



Creating & Teaching Entrepreneurship:

**Evidence of Success of the MIT
delta v Acceleration Program**

Daniela Ruiz Massieu
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EXECUTIVE SUMMARY

The MIT delta v accelerator offered by the Martin Trust Center for MIT Entrepreneurship is the capstone entrepreneurial experience for students at MIT. The three-month program offers students the opportunity to transition from classroom entrepreneurs to real-world entrepreneurs. It provides teams with space, money, structure, and skills. During the summer, teams learn proven frameworks, workshops, and processes to create a rigorous, practical, customized, and integrated educational experience.

The program aims to ensure that students leave delta v as stronger entrepreneurs: with better skills, stronger entrepreneurial mindset, and a solid network. It also aims that students form stronger co-founder relationships, confirm the viability of the venture, build a network, and understand the team and capital needs post-program. The mission is to produce the next generation of innovation-driven entrepreneurs whether they start a company, join a startup, go into corporate entrepreneurship, or work in academia or government.

The motivation for this study is to quantify the holistic impact that MIT's delta v Acceleration Program has had on the entrepreneurial ecosystem. The report examines the outcomes of 10 cohorts, comprised of 181 startups and 692 participants. To this purpose, different sources of information were used. First, secondary sources such as MIT delta v annual reports, company websites, Crunchbase, LinkedIn, Pitchbook, and press releases were used. Second, a survey was sent to all participants, with a response rate of 46.7% from the individual participants and at least one response from 93.4% of the startups. Finally, in-depth interviews were conducted with some of the entrepreneurs.

Below are the key takeaways:

1. Ventures derived from program have been very successful by traditional metrics: While the goal of the delta v program is educational in nature and specifically to create more higher quality and better-connected entrepreneurs out of the MIT student body, the results of the ventures launched in delta v are extraordinary when measured by conventional benchmarks. The numbers are even more extraordinary in the context of the students who were accepted into the program having little

to no market traction when they entered, i.e., they were very nascent projects and teams, indicating extremely high risk in many dimensions.

a. Survival rate: Since its inception, 61% of delta v projects have become real companies that either still exist to this day or have been acquired. This figure rises to 69% if only companies from the last five are considered.

b. Attractiveness to investors: 63% of all the projects have resulted in companies that raised money.

c. Magnitude of funding attracted: The companies that have raised money to date have totaled over \$1 billion as of 2021. This is also a number that continues to grow each month. To put this in perspective, the total amount of funding for the delta v program over the past ten years is approximately \$10 million; this means that for every dollar invested in the cost of educating these students, the private financial market has chosen to match with a 100x force multiplier. This only reflects the companies that participated in delta v; below is more detail on the funding of additional companies that delta v participants subsequently started. When these are included, the number becomes 300x ... and growing.

2. Alignment with MIT's mission of principled entrepreneurship is very strong: These startups that resulted from the delta v program are focused on the most challenging and fundamental problems facing our society. 89% are aligned with the United Nations Sustainable Development Goals. The top industry by more than a factor of 2x is healthcare.

3. Participants go on to start additional companies at a prolific rate: Despite the large number of companies still in operation and participants still involved in them, 17% of delta v students have started at least one additional company *beyond* the one they took part in delta v. The result is over 130 new additional companies that have raised an extra \$2 billion beyond what was already mentioned above.

4. Diversity has been at the core of delta v from the beginning and, as a result, it has grown over time:

The pursuit of heterogeneous teams was designed into MIT delta v program since its inception. This is what produces the hybrid vigor (i.e., individuals doing together what they could not do on their own) that makes the program successful. The data from the study reflect this diversity; additionally, great progress has been achieved so far in women entrepreneurs.

- a. Educational level of MIT participants:** 64% Master, 21% Undergraduate, 15% PhD+ (includes postdoc.)
- b. Field of study for MIT participants:** 48% Sloan School of Management, 44% School of Engineering, 8% School of Architecture, Science and Humanities, Arts & Social Sciences, plus the Harvard-MIT Program in Health Sciences and Technology (HST.)
- c. Women participation:**
 - i. Teams with at least one woman
 - First five-year average: 61%
 - Second five-year average: 75%
 - ii. Overall participation in cohort (as a percentage of total participants.)
 - First five-year average: 26%
 - Second five-year average: 42%
 - iii. Percentage of teams with a woman CEO
 - First five-year average: 23%
 - Second five-year average: 39%

5. Delta v has built a connected community: 83% of the survey respondents say they are still in touch with their cohort from the accelerator program and many consider this is the most unexpected benefit of the program –the life long and extremely

valuable community they built during their time together.

- 6. Participants and teams connected extremely well with broader communities, both internal and external to MIT:** delta v is a capstone program at MIT to prepare its students for success in the outside world. The MIT delta v accelerator by itself is not enough, and it is critical that every participant and team gets access to the appropriate resources at the Institute to make their unique educational journey as robust as possible. 100% of the MIT teams used additional resources at MIT led by (but certainly not limited to) the Sandbox Innovation Fund, Venture Mentoring Service (VMS), MIT fuse, and the MIT \$100K Competition in terms of participation percentages. The DesignX accelerator in the MIT School of Architecture had lower participation rates, but was especially noted for its high success rates when participants combined it with delta v. In terms of external connections, of the 181 teams who entered delta v as potential companies, a remarkable 68 (37.5% of the pool) were accepted into external, private/for-profit accelerators, led by Mass Challenge, Y Combinator, and TechStars.

- 7. Participants are extremely satisfied quantitatively and qualitatively:** Based on the survey results, the average Net Promoter Score (NPS) —a measurement of how willing the participants are to recommend the program to others— is 69 across all cohorts, which is excellent in the service industry. From a qualitative standpoint, the most common feedback gathered in the survey was “it changed my life”.

These findings do not mean that the program is perfect, far from it, and this research has empirically identified areas for improvement in terms of content (e.g., financial literacy, fundraising, and product development) as well as ways to improve community connectivity, which is the unsung hero and a benefit of delta v.

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INTRODUCTION

Today, we face unprecedented challenges in climate change, continued economic development, health care, education, economic justice and so much more. With history as our guide, we know that the solutions to these daunting problems will primarily come from entrepreneurs, and they cannot come soon enough. As such, the imperative for more, higher-quality, and better-connected entrepreneurs has never been greater. Consequently, entrepreneurship education is receiving an increasing amount of attention.

At the same time, the field of entrepreneurship education is witnessing remarkable growth and investment. According to a study by Kauffman Foundation¹, in 1975 colleges and universities offered approximately 100 formal majors, minors, and certificates related to entrepreneurship. Thirty years later, in 2006, this number had increased fivefold to 500. Since then, the remarkable growth has continued to reach 2,600 bachelor's degrees in entrepreneurship/entrepreneurial studies as of 2020².

The strong and persistent increase in demand for courses and programs in this area is being felt at every university in the US, if not globally. The question, however, remains, how do we know that what we are teaching is working? As I travel around the world, I find this question to be universal.



Credit: Martin Trust Center

While we can never have a true randomized control test (RCT) scenario to prove this scientifically, we would be derelict in our duties if we did not try to find quantifiable ways to provide some rigorous indication of success, albeit imperfect.

As we approached the 10th anniversary of our capstone MIT delta v summer accelerator program, we realized that we had an exciting opportunity to capture a powerful longitudinal dataset to assess the effectiveness of our program. For ten years, delta v has had consistent oversight as well as pedagogy. Since a central skill for entrepreneurship is venture creation, we felt that research in this area would provide data to quantify the success of our program in multiple dimensions of venture creation.

Again, while not perfect, it is enlightening research. We had the great fortune that Professor Daniela Ruiz Massieu, who is the Managing Director of the Entrepreneurship and Innovation Center of the Instituto Tecnológico Autónomo de México (ITAM) in Mexico City, spent a year at MIT doing this research. Along with her colleague, Professor Claudia González-Brambila, also of ITAM, they tirelessly collected the data and then conducted the analysis that follows.

I will not summarize the results here, but simply say that we found them extremely interesting. We have been communicating for years, based on others' research and what we have seen firsthand, that entrepreneurship "can be taught," but this study provided us with our own data on the effectiveness of a rigorous, structured, educational accelerator like delta v. For example, it showed that such an accelerator can increase the participation of previously underrepresented minorities, such as women. Another consequence was to provide compelling evidence to dispel conventional wisdom on aspects such as startups survival rates and the nature of startups. Spoiler alert, they are less focused on profit and more on positive impact, with 89% aligned with the UN Sustainable Development Goals. But there is much more and, more importantly, this study reinforces our confidence that programs like delta v are moving us in the right direction. While more work needs to be done, this research demonstrates that we have a new benchmark for educational programs around the world.

Bill Aulet, Managing Director, Martin Trust Center for MIT Entrepreneurship

Bill Aulet

¹ Kauffman Foundation, 2015. The evolution of entrepreneurship on college campuses Exploring the evolution of entrepreneurship on college campuses — a timeline. Written by Arnobio Morelix. October 29, 2015. Visited online on Oct 2, 2023. <https://www.kauffman.org/currents/the-evolution-of-entrepreneurship-on-college-campuses/>

² NCES, 2020. US Department of Education, National Center for Education Statistics, IPEDS, Fall 2020. Visited online on Oct 2, 2020. https://nces.ed.gov/programs/digest/d21/tables/dt21_318.30.asp

ABOUT MIT DELTA V ACCELERATION PROGRAM

Entrepreneurship plays a pivotal role in driving innovation, economic growth, and social impact. For more than 10 years, MIT delta v has been MIT's student venture accelerator that has provided a capstone educational opportunity to launch startups to the real world.

The delta v program is MIT's premier student accelerator program, designed and operated by the Martin Trust Center for MIT Entrepreneurship. The program's name, "delta v," derives from engineering jargon, denoting a change in velocity—symbolizing the transformative impact MIT aims to have on its students. This program represents the capstone educational opportunity for MIT student entrepreneurs, preparing them to hit escape velocity and launch into the real world.

Each summer, delta v selects a cohort of 20 to 25 teams. The MIT delta v application process is rigorous and selective. The program receives applications from teams across the MIT campus every year. Unlike traditional acceleration programs, delta v evaluates not only the team, business idea, problem, solution, or traction, but also the entrepreneurs' prior engagement in the MIT entrepreneurship ecosystem.

The program champions the view that entrepreneurship is a craft that can be taught and, therefore, offers an intensive, supportive environment for students to learn and practice this craft. Thus, the strength of the MIT delta v accelerator is rooted in its educational approach. Over the summer, participants not only learn and practice the disciplined entrepreneurship methodology³, but also receive mentorship and coaching, present their progress, and receive feedback in simulated board meetings from industry leaders, expand their knowledge via guest lectures from thought leaders and workshops from the Martin Trust Center team, and strengthen their network with relevant industry experts, investors, and other entrepreneurs. In addition, teams receive up to \$20,000 in equity-free funding over the duration of the program, subject to achieved milestones. Most importantly, during the program, teams will benefit from

Entrepreneurship plays a pivotal role in driving innovation, economic growth, and social impact.



Credit: Martin Trust Center

Martin Trust Center Team

peer learning and can build a strong community of fellow entrepreneurs who will support and mentor each other.

The program culminates in Demo Day, where teams present their ventures to the MIT community, potential investors, and the broader entrepreneurial ecosystem. Historically, the MIT delta v program has witnessed numerous success stories. Many of its alumni companies have secured significant funding, achieved substantial growth, and made impactful contributions to their respective industries. Beyond the immediate business outcomes, the delta v program reinforces MIT's broader commitment to fostering a robust entrepreneurial culture and creating better entrepreneurs.

³ Aulet, Bill. (2013). *Disciplined Entrepreneurship: 24 Steps to a Successful Startup*. Hoboken, New Jersey, John Wiley & Sons Inc.



Credit: Martin Trust Center

MIT delta v Demo Day, Kresge Auditorium

METHODOLOGY AND DATA COLLECTION PROCESS

In this report, we take the chance to look back and conduct a longitudinal study to quantify the impact of the delta v program throughout the last ten years. We do this not only by using traditional economic metrics, but also by weighing the delta v's educational value and its multiplier effect, which has strengthened MIT's entrepreneurial spirit and community.

For this purpose, we collected data in two stages. First, we used secondary sources to compile a complete list of all delta v alumni and companies over the past ten years. That is, we wanted to provide a thorough overview of every single delta v alumni (regardless of their co-founder or non-cofounder involvement) and every single delta v company (despite its current operating status). To build this data set, we used the Martin Trust demo day books to create a complete list of former teams and their members. Then, we used secondary sources to gather specific information at the individual and company level.

To gather information on entrepreneurs, we consulted the MIT alumni directory, LinkedIn, the media press,

and, when necessary, informal personal networks. On the other hand, to collect data on companies, we consulted the company websites, Pitchbook, and Crunchbase. Building this database allowed us to have a comprehensive view of the last ten years, from 2012 to 2021, and of the entire population of delta v, 692 participants and 181 teams.

Second, we wanted to hear first-hand feedback and gain insights from delta v alumni. We were eager to learn where participants are today, how the delta v program impacted their journey, and what could be done to make the delta v program even better. To that end, in April 2022, Bill Aulet (who has been with the program from its inception to the present day and has met every participant) sent an email invitation to all delta v alumni to complete an online survey that would help evaluate the program's effectiveness and learn about the participants' professional paths and the progress of their delta v companies. The survey also included open-ended questions to gather qualitative feedback on the program. Survey responses supplemented the company information previously collected through secondary sources. Sent to all 692 former participants, the survey collected 322 responses (46.6%) by mid-June 2022, when we closed the survey. See the "Survey Results" section for an analysis of the survey responses.



Credit: Martin Trust Center

2019 delta v cohort

A look at the MIT delta v Program: 10 years in the making

ENTREPRENEURS

Over the past decade, the MIT delta v program has served 692 participants, of whom 66.90% were MIT students and 33.10% were students from other universities around the world. Table 1 shows delta v participants, by cohort.

The proportion of non-MIT students was higher in the earlier cohorts of the program, then called MIT Global Founders' Skills Accelerator (MIT GFSA), because it was initially conceptualized as an international entrepreneurship program aiming to select the best teams from across all of MIT schools, as well as top student teams from selected global university partners. Thus, from 2013 to 2016, the program paired MIT teams with teams from leading universities in Canada, China, Germany, Mexico, Russia,

Scotland, Spain, and Turkey. This strategy allowed student entrepreneurs from around the world to work together, collaborate and learn from each other, ensuring a global and comprehensive perspective on new venture creation.

In 2016, the program changed its name to MIT delta v and began to focus exclusively (with some Wellesley teams) on current MIT student-centered teams. However, the program continued to welcome participants from other universities and organizations to join the MIT founding teams during the summer experience. Thus, as of 2016, all teams must have at least one MIT enrolled student, who may team up at any level (cofounder, intern, founding team, etc.) with students or alums from other universities.

Table 1: MIT and non-MIT participants in delta v program, by cohort

Cohort	Total # of participants	MIT students	% MIT/Total	Non-MIT Students	% Non-MIT/Total
2012	34	25	74%	9	26%
2013	47	20	43%	27	57%
2014	50	28	56%	22	44%
2015	56	38	68%	18	32%
2016	75	52	69%	23	31%
2017	104	76	73%	28	27%
2018	93	67	72%	26	28%
2019	103	65	63%	38	37%
2020	60	45	75%	15	25%
2021	70	47	67%	23	33%




Total

692

463

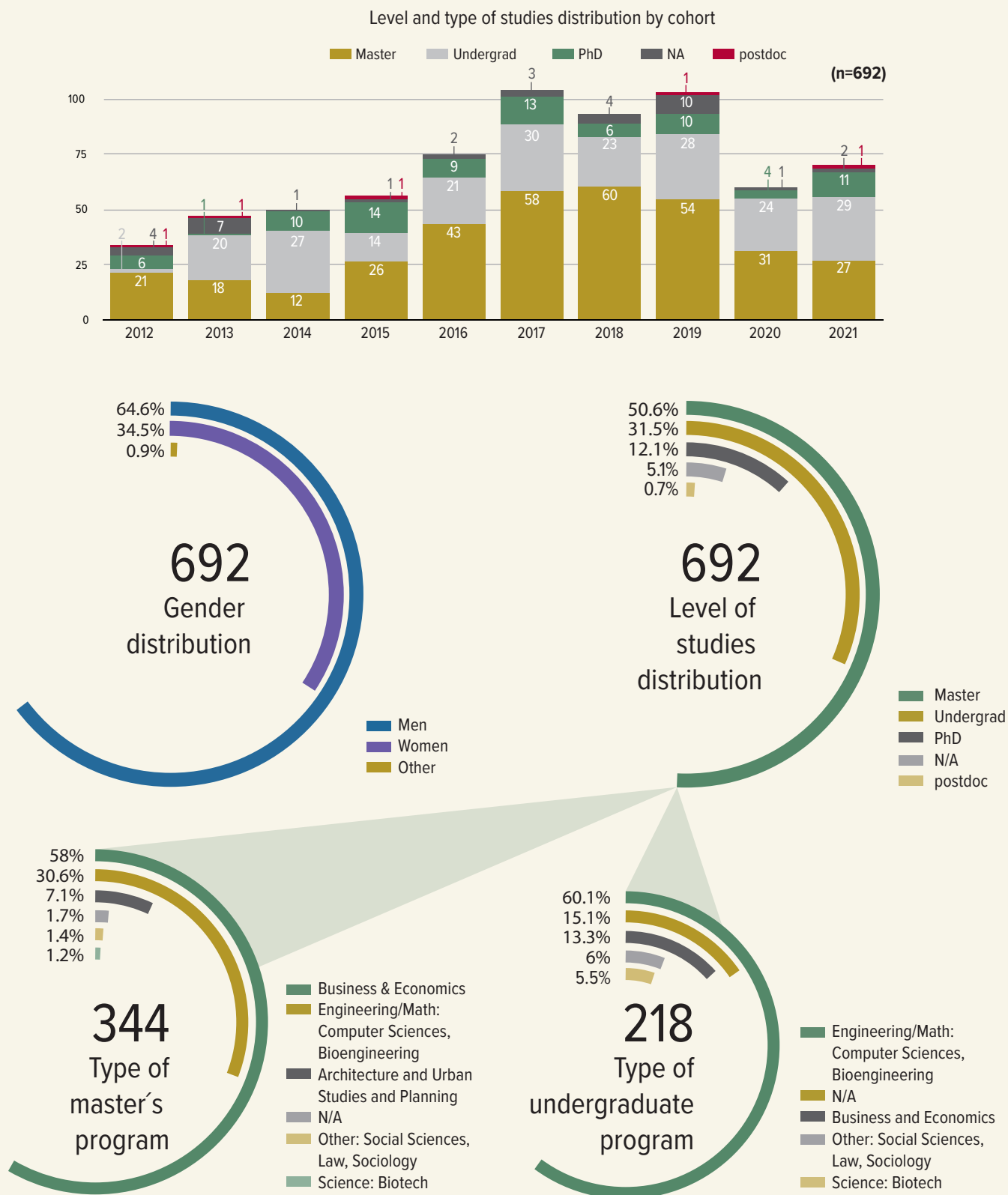
66.90%

229

33.10%

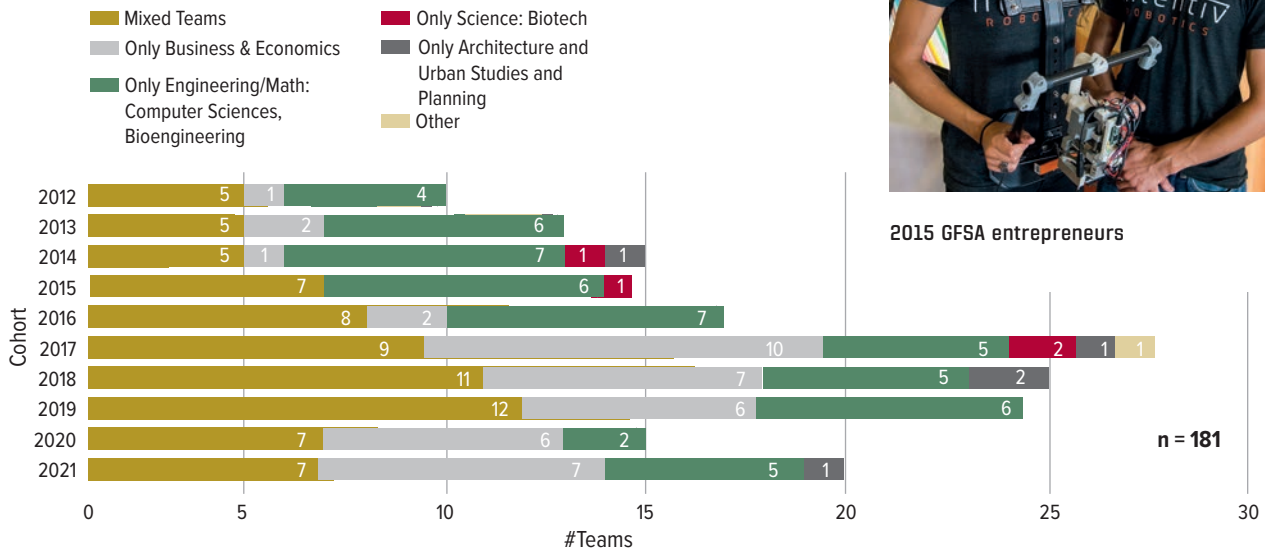
As shown in Figure I, for the first cohort, most participants were studying for a master's degree. However, after the second cohort, a considerable

effort was made to reach students with different levels and areas of education across campus and universities.

Figure I: Snapshot of all MIT delta v participants

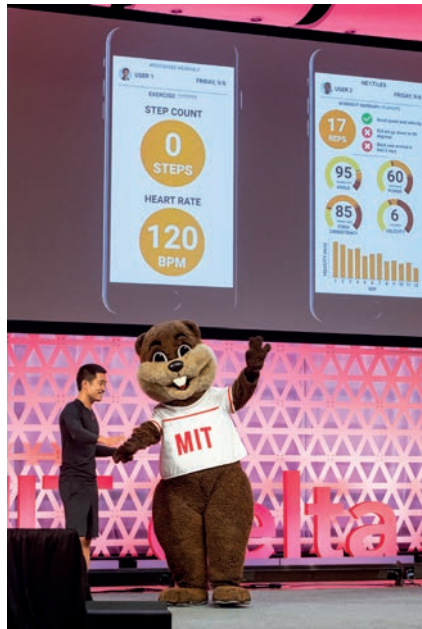
In addition, as shown in Figure II, it is noteworthy that delta v participants form teams with diverse educational backgrounds.

Figure II: Diversity of teams by type of studies, by cohort



2015 GFSA entrepreneurs

Credit: Martin Trust Center



Tim the Beaver, Demo Day at Kresge Auditorium

MIT STUDENTS

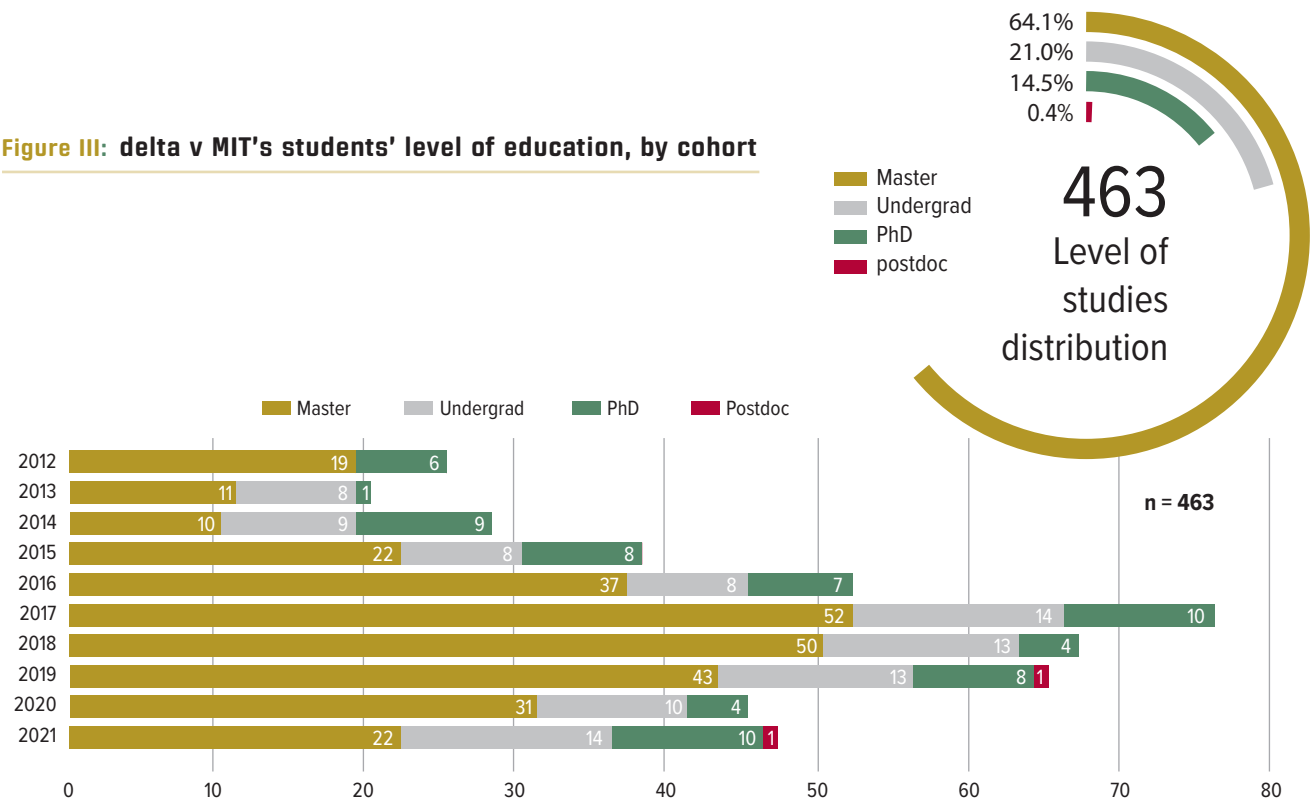
One aspect worth highlighting about delta v is that it has increased connectedness across MIT campus. The Martin Trust Center's philosophy is that to be the best innovation-driven entrepreneur, one must not only have an interdisciplinary mindset and skillset, but also learn to build and work with diverse teams. Heterogeneous teams complement each other and create hybrid vigor.

Throughout the last ten years, delta v has successfully attracted MIT students from across campus. As shown in Figure III, in terms of educational level, of the 463 MIT students, 64.10% were master's students, 21% were undergraduates, 14.50% were Ph.D. students, and 0.40% were postdoctoral students.

One aspect worth highlighting about delta v is that it has increased connectedness across MIT campus.

Credit: Martin Trust Center

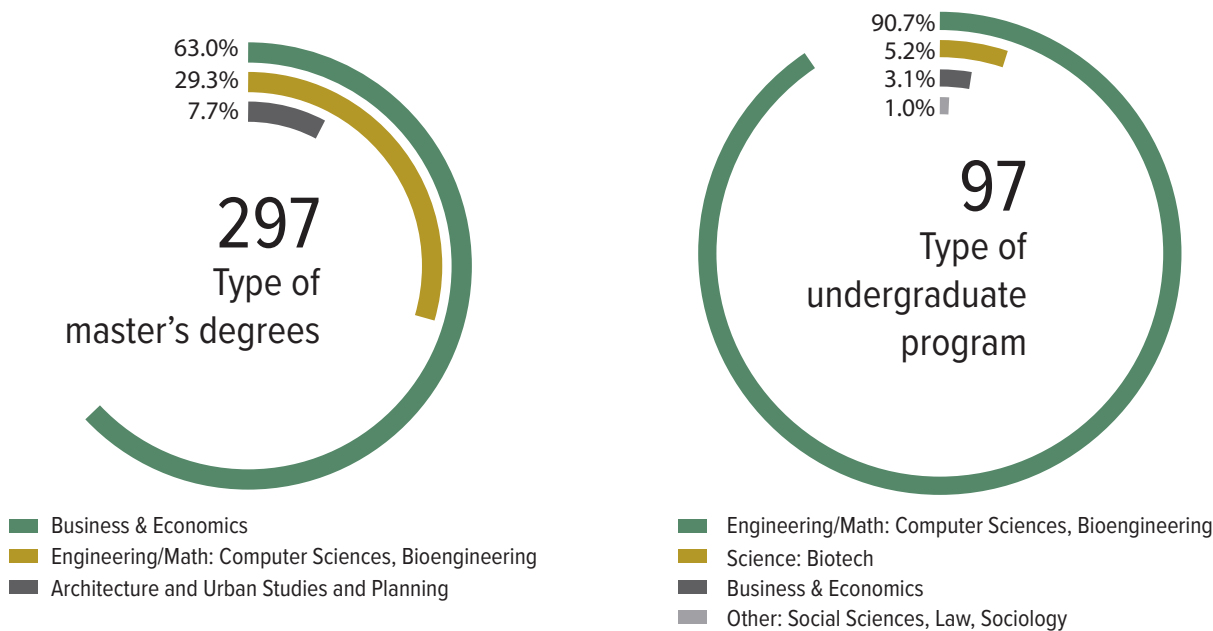
Figure III: delta v MIT's students' level of education, by cohort



As shown in Figure IV, 63% of the master's students were pursuing a management-related degree, 29.30% were pursuing an engineering degree, and 7.70% were enrolled in the School of Architecture and Planning.

As for the undergraduate students, the vast majority (90.70%) were Engineering, Mathematics, Computer Science, or Bioengineering students.

Figure IV: MIT students' program education, by type

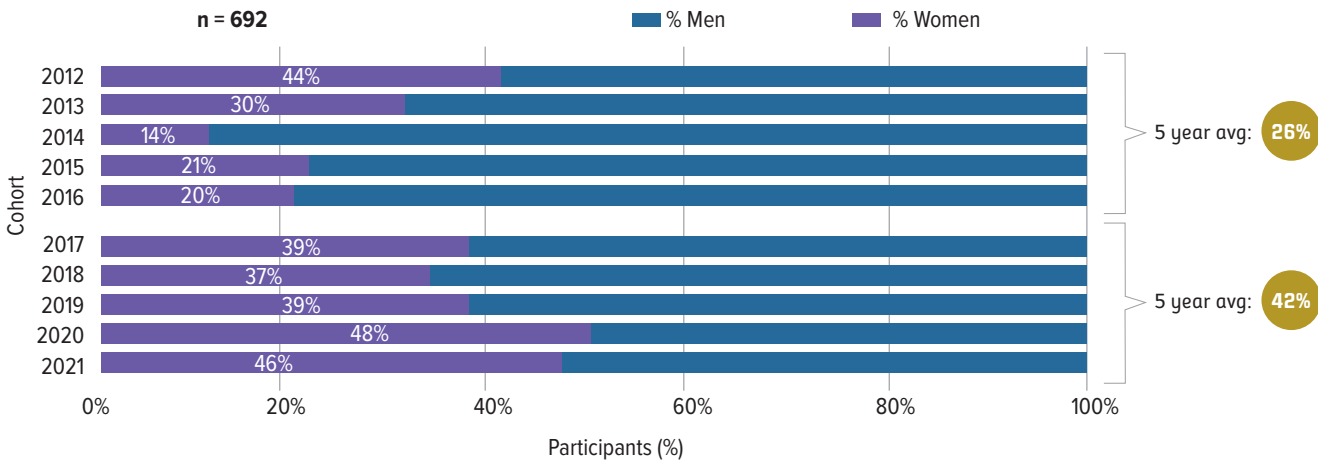


WOMEN PARTICIPATION

Regarding gender diversity, the Trust Center has focused on increasing the participation of women entrepreneurs over time. Across all cohorts, of the 692 delta v alumni, 447 identified as men (64.60%), 239 identified as women (34.50%), and 6 identified as non-binary (0.90%.) As shown in Figure V, the

percentage of women in the early cohorts was extremely low, particularly in 2014, 2015, and 2016, at 14%, 21%, and 20%, respectively. The five-year average from 2012 to 2016 was only 26%. This trend has positively increased to a five-year average of 42%. In addition, in the most recent cohorts, 2020 and 2021, the proportion of women has increased to 48% and 46%, respectively.

Figure V: Women participants, by cohort



In terms of women’s participation in delta companies, 69% of teams have at least one woman per team across cohorts. The five-year average was 61%

from 2012 to 2016 and 75% from 2017 to 2021. This proportion has increased in the most recent cohorts, reaching 90% in 2021 (Table 2).

Table 2: Proportion of teams with at least one woman, by cohort

Cohort	Total # of companies	# of teams w/at least one woman in the team	% of teams w/at least one woman per team
2012	10	8	80%
2013	13	9	69%
2014	15	7	47%
2015	14	7	50%
2016	17	10	59%
2017	28	20	71%
2018	25	18	72%
2019	24	16	67%
2020	15	11	73%
2021	20	18	90%
Total	181	124	69%

69% of teams have at least one woman per team across cohorts.

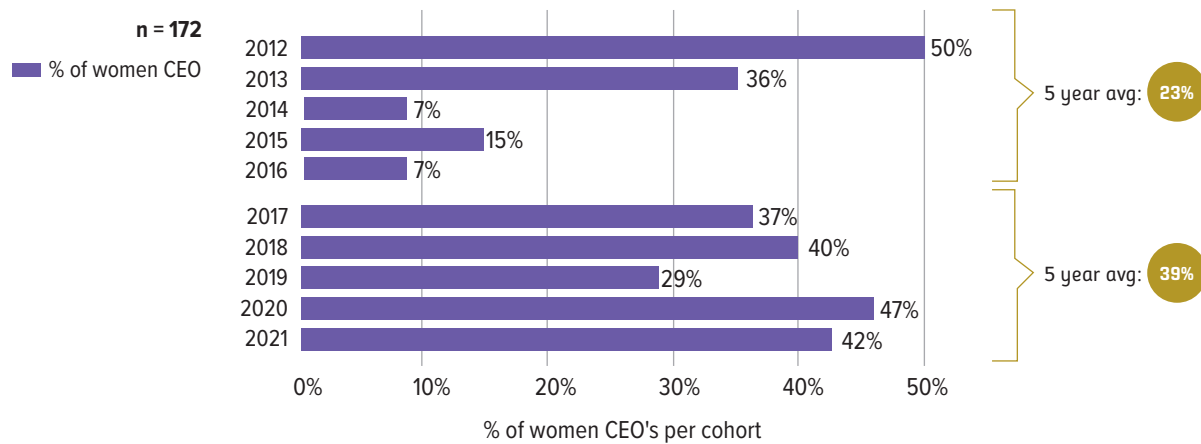
5 year avg: 61% (2012-2016)

5 year avg: 75% (2017-2021)

More importantly, as Figure VI shows, the proportion of women in leadership positions (i.e., CEO) in the delta v companies has increased considerably in recent years. Moreover, the proportion of women CEO in

delta v companies is much higher than the US average. According to Statista⁴, 14% of US startups have a female CEO, which means only two cohorts have been below that average.

Figure VI: Proportion of women CEO in delta v companies, by cohort



Note: Unspecified or unknown CEO Roles are not included (9/181)

Source: MTC information, LinkedIn profile, and delta v survey



The proportion of women in leadership positions (i.e., CEO) in the delta v companies has increased considerably in recent years.

Credit: Martin Trust Center

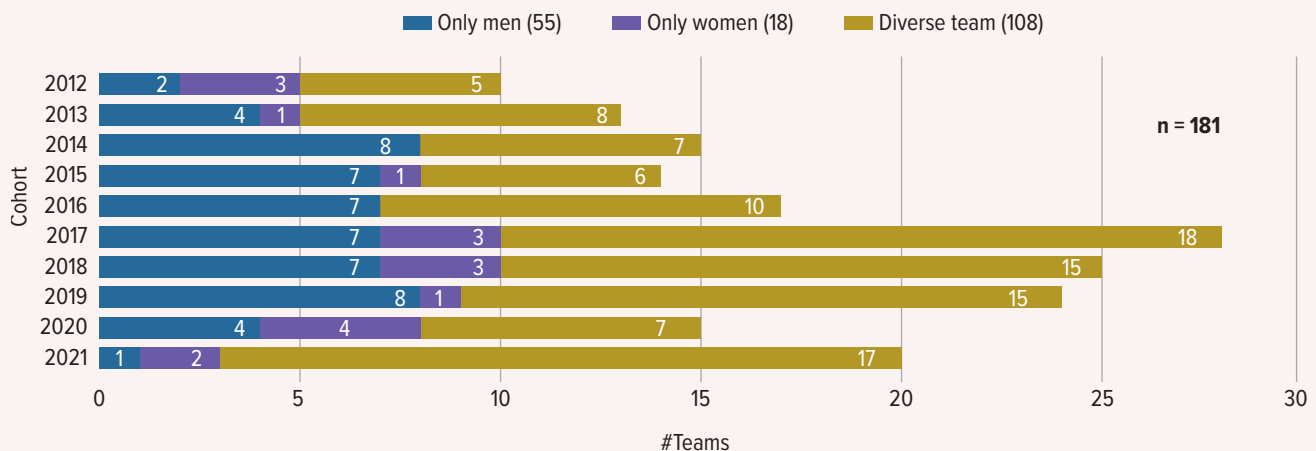


One of the most outstanding characteristics of the program is the gender diversity of teams.

One of the most outstanding characteristics of the program is the gender diversity of teams. For example, as shown in Figure VII, 108 teams (60% of teams) have at least one woman, 18 (10%) teams have only women, which means that a total of 70% of teams have a least one women. This is a much higher percentage than the 20% and 28% of startups with at least one woman globally and in the US, respectively⁴.

2015 MIT GFSA cohort women entrepreneurs

Figure VII: Gender diversity of teams, by cohort



⁴ Statista, 2022. Female startup founders worldwide - statistics & facts. Visited online on Oct 6, 2023 <https://www.statista.com/topics/4691/female-founded-startups/#topicOverview>

GEOGRAPHY

Throughout the last decade, particularly in the first five years of the program, delta v has attracted students not only from other local universities, but also from around the world.

As shown in Figure IX, delta v has welcomed students from universities around the world, including ITAM (Mexico), McGill University (Canada), Universidad Politécnica de Madrid (Spain), the University of Edinburgh (United Kingdom), Universidad de Chile (Chile), Heidelberg University (Germany), Lead University (Costa Rica), and Zhejiang University (China), as well as the Technical University of Munich (TUM).

Throughout the last decade, particularly in the first five years of the program, delta v has attracted students not only from other local universities, but also from around the world.

Figure VIII: Number of students from other universities across all cohorts (2012-2021)

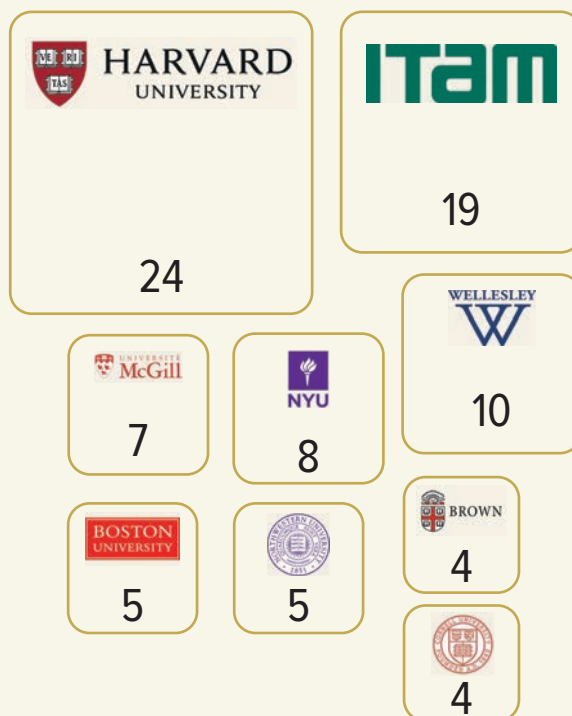


Figure IX



Source: MTC information and LinkedIn profiles

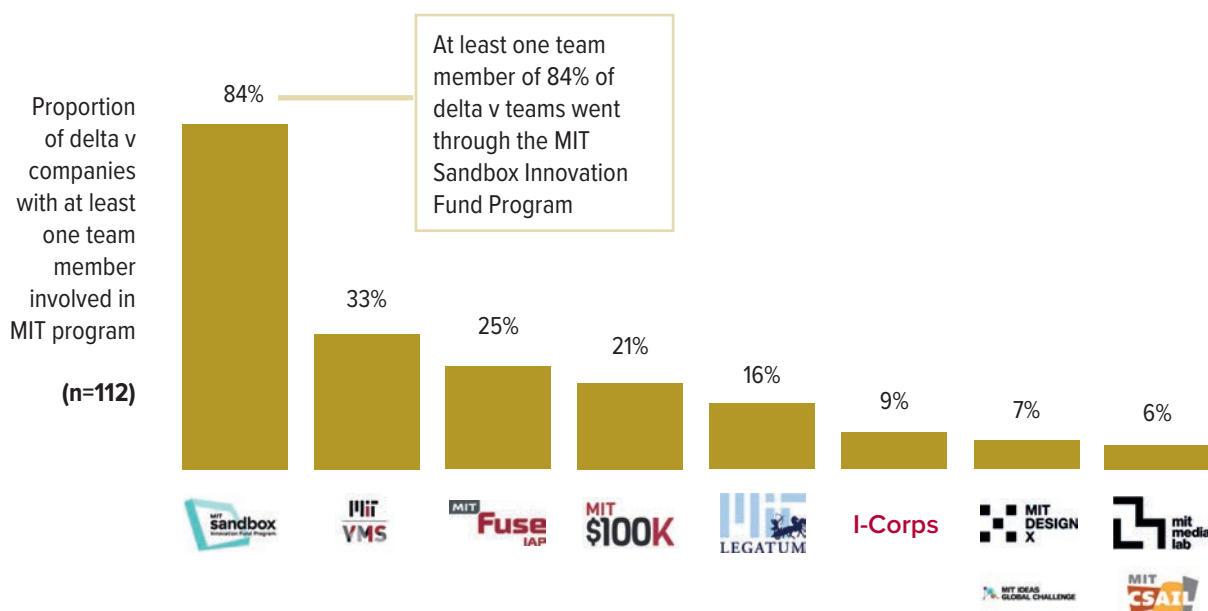
ENGAGEMENT WITH THE MIT ENTREPRENEURSHIP ECOSYSTEM

The MIT delta v acceleration program is the ultimate milestone in a carefully designed ecosystem that includes programs and activities at both the Trust Center and MIT to provide MIT students with an exceptionally robust, rigorous, and customized entrepreneurship education experience inside and outside the classroom. Thus, the program seeks highly motivated students who have proven that they leverage the myriad of entrepreneurship initiatives the Martin Trust Center and MIT offer. Hence, the aspiration of being selected for delta v becomes a multiplier effect that increases the participation and quality of all the other MIT programs.

As shown in Figure X, from 2017 to 2021 (a five-year data set for delta v) 84% of teams had at least one team member that had gone through the MIT Sandbox Innovation Fund Program, 33% of teams had received support from the Venturing Mentoring Service Program, and one in four teams participated in the Fuse mini-accelerator program hosted by the Trust Center. In addition to these top programs, prior to joining delta v, 21% of teams participated in the 100K competition, 16% were Legatum Fellows, 9% participated in I-Corps, 7% in MIT Design X, and 6% in CSAIL (Computer Science and Artificial Intelligence Lab), among others.

The MIT delta v acceleration program is the ultimate milestone in a carefully designed ecosystem that includes programs and activities at both the Trust Center and MIT to provide MIT students with an exceptionally robust, rigorous, and customized entrepreneurship education experience inside and outside the classroom.

Figure X: Top MIT entrepreneurship initiatives leveraged by delta v participants between 2017-2021



COMPANIES

From 2012 to 2021 a total of 181 companies participated in the delta v program (see Appendix for the list of companies). Table 3 shows the total number of teams by cohort. The program was significantly smaller in the early cohorts and began to grow in 2017, when the Trust Center expanded the summer accelerator to a second location in New York City. Beginning in 2017, the number of teams increased as the Trust Center opened a NYC Studio version of the program. In total, 141 MIT teams, 14 international teams, and 26 NYC teams have participated in delta v.

Table 3: Total number of teams, by cohort

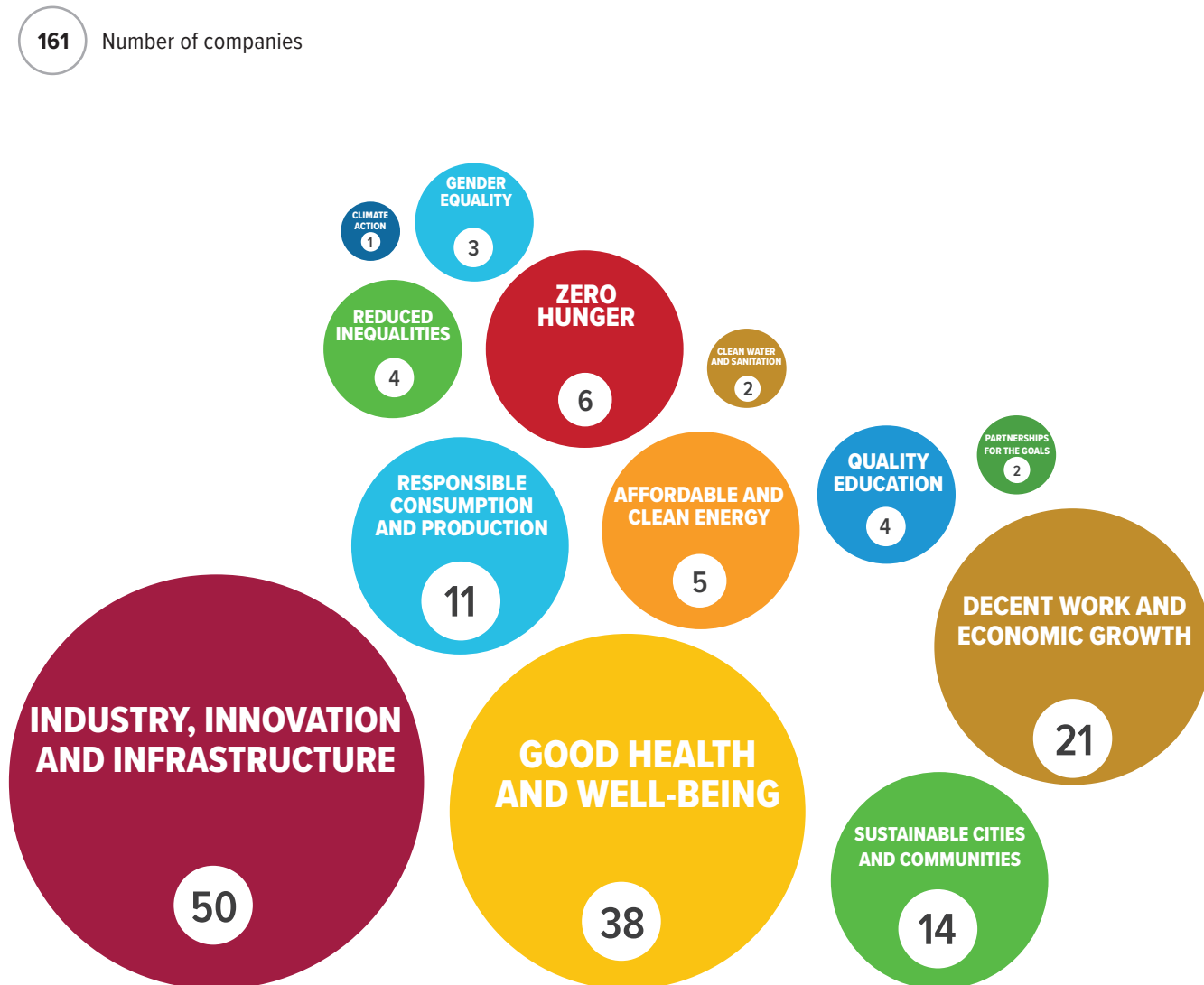
Cohort	Cambridge teams	International teams	NYC studio teams	Total # teams
2012	10	0	0	10
2013	7	6	0	13
2014	11	4	0	15
2015	12	2	0	14
2016	16	1	0	17
2017	20	1	7	28
2018	18	0	7	25
2019	17	0	7	24
2020	10	0	5	15
2021	20	0	0	20
Total	141	14	26	181





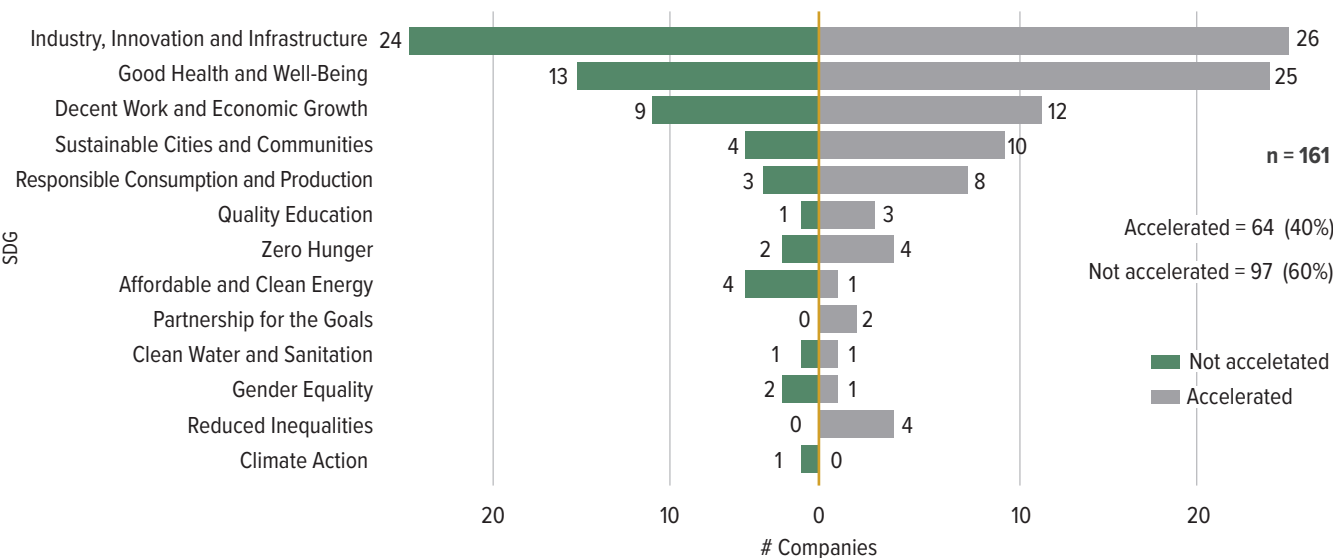
delta v entrepreneurs are eager to tackle the world's most significant challenges. It is not surprising, then, that delta v companies seek to solve problems aligned with the United Nations Sustainable Development Goals. As shown in Figure XI, 89% are aligned with the United Nations Sustainable Development Goals. 50 companies (28% of all total delta v companies) are aligned with Goal 9: Industry, Innovation, and Infrastructure, which is focused on companies building resilient infrastructure and promoting sustainable industrialization and foster innovation; 21% of the companies are aligned with Goal 3: Good Health and Well-being, which aims to ensure healthy lives and promote well-being for all ages. The third top Goal, with 21 companies focused on it, is Goal 8: Decent Work and Economic Growth. This Goal promotes inclusive and sustainable economic growth, employment, and decent work for all, in particular to increase employment opportunities, reduce informal employment and labor market inequalities, and ensuring sustainable and inclusive economic growth.

delta v entrepreneurs are eager to tackle the world's most significant challenges.

Figure XI: MIT delta v companies aligned with Sustainable Development Goals (SDG)

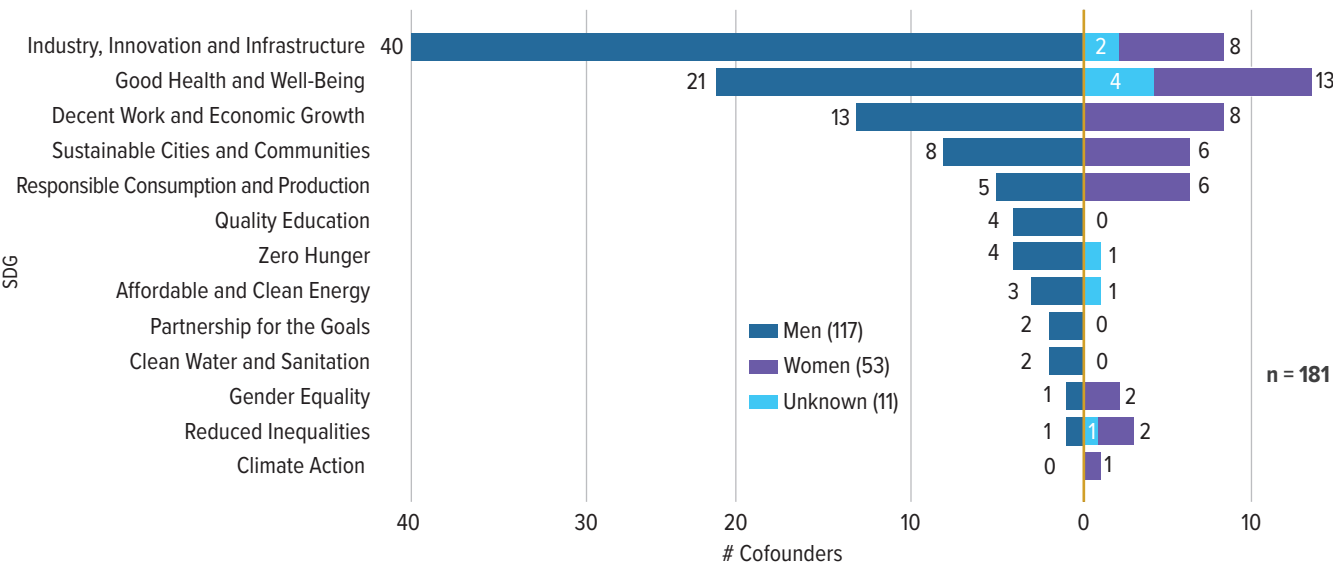
Not surprisingly, a high proportion of companies aligned with these top three Goals were accelerated after being in delta v. Figure XII shows that 24 companies aligned with Goal 9 participated in a second acceleration program, followed by 13 companies aligned with Goal 3, and 9 companies aligned with Goal 8. As can be seen, the impact of acceleration varies across the Goals. Almost half of the companies benefited from acceleration to achieve Goal 9. However, only one-third of the companies aligned with Goal 3 benefited from acceleration. In addition, 4 out of 5 companies aligned with Goal 7: Affordable and Clean Energy were accelerated. This means that more than one-third of companies were accelerated, showing that the entrepreneurial ecosystem is aligned with transforming our world for sustainability.

Figure XII: Acceleration status by Sustainable Development Goal



As shown in Figure XIII, women CEOs are focused on the top five sustainable development goals.

Figure XIII: Sustainable development goal, by gender of CEO.



INDUSTRIES

The delta v program is industry agnostic; therefore, the program has accelerated companies in a wide variety of industries. As shown in Figure XIV, more than 50% of delta v companies have focused on five main industries. The top sector Healthcare & Healthtech, followed by IT, Data Analytics & Software, Fintech & Financial Services, e-commerce & Marketplaces, and Wellness & Sports & Fitness.

As shown in Figures XIV and XV, 39 companies and 158 students participated in the Healthcare and Health Tech industry, which spans a variety of verticals including medical devices, mental health, wearables, diagnostics, femtech, and skin care. Companies in this industry include companies like **Iterative Scopes**, a pioneer in applying AI-based precision medicine to gastroenterology, and VideaHealth, a company committed to unlocking the value of artificial intelligence and machine learning to improve the delivery of healthcare services for dentists, insurers, and patients, among many others.

Within the Information Technology, Data Analytics, and Software industry, 17 companies and 69 students have focused on solutions in proptech, productivity, legal tech, gaming, future of work, and human resources. There is consensus on the critical role that this sector has played in all aspects of modern society. It has helped companies in almost every industry to improve their productivity, innovate and drive the economy. Women's participation in the sector is 30%, higher

than the percentage of women employed in computer science (24%) (American Enterprise Institute) or among STEM graduates (19%) (STEM Graduates).

Fintech and Financial Services is the third largest industry. Innovation in this industry has increased competition by empowering consumers and democratizing financial services. Fifty-seven entrepreneurs have created 16 companies related to remittances, blockchain, crypto, assessment management, cybersecurity, or insurance, among others. About a quarter of the participants are women (Figure XVI).

Thirteen e-commerce and marketplace companies have participated in delta v, focusing on a great variety of industries including travel, fashion, automotive, housing, food/fish, and recycling. Within this industry, almost half of the 49 participants are women.

Following the trend of improving health, thirteen wellness & sports & fitness companies have also participated in delta v. These companies focus on sportswear, the outdoors, media, entertainment, e-commerce, and the creator economy. Approximately, 40% of the participants in this industry are women.

In addition, as shown in Figure XVI, it is worth emphasizing that the Biotech, Retail & Fashion, and Childcare industries have very high levels of women's participation.

Finally, as shown in Figure XVII, delta v companies in all industries (except Media and Social Impact) have sought a second acceleration program.

Figure XIV: Number of delta v companies, by industry

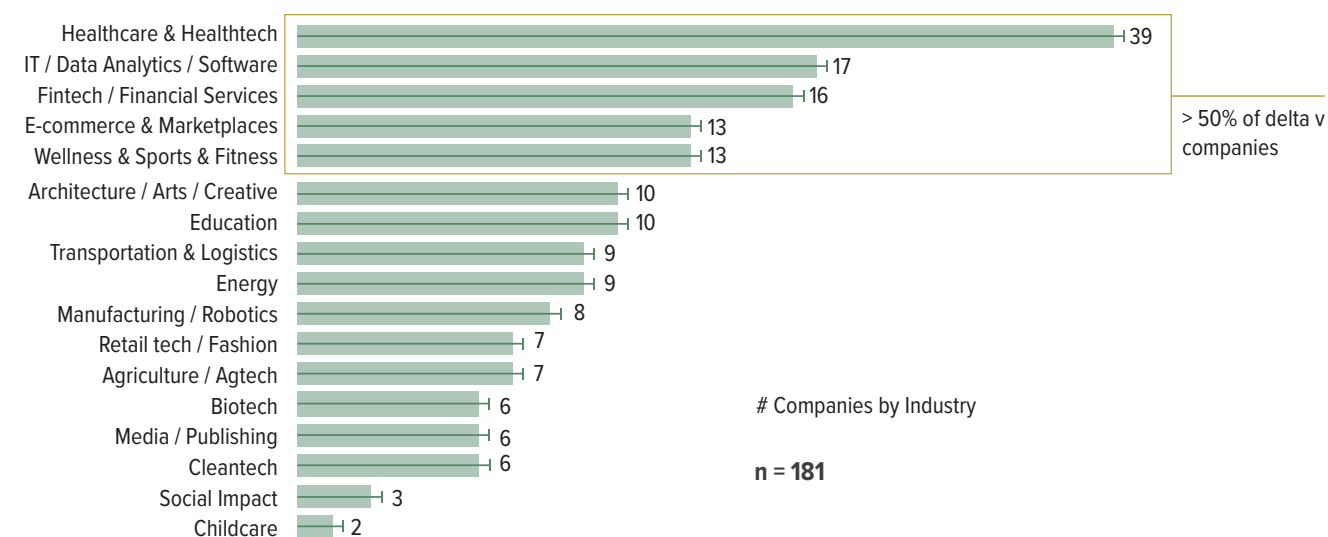
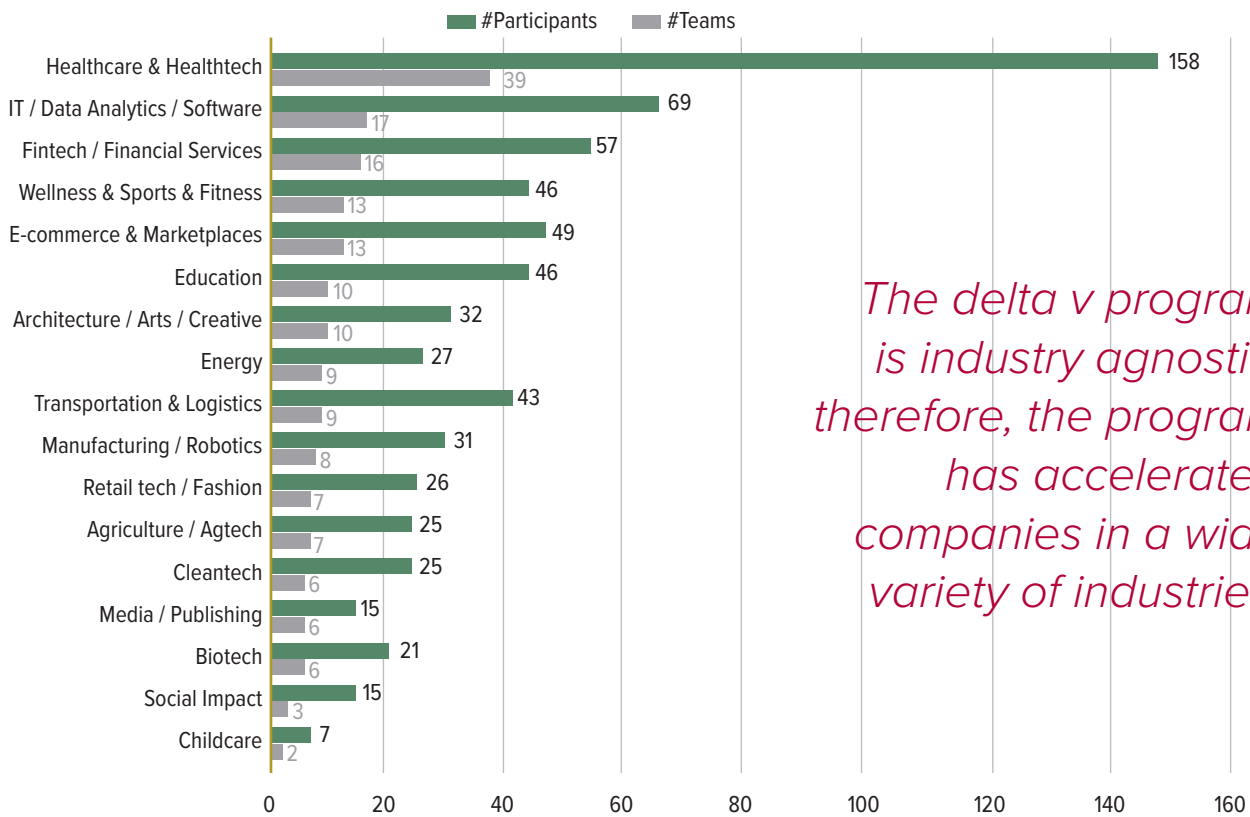
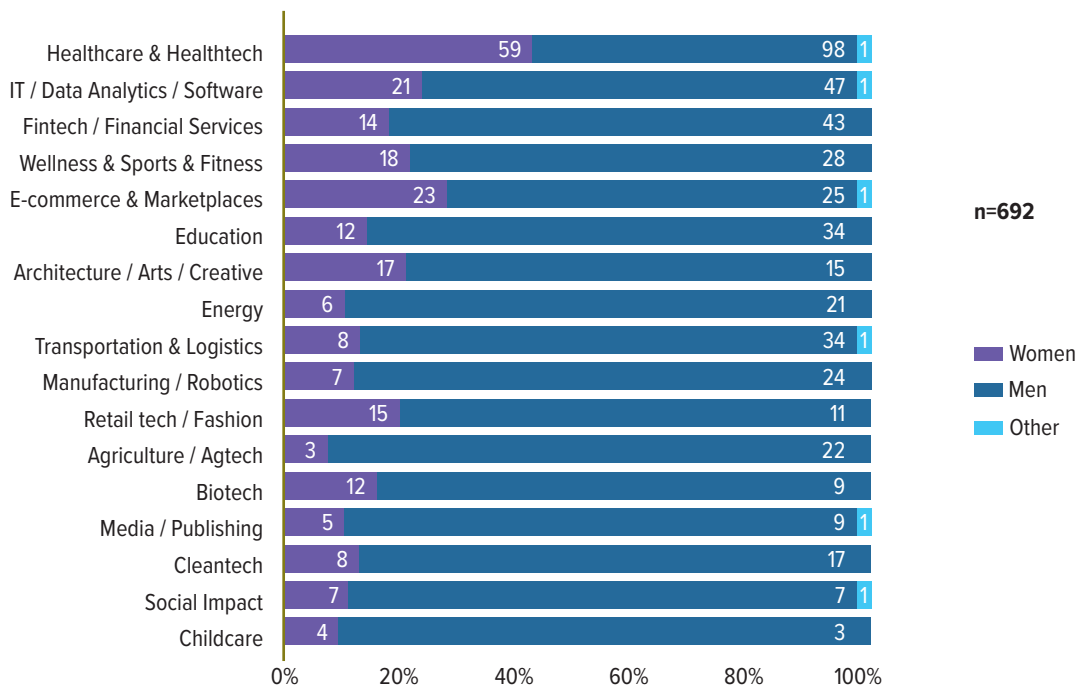


Figure XV: Number of Companies and Participants by industry



The delta v program is industry agnostic; therefore, the program has accelerated companies in a wide variety of industries.

Figure XVI: Participation in industries, by gender



A key aspect of most delta v companies is the complexity of the problems they solve. As a result, it was challenging to place them in just one industry. For example, **Wise Systems** is an artificial intelligence-driven dispatch and routing platform that unlocks the perfect delivery for customers and dispatchers by turning data into better deliveries to improve the efficiency, utilization, and performance of future routing and deliveries. This company is impacting several industries such as IT, Data Analytics & Software, Transportation & Logistics, and Cleantech as it promotes the reduction of greenhouse gases.

Another example is **Accion Systems**, which is developing a revolutionary new propulsion system for satellites that redefines space mobility and reduces the risk of explosion. This technology has multiple knowledge spillovers beyond the aerospace industry.

LiquiGlide is another example of a company that is disrupting multiple industries. Its founders developed a super-slippery coating platform that allows thick sauces and condiments —such as mayonnaise and ketchup— to easily slide out of the bottle. This technology has been applied to multiple industries, including consumer products, manufacturing, and biomedical.

Figure XVII: Company Acceleration Status by Industry

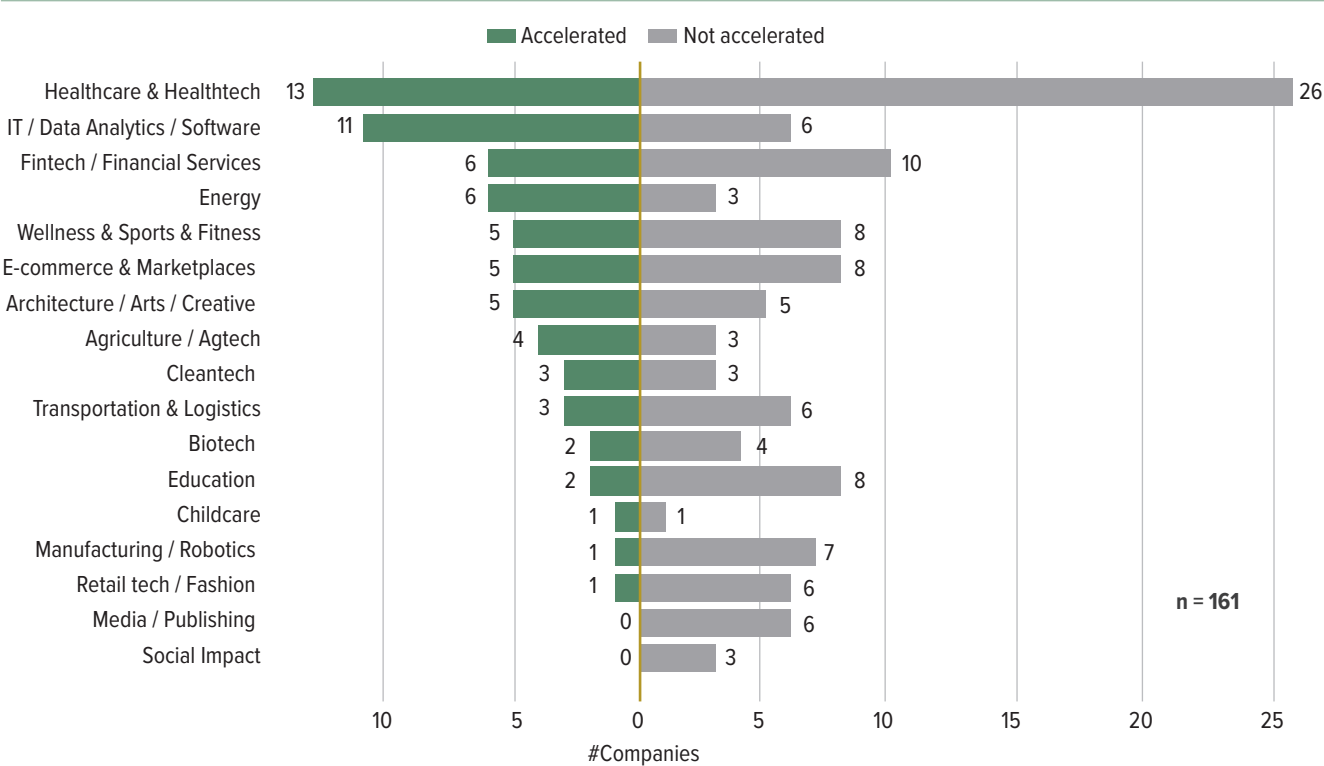
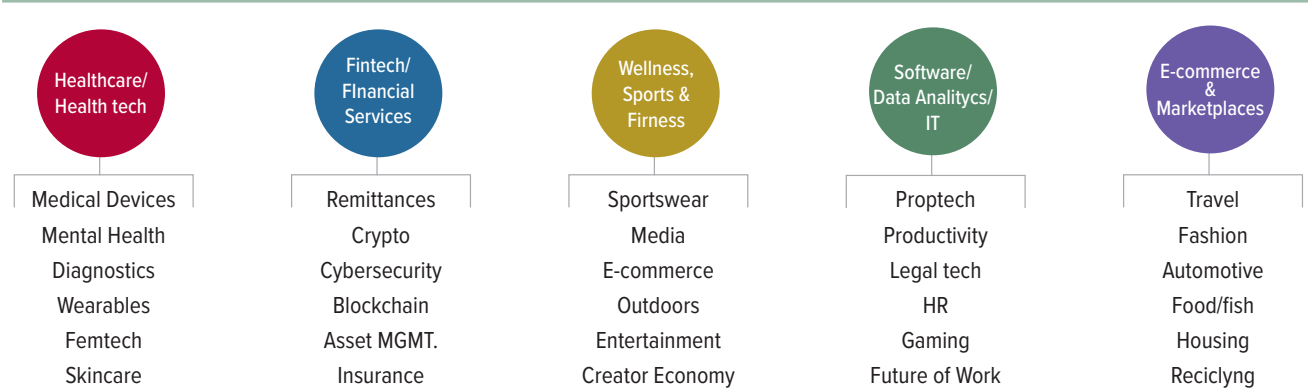


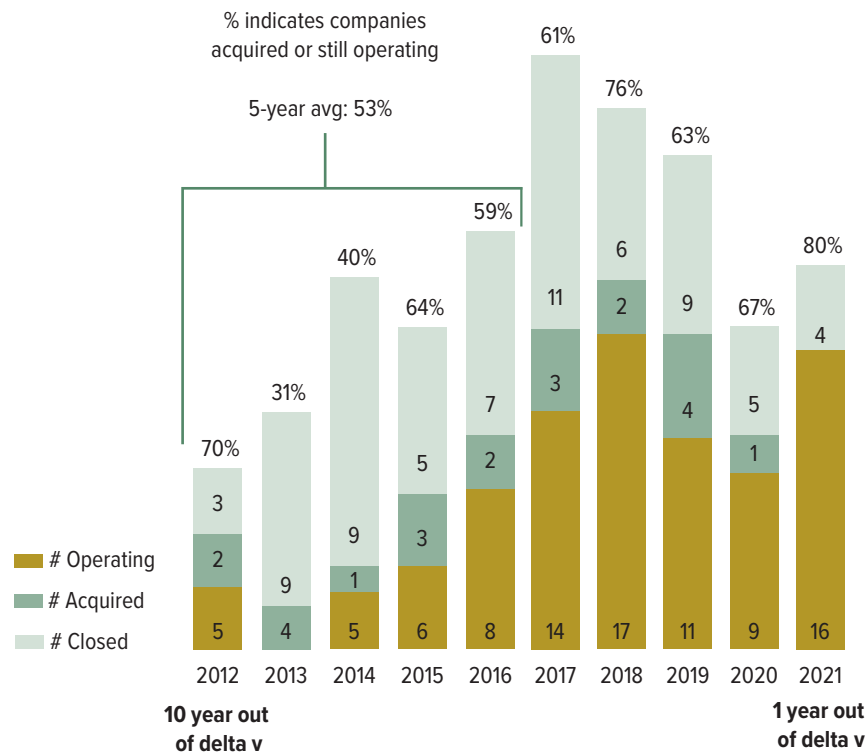
Figure XVIII: Verticals in each of the top 5 industries



Sources : Crunchbase, Pitchbook, companies' websites, and delta v participants survey.

COMPANIES FUNDING AND OUTCOMES

Figure XIX: Breakdown of Outcomes by cohort



Companies outcomes

Across all cohorts, 61% of delta v companies are still in operation or have been acquired. On average, delta v companies operate for nearly two years, with a median of 1.5 years and a maximum of five years of operation before closing.

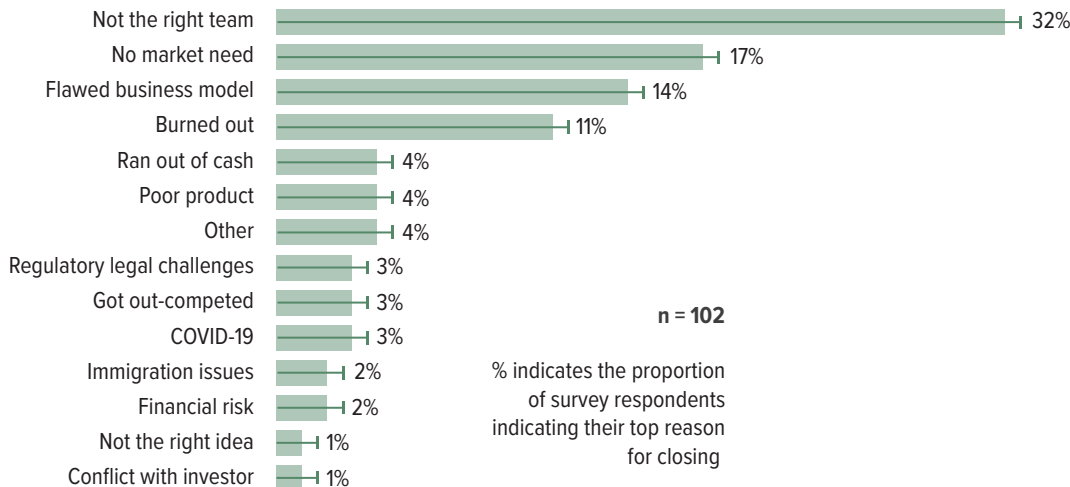
As shown in Figure XIX, the average positive outcome for delta v companies over the five-year period from 2012 to 2016 is 53%.

Across all cohorts, 61% of delta v companies are still in operation or have been acquired.

Reason for closing

According to survey respondents whose delta v companies are no longer operating, the top reason for closing was not having the right team (32%), followed by not finding a market need (17%), a flawed business model (14%), and burnout (11%).

Figure XX: Reason for closing



Fundraising

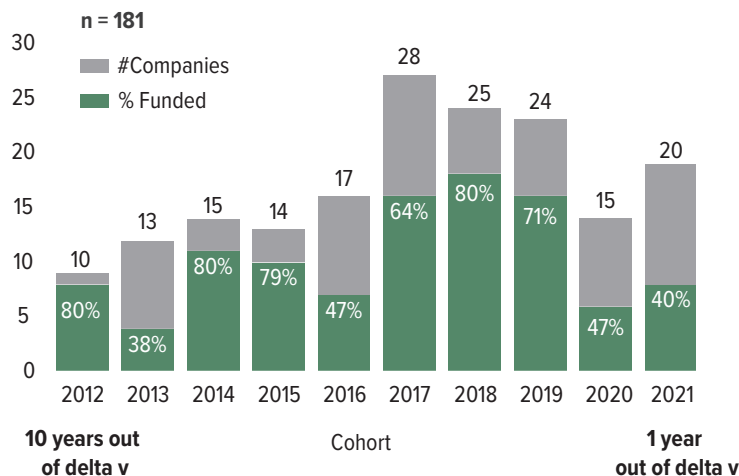
Year over year, a significant portion of delta v companies in each cohort have successfully raised funding. Of the 181 delta v companies, 114 (63%) have raised at least one funding round (Figure XXI). Collectively, delta v companies have raised more than \$1 billion dollars (Figure XXII). This \$1 billion is spread across industries, with 25 companies in the Healthcare and Healthtech industry raising \$342 million, or 32% of the total amount raised (Figure XXIII). Within this industry, \$194 million was raised by Iterative Scopes (Figure XXIV).

It is important to note that comparisons among cohorts should be made with caution, as earlier cohorts were not only smaller in size (e.g., 10 companies in 2012 vs. 20 companies in 2021) but have also been operating for much longer (e.g., one year vs. 10 years). Figure XXI.

With only one year out of delta v, eight companies in the 2021 cohort have already raised funding.

*delta v
companies
have raised
more than
\$1 billion*

Figure XXI: Proportion of companies funded, by cohort



Year over year, a significant portion of delta v companies in each cohort have successfully raised funding.

Figure XXII: Total amount raised, by cohort (in Millions)

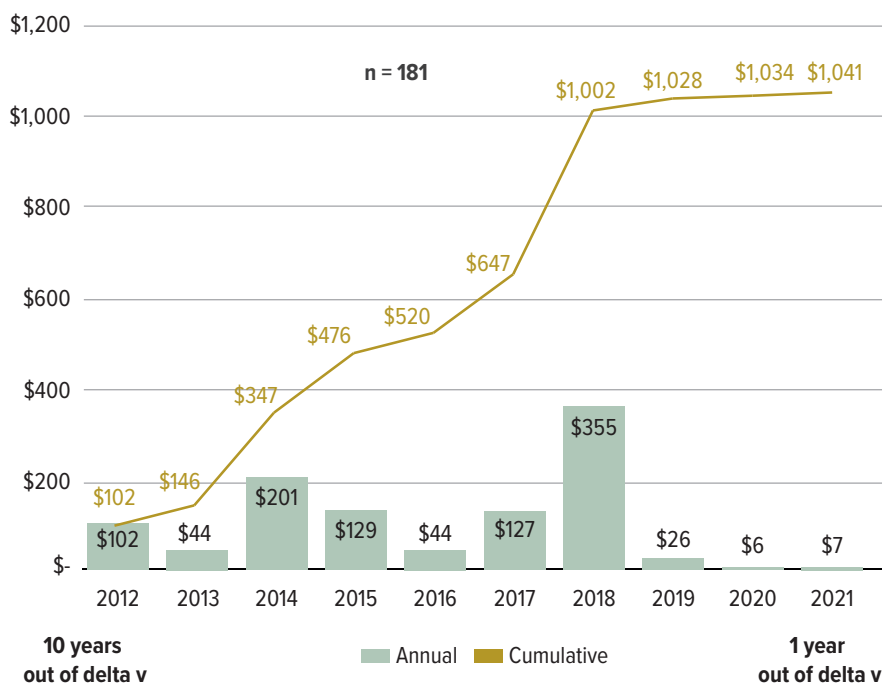
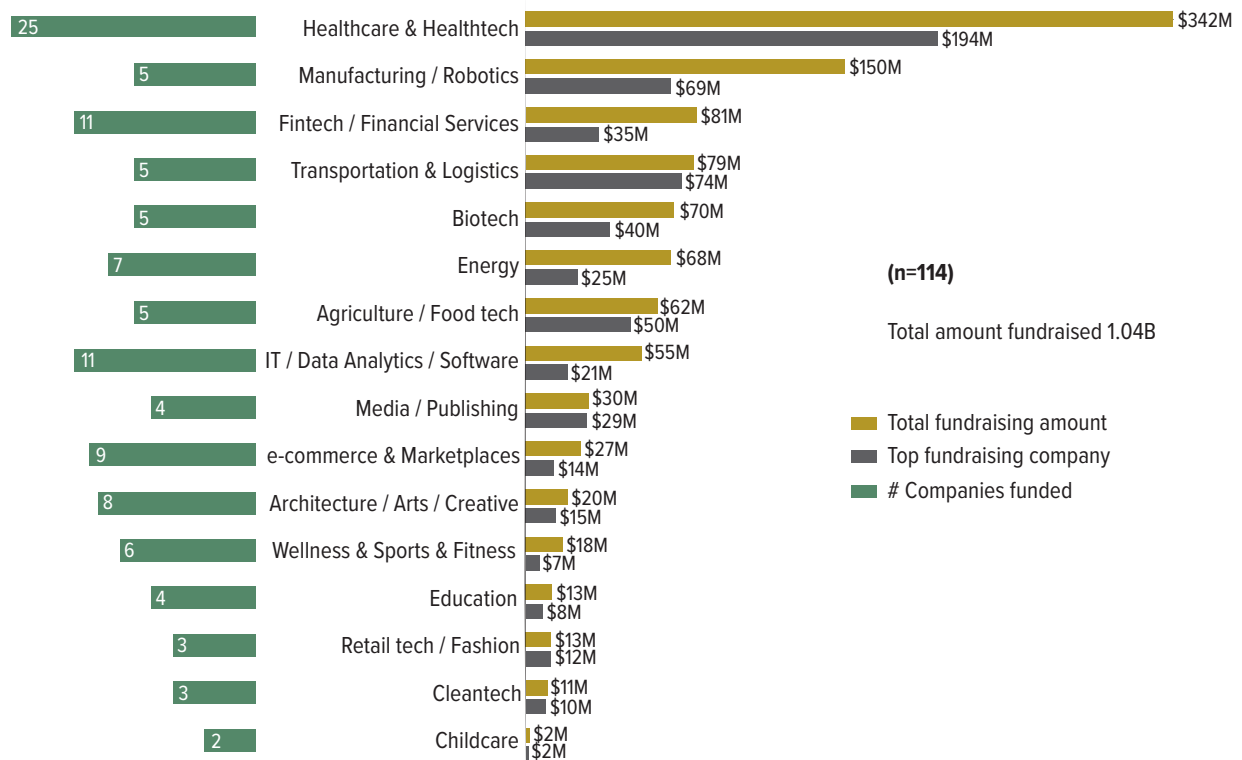


Figure XXIII: Total amount raised, by industry and number of companies

Sources: Crunchbase, Pitchbook, and delta v survey.
 Fundraising amount as of June 11, 2022.

Finally, as shown in Figure XXIV, the top fundraisers across the 10 cohorts span seven unique industries, illustrating the diversity and strength of the MIT delta v program.

Figure XXIV: Top fundraisers, by cohort

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
										
	LiquiGlide	Nima	WiseSystems	ORI	Amoire	BioBot	Interactive Scopes	Acoustic Wells	Thiozen	Pelicargo
Industry	TECH	HEALTHCARE	LOGISTICS	FURNITURE ROBOTICS	RETAIL	BIOTECH	HEALTHCARE	ENERGY	ENERGY	LOGISTICS
Fundraising Amount ¹	\$50M	\$22M	\$73M	\$45M	\$12M	\$27M	\$194M	\$10M	\$3.3M	\$2.5M

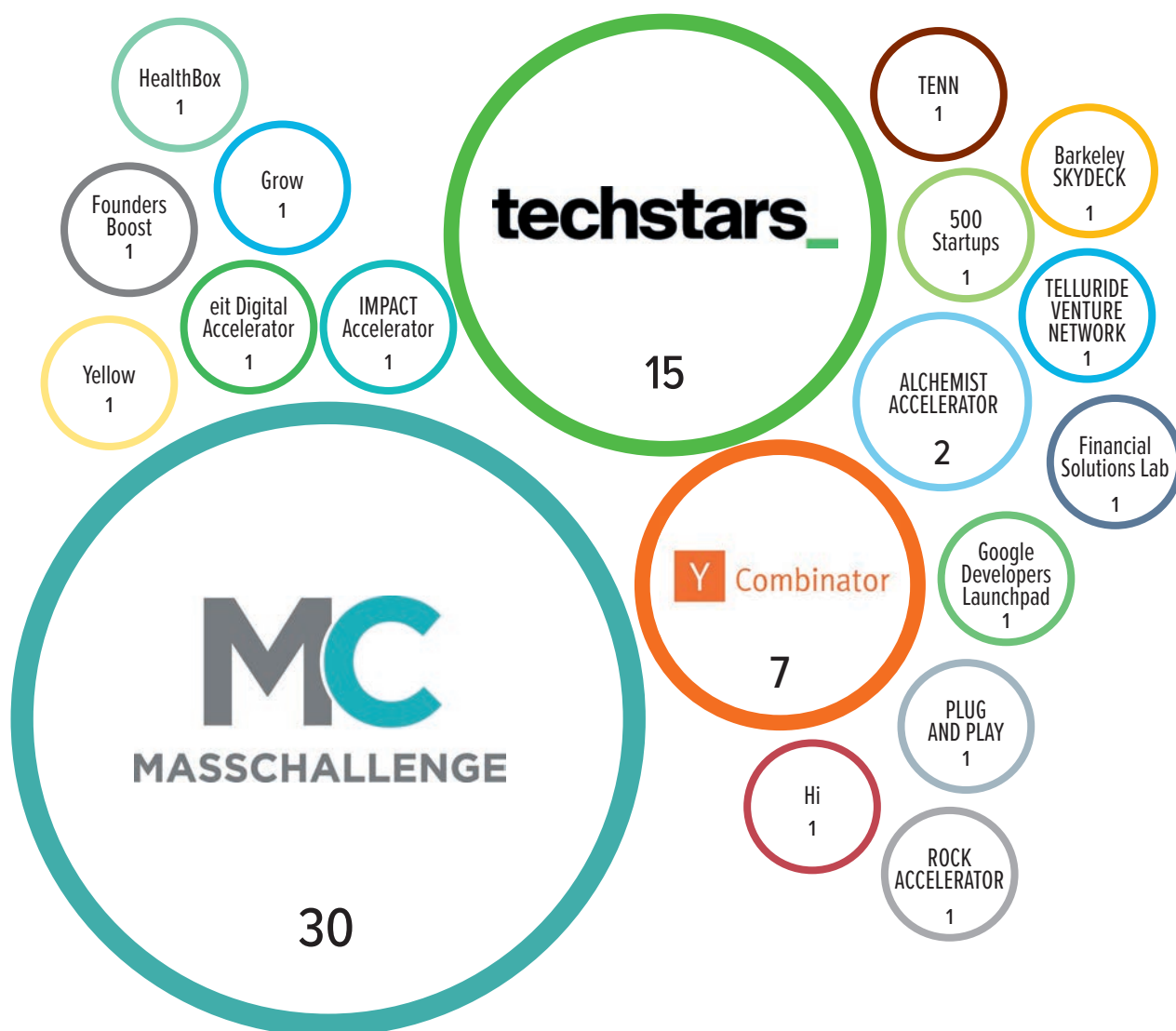
¹-Fundraising amount as of June 11, 2022. Sources: Crunchbase, Pitchbook, and delta v survey.

Other acceleration programs

The delta v program works with early-stage companies, preparing them to know who their customer is, validating their customer segment and beachhead market, and serving as a ramp to the scale. Thus, it is notable that a significant number of companies continue their entrepreneurial journey in other highly competitive accelerator programs. Of the 181 companies, 68 (37.5%) were selected for other accelerator programs. As shown in Figure XXV, MassChallenge has been the largest second accelerator program (30), followed by Techstars (15) and Y Combinator (7).

*Of the 181 companies,
68 (37.5%) were
selected for other
accelerator programs.*

Figure XXV: Number of delta v companies that have taken part in a 2nd acceleration program



CASE EXAMPLE: MARIANA MATUS, COFOUNDER BIOBOT ANALYTICS

Mariana Matus's journey to Biobot Analytics began at MIT, where she earned a Ph.D. in Computational and Systems Biology. As a student, Mariana discovered her passion for capitalizing on big data to improve human health and specialized in the emerging field of wastewater epidemiology.

To pursue her passion, Mariana worked with Dr. Eric Alm at the MIT Alm Lab, a lab that “develops complementary computational and experimental methods to engineer the human microbiome” (<https://web.mit.edu/almlab/>). There, Mariana confirmed her passion for putting research into practice and applied to the delta v program in 2015 to launch Everbiome, a smart toilet and wastebasket that automates the collection and analysis of personal health biometrics.

A few months after delta v ended, Mariana and her then-co-founder decided to part ways and not continue with Everbiome. But that did not stop her passion for improving human health or her determination to become an entrepreneur. Mariana and her new cofounder Newsha Ghaeli leveraged opportunities at MIT to work on a new venture, Biobot Analytics, a company that uses wastewater epidemiology to track infectious diseases and public health trends. The co-founders participated in MIT Design X, Sandbox and the 100k Entrepreneurship Competition, and eventually delta v (again!) in 2017.

Since then, the company has taken off: from being part of the Y Combinator program (W18), to being on Fast Company's list of Most Innovative Companies (#3 biotech) and being featured in the *Times* Magazine as one of the most influential companies. Most importantly, both Marina and Newsha have stayed close to the Martin Trust Center, becoming mentors, speakers, and ambassadors of MIT entrepreneurship.



Mariana Matus & Newsha Ghaeli, co-founders of Biobot Analytics

Credit: Martin Trust Center

Survey Results

MIT delta v is proud to play a fundamentally different role than non-academic accelerators like The Engine, Y Combinator, TechStars, or MassChallenge. MIT delta v’s mission is to produce the next generation of innovation-driven entrepreneurs, whether in startups, non-profits, large corporations, government, academia, or anywhere else they can have a positive effect on the world’s greatest challenges. Regardless of whether all projects become successful startups, the program’s goal is for participants to become highly skilled and confident professionals. Hence, the focus is on teaching students “how to fish” (i.e., the craft of entrepreneurship) rather than “catching a fish” (i.e., creating a company through the learning experience).

Therefore, measuring the success of the program using only traditional metrics, such as survival rates or fundraising, overlooks the educational value of the MIT delta v program.

This value is much harder to measure, so in this report we have attempted to capture both the traditional economic metrics, the educational value, and the community that this program has achieved over the past decade.

To this end, we designed an online questionnaire to gather qualitative feedback that would help us evaluate the educational value and community building of the program. The survey also included questions about the participants’ career paths and the progress of delta v companies. Sent to the 692 participants to date, the response rate is 46.7% and over 40% for each cohort (Table 4). Of the delta v alumni respondents, approximately 80% are MIT students or alumni, and 20% non-MIT students; approximately 64% identified as men, 34% as women, and 2% as non-binary. In addition, the survey collected at least one response from 93.40% of delta v companies (Table 5).

Therefore, measuring the success of the program using only traditional metrics, such as survival rates or fundraising, overlooks the educational value of the MIT delta v program.

Table 4: MIT delta v alumni response rate, by cohort

Cohort	Total # of participants	# Responses	Response %
2012	34	18	52.9%
2013	47	19	40.4%
2014	50	22	44.0%
2015	56	27	48.2%
2016	75	36	48.0%
2017	104	52	50.0%
2018	93	40	43.0%
2019	103	45	43.7%
2020	60	25	41.7%
2021	70	39	55.7%
Total	692	323	46.7%

Table 5: At least one response per company, by cohort

Cohort	Total # Companies	At least one response	%
2012	10	10	100.0%
2013	13	10	77.0%
2014	15	13	87.0%
2015	14	11	79.0%
2016	17	16	94.0%
2017	28	27	96.0%
2018	25	25	100.0%
2019	24	24	100.0%
2020	15	14	93.0%
2021	20	19	95.0%
Total	181	169	93.4%

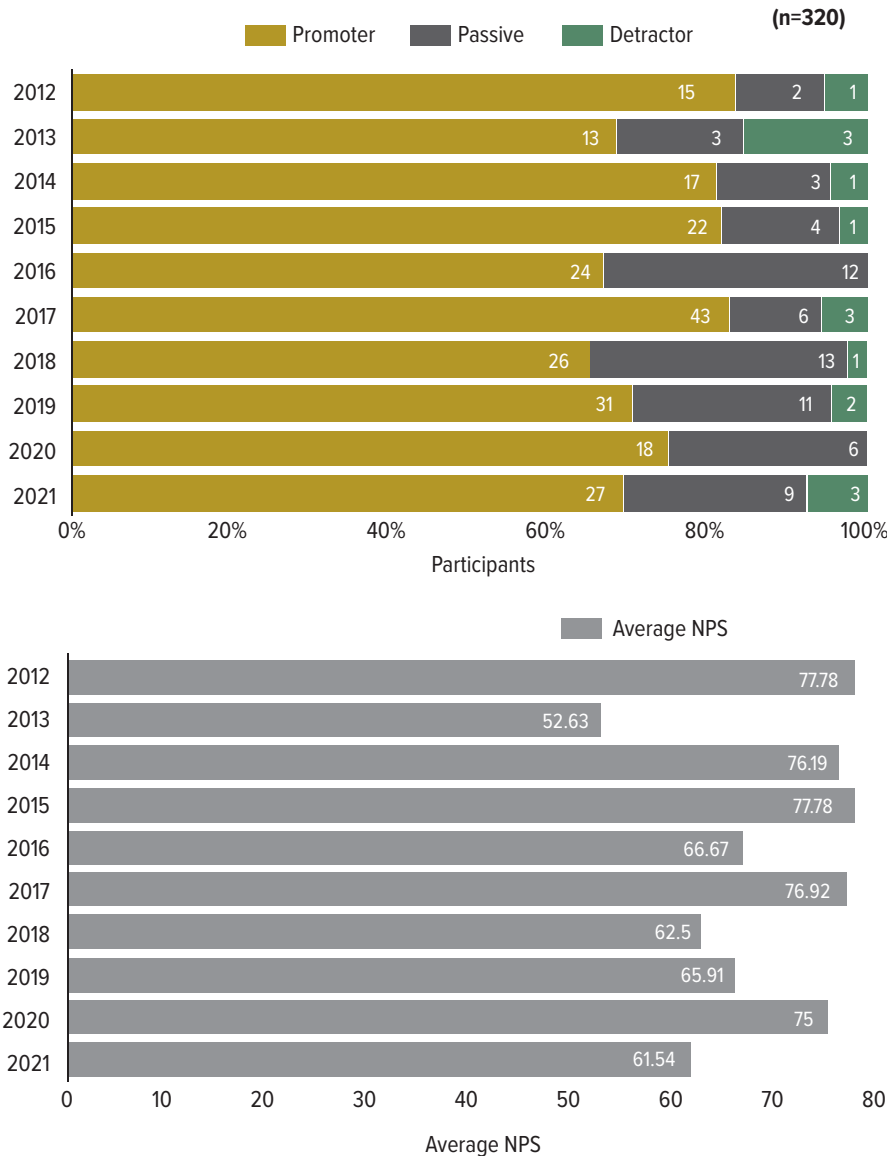
NET PROMOTER SCORE

First, we wanted to know how likely delta v alumni would be to recommend the program to other students on a scale of zero to 10, with zero indicating they are not likely to recommend it and 10 indicating they are extremely likely to recommend it.

The average NPS from the survey respondents across all delta v cohorts is 69, which is considered an excellent net promoter score for an acceleration program⁵. Overall, 73% of survey respondents are promoters, 21.40% are passive, and 5% are detractors. Based on the survey results, the average NPS for each cohort is higher than 52; the 2013 cohort has the lowest NPS (52.63), and the 2012 and 2015 cohorts are tied for the highest reported NPS (77.78). (Figure XXVI).

The average NPS for the survey respondents across all delta v cohorts is 69.

Figure XXVI: NPS analysis, by cohort



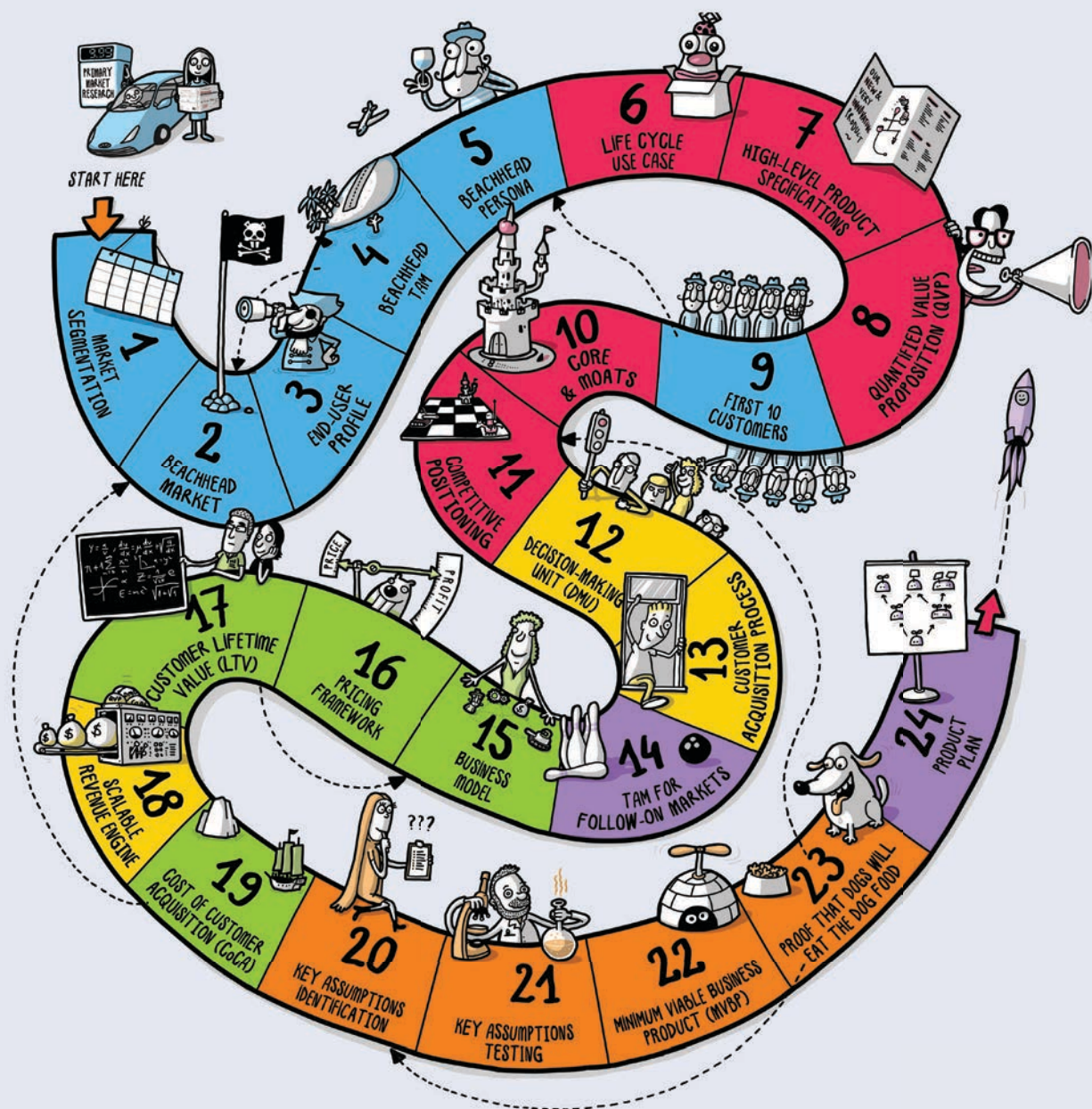
⁵ As a benchmark, Pitchbook's 2023 study "Quantifying the Success of YC and the Largest Accelerators" mentions its survey of founders who attended the largest accelerator (delta v not included) and VC development programs yielded a 47.6 net promoter score.

EDUCATIONAL VALUE

Regardless of the specific outcome of the delta v companies, the primary purpose of the delta v program is to create better entrepreneurs by providing them with the framework and skills that will serve them well in their future endeavors.

Through the delta v journey, participants learn the framework for disciplined entrepreneurship, and the entrepreneurial skills and mindset to put into action in their companies.

Figure XXVII: 24 Steps to a successful startup, Disciplined Entrepreneurship. Bill Aulet



The survey asked participants to rate how well the delta v program prepared them in nine different skills: Primary Market Research (PMR), Product Development, Marketing, Team Formation, Pitching, Financial Projections, Hiring and Firing, Fundraising, and the 24 Steps Methodology.

It is important to note that delta v's curriculum is based on the disciplined entrepreneurship methodology and is divided into three broad themes. The first month focuses primarily on the customer: who the customer is, the problem the company is trying to solve for the customer, and the importance of primary market research to get to know the customer. The curriculum then moves from customer to product: not only what the product is and its quantifiable value proposition, but also product validation. The third and final topic focuses on go-to-market strategies and pitch preparation for demo day. In addition, the program's curriculum is supplemented by guest speakers and mentors who cover other topics such as fundraising and marketing strategies.

As shown in Figure XXVIII, the skill of "pitching" was rated highest by survey respondents, with nearly 88% feeling "very well" or "extremely well" prepared in this skill, followed by the 24 steps methodology (83.59%), and PMR (79.26%). The top two skills learned in delta v are consistently high across all cohorts, except for the 24 steps methodology, which was rated lower in 2012 because this methodology was not formally developed until 2013.

The data suggests that team formation and product development improved in 2021, with nearly 65%



Credit: Martin Trust Center

Entrepreneur at MIT delta v Demo Day

of survey respondents feeling very or extremely well prepared. The skill for which less than 25% of respondents feel very well or extremely well prepared is hiring and firing (19.50%), although the respondents in the 2021 cohort rated this skill higher than previous cohorts (28.21%).

As shown in Figure XXIX, the perceived level of preparation was rated similarly whether the respondent was a co-founder or MIT affiliated, except for product development, which was rated higher by non-MIT participants and non-cofounders.

MOST VALUABLE ASPECTS OF THE DELTA V PROGRAM

In addition to the educational instruction, the delta v program is carefully designed to provide a world-class experience and tangible benefits to all the participants. First and foremost, the program aims to provide a powerful community of entrepreneurs focused on building high-potential, innovation-driven companies. Second, it provides exclusive access to the Trust Center's resources throughout the summer, including one-on-one coaching from the team's Entrepreneurs in Residence (EIRs) and the program director. Third, it provides direct mentoring from

specialists and coaches. Finally, it also provides each team with a well-structured advisory board of experts that holds teams accountable for specific monthly milestones.

Participants were asked to rate how valuable they found the following aspects of the program: program director, cohort members, Entrepreneurs in Residence (EIR), board members, and speakers. On average, more than 65% of survey respondents found each dimension of the program to be "very valuable" or "extremely valuable."

Figure XXVIII: Proportion of respondents answering "very well" or "extremely well" prepared in each of the nine skills, by cohort (n=323)

delta v core curriculum		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	AVG
	1. Pitching	72.22%	89.47%	100%	81.48%	86.11%	94.23%	82.5%	88.89%	84%	89.74%	87.62%
	2. 24 steps	61.11%	89.47%	90.91%	88.89%	94.44%	82.69%	77.5%	84.44%	84%	79.49%	83.59%
	3. PMR	83.33%	63.16%	81.82%	85.19%	77.78%	82.69%	77.5%	73.33%	80%	84.62%	79.26%
	4. Product Development	55.56%	26.32%	50%	29.63%	47.22%	28.85%	17.5%	22.22%	36%	64.1%	36.22%
	5. Team Formation	66.67%	52.63%	45.45%	66.67%	61.11%	67.31%	37.5%	55.56%	60%	66.67%	58.2%
	6. Fundraising	38.89%	36.84%	40.91%	44.44%	38.89%	42.31%	32.5%	35.56%	40%	43.59%	39.32%
	7. Financial projections	27.78%	31.58%	31.82%	40.74%	22.22%	26.92%	22.5%	15.56%	44%	46.15%	29.72%
	8. Marketing	27.78%	31.58%	13.64%	18.52%	16.67%	34.62%	17.5%	20%	32%	38.46%	25.39%
	9. Hiring & Firing	11.11%	15.79%	22.73%	22.22%	19.44%	17.31%	7.5%	26.67%	20%	28.21%	19.5%
	# of Responses	18	19	22	27	36	52	40	45	25	39	323

Figure XXIX: Proportion of respondents answering "very well" or "extremely well" prepared in each of the nine skills, by MIT affiliation and founder (n=323)

Metric Name	MIT		Non MIT		Founder/Cofounder		Not Cofounder	
1. Pitching	87.94%		86.36%		87.97%		85.96%	
2. 24 Steps	83.66%		83.33%		84.59%		78.95%	
3. PMR	78.60%		81.82%		79.32%		78.95%	
4. Team Formation	57.59%		60.61%		59.02%		54.39%	
5. Fundraising	38.13%		43.94%		38.35%		43.86%	
6. Product Development	31.13%		56.06%		31.20%		59.65%	
7. Financial Projections	27.24%		39.39%		28.20%		36.84%	
8. Marketing	24.12%		30.30%		23.68%		33.33%	
9. Hiring & Firing	19.07%		21.21%		19.17%		21.05%	

As shown in Figure XXX, 85% of survey respondents consider the program director to be a "very valuable" or "extremely valuable" aspect of their delta v experience, followed by the cohort members (75.29%) and coaching with the Entrepreneurs in Residence (70.29%). According to the survey, the least valued aspect of the program (65.02%) is the speakers, particularly in the 2018 cohort. In the most recent delta v cohort, 2021, the percentage of survey respondents is above 75% in all dimensions.

It is worth noting that the resources of "cohort members," "EIRs," and "speakers" were highly valued by a lower proportion of 2020 respondents. A plausible explanation is that the 2020 delta v program was conducted 100% remotely, which may have hindered the experience and community building.

Figure XXX: Proportion of respondents considering program aspects as "very valuable" or "extremely valuable", by cohort

(n=323)
Proportion of respondents answering "very well" or "extremely well"

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Program Director	94.44%	73.68%	86.36%	92.59%	77.78%	82.69%	77.5%	86.67%	92%	92.31%	85.14%
Cohort members	83.33%	78.95%	90.91%	85.19%	69.44%	88.46%	80%	73.33%	64%	76.92%	78.95%
Entrepreneurs in residence	66.67%	68.42%	77.27%	74.07%	69.44%	75%	60%	82.22%	68%	87.18%	73.68%
Board members	50%	57.89%	63.64%	62.96%	63.89%	57.69%	52.5%	64.44%	92%	89.74%	65.63%
Speakers	88.89%	63.16%	81.82%	81.48%	61.11%	57.69%	37.5%	66.67%	60%	76.92%	65.02%
# of Responses	18	19	22	27	36	52	40	45	25	39	323

The data suggests that non-MIT students rate these resources slightly higher than MIT-students (Figure XXXI).

Figure XXXI: Proportion of respondents answering "very valuable" or "extremely valuable" in each of the five resources provided by the delta v program, by MIT affiliation and founder status.

(n=323)

Dimension		MIT		Not MIT	Grand total
Program Director	83.66%		90.91%		85.14%
Cohort members	77.82%		83.33%		78.95%
Entrepreneurs in residence	73.93%		72.73%		73.68%
Board members	64.59%		69.70%		65.63%
Speakers	64.20%		68.18%		65.02%

Dimension		Founder/ cofounder		Not cofounder	Grand total
Program Director	84.96%		85.96%		85.14%
Cohort members	79.32%		77.19%		78.95%
Entrepreneurs in residence	73.68%		73.68%		73.68%
Board members	62.41%		80.70%		65.63%
Speakers	62.41%		77.19%		65.02%

Figure XXXII: In their own words



Credit: Martin Trust Center

delta v Program Directors

"I'd be lost today without delta v. It gave me the momentum I needed to launch my startup outside of the 'safety' of the MIT walls."

"I LOVED every minute of delta v. It was a fantastic program, and I felt incredibly supported throughout the ideation and iteration process. It really helped so much to prepare for me for early-stage company life after MIT."

"It was an excellent experience that I still speak highly of. I still leverage the skills that I learned from and practiced in delta v."

"Delta v changed my life."

"Completely changed my view of entrepreneurship and my professional career. Allowed me to become less risk adverse, to witness the impact of an idea and to gain confidence in myself. A foundational experience for me, provided a unique exposure and access to an opportunity that changed my life."

"I really loved my delta v experience. I learned so much, made friends for life with my co-founders and am looking forward to continuing to be a part of a startup or launch my own for the rest of my life."

MIT delta v startups have consistently been in the spotlight, garnering attention from several prominent media outlets and winning awards that underscore their innovation and impact. These ventures have not only

exemplified the spirit of ingenuity inherent in MIT but have also demonstrated the institution’s commitment to nurturing groundbreaking ideas and turning them into successful entrepreneurial ventures.

Figure XXXIII: Example of media coverage of MIT delta v companies

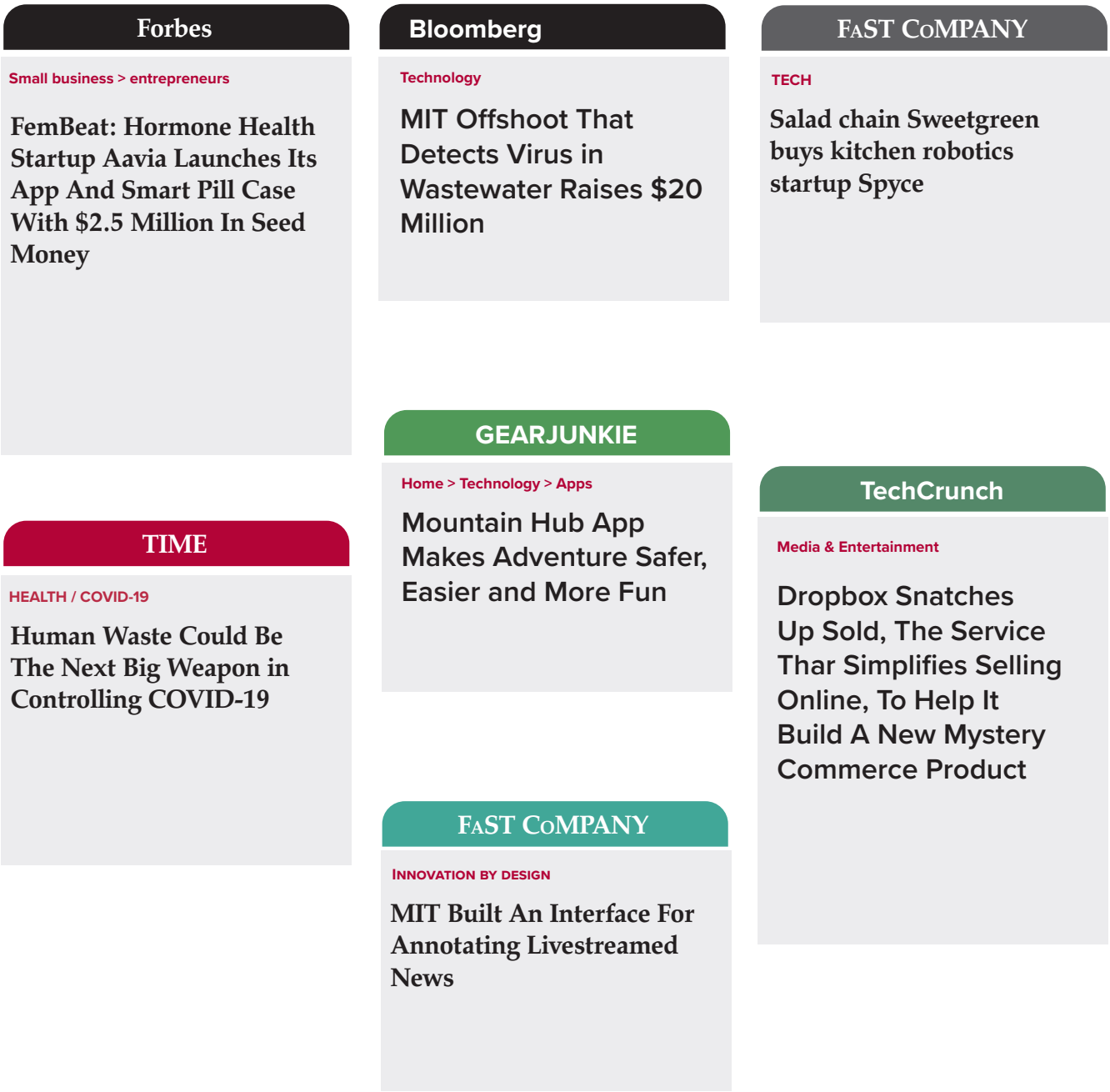


Figure XXXIV: Example of Prizes and Recognitions received by MIT delta v companies



CONTINUED CONTACT WITH DELTA V COMMUNITY AND ENGAGEMENT WITH THE MTC ECOSYSTEM

One of the most important aspects of the program’s value proposition is providing participants with a strong community and network. This community includes not only cohort members, but also the Martin Trust Center team, mentors, board members, and, to a lesser extent, guest speakers. We encourage participants to continue to tap into as many of delta v’s resources as possible.

To measure the level of engagement and continued contact, the survey asked two questions. First, the survey asked participants to indicate their level of current contact with at least one person from their initial team, cohort members, board members, Martin Trust Center team, and speakers. The levels of contact were: 1. No contact since delta v, 2. Less than once a

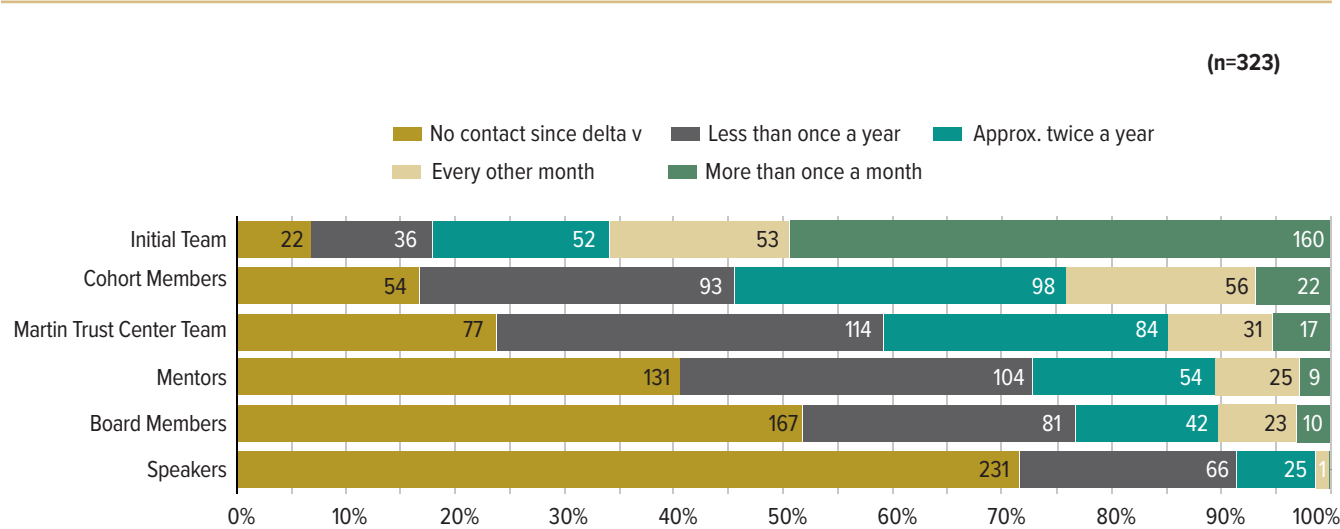
year, 3. About twice a year, 4. Every other month, and 5. More than once a month.

As shown in Figure XXXV, survey respondents across all cohorts are more likely to be in contact with their original team and cohort members. Only 6.80% of respondents have lost contact with their initial team and 16.71% have lost contact with cohort members.

In terms of contact with the Martin Trust Center team, 23% of survey participants have lost contact with the MTC team, 35% have maintained some contact (less than once a year), and 26% have contact twice a year. Notably, 9.59% have contact every other month and nearly 7% have contact more than once a month.

Finally, 27% of respondents have kept in contact with their delta v mentors at least twice a year, and 23% have kept in contact with their board members. The data suggest that delta v participants have the least contact with speakers, which is not surprising since speakers do not interact as much as the other stakeholders.

Figure XXXV: Level of contact of participants with delta v network



Second, participants were asked if they would be willing to engage with a future delta v cohort as a mentor, speaker, or board member. 85% of

survey respondents are willing to engage, 11% are not sure, and 3% do not want to engage with a future delta v cohort.

SERIAL ENTREPRENEURS

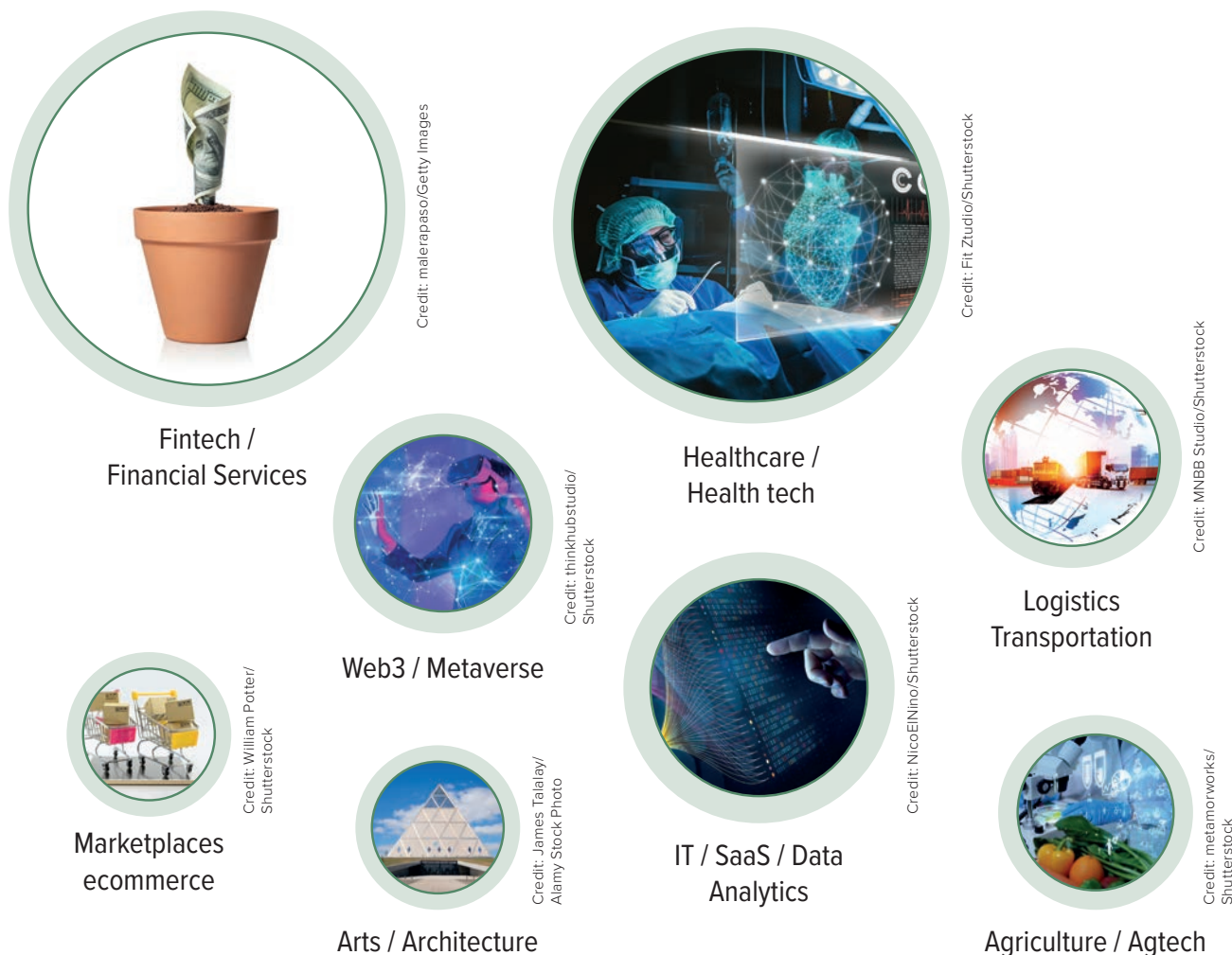
The goal of the Martin Trust Center is to create higher-quality, better-connected, and more entrepreneurs to address the world's most important problems. Thus, it is not bad news when we learn that delta v alumni leave or close a delta v company, as long as they continue to seek to impact the world in whatever new endeavor they undertake. In particular, it is encouraging to learn that regardless of the

outcome of the delta v company, a significant number of students have gone on to start a new company after delta v.

We found that 17% of delta v alumni have started at least one new company, and collectively, they have started more than 130 new companies and raised more than \$2 billion across a variety of industries (Figure XXXVI).

We found that 17% of delta v alumni have started at least one new company, and collectively, they have started more than 130 new companies and raised more than \$2 billion across a variety of industries.

Figure XXXVI: Industries of new companies founded by delta v entrepreneurs





Credit: Martin Trust Center

CASE EXAMPLE: JUAN PABLO GARCÍA, FROM THE CORPORATE WORLD TO SERIAL ENTREPRENEUR

Juan Pablo García, originally from Chile, became a graduate student at MIT in the System Design & Management Program, which allows its students to take courses at the Engineering School and the Sloan School of Management. Juan Pablo took advantage of this opportunity and quickly enrolled in the 15.390 New Enterprises course, taught by Bill Aulet, where he would discover a new and exciting professional path. While learning the 24 steps methodology in class, he teamed up with a group of three students who shared a passion for soccer to create Kiron, a sports analytics solution designed to meet the needs of non-professional teams and help amateur teams improve their performance by providing access to actionable and insightful data through wearable technology.

When the course was over, the team decided to try to transition from being entrepreneurs in the classroom to being entrepreneurs in the real world. So, the new team applied to the MIT delta v program in the summer of 2016. After three intense months of full-time work on Kiron, the team continued to work on Kiron: the team took advantage of multiple entrepreneurship opportunities in the MIT ecosystem—from Sandbox to the 100k competition—before finally making the hard decision to not continue with the project.

Nevertheless, Juan Pablo had already been bitten by the entrepreneurial bug. He had decided to become an entrepreneur. So, using the skills and entrepreneurial mindset he had learned at 15.390 and delta v, he started thinking about the idea of bringing data, technology, and algorithms together to create a data innovation lab. In early 2017, he co-founded Spike, a B2B software factory that helps companies make the most out of their data by solving complex and ever-changing problems using advanced analytics. Five years after founding Spike, the company has become one of the most influential data companies in South America and has recently expanded to Mexico and the United States. Spike is now Bain & Company's data innovation hub for South America, building the most influential place for data practitioners in the region.

This case illustrates that even though Kiron did not last long as a delta v company, the Program successfully helped Juan Pablo continue this entrepreneurial journey. The Program fulfilled its mission to ensure that students leave delta v as *stronger entrepreneurs* with better skills, a stronger entrepreneurial mindset, and a solid network. In Juan Pablo's words: "*delta v was an amazing experience that helped me build two other companies. delta v is a hands-on program that broadens the range of entrepreneurship knowledge, increasing the chances to succeed in future endeavors.*"

Conclusions

For over ten years, the delta v program has provided proven frameworks, workshops, and processes to create a rigorous, practical, customized, and integrated educational experience.

The program aims to ensure that students leave delta v as stronger entrepreneurs: with better skills, a stronger entrepreneurial mindset, and a solid network. It also aims for students to build stronger co-founder relationships, validate the viability of the venture, build a network, and understand team and capital needs after the program. The goal is to produce the next generation of innovation-driven entrepreneurs, whether they start a company, join a startup, go into corporate entrepreneurship, or work in academia or government.

The results of this study highlight the importance of advancing knowledge and educating students in innovation-driven entrepreneurship.

Given the educational nature of the program and the fact that most of the participating students have little or no market traction at the time of acceptance, delta v has shown solid results in terms of high survival rates, attractiveness to investors, and the magnitude of funding raised.

Another highlight is that most of the startups have focused on the most challenging and fundamental problems of the 21st century, in line with the United Nations Sustainable Development Goals.



Credit: Martin Trust Center

Entrepreneur at MIT delta v Demo Day

This study provides evidence that diversity and collaboration are at the core of the program. There is a high proportion of women participation, most teams are heterogenous, and participants have built a connected community.

It is also noteworthy that participants recognize the value of the education they received, and within this group there are several who have pursued multiple entrepreneurial endeavors.

Overall, the results of the program are promising. One key area of opportunity, however, relates to teamwork. There is ample evidence that the choice of partners is key to the success of startups. Among the core curriculum of delta v, team formation is the one that was rated the

lowest by survey respondents. In addition, one third of the companies closed because the participants felt that the team was not right.

Another related area of opportunity working on interpersonal skills. Effective communication skills allow fostering a positive relationship with stakeholders, including customers, employees, and potential investors, to boost startup growth.

It is important to recall that pitching, 24 steps and primary market research were positively rated by the participants. However, financial projections, marketing and hiring and firing were the ones that received the lowest scores. Thus, these are aspects of the curricula that should be addressed.

The evidence presented in this study provides important insights into the success and positive outcomes of the delta v acceleration program. It also reveals areas where there is room for improvement and enhancement. However, it is crucial to emphasize the limitations of

this study. The most critical are endogeneity, unobservability and selection bias. It is not possible to establish full causality for the success or failure of the program; there are other inputs, outputs, and outcomes that are not considered in this study, including many spillovers related to the MIT environment. The US entrepreneurial ecosystem is one of the most consolidated⁶ and the MIT has played a key role in it, making it very difficult, if not impossible, to understand the sources of success and the mechanism by which it was achieved.

Moreover, since delta v is primarily an educational entrepreneurship program, it was not possible to reduce unobservable effects by identifying “control groups”.

Nonetheless, we believe that this study goes beyond a descriptive study by demonstrating the potentially important role of providing a highest-quality education that promotes collaboration, diversity, experimentation, and *mens et manus*.

⁶ Online Oct 9, 2023. <https://researchfdi.com/resources/articles/why-the-us-leads-the-world-in-entrepreneurship-and-innovation/#:~:text=The%20US%20entrepreneurial%20ecosystem%20benefits,new%20markets%20with%20relative%20ease.>

APPENDIX: List of Companies by cohort 2012-2021

(Company names used in delta v)

2021

No.	Company
1	Almond Fintech
2	Carestry
3	Empallo
4	Fit For Everybody
5	Flairr
6	Havvi Fitness
7	Hibiscus Monkey
8	Invictus BCI
9	Ivu Biologics
10	Kickbit App
11	La Firme
12	Pelicago
13	Project Restore Us
14	Project Us
15	Rivet
16	Robigo
17	Sidewalk
18	Stack
19	Surge Employment Solutions
20	Underdog Coaching

2020

No.	Company
1	Aimvest Technologies, Inc.
2	Aurablue
3	Contack
4	E-Fish
5	Earned Credit Project
6	Floe
7	MomMe
8	Myava
9	Nrich Invest
10	Preloved
11	qBraid
12	Respezy
13	Thiozen
14	Torsso
15	Wellmode

2019

No.	Company
1	Abound
2	Acoustic Wells
3	Alpaca
4	Atem
5	Auggi
6	Carocare / Wellnested
7	Easel
8	Elemen
9	Hardworkers
10	Haystack Ag
11	Haystack Health
12	Insanirator
13	Live Sports Markets

14	Lynx
15	Mantle Biotech
16	Nextiles
17	Ocular Technologies
18	Precavida
19	Quantifai
20	Season Three
21	SirMixaBot
22	Spatio Metrics
23	TireTutor
24	Viridis

2018

No.	Company
1	Aavia
2	Acciyo
3	AdaViv
4	AirWorks
5	Akora
6	Atolla
7	Buddy
8	Centaur Labs
9	Chord
10	Context Insights
11	Daytoday
12	Dentist AI
13	Floating Point Group
14	Gataca
15	Hippo Assistant
16	Iterative Scopes
17	Levio
18	The Okoa Project
19	Posh
20	Rune
21	Secure AI Labs
22	SpaceUs
23	Swappl
24	TracFlo
25	Waffle

2017

No.	Company
1	Alba
2	Biobot Analytics
3	Blockparty
4	Bloomer Health Tech
5	DeepBench
6	Divaqua
7	GetRid
8	Hosta
9	Infinite Cooling
10	Klarity
11	Mayflower Venues
12	Mesodyne

13	Nesterly
14	NeuroMesh
15	Octant
16	PicFic
17	Pine Health
18	Point
19	Remora
20	ReviveMed
21	Roots Studio
22	SendFriend
23	Sigma Ratings
24	Sophia
25	Synaps Labs
26	TradeTrack
27	W8X
28	Waypoint

2016

No. Company

1	Alfie
2	Armoire
3	DeepStream
4	dot Learn
5	Emerald
6	Factory Shop
7	FleteYa
8	Hive Maritime
9	Kiron
10	Kumwe Logistics
11	Lean On Me
12	Leuko Labs
13	Perch
14	Rendever
15	Ricult
16	Solstice
17	Ulink
16	Solstice
17	Ulink

2015

No. Company

1	Currency Doc
2	Genesis DNA
3	Emma
4	Everbiome
5	Humon
6	Intentive Robotics
7	Khethworks
8	Lumio
9	Morph Labs
10	Sandymount Technologies
11	Spyce

12	Tekuma
13	VSParticle
14	Woobo

2014

No. Company

1	Accion Systems
2	Ashton Instruments
3	Cardinal Wind
4	Datasight
5	EMBR Labs
6	Farm Up
7	Hemingly
8	Inevio
9	Love Grain
10	Miramix
11	Monograph
12	Obaa
13	Smarking
14	Sonabos
15	Wise Systems

2013

No. Company

1	6SensorLabs
2	Alprint
3	Ava Tech
4	Darfoo
5	Grove
6	Imslide
7	Lallitara
8	Narwhal Edu
9	NVBots
10	Somatech
11	Task36
12	Thyme Labs
13	Uniiv

2012

No. Company

1	Smart Scheduling
2	Medium
3	Schmooze Butler
4	LiquiGlide
5	Loci Controls
6	Optimix
7	Peddl
8	SasaAfrica
9	Wecyclers
10	WiCare

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