GREATER HOUSTON **PARTNERSHIP**

2022 Houston Venture Capital Funding Report

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in cooperation with

Houston Exponential

Special thanks to Houston Exponential, Houston Angel Network and Renaissance Venture Capital for their participation.

All data acquired and assembled via Pitchbook.

This report includes equity investments into startup companies from an outside source. Investment does not necessarily have to be taken from an institutional investor. This can include investment from individual angel investors, angel groups, seed funds, VC firms, corporate venture firms, corporate investors and institutions, among others.

All financings are of companies headquartered in the Greater Houston Region, with any reference to "ecosystem" defined as the combined statistical area (CSA). We include deals that include partial debt and equity.

All funding information has been sourced from Pitchbook, press-releases, and founder/investor interviews.

Angel & Seed: We define financings as angel rounds if there are no PE or VC firms involved in the company to date and we cannot determine if any PE or VC firms are participating. In addition, if there is a press release that states the round is an angel round, it is classified as such. Finally, if a news story or press release only mentions individuals making investments in a financing, it is also classified as angel. As for seed, when the investors and/or press release state that a round is a seed financing, or it is for less than $500,000 and is the first round as reported by a government filing, it is classified as such. If angels are the only investors, then a round is only marked as seed if it is explicitly stated.

Early-stage: Rounds are generally classified as Series A or B (which we typically aggregate together as early stage) either by the series of stock issued in the financing or, if that information is unavailable, by a series of factors including: the age of the company, prior financing history, company status, participating investors, and more.

Late-stage: Rounds are generally classified as Series C or D or later (which we typically aggregate together as late stage) either by the series of stock issued in the financing or, if that information is unavailable, by a series of factors including: the age of the company, prior financing history, company status, participating investors, and more.

Energy Transition Tech refers to companies falling in the verticals CleanTech & ClimateTech.

Aerospace & Aviation refers to companies falling in the industries Air and Aerospace & Defense.

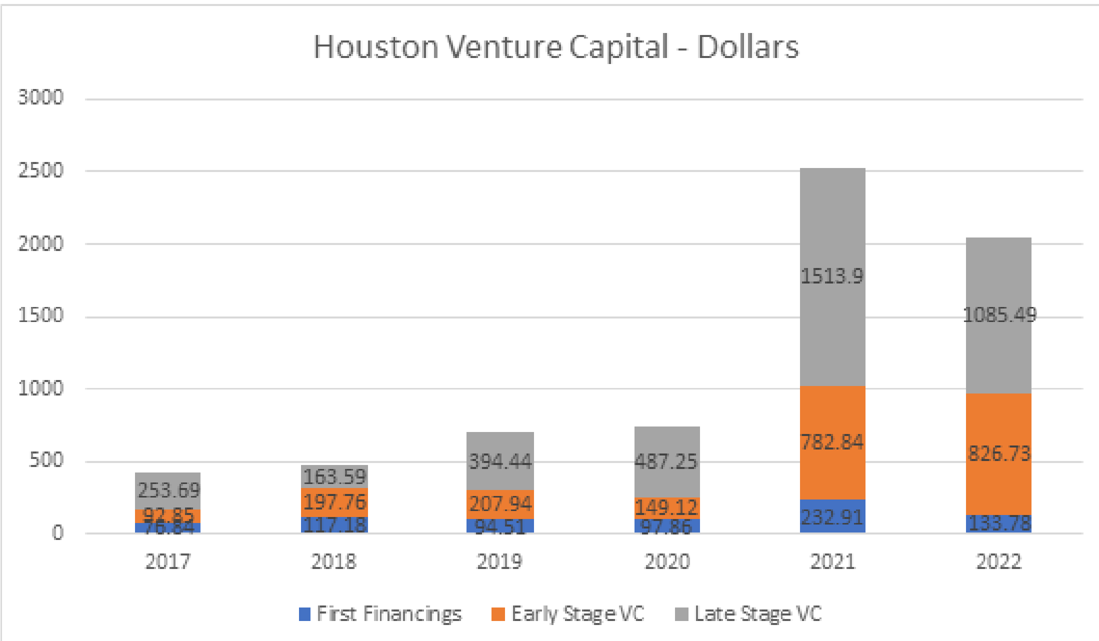
Life Sciences refers to companies falling in the verticals Digital Health, HealthTech, Oncology, and Life Sciences.

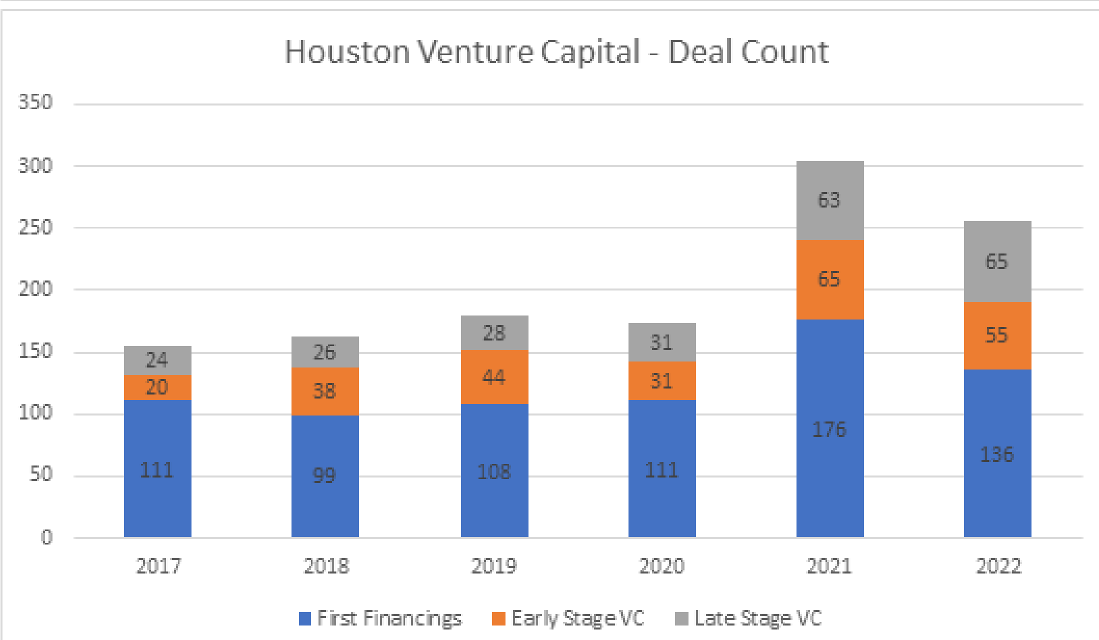
Emerging ecosystems refers to the top 5 cities in Startup Genome's 2022 Top 100 Emerging Ecosystems: Detroit CSA, Hong Kong, Dublin, and Minneapolis CSA.

Established ecosystems refers to the Bay Area CSA, New York City CSA, and Boston CSA.

Introduction

Houston companies raised $2.04 billion in venture capital in 2022, across 256 deals. While this wasn't quite as high as the record amounts of 2021, it is still the second highest year in Houston's history. 2022 was a landmark year for the Houston region. By raising $2.04 billion, Houston startups achieved their second consecutive year raising over $2 billion, after never having crossed $1 billion before. And of the 256 deals, a higher percentage than ever before went to late-stage venture capital (25.39%), representing a startup ecosystem that is maturing, with more and more late-stage companies that investors find attractive for investment.

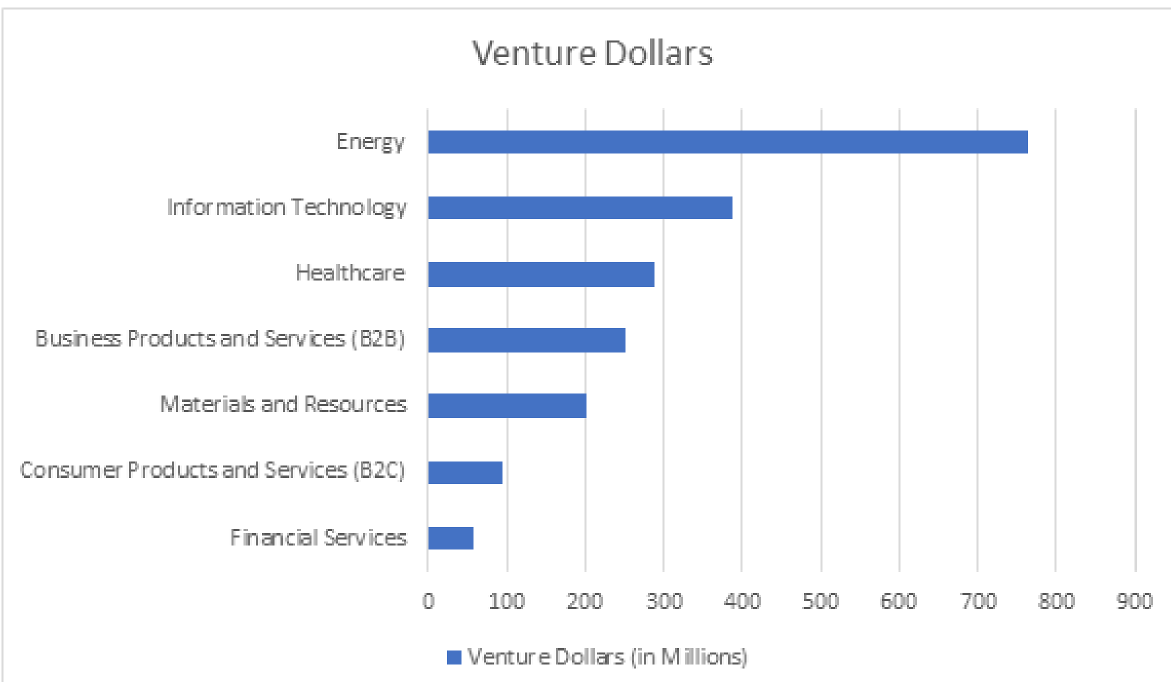




Additionally, Houston's decline in venture funding mirrored a national and global trend, where 2021 was a record year for venture investment, and 2022 came in as second best. In a promising sign, Houston's decrease of 18.0% was better than the national decrease of 28.9%; in the face of national & international macroeconomic headwinds, Houston showed resilience.

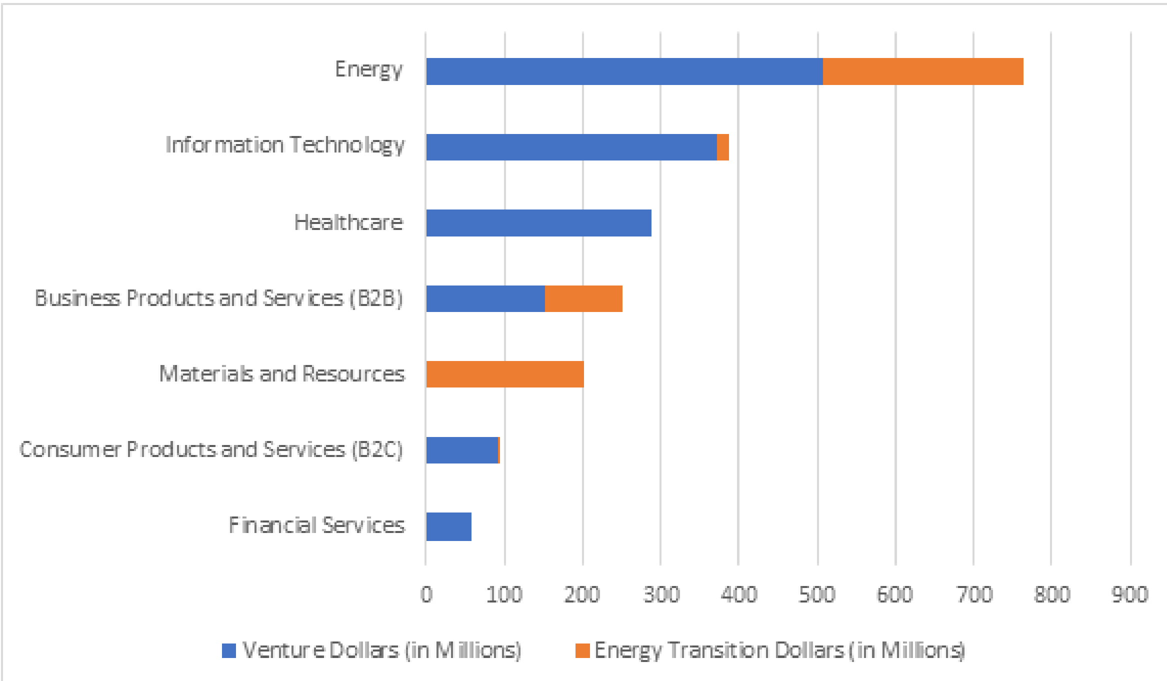
Some of the sources of those macroeconomic headwinds for venture capital were the same that have been prominent in news about the economy in the past 18 months: high inflation rates, and the Fed raising interest rates to try to combat inflation. These factors have set into motion a powerful shift in the startup landscape. With higher returns on safe assets like bonds, investors simply aren't seeing the necessary risk premium from investing in deploying this money through venture capital, and startups are feeling the crunch.

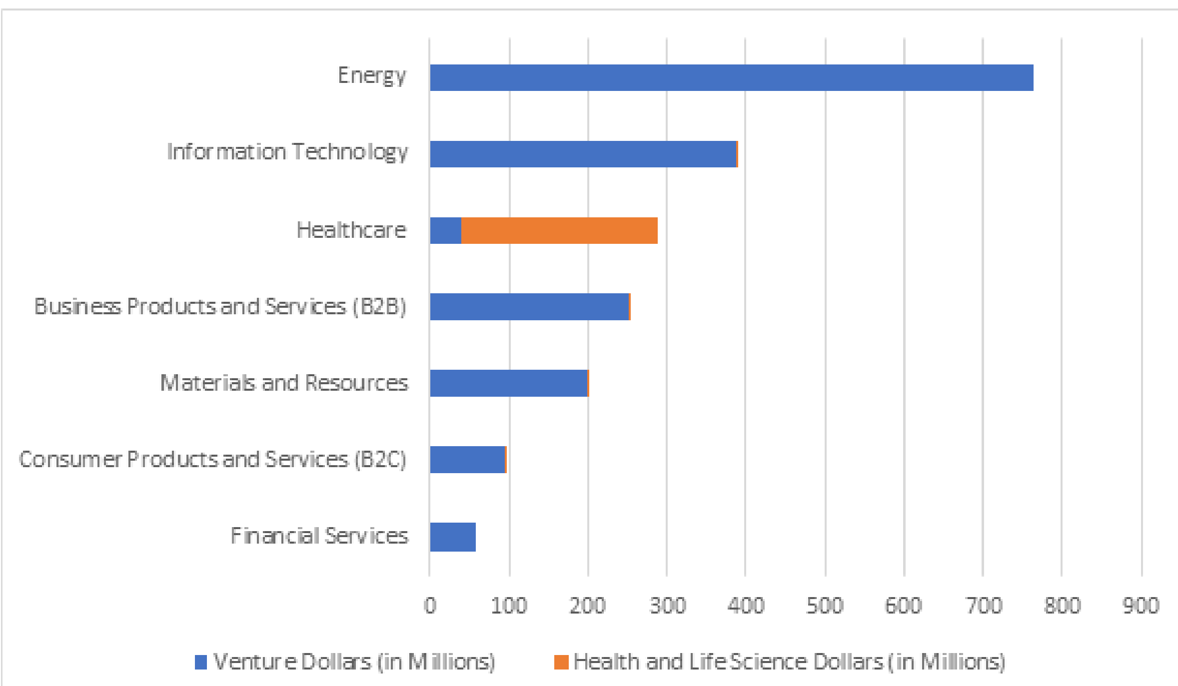
However, some sources are more unique to venture investing. 2022 opened with Elizabeth Holmes being found guilty of fraud, a bit of a black eye on venture investing, considering Theranos was able to raise around $724M. Then to close the year, cryptocurrency and blockchain technologies had a rude awakening when FTX collapsed in November. And in an underlying tone of doom, almost every day there was a headline of a major tech company laying off thousands of workers.



Yet through all this, Houston performed well. One potential reason for this is our unique mix of verticals in venture-backed companies. Houston didn't capitalize on the blockchain frenzy as much as other ecosystems, but that means that Houston also didn't feel the blockchain collapse like other places. Following passage of the federal Inflation Reduction Act in August, and with many major corporations making carbon neutral or carbon negative pledges, energy transition-related technology is starting to see its heyday. Houston, as an energy transition leader, is seeing its tech ecosystem grow as a result. The same is happening in the

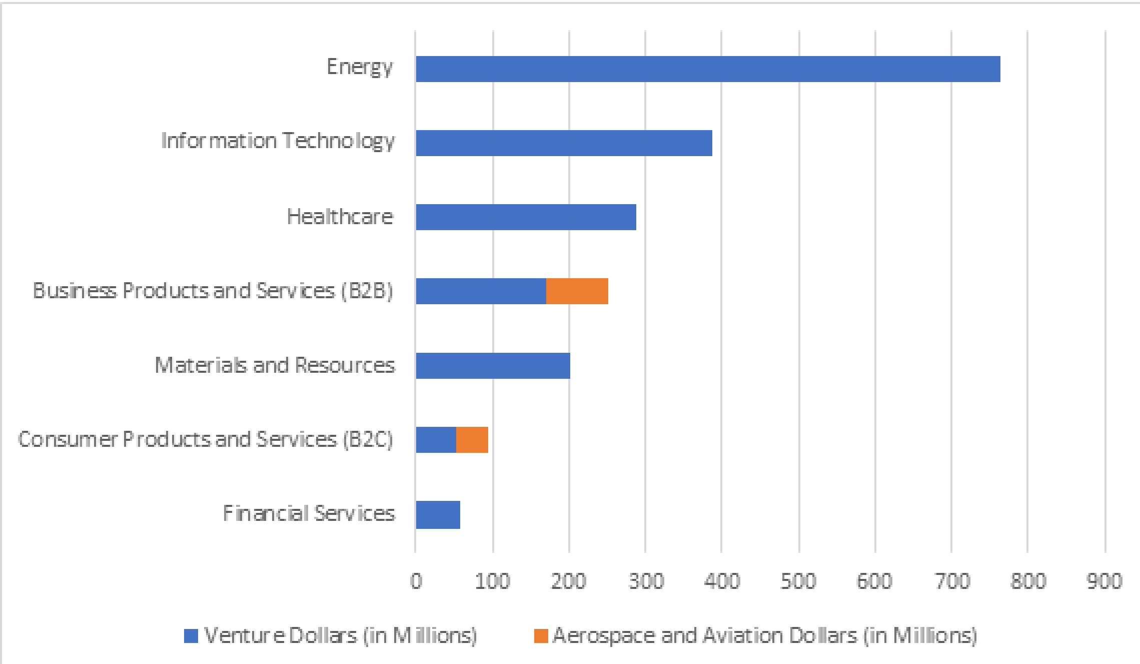
Health and Life Sciences, as new medical devices and technologies such as cell and gene therapies are developed in the Texas Medical Center and around the region. As Aerospace and Aviation commercialize, Houston sees strength in its status as home to some of the most innovative space-bound companies, often thanks to the talent of former astronauts or NASA employees.





First Financings: Angel, Seed, and Accelerator/ Incubators

136 Deals, $133.8 Million



Early-stage companies were the first to feel the effects of the end of cheap capital. In later stages, capital had already been invested in venture funds by limited partners, and funds were able to make follow- on investments. However, in the first financings, angel investors had the freedom to put their capital anywhere they like – including outside the startup landscape – and funds were more reluctant to bring new companies into their portfolio.

Houston suffered this fate. The number of first financings fell from 176 to 136, and investment in first financings fell nearly $100 million from 2021 ($232.9 million to $133.8 million). The most dramatic drop in first financings was angel investment - falling more than 90% from 2021 ($70.7 million) to 2022 ($6.2 million) and reaching its lowest level in over a decade. In a market that has always struggled to attract angel investment, a drop like this is concerning.

"While angel investing is down, I don't believe it will go away. It's easy to invest online in stocks, but it's not easy to get passionate about that. With angel investing, it's an event when I decide to invest in a company. It's an opportunity to support things that are important to me. And it's a chance to learn something new, and maybe meet someone cool."

Eric Schneider, Houston Angel Network

Potentially due to this, Houston startups continued their trend of turning to equity crowdfunding at a higher rate than other markets. In 2022, 7% of funding rounds in the Houston market were done via crowdfunding, compared to 5.2% of rounds in the US, and 3.5% nationally. With less of the high-risk, high-reward capital from angel investors that startups need, they are turning to the broader public for support.

Another non-angel source of capital is funded accelerator and incubator programs, and one industry this is seen in is Healthcare. While only accounting for $13.9 million of 2022's first financings, Healthcare accounted for 33 of the rounds, driven by 21 Healthcare startups participating in accelerators and incubators. This should come as no surprise, as the numerous hospitals and research institutions of the Texas Medical Center (TMC), paired with Houston HealthTech programs like TMC Innovation, make Houston a hotbed for the creation of healthcare startups.

On the other hand, business to consumer (B2C), an industry Houston isn't often known for, represented over 30% of the first financing when measured in dollars, with companies raising $43.3 million. For an industry that only makes up 4.5% of Houston's financing, this is a large overrepresentation at the earliest of stages. However, B2C has over-indexed among first financings each of the past 3 years, and it is yet to materialize into anything significant in later stages. One potential explanation for this is that after completing seed rounds, B2C companies in Houston will often move to other, more traditional B2C markets, such as Austin and Silicon Valley.

Select Deals:

Hylio, $1.07 Million Crowdfunding: An excellent example of Houston companies turning to less conventional funding sources, Hylio's $1.07 million equity crowdfunding round will help the agricultural drone company continue to grow and expand.

Tradeblock, $11.12 Million Seed: The sneaker trading platform raised the largest first financing round of 2022, bringing the company's post-valuation to $76.12 million.

7 Y Combinator Startups: Often considered one of the best accelerator programs in the world, Y Combinator welcomed a record 7 Houston startups into their ranks this year. This is an encouraging sign, as Houston companies continue to gain access to resources that will help them succeed.

Early Stage VC

55 Deals, $826.7M

Early-stage VC was promising in 2022, with investment increasing from 2021, despite deal count falling by 10. While some might point to Manchester Energy's $500M raise as an outlier, that $500M is real and represents research and development, employee salaries, and capital investments. For Houston, it represents both economic growth and the potential for any company here to raise their own mega early-stage deal.

Despite the optimism from the topline numbers, there are a few causes for concern in the early-stage landscape. For one, the median deal size in Houston took a unique fall from 2021, dropping around 72%. In fact, Houston's median deal size of $2.82M was lower than any year since 2017. The US suffered a decline, but by only around 13%, and 3 of 4 of the other top emerging markets in the 2022 Startup Genome Global Startup Ecosystem Report saw an increase in median early-stage deal size. This was a counter trend to Houston's overall median deal size rising 26.2%, continuing to converge with the median deal size for the United States as a whole.

Despite falling median deal sizes, Houston's median early-stage valuation remained almost identical to 2021, matching the record high.

While the high median valuations seem to show that Houston is producing high-quality startups that investors respect the value of, the decreased round sizes seem to show that investors are not putting their money into these startups.

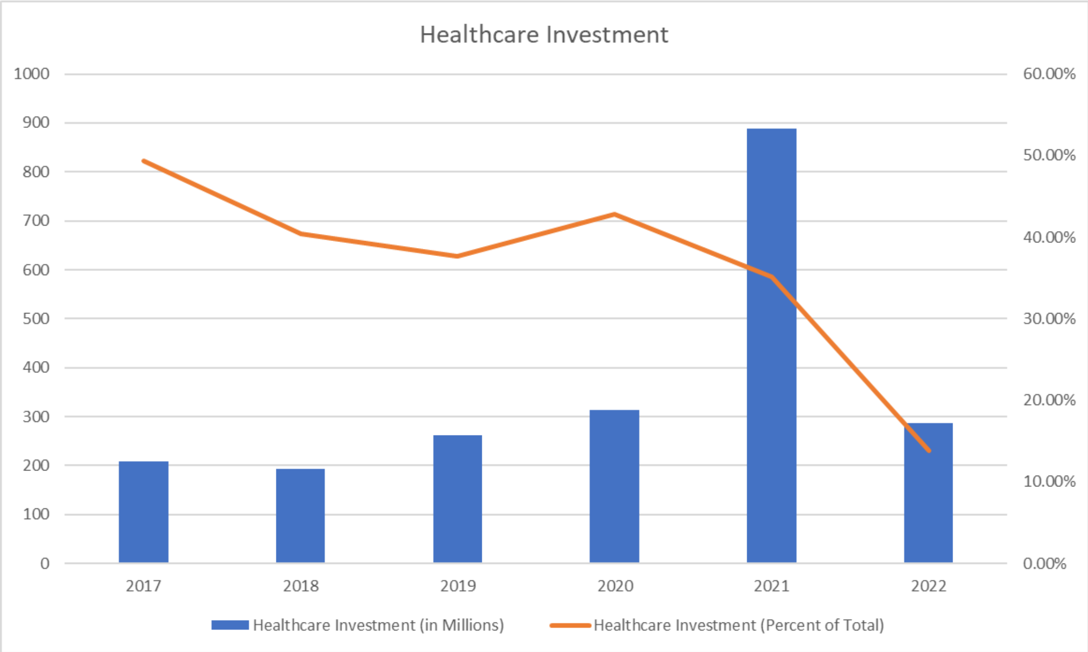
One potential explanation for these contradictory storylines is that Houston startups are simply getting more efficient, with an ability to operate at the early stages with less liquidity, selling less of their companies. However, the market getting three times more capital efficient in one year seems unlikely. Houston does enjoy a lower cost of doing business than many major metros, but this alone is not a 'secret sauce' and would not explain the year-over-year change within Houston.

Another potential explanation is that startup valuation is exogenous to investment. Regardless of how much money an investor is looking to put into a round, the company is worth what it's worth and so deal size and valuation can move independently. However, this narrative implies that prior to 2021, Houston companies were notably worse, which simply is not true.

The answer is somewhere between these two, with many other factors mixed in. Over the years, Houston companies have earned the respect of investors; now they are able to garner the valuations they deserve, even when investors pull back on investing as a whole. While the era of cheap capital is ending, the era of high-quality startups certainly isn't.

The other concerning trend from the early-stage landscape is the decline in healthcare investing. Previously representing as high as 71.9% of early-stage funding (2017), and often around 30-40% of the dollars invested, Healthcare accounted for just 7% of early-stage investment in 2022. While part of this story is due to a diversification in industries, 2022 also saw a decline in terms of dollars invested, not just as a percentage of the stage.

This decline, paired with a plateauing of VC dollars to healthcare in the late stage, has led to an overall decline of Healthcare's prominence in Houston's VC landscape. As seen in the chart below, healthcare's percent of VC dollars has seen a consistent decline, going from regularly around 40% to a record low of 13.9% in 2022. On one hand, this should be celebrated as Houston's economy diversifies; on the other hand, industry leaders and investors need to be sure not to let an important driver of Houston's economy fall by the wayside.



Select Deals:

Manchester Energy, $500M: While Houston is helping lead the energy transition, and our VC landscape helps speak to this, Manchester Energy's Series A highlights the continued importance of traditional energy. The midstream company raised 2022's largest round, also the largest single round raised in Houston.

MAJORITY, $37.5M Series B: A combined debt and equity round, this funding will allow MAJORITY to enhance their offerings, as they help provide migrants with access to financial services. Unfortunately, the capital will also be used to establish a new US headquarters in Miami.

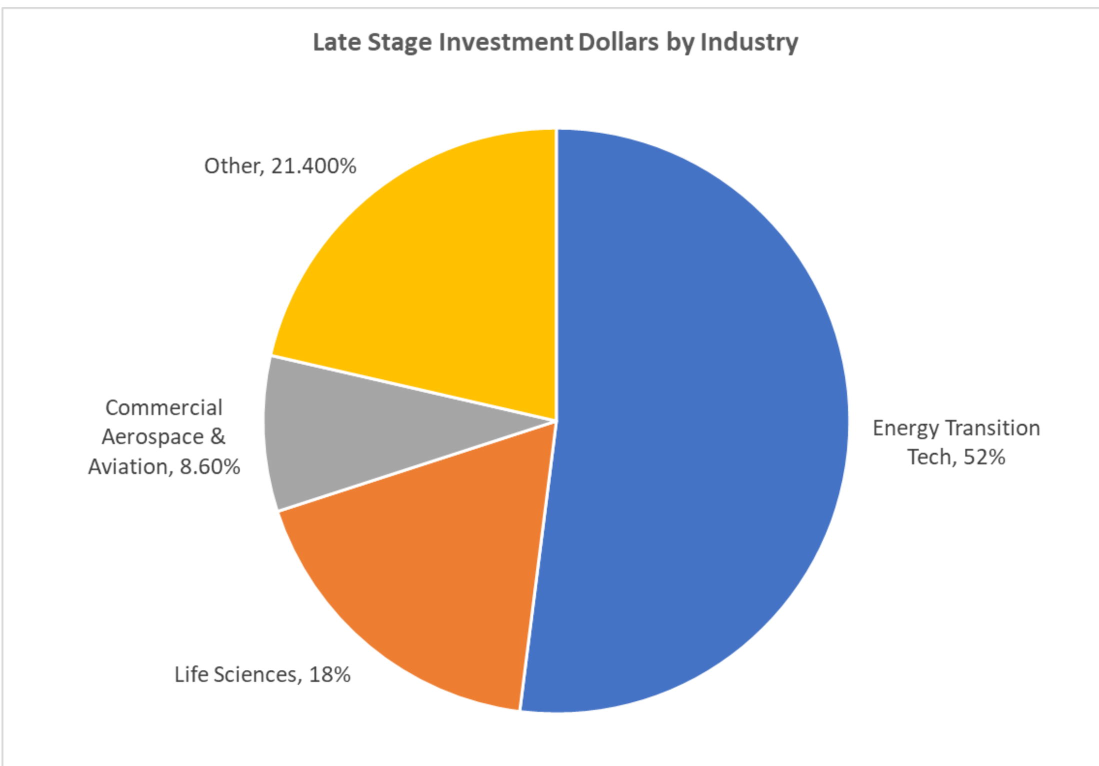
Venus Aerospace, $29.17M Series A: Houston Spaceport tenant Venus Aerospace raised a combination Series A-1, A-2, and A-3 of $29.17M, a critical boost to their funds that will help them continue development on their next-generation rocket engine.

Late-Stage VC

65 Deals, $1,085.5M

For the first time ever, late-stage financing surpassed early-stage financing in the count of funding rounds. As the era of cheap capital ends, late-stage companies will be the most insulated, for a couple reasons. First, they represent a safer investment than smaller, younger companies. Second, they often have the most insulation from the initial deployment of capital. Many late-stage investors receive money from LPs years in advance, often with a specific mandate for late-stage VC investment, or even follow on to earlier rounds. As a result, it could be years until late-stage companies feel the end of the era of cheap capital.

The other reason Houston should be excited about the late-stage venture landscape is the verticals of companies the capital went to. Houston's legacy industries – energy, healthcare, and aerospace – are innovating. And Houston is positioning itself as a home to that innovation. Energy transition tech, Health and Life Sciences, and Commercial Aerospace and Aviation represented nearly 60% of the late-stage deal count, and 90% of the dollars invested in the late stage.



It is particularly promising that energy transition tech represented 51% of late-stage capital. Long known as the energy capital of the world, Houston has established itself as a hub for energy transition. The region has made large strides towards this in recent years, including the launch of the Houston Energy Transition Initiative (HETI) in 2020, and Greentown Labs expanding from Boston for the first time in 2021, joining the Ion District. While the incumbent energy company will certainly play a large role in the energy transition, innovations coming from Houston startups will also be critical to a low-carbon, energy-abundant future.

The concentration of late-stage dollars in energy transition tech is also significant because it is uniquely true of Houston. Other notable related markets such as the Bay Area and Boston only saw 1.6% and 12.7% of their late-stage capital deployed to energy transition tech, respectively. In fact, no other of the top 30 largest CSAs in the nation saw as high a percentage of late-stage capital go to energy transition tech as Houston.

The other promising storyline of Houston's late-stage VC landscape was the distribution of capital across companies. In 2021, the 4 largest deals accounted for 2/3 of late-stage capital; in 2022, that capital was spread across 12 deals. While 2022 did not see the huge $300M+ rounds as 2021, it saw notably more companies raising respectably large rounds of capital at the late stage. This can also be seen in the median deal size reaching a record high $10.25M in 2022, nearly doubling 2021's previous record.

Also nearly doubling year-over-year was the median late-stage valuation to a new record of $50M. For investors in Houston companies, this is a promising sign, as companies preparing to exit are valued higher than ever before, increasing the likelihood of higher returns than before.

Thanks to a strong industry mix, Houston's late-stage venture ecosystem is in a strong place for companies, investors, and the economy as a whole.

Select Deals:

Syzygy Plasmonics, $76.69M Series C: Numerous corporate venture firms, primarily from chemical manufacturers, participated in this round. As they continue development of their all-electric reactor system for chemical manufacturing, this interest from major corporations is interesting, both a sign of corporate commitment to the energy transition and as potential future acquirers, should Syzygy choose to exit.

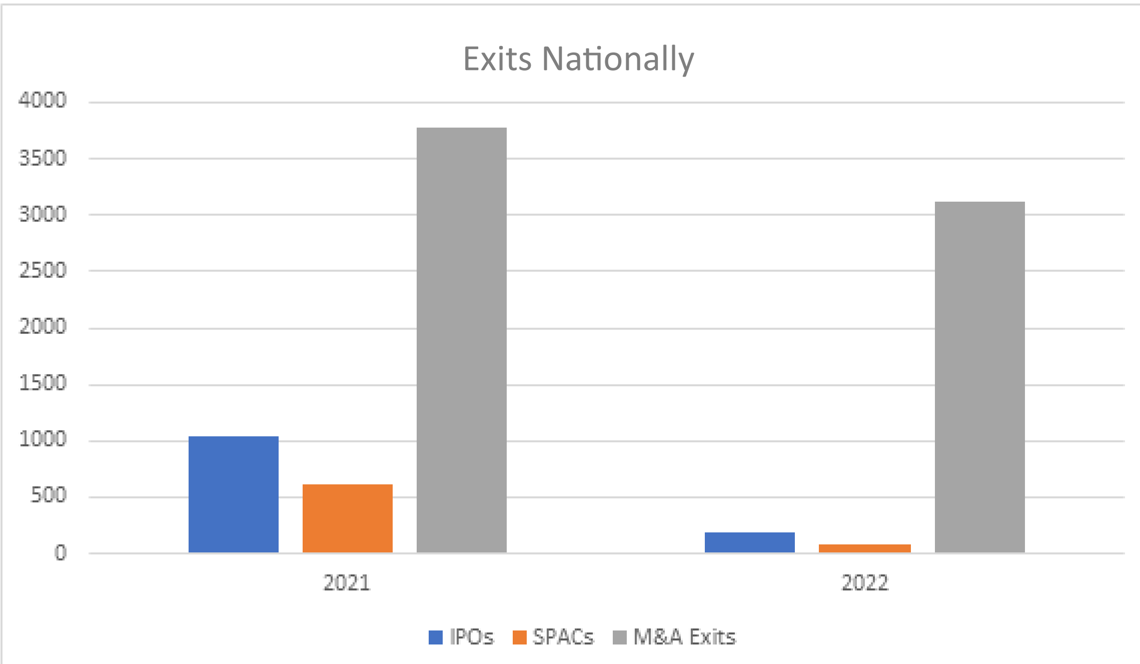
Solugen, $200M: The largest investment towards energy transition tech in 2022, Solugen raised an additional round of investment after achieving unicorn status in 2021. These funds will help the company break ground on their second Bioforge and start working on 3, 4, and 5, as well as advance the company's new molecule pipeline.

Fervo Energy, $138.22M Series C: Another late stage energy transition deal, Fervo Energy is developing geothermal power systems that are more scalable, productive, and flexible aiming to make a clean energy future a reality. With a post-valuation over $300M, this company is on unicorn watch in 2023.

IPOs, SPACs, Mergers, and Acquisitions

Nationally, the exit market suffered in 2022. The number of initial public offers (IPOs) plummeted after many from 2021 did not live up to expectations. Utilizing special purpose acquisition companies (SPACs) to go public similarly fell. Exits via merger or acquisition were down 17.5% globally (3,785 vs 3,122).

As with other instances mentioned in this report, Houston mirrored the nation. IPOs fell dramatically, and while SPACs did not fall as much as the nation, they were still down. But for the few companies who did join the public markets, their investors were pleased.



The notable traditional IPO for Houston in 2022 was **Coya Therapeutics**. Joining the public markets in late 2022 with a $48.4M post valuation, they doubled in valuation from their 2022 Series A, which likely offered earlier investors greater returns. Coya represents a bright spot for exits as a success story that life science investors looking at Houston can enjoy.

Nauticus Robotics (formerly Houston Mechatronics) exited via a merger with CleanTech Acquisition Corporation, a SPAC deal with a post-valuation of $561M. From their 2015 Series A round, with a reported $13M post-valuation, it had a 43x growth.

Intuitive Machines is yet another success, completing a reverse merger with Inflection Point Acquisition to join the Nasdaq. While no valuations are available from earlier rounds by Intuitive Machines, its $1B SPAC likely made investors in the 2022 Series A and 2013 Seed rounds happy.

These three exits, akin to the late-stage venture market showcase innovation in Houston's three legacy industries. And they highlight a reason for investors to continue investing in these verticals.

When it comes to exits via merger or acquisition of VC backed companies, Houston saw a dramatic drop from 2021 to 2022 (19 to 14), but this was still the second most in a single year. While not the ideal data, this is nevertheless promising.

Two notable M&As in 2022 come from a pair of Health Tech companies: **ScalaMed** and **Dascena**. ScalaMed, the operator of a smart prescription management system, was acquired by Fortune 20 company **Cardinal Health** out of Dublin, OH, for an undisclosed amount. Dascena, who develops algorithms for precision medicine was acquired by **CirrusDx**, out of Rockville, MD. These represent two Health Tech companies founded and grown here in Houston, exiting to outside acquirers. It is promising to see these major corporations looking to Houston as a source of innovations and new technologies especially in a core industry.

Investors

Houston saw a large amount of its investment come from outside the city – a promising sign that Houston startups are getting increased visibility. Of the 257 deals in 2022, 233 were funded entirely by external investors. Additionally, many of the remaining rounds involved outside investors.

The prominence of outside investors can also be seen in the most active investors in Houston companies. Excluding incubators and accelerators, 10 investors participated in 3 or more rounds in 2022. Of those, 6 were from outside of Houston. Not only are outside investors coming to Houston to invest – they are staying here and continuing to invest.

As an emerging market, which has chronically suffered from a lack of access to capital, this amount of activity from outside investors shows opportunity.

On the other hand, the lack of internal investment from Houston investors is a cause for concern. In 2022, they participated in 290 deals. Only 24 of those involved a Houston company. Compared to other emerging and established ecosystems, this is a low percentage at just 8.3%. The only ecosystem lower was Hong Kong at 6.2%. Additionally, Houston had the lowest raw number of internal deals, despite having more total VC deployment than 2 other cities.

Adding to this concern of those 24 deals, only 9 were first financings, and only 3 involved angel investors. First financing, especially angel funding, primarily comes from local investors, so a lack of this funding could represent a weakness. While one component of this is the previously discussed lack of angel investing in Houston, another component is angel funds flowing out of the city. 16 angels or angel groups participated in 28 deals outside Houston in 2022.

For Houston venture firms raising funds, 2022 was not a friendly year. For the first time since at least 2013, there was not a net inflow of capital from limited partners (LPs) to Houston. Houston LPs deployed $1.15B in capital, with $50M of that staying in Houston; an additional $1.1B came into Houston. However, of the total $2.25B deployed into or out of Houston, only $84M went towards venture capital – all outside of Houston. The rest went to primarily private equity and infrastructure funds.

In the past 3 years, there has been a net inflow of capital, but minimally to venture capital. 2021 saw Houston LPs invest $40M in external venture capital, and $300M come into Houston venture capital – though that was Chevron investing in Chevron Technology Ventures. 2020 was a similar story, again seeing only $40M of Houston LP deployment go to VC and no deployment staying in the area.

The reality seen here is threefold: Houston LPs don't deploy capital within Houston, Houston LPs do not deploy capital to Venture Firms, and external LPs are not investing in Houston venture firms.

Consequently, similar to the concerns about angel funding flowing out of the region, a lack of local investors could hurt Houston startups, especially at the earliest stages. For seed and pre-seed companies, having a local investor is critical, and for startups considering moving to Houston, that decision is a lot harder when there is not a strong investor coming out of Houston.

"At the seed and pre-seed levels, having local partners is important to the founders. It is also important to the region, as that makes it more likely that the company will stay based in the region. It is difficult to attract a startup from outside the region into Houston unless there is some special talent for that company in Houston or unless the investor is based there. I think that most startups there will be ones that were founded in Houston."

Chris Rizik, Renaissance Venture Capital

The Emerging Ecosystems

In 2022, Startup Genome ranked Houston as the 5th best emerging startup ecosystem in the world, behind Minneapolis/St. Paul, Dublin, Hong Kong, and Detroit.

When comparing Houston to these other emerging ecosystems, it is difficult to compare the verticals and industries where funding is going. While this would show the focuses of these ecosystems, it does not give us much to compare. We have already seen where Houston is finding its niche; this will be true regardless of other city's niches.

Instead, it makes more sense to compare the ecosystems by the makeups of the deals: average deal size, average valuation, and distribution of capital and deal count across stages.

Looking at the distribution of capital and deals across stages paints a picture of how mature an ecosystem is; a nascent ecosystem will not give many deals or much money to late-stage companies. These metrics paint an interesting picture: Minneapolis/St. Paul is clearly the most late-stage ecosystem with over 75% of capital being invest in late-stage rounds. Interestingly, this is on a similar scale to Houston ($2B invested, 210 deals).

Detroit is like Houston in the distribution of deal count but has a notable dearth in early-stage investment – they do not have a "Manchester Energy" type deal boosting the early-stage investment numbers. However, this is a notably smaller ecosystem with just 170 deals and $1B invested.

Houston, Dublin, and Hong Kong all saw nearly identical distributions of capital across the stages, but the distribution of deal count was notably different. Dublin and Hong Kong both saw a higher percentage of deals at the early stage, at the expense of Angel and Pre-seed/Accelerator/Incubator deals. This was especially true for Hong Kong, which also saw fewer Seed stage deals as a result.

Overall, Detroit's distribution of capital across stages most closely resembles the US and the world; it was also the most similar in distribution of deal count, though with slightly more accelerator/incubator rounds and slightly fewer seed rounds. While Houston is certainly a maturing ecosystem, it still needs more availability of late-stage capital; if trends continue as they are, the deals currently going to first financings and early-stage companies will help support future late-stage companies. Additionally, with energy innovation being a crucial factor in Houston's late-stage ecosystem as the energy transition continues through the mid-21st century, Houston's late-stage funding environment will further grow.

In median valuation, Houston ranked 2nd, behind only Hong Kong. However, Hong Kong's median valuation fell dramatically from 2021 to 2022, driven by falls in early and late-stage median valuations. Houston, on the other hand, saw a significant increase year-over-year, aided by consistent early-stage valuations, and rising late-stage valuations.

The other ecosystem that saw big growth in median valuation was Dublin, where it nearly doubled from $4.7M in 2021 to $7.7M in 2022. This was also the result of rising valuations for early-stage companies.

In a promising sign for all emerging ecosystems, no region saw a dramatic drop in first financing valuations. However, Dublin's was the largest, dropping around 6%, from $2.08M to $1.95M; interestingly, these are also the lowest first financing valuations. Minneapolis/St. Paul was the other ecosystem to show stagnation in valuations; they are also the second lowest valuations. Detroit, Houston, and Hong Kong all saw growth; they also all had median valuations around $9M (roughly 10% below the US median of $10M). This indicates divergence in valuations at the first financings - the strong got stronger while the weak got weaker.

At the early stage, a similar split is true. Dublin, while seeing large growth in median valuation, also has the lowest valuations. It and Minneapolis/St. Paul both saw a decline in valuation and the second lowest median. And yet again, Houston, Detroit, and Hong Kong are around the same values – around $40M (~20% below the US median of $50M, a larger gap than for first financings).

Finally, at the late stage, Houston was the only city to see an increase in median valuation. As previously discussed, this is a very promising trend, especially when it runs counter to both the other emerging ecosystems and the U.S. as a whole. Also promising is that Houston had the highest valuations, trailing only the national average.

Houston's companies are showing they are competitive, valuable investments for venture capitalists and angels when compared to other emerging ecosystems. Additionally, as valuations continue to converge with the US average, Houston companies will become more attractive compared to those in established ecosystems. We are already beginning to see this convergence at the first financings; this will likely trickle up to later stages over the next 3-5 years.

Regarding median deal size, Houston performed better than Detroit and Dublin, but worse than Minneapolis/St. Paul and Hong Kong. This was primarily due to a uniquely large drop in early-stage deal sizes, which was discussed earlier.

Overall, Hong Kong's deal size is healthy – among the highest at each stage and growing everywhere except the late stage. Dublin is also seeing promising growth but having some of the smallest deal sizes at each stage, it still has a way to go to match other emerging ecosystems.

Minneapolis/St. Paul saw declines in the first financings and early stages, but this was partly due to 2021's highs in these stages. Overall and within each stage, it still shows high median deal sizes compared to other emerging ecosystems. Finally, Detroit saw growth in the early-stage deal sizes, but took a nosedive in first financings' sizes and a slight drop in late-stage deal sizes. As a result, the ecosystem is varied when compared to Houston, each able to attract capital at different stages.

Compared to other emerging ecosystems, Houston attracts capital well, but not the best. The city will especially need to increase median deal sizes at the early stage to continue growing with its competitors.

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