

TABLE OF CONTENTS

Executive Summary	04
The Age of Tech Start-ups: Accelerating Technology-led Transformation	08
India's Start-up Ecosystem in 2023	12
A. Key Trends and Highlights	13
B. Breakout Sectors of 2023: Sectors that demonstrated resiliency	22
Global Tech Start-up Ecosystems: A Comparative Analysis	29
2023 Tech Start-up Survey: Performance in 2023 and Outlook for 2024	35
Unlocking Future Growth: Recommendations	43
Traversing a Decade of Indian Tech Start-up Ecosystem	45
Note for the Reader	54

FOREWORD



Sangeeta Gupta SVP & Chief Strategy Officer nasscom



Pari Natarajan CEO Zinnov

India has seen a massive 15X surge in the number of tech start-ups over the last decade. However, 2023 proved to be a challenging year, primarily attributable to dystopian valuations, rushed IPO races, and regulatory shifts. Despite these headwinds, India had over 950 tech start-ups founded in 2023, taking the total tally in the last 10 years to over 31000 tech start-ups and cumulative funding between 2019 to 2023 to more than USD70 Bn. While domestic consumption created the biggest opportunity for tech start-ups, we also witnessed business model innovations in core sectors.

DeepTech, the key pillar of innovation, is becoming increasingly prominent and mainstream within the tech start-up ecosystem, contributing around 14% to the cumulative funding over the last 5 years. At the same time, it promises to be one of the main differentiators for the future technology landscape.

The democratization of technology has led to the emergence of tier-II and tier-III locations as innovation hubs. With targeted government interventions around innovation labs, technology and business mentorship opportunities, access to market, capital, and infrastructure, we believe that the next wave of disruptive innovation will emerge from tier-III and tier-IIII hubs.

On the global stage, the Indian start-up ecosystem proudly claims its place – ranking second in start-up activity, fourth-largest in enabling ecosystem players, and the third-largest ecosystem overall. Weathering macro-economic uncertainties and heightened investor caution, the ecosystem continues its ascent to unparalleled heights, fortified by a reservoir of STEM talent, supportive government policies, and the support of incubators and accelerators.

As the Indian start-up story unfolds, we will see its relentless evolution against all odds propelling it towards a future defined by burgeoning funding, impending IPOs, and unlocking of value in transformative sectors and disruptive technologies. In 2024 and beyond, the Indian start-up ecosystem promises to transcend boundaries, creating a narrative that resonates far beyond the subcontinent.

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



EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

(1/3)

INDIAN TECH START-UPS: THE JOURNEY SO FAR

 3^{rd}

Largest Ecosystem

91

Active Unicorns³

31,000+

Tech Start-ups¹

9.6 Bn

Cumulative DeepTech Funding Raised#

USD 70 Bn

Cumulative Equity Funding Raised#

SINCE 2019

INDIAN TECH START-UPS: 2023 HIGHLIGHTS

950+

Tech Start-ups Added

40%

Tech Start-ups from **Emerging Locations**

USD 6+ Bn

Equity Funding Raised²

39%

Share of Tech Start-ups Raising First Round of Funding USD 500+ Mn

DeepTech Funding²

Tech IPOs⁴

INDIAN TECH START-UPS: 2024 OUTLOOK##

67%

Tech Start-ups expect to increase revenues

70%

Tech Start-ups have leveraged Al in their business

46%

Tech Start-ups are optimistic about the funding environment

65%

Tech Start-ups are pursuing Generative Al

56%

Funded Tech Start-ups looking to collaborate with stakeholders

30%

Tech Start-ups have identified Generative AI use cases

2024 outlook is based on nasscom-Zinnov Tech Start-up Survey 2023

Note: (1) This report only covers start-ups founded in 2013-23 (2) For each calendar year, funding rounds of start-ups founded in their 10-year timeline are taken for Analysis (3) Unicorns are private entities with valuation more than USD 1 Bn as on 20th December 2023. Holding companies such as Mensa Brands and Global Bees have been excluded from the unicorn club. Please refer to the note for readers for the detailed list of exclusions from the unicorn club. (4) IPO data only includes mainboard Initial Public Offerings (IPOs). Tech IPOs specifically cover companies that have gone public within two decades of their establishment.

(2/3)

1) GLOBAL SLOWDOWN HITS THE INDIAN TECH START-UP ECOSYSTEM IN 2023

- Mirroring global trends, Indian tech start-ups witnessed substantial drops in
 - a) Funding value that reached a total of ~USD 6 Bn, down 67% over the last year.
 - b) Deal volumes at 824, down by 48% over the last year.
- While this funding value drop was holistic across all start-up stages, late-stage investments bore the brunt with a 71% drop.
- New start-up creation also dropped to ~30% of last year's level.
- With a 2X decline over last year, M&As in the Indian tech start-up ecosystem dropped to pre-COVID levels due to muted participation by both global and Indian enterprises.
- Tech start-up founders reaffirm the challenging market environment Cash flow issues, funding availability and low customer demand were cited as top challenges in 2023. Moreover, 82% of start-ups stated that the sales cycle is much longer and 46% witnessed shifts in technology priorities in their key segments.

2) THOUGH 2023 WAS A DIFFICULT YEAR, THERE ARE SOME SILVER LININGS VISIBLE

- Tech start-up increased focus on business fundamentals, ~60% start-up founders reported an increase in revenue and profitability in 2023.
- New start-ups are increasingly focused on DeepTech. 25% of the tech start-up founded in 2023 were leveraging DeepTech, compared to ~12% in the last 2 years.
- Over 100+ Generative AI start-ups are now active in India's start-up ecosystem, building horizonal and vertical applications.
- With Generative Al acceleration, 70% of start-up founders are intending to embed Artificial Intelligence in their solutions.
- Despite the news on layoffs dominating in the start-up sector in 2023, >65% of the tech start-up founders have been hiring in 2023.
- Share of tech start-ups established in emerging hubs rose to 40% in 2023, reaffirming the depth of India's start-up proliferation.
- B2B sectors such as Automotive, Industrial and Manufacturing were more stable and witnessed an increase in share of funding.

(3/3)

3) THE INDIAN TECH START-UP ECOSYSTEM HAS ROBUST FUNDAMENTALS AND RETAINS ITS POSITION AS THE 3RD LARGEST TECHNOLOGY START-UP HUB GLOBALLY.

- When compared to other countries, India scores well on talent, policy, and new start-up creation.
- Indian tech start-ups witness over 30% conversion rate of scaled start-ups post Series B funding, which is amongst the highest globally. This reflects the maturity of the scaled-up start-up ecosystem in the country.
- However, India has one of the lowest conversion rates in early-stage funding from Seed-stage to Series A, driving the need for greater access to domestic capital.

4) THE INDIAN TECH START-UP ECOSYSTEM EXPECTS IMPROVED PERFORMANCE **IN 2024**

- Focus on business fundamentals to become stronger. Over 60% of tech start-up founders expect to increase revenues next year.
- While the global environment is uncertain, 46% of tech start-up founders expect a better funding environment in 2024. Late-stage investments may continue to lag.
- Investments in DeepTech likely to continue with over two-thirds of the start-ups investing in AI to enhance their product capabilities and internal efficiencies.
- The jobs environment is likely to improve but almost 50% of start-ups will continue taking a cautious approach to hiring.



THE AGE OF
TECH START-UPS
ACCELERATING
TECHNOLOGY-LED
TRANSFORMATION

GLOBALLY, START-UPS HAVE DRIVEN MASSIVE ECONOMIC VALUE **CREATION IN EXCESS OF USD 7.6 TN**

Tech start-ups across the globe are generating substantial economic value, surpassing the individual GDP of leading economies such as Canada, Germany, and France



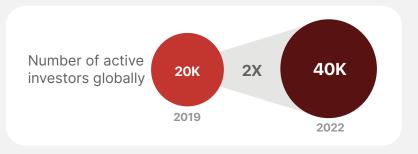
Total number of tech start-ups globally as of 2023



There is a notable increase in investor interest in the ecosystem, signaling growing confidence



Total amount invested in tech start-ups globally in 2022



This is driving job creation and increasing value for corporates through their collaborations with innovative start-ups



Increase in jobs created by global unicorns² between 2021-2023



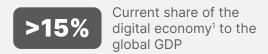
% of corporates that have reported benefits from start-up collaborations in 2023

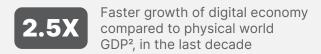
GROWING DIGITAL CONSUMER BASE AND INCREASING SPENDING ON DIGITAL TECHNOLOGIES IS ACCELERATING THE GROWTH OF TECH START-UPS

A growing global population of digital consumers has been a pivotal force behind the flourishing digital economy



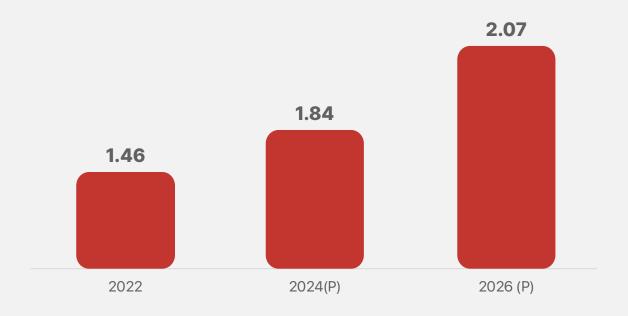
World population that has access to the Internet in 2023





This has triggered a huge wave of investments in digital transformation, which is expected to continue in the future

Global digital transformation market size (in USD Tn)



LEADING START-UP ECOSYSTEMS ACROSS THE GLOBE ARE CONTRIBUTING SIGNIFICANTLY TO THIS INTENSIFYING WAVE OF DIGITAL TRANSFORMATION

Leading¹ Tech Start-up Ecosystems in the World



Leading ecosystems

Key sectors



INDIA'S TECH START-UP ECOSYSTEM IN 2023



950+

Number of tech start-ups founded in 2023

>50%

Share of tech start-ups founded in mature sectors²

750+

Number of unique tech start-ups funded

40%

Share of tech start-ups in emerging hubs

12

Number of mega deals³

290+

Number of tech start-ups that raised first round of funding

100+

Number of M&A deals in the Indian tech start-up ecosystem

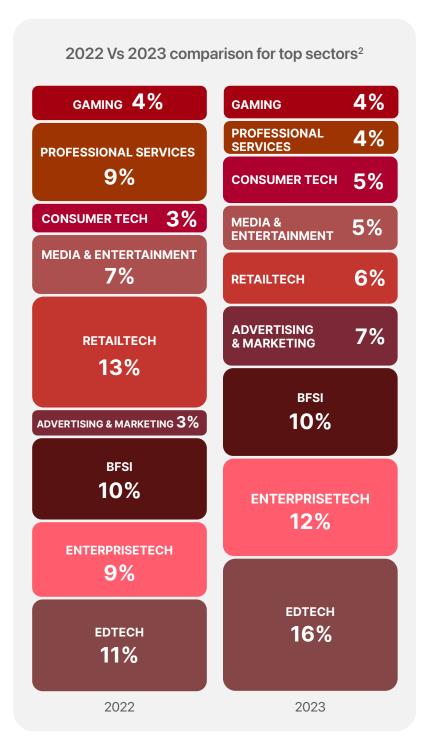
47%

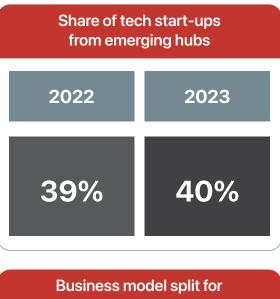
Share of M&A by Indian tech start-ups

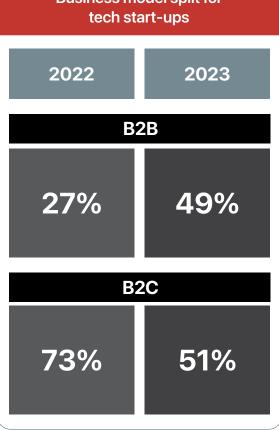
(1/7)

Indian tech start-up base continues to expand despite difficult market conditions- ~1000 new tech start-ups incepted in 20231

Number of tech start-ups founded in 20231





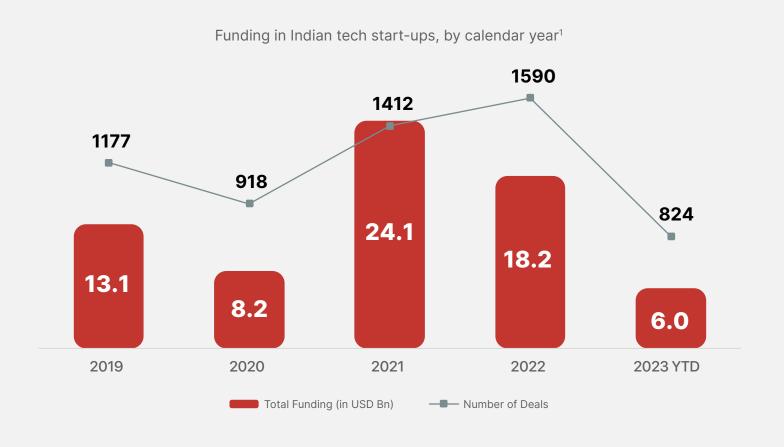


(2/7)

#2 Amidst global turbulence, Indian start-ups also underwent a funding downturn in 2023

- Global funding experienced a substantial decline due to various macro-economic factors such as increased federal interest rates, geopolitical uncertainties, and rising inflation.
- Investors globally re-evaluated start-up valuations and inclined more towards efficiency and profitability, thus resulting in a cautious investment climate and consequent funding slowdown.
- Indian start-ups mirrored the global trend and suffered a 67% decline in funding over 2022 levels as investors became too cautious.

The total equity investments in 2023 plummeted as the deal volume declined by 48%



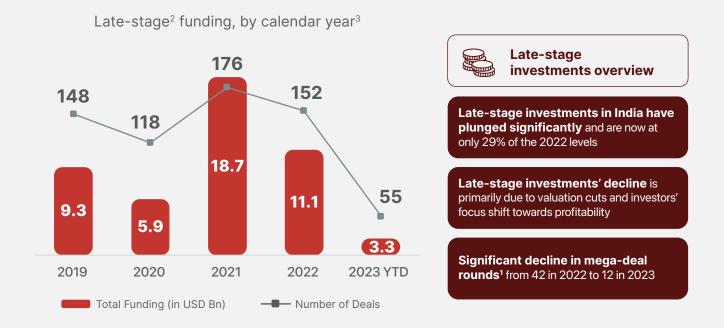


750+ unique funded start-ups-46% lower than 2022

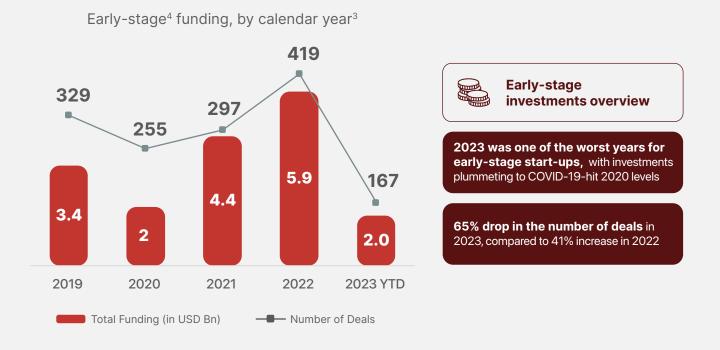
Non-unicorns² dominated in 2023, raising 72% of the total funding compared to 66% in 2022

(3/7)

Late-stage investments faced a substantial downturn, marked by decline in both total investment volume and mega-round deals1



Investor caution was evident in 2023 as early-stage investments also dropped by 65%



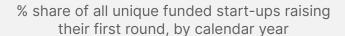
(4/7)

Seed-stage investments dropped by 43%, but remain higher than pre-pandemic levels

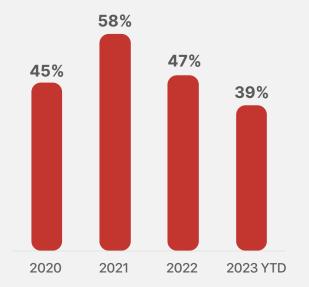
Seed-stage¹ equity investments, by calendar year² 1019 Seed-stage 939 investments overview 700 545 599 Seed-stage funding also struggled in 2023 despite massive influx and 1.2 announcement of several funds in 2022 0.9 0.7 0.4 0.4 72% of all funding deals in 2023 were seed-stage deals compared to 2019 2020 2021 2022 2023 YTD 64% in 2022

Given the market sentiments, start-ups raising their first round³ also encountered challenges

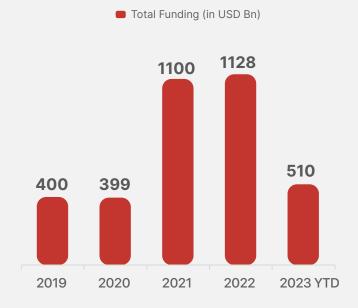
-- Number of Deals



Total Funding (in USD Bn)



Total equity investments raised by start-ups raising their first round, by calendar year



Source: Zinnov Research & Analysis

(5/7)

Despite the overall slowdown, median deal value remained consistent for seed-stage and increased for early-stage tech start-ups

Median ticket size of the funding for seed-stage, by calendar year¹ (in USD Mn)

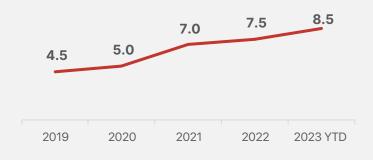




Seed-stage view

Despite a 50% drop in overall funding amount raised by seed-stage tech start-ups, as compared to 2022, the impact on seed-stage funding ticket sizes was marginal

Median ticket size of the funding for early-stage, by calendar year¹ (in USD Mn)

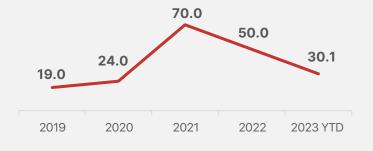




Early-stage view

The early-stage ticket size has shown a consistent upward trend, nearly doubling since 2019

Median ticket size of the funding for late-stage, by calendar year¹ (in USD Mn)





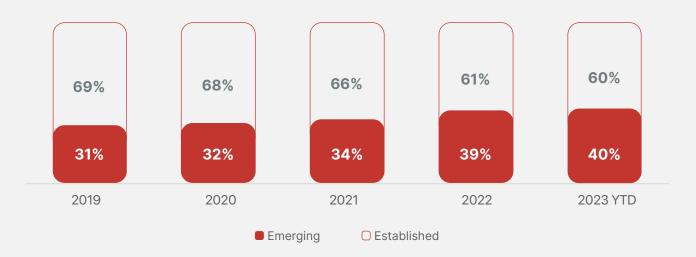
Late-stage view

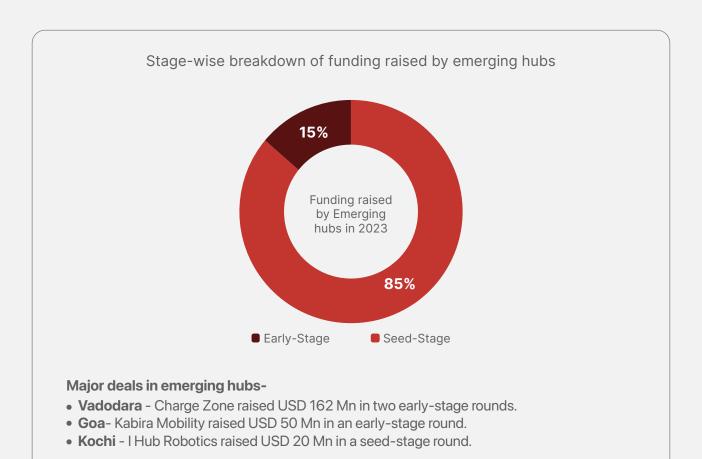
The 40% decline in the median ticket size for late-stage rounds in 2023 is attributed to down rounds and a cautious investor approach



Share of tech start-ups from emerging hubs continued to grow in 2023

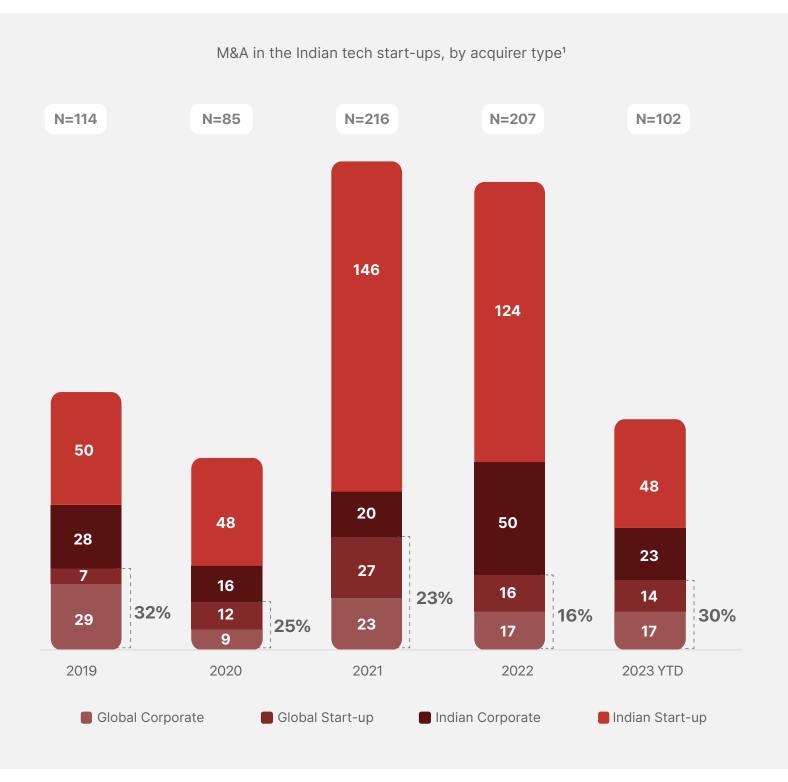
% share of tech start-ups founded in emerging hubs¹, by year of inception







M&A activity in Indian tech start-up ecosystem declined by 50% over last year



- The share of global participation in M&A deals (combined for start-ups and corporates) is similar to 2019 levels.
- · In 2023, 14 global start-ups acquired their Indian counterparts, marking a 2X increase from 2019 and aligning with 2022 figures.



SECTOR SPOTLIGHT: SUPPLY CHAIN MANAGEMENT & LOGISTICS

nasscom zinnov/

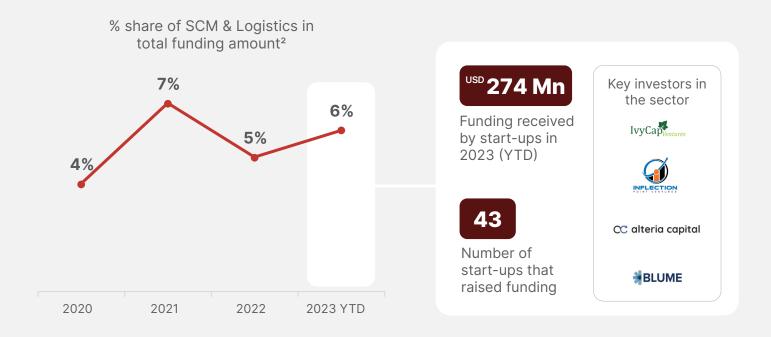
(1/2)

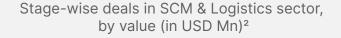
SCM & Logistics experienced a rise in deal value driven by funding raised by mature start-ups1

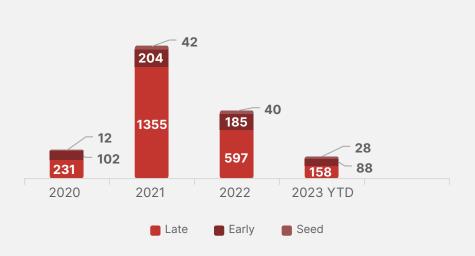


Unique start-ups raised funding between 2019 and 2023 (YTD)











of the funding deals in 2023 are first rounds³



increase in the median ticket size of early-stage deals in 2023

SECTOR SPOTLIGHT: SUPPLY CHAIN MANAGEMENT & LOGISTICS

(2/2)

With the promise of ONDC in the e-Commerce and Retail verticals, the SCM & Logistics sector is poised to reap the benefits

Drivers enabling growth in the SCM & Logistics sector



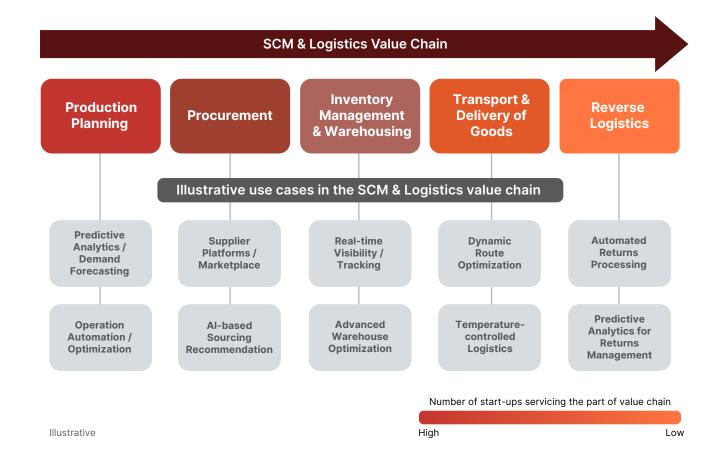
National Logistics Policy has introduced platforms such as Unified **Logistics Interface Platform** that provides opportunities to private sector to develop use cases

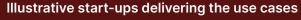


The Gati Shakti National Master Plan aims to enhance logistics efficiency in India by leveraging advanced technologies and relevant IT tools to overcome project challenges



ONDC will be a key driver amplifying the impact of India's growing e-Commerce sector, projected to reach USD 350 Bn by 2030. This directly contributes to boost the SCM & Logistics sector





























SECTOR SPOTLIGHT: AUTOMOTIVE

(1/2)

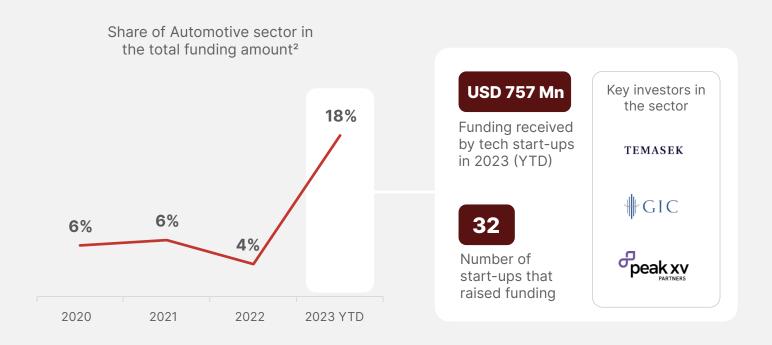
Funding in the Indian Automotive tech start-ups grew by 16% in 2023, resulting in a 4.5X increase in the sector's share of total funding as compared to 2022

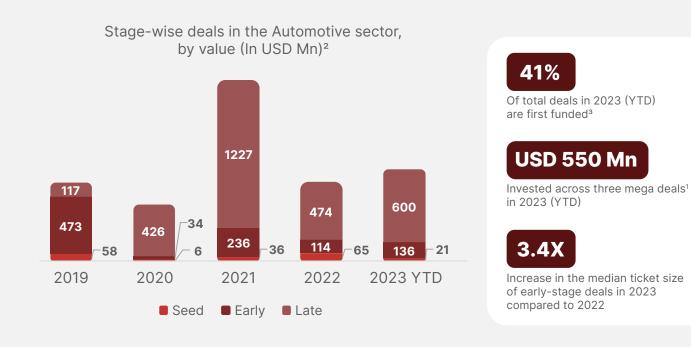


Increase in mega-deal value¹ in 2023 from that in 2020; the deals primarily involve funding raised by EV manufacturers



Increase in early and late-stage funding, indicating a gradual shift towards maturity





SECTOR SPOTLIGHT: AUTOMOTIVE

(2/2)

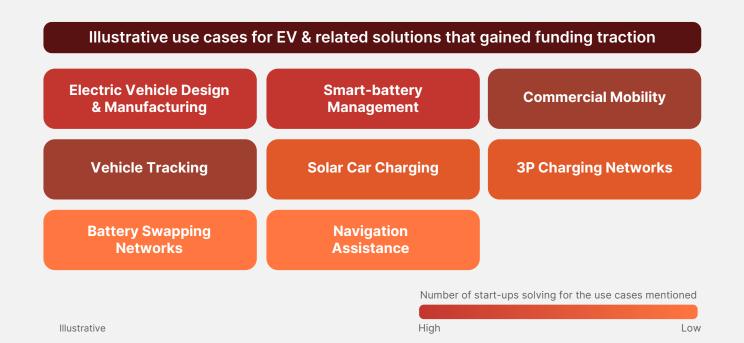
Policies supporting sustainability are progressively catalyzing the emergence of diverse use cases within the Electric Vehicle segment of the sector

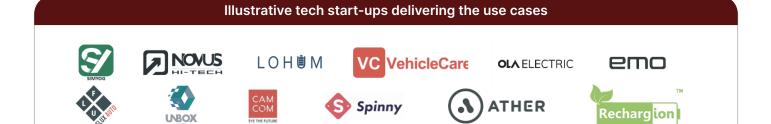
Drivers enabling growth in the Automotive sector

Policies such as Income tax exemption, GST reduction, PLI Scheme, **State EV policies** are driving the adoption of sustainable mobility

Increase in the number of EVs registered from 2020 to 2023 (YTD)









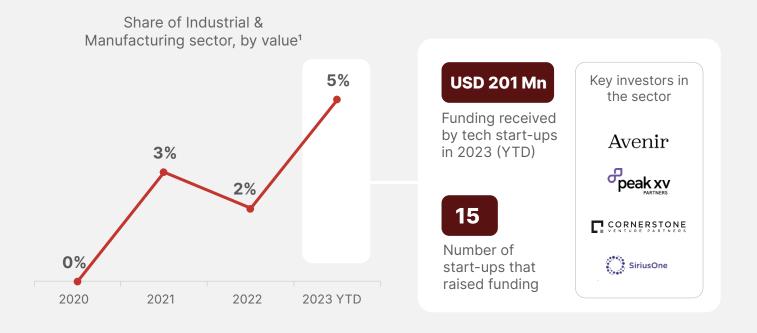
SECTOR SPOTLIGHT: INDUSTRIAL & MANUFACTURING

(1/2)

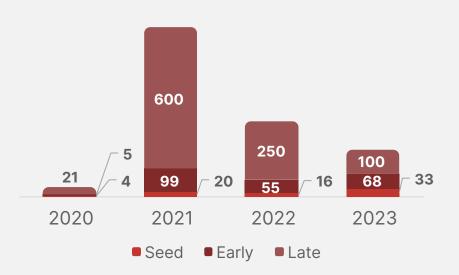
Industrial & Manufacturing sector witnessed a 2.5X increase in funding share led by DeepTech-infused solutions

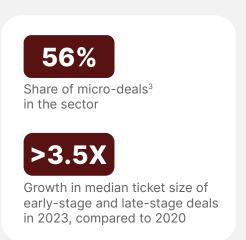
Share of funding raised by DeepTech start-ups





Stage-wise deals in the Industrial & Manufacturing sector, by value (in USD Mn)¹





SECTOR SPOTLIGHT: INDUSTRIAL & MANUFACTURING

(2/2)

Industrial & Manufacturing tech start-ups are flourishing, driven by the opportunities presented by Industry 4.0

Drivers enabling growth in the Industrial & Manufacturing sector



National Manufacturing Policy (NMP) aims at improving the Indian

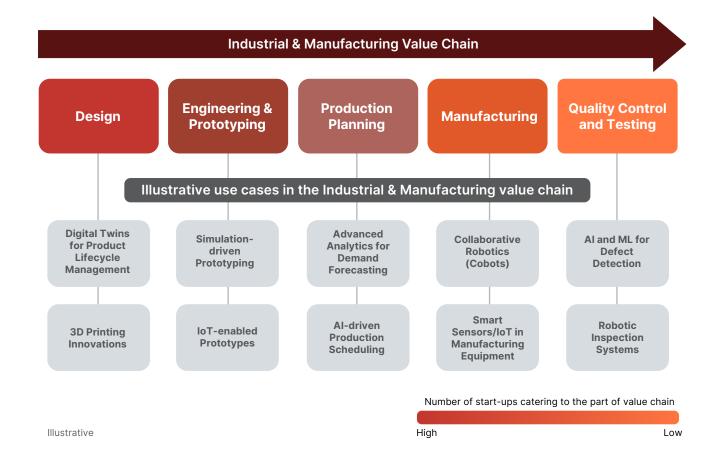
Manufacturing sector to contribute 25% to India's GDP by 2025



Initiatives such as Make in India and Aatmanirbhar Bharat are catalysts to the NMP target for the Manufacturing



SAMARTH Udyog Bharat 4.0 has been launched by the government to leverage Industry 4.0 to enhance the competitiveness of the Indian capital goods sector



Illustrative tech start-ups delivering the use cases















GLOBAL TECH START-UP ECOSYSTEMS A COMPARATIVE ANALYSIS



TODAY, INDIA'S TECH START-UP ECOSYSTEM RANKS 3RD GLOBALLY IN **TERMS OF START-UP PERFORMANCE**

Maturity mapping of leading global tech start-up ecosystems

Methodology

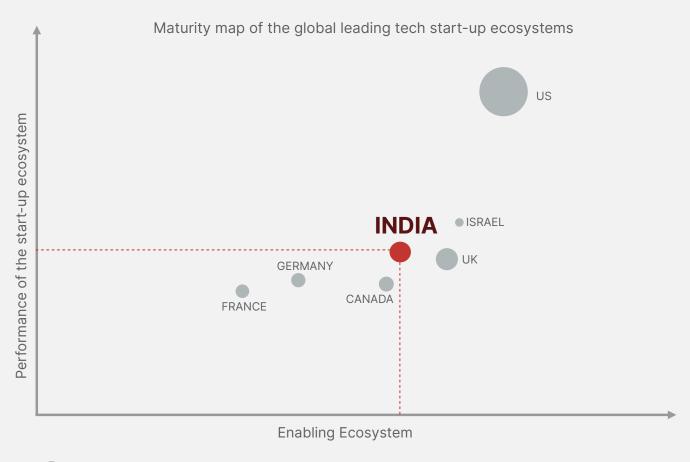
We conducted a comparative assessment of the top 7 global start-up ecosystems¹ (India, USA, UK, Canada, Germany, France, and Israel) across key parameters (outlined below) to evaluate their tech maturity:

1. Performance of the Tech Start-up Ecosystem

Number of start-ups, share of start-ups that raised funding, odds of success from seed-stage to Series C+, unicorn count, employee growth generated by unicorns

2. Enabling Ecosystem Strength

Incubator/accelerator presence per 1000 start-ups, availability of STEM talent, regulatory environment for tech entrepreneurs, entrepreneurship focus on academia, industry collaboration, tech market maturity, availability and access to capital



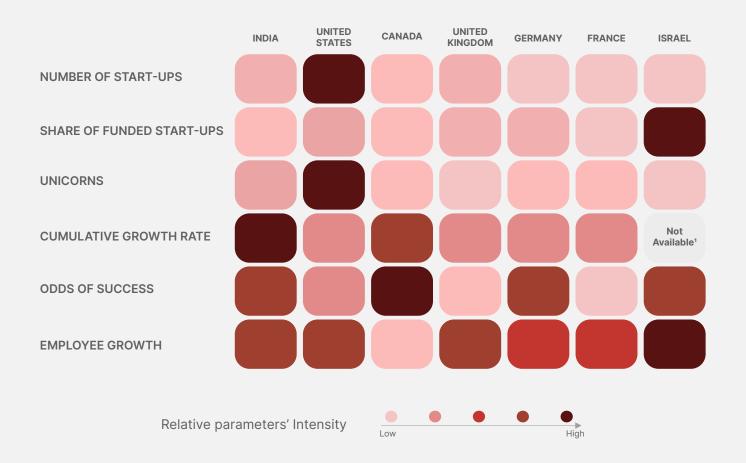
Size of the bubble represents the number of start-ups in the ecosystem.

India secures 3rd place based on the evaluation of enabling ecosystem strength and tech start-up performance. These standings are a result of impressive growth rates, scalability to late stages, and the ability to achieve unicorn valuations.

WHEN COMPARED TO OTHER COUNTRIES, INDIA SCORES WELL ON THE SIZE OF THE LANDSCAPE, UNICORN-CREATING ABILITY, AND EMPLOYMENT GROWTH, BUT FALLS BEHIND IN ATTRACTING EARLY-STAGE FUNDING

Home to over 31,000 tech start-ups and 91 unicorns, India's tech start-up ecosystem ranks third globally and has performed considerably well in comparison to that of developed economies like the USA and the UK.

Performance of Indian tech start-up ecosystems vis-à-vis other leading tech start-up ecosystems

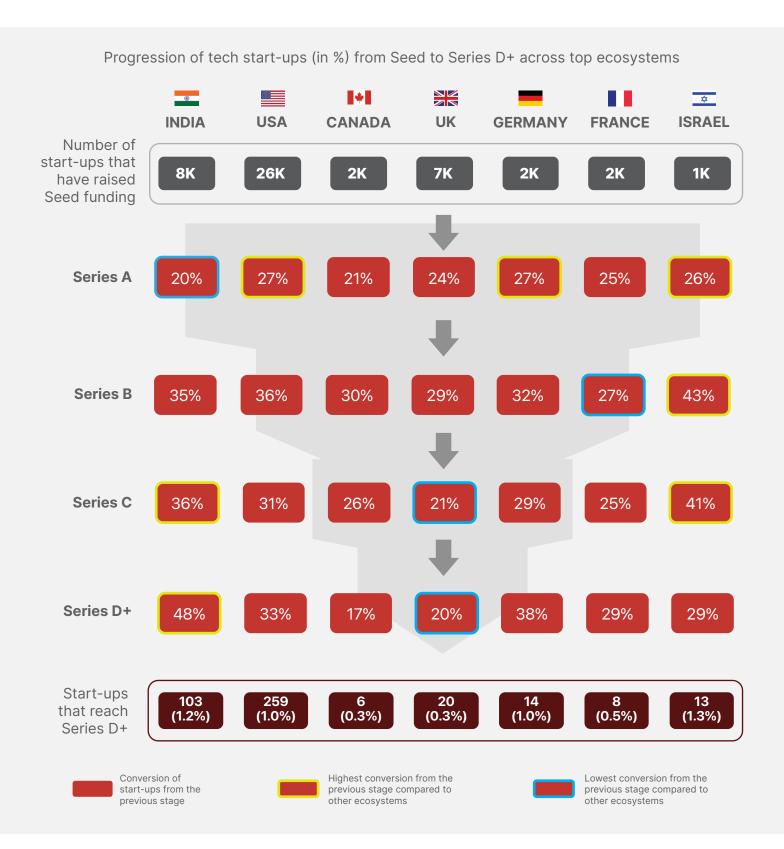


The strength of the Indian tech start-up ecosystem lies in its large pool of start-ups, unicorns, and ability to scale. However, assessing the percentage of funded tech start-ups to the overall start-up base reveals a more moderate figure of 18%. In contrast, Israel takes the global lead with an impressive 34% share.

This difference underscores a key observation: while Indian tech start-ups demonstrate significant scalability, they face the critical challenge of insufficient financial support in their early stages.

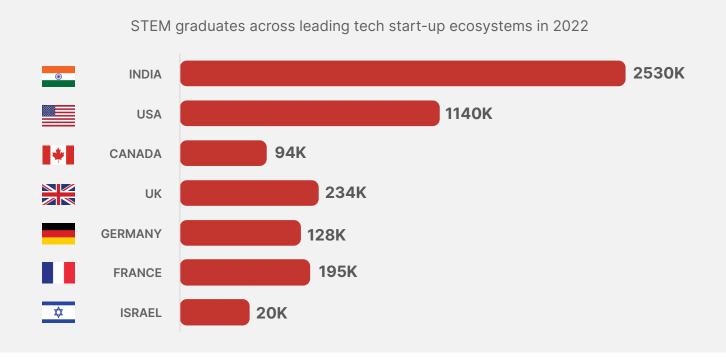
HOWEVER, INDIAN TECH START-UPS EXHIBIT OVER 30% CONVERSION RATE¹ POST SERIES B STAGE - AMONG THE HIGHEST IN THE WORLD

Conversion rate¹ from seed funding to Series A for Indian tech start-ups is 20%, which is the lowest among all ecosystems. However, as they advance, conversion rates improve. 36 out of 100 Series B Indian tech start-ups secure Series C funding, ranking second to Israel. Notably, at Series D and beyond, Indian tech start-ups exhibit the highest conversion, with 48 out of 100 Series C start-ups reaching series D and beyond.



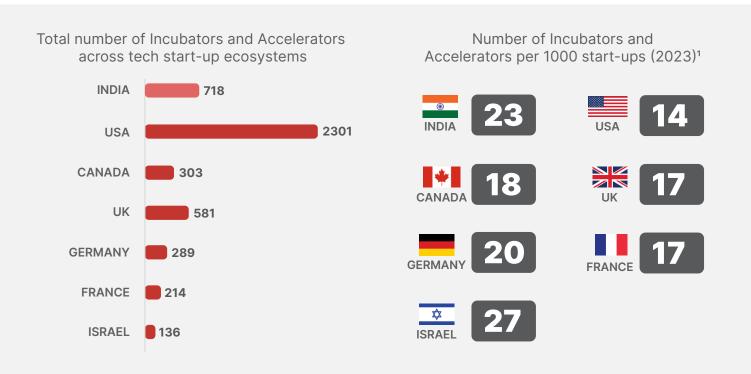
THE INDIAN TECH START-UP ECOSYSTEM HAS TWO STRONG PILLARS: THE HIGHEST NUMBER OF STEM GRADUATES AND THE SECOND-HIGHEST NUMBER OF INCUBATORS AND ACCELERATORS

India's tech start-up strength: Abundant STEM talent driving innovation



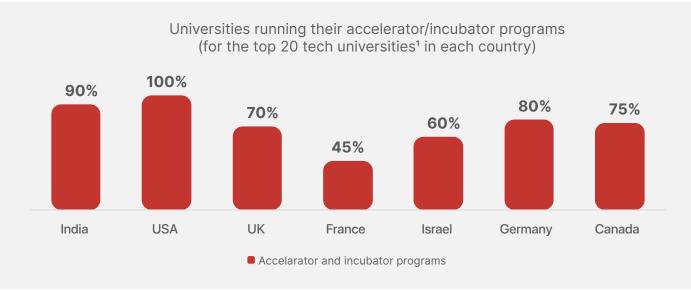
With 16% of the world's Al talent, India positions itself as an innovation hub, showcasing rapid adoption of Al skills.

India has a rich base of incubators and accelerators, mostly supporting early-stage tech start-ups



INDIA'S EXTERNAL INNOVATION ECOSYSTEM IS IMPROVING, CRUCIAL FOR FOSTERING TECH START-UP GROWTH

90% of the top Indian tech universities host accelerator/incubator programs helping foster a culture of entrepreneurship and innovation

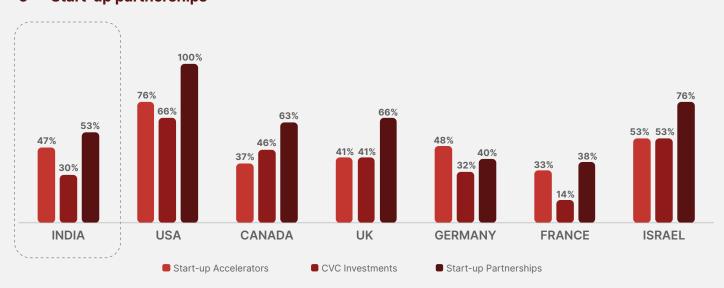


Note: The Israeli ecosystem has a distinct approach. Since they lack numerous university-sponsored incubators, state sponsorship, predominantly facilitated by the Israel Innovation Authority (IIA), plays a pivotal role in providing substantial funding and support. These programs typically function autonomously, although collaborative efforts with universities are not uncommon.

However, elevating corporate engagements with the Indian tech start-up ecosystem is imperative and needs acceleration

Corporate collaborations for the top 50 Fortune 500 companies²







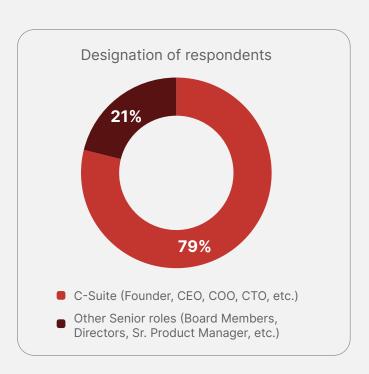
2023 TECH START-UP SURVEYPERFORMANCE IN 2023 AND OUTLOOK FOR 2024

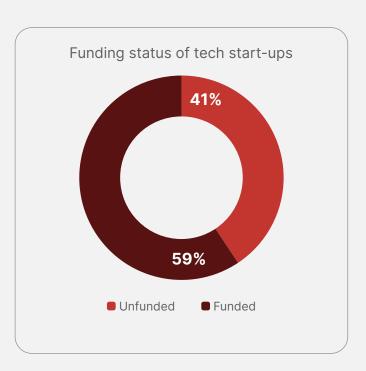
nasscom-ZINNOV TECH START-UP SURVEY 2023

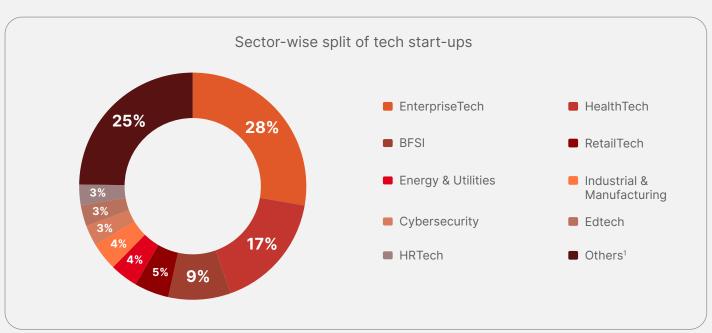
Methodology

- · Every year, nasscom and Zinnov conduct a detailed tech start-up founder survey. This year, the survey saw 100+ start-up founders participating in it. Insights in this section are derived from the 2023 tech start-up survey.
- · For this survey, founders of tech start-ups at different stages of the tech start-up lifecycle, business model, and funding status were surveyed to provide an unbiased perspective on the state of the tech start-up ecosystem in India.

Survey participant profile



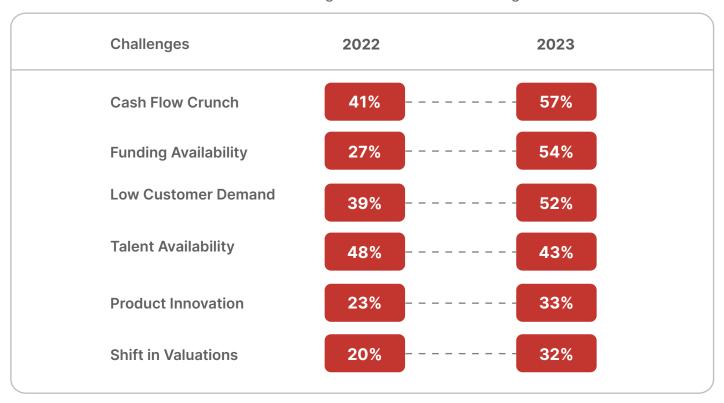




IN 2023, THE DOWNWARD FUNDING SPIRAL PUSHED FOUNDERS TO SHIFT FOCUS TOWARDS ESSENTIAL METRICS

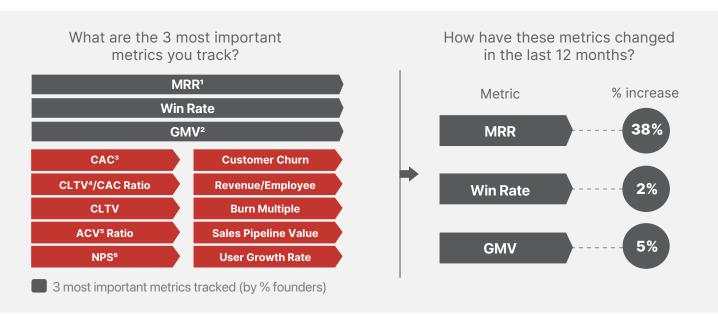
Cash flow and availability of funding proved to be the biggest challenges

What business challenges have you faced in the last 12 months? Rate the significance of these challenges



 While funding availability was a significant challenge reported by funded tech start-ups, cash flow crunch and low customer demand also emerged as key challenges for the unfunded tech start-ups.

Tech start-up founders monitored Monthly Recurring Revenue (MRR), Win Rate, and Gross Merchandise Volume (GMV) as the top metrics



· With a challenging macro-economic environment, tech start-ups are focusing on improving short-term revenue through efficient sales strategies and efforts.

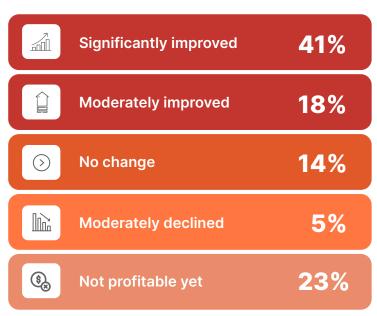
DESPITE THE CHALLENGES, FOUNDERS HAVE BEEN ABLE TO CAPITALIZE ON THE MARKET CONDITIONS AND IMPROVE THE FUNDAMENTALS OF THEIR BUSINESS

A majority of tech start-up founders report an increase in revenue and profitability in 2023

How has your revenue changed in the last 12 months?

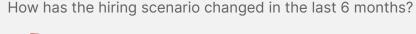
How has your profitability changed in the last 12 months?





- While a small share of tech start-up founders reported a decrease in their revenue, nearly 40% of the funded tech start-up founders reported an increase in their revenue over the last 12 months.
- 41% of tech start-up founders highlighted a significant improvement in profitability. This is primarily driven by unfunded start-ups with 70% of founders highlighting this improvement. However, only 25% of funded start-up founders reported the same.

While majority of the tech start-ups have been hiring in 2023, around a quarter of the founders indicated a cautious approach



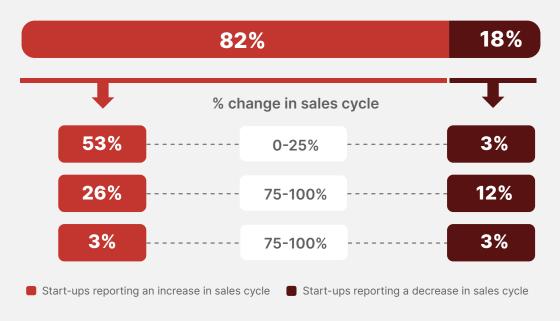


- Tech start-ups reporting hiring have increased by 20% in 2023 as compared to 2022.
- Tech start-ups reporting a reduction in their workforce decreased by ~7% in 2023 as compared to 2022.

THE MACRO-ECONOMIC CONDITIONS HAVE ALSO IMPACTED SALES CYCLES, WITH MANY FOUNDERS PIVOTING TO DIFFERENT CUSTOMER SEGMENTS

Founders report lengthening of the average sales cycle, signaling heightened challenges in customer acquisition

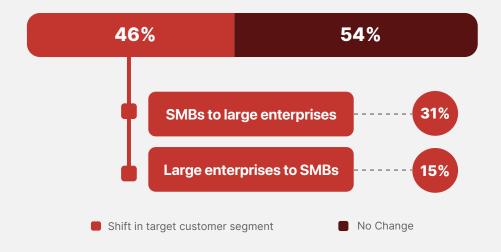
How has the average length of your sales cycles increased or decreased in the last 12 months?



~90% of the unfunded tech start-ups reported an increase in the average sales cycle, with ~60% reporting an increase of 0-25%.

Adapting to market conditions is evident as many have pivoted

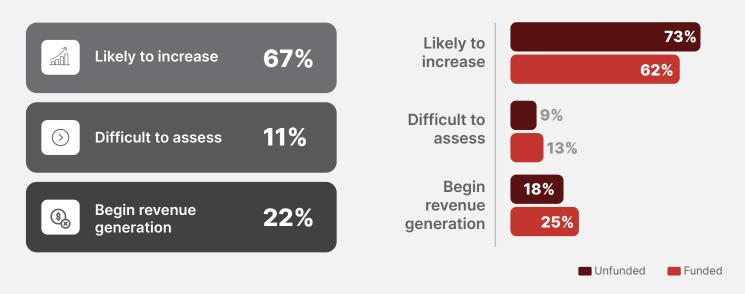




While 31% of all tech start-ups reported a shift from SMBs to large enterprises, 43% of funded start-ups reported a shift to large enterprises.

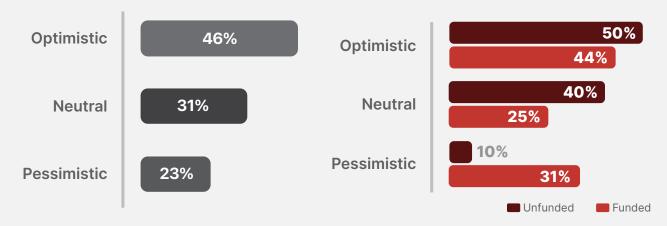
Tech start-up founders expect to continue on the revenue growth path but feel that the funding environment may not be easy, especially for large ticket sizes

What is your revenue outlook for 2024?



- A large share of unfunded tech start-up founders expect revenues to increase in 2024 as compared to founders of funded tech start-ups who feel otherwise. Overall, majority of the tech start-up founders believe their revenues are likely to increase in 2024.
- The economic slowdown in 2023 resulted in many B2B tech consumers (corporates and start-ups alike) focusing on optimizing expenditure and maximizing profitability. However, in 2024, the B2B tech consumers will be seeking to accelerate and increase spending, resulting in increasing revenues for B2B tech start-ups.

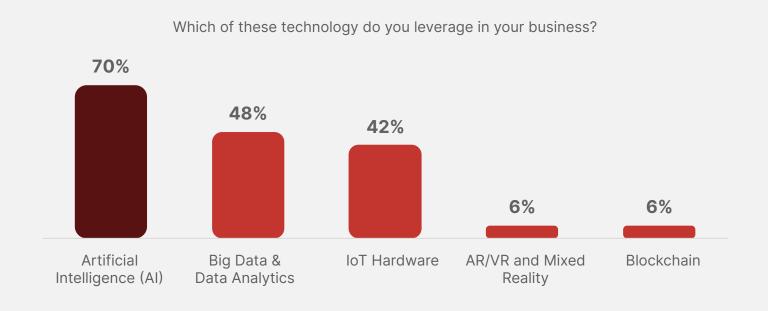
What are your views on the funding scenario for 2024?



 A large share of the founders from unfunded tech start-ups express optimism about the funding outlook for 2024 compared to founders of funded tech start-ups. Founders of funded tech start-ups have more reserved expectations, with over 30% expressing pessimism about funding in 2024. Overall, 46% of founders are optimistic about the funding scenario in 2024.

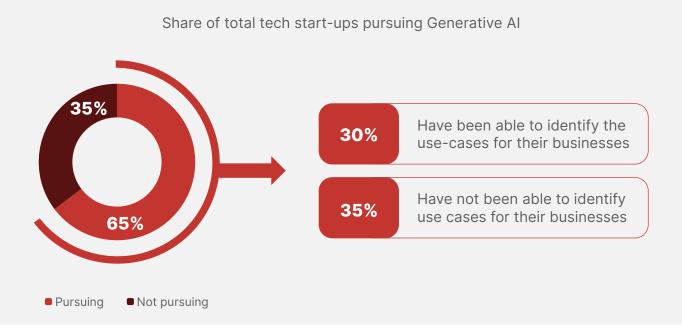
DEEPTECH USAGE IS INCREASINGLY BECOMING MAINSTREAM IN THE INDIAN TECH START-UP ECOSYSTEM

Tech start-ups have been increasingly implementing DeepTech in their solutions



- 59% of the tech start-ups reported utilizing DeepTech to improve efficiency in the organization.
- 52% of the tech start-ups reported leveraging DeepTech to reduce operational costs.
- 41% of the tech start-ups reported automating internal processes using DeepTech.

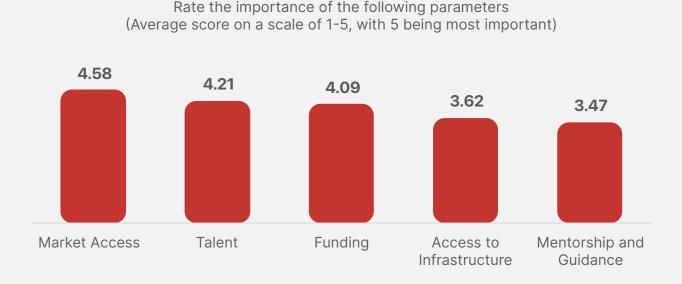
An increasing number of tech start-ups are leveraging Generative Al



- ~70% of these tech start-ups reported pursuing Generative AI to embed it into their existing products.
- ~45% of these tech start-ups reported pursuing Generative AI for knowledge assistants (for internal operations).

SINCE MARKET ACCESS WILL BE KEY FOR FOUNDERS, MANY ARE SEEKING TO COLLABORATE WITH STAKEHOLDERS SUCH AS GOVERNMENT AND CORPORATES

Tech start-up founders report market access as a key factor to their success moving forward



 While market access remains the most important factor for funded and unfunded start-ups, funding takes the second rank for unfunded start-ups, while talent remains the second-most important for funded start-ups

Majority of tech start-ups are looking to collaborate with the government and corporates



 56% of funded start-ups reported that they are seeking collaboration with corporates and government institutions, whereas 60% of unfunded start-ups reported seeking collaboration with corporates and 70% seeking collaboration with government institutions.



UNLOCKING FUTURE GROWTH RECOMMENDATIONS

RECOMMENDATIONS

1) ACCELERATE AND STRENGTHEN DEEPTECH ECOSYSTEM

In 2023, the government issued its first DeepTech policy, which is comprehensive and contains many proposals. It is critical to implement it in a timely manner. The focus areas for DeepTech acceleration include:

- Access to patient capital through grant, government funding, and other sources.
- Identifying priority sectors for DeepTech and building an integrated sectoral approach to drive innovation, market connect and support for testing, patent filing, certifications, training, etc.
- Access to affordable Al infrastructure compute and data.

2) PRIORITIZE AND STRENGTHEN DOMESTIC CAPITAL FLOW

- Advocate and enable the operation of micro-VCs through appropriate regulatory frameworks and simplified compliance procedures.
- Set up co-investment programs as a mechanism to promote domestic VCs.
- Establish initiatives aimed at cultivating an innovation ecosystem through collaborative efforts between Governments, Venture Capital (VC) firms, Angel investor networks, and the industry.

3) ENABLE IMPROVEMENT OF MARKET ACCESS FOR TECH START-UPS

- Creating platforms for technology start-ups to get visibility /market access across all government programs (both domestic and international).
- Ease norms and streamline the process for government procurement.
- Facilitate international exposure for start-ups through trade missions, and partnerships with foreign business chambers.

4) EASE OF REGULATORY COMPLIANCE

- Improve taxation policies for Angel and HNI (High Net Worth Individual) investors
- Handholding start-ups for the Digital Personal Data Protection Act, 2023
- A pro innovation approach to AI regulation that focuses on risk-based use cases
- A guide to help start-ups navigate corporate governance



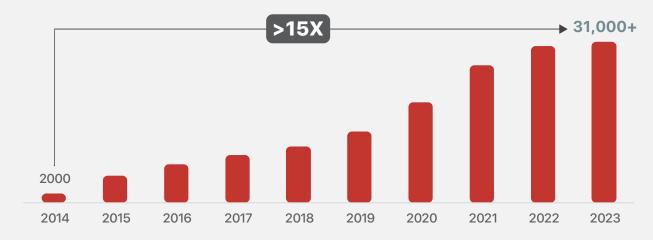
TRAVERSING A DECADE OF INDIAN TECH START-UP ECOSYSTEM

THE DECADE IN REVIEW

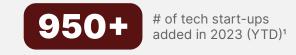
THE PAST DECADE HAS SEEN A >15X SURGE IN THE NUMBER OF TECH START-UPS IN INDIA

The growth of the ecosystem has remained fairly consistent over the years

Cumulative number of tech start-ups founded





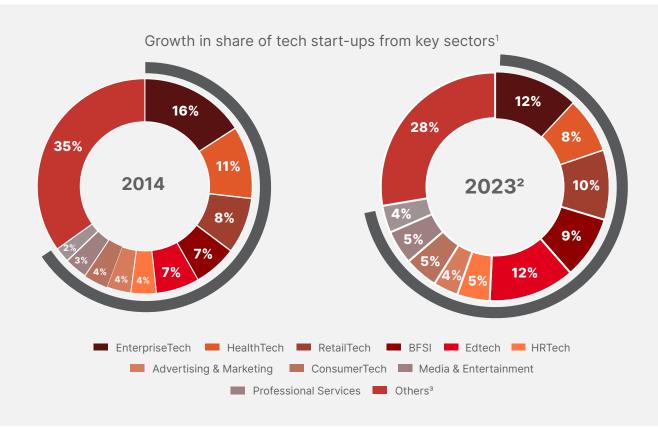


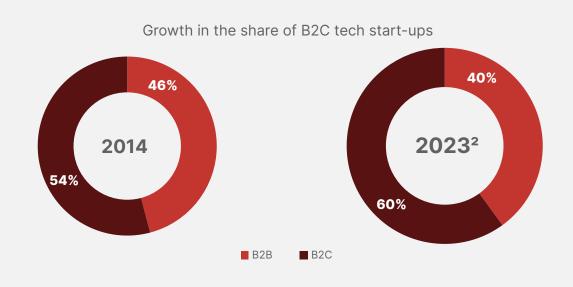
WHAT HAS EVOLVED OVER THE YEARS?

- Change in consumption patterns and rising Internet penetration have continued to pave the way for the emergence of RetailTech start-ups since 2010. Growing access to digital platforms is expanding the market for innovative retail solutions.
- The landscape started seeing a surge in BFSI start-ups from 2016, fueled by events such as UPI-moment and demonetization, creating opportunities for start-ups to address evolving needs of the financial sector.
- The need for scalable and efficient Cloud solutions have been fueling the rise of SaaS start-ups. SaaS start-ups have contributed significantly to the ecosystem, with the emergence of 21 unicorns since 2014. More than 60% of mature SaaS start-ups are developing global solutions.
- The COVID-19 pandemic further catalyzed the growth in sectors like HealthTech and Edtech, driven by tele-consulting and remote learning.
- Share of start-ups founded in emerging hubs increased from ~31% in 2019 to ~40% in 2023, highlighting the overall holistic growth of the ecosystem.

THE COLLECTIVE SHARE OF NUMBER OF TECH START-UPS IN KEY SECTORS HAS SURGED OVER THE PAST 10 YEARS; SHARE OF B2C START-UPS CONTINUES TO GROW PRIMARILY DUE TO GROWING DIGITAL CONSUMER BASE

- Key sectors, including EnterpriseTech, HealthTech, etc., constituted over 60% of tech start-ups in 2014. This number has continued to grow and crossed the 70% mark in 2023.
- Moreover, growing Internet penetration, rising income levels, and expanding digital consumer base have all been fueling the adoption of the B2C start-up business model.



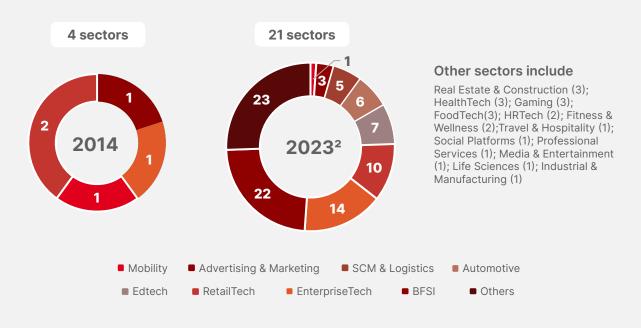


18X GROWTH IN THE NUMBER OF UNICORNS SINCE 2014; SPREAD **ACROSS 5X MORE SECTORS AND 8X MORE LOCATIONS**



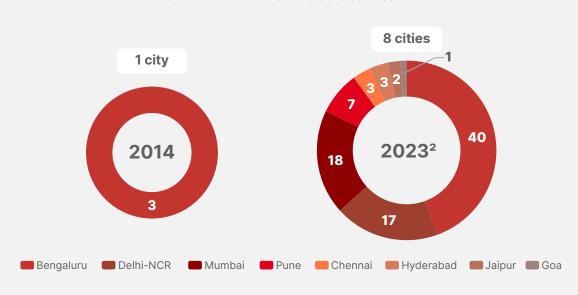


Distribution of unicorns across sectors



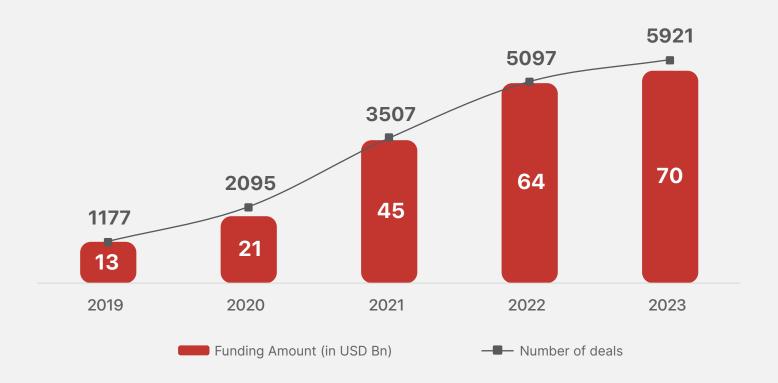
- BFSI, RetailTech, and EnterpriseTech collectively account for over 50% of the unicorn pool as of 2023, with a cumulative valuation of USD 125 Bn.
- Notably, 50 Indian unicorns are strategically positioned to cater to the global markets.

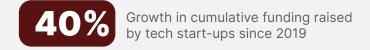
Distribution of unicorns across locations

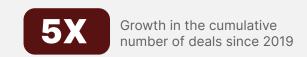


INDIAN TECH START-UPS HAVE RAISED OVER USD 70 BN IN FUNDING SINCE 2019

Cumulative equity investments in tech start-ups (2019-2023)¹







- The last five years have tested the tech start-up ecosystem's resilience. Despite events like COVID-19 and global economic uncertainty, Indian tech start-ups have attracted investments.
- COVID-19 pandemic fueled the demand for technology-backed solutions, both among consumers and enterprises. This gave the impetus to the start-ups to innovate and build solutions for existing and novel use cases.
- BFSI, HealthTech, Edtech, RetailTech, EnterpriseTech, and FoodTech gained the most from this pandemic-triggered digital wave.
- Start-up investments peaked in 2021; however, the recent economic slowdown has made founders take a more cautious approach, and shift their focus from fundraising to cost optimization and profitability.

SIX INDUSTRY SECTORS COLLECTIVELY ACCOUNT FOR ~60% OF THE TECH START-UP FUNDING SINCE 2019

Share of sector in total funding Sector between 2019 and 2023

EDTECH

10%

Driven by increasing Internet and smartphone penetration, demand for quality education, and COVID-19-induced virtual education models

of Edtech start-ups in the B2C business model

of Edtech start-ups were established between 2019-2022

ENTERPRISETECH

Driven by the growth of digital transformation in both domestic and global markets

of SMBs influenced by digitalization in India

% anticipated global incremental growth in digitalization expected to be driven from Asia

RETAILTECH

11%

The growth of Internet and smartphone penetration, rise of online businesses, changing consumer paradigm, and technology-led business models paved the way for growth in RetailTech

USD 7.3 Bn+

Total funding raised by RetailTech start-ups between 2019 and 2023

BFSI

22%

The evolution of payment & lending systems, and BFSI- SaaS, influenced by the UPI tech stack, marked a turning point for the sector.

USD 15 Bn+

Amount raised by BFSI tech start-ups between 2019 to 2023, highest amongst all sectors.

HEALTHTECH

5%

The COVID-19 pandemic accelerated the need for digital healthcare solutions like tele-medicine, online consultations, e-pharmacy, and home diagnostics

All the unicorns in the sector emerged in 2021 alone

Start-ups were founded during COVID-19 (between 2020-2021)

FOODTECH

5%

Increase in disposable income, Internet and smartphone penetration, and growing popularity of quick service restaurants and cloud kitchens, have all been primary drivers for the FoodTech sector.

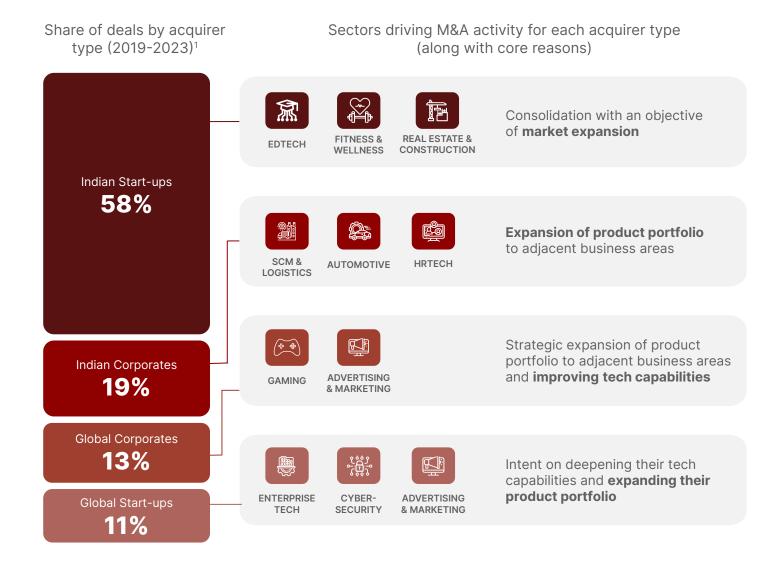
USD 3.5 Bn+

Total funding raised by FoodTech start-ups between 2019 and 2023

700+ INDIAN TECH START-UPS HAVE BEEN ACQUIRED IN THE PAST 5 YEARS, WITH INDIAN TECH START-UPS DRIVING 58% OF THE M&A ACTIVITY

Since 2019, Indian tech start-ups have been driving more than 50% of M&A activity

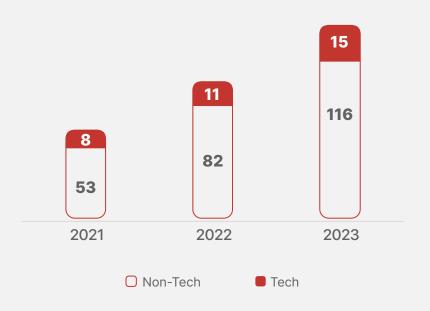




INDIAN TECH START-UPS ARE INCREASINGLY TURNING TO PUBLIC MARKETS, WITH 15 TECH IPOs ANNOUNCED IN 3 YEARS

In the last 3 years, 15 tech IPOs with an issue size exceeding USD 6.4 Bn were successfully listed on Indian stock exchanges

Cumulative of IPO Listings (2021-2023)1



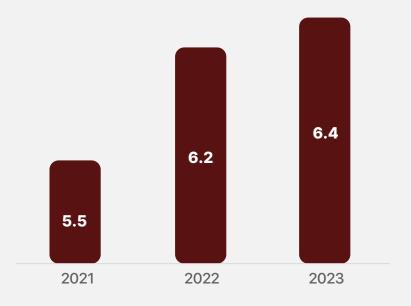


of sectors with tech IPOs

The diversification of tech IPOs across sectors mirrors the evolving landscape within India's tech start-up ecosystem

Note: This data only includes mainboard Initial Public Offerings (IPOs). Tech IPOs specifically cover companies that have gone public within two decades of their establishment.

Cumulative issue size of the tech IPOs (2021-2023)1



Cumulative Issue Size (in USD Bn)

- The substantial growth in cumulative issue size signals a significant influx of capital into the tech IPO market
- · Despite global economic uncertainties, India's market resilience and favorable conditions are evident in the positive listing gains

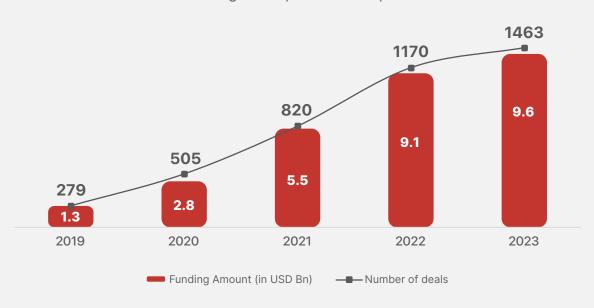


Average listing gains from tech IPO issues

DEEPTECH START-UPS IN INDIA HAVE INCREASINGLY ATTRACTED INVESTOR INTEREST OVER THE LAST 5 YEARS

DeepTech start-ups account for 14% of the total cumulative funding

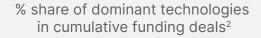
Cumulative funding in DeepTech start-ups (2019-2023)¹

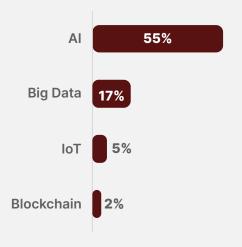


14%

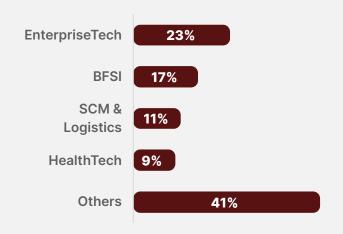
Share of funding raised by DeepTech start-ups since 2019.

Accounting for over 55% of the cumulative funding in the DeepTech landscape, Al start-ups dominate the space





Top sectors with DeepTech adoption





NOTE FOR THE READER

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 analyzes the following -

- Current scenario and emerging trends that define the Indian tech start-up ecosystem
- India's position as a global start-up hub that is becoming attractive for investors, start-ups, and corporates
- The role played by ecosystem enablers like Incubators/Accelerators, Government Policies in nurturing the start-up ecosystem

DATA AGGREGATION

Zinnov Data

nasscom Data

INTERVIEWS / DISCUSSIONS

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

SECONDARY RESEARCH

- Start-up Indiahub
- Crunchbase
- LinkedIn
- The Start-up Genome Report
- Inc42

- CBInsights
- Fortune 500
- Financial Express
- Forbes
- Business Standard
- Livemint

- Times of India
- Economic Times
- Dealroom
- Factor Daily
- Yourstory
- Startupblink

RESEARCH TEAM

nasscom

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

zinnov

- Archita Sarmah
- Pooja Jain
- Akanshi Sharma
- Kala Devarapalli
- Gaurav Sanjeev Kumar
- Shashank Singhal
- Divya Tandon
- Vikalp Sharma
- Mohammed Faraz Khan

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



EnterpriseTech

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.

BFSI

Enables financial services, banking and insurance through technology E.g. Online Banks, Financial Management Apps, Payment Management Platforms, Alternative Lending Platforms, Money Transfer Platforms, Expense Management, Investment Platforms, Cryptocurrency & Trading Platforms, etc.

HealthTech

Provides a technology platform for solving HealthTech problems E.g. Medical Solutions, Marketplace for Health Services, Health Lab Aggregators, Online Pharmacies, e-Diagnostics, Ambulance Aggregator, 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.

HRTech

Tech-enabled companies supporting Human Resources Activities E.g. Applicant Tracking Systems, HR Management Systems, Candidate Assistance & Sourcing, Recruitment Marketplaces, etc.

Travel & Hospitality

Tech companies engaged in supporting the Travel & Hospitality industry E.g. Hotel Booking Services, Travel Planning, Travel Packages Portal, Travel Collaboration Community, etc.

Automotive

Companies involved in production, manufacturing, sales, and services of motorized

E.g. Electronic Engineering, System Integration, Automotive Maintenance, Electric Vehicles, Automotive Marketplaces, etc.

Mobility

Tech-enabled companies providing simplified Transportation services to users E.g. Carpooling, Self Drive Rentals, Two-wheeler Taxi Aggregators, Mass Transit, Tech Enablers.

Real Estate & Construction

Tech-enabled companies supporting the Real Estate, Property Management, and Construction industry E.g. Construction Design Tools, Building Technology, Real Estate Management,

Security, Smart Home & Cities Enablers.

RetailTech

Companies enabling the sale of goods and products 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, etc.

DEFINITIONS

(2/3)

Industrial & 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)

FoodTech

Tech-enabled companies supporting the FoodTech industry E.g. Online Food Ordering, Restaurant Management Cloud Solutions, Food Discovery **Platforms**

Media & Entertainment

Provides a technology platform for solving HealthTech problems

E.g. Medical Solutions, Marketplace for Health Services, Health Lab Aggregators, Online Pharmacies, e-Diagnostics, Ambulance Aggregator, etc.

SCM & Logistics

Enabling tech in logistics services and supply chain management E.g. Logistics and Distribution Platforms, Fleet Management, Warehousing, IoT Platforms for Logistics, IoT Platforms for Transportation Marketplace, etc.

Agritech

Start-ups engaged in tech enablement in the Agricultural industry

E.g. Field Surveillance, Precision Agritech, Farm Infrastructure, Soil Testing, Farm Input e-Commerce, etc.

Gaming

Tech innovation and facilitation in the Gaming industry E.g. AR/VR Gaming, Community Platform Games, Fantasy Gaming Platforms, etc.

Aviation, Maritime & Defense

Companies involved in production, manufacturing, sales, and services of motorized

E.g. Electronic Engineering, System Integration, Automotive Maintenance, Electric Vehicles, Automotive Marketplaces, etc.

LegalTech

Tech-based companies for Legal help to Individuals/Corporates E.g. Contract Management, Brand Protection and Anti-counterfeit, Legal Services Discovery/Booking Marketplaces, etc.

Energy & Utilities

Tech enablement for Natural Resource Management and Utilization E.g. Renewable Energy Products, Recycling of Resources, Energy Production and Distribution, EV Charging Infrastructure etc.

Advertising & Marketing

Provides direct advertising and marketing assistance through technology E.g. Content Marketing, Influencer Marketing, Push Notifications, etc

DEFINITIONS

(3/3)

Professional Services

Tech-enabled companies providing concierge

E.g. Home Repairs, Auto Servicing, On-demand Laundry, Matchmaking Platforms, etc.

Security & Surveillance

Includes Hardware, Software solutions for security and surveillance applications in Home, Enterprise and Government institutions E.g. Video Surveillance Software/Platforms, Biometric Systems, Home Security Products, etc.

SportsTech

Includes solutions for the Sports industry E.g. Offline Sports Booking of Sports Arenas, Sports Content Platforms, Player Management, and Performance Analysis.

EventsTech

Solutions for assisting the Events industry E.g. Event Discovery, Booking Platforms, Event Management Solutions.

Fitness & Wellness

Start-ups associated with physical and mental

E.g. Emotional and Mental Wellness Solutions, Apps for Physical Fitness (bookings, home fitness assistance), Marketplaces for Nutrition Supplements, Wellness Products - Women's hygiene, etc.

Life Sciences

Tech-based Solutions in Life Sciences E.g. Genomics, DNA/Protein Sequencing, etc.

Telecom

Companies providing products/services to assist the Telecom sector E.g. Infrastructure enabling the Delivery and

Transmission of Telecom Services, Cloud Telephony, etc.

Cybersecurity

On premise or Cloud-based products & solutions which detect, prevent, and respond to cyberthreats to organizations or consumers

E.g. Network Incident Response/Intrusion Detection Solutions, Identity Access Management Solutions, VPNs, etc.

EnvironmentTech

Technology for environment preservation or green technology

E.g. Tech Solutions for Air Pollution, Solid/Water Waste Management, Recycling Solutions, Climate Monitoring, 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.

Active Unicorns

Unicorns are privately-held entities with a valuation of over USD 1 Bn. Start-ups that have not been included in the unicorn analysis:

- Holding companies like Globalbees and Mensa Brands.
- Unicorns that have raised IPOs: Freshworks, Nykaa, Paytm, PolicyBazaar, Zomato, Delhivery
- Unicorns that have 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 an Indian tech company

Early-stage

Series A & B funding rounds raised by an Indian tech company

Late-stage

Series C and beyond funding rounds raised by an Indian tech company

Corporate Incubator

A fixed term, 6-24-months-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 a large pool of ideas/solutions.

Corporate Accelerator

A fixed term, 3-6-months-long, cohort-based program for pre-growth and growth stage start-ups. During the program, the emphasis is on building proofs-of-concept 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 complementary solutions in exchange for a financial commitment

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

The material in this publication is copyrighted. No part of this report can be reproduced either on paper or electronic media without permission in writing from nasscom. Request for permission to reproduce any part of the report may be sent to nasscom

Usage of Information

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

Copyright © 2023

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 servicessector 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.



Founded in 2002, Zinnov is a global management and strategy consulting firm, with presence in New York, Santa Clara, Houston, Seattle, Bangalore, Gurgaon, Pune, Hyderabad, and Paris. Over the past 21 years, Zinnov has successfully consulted with over 250+ Fortune 500 enterprises to develop actionable insights to help them accelerate their technology journeys to create value – across dimensions of revenue, transformation, and optimization. With core expertise in Digital Engineering Talent, Digital Transformation, Innovation, and Outsourcing Advisory, Zinnov assists clients by:

- Enabling global companies to develop and optimize a global engineering talent footprint through center setups and accelerators in an as-a-service model, as well as optimizing their global portfolios, to achieve higher R&D efficiencies, innovation, and productivity;
- Advising global PE firms in asset shortlisting and target evaluation, commercial due diligence, and value creation;
- Growing revenue for companies' products and services in newer markets through account intelligence, market entry, and market expansion advisory;
- Helping global companies outline and drive their open innovation programs, design and operate accelerator programs, and enable collaboration with start-ups across specific use cases and predefined outcomes;
- Structuring and implementing Digital Transformation levers enabled by technologies like AI/ML, Intelligent Automation, Cloud, IOT, etc.

With their team of experienced consultants, subject matter experts, and research professionals, Zinnov serves clients from across multiple industry verticals including Enterprise Software, BFSI, Healthcare, Automotive, Retail, and Telecom in the US, Europe, Japan, and India. For more information, visit http://www.zinnov.com



