NASSCOM® zinnov

RISING ABOVE UNCERTAINTY

THE 2022 SAGA OF INDIAN TECH START-UPS

INDIA TECH START-UP LANDSCAPE REPORT | 2022 EDITION

Foreword

SANGEETA GUPTA
SVP & Chief Strategy Officer, NASSCOM

ACHYUTA GHOSH
Sr. Director & Head of Insights , NASSCOM

PARI NATARAJAN
CEO, ZINNOV

The last 10 years have seen the emergence of over 25,000 to 27,000 tech start-ups in India. The country is home to some of the brightest and most entrepreneurial talent, backed by the State which recognizes the potential the space holds. A testament to this statement would be the fact that these start-ups continue to bring in steady investments despite the ups and downs that 2022 has seen, and 23 of them have managed to emerge as unicorns in the last year. 2022 also witnessed several other trends – such as seed stage and early stage start-ups attracting more investments than existing unicorns, continued growth of Deep teach start-ups, and a shift in founders' strategies which we have explored in detail in the report.

However, 2022 also saw the global public markets experience a correction – particularly in technology stocks which saw a significant drop in valuations. Even technology companies that were doing well for themselves were affected. These changes prompted the tech start-ups to adapt to market shifts, and look at growth, not just survival with a dual focus on customers and investors in 2023.

In this report, we analyze the tech start-up landscape, take a look at the critical sectors such as BFSI, Retail, Enterprise, and EdTech, and see what the numbers say about existing Unicorns and potential Unicorns within the country. Furthermore, we present a detailed view of actionable recommendations that can help strengthen the ecosystem.

We remain optimistic about the year that is to come, even with as market recession and investor sentiments continue remain concerning. It is anticipated that investments and exits will ramp up throughout the year, although the initial quarter(s) may be slower as decision makers seek clarity and confidence in the market. We hope Zinnov's data and analyses will give you insights into the Indian tech start-up ecosystem that proves valuable to your business.

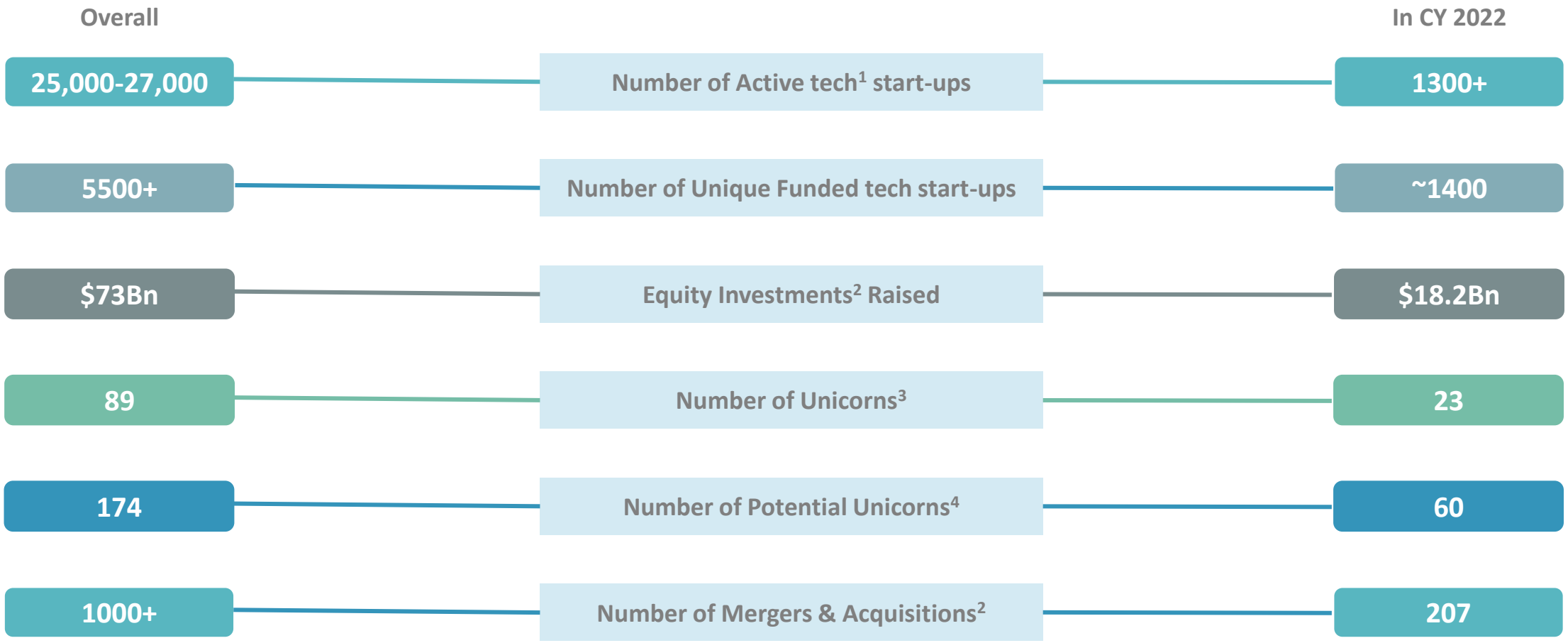
We hope that insights from this report are helpful to you and welcome your feedback and comments at research@nasscom.in.

TABLE OF CONTENTS

NASSCOM zinnov

Executive Summary

Snapshot of Indian tech start-up ecosystem – world's third largest



Note: (1) This report only covers start-ups founded in 2012-22 (2) For each calendar Year investment rounds & M&A of start-ups founded in 10-year timeline are taken for Analysis (3) Unicorns are private entities with more than $1Bn valuation, analysis as on date 31-Dec-2022.Please refer to the note for readers for detailed list of exclusions from the unicorn club (4) Potential unicorns are start-ups founded between 2012-22 and with total funding more than $50Mn+. Does not include start-ups that became unicorn on or before 31-Dec-22

Key trends and positive shifts post-COVID continued to hold strong in 2022

Growth in Seed-stage and Early-stage Investments

- With slowdown in late-stage, **66%** of **investments** were **raised by non-unicorns**
- **Early-stage** and **seed-stage** investments **grew 25-35%** over 2021; ~18% increase in number of unique start-ups funded

Strong Investor Commitment

- **18+** industry **sectors raised more investments than 4-year average** (2019-2022) and 2019 calendar year
- **>1.6X increase** in **unique** and **active venture capital** and private equity firms, compared to 2021

Continued Growth of Deep-Tech Start-ups

- **12% of all start-ups** are leveraging deep-tech to build more complex and smart solutions across industries
- At 42%, 10-Year CAGR, deep-tech start-up **pool** is **growing faster than** the **ecosystem** pace
- More than **2.5X increase** in investments in last 3-years for DeepTech Start-ups

Evolving pool of Unicorns and Potential Unicorns

- India added the **2nd highest number of Unicorns**, only behind US
- Simultaneously, **potential pipeline expanded to 170+** at pace like 2021

Shift in Founder Playbook

- **30%** of **Unicorns** and **Potential Unicorns** are **investing, acquiring or actively collaborating** with other start-ups, similar to 2021 & **up from 22%** in 2020
- Focus on improving business metrics, 60% unicorns and potential unicorns are actively hiring, 25% expect to be EBITDA positive

Consistent Corporate Participation

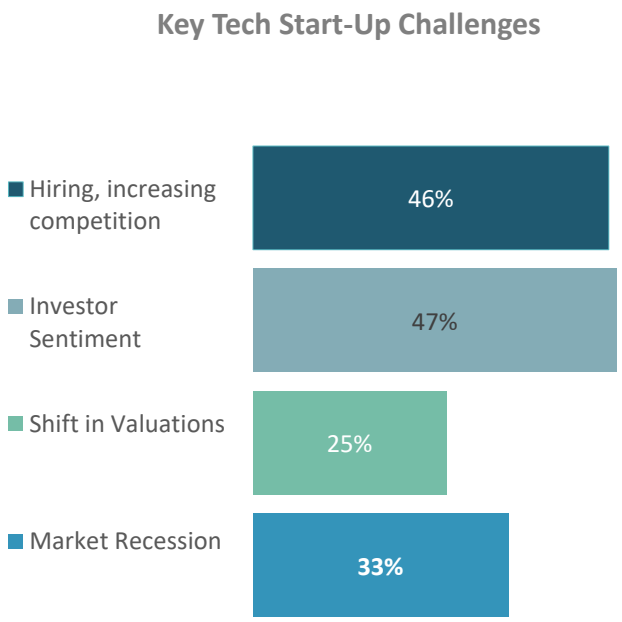
- **30% higher corporate participation in 2022 as compared to 2021**
- **300+ corporates** are actively investing, **acquiring or partnering** with start-ups.
- **Investments** and **M&A pace improved** over 2021 with participation of Indian corporates

Thriving Multifaceted Ecosystem

- **39%** of start-ups **incepted in 2022** are based in **emerging hubs.**
- **2.4X increase** in Growth in investment deals in Emerging Hubs since 2019
- **18%** of all start-ups, and **20%** of all unicorns, have **at least one-woman founder**

Source-Zinnov CoNXT Research & Analysis

Founders are cautious about 2023 as they navigate turbulent times



Series A+ start-ups are equally concerned about market, hiring and investors. Others are more concerned about talent hiring and investor sentiments than market

Focused on business expansion

Founders are focusing on business expansion and using various strategies, such as partnerships, business model and pricing adjustments, and marketing spend optimization, to achieve their goals. Some are also exploring new growth opportunities and tackling complex problems in order to improve operational efficiency.

Intentional about fundraising process

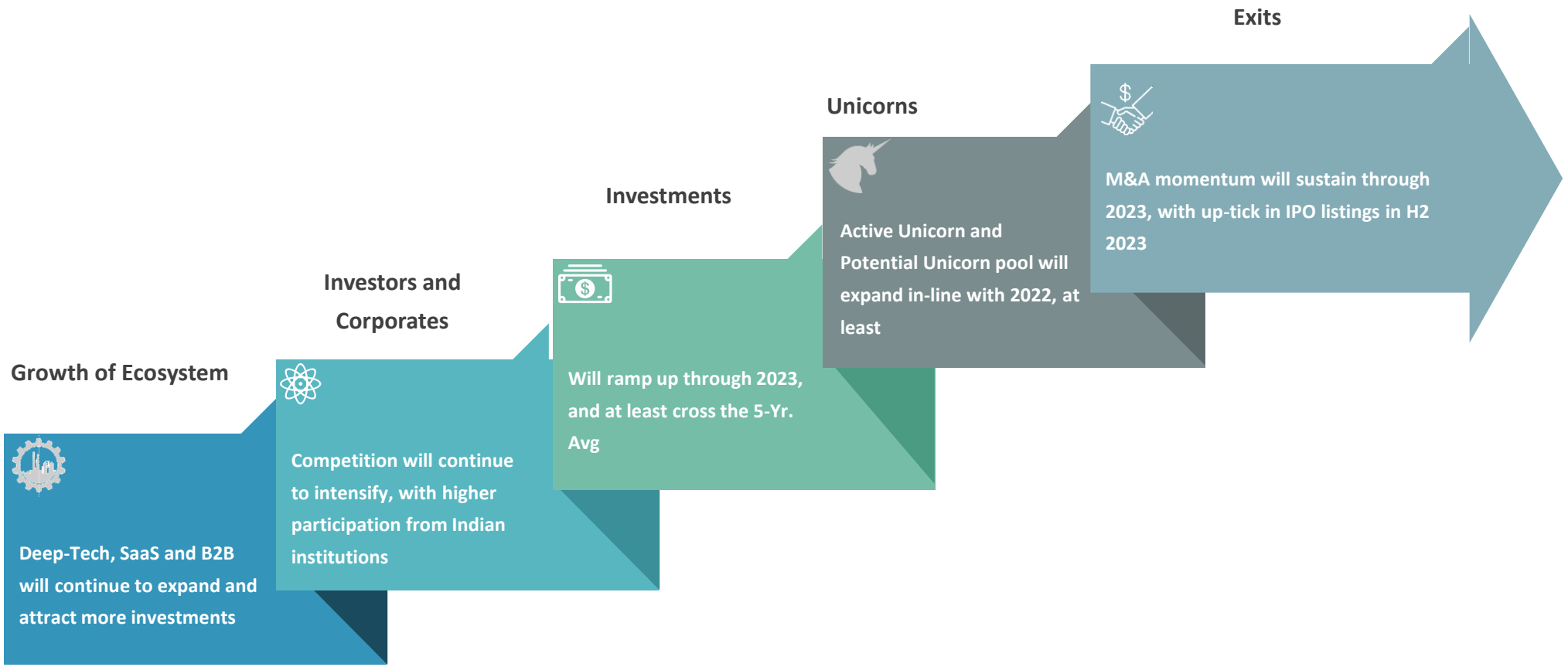
57% of founders opt for longer fundraising process or forgo funding in 2022, focusing on building relationships with investors and improving business metrics. Most anticipate strong investor interest in 2023 and do not plan to wait for 2021 valuations

Optimistic about revenue growth, hiring and fundraising

48% are actively hiring and at least 70% expect their revenues to grow. 37% of founders predict that investment pace will recover within the next 12 months, while an additional 25% believe it will take up to 18 months for the pace to return. However, uncertainty about the market due to recessionary conditions in the West has caused some hesitation.

Source- Insights based on NASSCOM-Zinnov survey of 100+ start-ups across funding stages and industry sectors ; Zinnov CoNXT Research & Analysis

The tech start-up ecosystem is expected to growly sustainably through 2023



Source-Zinnov CoNXT Research & Analysis

Focused initiatives from key stakeholders is essential for sustained growth

For Union Budget 2023-24, on behalf of the ecosystem, NASSCOM suggests

- **A** Parity on long-term capital gains tax for domestic investors
- **B** Revise eligibility criteria for ESOP tax deferment
- **C** Simplify compliance for investments
- **D** Allow losses to be carried forward and set-off

Simultaneously, we must also continue to strengthen core fundamental building blocks

A	**Talent Gap**	Attracting Overseas Indian Tech Talent	Redefining University Education to be Outcome-Driven
B	**Revenue Growth**	Institutional Support for Start-ups to Tap into Global Markets	Significantly Increase Public Procurement Targets
C	**Sector Focus**	Special Investment Fund for Start-ups Building for SDG	Provide Institutional Support for Solving Bharat Challenges
D	**DeepTech Initiatives**	Accelerate participation in Innovation Clusters and ongoing initiatives	Expand Industry-Specific Physical and Digital Sandboxes
E	**Improving Success Rate**	Leveraging Incubators to Support Unfunded Start-ups	Accelerate Deployment of CGSS to Support Start-ups

Source-Zinnov CoNXT Research & Analysis

2022 in Review

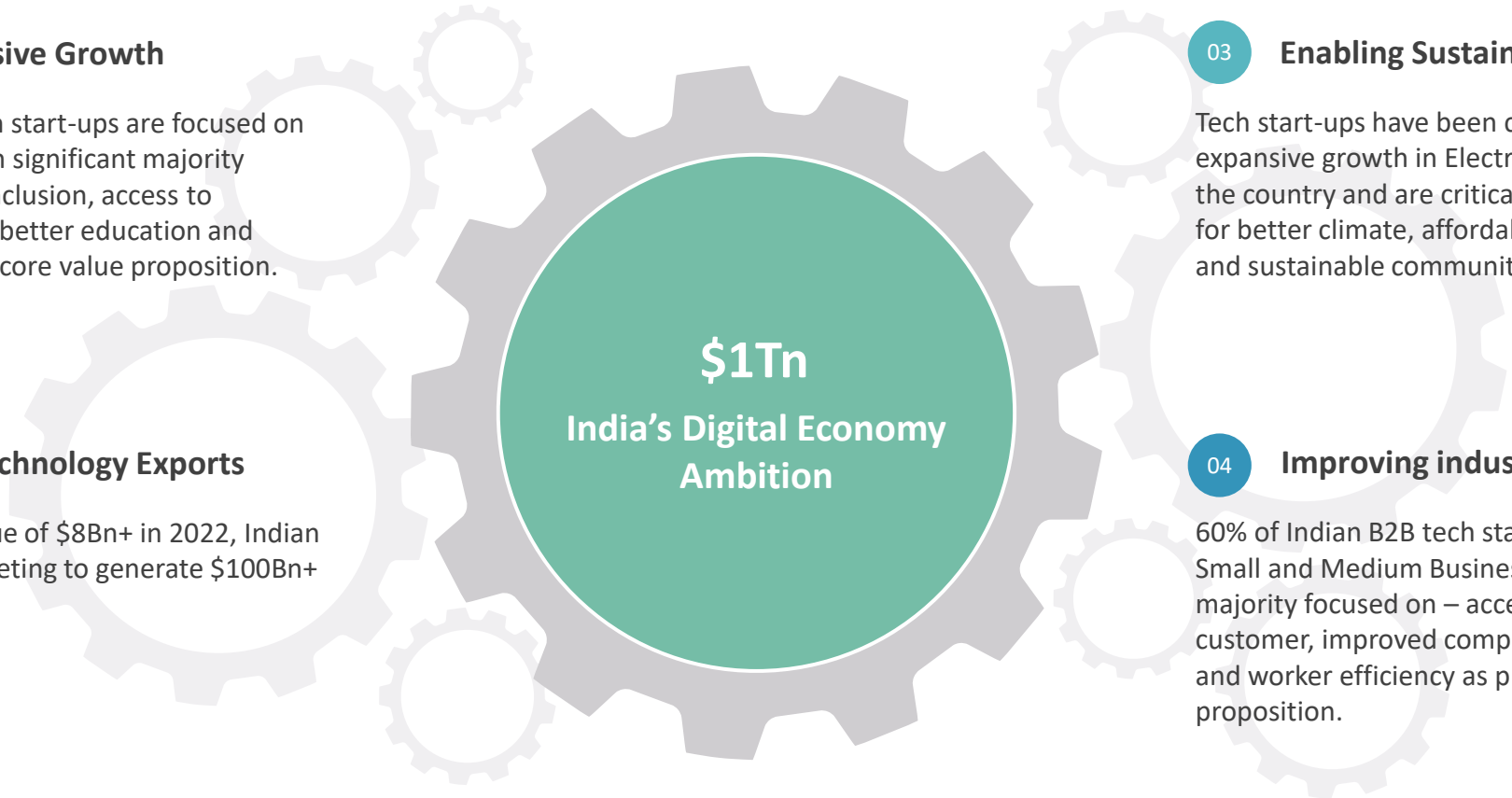
Tech start-ups continue to be key drivers of India's economic and social growth

01 **Driving Inclusive Growth**

20% of Indian B2C tech start-ups are focused on low-income group with significant majority focusing on financial inclusion, access to affordable healthcare, better education and higher earnings as the core value proposition.

02 **Increasing Technology Exports**

With estimated revenue of $8Bn+ in 2022, Indian SaaS start-ups are targeting to generate $100Bn+ in revenues by 2026



03 **Enabling Sustainable Growth**

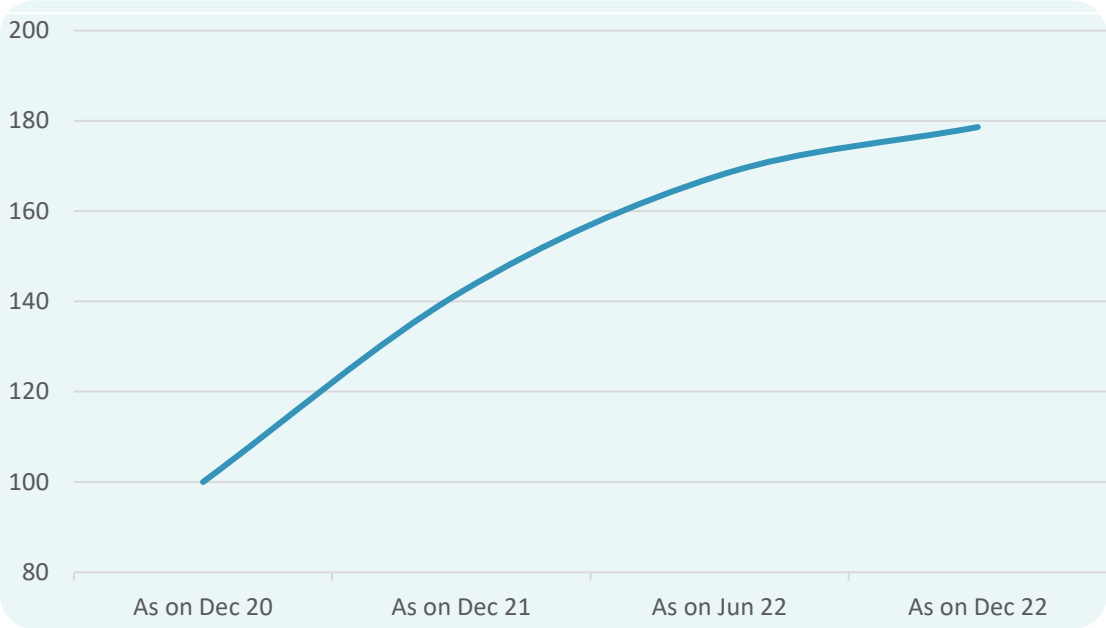
Tech start-ups have been central to the expansive growth in Electric Vehicle adoption in the country and are critical players in initiative for better climate, affordable and clean energy, and sustainable communities.

04 **Improving industry competitiveness**

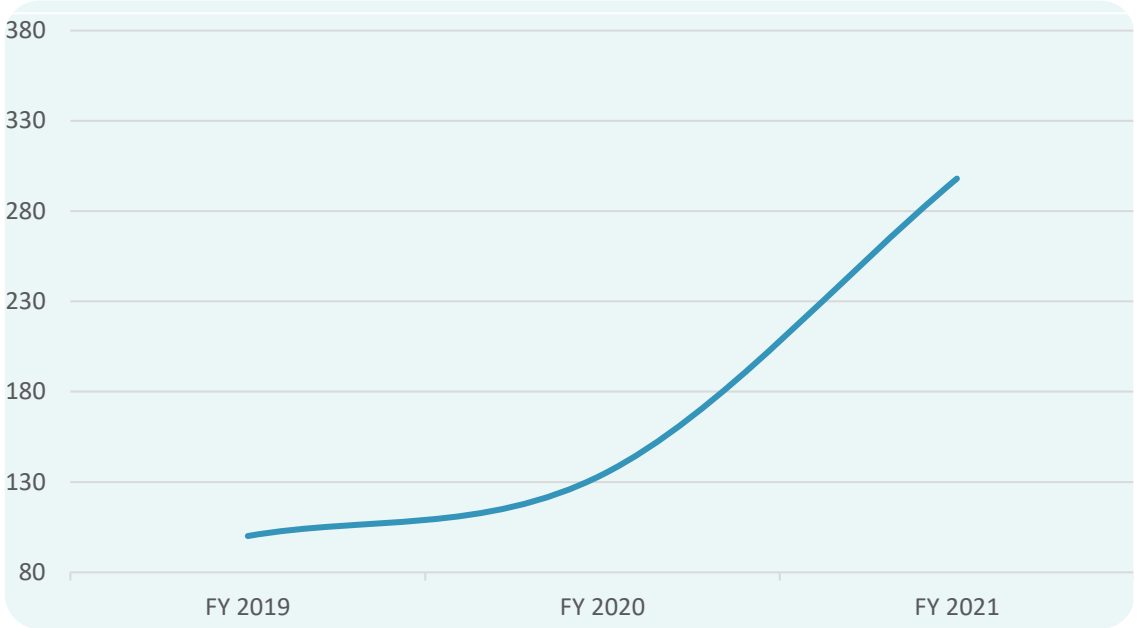
60% of Indian B2B tech start-ups are focused on Small and Medium Businesses with significant majority focused on – access to capital, access to customer, improved compliance, productivity and worker efficiency as primary value proposition.

Through 2022, start-ups have been net job creators with a significant majority on track to report improvement in key metrics

Indexed Chart of Direct Employees of Mature Start-ups[1]
At six-month interval from Dec-20 till Dec-22



Indexed Chart of Cumulative Revenue[3] of Mature Start-ups[1]
By Financial Year, annualized basis FY 2019



- 60% Unicorns and Potential Unicorns are actively hiring[2] albeit at a slower pace and with more discretion
- Layoffs have been pre-dominantly in EdTech, on account of shift to new normal. Otherwise, layoffs are preemptive or in adjustment to slower growth due to recession in west

- 25% of Unicorns and Potential Unicorns are profitable[3], or expect to be by mid-2023
- Start-up performance is driven by sector/market – with Travel and Hospitality recovering rapidly and EdTech witnessing softness as students return to campuses

Note : (1) Unicorns and Potential Unicorns are collectively referred as the pool of Mature Start-ups, (2) Entities with more than 5% growth in headcount between June 2022 to Dec 2022 have been referred as hiring entities ; Others include 17 sectors like Automotive, Mobility, Media and Entertainment etc. (3) Revenue Indexing & Profitability analysis is done basis the subset of 120 entities representative of the pool Mature start-ups, which are registered in India and have publicly available data ; Source – LinkedIn, MCA

Investments dropped 24% over 2021, but crossed pre-pandemic highs

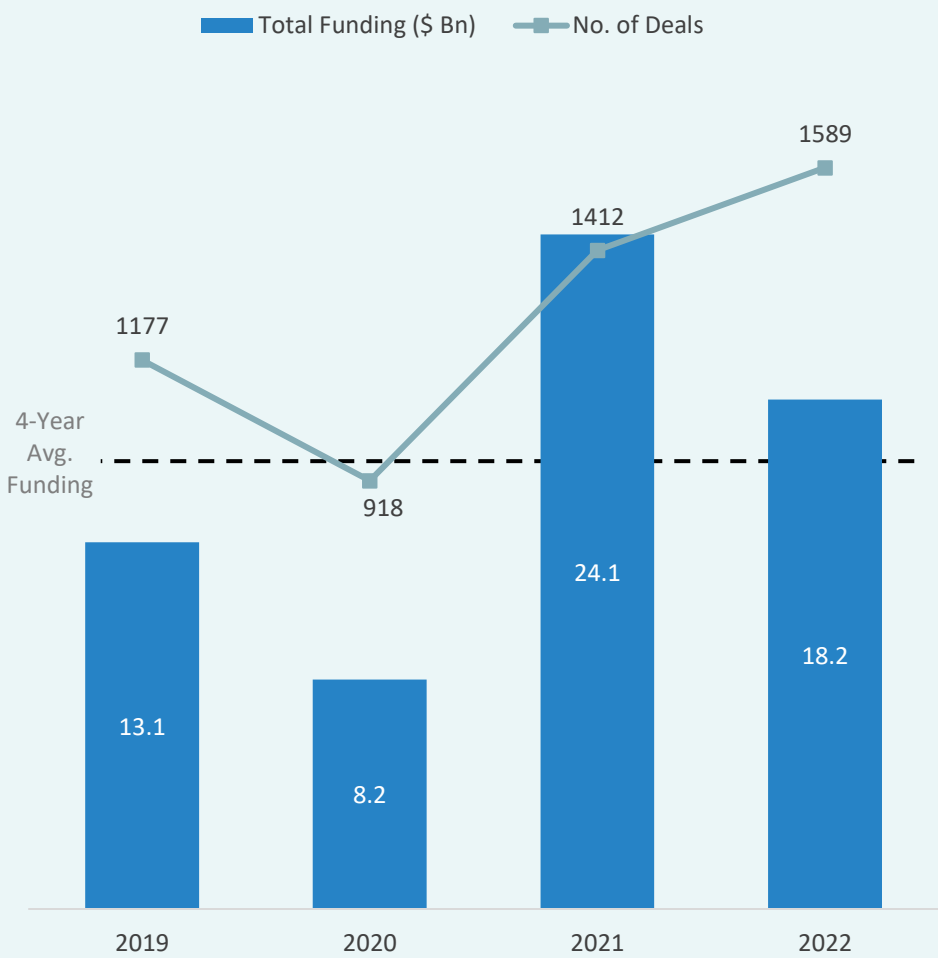
While there is a slowdown – annual investments were slightly higher than four-year average. A significant share of investments in non-Unicorns and increase in unique start-ups funded suggest that 2022 has been transition to new normal post two, statistically, exception years.

~1400 # of Unique start-ups funded, 18% higher than 2021

66% % share of investments in non-unicorns[2]

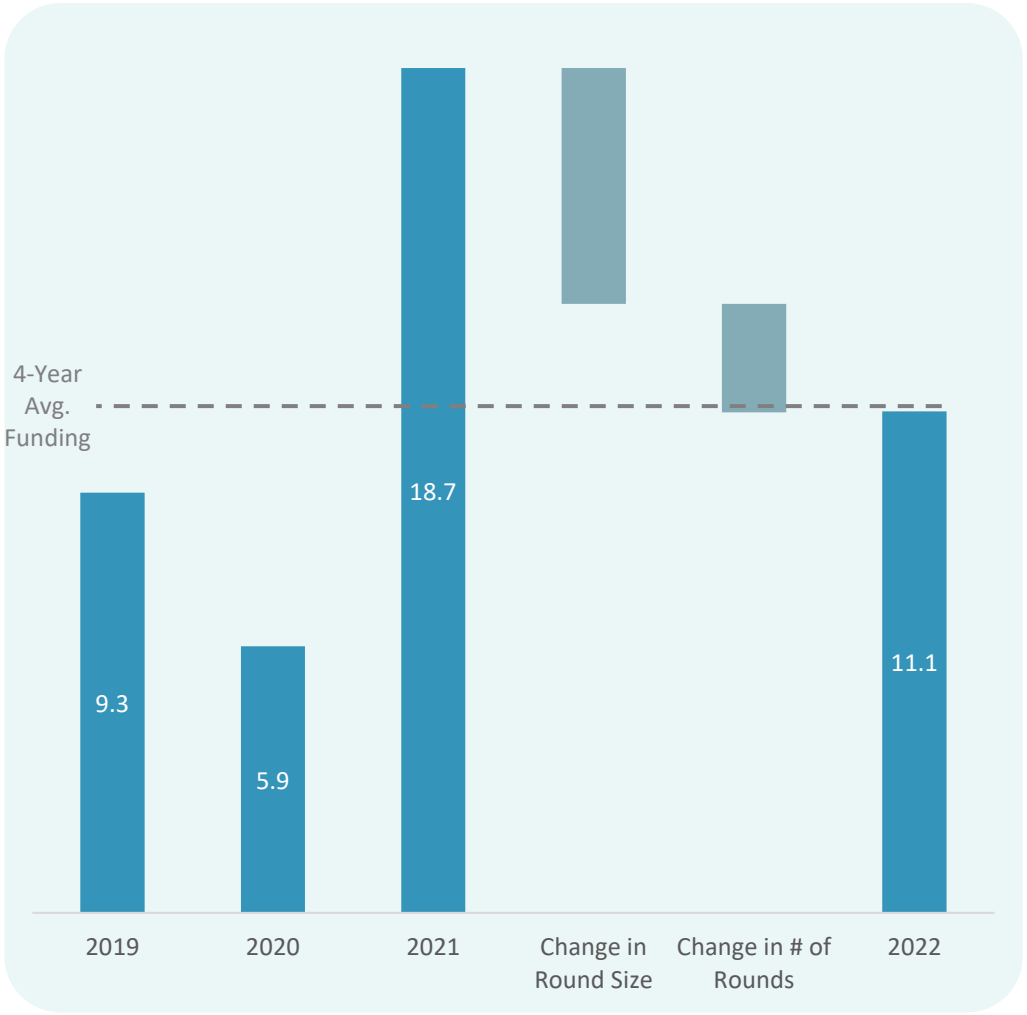
>20% Increase in Median Ticket size in Seed and Early stage compared to 2021, with overall ticket size similar to 2021

Equity investments in Indian Tech Start-ups
By calendar year[1]



Note: (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (2) Unicorns are private entities with more than $1Bn valuation, analysis as on date 31-Dec-2022 ; Source-Zinnov CoNXT Research & Analysis

Late-Stage[2] Equity investments in Indian Tech Start-ups
By calendar year[1]



Late-stage investments bore the brunt with a staggering 40% drop

The change in valuations for technology companies in the public markets also affected the private markets. Investors have seen a decrease in unrealized Internal Rate of Return (IRR) and start-ups have had a harder time demonstrating their business metrics to justify the valuations they were asking for in follow-on rounds, which has slowed down the pace of deals.

41%

Drop in mega-rounds
(deals with round size greater than USD 100 Mn)

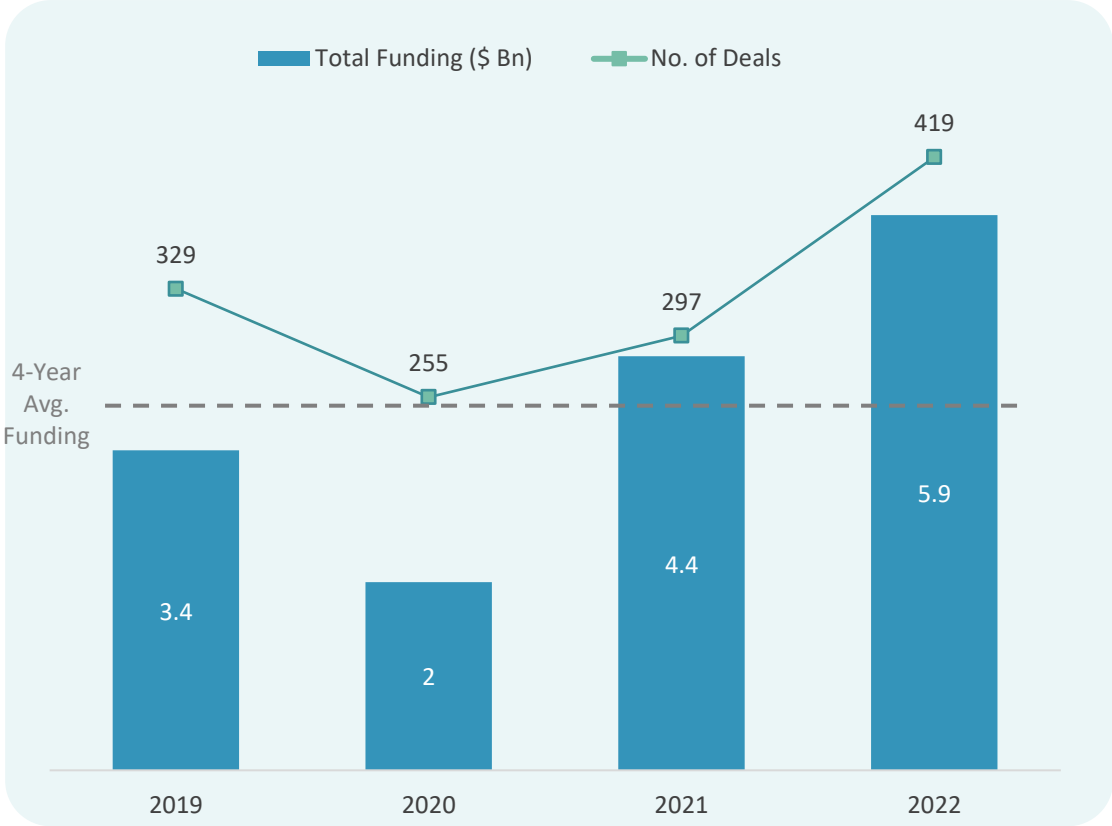
29%

Drop in median deal value for all late-stage deals ; 14% increase in Median deal value excluding mega rounds[3]

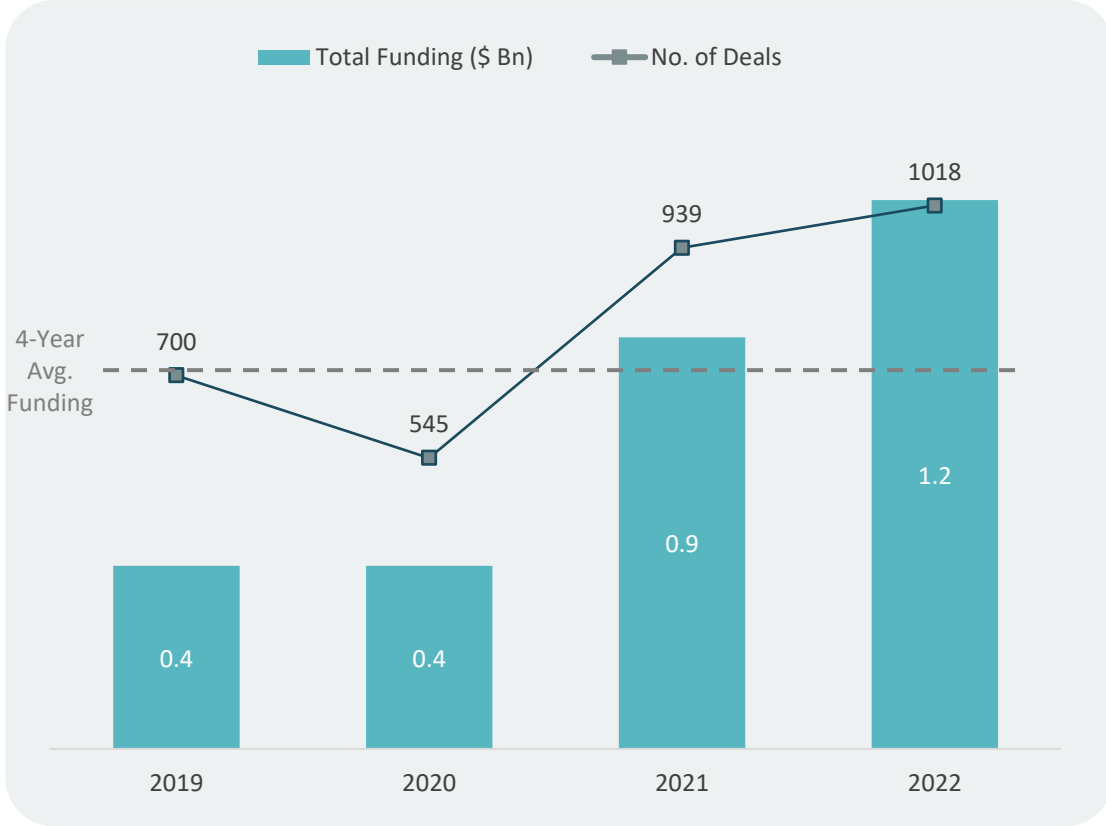
Note: (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (2) Late Stage include Series C and above funding rounds. Source-Zinnov CoNXT Research & Analysis

While early-stage and seed-stage investments, both, grew by more than 20%

Distribution of Early-Stage[2] Investments
By calendar years[1]



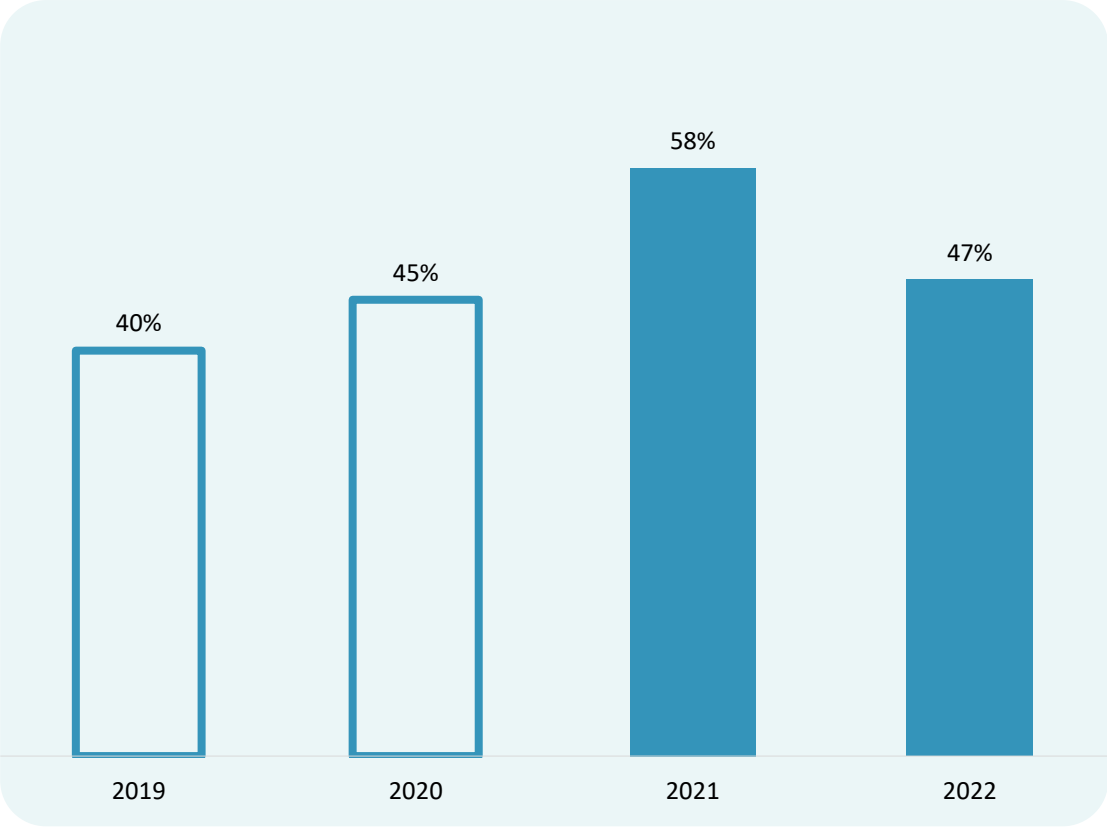
Distribution of Seed-Stage[2] Investments
By calendar years[1]



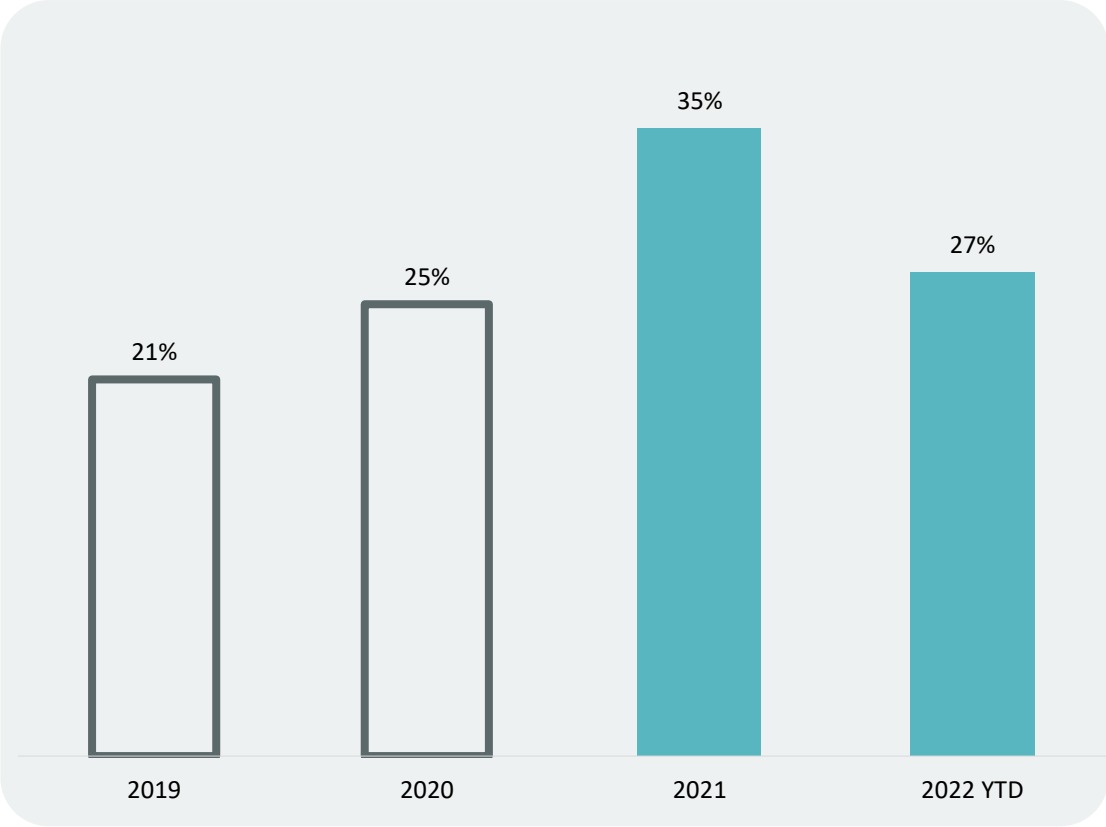
Note: (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (2) Seed stage include Seed and Angel stage funding rounds, Early stage include Series A and Series B funding rounds ; Source-Zinnov CoNXT Research & Analysis

47% of all investment deals involved a start-up raising their first round

% Share Of Start-ups Raising First-round[1]
Of all unique start-ups funded, by calendar year[2]



% Share Of Start-ups Raising First-round[1] And within 2 Years from Inception,
Of all unique start-ups funded, by calendar year[2]

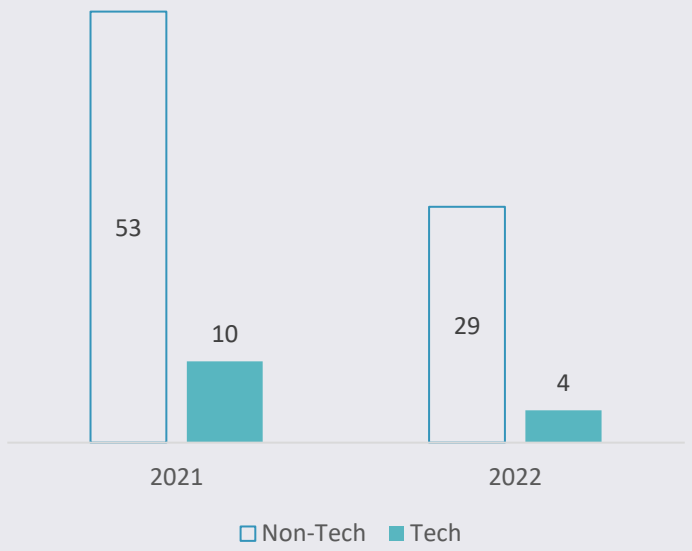


Note: (1) First-round round refers to the first equity funding round of a tech startup (2) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered ; Source-Zinnov CoNXT Research & Analysis

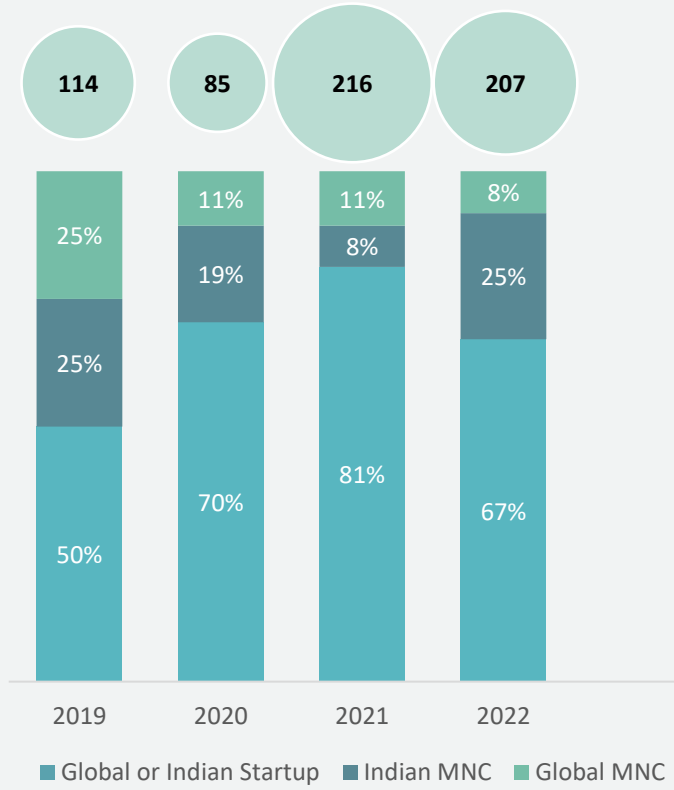
Tech IPOs declined sharply while M&A held steady due to Indian corporates

Distribution of IPO Listings
By calendar year

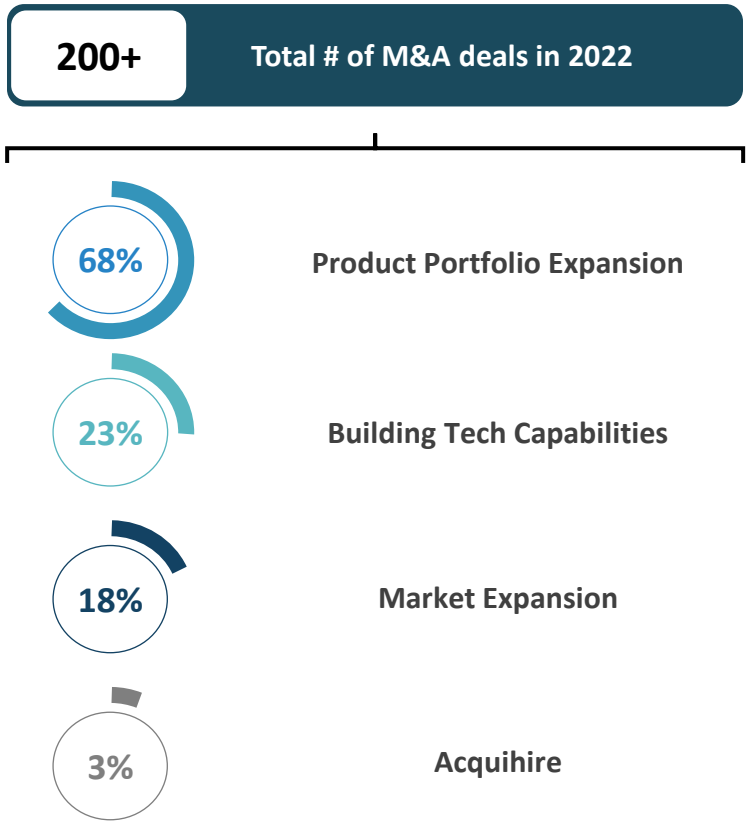
Start-ups deferred their IPO plans in order to secure better valuations and deliver improved post-listing performance



Distribution of M&A Deals
By calendar year[1]



Distribution of M&A Deals
By primary reason for acquisition[2]



Note: (1) For each calendar Year, M&A rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , M&A rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, M&A rounds of start-ups founded between 2011-21 are considered (2) Percentage does not add up to 100% as a deal can have multiple reasons ; Source-Zinnov CoNXT Research & Analysis

Emerging tech start-up hubs continue to expand with 39% share of start-ups founded in 2022

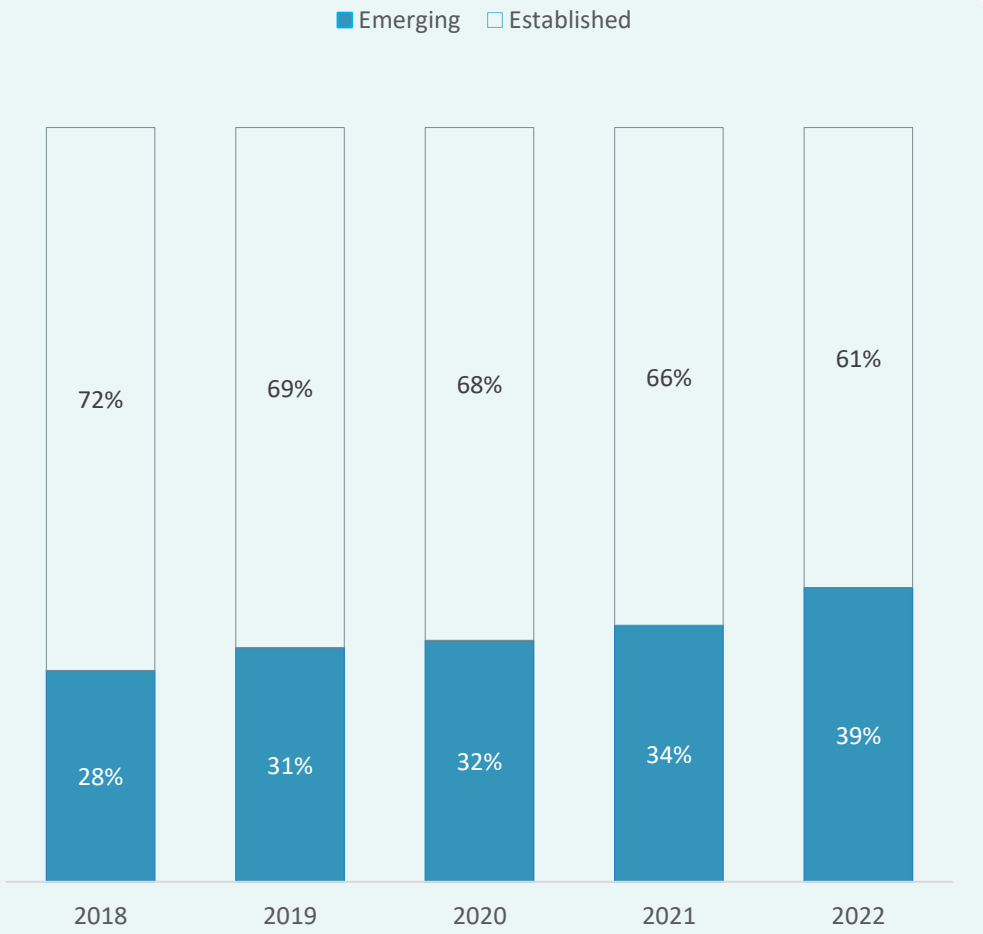
28% — % share of all tech start-ups based in Emerging Hubs[1]

10 — # of Active Unicorns and potential unicorns in Emerging Hubs[1]

2.4X — Growth in investment deals[2] in Emerging Hubs[1] since 2019

~3X — Growth in first-round[3] investments since 2019

% Share of Tech Start-ups in Emerging Hub
By Year of Inception



Note: (1) Established hubs are cities with at-least 1000 startups founded between 2012-22. Emerging hubs are Indian cities with less than 1000 tech startups founded between 2012-22 excluding established hubs (2) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (3) First-round round refers to the first equity funding round of a tech startup ; Source-Zinnov CoNXT Research & Analysis

Women entrepreneurs' success in the tech start-up ecosystem is becoming evident

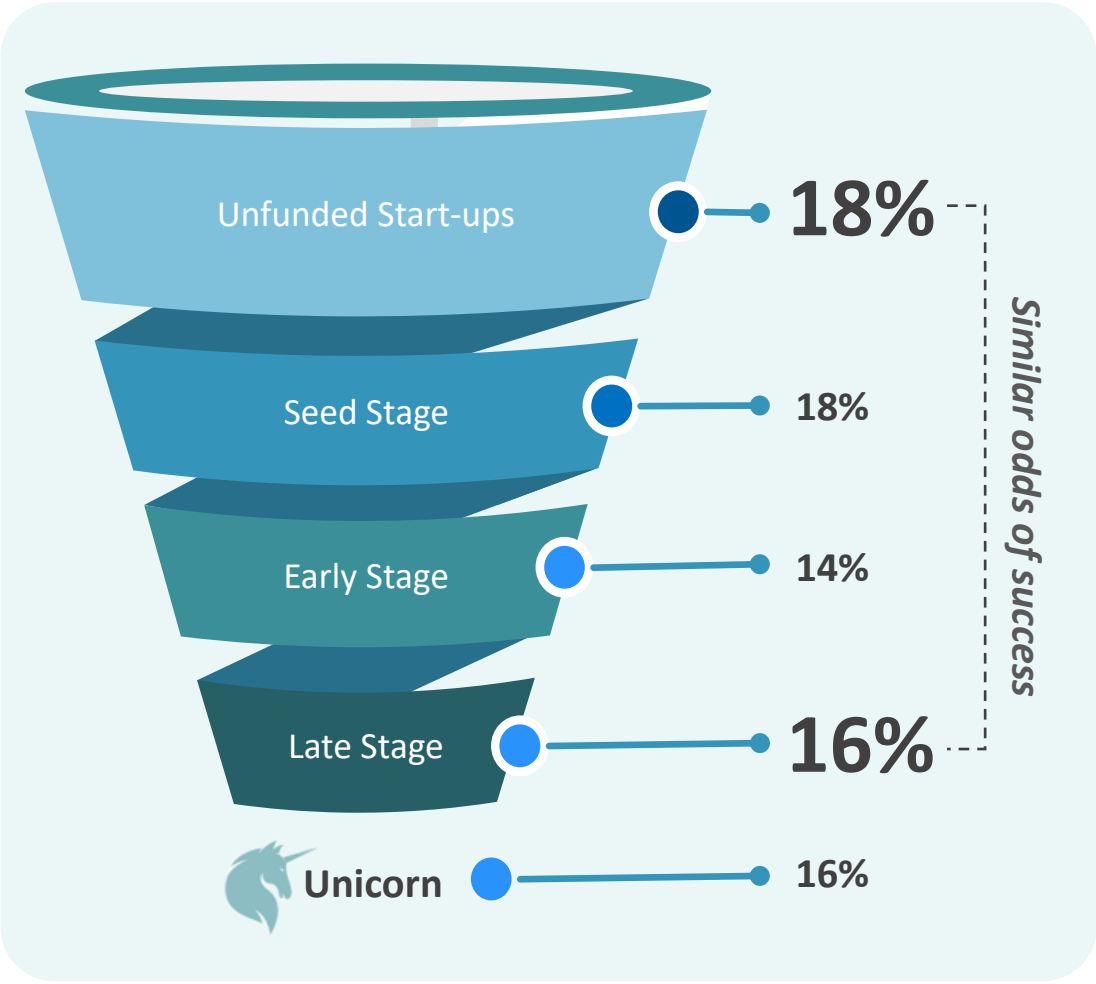
The percentage share of women-founded[1] start-ups across stages of growth is in line with their participation in the ecosystem - indicating equal odds of success compared to their male counterparts. Thus, providing evidence of the women's intent and capability to play a role in the nation's economic growth and the crucial need for accelerating DE&I initiatives.

# of Unicorns and Potential Unicorns with at least one women founder/co-founder

Share of all start-ups in the ecosystem with at least one-woman founder/co-founder

Share of all Investment deals[2] between 2019 to 2022 were raised by women-led[1] start-ups

% Share of Women-Founded[1] Start-ups
by Funding Stage



Note: (1) Start-ups with women as founders or co-founders are referred as women-founded or women led start-ups. (2) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered ; Source-Zinnov CoNXT Research & Analysis

How did Indian tech start-ups tackle the storm in 2022?

The year 2022 has been challenging for technology start-ups. The founders have struggled with a skills shortage, which was made worse by the economic downturn. This also led to a decrease in business demand.

However, Indian start-ups have shown resilience by shifting their business strategies and focusing on operational efficiency rather than laying off employees or closing down operations. They have also turned to partnerships and collaboration models or have even considered expanding into new areas to revive business demand.

Despite steady revenue growth for many start-ups, investor sentiment and valuations remain a concern. This information is based on interviews and surveys conducted with over 100 start-up founders from various funding stages and industry sectors.

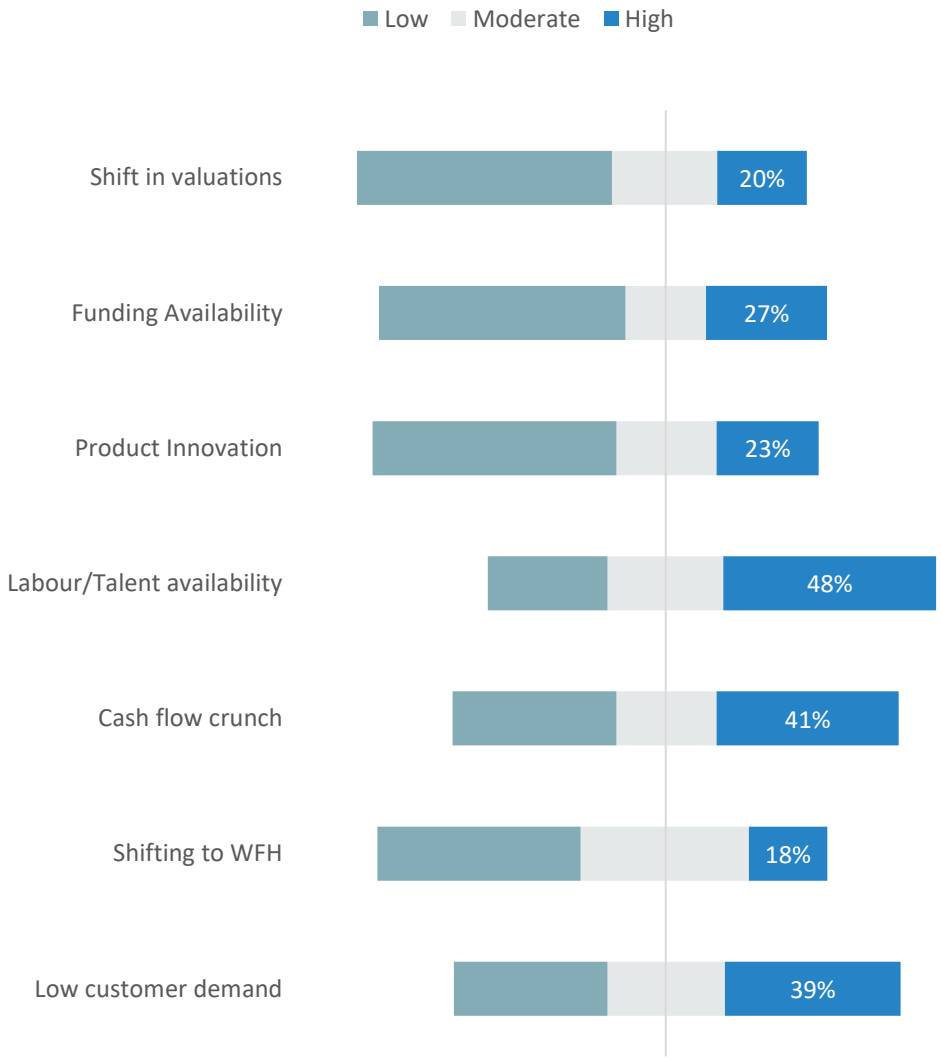
Undoubtedly, 2022 was a challenging year for founders

Founders have transitioned well with return to office and WFH. As collaborated by data, for seed and early-stage start-ups valuations and fundraise has been lesser challenge. Market demand and talent supply, however, have been extremely challenging.

Access to quality talent has been biggest challenge for founders

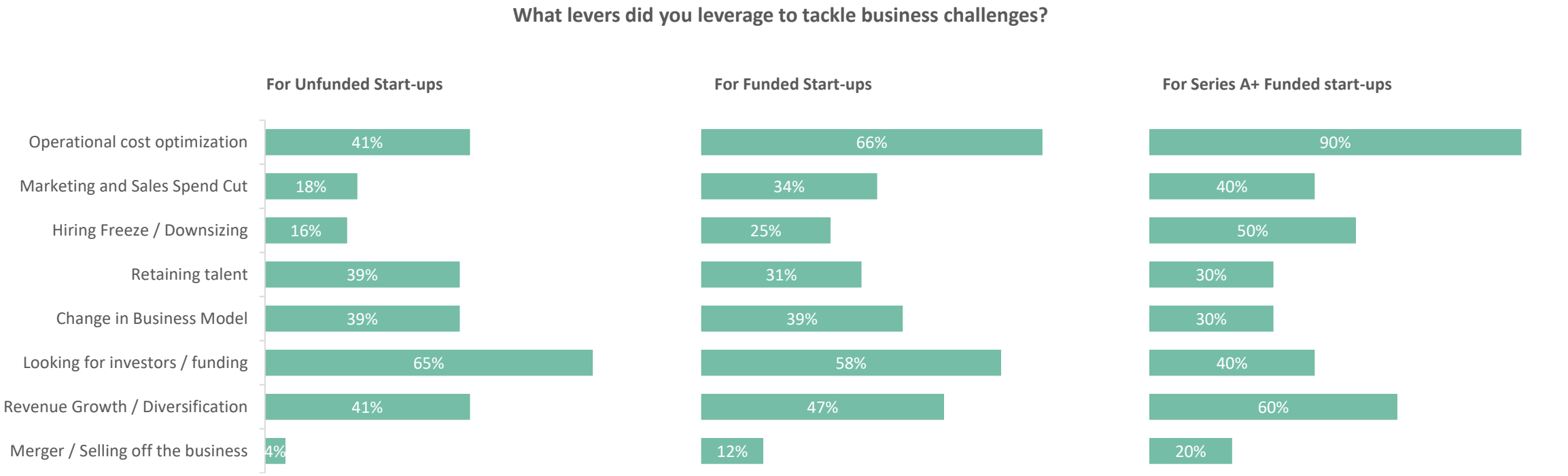
Low customer uptake, due to recessionary mood, has also contributed to extreme cashflow challenges

Founders appear to have taken shift in valuations and funding availability in stride, as part of business



Source: Insights based on NASSCOM-Zinnov survey of 100+ tech start-ups across funding stages and industry sectors

Founders acted on multiple levers to improve cashflows to sustain business



- Scope for operational cost optimization has been limited and consequently the focus has been on funding growth

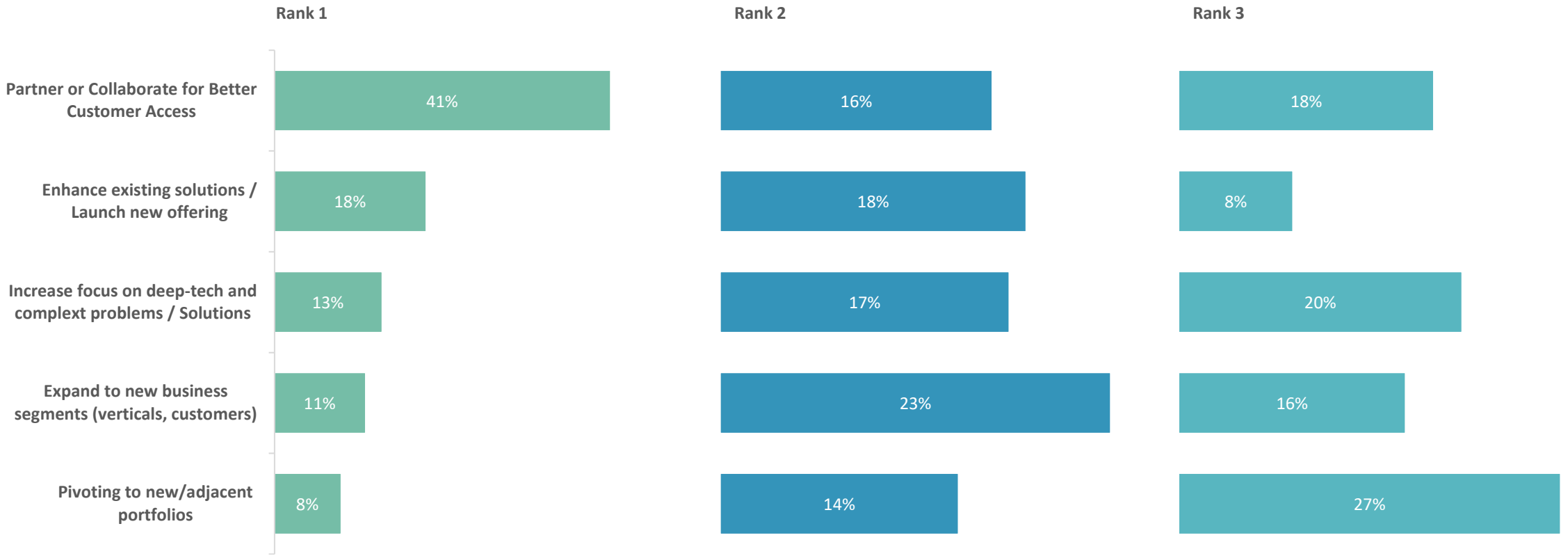
- Action driven by need to extend runway and prepare for fresh capital infusion.

- Actions driven by need to protect current valuation while extending runway and preparing for fresh capital infusion

Source: Insights based on NASSCOM-Zinnov survey of 100+ tech start-ups across funding stages and industry sectors

And quickly focusing on multiple strategies to expand customer base

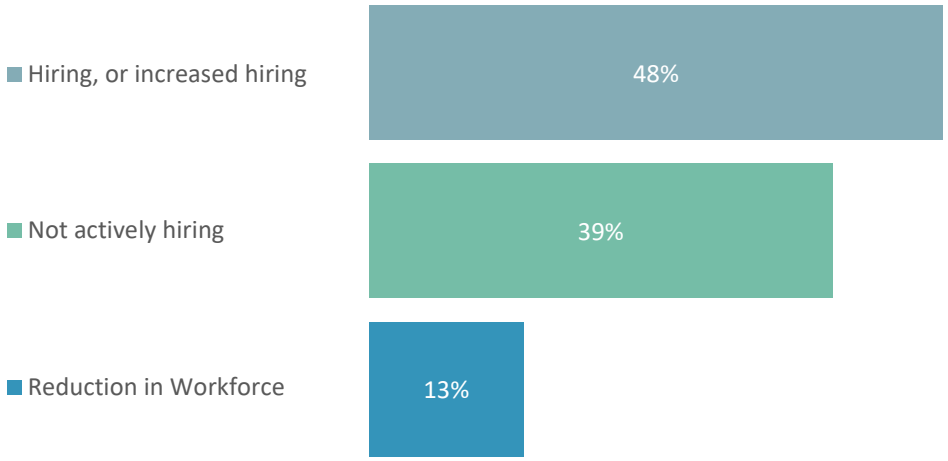
How did your business strategies change in the past 6-12 months?
Rank in terms of Importance



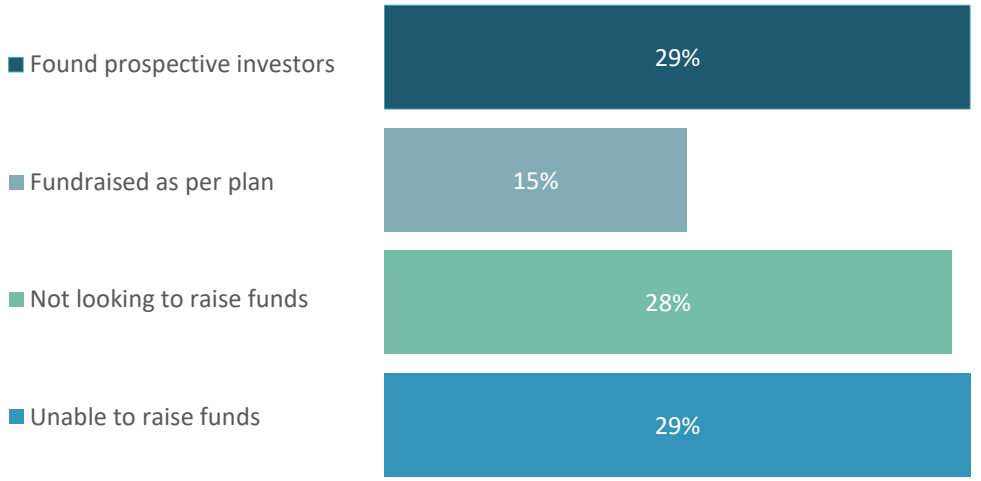
Source: Insights based on NASSCOM-Zinnov survey of 100+ tech start-ups across funding stages and industry sectors

48% founders are hiring while 29% have been unable to raise funding this year

How have your hiring plans changed in past 6 months?



Have you been able to raise funds in past 6 months?



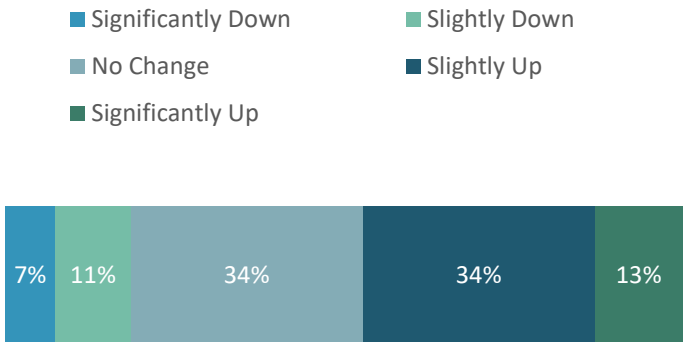
- Per expectation, funded start-ups have reduced or reallocated teams
- Start-ups across stages continue to hire people albeit at rationalized pace

- Only 11% of funded start-ups reported inability to raise funding
- Majority start-ups either deferred fundraise or shifted focus to building investor relationships in preparation for future fundraise

Source: Insights based on NASSCOM-Zinnov survey of 100+ tech start-ups across funding stages and industry sectors

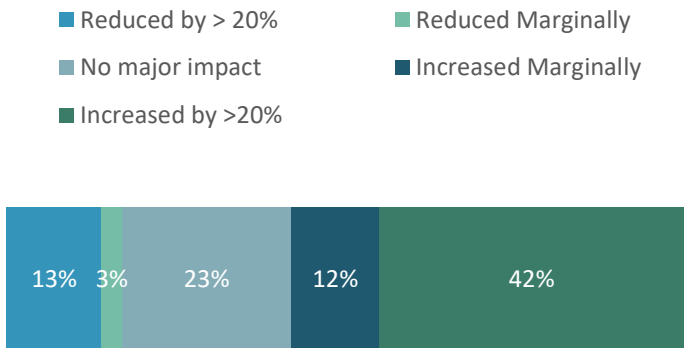
54% tech start-ups reported improvement in revenue in the past 12 months

How was your valuation changed in past 6-12 months?



- Approx. 15-20% funded start-ups, across funding stages, reported drop in valuations
- Change is minimal for Seed-stage start-ups and

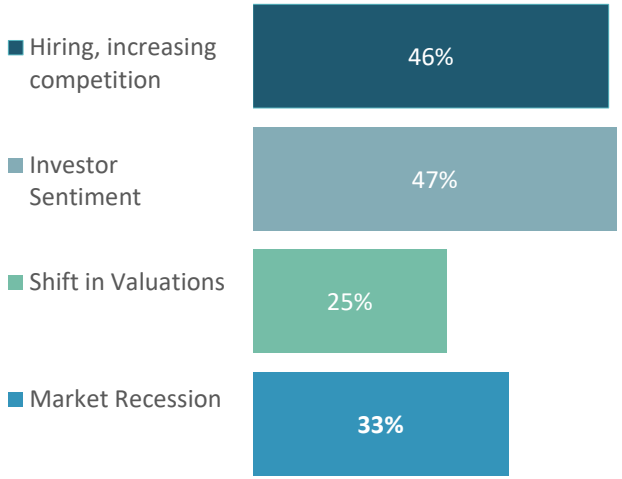
How has your revenue changed in past 12 months?



54% Of start-ups reported increase in revenue

- 7% start-ups have halted operations temporarily
- 60% unfunded start-ups reported drop in revenue

At this moment, what is your biggest concern?



- Series A+ start-ups are equally concerned about market, hiring and investors
- Others are more concerned about talent hiring and investor sentiments than market

Source: Insights based on NASSCOM-Zinnov survey of 100+ tech start-ups across funding stages and industry sectors

NASSCOM zinnov

Continued momentum in sector diversification

There has been a marked expansion in the industries targeted by Indian start-ups and an improvement in the quality of use cases being solved. Most sectors have raised investments greater than they did in 2019, with BFSI, Retail and Retail Tech, Enterprise Tech, and EdTech remaining the most preferred sectors.

Nascent sectors, including Agri-Tech, Industrial and Manufacturing, Energy and Utilities, are also growing rapidly with the adoption of technology-led solutions by end-customers and players across the value chain.

Sectors affected by the pandemic continued to see muted investor interest, while sectors critical to India's development, such as Environment Tech, Aviation, Maritime and Defence, and Life Sciences gained sustained interest.

B2B start-ups, with their technology and business model innovation, also gained prominence, as did SaaS which continues to advance India's position on the global product innovation map.

Most sectors have raised investments greater than 2019

The last three years have been outliers and consequently, 2019 and the 4-yearaverage are better baselines for analyzing investment trends within the ecosystem. Almost all sectors have raised investments higher than 2019 and the 4-yearaverage.

04

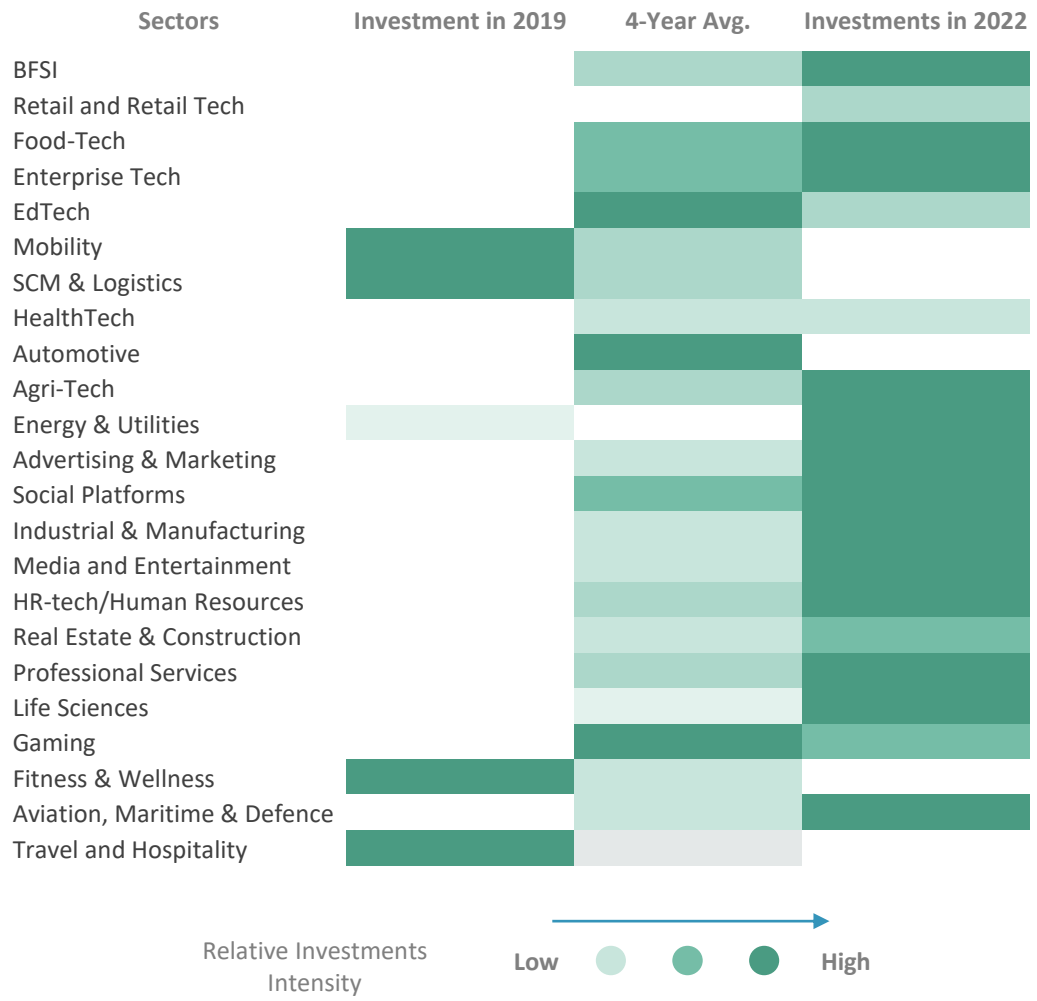
# of Sectors[2] with investments lower than 2019 and 4-Year average

03

# of Sectors most impacted – Mobility, Fitness and Wellness, Travel and Hospitality

All three sectors were severely impacted during pandemic and are expected to beat pre-pandemic highs in 2023

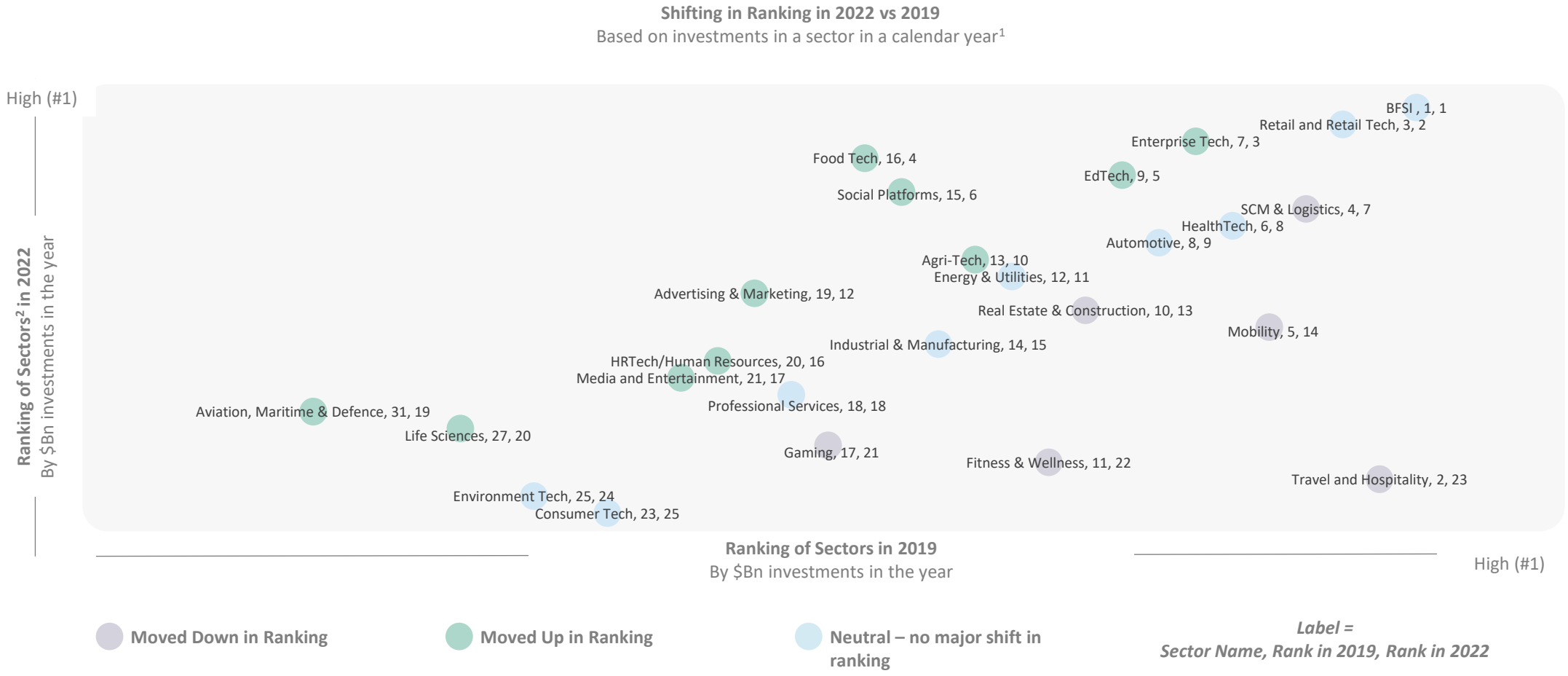
Comparative Assessment of Total Investments[1]
By Sector, in $ Bn, for sectors with $100Mn+ investments in 2022



Note: (1) For each calendar year, Investment analysis is done for start-ups and unicorns founded in the 10-year timeline (2) Sector definitions are included in "Notes for Reader" section.; Source-Zinnov CoNXT Research & Analysis

NASSCOM zinnov

BFSI, Retail, Enterprise and Education continue to be most preferred sectors



Note: (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (2) Sector definitions are included in "Notes for Reader" section.; Source-Zinnov CoNXT Research & Analysis

Nascent sectors are growing rapidly as solutions mature and gain market traction

Growth is more evident considering small-base in 2019 and, increased adoption of technology-led solutions by end-customers and players across the value chain. Agri-Tech, industrial and manufacturing, energy and utilities are also sectors with strong SDG aspect.

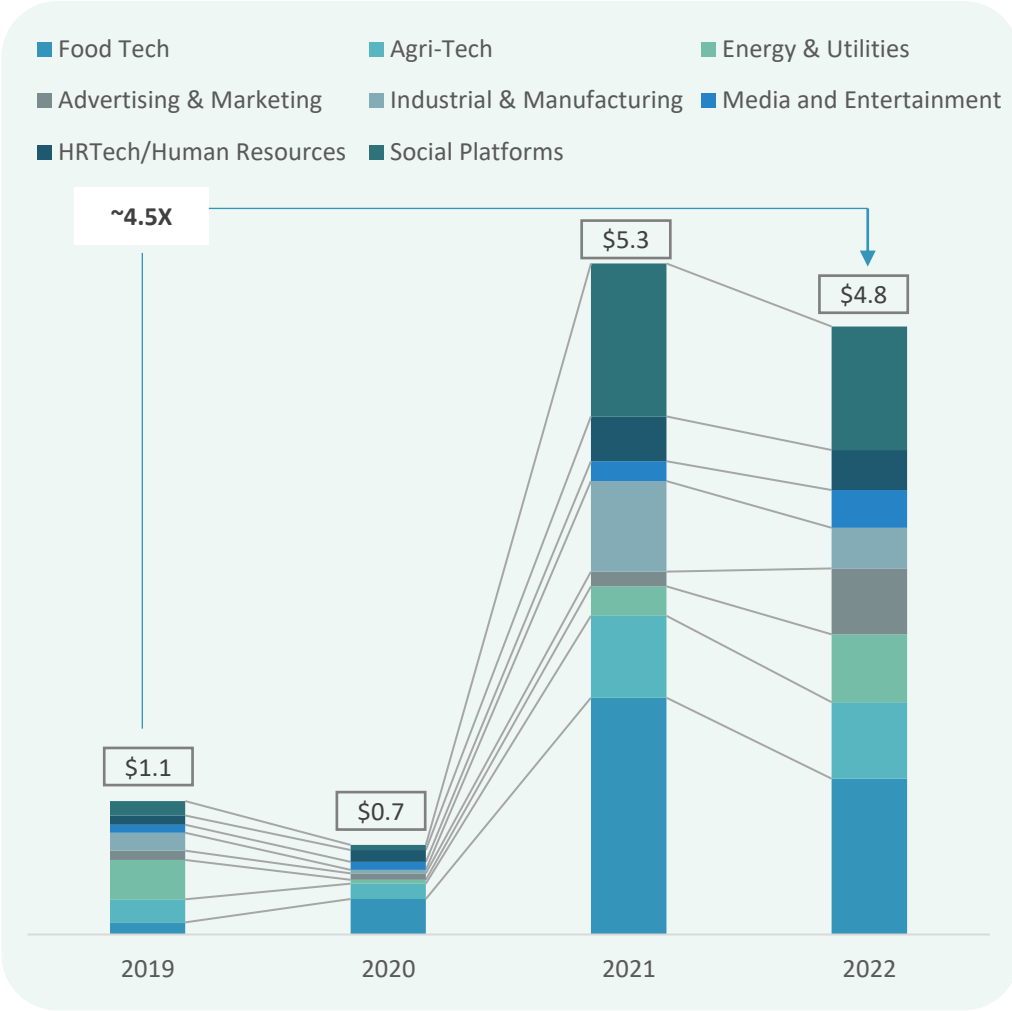
A priority sector for India, Agri-Tech has been gaining increasing share of investments driven by market adoption

Food-Tech has undergone massive shift in past three-years; including leading the return-to-normal movement

Industrial and manufacturing, energy and utilities focused solutions have witnessed increasing uptake from end-users

Technology-adoption has hit record highs in media and entertainment, advertising and marketing sectors

Equity investments[1] in Sectors
In $Bn, by calendar year



Note: (1)For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered; Source-Zinnov CoNXT Research & Analysis

Sectors affected deeply by pandemic continued to witness muted investor interest

Building novel solutions these start-ups have two key characteristic – significant portion of workforce is skilled in deep-tech with focus on building patentable intellectual property.

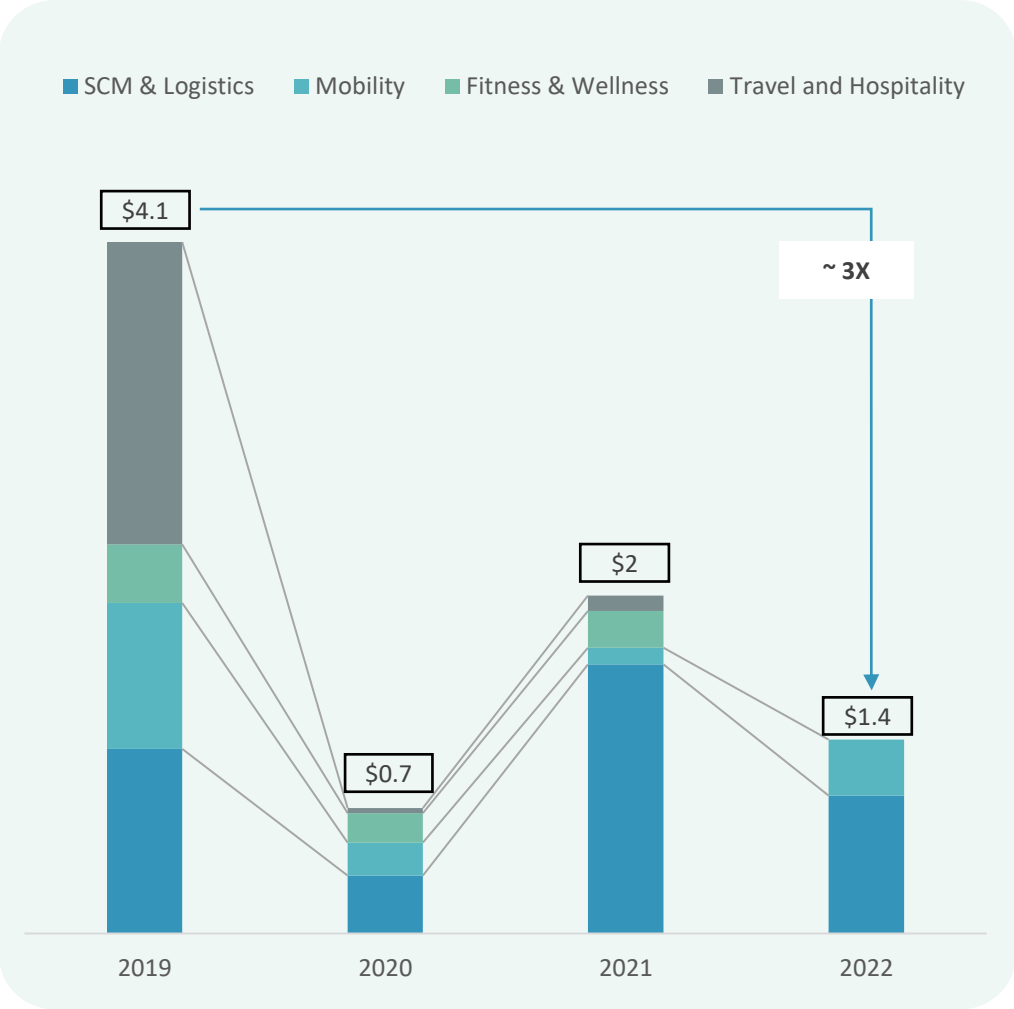
Increase in fuel prices and slow market recovery made profitable growth challenge in SCM and Logistics

Mobility contracted with slow return to work, increase fuel costs, and increased preference for personal transport

Travel and Hospitality, apart from mobility, has been one of the slowest sectors to recover to pre-pandemic levels

In Fitness and Wellness investors have taken wait-and-watch approach for “winning” business model

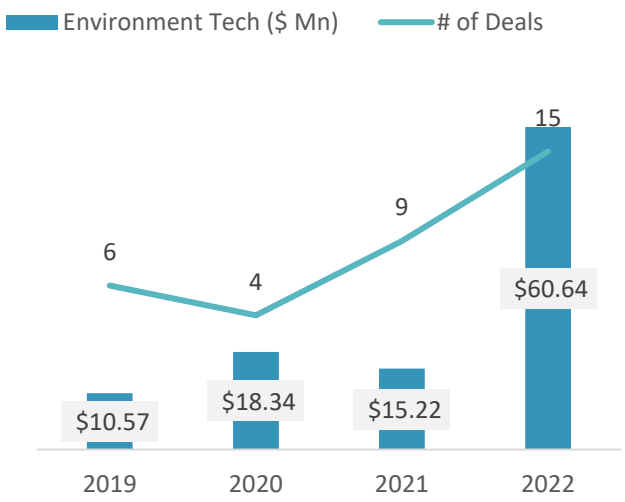
Equity investments[1] in Sectors
In $Bn, by calendar year

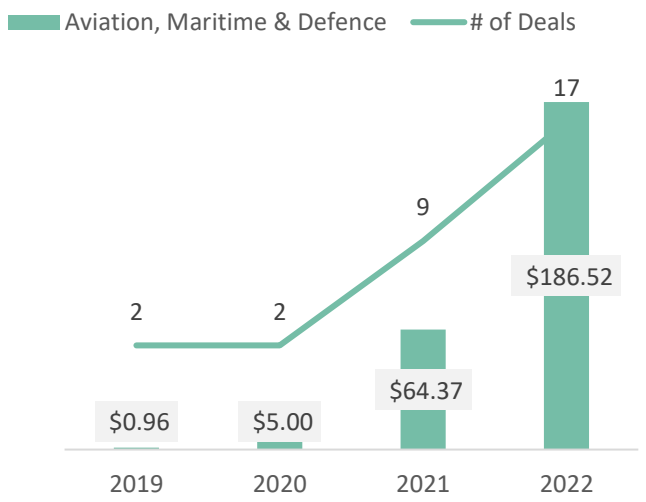


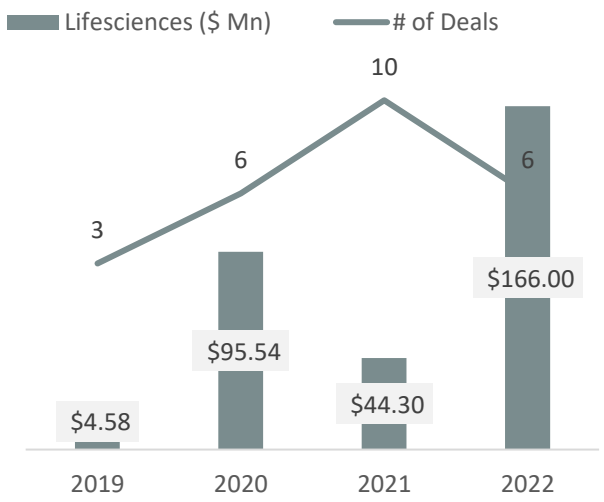
Note: (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered; Source-Zinnov CoNXT Research & Analysis

Sectors critical to India's holistic development are gaining sustained interest

Equity investments[1] in Sectors
In $Mn, by calendar year







- Driven by increased focus on ESG by large enterprises and search for sustainable businesses
- Sector has strong tailwinds for next decade

- Driven by growth of Space-Tech start-ups coupled with increased adoption of autonomous / remote-controlled solutions in private and public sector

- Currently cornered by few start-ups – the sector is at intersection of science and technology driven by need for digital therapeutics and marked demand to reduce cost of drug discovery and diagnostics

Note: (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered; Source-Zinnov CoNXT Research & Analysis

B2B start-ups gained prominence with technology and business model innovation

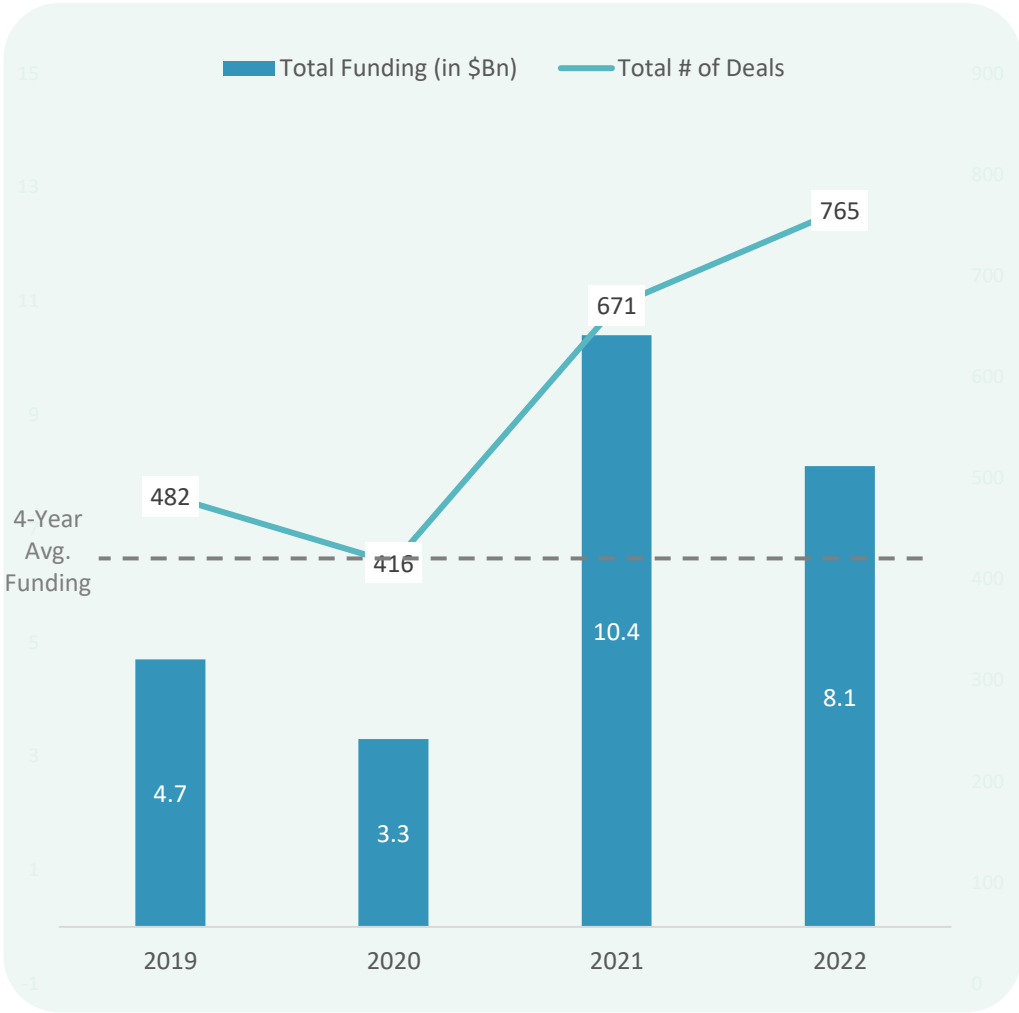
Small Medium Businesses (SMBs) are key driver of economic growth. In India they contribute 27% of national GDP. Start-ups are actively driving digital maturity of this underpenetrated market seeking cost-effective solutions to take-on large enterprises.

50% — % of Unicorns[1] and Potential Unicorns[2] with B2B business model, driven by significant investment growth in 2022

74% — % of Unicorns[1] and Potential[2] Unicorns are servicing SMBs; only 26% of start-ups are purely focused on Large Enterprises

52% — % of Unicorns[1] and Potential[2] Unicorns are servicing global markets(including non-SaaS solutions)

Equity investments in B2B Start-ups
By calendar year



Note: (1) Unicorns are private entities with more than $1Bn valuation, analysis as on date 31-Dec-2022 (2) Potential unicorns are start-ups founded between 2012-22 and with total funding more than $50Mn+. Does not include start-ups that became unicorn on or before 31-Dec-22; Source-Zinnov CoNXT Research & Analysis

NASSCOM zinnov

SaaS continues its long-march to place India on global product innovation map

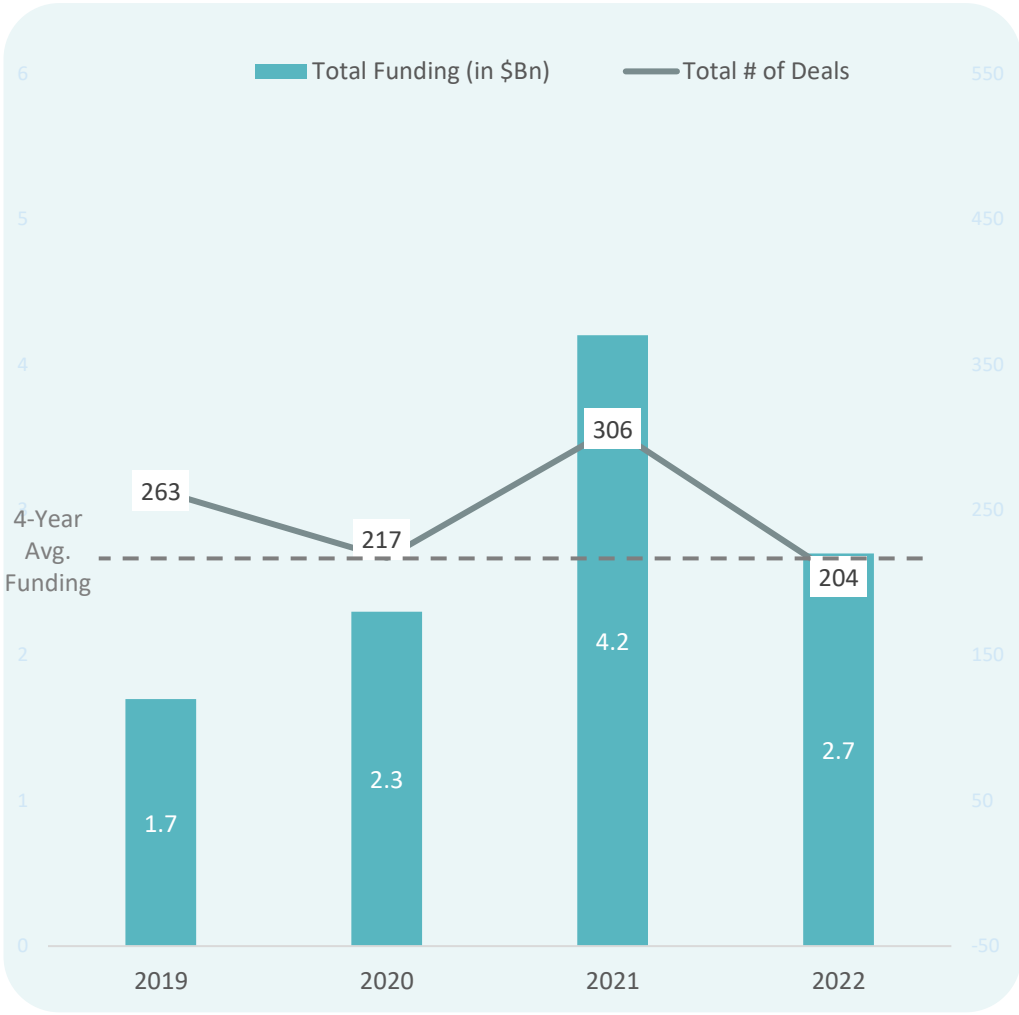
Entrepreneurs are leveraging India's unique strength – largest pool of developers, small medium businesses, and largest R&D location for global MNCs outside HQ – to build solutions that are viable across borders. Segment was deeply impacted by shift in public market valuations.

59 — # of Unicorns (26) and Potential Unicorns (33)

68% — % of SaaS[1] Unicorns and Potential Unicorns serving global markets

68% — % of SaaS[1] start-ups building Horizontal Business Applications (57%) and Infrastructure Applications (11%)

Equity investments[2] in SaaS[1] Start-ups
By calendar year



Note: (1) Enterprise tech start-ups with Software as their main source of revenue are termed SaaS (2) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered; Source-Zinnov CoNXT Research & Analysis

Deep-Tech Start-up Growth Continues

The base of deep-tech start-ups in India is rapidly expanding in response to market needs, constituting 12% of the overall start-up ecosystem and growing faster than the ecosystem.

Deep-tech start-ups have also witnessed an increase in investments, with a 3x growth in seed-stage investments from 2020 and more than 30% year-on-year growth in early-stage investments, which is up 2x from 2020. There are over 500 ‘inventive’ deep-tech start-ups in India that are building new-to-world technologies and have a significant portion of their workforce skilled in deep-tech, with a focus on building patentable intellectual property.

Applications of deep-tech have permeated across all industrial sectors, with the convergence of technologies enabling start-ups to solve for more use-cases. The increasing adoption of deep-tech is essential in many industries due to increasing global competition and is also reflective of the improving technology skills in the Indian start-up ecosystem. With increasing focus and support from policymakers, an expanding base of talent with niche skills, and improving exposure to applications and technologies, we expect the diffusion of deep-tech to increase.

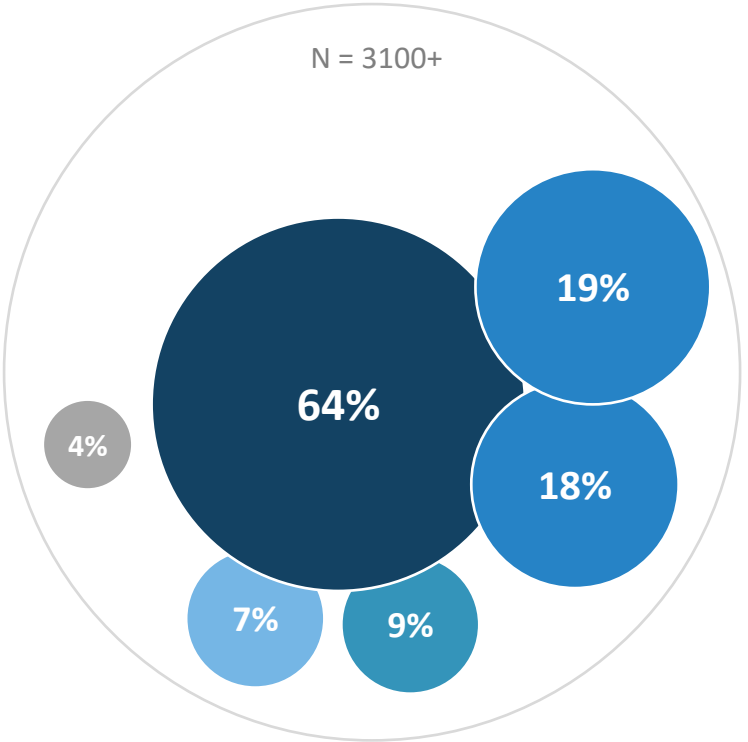
With 12% start-ups leveraging deep-tech, base continues to expand consistently

Deep-tech start-ups are growing faster than the overall ecosystem. Significant majority is based in Established Hubs due better access to talent, subject matter experts and proximity to customers.

3100+	# of unique Deep-Tech[1] start-ups
42%	% growth rate over last decade
78%	% share of B2B start-ups,
55%	% of start-ups were in Enterprise Tech, BFSI, Health Tech, EdTech and Advertising and Marketing

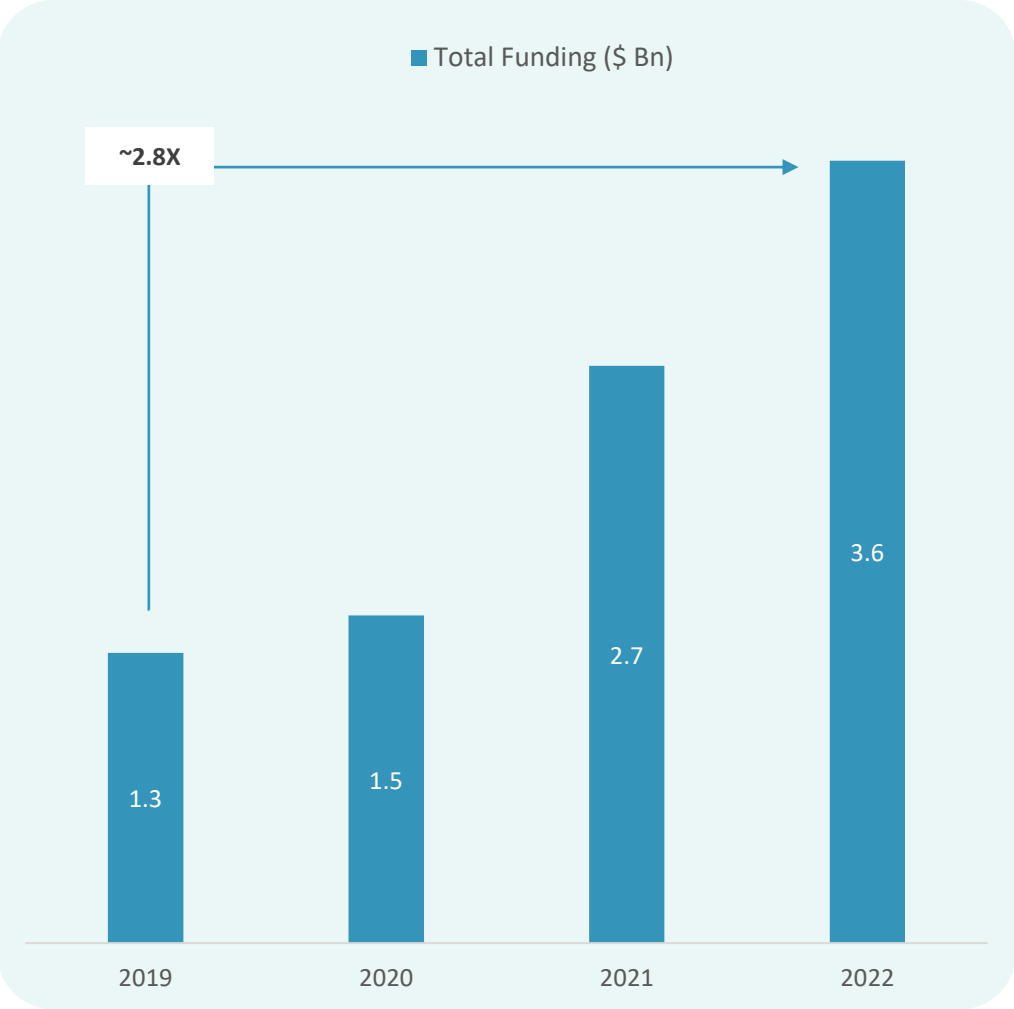
Distribution[2] Of Deep-Tech[1] Start-ups,
By technologies leveraged

- Artificial Intelligence
- Internet of Things
- Big Data & Analytics
- Blockchain
- AR/VR
- 3D Printing & Drones



Note: (1) Deep-Tech start-ups are active tech start-ups that create, deploy or utilize advanced technology in their products or services. Advanced technologies largely include Artificial Intelligence/ Machine Learning, Internet of Things (IoT), Blockchain, Big Data & Analytics, Augmented Reality/ Virtual Reality (AR/VR), Robotics, 3D printing and Drones. (2) Total does not add to 100% as a deeptech start-up can leverage multiple technologies simultaneously to create products/ solutions ; Source-Zinnov CoNXT Research & Analysis

Equity investments in Deep-Tech Start-ups
By calendar year[1]



With $3Bn+ in investments, deep-tech start-ups had a record year

With increasing digital spends from large enterprises across sectors – investments are expected to increase as start-ups gain business tractions and mature their product portfolio for scale.

Investments increased across all the funding stages[2]

3X

Growth in seed-stage from 2020,
Increased from $0.1Bn to $0.3Bn in 2022

2X

Growth in early-stage investment from 2020
Increased from $0.6Bn to $1.4Bn in 2022

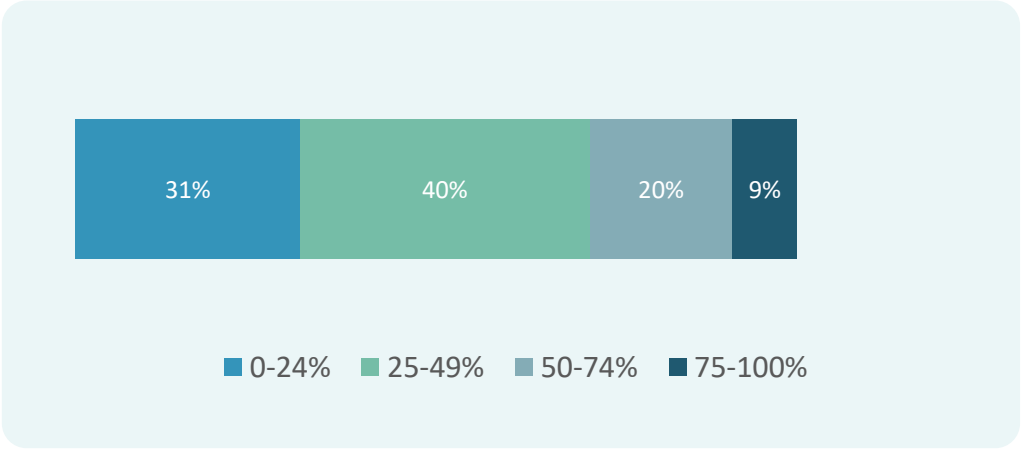
Note : (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (2) Seed stage deals include Seed and Angel stage funding rounds. Early-stage deals include Series A and Series B funding rounds. Late-stage deals include Series C and above funding rounds. ; Source-Zinnov CoNXT Research & Analysis

500+ “inventive[1]” deep-tech start-ups are building new-to-world technologies

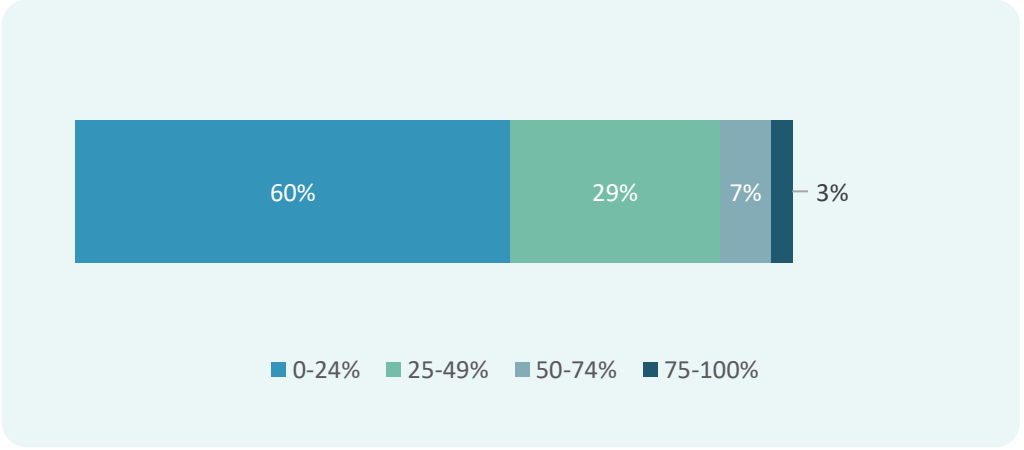
Building novel solutions these start-ups have two key characteristic – significant portion of workforce is skilled in deep-tech with focus on building patentable intellectual property.

940+	# of patents filed[2] in and outside India
22%	% share of granted patents of all active filings
94%	% share of all fillings were in 2016-22 period
350+	# of patent filings in India

Distribution of “Inventive” Deep-Tech Start-ups
By percentage workforce with relevant skills[3]



Distribution of other[4] Deep-Tech Start-ups
By percentage workforce with relevant skills[3]



Note: (1) Deeptech start-ups that are creating new products/ solutions with unique intellectual property or/and backed by scientific advances or fundamental research (2) A sample of 450+ deeptech start-ups were analyzed for patent analysis (3) A sample set of 500+ DeepTech start-ups considered for workforce analysis. % DeepTech workforce with relevant skills indicates presence of deep technology skilled employees in a DeepTech start-up including but not limited to roles like AI/ML Engineer, Blockchain Developer, Computer Vision Engineer, Blockchain Scientist, Robotics Engineer, AR Designer, Research Scientist etc. (4) Others consist of non inventive DeepTech start-ups; Source-Zinnov CoNXT Research & Analysis

Unicorn and Potential Unicorns Pool Strengthens

The shift in public market valuations has had a direct impact on the pace of unicorn development in India. A slowdown in late-stage funding was observed, due to a decrease in mega-rounds and median deal size. However, India still added the second highest number of unicorns, after the US, with an increased representation from B2B start-ups.

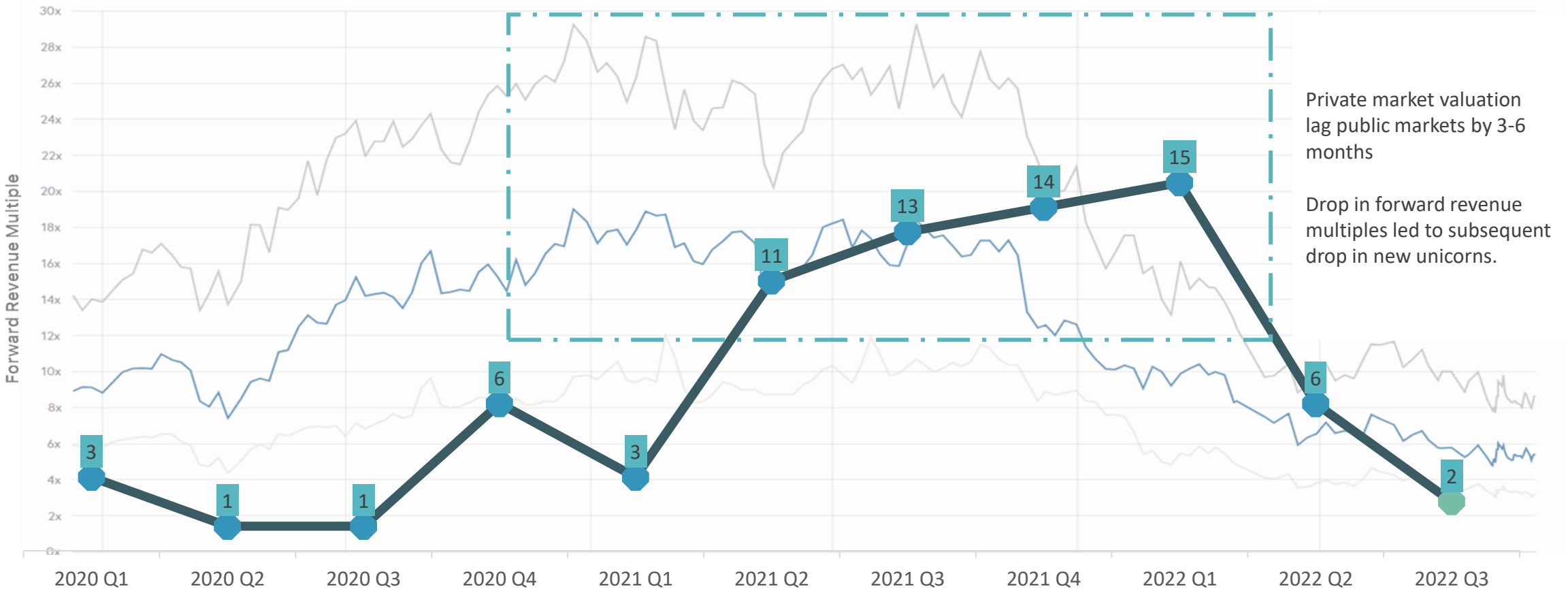
The potential unicorn club also saw similar growth as in 2021, with investments better distributed across different round sizes. This led to an increase in the number of start-ups with total funding greater than USD 50 million, creating a strong pipeline of potential unicorns.

The expanding pool of start-ups with resources available to gain market share and leadership also suggests that the years 2020 and 2021 were not an anomaly in terms of the number of start-ups becoming unicorns.

Despite the slowdown, the number of unique and active institutional investors remained strong. With a growing pool of experienced operators and India's unique parallel start-up ecosystem, continuous growth of the ecosystem is expected.

Shift in public market valuations has had direct impact on unicorn pace

Valuation Multiples of Listed Technology Companies
vs **# of New Unicorns[1] Created** by quarter, by calendar years



Private market valuation lag public markets by 3-6 months

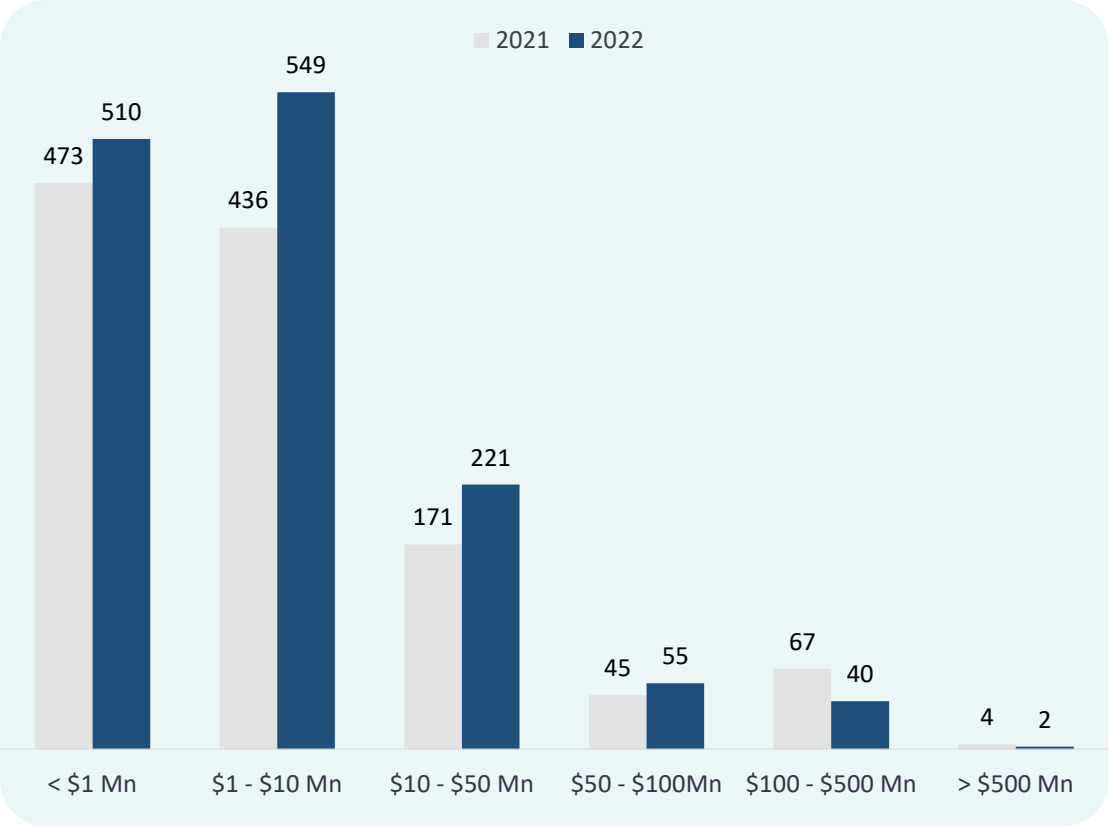
Drop in forward revenue multiples led to subsequent drop in new unicorns.

Note: (1) Unicorns are private entities with more than $1Bn valuation, analysis as on date 31-Dec-2022. Source-The BVP Nasdaq Emerging Cloud Index, Zinnov CoNXT Research & Analysis

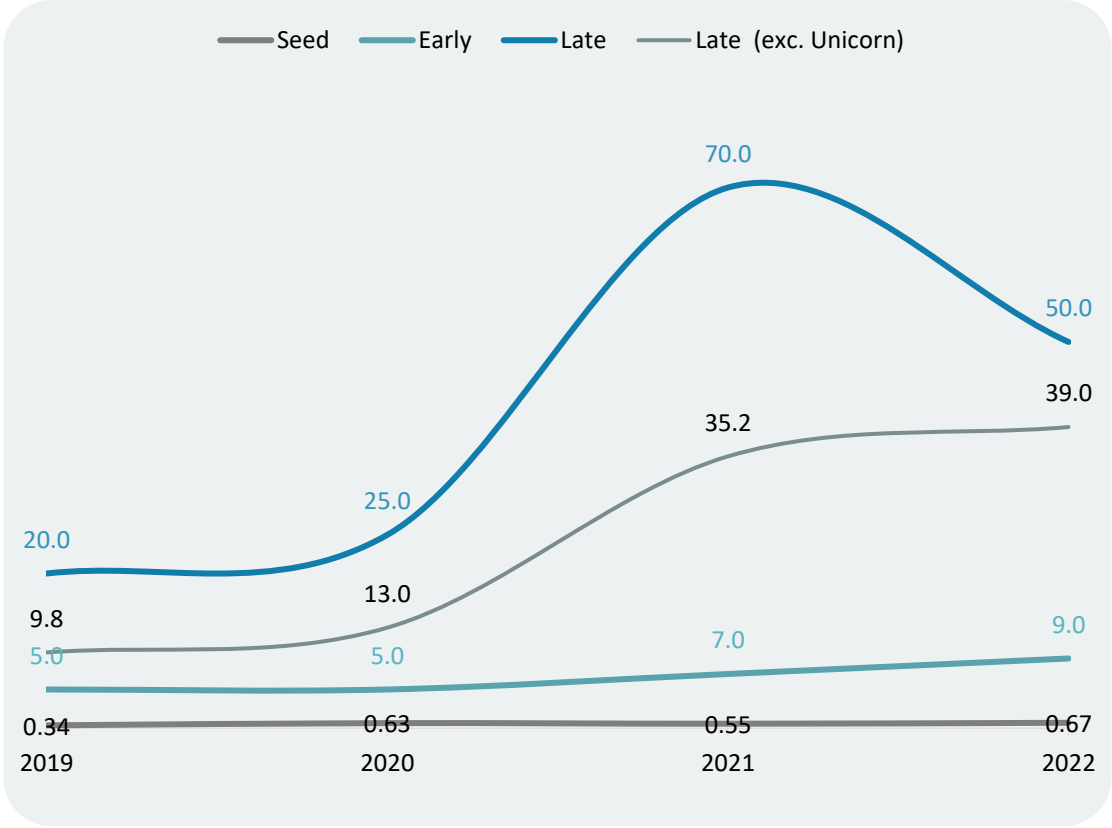
NASSCOM zinnov

Late-stage slowdown was due to drop in mega-rounds and median deal size

Distribution of Deals Across Investment Round Sizes
By calendar years[1]



Stage-wise[2] Median Ticket Size Of Investments
In $Mn, by calendar year[1]



Note- (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (2) Seed stage include Seed and Angel stage funding rounds, Early stage include Series A and Series B funding rounds and Late Stage include Series C and above funding rounds ; Source-Zinnov CoNXT Research & Analysis

Against the odds, India once again added 2nd highest number of unicorns

	USA[1]	China[2]	India[3]	U.K.[4]	Israel[5]	Germany[1]
Total Active Unicorns	619	312	89	57	44	30
Unicorns added in 2022	140	11	23	14	11	5
Innovation Clusters[6] with at least 1 Unicorn	40	20	8	7	3	5
Avg. Time to Unicorn[7] (in years)	6-8	5-7	7 - 9	7-9	7-9	5-7

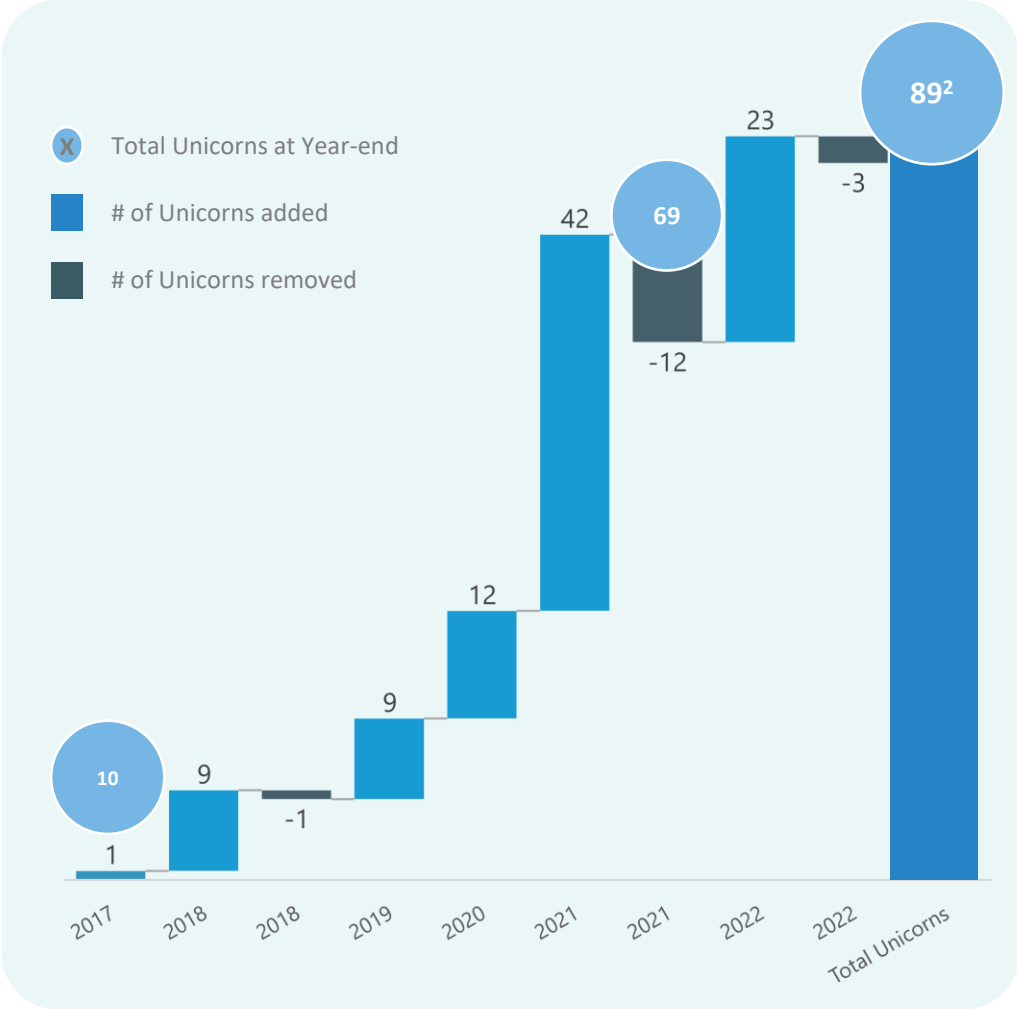
Source: (1) CB Insights – the complete list of unicorns (2) Hurun Global Unicorn Index 2021 (3) Zinnov CoNXT Research & Analysis (4) Beauhurst UK Unicorn List Data as on 31st Dec 2022 (5) Tech Aviv Israel Unicorn List (6) Towns and Cities have been combined into clusters. For instance, Silicon Valley clusters includes Palo Alto, Menlo Park, San Jose, Mountain View etc. Similarly, Delhi-NCR cluster includes Delhi, Noida and Gurgaon (7) Time to attain unicorn status is calculated from Year of Inception. Kindly refer to the unicorn definition from "Note for readers" section

The Unicorn club composition shifted with increased representation from B2B start-ups

2021 was an outlier globally for new unicorn additions. With market shifts, the valuation multiples have changed and require start-ups to have significantly better business metrics. Adjusting for correction, unicorn creation pace is in line with ecosystem fundamentals.

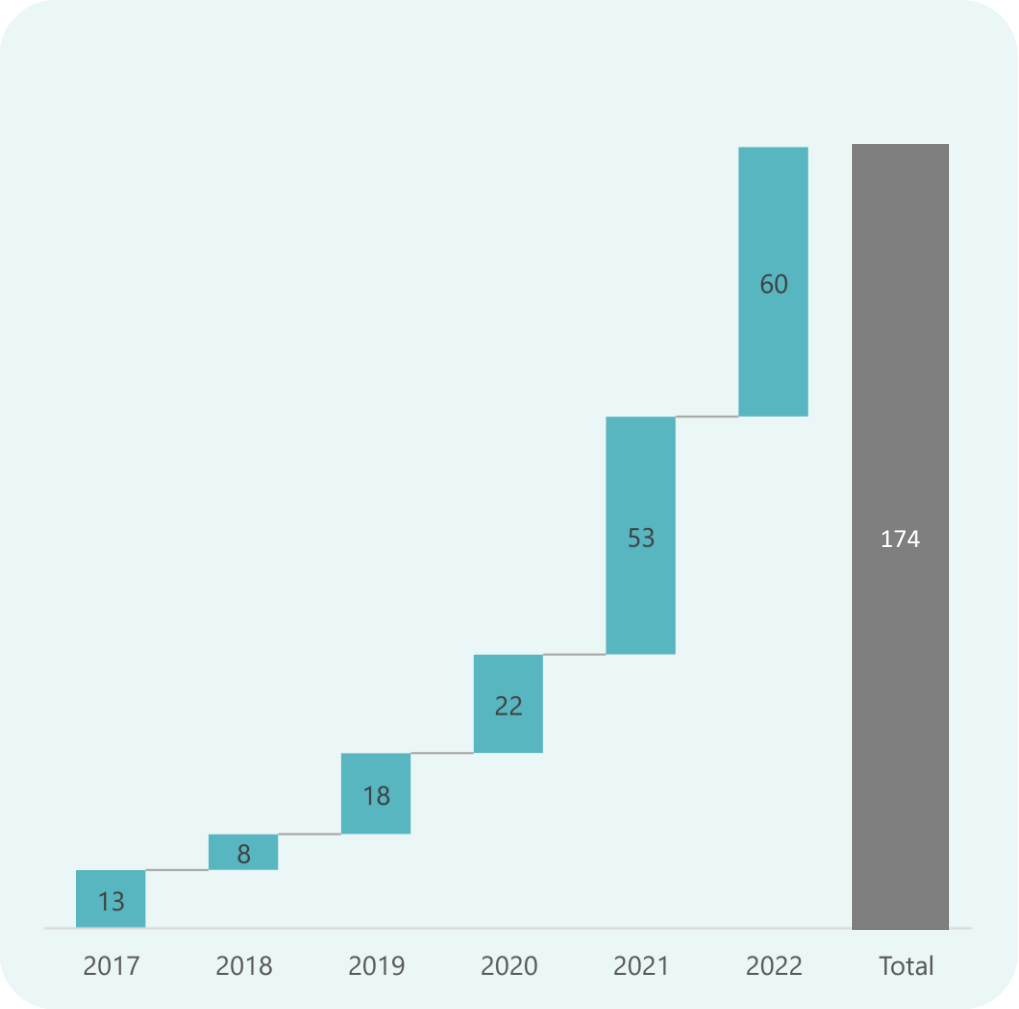
74%	% of new Unicorns are B2B start-ups; with significant pool focusing on SMB customers
30%	% of new Unicorns have SaaS business model; increasing tally of Unicorns servicing global markets to 45%
10	# of Sectors with at least one new Unicorn; expanding total to 20 sectors with at least one active unicorn
70%	Of new Unicorns were in Enterprise Tech, BFSI, Retail and Retail Tech, SCM and Logistics; sectors constitute 56% of all unicorns

Number of Unicorns[1] Added or Removed
By Calendar Year



Note: (1) Unicorns are private entities with more than $1Bn valuation, analysis as on date 31-Dec-2022 (2) Holding companies such as Mensa Brands and Global Bees have been excluded from the Unicorn club. Please refer to the note for readers for detailed list of exclusions from the unicorn club; Source-Zinnov CoNXT Research & Analysis

# of Start-ups Crossing $50Mn+ in Cumulative Funding
By Calendar Year



Interestingly, in 2022, the potential unicorn club expanded at similar pace as 2021

Seed-stage and Early-stage valuations held steady through 2021-22. Growth in potential unicorn pool is reflective of ecosystem depth and continued investor interest in technology start-ups. Pool is more diversified in terms of sectors, business models, customers and geographies serviced.

1:1	Split between B2C and B2B start-ups in the pool
70+	# of start-ups with $100Mn in total funding. We have strong pipeline for Unicorn club
22	# of sectors represented in the pool; with Aviation, Maritime and Defence as newest entrant
39%	% share of all Potential Unicorns[1] servicing global markets

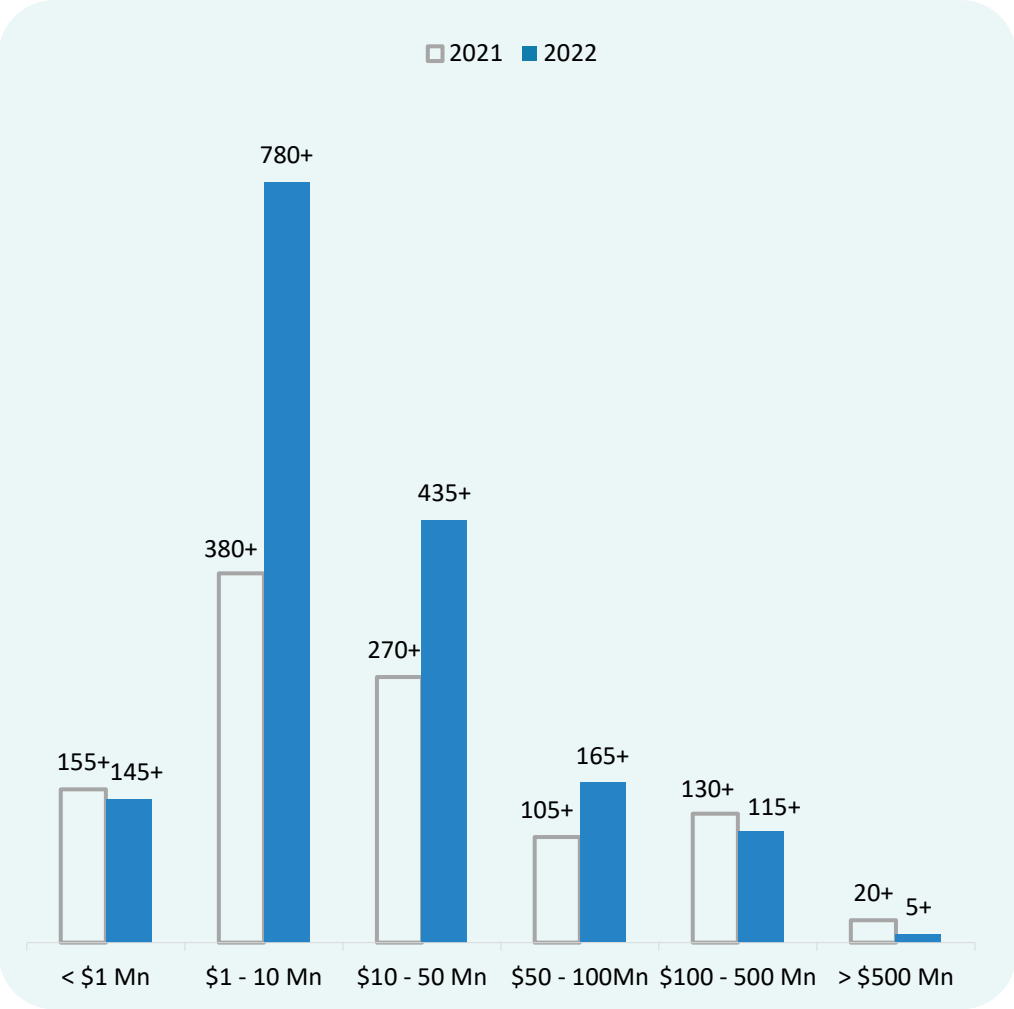
Note: (1) Potential unicorns are start-ups founded between 2012-22 and with total funding more than $50Mn+. Does not include start-ups that became unicorn on or before 31-Dec-22;
Source-Zinnov CoNXT Research & Analysis

Despite slowdown, we witnessed in 1.6X growth in unique and active institutional investors

Through 2022, most active[1] VC/PE firms remain largely unchanged albeit with definite shift in their investing strategy. Adjusting for market normalization, we have largest-ever capital pool available for deployment in tech start-ups.

1.8X	Increase in participation at Early-stage[5]
800+	Active Venture Capital firms, up 1.7X from 2021
190+	Private Equity firms with at least one investment, up ~2X
250+	Corporate investors[4], up 1.4X from 2021

Number of unique institutional investors[2]
By calendar year[3], by various round sizes



Note: (1) Active investors are investors that have taken part in at least one deal in a particular year (2) Unique institutional investors include Venture Capital firms, Private Equity Firms and Corporate investors (3) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis(4) Corporate investors include Indian/ global corporate organizations and corporate venture capitalists (CVCs) (5) Early stage deals include Series A and Series B equity funding rounds ; Source-Zinnov CoNXT Research & Analysis

Corporate Participation in Indian Start-ups Intensifies

Corporate participation in Indian start-ups continued to increase significantly in 2022, with large enterprises investing, acquiring, and forming partnerships with start-ups. This trend reflects the ongoing confidence in the Indian start-up ecosystem. Seed and Early-stage start-ups saw the most traction, with corporations investing the most in mature sectors like BFSI, Retail and Retail Tech, Enterprise Tech, EdTech, Health Tech, and HR-Tech.

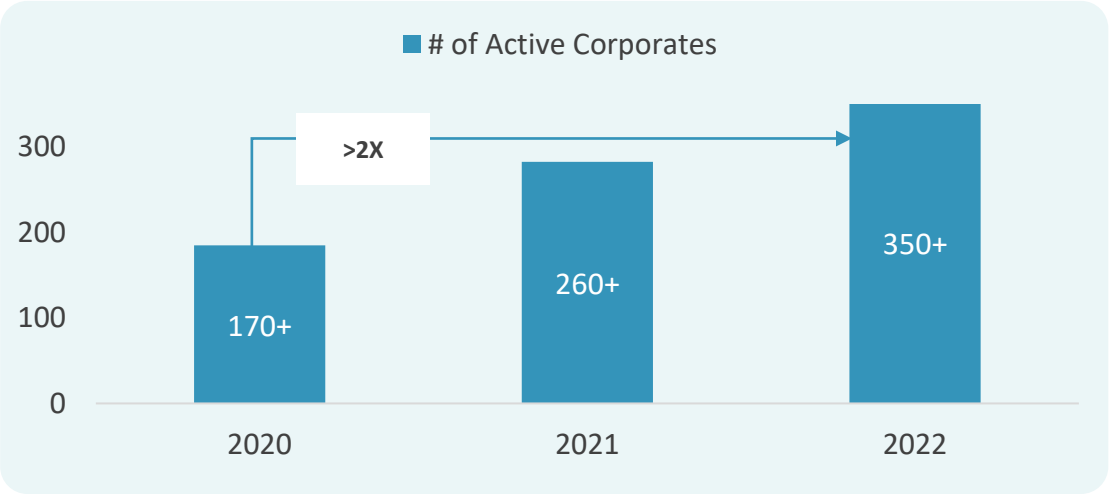
Indian MNCs leveraged start-ups for inorganic growth, while global MNCs appeared to have slowed their investments due to recessionary market conditions in their home countries. M&A activity in India remained active in H1 2022, despite the slowdown in global deals. There was a preference for younger companies due to more reasonable valuations, higher confidence in unlocking value post-transaction, and increased availability of assets. Corporations also deepened their open innovation capabilities.

The shift towards inorganic growth and open innovation in the wake of the pandemic has proven increasingly relevant in handling uncertainty, including shifts in customer behavior, new geopolitical challenges, increasing supply-demand gaps for technology talent, and reduced patience from financial investors.

Corporate participation grew 1.3X over 2021 baseline

Post-pandemic shift continues to stay relevant

Inorganic growth and open innovation have proved increasingly relevant tools for handling uncertainty including - shift in customer behavior, newer geopolitical challenges, increasing supply-demand gap for technology talent, and reduced patience of financial investors.



Investments

250+

44%

Increase in # of deals with corporate investments[1] versus 2020

M&A[2]

55+

64%

Acquisitions driven by product portfolio and tech expansion

Open Innovation Programs[3]

80+

22

# of sectors with active corporate OI program

Note: (1) Includes both Corporate and Corporate Venture Capital (2) For each calendar Year M&A rounds of start-ups founded in 10-year timeline are taken for Analysis; (3) Open innovation refers to a company leveraging external knowledge and ecosystem for their innovation management strategies ; Source-Zinnov CoNXT Research & Analysis

Investment deals grew by 44% since 2020 with increase all investment stages

Distribution of Corporate Investment Deals
By funding stage[2], by calendar year[1]

Corporate investments are most common in mature sectors like BFSI, Retail and Retail Tech, Enterprise Tech, EdTech, Health Tech and HR-Tech with significant majority being strategic bets for market expansion.

17% Of all funding deals had at lease one corporate investor[3]

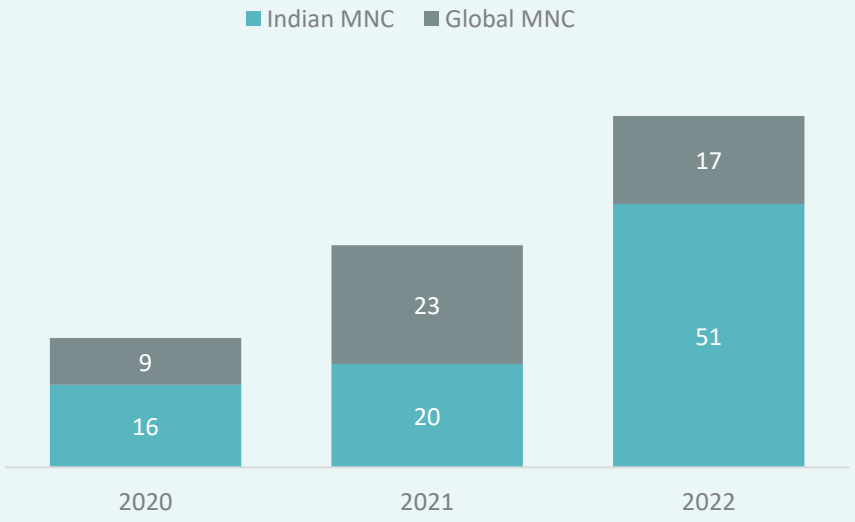
55% % share of Indian MNCs of unique corporates

51% Of participation was in deal size in the $1-10Mn range

Note: (1) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered (2) Seed stage include Seed and Angel stage funding rounds, Early stage include Series A and Series B funding rounds and Late Stage include Series C and above funding round (3) Includes both Corporate and Corporate Venture Capital

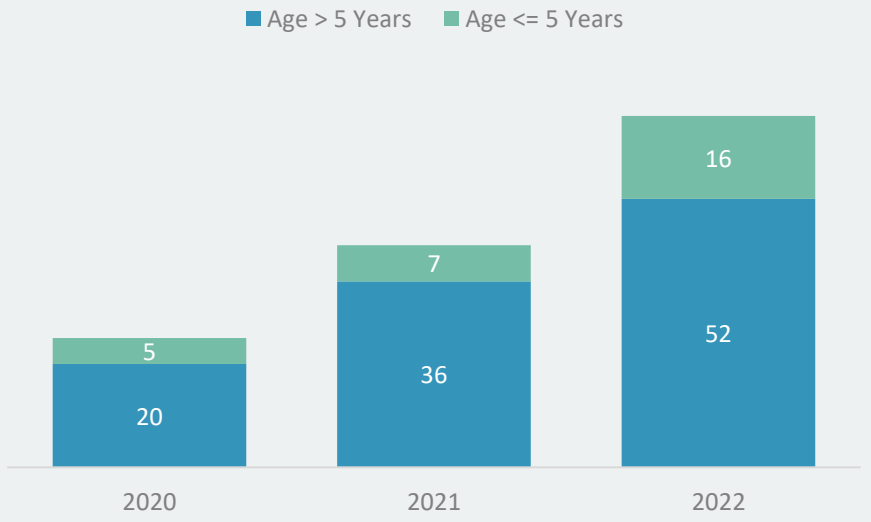
75% of corporate M&A was driven by Indian MNCs seeking inorganic growth

Distribution of Acquiring Corporate,
By calendar year[1]



Indian MNC participation grew due to increasing comfort in acquiring loss-making and/or technology businesses, and the increasing number of success stories emerging from these transactions. Global MNCs appeared to have slowed due recessionary market conditions in home geographies.

Distribution of Acquired start-ups,
By calendar year[1]



India M&A was active in H1 2022 despite slowdown in global deals. Preference for younger companies can be attributed to more reasonable valuations, higher confidence in unlocking value post-transaction, and increased availability of assets.

Note: (1) For each calendar Year M&A rounds of start-ups founded in 10-year timeline are taken for Analysis. For Instance- For CY 2022, M&A rounds of start-ups founded between 2012-22 are taken for analysis; similarly, for CY 2021, M&A rounds of start-ups founded between 2011-21 are considered ; Source-Zinnov CoNXT Research & Analysis

Technology teams deepened their Open Innovation capabilities to build global solutions

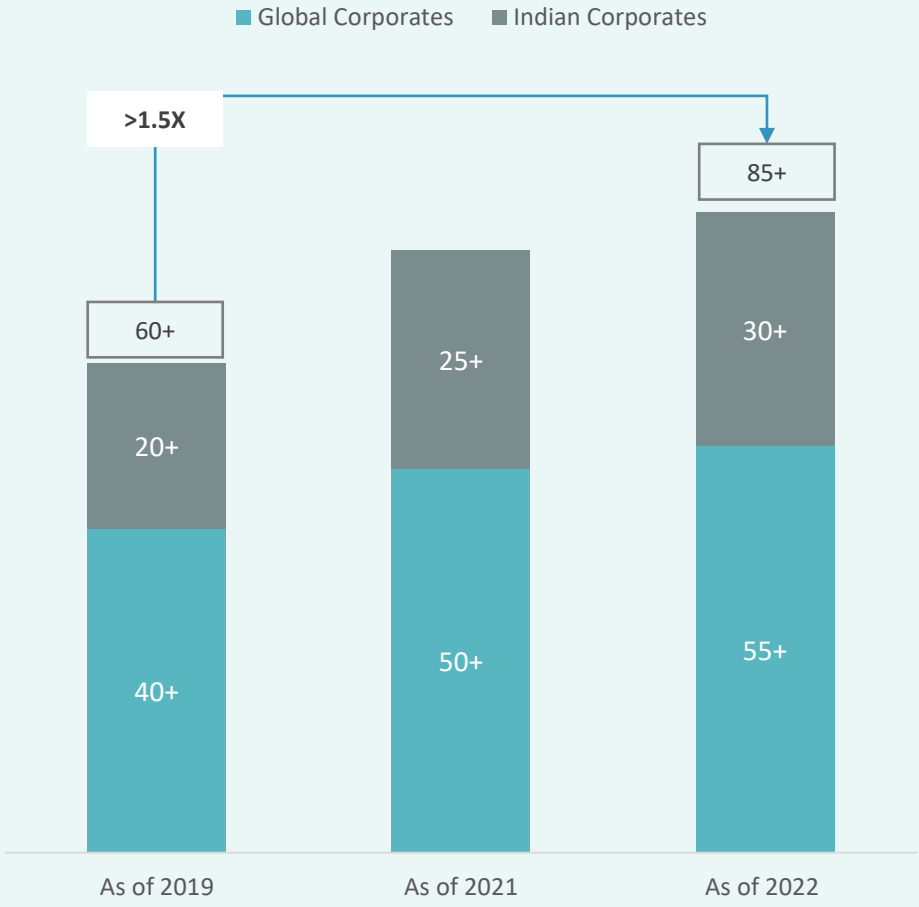
Corporates are leveraging open innovation programs to reduce cost and increase pace of experimentation; while overall optimizing time-to-market. There is an increased preference to validate synergies before making strategic investments or acquisitions in core business areas.

22+ # of Sectors with at least one corporate Open Innovation program[1]

64% % share of programs operated by Global MNCs

22 # of sectors with active corporate Open Innovation program

Distribution of Active and Structured Open Innovation Programs[1]
(by calendar year, by sponsor type)



Note : (1) Open innovation refers to a company leveraging external knowledge and ecosystem for their innovation management strategies . Types of Open innovation programs include Incubator, Accelerator and Partner Program ; Source-Zinnov CoNXT Research & Analysis

More mature start-ups leveraged the ecosystem for growth

Well-funded start-ups continued to leverage inorganic and Open Innovation strategies in 2022, with 80 unique active Unicorns and potential Unicorns deploying resources to leverage up-and-coming start-ups.

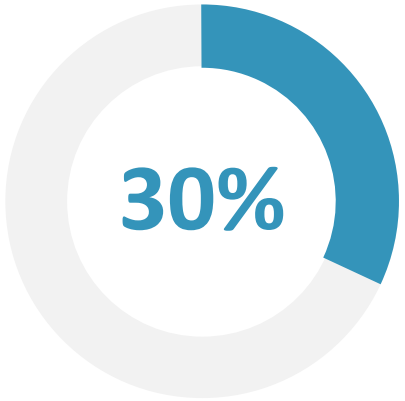
Equity investments remained the preferred mode for expanding market and technology capabilities. This trend is being formalized through the creation of dedicated teams. Growth in Seed-stage and steady Early-stage investments reflected market trends and were better suited to the size of available investment capital.

M&A activity slowed in 2022 as firms focused on capital optimization, including waiting for better valuations on prospective targets. However, Unicorns and potential Unicorns backed by investors actively acquired start-ups in H1 2022.

There was a fundamental shift in the growth playbook for start-ups and investors, with the playbook being influenced by sector trends, presence of serial entrepreneurs, risk appetite of investors, and availability of capital.

More well-funded tech start-ups leveraged inorganic and open-innovation strategies

~2.5X Increase in Unique Entities
From 2019



% of mature start-ups[1] inorganic and open innovation strategies

80 unique active Unicorns and Potential Unicorns are leveraging up-coming start-ups as a means of growth and to prepare for the future.

Investments

25+

# of mature start-ups actively **investing**, more than **4X increase from 2019** , with increased activity from potential unicorns

M&A

50+

# of firms with at least 1 **M&A** transaction, more than **2X increase from 2019**

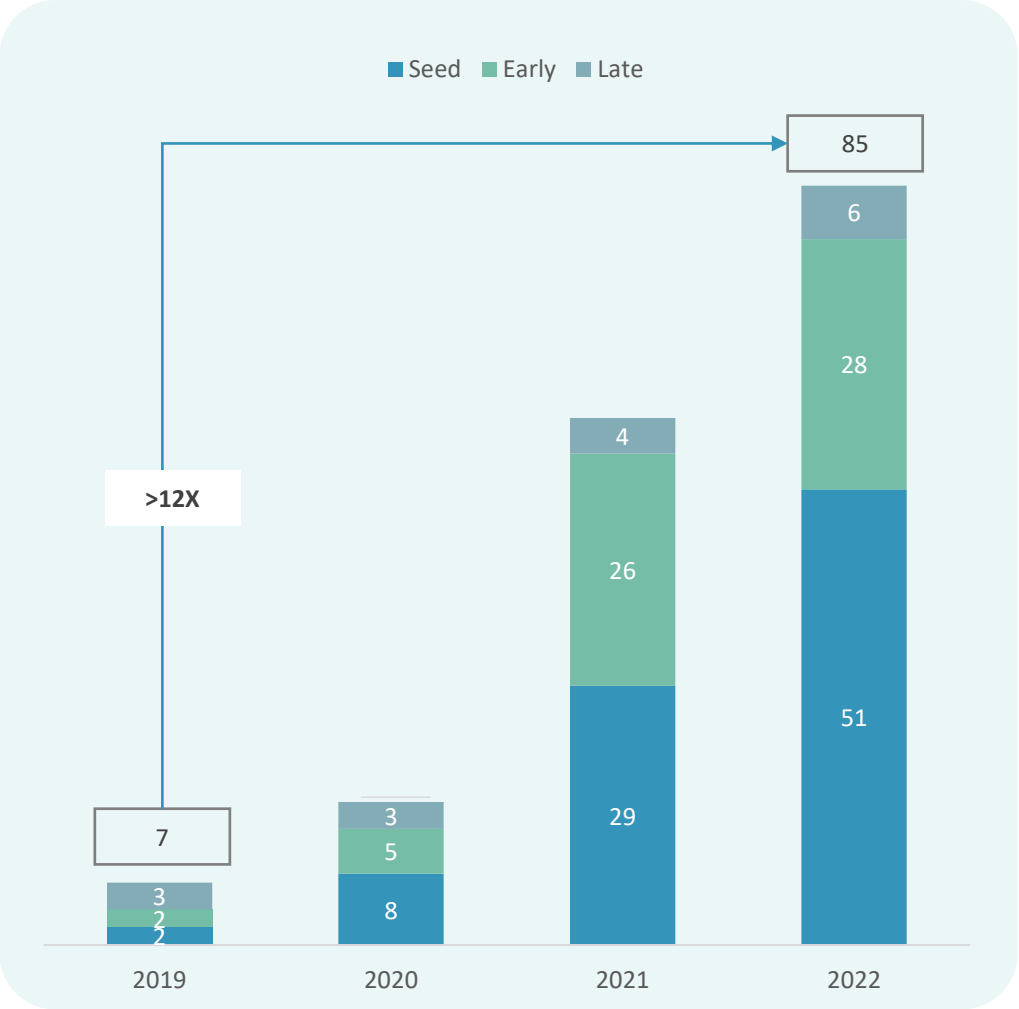
Open Innovation Programs

15+

# of mature start-ups building **Open Innovation Programs" ~3X increase from 2019**

Note : (1) Mature start-ups include Potential Unicorns and Unicorns ; Source-Zinnov CoNXT Research & Analysis

Number of Investment Deals[2] by Mature Start-ups[1]
By stage, by Calendar Year



Equity investments continue to be the preferred mode for expanding market and technology capabilities

Strategy taps into pre-existing behavior of new founders preferring experienced operators, especially successful entrepreneurs, to be angel investors. Formalization through a dedicated team allows for mature start-ups to build capabilities to discover new growth avenues.

Growth in seed-stage and steady early-stage investments reflects market trends; and suit corpus size better

140+

Unique start-ups have raised investments from Unicorns or potential unicorns, since 2019

50%

% of 2022 investment in global start-ups; driven by new-age technologies like web3 , for B2B product/market expansion

Note : (1) Mature start-ups include Potential Unicorns and Unicorns. (2) For each calendar Year investment rounds of start-ups founded in 10-year timeline are taken for Analysis, for instance for CY 2022 , investment rounds of start-ups founded between 2012-22 are considered for analysis; similarly, for CY 2021, investment rounds of start-ups founded between 2011-21 are considered Source-Zinnov CoNXT Research & Analysis

M&A pace slowed as focus shifted to value maximization in bear market

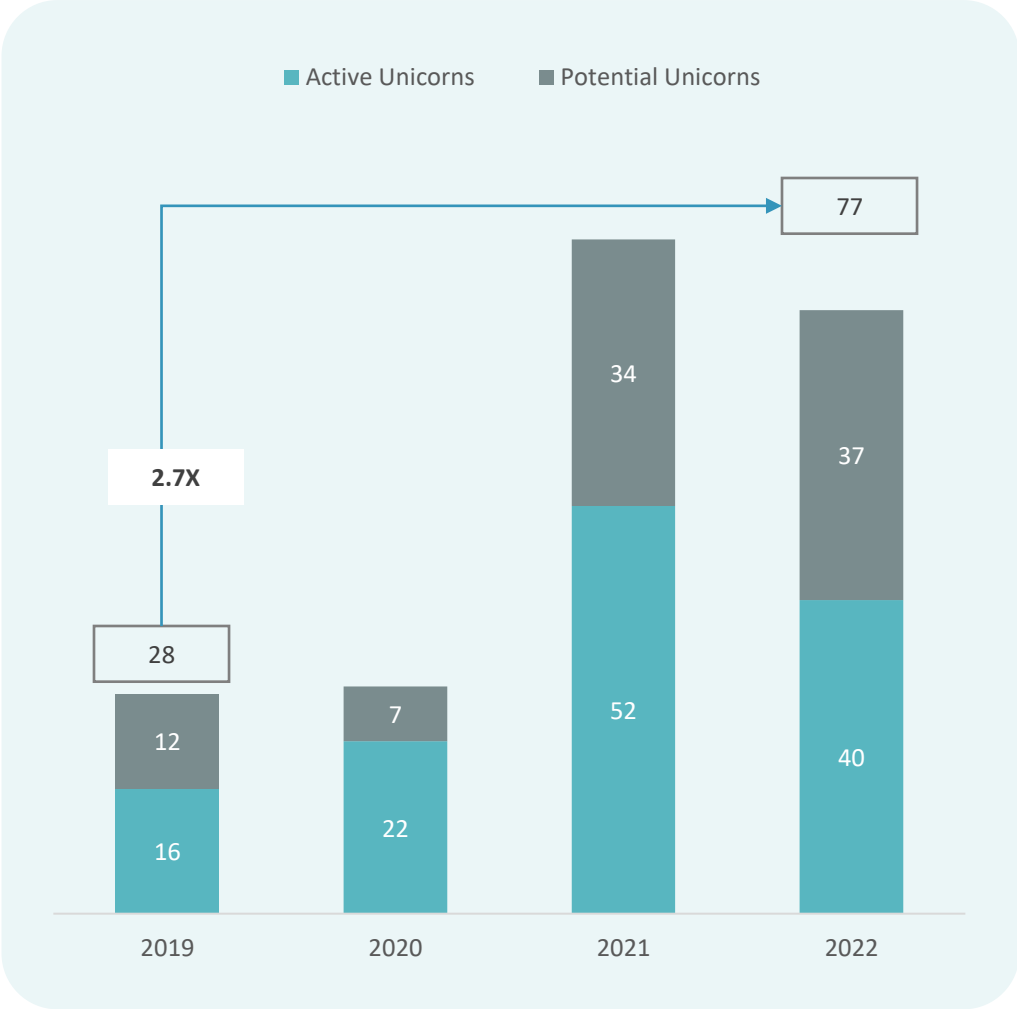
Backed by investors, fueled by mega-rounds, unicorns and potential unicorns actively acquired start-ups in H1 2022. Deal pace significantly slowdown as firms focused on capital optimization – including waiting for better valuations on prospective targets.

~2X — Increase in number of unicorns and potential unicorns leveraging M&A, compared to 2019

61% — % of acquired start-ups were B2B, up from 44% in 2021

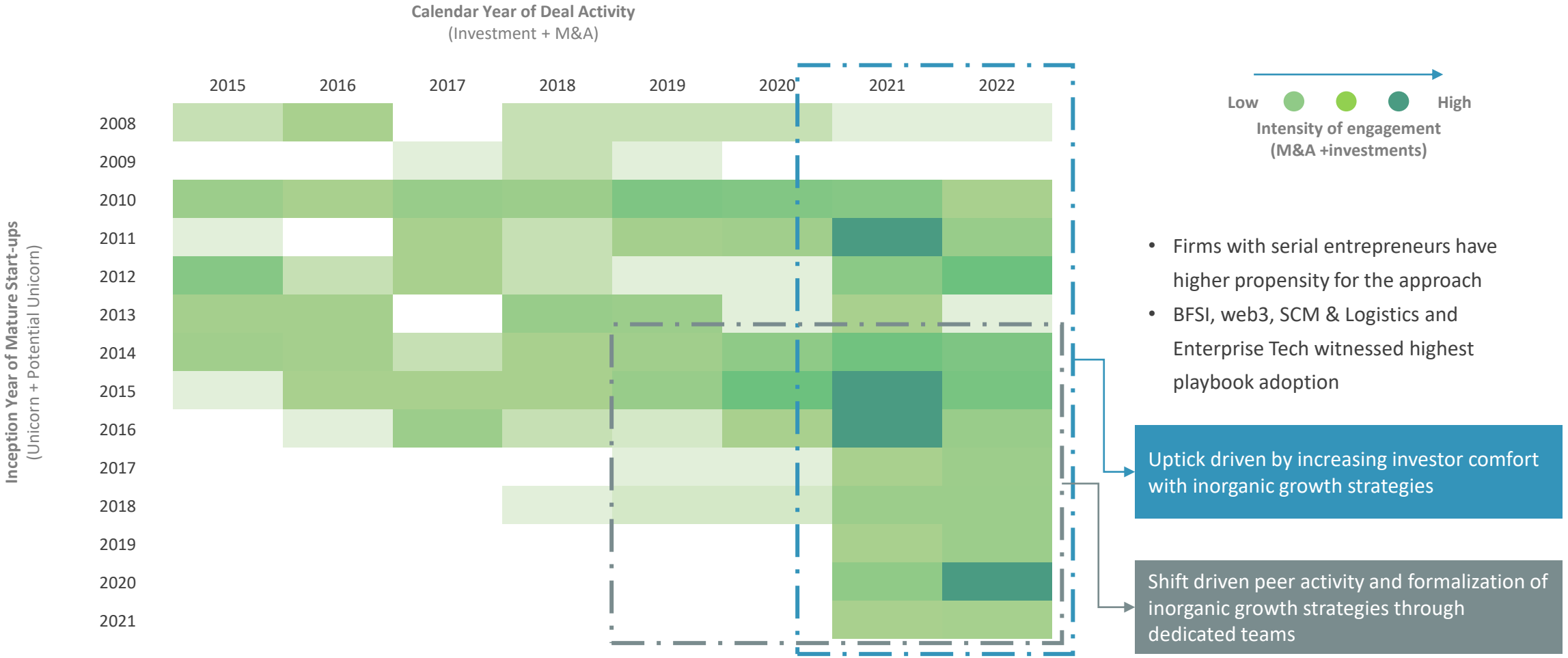
58% — % of start-ups acquired in EdTech, Enterprise Tech and BFSI

Distribution of M&A deals[2] led by Mature Start-ups[1]
By calendar year



Note: (1) Mature startups include Potential Unicorns and Unicorns. (2) For each calendar Year M&A rounds of start-ups founded in 10-year timeline are taken for Analysis. For Instance- For CY 2022, M&A rounds of start-ups founded between 2012-22 are taken for analysis; similarly, for CY 2021, M&A rounds of start-ups founded between 2011-21 are considered; Source-Zinnov CoNXT Research & Analysis

Playbook is being leveraged more frequently and sooner in maturity cycle



- Firms with serial entrepreneurs have higher propensity for the approach
- BFSI, web3, SCM & Logistics and Enterprise Tech witnessed highest playbook adoption

Uptick driven by increasing investor comfort with inorganic growth strategies

Shift driven peer activity and formalization of inorganic growth strategies through dedicated teams

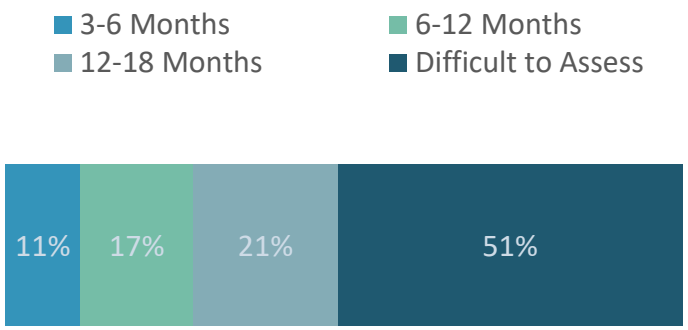
Source-Zinnov CoNXT Research & Analysis

NASSCOM zinnov

Outlook

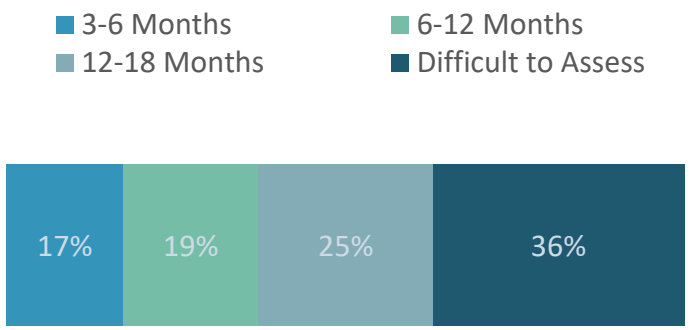
Tech start-ups anticipate 2023 to be a turbulent year , but are optimistic

By when, do you expect market valuations to reach 2021 levels?



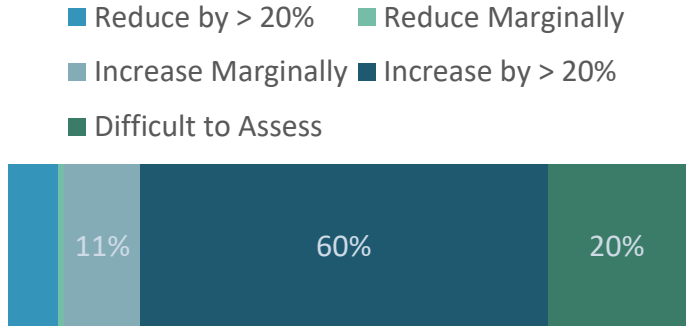
- Much alike investors, start-ups are unclear about valuations going forward but our preparing for long-haul
- Funded start-ups are more optimistic with majority expecting valuations to reset in 6-18 months

By when, do you expect investor interest and investments pace to reach 2021 levels?



- Founders are less uncertain about investor interest – this is collaborated with increase in dry powder with VC/PE – yet cautiously optimistic
- Funded start-ups seem to have better line-of-sight of investor interest but are less certain about investment pace in near term

How do you anticipate your business revenues to change in next 12 months?



- Funded start-ups have better clarity on 2023 compared to the unfunded start-ups
- This can be attributed to availability of more resources, better visibility in market, access to better talent, and investor network

Source: Insights based on NASSCOM Zinnov survey of 100+ start-ups

NASSCOM zinnov

The focus is on expanding business and being investment-ready

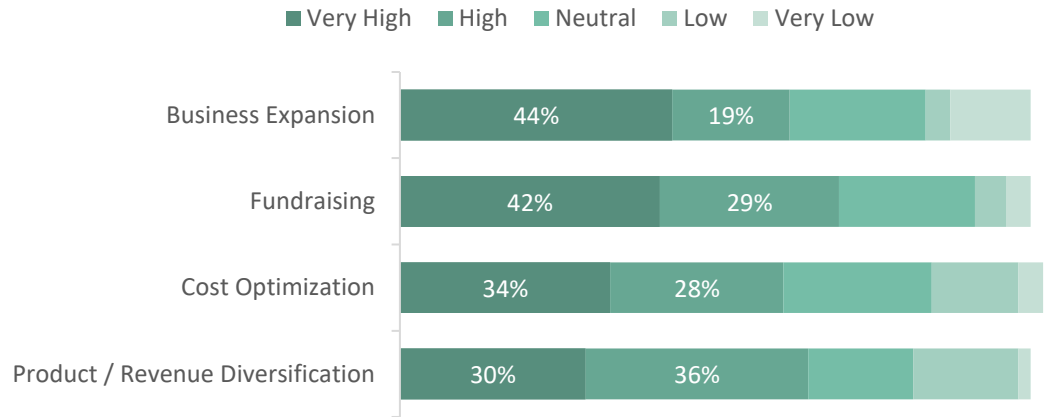
Having adapted to market shifts, the start-ups are looking at 2023 for growth, not just survival, with dual focus on customers as well as investors. A significantly high percentage is focused on business expansion – including addition of new revenue streams.

Business expansion along with fundraising are top priorities for funded start-ups

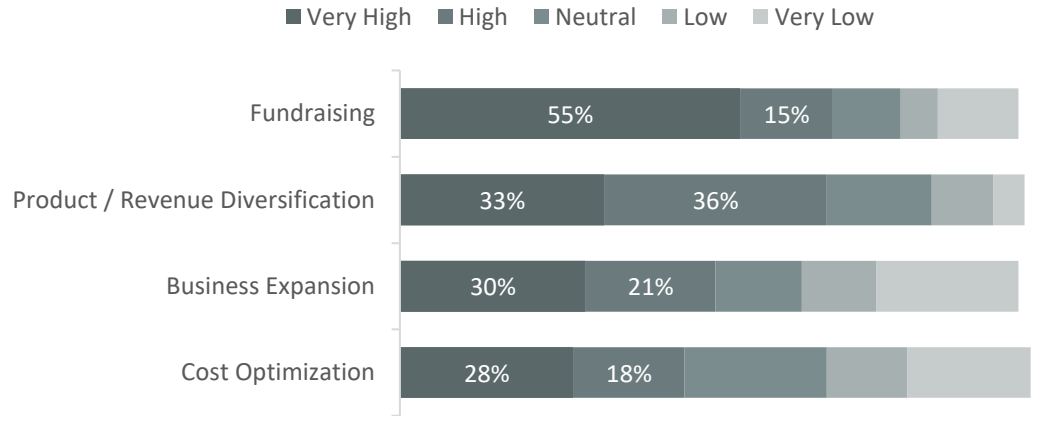
Unfunded start-ups are prioritizing fundraise along with revenue diversification – alluding to possible pivots

Cost optimization is relatively lower priority possibly because of interventions in previous months

What are your immediate business priorities over next 6-12 months?
For Funded Start-ups



What are your immediate business priorities over next 6-12 months?
For Unfunded Start-ups



Source: Insights based on NASSCOM Zinnov survey of 100+ start-ups

The tech start-up ecosystem is expected to grow sustainably through 2023

It is expected that **investments will be higher than the 5-year average** due to several factors, including the availability of dry-power, a strong funnel of Seed and Early-stage start-ups, expansion in customer spend on tech-led solutions, better clarity and confidence on market shifts, and improving business metrics.

M&A activity is expected to continue in 2023, but the return of **IPOs may be delayed until the latter half of the year**. The demand for rapid growth, slow pace of in-house development, ongoing difficulty in hiring technical personnel, and more reasonable start-up valuations are expected to maintain the pace of M&A deals. The market conditions for IPOs remain challenging, and start-ups will need to showcase sustainable growth to increase the odds of a successful listing.

In a recessionary climate, private and public market investors are likely to favor companies that deliver sustainable growth. The **pressure on technology stocks may ease** as these firms continue to achieve strong top-line growth and improving bottom-line results compared to non-tech companies. As a result, **market valuations for technology firms may improve** to higher than pre-pandemic levels, **with a wider gap between the bottom and top quartiles**.

Technology innovation and deep-tech adoption are expected to continue increasing, particularly in areas related to SDG that require complex solutions. The adoption pace may depend on the talent demand-supply gap as more global MNCs expand their India R&D centers. **Start-ups are likely to continue drive real-world application** in areas such as Quantum Computing, Web3, AI/ML, Cybersecurity, Robotics, Drones, Aerospace, and the Circular Economy.

In the coming year, we may see **new breakout sectors** beyond the traditional favorites. Over the years, there has been a diversification of use cases and opportunities that start-ups are pursuing across 25+ industries. **SaaS** as a revenue model and **B2B** as a business model **are expected to become more prominent**. Sectors such as **Agri-Tech, Environment Tech, Gaming, Automotive, Industrial & Manufacturing, Aviation and Defence** see a higher share of investments.

Recommendations

For Union Budget 2023-24, on behalf of the ecosystem, NASSCOM suggests

1 Parity on long-term capital gains tax for domestic investors

Impact Metrics
- Increase in share of domestic investments

Time to Impact: Med

Criticality to Ecosystem: High

- Removes the tax arbitrage and levels the playing field for all investors.
- Increases attractiveness of private market investments as an asset class for HNI.
- While increasing realizing in hands of investors also helps expand the available pool of capital from experienced investors for start-ups.

2 Revise eligibility criteria for ESOP tax deferment

Impact Metrics
- Increase in wealth-creation for employees
- Increase in new angel investors

Time to Impact: Low

Criticality to Ecosystem: High

For start-up employees, significant value creation and improved odds of realization is possible only upon early-stage and late-stage investments. Unfortunately by then, majority start-ups do not qualify for recognition vide current definition and employees face the onerous burden of tax payment on non-realized gains.

3 Simplify compliance for investments

Impact Metrics
- Increase in participation of investors
- Reduced compliance cost
- Ease of doing business

Time to Impact: Low

Criticality to Ecosystem: High

Withdraw the amendment requiring start-ups to explain the source of income of the investors. This will remove friction in seeking investments from friends, family, and other investors adding a new asset class. It also reduces operational overheads for founders to focus on company building.

4 Allow losses to be carried forward and set-off

Impact Metrics
- Increase attractiveness for investors
- Improvement in cashflows

Time to Impact: Med

Criticality to Ecosystem: High

- Number of universities and programs implementing an outcome-driven education model
- Increase in the employability of graduates, particularly in deep-tech fields
- Increase in the participation of employers in the program

We must also continue to strengthen core fundamental building blocks

	Key Challenges	Recommended Initiatives	
A	**60% of deep-tech start-ups** are seeking better infrastructure and knowledge access	Accelerate participation in innovation clusters and ongoing initiatives	Expand industry-specific physical and digital sandboxes
B	**Revenue growth** is a key priority for all start-ups with **33%** expressing **concerns on market recession** in 2023	Institutional Support for Start-ups to Tap into Global Markets	Significantly Increase Public Procurement Targets
		Special Investment Fund for Start-ups Building for SDG	Provide Institutional Support for Solving Bharat Challenges
C	**46%** founders identified **hiring as key concern** in 2023; complexity increases non-linearly with growth	Attracting overseas Indian tech talent	Redefining university education to be outcome-driven
D	**36%** founders are unsure about investments while **25%** anticipate 12-18-month period for investment pace to recover	Leveraging technology and business incubators to support unfunded start-ups	Accelerate deployment of CGSS to support start-ups

Accelerate momentum of Deep Tech start-up growth with deep initiatives

A.1 Accelerate participation in ongoing Innovation initiatives

Call to Action
- Universities and Academic Institutions
- Government / PSU initiatives
- Industry Associations

Time to Impact — Low

Criticality to Ecosystem — Med.

Action Items:
- Research and identify specific innovation clusters and ongoing initiatives in areas such as cybersecurity, AI, quantum, semiconductor, web3, and automotive
- Engage with academia, corporate, and start-ups to understand their needs and challenges and how coordinated and comprehensive support can help them succeed
- Define current baseline for each initiative across key parameters - # of participants, activity level of each participant and value-derived by each participant
- Develop a plan to accelerate participation in innovation clusters and ongoing initiatives, including – identifying proactive marketing, common repository of initiatives
- Create a streamlined process for interested entities to identify initiatives, finalize participation, with reduced paperwork – a single-window approach to enable 1-to-many collaborations
- Monitor the progress of supported start-ups and use the identified impact metrics to measure the success of the program

Impact Metrics:
- Increase in the number of start-ups actively leveraging innovation clusters / initiatives
- Improvement in the ranking of specific initiative in national ranking system
- Improvement in the recognition of India as a global innovation hub

A.2 Expand Industry-Specific Physical and Digital Sandboxes

Call to Action
- Central and State Government
- Universities and Academic Institutions
- Industry Associations

Time to Impact — High

Criticality to Ecosystem — High

Action Items:
- Research and identify critical and regulated industries (like defence, transportation, financial services, healthcare, and smart cities) where physical and digital sandboxes can be most effective in attracting intelligent entrepreneurs and promoting innovation.
- Develop a plan to expand industry-specific sandboxes, including identifying potential sources of funding and resources.
- Engage with start-ups, academia, and industry experts to understand the needs and challenges of these industries and how sandboxes can help them solve underserved and core challenges.
- Review and select start-ups to participate in industry-specific sandboxes based on their potential for impact and the identified needs and challenges of these industries.
- Provide funding and other resources to supported start-ups and offer ongoing support to help them succeed.
- Monitor the progress of supported start-ups and use the identified impact metrics to measure the success of the program.

Impact Metrics:
- Increase in the number of start-ups participating in industry-specific sandboxes
- Improvement in the recognition of India as a global leader in critical and regulated industries
- Increase in the number of innovative solutions developed in these industries

Accelerating revenue growth through structured and strategic interventions

B.1 Institutional Support for Start-ups to win Global Markets

Call to Action
- Industry Associations
- Central and State Government

Time to Impact — Med.

Criticality to Ecosystem — Med.

Action Items:

- Identify key business hubs being targeted by Indian B2B start-ups – especially in North America, Europe and South-East Asia.
- Set up co-working and co-living space in these business hubs specifically for start-ups building SaaS solutions for global markets.
- Deploy dedicated full-time teams to build local network and brand for India's technology-led businesses.
- Offer networking and other support services to help start-ups build relationships and tap into global markets.
- Measure the impact of the program on the number of start-ups successfully tapping into global markets and the reduction in time-to-revenue.
- Use the success of the program as a marketing tool to attract more start-ups to the program.

Impact Metrics:
- Increase in the number of start-ups successfully tapping into global markets
- Reduction in time-to-revenue for start-ups
- Reduction in Customer-Acquisition-Cost for start-ups, relative to direct independent efforts

B.2 Significantly Increase Public Procurement Targets

Call to Action
- Central and State Government
- Public Sector Units

Time to Impact — Med.

Criticality to Ecosystem — Med.

Action Items:
- Review and assess the current spend targets for public procurement in order to identify opportunities for increase, and define targets for each ministry, body and PSU.
- Develop a plan to significantly increase spend targets for public procurement, taking into account the needs and capabilities of start-ups in India.
- Ease norms and streamline the process for public procurement to make it more accessible and efficient for start-ups.
- Promote the use of the Government e-Marketplace (GeM) among start-ups as a way to sell their products and services to government departments.
- Monitor the number of start-ups registered on GeM and the amount of public procurement from start-ups to measure the impact of the program.
- Use the success of the program as a marketing tool to attract more start-ups to participate in public procurement.

Impact Metrics:
- Increase in the number of start-ups registered on the Government e-Marketplace (GeM)
- Increase in the amount of public procurement from start-ups, including PSUs
- Improvement in the process for public procurement for start-ups

Additional and specific support for start-ups focusing on critical sectors

B.3 Special Investment Fund for Start-ups Building for SDG

Call to Action
- Central and State Government
- Angel Networks / VCs
- Corporate CSR

Time to Impact: Med.

Criticality to Ecosystem: High

Action Items:
- Research and identify potential sources of funding for the special investment fund.
- Develop a plan for the special investment fund, including criteria for selecting start-ups to receive funding and a process for disbursing funds.
- Define policies, regulations and process to enable contribution of CSR founds from corporates.
- Establish partnerships with organizations and institutions working on SDG goals to identify start-ups in need of funding.
- Review and select start-ups to receive funding from the special investment fund based on the established criteria.
- Disburse funds to selected start-ups and provide ongoing support and resources to help them succeed.
- Monitor the progress of funded start-ups and use the identified impact metrics to measure the success of the program.

Impact Metrics:
- Number of start-ups receiving funding from the special investment fund
- Number of investors (VC/PE) with dedicated focus on SDG theme
- Improvement in the scalability and sustainability of start-ups supported by the initiative

B.4 Provide Institutional Support for Solving Bharat Challenges

Call to Action
- Corporate CSR
- Universities and Academic Institutions

Time to Impact: Med

Criticality to Ecosystem: High

Action Items:
- Research and identify the most pressing Bharat challenges that start-ups in India's cities and towns are addressing or could address.
- Engage with start-ups in India's cities and towns to understand their needs and challenges and how institutional support can help them succeed.
- Research and identify the gaps in current co-working, incubation and acceleration initiatives in the specific regions.
- Develop a plan to enable existing institution to support start-ups focused on solving these challenges, including identifying potential sources of funding and resources.
- Review and select start-ups to provide funding and other resources to selected start-ups and offer ongoing support to help them succeed.
- Monitor the progress of funded start-ups and use the identified impact metrics to measure the success of the program.

Impact Metrics:
- Improvement in the scalability and sustainability of start-ups building solutions for SDG goals
- Increase in the number of start-ups solving Bharat challenges
- Improvement in the support ecosystem for start-ups in India's cities and towns

Reducing talent demand-supply gap for experienced and new professionals

C.1 Attracting Overseas Indian Tech Talent

Call to Action
- State Government
- Industry Associations

Time to Impact — Low

Criticality to Ecosystem — High

Action Items:
- Research and identify targeted sectors (quantum, web3, cybersecurity, Health Tech, Fintech, and Enterprise tech) where local talent may be limited in terms of exposure and experience.
- Prioritize target countries for sourcing candidates based on the availability of tech talent in targeted sectors and the potential for success of the program.
- Develop a targeted marketing campaign to promote the "Return to India" program to Indian tech professionals in prioritized countries.
- Create a streamlined process for interested start-ups and professionals to apply to the program.
- Track the number of Indian tech professionals attracted through the program and measure the impact on the quality and experience of the local talent pool in targeted sectors.
- Monitor the success rate of start-ups in targeted sectors to measure the overall impact of the program.

Impact Metrics:
- Number of Indian tech professionals attracted through the program
- Increase in the quality and experience of the local talent pool in targeted sectors
- Improvement in the success rate of start-ups in targeted sectors

C.2 Redefining University Education to be Outcome-Driven

Call to Action
- Central and State Government
- Universities and Academic Institutions
- Industry Associations

Time to Impact — Med

Criticality to Ecosystem — High

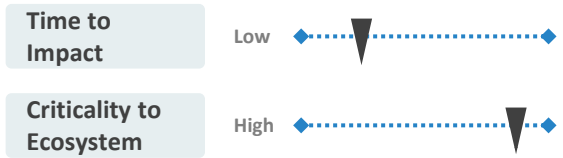
Action Items:
- Research and identify successful outcome-driven education models being used by EdTech start-ups in India.
- Engage with universities and academic institutions to promote the adoption of outcome-driven education models in existing programs, particularly in deep-tech fields.
- Provide resources and support to universities and academic institutions to help them implement outcome-driven education models.
- Create a streamlined process for interested start-ups and students to apply to the new programs / initiatives.
- Measure the impact of the program on the placement performance to gauge employability of graduates and the talent demand-supply gap.
- Use the success of the program as a marketing tool to attract global firms to invest in India.

Impact Metrics:
- Number of universities and programs implementing an outcome-driven education model
- Increase in the employability of graduates, particularly in deep-tech fields
- Increase in the participation of employers in the program

Improve odds of success for top and middle of-the-funnel

D.1 Leveraging Incubators to Support Unfunded Start-ups

Call to Action
- State Government
- Industry Associations

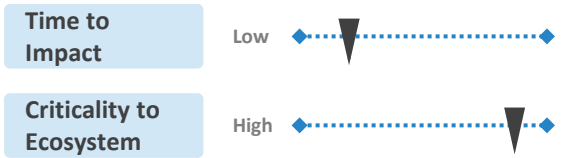


Action Items:
- Engage with unfunded start-ups to understand their needs and challenges and how AIC/TBI intervention programs can help them succeed.
- Develop a plan for AIC/TBI intervention programs that provide non-equity support to unfunded start-ups, including identifying potential sources of funding and resources.
- Review and select unfunded start-ups to participate in TBI intervention programs based on their potential for impact and the identified needs and challenges.
- Provide non-equity support and guidance to supported start-ups on how to use their resources more efficiently.
- Monitor the progress of supported start-ups and use the identified impact metrics to measure the success of the program.
- Use the success of the program as a marketing tool to attract more unfunded start-ups to participate in AIC/TBI intervention programs.

Impact Metrics:
- Number of unfunded start-ups receiving non-equity support through TBI intervention programs
- Increase in the survival rate of participating start-ups beyond 12 months
- Improvement in cashflow of participating start-ups

D.2 Accelerate Deployment of CGSS to Support Start-ups

Call to Action
- Central and State Government
- Universities and Academic Institutions
- Industry Associations



Action Items:
- Review and assess the current deployment of CGSS in order to identify opportunities for acceleration.
- Develop a plan to accelerate the deployment of CGSS, including identifying potential sources of funding and resources.
- Engage with start-ups, banks, non-banking financial companies, and SEBI registered alternative investment funds (AIFs) to understand the needs and challenges of the program and how it can be improved.
- Review and select start-ups to receive collateral-free funding through CGSS based on their potential for impact and the identified needs and challenges.
- Provide funding and other resources to supported start-ups and offer ongoing support to help them succeed.
- Monitor the progress of supported start-ups and use the identified impact metrics to measure the success of the program.

Impact Metrics:
- Increase in the number of start-ups receiving collateral-free funding through CGSS
- Improvement in the accessibility and efficiency of the CGSS program
- Increase in the growth and success of start-ups receiving funding through CGSS

Note for the Readers

Methodology

This report has been co-developed by **NASSCOM** and **ZINNOV** through a comprehensive study to understand the Technology Start-up Landscape in India.

This report analyses the following –
- Current scenario and emerging trends that define the Indian start-up ecosystem
- India's position as a global start-up hub that is becoming attractive for investors, start-ups & corporates
- Role played by Ecosystem enablers like Incubators/Accelerators, Govt. Policies in nurturing the start-up ecosystem

Data Aggregation

Zinnov Data

NASSCOM Data

Interviews / Discussions

150+ Surveys and Interviews with industry participants (founders, investors, enablers, policymakers)

Secondary Research

- *Start-up Indiahub*
- *Crunchbase*
- *LinkedIn*
- *Techcrunch*
- *Inc42*
- *The Ken*
- *CBInsights*
- *Quartz*
- *Financial Express*
- *Forbes*
- *Business Standard*
- *Livemint*
- *Times of India*
- *Economic Times*
- *Medium*
- *Factor Daily*
- *Yourstory*
- *CapTable*

RESEARCH TEAM

NASSCOM®

- Sangeeta Gupta
- Achyuta Ghosh
- Nirmala Balakrishnan
- Ashish Gupta

zinnov

- Keerthi Shree
- Lavanya BG
- Aditya Gopalakrishnan
- Aman Saraswat
- Atit Danak

Definition of a tech start-up

START-UP: An entity working towards innovation, development, deployment, and commercialization of new products, processes, or services driven by technology or intellectual property

01

Age: 10 YEARS

Active technology product / platform companies incepted in the last 10 years (in 2012 or later)

02

Origin: INDIA

Founders of Indian origin, with HQ or core product development in India

03

Differentiator: Innovation

Innovation in technology, business process or business model being executed at speed

04

Stage: Protype +

The start-up must have at least a prototype or MVP; Idea stage start-ups not considered

Note: This report is based on analysis for technology companies founded between 2012-22, until and unless specified otherwise.

Definition of industry verticals

Enterprise Tech	B2B Product companies targeting Horizontal solutions for Large Enterprises / SMBs E. G Data Analytics/AI/ML Platforms, Development Platforms, Collaboration tools Productivity Applications, Customer Services, Big Data/Cloud/Security Infrastructure, etc.
Health Tech	Provides technology platform for solving Healthtech problems E.g. Medical Solutions, Marketplace for Health Services, Health Lab Aggregators, Online Pharmacies, E-Diagnostics, Ambulance Aggregator, etc.
HR-Tech	Tech-enabled companies supporting Human Resources Activities E.g. Applicant Tracking systems, HR Management System, Candidate Assistance & Sourcing, Recruitment Marketplaces, etc..
Automotive	Companies involved in production, manufacturing, sales and services of motorised vehicles E.g. Electronic Engineering, System Integration, Automotive Maintenance, Electric Vehicles, Automotive marketplaces, etc.
Real Estate and Construction	Tech-enabled companies supporting Real Estate, Property Management & Construction industry E.g. Construction design tools, Building Technology, Real Estate Management, Security, Smart Home & cities enablers.

BFSI	Enables financial services, banking and insurance through technology E.g. Online Banks, Financial Management Apps, Payment Management Platforms, Alternative Lending Platforms, Money Transfer Platform, Expense Management, Investment Platforms, Cryptocurrency & Trading Platforms, etc
EdTech	Provides learning solutions & services through technology E.g. Learning Apps, Test Preparation Tech, Education Advisory Platform, K-12/Higher education platforms, Language Learning Platforms etc.
Travel and Hospitality	Tech companies engaged in supporting the travel and hospitality industry E.g. Hotel Booking Services, Travel Planning, Travel Packages Portal, Travel Collaboration Community, etc.
Mobility	Tech-enabled companies providing simplified Transportation services to users E.g. Car pooling, Self Drive Rentals, Two-wheeler taxi aggregators, Mass Transit, Tech Enablers.
Retail and Retail Tech	Companies enabling Sales of goods and product online or Integration of tech in offline markets E.g. Products/Services cutting across several verticals -. Fashion & Lifestyle Marketplaces, Online grocery & Home essentials platforms .Also includes Retail enablers, B2B marketplaces, Social commerce platforms, Rental platforms etc

Source: Zinnov CoNXT Research and Analysis

Definition of industry verticals

Industrial and Manufacturing	Engaged in manufacturing of tech-enabled devices or machines; Construction/Mining sector, etc. E.g. IoT based Predictive Maintenance of Machines, 3D Printing (Manufacturing)
Media and Entertainment	Provides content for entertainment across the web and mobile medium E.g. News & Media Apps, Live Streaming Apps, News Platforms, OTT Content, Video Intelligence Apps, etc.
Agri-Tech	Start-ups engaged in tech enablement in the Agricultural Industry E.g. Field Surveillance, Precision Agri-Tech, Farm infrastructure, Soil Testing, Farm Input E-Commerce etc
Aviation, Maritime and Defence	Tech-based companies supporting the Marine, Defence and Space, Aviation Industry E.g. Military Drones, Green Propulsion Systems developers, Sensors and Platforms for security applications etc.
Energy and Utilities	Tech Enablement for Natural Resource Management and Utilisation E.g. Renewable Energy products, Recycling of Resources, Energy Production and Distribution, EV charging Infrastructure etc.

Food-Tech	Tech-enabled companies supporting the Food-tech industry E.g. Online Food Ordering, Restaurant Management Cloud Solutions, Food Discovery Platform
SCM and Logistics	Enabling tech in logistics services and supply chain management E.g. Logistics and Distribution Platform, Fleet Management, Warehousing, IoT Platform for Logistics, IoT Platform for Transportation Marketplace,
Gaming	Tech Innovation and facilitation in the Gaming Industry E.g. AR/VR Gaming, Community platform Games, Fantasy Gaming Platforms etc.
Legal Tech	Tech-based companies for Legal help to Individuals/Corporates E.g. Contract Management, Brand Protection and Anti Counterfeit, Legal Services Discovery/Booking marketplaces, etc.
Advertising and Marketing	Provides direct advertising and marketing assistance through technology E.g. Content marketing, influencer marketing, Push notifications etc.

Source: Zinnov CoNXT Research and Analysis

Definition of industry verticals

Professional Services	Tech-enabled companies providing concierge services E.g. Home repairs, auto servicing, on-demand laundry, matchmaking platforms etc.
Sports Tech	Includes solutions for sports industry E.g. Offline sports booking of the sports arena, sports content platforms, player management, and performance analysis.
Fitness and Wellness	Start-ups associated with physical and mental wellness E.g. Emotional, mental wellness solutions, apps for physical fitness (bookings, home fitness assistance), marketplaces for nutrition supplements, wellness products – women's hygiene etc
Telecom	Companies providing products/services to assist telecom sector E.g. Infrastructure enabling the delivery and transmission of telecom services, Cloud Telephony, etc
Environment Tech	Technology for environment preservation or green technology E.g. Tech solutions for air pollution, solid/water waste management, recycling solutions, climate monitoring etc.
Security and Surveillance	Includes Hardware, Software solutions for security and surveillance applications in Home, Enterprise and Govt institutions E.g. Video surveillance softwares/platforms, Biometric systems, home security products etc
Events Tech	Solutions for assisting Events industry E.g. Event Discovery, Booking Platform, Event Management Solutions
Life Sciences	Tech-based solutions in life science E.g. Genomics- DNA/Protein Sequencing, etc
Cybersecurity	On premise or cloud-based products & solutions which detect, prevent and respond to cyberthreat to organizations or consumers. E.g. Network Incident Response/Intrusion Detection solutions, Identity Access Management solutions, VPNs etc
Social Platforms	Online platforms that provide a medium for individuals or businesses to connect, network, interact, share multimedia content, or seek collaboration opportunities with other individuals or businesses E.g. Social networking sites, professional networking sites, online communities, blogging platforms, etc.

Source: Zinnov CoNXT Research and Analysis

Other key definitions

Unicorn	Unicorns are privately held entities with valuation of over $ 1 Bn. They include companies serving D2C markets. Start-ups that have not been included in the unicorn analysis: • Holding companies like Globalbees and Mensa Brands. • Unicorns that have raised IPO: Freshworks, Nykaa, Paytm, PolicyBazaar, Zomato, Delhivery • Unicorns that been acquired or merged: BigBasket, Billdesk,Grofers, Shopclues, RenewPower, Flipkart • Unicorns that have either devalued or shutdown: Snapdeal, Hike, Quikr, Paytm Mall
Institutional Investors	Institutional investors include Venture Capital firms, Private Equity Firms and Corporate investors
Seed-Stage	Seed and Angel funding rounds raised by Indian tech company
Early-Stage	Series A & B funding rounds raised by Indian tech company
Late-Stage	Series C and beyond funding rounds raised by Indian tech company

Corporate Incubator	A fixed term, 6-24 month long, cohort-based program for pre-seed start-ups typically focused on Horizon 2 and Horizon 3 opportunities. Invariably, these are equity-based programs for corporates to get early access to large pool of ideas/solutions.
Corporate Accelerator	A fixed term, 3-6 month long, cohort-based program for pre-growth and growth stage start-ups. During program, the emphasis is on building proof-of-concepts and/or on integrations to determine on long-term engagement.
Partner Program	A requirement-based program, where corporate business units define problem statements that they are looking to solve, and partner with growing, mid, or late-stage start-ups to build complimentary solutions in exchange for a financial commitment

Source: Zinnov CoNXT Research and Analysis

Disclaimer

The information contained herein has been obtained from sources believed to be reliable. NASSCOM and its advisors & service providers disclaims all warranties as to the accuracy, completeness or adequacy of such information. NASSCOM and its advisors & service providers shall have no liability for errors, omissions or inadequacies in the information contained herein, or for interpretations thereof. The material or information is not intended to be relied upon as the sole basis for any decision which may affect any business. Before making any decision or taking any action that might affect anybody's personal finances or business, they should consult a qualified professional adviser.

Use or reference of companies/third parties in the report is merely for the purpose of exemplifying the trends in the industry and that no bias is intended towards any company. This report does not purport to represent the views of the companies mentioned in the report. Reference herein to any specific commercial product, process or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by NASSCOM or any agency thereof or its contractors or subcontractors.

Usage of Information

Forwarding/copy/using in publications without approval from NASSCOM will be considered as infringement of intellectual property rights.

NASSCOM
Plot No 7 to 10, Sector 126, Noida, Uttar Pradesh 201301, India
Phone: 91-120-4990111
E-mail: research@nasscom.in

About the Authors

NASSCOM®

NASSCOM is the industry association for the technology sector in India. A not-for-profit organization funded by the industry, its objective is to build a growth-led and sustainable technology and business service sector in the country with over 3,000 members . NASSCOM Insights is the in-house research and analytics arm of NASSCOM generating insights and driving thought leadership for today's business leaders and entrepreneurs to strengthen India's position as a hub for digital technologies and innovation.

NASSCOM is focused on the development of the technology sector through policy advocacy and setting up the strategic direction to dominate new frontiers.

zinnov

Founded in 2002, Zinnov is a leading global management and strategy consulting firm, with core expertise in Product Engineering, Digital Transformation, Innovation, and Outsourcing Advisory. Over the past 20 years, Zinnov has successfully consulted with over 250+ Fortune 500 customers to develop actionable insights that help them in their transformation journeys. Zinnov is committed to empowering leading technology companies drive meaningful business outcomes, leveraging a combination of consulting and platforms to deliver value.

zinnov

NASSCOM®

NETAPP EXCELLERATOR

www.nasscom.in

research@nasscom.in

+91-120-4990111

/NASSCOMOfficial

/nasscomR

/NasscomVideos