 2021 indicates that local investment continued to increase. There were more than 250 venture capital deals in the region and over \$5 billion invested. Both of these figures are greater than the totals for any other previous year, as the chart below illustrates. Anecdotal evidence corroborates this trend. A prominent entrepreneur reported that it is “much easier to raise capital and stay in Miami today than even two years ago.”



Source: CAE analysis of Pitchbook data.

Venture capital investment has also increased significantly in other major metropolitan regions during the last eight years. This growth has been especially fast in metros outside the San Francisco Bay Area, as others have noted.<sup>4</sup> On a relative basis, Greater Miami took a step up in 2013 to 2015, moving up to rank in 14th place among U.S. metropolitan areas for venture capital funding after ranking 16th between 2010 and 2012 and outside the top 20 in 2007 to 2009. In recent years, the region has been keeping pace with its peers by holding steady in 13th place since 2016.

<sup>4</sup> Lori Ioannou, “Silicon Valley’s Share of Venture Capital Expected to Drop below 20% For the First Time this Year,” CNBC, January 14, 2021, <https://www.cnbc.com/2021/01/14/silicon-valleys-share-of-venture-capital-may-drop-below-20percent-in-2021.html>

## Venture Capital Funding Rank

2007-2009	2010-2012	2013-2015	2016-2018	2019-2021
(1) SF Bay Area	(1) SF Bay Area	(1) SF Bay Area	(1) SF Bay Area	(1) SF Bay Area
(2) Boston	(2) New York	(2) New York	(2) New York	(2) New York
(3) New York	(3) Boston	(3) Boston	(3) Boston	(3) Los Angeles
(4) Los Angeles	(4) Los Angeles	(4) Los Angeles	(4) Los Angeles	(4) Boston
(5) Seattle	(5) Seattle	(5) Austin	(5) Austin	(5) Seattle
(6) San Diego	(6) Austin	(6) Seattle	(6) Seattle	(6) Austin
(7) Washington (DC)	(7) Washington (DC)	(7) Chicago	(7) Chicago	(7) Philadelphia
(8) Boulder-Denver	(8) San Diego	(8) Washington (DC)	(8) Boulder-Denver	(8) Boulder-Denver
(9) Austin	(9) Boulder-Denver	(9) Boulder-Denver	(9) San Diego	(9) Chicago
(10) Philadelphia	(10) Chicago	(10) San Diego	(10) Washington (DC)	(10) San Diego
(11) Atlanta	(11) Philadelphia	(11) Philadelphia	(11) Philadelphia	(11) Washington (DC)
(12) Dallas	(12) Atlanta	(12) Atlanta	(12) Atlanta	(12) Atlanta
(13) Chicago	(13) Dallas	(13) Dallas	(13) Miami	(13) Miami
(14) Raleigh-Durham	(14) Raleigh-Durham	(14) Miami	(14) Houston	(14) Dallas
(15) Provo-Salt Lake City	(15) Minneapolis	(15) Raleigh-Durham	(15) Dallas	(15) Raleigh-Durham
(16) Minneapolis	(16) Miami	(16) Phoenix	(16) Raleigh-Durham	(16) Houston
(17) Pittsburgh	(17) Nashville	(17) Detroit-Ann Arbor	(17) Portland (OR)	(17) Provo-Salt Lake City
(18) Portland (OR)	(18) Provo-Salt Lake City	(18) Provo-Salt Lake City	(18) Provo-Salt Lake City	(18) Minneapolis
(19) Baltimore	(19) Pittsburgh	(19) Portland (OR)	(19) Minneapolis	(19) Portland (OR)
(20) Phoenix	(20) Portland (OR)	(20) Houston	(20) Pittsburgh	(20) Phoenix

Source: CAE analysis of Pitchbook data.

A more detailed examination of the companies receiving investment in Greater Miami sheds light on why the region's relative performance in terms of venture capital deals was stable during the last several years, while the relative amount of local software workers has grown significantly, as we will discuss later in this report. During the early 2010s, many of the local companies raising the most capital, such as CareCloud and Open English, were businesses founded in other cities that had relocated their headquarters to Greater Miami. Though executives at these firms moved to South Florida, the majority of their workers did not.

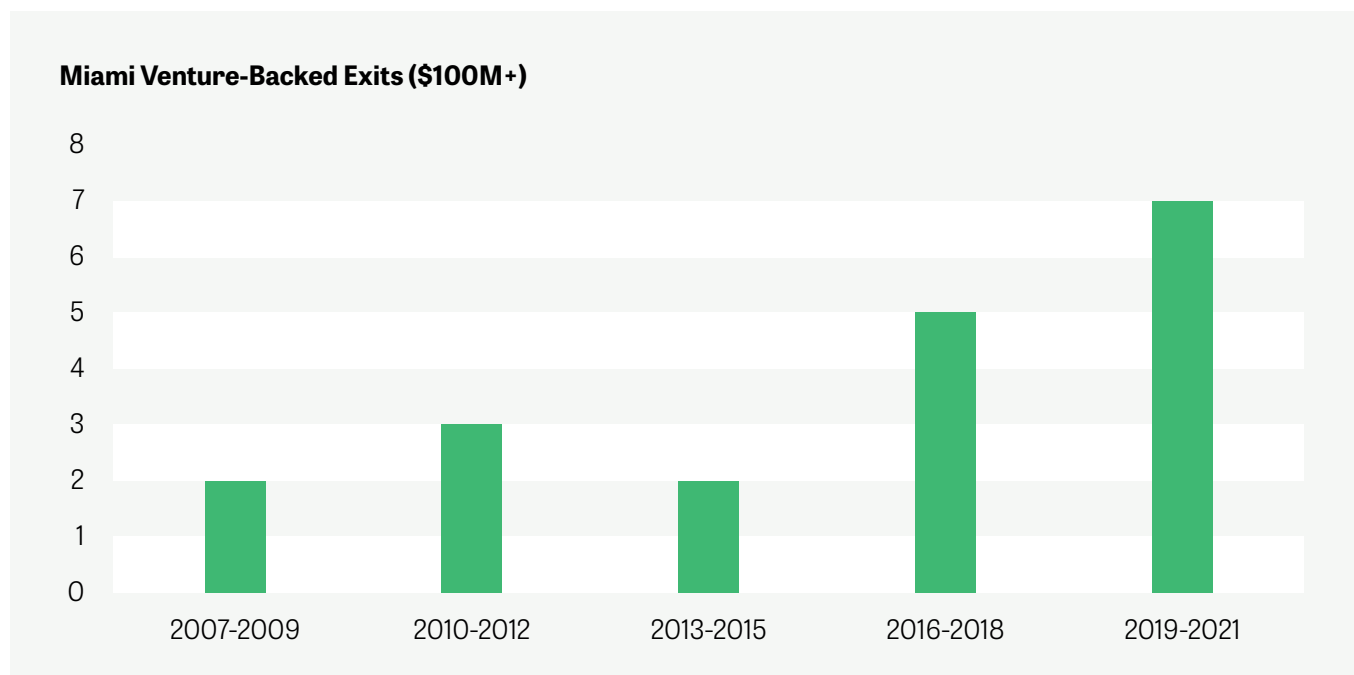
**In more recent years, Greater Miami has become a place for more than just executive team members and sales staff.** We see evidence that more entrepreneurial tech companies headquartered in the region are also building their software in South Florida, which is increasing local employment and providing economic benefits to the region. According to interviews conducted for this project, the companies raising the largest amounts of funding and generating the largest exits all have substantial numbers of local developers and other technical staff.

**As more software companies are raising money to hire workers in the region, more investors are moving in as well.** Dozens of venture capital firms are either based in the region or maintain a significant presence, including SoftBank, which has invested more than \$250 million in Miami-based companies. Prominent investors, such as Chris Lyons and Katherine Boyle of Andreessen Horowitz, Keith Rabois of Founders Fund, Alexis Ohanian of Seven Six and David Blumberg of Blumberg Capital have also relocated to the region, and a number of new homegrown venture funds have been launched by longtime or returning residents, including ANIMO Ventures, Starlight Ventures and Function. Almost all of these new investors and firms have come into the region since the beginning of 2020.



# MORE EXITS AND UNICORNS

Miami has also seen the number of significant exits of software companies accelerating. Between 2019 and 2021, there were seven exits of \$100 million or more among local technology companies—i.e., sales of the companies in the form of acquisitions or publicly listing. This is even larger than the five exits of this size in the previous three years (2016–18) and the two seen in the three-year period before that (2013–15).



Source: CAE analysis of Pitchbook data.

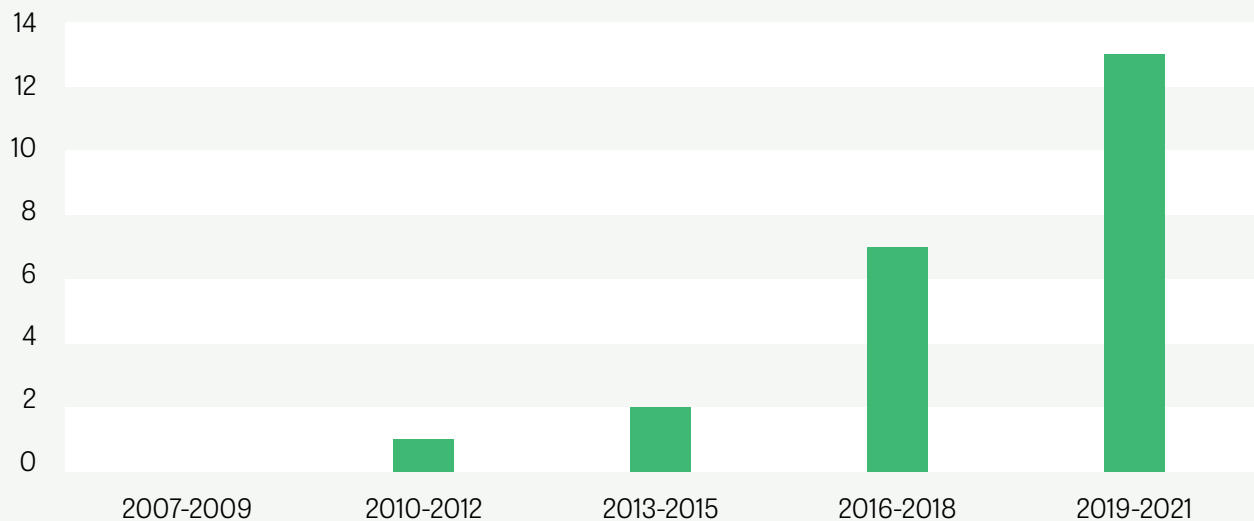
These exited companies are an important signal that the local tech entrepreneurship community is maturing. In fact, the emergence of these local success stories was one of the most commonly cited positive local developments by top-performing entrepreneurs interviewed for this study.

It usually takes seven to ten years for technology companies to reach this stage, so the growth and number of exits in the local region is very encouraging. These exits can also provide additional momentum to the community if the capital earned from these sales are invested in new local tech firms and the experienced employees from these companies go on to work at other tech businesses in the region.



Photo: Tech Equity Miami

### Miami Cumulative Venture-Backed Unicorns (\$1B valuation)



Source: CAE analysis of Pitchbook data.

**Miami also has produced more than a dozen unicorns—i.e., tech companies valued at \$1 billion or more—since 2010.<sup>5</sup>** Between 2013 and 2018, Miami had six companies reach this level of value, including Chewy and REEF. The growth in unicorns is accelerating. A number of Greater Miami tech companies have joined the ranks of these companies in just the past year, including HealthCare.com, MoonPay, Pipe and Papa.<sup>6</sup> The growth in these highly valued companies confirms that the region is likely to continue to generate more exits.

<sup>5</sup> Ashley Portero, "More South Florida Tech Ventures Reached 'Unicorn' Status In Record-Breaking 2021," The Business Journals, January 6, 2022, <https://www.bizjournals.com/southflorida/inno/stories/inno-insights/2022/01/06/crunchbase-data-south-florida-unicorns-2021.html>

<sup>6</sup> Portero, "More South Florida Tech Ventures Reached 'Unicorn' Status."



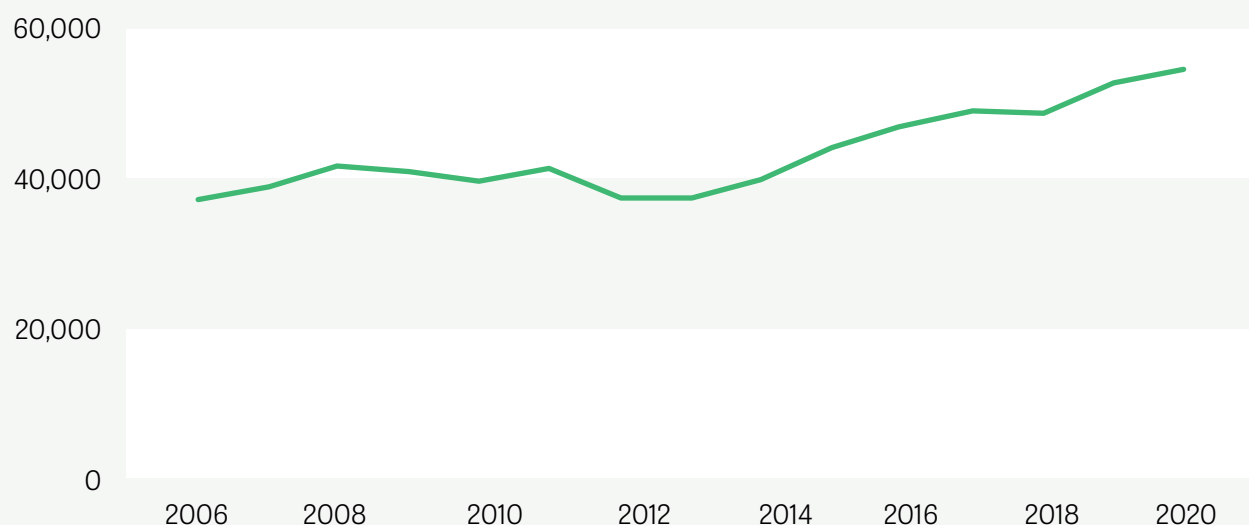
# GROWTH IN SOFTWARE EMPLOYMENT

The growth of Miami's tech sector is even more apparent when we look at the number of local software workers. Though data is not yet available for 2021, we can see that there have been large increases during the period under review.

**In 2012, there were about 37,000 local workers in the region who worked in software occupations, roughly the same number as there were in 2006. By 2020, this had increased by almost 50% to nearly 54,000 local workers.**<sup>7</sup> Interviews with local leaders suggest that this growth does not seem to be driven by existing corporations dramatically expanding their footprints or opening new satellite offices in the region, but rather by the proliferation of entrepreneurial technology companies.

Local investors have noticed this change. When asked about the most positive developments in the local tech sector, a transplant who arrived a few years ago from the Bay Area said, "The influx of outside talent or talent coming back to Miami is drastically increasing the number of engineers and venture-backable founders."

**Software Workers in Greater Miami (2006 to 2020)**



Source: CAE analysis of OES data from the BLS.

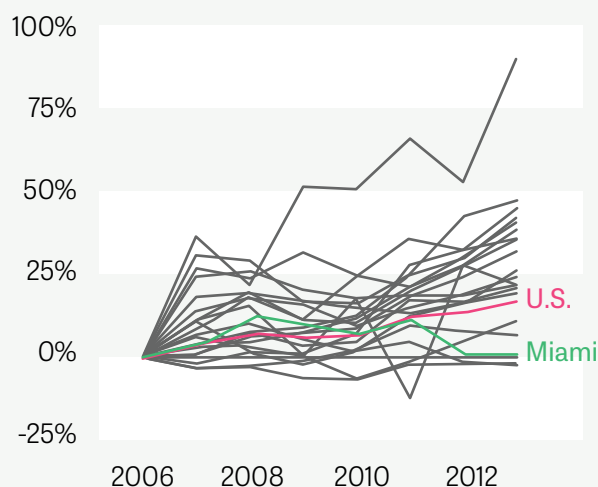
<sup>7</sup> Software occupation data are derived from Brookings Institution analysis of "digital intensity" of occupations using survey data from the Occupational Employment Statistics Survey conducted by the U.S. Department of Labor. "Software occupations" in this report include the following: mathematical science occupations; computer and information research scientists; web developers; network and computer systems administrators, computer user support specialists; software developers, applications; computer programmers; computer network support specialists; computer and information systems managers; computer hardware engineers; information security analysts; software developers, systems software; electronics engineers, except computer; astronomers; computer science teachers, postsecondary; database administrators; and mathematicians.



The change in Greater Miami can be seen even more clearly by comparing the region's employment growth to that seen in the other top twenty metropolitan areas in terms of software workers.<sup>8</sup> From 2006 to 2013, Greater Miami had almost zero growth in software employment, which was among the lowest performance among these peer cities and far below the U.S. average of 16% during the period.

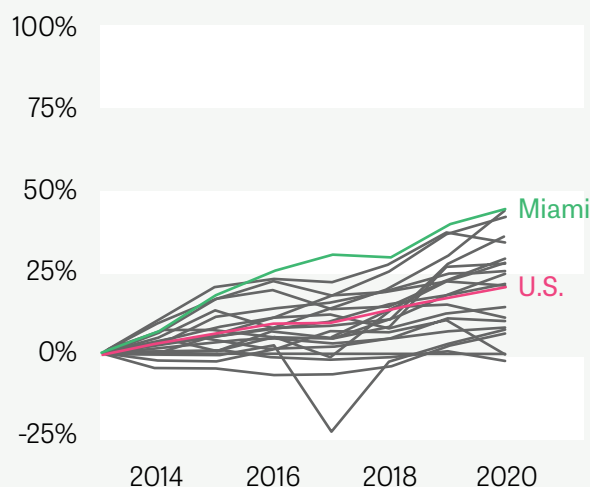
This changed quickly starting in 2013. **From 2013 to 2020, the number of software jobs in Greater Miami increased faster than in any of the other largest metropolitan areas for software employment.** The number of jobs grew 44%, more than double the U.S. average of 21% during that time.

**Change in software workers in the top 20 metropolitan areas (2006 to 2013)**



Source: CAE analysis of OES data from the BLS.

**Change in software workers in the top 20 metropolitan areas (2013 to 2020)**



Source: CAE analysis of OES data from the BLS.

According to data from LinkedIn, this growth has continued during the COVID-19 pandemic. The Greater Miami region saw a larger increase in net migrations of local tech workers from March 2020 to February 2021 than other major tech hubs tracked in the analysis that was shared by the company.<sup>9</sup>

<sup>8</sup> Comparing Miami to other metropolitan areas with large software employment provides a good sense of how it performs overall. The top twenty metropolitan areas in the United States in terms of software employment are home to more than half of all software workers in the nation.

<sup>9</sup> Nicolás Rivero, "Miami's Tech Boom Started with a Tweet But Is Sustained by More than Hype," Quartz, December 4, 2021, <https://qz.com/2098280/miamis-tech-scene-is-still-booming-after-a-year-of-hype/>



# HEIGHTENED LOCAL OPTIMISM

Entrepreneurs and investors who responded to our surveys and interviews overwhelmingly agree (96%) that “the environment for building a technology business in Greater Miami has improved significantly during the past ten years” and “is likely to improve significantly in the next ten years.”

**Community members also believe that people outside Miami are recognizing local success.**

As one local angel investor told us, “Miami didn’t have national recognition as a tech and entrepreneur hub. Instead, it was pictured as a ‘third-world Las Vegas.’ There was an additional scrutiny that every venture from South Florida had to go through. Responsible tech investors, entrepreneurs, organizations and government officials are changing that stigma.”

In 2021, over half of founders and local investors (61%) agreed that “entrepreneurs who live outside of Florida think that Greater Miami is a great place to build a technology company or startup.” A large majority of local investors (68%) also agree that angel and venture capital investors in other communities “believe that local companies can grow and succeed without relocating away from Greater Miami.”



Photo: Tech Equity Miami

# ATTRACTION OF LEADERS AND BUILDERS

The two authors of this assessment have conducted several research projects on technology entrepreneurship in Miami over the past decade. The perspectives summarized above are very different from the sentiments expressed in interviews with local founders and the small number of local investors in 2013.<sup>10</sup> The environment for tech entrepreneurship then was seen as stagnant, and locals recognized that investors and founders in other cities did not believe it was possible to build a successful tech business in South Florida.

Paul Graham of Y Combinator had publicly disparaged the region during the 2000s in a popular essay that many residents still remembered at that time. “Few startups happen in Miami, for example, because although it’s full of rich people, it has few nerds. It’s not the kind of place nerds like,” he wrote.<sup>11</sup> However, even Graham has changed his tune. “I keep hearing about Miami. At first these mentions seemed like outliers, but there are so many it’s starting to look more like a trend,” he tweeted in December of 2020.<sup>12</sup>

The trend Graham observed has existed for some time. Around two-thirds of community members interviewed and surveyed for this study did not grow up in the Greater Miami region. While we don’t have comparable data on this figure for other tech hubs in the United States, our experience would suggest that this is higher than average. Most of those who did grow up in the region had left and returned. About 10% of community members don’t live in Miami, but report that they visit the city regularly. (These frequent visitors are most often venture capital investors.) Further, about 20% of local founders and investors who responded to our surveys and interviews moved to the region in the last five years. Many of these founders came to town after they had founded their companies elsewhere, most commonly in New York City and other parts of Florida. However, there was significant diversity in these feeder cities.

<sup>10</sup> “City Hubs for Entrepreneurship Series: A Platform to Accelerate the Development of Local Entrepreneurship Ecosystems | Case: Miami, Florida,” Endeavor, January 27, 2014, [https://issuu.com/endeavorglobal/docs/city\\_hubs\\_for\\_entrepreneurship\\_-\\_mi](https://issuu.com/endeavorglobal/docs/city_hubs_for_entrepreneurship_-_mi)

<sup>11</sup> Paul Graham, “How To Be Silicon Valley,” May 2006, <http://www.paulgraham.com/siliconvalley.html>

<sup>12</sup> Paul Graham, Twitter post, December 8, 2020, [https://twitter.com/paulg/status/1336336453748498432?ref\\_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1336336453748498432%7Ctwgr%5E%7Ctwcon%5Es1\\_&ref\\_url=https%3A%2F%2Fwww.bloomberg.com%2Fnews%2Farticles%2F2020-12-16%2Fwhat-happens-when-the-1-move-to-miami-and-austin](https://twitter.com/paulg/status/1336336453748498432?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1336336453748498432%7Ctwgr%5E%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fwww.bloomberg.com%2Fnews%2Farticles%2F2020-12-16%2Fwhat-happens-when-the-1-move-to-miami-and-austin)



# NEW FORMS OF SUPPORT FOR TECH ENTREPRENEURS

Founders and investors arriving in Miami are coming into a community with far more organizations supporting tech entrepreneurs than were found in the region around a decade ago. As one longtime community member said, “It was very scrappy and passionate in 2012, but there wasn’t a large community. The same forty people showed up at all the events and we had no formal organizations, just people who felt interested and volunteered their time.”

This can be clearly seen in the number of events that now exist for local tech entrepreneurs. Less than ten years ago, there were only a handful of gatherings for the community, mainly those that were part of eMerge Americas and those hosted by Refresh Miami. Today, there are multiple community gatherings and meetups every week, along with numerous pitch competitions throughout the year. There are also more focused local events, such as Black Tech Week and Miami Hack Week. South Florida has also become a destination for technology conferences focused on digital currency, health tech and technology in the hospitality sector, in addition to the growth of eMerge Americas and Miami Tech Week, which now see more than 16,000 total attendees.<sup>13</sup>

While there were no local accelerator and incubator programs in 2012, there are now around a dozen operating in the region, including several affiliated with local universities as well as standalone accelerators—such as Navigate—and programs associated with other support organizations, like Founder Institute and Local Leaders Collective.

Further support is provided by a number of organizations that have started working in Miami during the last ten years. Refresh Miami now works to publicize and promote local success stories and other news in the industry. Endeavor provides assistance to later-stage technology companies working to grow. Organizations like Aire Ventures, the Center for Black Innovation and WIN Lab all support underrepresented founders in the tech community. Many smaller organizations that are primarily led by volunteers have also developed to serve unique niches in the local ecosystem.

In 2012, there were only a handful of local organizations supporting technology founders or creating events for the local technology community. Today, there are dozens. Their work helps connect technology entrepreneurs to knowledge and resources and builds the relationships that make the local industry a true community.

<sup>13</sup> Liana Lozada, “What You Can Learn from This Tech Conference’s Registration and Floor Plan Changes,” BizBash, May 21, 2019, <https://www.bizbash.com/production-strategy/registration-ticketing/media-gallery/21068714/emerge-america-tech-conference-registration-and-floor-plan-changes>

# A UNIQUE COMMUNITY

As the tech sector has evolved in recent years, it's important to note that one important differentiator has remained the same. **Miami's tech entrepreneurship community is uniquely diverse compared to other major technology hubs in the United States.** Our surveys of local entrepreneurs, investors and other people working to support local founders indicated that this could be seen in several ways that are a reflection of the special nature of Greater Miami.

- **More Hispanic and Black participants.** Compared to other prominent tech hubs, Greater Miami has a larger proportion of Hispanic and Black people participating in the tech entrepreneurship community and a smaller proportion of Asian and White, non-Hispanic people.<sup>14</sup>
- **More immigrants.** Over 40% of the local founders and investors surveyed and interviewed for this project indicated they were immigrants to the United States, which is almost exactly the same as the total proportion of immigrants in the region and around three times greater than the total percentage of immigrants in the country as a whole.<sup>15</sup>

This does not mean that members of the technology entrepreneurship community accurately reflect the population of the Greater Miami region. **Though the proportion of immigrants and people identifying as Hispanic in this community is similar to that found in the entire region, women and Black people are significantly underrepresented among local founders and investors.**



Photo: Black Girl Ventures

14 Sofia Kousa, "How Miami Is Empowering Its Diverse Startup Ecosystem," Startup Genome, July 22, 2019, <https://startupgenome.com/articles/miami-startup-ecosystem>

15 <https://censusreporter.org/profiles/31000US33100-miami-fort-lauderdale-pompano-beach-fl-metro-area/> ; <https://www.pewresearch.org/hispanic/2020/08/20/facts-on-u-s-immigrants/>



# A FULL PICTURE OF GROWTH

The data on Miami's tech entrepreneurship community tells a consistent story. The sector's growth can be seen in different outcomes, such as the increases in venture capital investing, exits, unicorns and local software employment. This happened over the last ten years but was seen particularly in 2021 in the growth of venture capital investing, the number of exits and the number of new unicorns, for example.

We can also observe the community's expansion in the number of founders and investors choosing to relocate to the region and the dozens of accelerators and other support programs launched in the last ten years to support technology companies, along with numerous conferences, events and initiatives to publicize local success.



Photo: Tech Equity Miami

## What was the role of Knight Foundation and the grantees it partnered with in Miami's entrepreneurship community during this time?

### Summary

Since 2012, Knight Foundation has funded more than 150 grants, program-related investments and endowments that total more than \$60 million dollars to programs that support tech entrepreneurship in Miami. The work of the foundation and the grantees that partnered with it has evolved over time in response to changing community priorities and learnings from experience on the ground.

Our analyses indicate that Knight's investments and the work of its grantees differed from the approaches used by other philanthropies supporting entrepreneurship. We also found several areas where it seems clear that grantees' work has already helped to create change, which can provide lessons to funders of entrepreneurship in other communities.

- **Assessing impact.** We believe there are clear links between the work of Knight grantees and the local tech sector's growth described in the previous section. Our interviews and analyses suggest that the greatest impact likely came from four areas:
  - » **Changing the narrative.** Grantees have been very active in reshaping national and local perceptions of the tech sector to be better aligned with current realities.
  - » **Increasing access to capital.** Grantees who work in investor education, angel investing groups, and the attraction of venture capital have helped activate the dramatic increases in the supply of local angel and venture capital seen in recent years.
  - » **Fostering effective entrepreneurship support organizations.** Several grantee organizations have supported some of the most successful local tech companies of the last decade, which have produced large numbers of local jobs and economic value.
  - » **Improving local quality of life.** When asked about Miami's advantages as a tech hub, local entrepreneurs and investors were very likely to mention things like "quality of life," "lifestyle" and "cultural activities" directly connected to the foundation's longtime efforts to support local arts and culture.
- **Potential lessons learned.** After nearly ten years, it is possible to draw initial conclusions from the work of the foundation and its grantees that could be relevant to foundations and leaders in communities outside Miami.
  - » Engaging with and being intentional about listening to the community is needed to continually iterate and identify priorities.
  - » Supporters who wish to foster entrepreneurship communities should invest over a long period of time.
  - » Efforts focused on assisting early-stage tech companies do not seem to have helped to create many jobs or increase the amount of local venture capital raised, at least as of yet.
  - » A small number of organizations have been identified as having an outsized impact on companies that created significant numbers of jobs and raised large amounts of capital.
  - » New models for tech talent development—such as apprenticeship programs, coding academies and boot camps—have not met demand for careers in tech by residents or demand for tech talent by local companies, in the same way they have also not met national-level demand.
  - » Support for entrepreneurship communities should include encouraging local organizations and programs to reach market-oriented sustainability.



# CONTEXT OF EVOLVING SUPPORT

The ecosystem of support for local technology entrepreneurs did not just emerge out of thin air. Knight Foundation has been a large funder of many different organizations working in this sector. Since late 2012, the foundation has made more than 150 grants, program-related investments and endowments that total more than \$60 million dollars in contributions to tech entrepreneurship programs and local events. Several others have played a role as well, including successful entrepreneurs who have reinvested in Miami's tech community and local governments, including Miami-Dade County and the City of Miami.

The work of the foundation and the grantees that partnered with it has evolved in an iterative process. Our interviews suggest that these iterations were based on community feedback and assessments of changing needs in the region. We, the authors of this assessment, believe that the work of Knight and its grantee partners falls into three distinct stages that are summarized below and detailed further in the Appendix.

## **STAGE 1**

### **2012 THROUGH 2015:**

The community strategy supported by the foundation was very broad during this period, focusing on generating and supporting new, early-stage tech companies and using events to create a sense of community and momentum for local tech entrepreneurship. Support was also provided to assist growth-stage entrepreneurial companies, investor education programs and experimentation with new models for technology talent development via coding academies and apprenticeship-based programs.

## **STAGE 2**

### **2016 THROUGH 2018:**

During this second phase, the strategy supported by the foundation continued to focus on aiding local companies—in both the early stage and growth stage of development. During these years, the community strategy supported by the foundation also significantly increased its giving to help include diverse founders and groups that were currently underrepresented—primarily women and Black founders—in the growth of the local tech entrepreneurship community.

## **STAGE 3**

### **2019 THROUGH EARLY 2022:**

In the most recent years, new programs focused on talent development at local colleges and universities have become a much larger component of the strategy supported by Knight and other donors in the region. Organizations working to include diverse founders and underrepresented groups have become an even larger component of Knight's funding, particularly for talent development as well as organizations supporting early-stage companies.

# ASSESSING IMPACT

It is not possible to determine how much growth in the region's tech community was directly attributable to the work of Knight grantees or to identify what would have happened if local organizations working to support the sector had not been involved. However, we believe there are clear links between the work of local grantees and many of the changes described in the previous section in four critical areas.

**Changing the narrative.** Knight grantees have been very active in working to reshape perceptions of Greater Miami's tech sector to be better aligned with what is actually happening on the ground. This can be seen in the efforts of WhereBy.U.s, Refresh Miami, Tech Cocktail and the Miami Startup Guide, and through the development of events—such as those associated with eMerge Americas, SIME MIA, Start-Up City: Miami, Maker Faire Miami, and Atlantic CityLab—that attracted media attention.

One place we can see the effects of this work is on external opinions of the local tech sector. Some community members have noted that these efforts were uniquely important for Miami to help it overcome the narrative of being a “sunny place for shady people,” as the region has sometimes been disparaged. Stories of people moving into the region also highlight how these efforts can make a difference. For example, one local investor explained that her decision to move back to the region was initially inspired by a magazine article on the local tech sector she read while traveling.

It seems clear there were local impacts as well. Promoting positive stories in the region is likely linked to the optimism found among local community members mentioned in the previous section. The vast majority of local entrepreneurs and investors now believe that Miami is and can continue to be a great place to build a tech company and many understand that this is the result of a concerted effort of “creating a narrative around Miami, and attracting investors, companies and tech talent from major hubs,” as one local investor stated. A surprising number of local entrepreneurs also cited media attention, and “buzz” as some of the most important positive changes they have seen in the tech entrepreneurship community in recent years.

**Increasing access to capital.** The supply of local angel and venture capital has increased dramatically in recent years as data in section one illustrates. Grantee programs to support investor education, angel investing groups and the attraction of venture capital through formal events and informal gatherings helped to activate this growth.

Many local entrepreneurs still report that raising capital is a challenge, but this is common in every tech hub, including Silicon Valley. However, a number specifically cite their ability to access funding when asked about the most important positive changes in the region. “Miami Angels was one of our earliest

*“Miami Angels was one of our earliest backers and tons of prominent Miami residents are on our cap table.”*



backers and tons of prominent Miami residents are on our cap table,” one told us. Several others highlighted that “now it’s possible to raise funding without the need of being from Silicon Valley.”

**Fostering effective entrepreneurship support organizations.** The jobs and economic value produced by technology companies are not evenly distributed. A small proportion of local companies tends to be responsible for most of the job creation and the majority of the value created when companies are acquired or go public.

Knight grantees include a number of organizations with the stated goal of helping to generate more of these economic successes and job creators in the region. In the course of our interviews and surveys, we asked best-performing companies if they had received support from any local organizations. For the purposes of this analysis, the “best-performing companies” were defined as those founded since 2010 with an exit of \$100 million or more, total venture capital fundraising of \$100 million or more, or at least fifty full-time employees. We identified thirty-one entrepreneurial technology companies that met these criteria.

We interviewed about half of these founders. Several of them reported that they were supported by 500 Global and six reported being directly assisted by Endeavor. Those participating in these programs all cited them as being places where they “built many of their most important relationships” for their companies or as organizations that were “the most influential” for generating local success. It should be noted that data indicates a number of other local tech companies with initial signs of success, such as raising a series A that have been supported by Endeavor as well as Krillion Ventures and Local Leaders Collective.

**Improving local quality of life.** When asked about Miami’s advantages as a tech hub, local entrepreneurs and investors were very likely to mention things like “quality of life,” “lifestyle” and “cultural activities” that are directly connected to the foundation’s longtime efforts to support local arts and culture. Since 2005, Knight Foundation has invested more than \$165 million in the arts in Miami.<sup>16</sup>

An entrepreneur mentioned the “allure Miami has during Art Basel, Winter Music Conference and the variety of other events that occur.”

“It is very easy to be happy here,” according to one venture capitalist who moved to the region. “The happier you are, the more you can reinvest that energy into building a company.”

These factors are very important for tech entrepreneurship. Previous research has shown that the founders of fast-growing companies make their location decisions primarily based on personal connections and local quality of life.<sup>17</sup> This is consistent with Knight Foundation [research](#) that finds that people feel more attached to their communities when they have access to arts and cultural activities. Many community members also noted that the historically low cost of living compared to other large metropolitan areas and high quality of life in the region make it much easier to recruit talented employees to local firms.

These investments can forge strong ties between entrepreneurs and South Florida. Approximately 70% of early-stage founders reported that “there is almost zero chance I would relocate my company away from Greater Miami.”

*“Those participating in the programs all cited them [500 Global, Endeavor] as being places where they “built many of their most important relationships” for their companies or as organizations that were “the most influential” for generating local success.”*

<sup>16</sup> Knight Foundation press release, “Knight Foundation Invests \$37 Million In Miami Arts, Bringing Its Total Arts Funding In the City to \$165 Million Since 2005, Supports Growth of Miami as a Force for Arts and Culture,” December 3, 2018, <https://knightfoundation.org/press/releases/knight-foundation-invests-37-million-in-miami-arts-announcement/>.

<sup>17</sup> Richard Florida, “What Cities Really Need to Attract Entrepreneurs, According to Entrepreneurs,” The Atlantic, February 14, 2014, <https://www.theatlantic.com/business/archive/2014/02/what-cities-really-need-to-attract-entrepreneurs-according-to-entrepreneurs/425184/>.

# POTENTIAL LESSONS LEARNED

Fostering the growth of a tech entrepreneurship community is not a short-term project. However, after nearly ten years, it is possible to draw some initial conclusions. Conversations with local investors, founders and other community members have suggested foundations and leaders in communities outside Miami could draw several lessons from this process.

- **Engaging with and being intentional about listening to the community is needed to continually iterate and identify priorities.** Knight and its grantees' efforts to adjust its strategies in response to changing needs and feedback from community members would not have been possible without sustained efforts to speak with different stakeholders in the Greater Miami region who had interest in the tech sector's development. Leaders in other cities would be wise to use the same approach to enable them to learn more about the results of existing programs and better adapt their strategies to evolving priorities.
- **Supporters who wish to foster entrepreneurship communities within a specific city should invest over a long-time horizon.** Creating a technology entrepreneurship community does not happen overnight. This is due in part to the length of time that it takes for successful companies to scale. Venture-backed companies are expected to take between five to ten years to grow from early-stage startups to established businesses that operate at scale without the need for additional capital. Fostering a community that includes a larger number of entrepreneurs leading successful companies will therefore take significant time as well.
- **Efforts focused on assisting early-stage tech companies do not seem to have helped to create many jobs or increase the amount of local venture capital raised, at least as of yet.** Though job creation and increasing the local supply of venture capital were not explicit goals of Knight Foundation's initial efforts or many of the grantees working with early-stage tech firms, it is often one of the top objectives of foundations and governments in other communities that wish to support entrepreneurship. Increasing the number of early-stage companies does not necessarily equal job creation or growth in venture capital investing. This result is consistent with what is found in other cities. If other communities wish to increase these outcomes when supporting local tech entrepreneurship, these programs may not be the best mechanisms to do so.
- **A small number of organizations have been identified as having an outsized impact on companies that created significant numbers of jobs and raised large amounts of capital.** There does seem to be evidence that a small number of grantee organizations—i.e., Miami Angels, Endeavor, 500 Global, Krillion Ventures and Local Leaders Collective—are connected to the companies that are responsible for most of the job creation, fundraising, and exit value generated in the region. It is obviously too early to assess the work of organizations that received funding only in the last several years, but this data



suggests that other communities should recognize that many entrepreneurship programs may have little-to-no tangible impact on job creation and economic value creation, but if even a small number of programs are successful, they have the potential to generate effects that make a difference in a large metropolitan area.

- **New models for tech talent development—such as apprenticeship programs, coding academies and boot camps—have not met demand for careers in tech by residents or demand for tech talent by local companies in the same way they have also not met national-level demand.** Though some of these programs continue to operate in the community without Knight's or other's ongoing support—indicating they are meeting a market need—a larger number have closed or stopped operating in the region due to a lack of ongoing philanthropic underwriting. At the same time, local entrepreneurs and investors still report that the low supply of technically skilled employees is one of the greatest challenges in the region. Our observation is that philanthropies in other communities seem to also be moving away from supporting these types of models.
- **Support for entrepreneurship communities should include encouraging local organizations and programs to reach market-oriented sustainability.** With relatively few exceptions, Knight has invested in organizations that were able to demonstrate a plausible path toward long-term financial viability beyond just philanthropic funding. An example of this is charging fees to local investors who participate in an angel investing club. As these organizations progressed, Knight has encouraged grantees to diversify their revenue streams and be responsive to the local market of regional entrepreneurs and investors by making it clear that its grants were to seed new ideas, not provide indefinite funding.

Fostering the development of a successful entrepreneurship community is not easy. Though every local entrepreneurship community is unique, it is likely that the lessons distilled from the past decade of work in Greater Miami can help leaders in other cities to accelerate the growth of tech entrepreneurship in their own regions and expand the benefits of Miami's recent success even further across the United States.

## Where are opportunities for further investment in Miami's tech entrepreneurship community to support the success of the broader community?

### Summary

We believe that the recent exits and acquisitions of entrepreneurial tech companies in the region will continue to be very important for demonstrating credibility and for building a self-sustaining ecosystem in which the wealth generated by founders is invested in future startups.

There are three areas that will be important to sustaining or growing the success of Miami's tech entrepreneurship ecosystem:

- 1. Continue efforts to foster a more inclusive community by gender, race and geography.** Black people and women remain underrepresented in the region's technology entrepreneurship community relative to their presence in the region. The community is also not taking advantage of the entire geographic diversity of the South Florida region.
- 2. Grow technical talent to both meet community demand for careers in technology and address local technology company's need for workers.** Access to technical talent is the greatest challenge identified by local founders and investors and Greater Miami still has a much smaller proportion of software workers than other peer cities. Though there have been important investments to improve this challenge, much work remains.
- 3. Work to begin addressing broader threats to the local tech entrepreneurship community.** Investors and entrepreneurs are concerned about the quality of local transportation infrastructure and the availability and cost of housing in the metropolitan area, as well as the existential threats of climate change and sea-level rise.

Miami's tech entrepreneurship community has the potential to grow as fast or faster over the decade to come. Leaders must decide who will be able to participate in the community as it expands, how to address the needs of local companies for technology workers and the needs of local workers for new jobs, and how they will work to mitigate external risks that threaten all Miamians.



# LOOKING FORWARD

The Greater Miami tech community has changed a great deal in the last year and a half. Its visibility has increased due to promotion and support from political leaders like City of Miami Mayor Francis Suarez and Miami-Dade County Mayor Daniella Levine Cava. Digital currency has become a more prominent focus of events and local companies, and many remote workers, entrepreneurs and investors relocated to the region to live during the COVID-19 pandemic.

It is too early to tell if these are trends that will change in the near future or continue to affect Greater Miami for many years to come. However, we believe that two things are true.

1. The recent exits and acquisitions of entrepreneurial tech companies in the region will continue to be very important for demonstrating credibility for the sector to people in other cities and for helping to provide more capital and talent back into the local industry.
2. It is difficult to imagine how these exits and the changes described above would have occurred without the investment made by Knight Foundation, the partners it has funded, local political leaders and other donors since 2012 in the local technology sector.



Photo: Black Girl Ventures

# POTENTIAL OPPORTUNITIES

There are three areas that we believe should be considered for additional support within Greater Miami to build on previous efforts to support local technology entrepreneurship and ensure that the region's fullest potential is realized.

## 1. Continue efforts to foster a more inclusive community by gender, race and geography

The work of Knight's grantees and others has helped to foster more connectivity in Greater Miami among tech entrepreneurs and investors, but several significant gaps represent the largest obstacles to creating a truly inclusive and productive entrepreneurship community in the region. Though a majority (62%) of early-stage founders believe that the local tech community "is a truly inclusive environment that offers people of all backgrounds an opportunity to succeed," there is room for improvement.<sup>18</sup>

Black people and women remain significantly underrepresented in the region's technology entrepreneurship community. Efforts to improve in this area have been complicated by two factors, according to our interviews with leaders in the community:

- Recent events involving actors who have relocated from other tech communities with reputations for not reflecting the values of inclusivity have led many people to believe that a large number of leaders do not truly care about these goals beyond just paying "lip service" to them at public events.
- Efforts to create inclusive spaces for underrepresented groups has sometimes led to the creation of completely separate spaces that can make it difficult for underrepresented people to access the sources of knowledge and funding available to those in the broader community. Interviewees spoke of being directed to "the pink events" and being "welcomed, but not empowered" by this type of separation.

There is also a significant lack of geographic inclusion in the community. Residents of certain neighborhoods have far less access to events and entrepreneurship organizations than those near downtown. Even a number of the most successful local tech entrepreneurs who live outside of Miami-Dade County reported that they have not been engaged despite the fact that they would like to spend more time mentoring and supporting younger tech founders in the region.

As one investor who works in the City of Miami noted, many of the founders of very successful tech companies in the region want a specific type of family lifestyle that is not conducive to living and working in areas like Brickell. "There has been an overemphasis on Miami-Dade to the exclusion of supporting and catalyzing the real success of communities in the tri-county area. "We need to have multiple ecosystems that improve and feed each other in order to be truly

<sup>18</sup> Note: Responses from women and Black founders were similar to those of the entire community on this question in our survey.

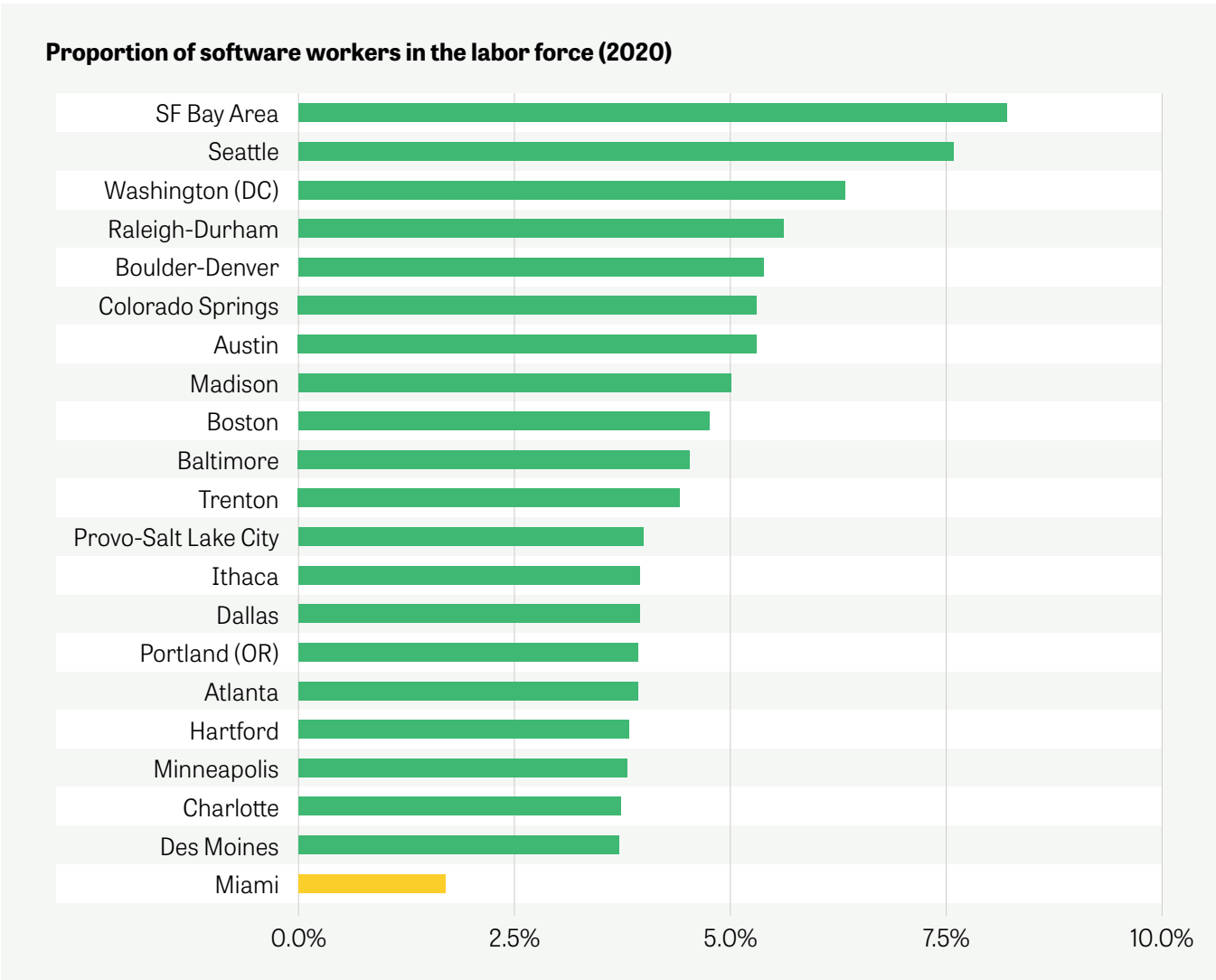


successful,” he said. “All these Miami entrepreneurs say they are building businesses for the entire world, but they won’t schlep twenty minutes to Aventura.”

Given Greater Miami’s sizable Hispanic and Black population, large foreign-born population and unique geography, the region has a distinct opportunity to demonstrate the power and underutilized potential of diverse founders to create technology-based solutions for consumers and businesses.

**2. Grow technical talent to both meet community demand for careers in technology and address local technology company’s need for workers.**

Greater Miami still has a much smaller proportion of people working in the technology sector than other peer cities. The region ranks 68th in the United States in terms of the proportion of software workers within the total labor force at 2.1%. Catching up to the proportion of U.S. metro average would require ~20,000 additional software workers. To catch up to the percentage of software workers found in Atlanta or Austin would require ~45,000 or ~65,000 new workers, respectively.



Source: CAE analysis of OES data from the BLS.

This means that, on a proportional basis, fewer Miamians are able to participate in the local technology sector and benefit from its high-paying jobs.<sup>19</sup> This is especially important in Greater Miami, since the region has a higher proportion of people working in low-paying, service-sector jobs when compared to other cities.<sup>20</sup>

Access to technical talent is also by far the greatest challenge identified by local founders and investors. Over half of all founders rated it as difficult to access, as did more than 75% of all local investors. Management talent was also rated as difficult to access by a majority of successful founders and investors.

Efforts in the community to address this need have been significant. In the past year, Knight has committed \$10 million to the School of Computing and Information Sciences at Florida International University (FIU), \$7 million to the School of Engineering and Technology at Miami Dade College, \$4.3 million to the Institute for Data Science and Computing at the University of Miami, and \$2.3 million to CodePath.org for technology education programming for students at three Miami-Dade County universities. Other donors, such as Phillip and Patricia Frost, who have committed \$6 million to computer science education at the University of Miami, and Melinda French Gates, who is funding the work of Gender Equality in Tech's new Miami program, have also made significant investments.<sup>21</sup> Positive change already seems to be occurring. For example, the number of computer science majors enrolled at FIU has grown from around 2,000 students in 2018 to 3,000 in 2021, and is projected to increase to 5,000 by 2024, according to internal data from the foundation.

Though there have been several important investments in increasing access to talent, it is not yet time to declare “mission accomplished” in this area. The number of software workers is likely to continue to increase in other cities across the country. If this occurs, catching up to peer regions or even the national average will require additional solutions.

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### **3. Work to begin addressing broader threats to the local tech entrepreneurship community.**

A number of investors and entrepreneurs in the community reported that they were seriously concerned about issues in Greater Miami as a whole that could make the longer-term success of the tech sector very difficult. This included the quality of local transportation infrastructure and the availability and cost of local housing, issues that have been very challenging for other metropolitan areas with large tech sectors, such as the Bay Area.

“If the cost of real estate continues to increase as it has been increasing this last year, affordability will become an issue,” one angel investor noted. When another was asked about the most important issues to address, they listed “better schools and infrastructure to maintain a high quality of living. Good clean roads, parks, beaches, bike trails, etc. Reduced traffic congestion.”

Many community members also mentioned the existential threats of climate change and sea-level rise, particularly investors. As one person we spoke with observed, “It isn’t possible to be a tech city, if you can’t be a city.” When thinking about the future one founder reported his biggest question is: “Will South Florida be completely underwater?”

Addressing broader threats to the health of the community is important for the entire region to thrive. Local technology leaders should be vocal advocates for efforts to improve local infrastructure, add to the supply of housing and mitigate the potentially disastrous effects of climate change. Though these problems do not have easy solutions, Knight and other institutions should increase their efforts to encourage more discussion and educate local tech leaders on ways other regions within the United States and in other countries have had success in addressing these types of threats.

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19 Emily Krutsch, “The Outlook for In-Demand IT Jobs,” U.S. Department of Labor Blog, September 20, 2021, <https://blog.dol.gov/2021/09/20/the-outlook-for-in-demand-it-jobs>

20 <http://carta.fiu.edu/creativity/wp-content/uploads/sites/19/2018/01/FINAL-Talent-Brief-1.pdf>; <https://www.miamiherald.com/news/business/real-estate-news/article229904864.html>

21 <https://news.miami.edu/stories/2021/02/endowments-will-power-big-data-solutions-with-technical-talent.html>; <https://www.bizjournals.com/bizwomen/news/latest-news/2021/12/gender-equality-in-tech-cities-expand-miami.html?page=all>

# CONCLUSION

Miami's tech entrepreneurship sector has grown significantly over the last ten years. All signs indicate that the community has the potential to grow even more over the decade to come. As more local technology firms exit by IPO or are acquired, the region's credibility will continue to increase and the supply of local capital and knowledge will increase.

As leaders look to the future, our analyses and interviews with local investors, founders and other important stakeholders suggest there are three specific areas likely to be very important in the years ahead. We would encourage them to focus on opportunities to foster a more inclusive community, increase the availability of high-paying technology jobs and the supply of local talent, and begin addressing broader threats to the local tech entrepreneurship community.



# APPENDIX 1:

## METHODOLOGY

The analyses shared in this assessment are drawn from secondary sources, such as PitchBook and the Bureau of Labor Statistics, noted in the text and in each respective graphic. Information drawn from other reports and publications is also cited within the document.

The primary data collection from surveys of local community members includes more than ninety local technology entrepreneurs, sixty-seven angel and venture capital investors in the region and ten leaders of local entrepreneurship support organizations. Detailed interviews were also conducted with more than thirty community members representing a diverse range of founders, investors and local organizations. The survey was fielded in the fall of 2021 and project interviews were conducted in the summer of the same year.



## APPENDIX 2:

# DETAIL ON KNIGHT'S INVESTMENTS AND GRANTEES

**We, the authors of this assessment,** believe that the work of Knight and its grantee partners to support the growth of local tech entrepreneurship can be classified into three distinct stages.







## STAGE 1

### 2012 THROUGH 2015:

The foundation quickly scaled up its entrepreneurship-related giving starting in late 2012. In a little more than three years, it awarded around seventy grants that would total approximately \$16 million. The areas receiving the largest investment are listed below.

The community strategy supported by the foundation during this time was very broad, as the six categories of giving indicate below. **The largest amount of its giving went to organizations focused on generating and supporting new, early-stage companies and using events to create a sense of community and momentum for tech entrepreneurship in the region.** More than half of all funding during this period went to these two areas.

Other investments indicate that there was recognition that a diverse set of interventions were needed across the entire ecosystem that support technology companies. Notable investments were also committed to supporting growth-stage entrepreneurial companies and to experiment with new models for technology talent development via coding academies and apprenticeship-based programs. Investor education and publicity also received significant support at this time.

AREA	APPROXIMATE AMOUNT COMMITTED	ORGANIZATIONS RECEIVING THE THREE LARGEST GRANTS IN TERMS OF FUNDING AMOUNT
<b>Organizations supporting early-stage companies</b> (i.e., startups)	 <b>\$5.8 million</b>	<ul style="list-style-type: none"> <li>• Miami Dade College, The Idea Center</li> <li>• Startupbootcamp Miami</li> <li>• 500 Global</li> </ul>
<b>Events</b>	 <b>\$4.2 million</b>	<ul style="list-style-type: none"> <li>• eMerge Americas</li> <li>• SIME MIA</li> <li>• Start-Up City: Miami</li> </ul>
<b>New talent development models</b> (e.g., apprenticeship models and coding academies)	 <b>\$2.3 million</b>	<ul style="list-style-type: none"> <li>• LaunchCode Miami</li> <li>• Enstitute: Miami Hub</li> <li>• Venture for America: Miami Program</li> </ul>
<b>Organizations supporting growth-stage companies</b>	 <b>\$2.0 million</b>	<ul style="list-style-type: none"> <li>• Endeavor (Only one grant was given in this category)</li> </ul>
<b>Investor education and network building</b>	 <b>\$0.6 million</b>	<ul style="list-style-type: none"> <li>• Miami Angels</li> <li>• idea.me</li> <li>• Institute for Commercialization of Florida Technology</li> </ul>
<b>Media and publicity</b>	 <b>\$0.6 million</b>	<ul style="list-style-type: none"> <li>• WhereBy.Us</li> <li>• Refresh Miami</li> <li>• Tech Cocktail</li> </ul>



## STAGE 2





### 2016 THROUGH 2018:

During the second phase of the foundation's work, efforts became a little more targeted. Knight Foundation made forty-three grants, a decrease of around 40% in the number of awards, but a similar total amount, at \$13 million.

**Organizations working to support local companies—in both the early stage and growth stage of development—received the most funding, with around \$8 million in total during this time period.**

Funding also increased for efforts to generate publicity for the regional industry. Giving to support events, investor education and networking, and new talent development models dropped significantly.

During these years, the community strategy supported by the foundation also significantly increased its giving to help include diverse founders and groups that were currently underrepresented—primarily women and Black founders—in the growth of the local tech entrepreneurship community. This includes more than \$4 million of grants to organizations working with early-stage companies, like WIN Lab, Black Tech Week (now known as the Center for Black Innovation), as well as organizations that hold events and focus on community building, like Venture Cafe.

AREA	APPROXIMATE AMOUNT COMMITTED	ORGANIZATIONS RECEIVING THE THREE LARGEST GRANTS IN TERMS OF FUNDING AMOUNT
<b>Organizations supporting early-stage companies</b> (i.e., startups)	 <b>\$6.0 million</b>	<ul style="list-style-type: none"> <li>• LAB 305 Ventures</li> <li>• Black Tech Week</li> <li>• 500 Global</li> </ul>
<b>Organizations supporting growth-stage companies</b>	 <b>\$2.0 million</b>	<ul style="list-style-type: none"> <li>• Endeavor (Only one grant was given in this category)</li> </ul>
<b>Events</b>	 <b>\$1.9 million</b>	<ul style="list-style-type: none"> <li>• Maker Faire Miami</li> <li>• eMerge Americas</li> <li>• Atlantic CityLab</li> </ul>
<b>Media and publicity</b>	 <b>\$0.9 million</b>	<ul style="list-style-type: none"> <li>• Florida International University, Miami Urban Future Initiative Research</li> <li>• Startup Guide Miami</li> <li>• Refresh Miami</li> </ul>

### STAGE 3

#### 2019 THROUGH EARLY 2022:

The foundation's giving to support technology entrepreneurship continued at a similar pace in the next three years, with forty-three grants. However, the amount of giving grew significantly, totaling over \$30 million in funds.

**This giving represented a significant shift to help create new programs focused on talent development at existing local institutions.** These included the three largest grants made to date in this effort: \$10.0 million for the Knight School of Computing and Information Sciences at Florida International University, \$7.0 million to Miami Dade College to support new programs in applied AI and related emerging technologies, and \$4.3 million to help fund the Institute for Data Science and Computing at the University of Miami. The foundation also continued to fund early-stage support organizations and events and increased its giving to support investor networks and new talent development models.

Organizations working to include diverse founders and underrepresented groups were an even larger component of Knight's funding, particularly for talent development via programs like Talent Scout and Haitians in Tech, as well as organizations supporting early-stage companies, like the Center for Black Innovation and Black Girl Ventures. In total, Knight invested \$5.4 million to organizations specifically working with diverse and underrepresented founders, and \$17 million to minority-serving institutions of higher education in the local community.

AREA	APPROXIMATE AMOUNT COMMITTED	ORGANIZATIONS RECEIVING THE THREE LARGEST GRANTS IN TERMS OF FUNDING AMOUNT
Talent programs at existing institutions	\$24.3 million	<ul style="list-style-type: none"> <li>Florida International University, Knight School of Computing and Information Sciences</li> <li>Miami Dade College, School of Engineering and Technology</li> <li>University of Miami, Institute for Data Science and Computing</li> </ul>
Organizations supporting early-stage companies (i.e., startups)	\$2.1 million	<ul style="list-style-type: none"> <li>Center for Black Innovation</li> <li>Black Girl Ventures</li> <li>Hello Beauté Founders Circle</li> </ul>
Events	\$1.2 million	<ul style="list-style-type: none"> <li>Culture Shifting Weekend Miami</li> <li>Miami ANIMO Summit</li> <li>Just Dinner Series</li> </ul>
Investor education and network building	\$0.6 million	<ul style="list-style-type: none"> <li>Black Angels Miami</li> <li>Function Collective</li> <li>City of Miami, Venture Capitalist in Residence</li> </ul>
New talent development models (e.g., apprenticeship models and coding academies)	\$0.6 million	<ul style="list-style-type: none"> <li>Talent Scout Miami</li> <li>Venture for America: Miami Program</li> <li>Haitians in Tech</li> </ul>

