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Indian Tech Start-up Ecosystem

- Leading Tech in the 20s

EDITION 2019

NASSCOM®

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About the Authors

The National Association of Software and Services Companies (NASSCOM®) is the premier trade body and chamber of commerce of the Tech industry in India and comprises over 2800-member companies including both Indian and multinational organisations that have a presence in India. Our membership spans across the entire spectrum of the industry from start-ups to multinationals and from products to services, Global Service Centers to Engineering firms. Guided by India's vision to become a leading digital economy globally, NASSCOM focuses on accelerating the pace of transformation of the industry to emerge as the preferred enablers for global digital transformation. Our strategic imperatives are to reskill and upskill India's IT workforce to ensure that talent is future-ready in terms of new-age skills, strengthen the innovation quotient across industry verticals, create new market opportunities - both international and domestic, drive policy advocacy to advance innovation and ease of doing business, and build the Industry narrative with focus on Talent, Trust and Innovation. And, in everything we do, we will continue to champion the need for diversity and equal opportunity. NASSCOM has played a key role in not just the growth of the Industry to become a $180+Billion industry today, but we have helped establish the Tech industry in India as one of the most trusted partners, globally. NASSCOM continues to make significant efforts in contributing towards India's GDP, exports, employment, infrastructure development and global visibility. Our membership base constitutes over 95% of the industry revenues in India and employs over 4 million professionals, and as technology blends into every aspect of the economy, we expect the industry to become key driver of growth, development and inclusion for the country. Our mission is to make India a global hub for Innovation and Talent so when the world thinks Digital, the world will think India.

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 17 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.

Foreword

Debjani Ghosh
President, NASSCOM

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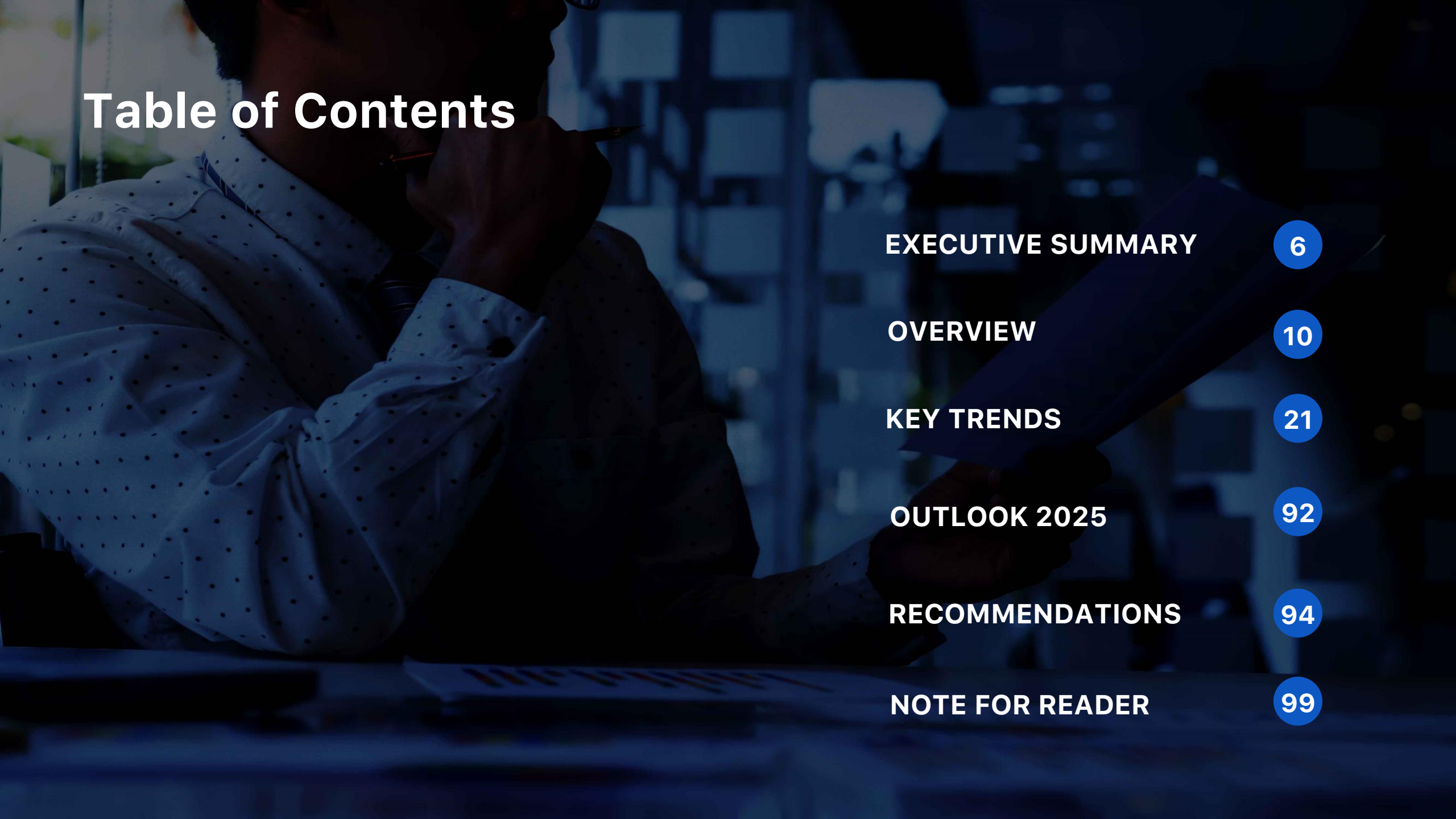
CEO, Zinnov

The year 2019 has been phenomenal for India and its vibrant start-up ecosystem. While the Indian start-up ecosystem continues to be the third largest in the world, it saw 7 new additions to its incessantly flourishing Unicorn club. There are multiple levers propelling this remarkable growth of the ecosystem that are bolstering the Indian start-ups as well as creating an environment conducive for continued innovation.

What stands out most starkly in this report is how various elements of the ecosystem are coming together in symphony to give rise to an orchestra of innovation – right from Government support (State and Central), evolution of the investor landscape, increase in participation from the corporates, growth of national digital infrastructure, to incredible global exposure. These factors are together fuelling the ecosystem, so much so that the cumulative valuation of the start-ups has now crossed a massive $55Bn.

Start-ups are exploring newer sectors, leveraging deep-tech and tapping unexplored talent pools. The increasing confidence of the entrepreneurs is also being enabled by various initiatives that the government, the corporates, and the investors are taking. This report is a testament to this rapidly advancing ecosystem, as it dives deep into the ten trends that are pushing the envelope. It also highlights some proactive measures that can help de-risk the growth and accelerate the ecosystem further.

We hope that the insights from this report prove useful to you, and we welcome your feedback and comments at research@nasscom.in



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Executive Summary

Snapshot of Indian start-up ecosystem

8900-9300	# of Start-ups[1] incepted during 2014-19, overall base growing at 12-15% y-o-y
1300+	# of Start-ups added[2] in 2019; steady and sustained growth in new Start-ups
7	# of Unicorns[3] added in 2019; total 24 unicorns are active in India
$ 4.4 Bn	Total funding received by Start-ups[1] in 2019 (Jan-Sep)
18%	Share of all start-ups leveraging deep-tech[4]; 40% CAGR since 2014
390+	Active institutional investors[5]; up from 310+ in 2018
335+	Active incubators and accelerators; up from 320+ in 2018
60,000	New Direct Jobs[6] created; 1.3-1.8 Lakh New Indirect Jobs[6] created

Note: (1) Please refer start-up definition. This report only covers start-ups founded in 2014-19 (2) No. includes start-ups already incepted and expected growth till Dec-2019 (3) Figure as on 31-Aug-19, unicorn is a start-up with >$1Bn valuation (4) Deep-tech includes AI/ML, AR/VR, IoT, Blockchain, Cryptology, Robotics, 3D Printing, Big Data & Analytics (5) Have invest at least once in 2019 (6) No. of estimated basis analysis of 1000 funded start-ups across funding stages.

10 key trends bolstering the Indian start-up ecosystem

Growth of new start-up hubs

- 27% of all start-ups are based in emerging and nascent start-up hubs
- 15% of all funded start-ups are based in emerging and nascent start-up hubs

Increasing depth and breadth in sectors

- Start-ups are active in 20+ sectors including likes of energy, agritech, automotive etc
- 57% of unicorns added in 2019 where from nascent and emerging sectors.

Diffusion of deep-tech

- 18% of all start-ups are now leveraging deep-tech; up from 8% in 2014
- Deep-tech club is growing at 40% CAGR since 2014

Building on India's unique digital infrastructure

- India Stack has significantly expanded the total addressable market in India
- Start-ups are leveraging stack to build innovative solutions and growing quickly

Serving the underserved

- 31% of start-ups are serving small and medium businesses; up from 25% in 2014
- 47% of start-ups are serving low and middle income group; up from 43% in 2014

Built in India. Branded Global

- 21% of Indian start-ups are focused on market overseas
- 14% increase in global start-ups building products from India

Strengthening pipeline of potential unicorns

- 50+ start-ups have > $50Mn in cumulative funding
- 3X growth in the number of start-ups in 2019

2nd Innings

- 55+ start-up founders (min. 3 investments) are actively investing in India
- 150+ start-ups founded by serial entrepreneurs

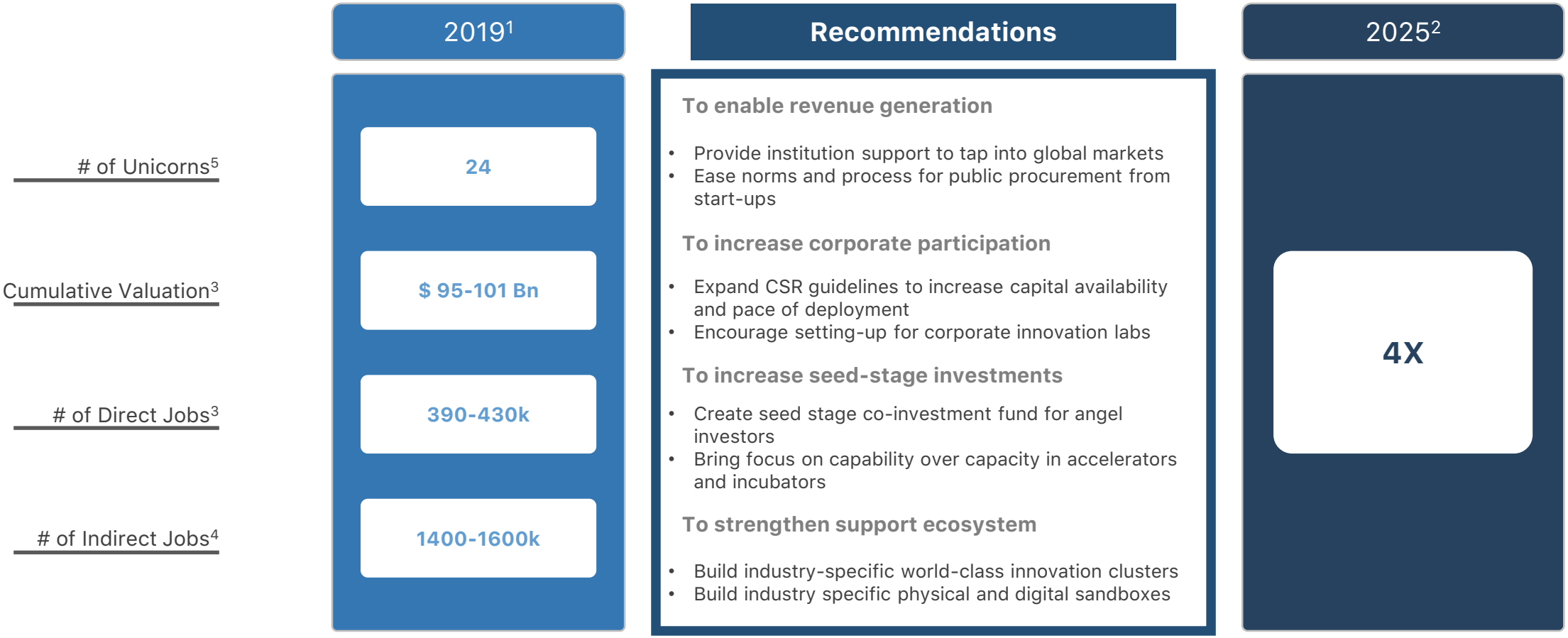
Evolving Investor Landscape

- 390+ active institutional investors; up from 310+ in 2018
- 1.5X increase in private equity investors from 2018

Intensifying corporate participation

- 140+ unique corporates active[1] in 2019; up 12-15% from 2018
- 50+ unique corporates have active open innovation program; up 12-15% from 2018

With proactive action Indian start-up ecosystem can realize its 4X growth potential by 2025



Note: (1) Analysis of companies founded between 2009-19. Estimated numbers as on Dec 2014. Includes Flipkart in Unicorns. (2) Analysis of companies founded between 2009-25 (3) Calculated based on analysis of all funded and 500 unfunded start-ups. Valuation Est. is based on data model (4) Calculated based on DPIIT model with adjustment for outliers witnessing strong growth (5) For Unicorns, start-ups founded in or after 2000 are considered.

The Indian start-up ecosystem continues to expand

Indian start-up ecosystem continues to be the 3rd largest in the world

	China[2]	USA[2]	India	U. K[1]	Germany[1]	Israel[2]
Number of Unicorns[3]	206	203	24	21	11	7
Avg. Time to Unicorn (Years)	4 - 6	6 - 8	6 - 8	7 - 9	6 - 8	5 - 7
Avg. Valuation per Unicorn ($ Bn)	~3.8	~3.5	~3.2	~2.4	~2.0	~1.3
Innovation Clusters with min. 1 Unicorn[4]	18	24	5	4	4	4

Notes (1) CBInsights – the complete list of unicorns (2) Hurun Global Unicorn List 2019 (3) Data as on Oct 2019 (4) Cities have been bundled into clusters. For example, Silicon Valley includes Palo Alto, Menlo Park, San Jose, Mountain View, Santa Clara, Cupertino, Campbell, Los Altos, Los Gatos, Milpitas, San Mateo, Saratoga, Sunnyvale. Similarly, Delhi-NCR includes Delhi, Noida and Gurgaon.

2019 was another remarkable year for the growth of Unicorns in India

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Overall		In 2019
24	Unicorns	07
44%	% share of B2B	71%
07	Cities	05
44%	% of start-ups with overseas market	28%

Unicorns added in 2019

icertis

Location: Pune
Total Funding: $330 Mn
Cloud-based contract management platform

OLA ELECTRIC

Location: Bangalore
Total Funding: $306 Mn
Developer electric mobility services & charging infrastructure

DELHIVERY Small World

Location: Delhi
Total Funding: $781 Mn
Logistics services for Indian e-commerce companies

RIVIGO

Location: Gurgaon
Total Funding: $238 Mn
Tech-enabled logistics with a truck fleet of its own

druva

Location: Pune
Total Funding: $211 Mn
Backup & data loss prevention solution for enterprises

DREAM11

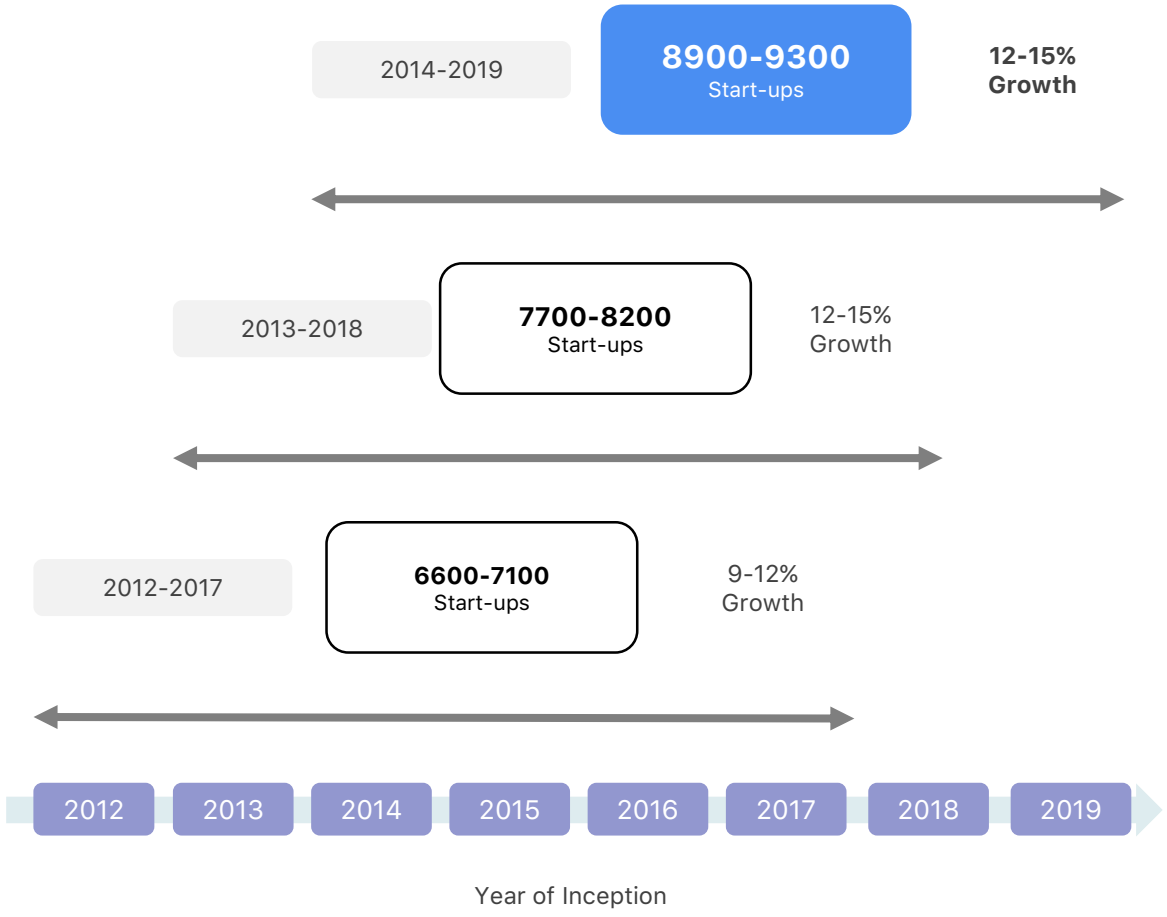
Location: Mumbai
Total Funding: $100 Mn
Online platform for playing real time fantasy cricket and football

bigbasket

Location: Bangalore
Total Funding: $885 Mn
Online retailer of grocery products

Source: Zinnov CoNXT Research and Analysis

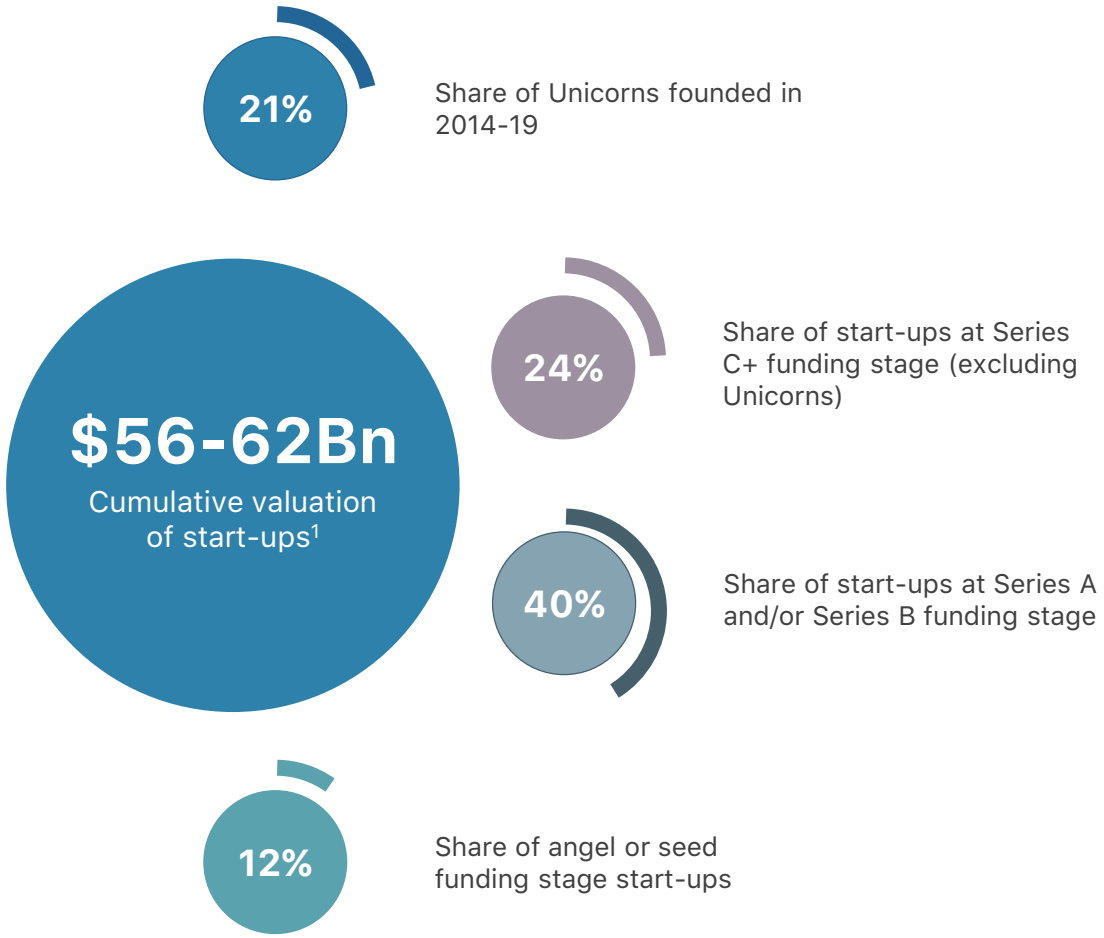
Overall, the Indian start-up ecosystem is growing steadily



- **1300+** Number of start-ups added in 2019[1]
- **43%** Share of B2B start-ups
- **20+** Number of industrial verticals with active start-ups
- **21%** Share of start-ups with primary market overseas
- **2000+** Number of funded start-ups founded between 2014-19
- **5** Number of Unicorns founded in 2014 or later

Note: (1) Addition in 2019 is estimated basis historical data and number of start-ups founded between Jan to Aug 2019

Cumulative valuation of the start-ups has now crossed $55Bn



Illustrative Start-ups

udaan · SWIGGY · RIVIGO · OLA ELECTRIC · Paytm mall

BLACKBUCK · cure.fit · meesho · ShareChat · UrbanClap

CRED · OkCredit (Simple | Solid | Paperless) · WICKEDRIDE · VOGO · digit

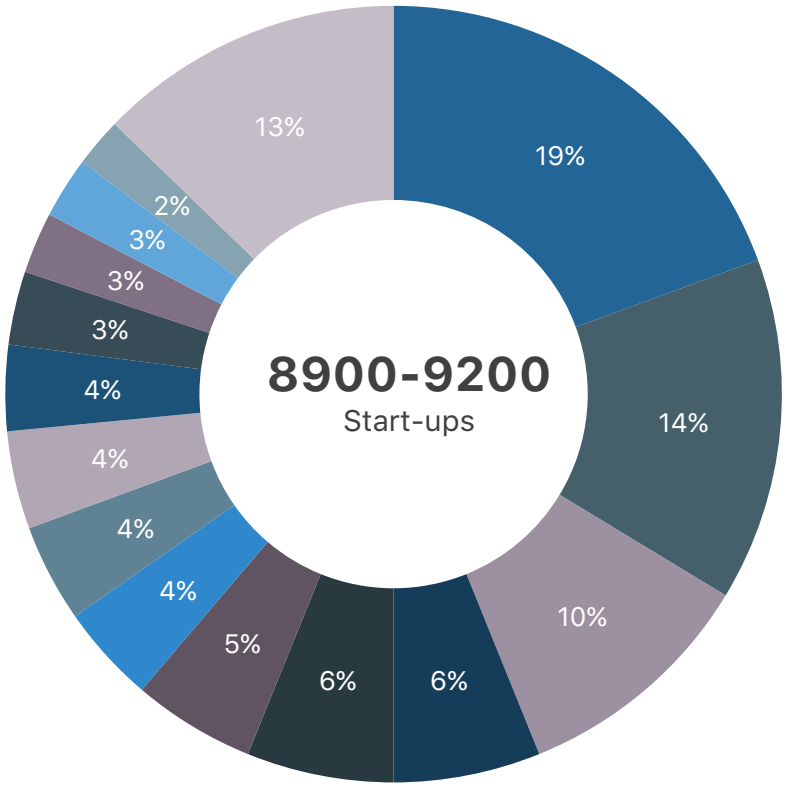
DRIVEU · HealthCube (OWN YOUR HEALTH) · INDwealth · ONN (FOR YOUR NEXT RIDE) · FLEXI LOANS · avenue11

Note: (1) Analysis of start-ups founded between 2014-19, Exits and acquired start-ups not included

Illustrative / Not Exhaustive

Entrepreneurs are leveraging opportunities across sectors and markets

sector-wise split of start-ups



- Enterprise
- Healthtech
- FinTech
- HRTech
- Edtech
- Retail & Retail Tech
- Travel and Hospitality
- SCM & Logistics
- Real Estate and Construction
- Automotive
- Industrial & Manufacturing
- Food & Foodtech
- Mobility
- AgriTech
- Others

High Growth (CAGR >50%, since 2014)

- EdTech
- Fintech
- Mobility
- Automotive
- Healthtech

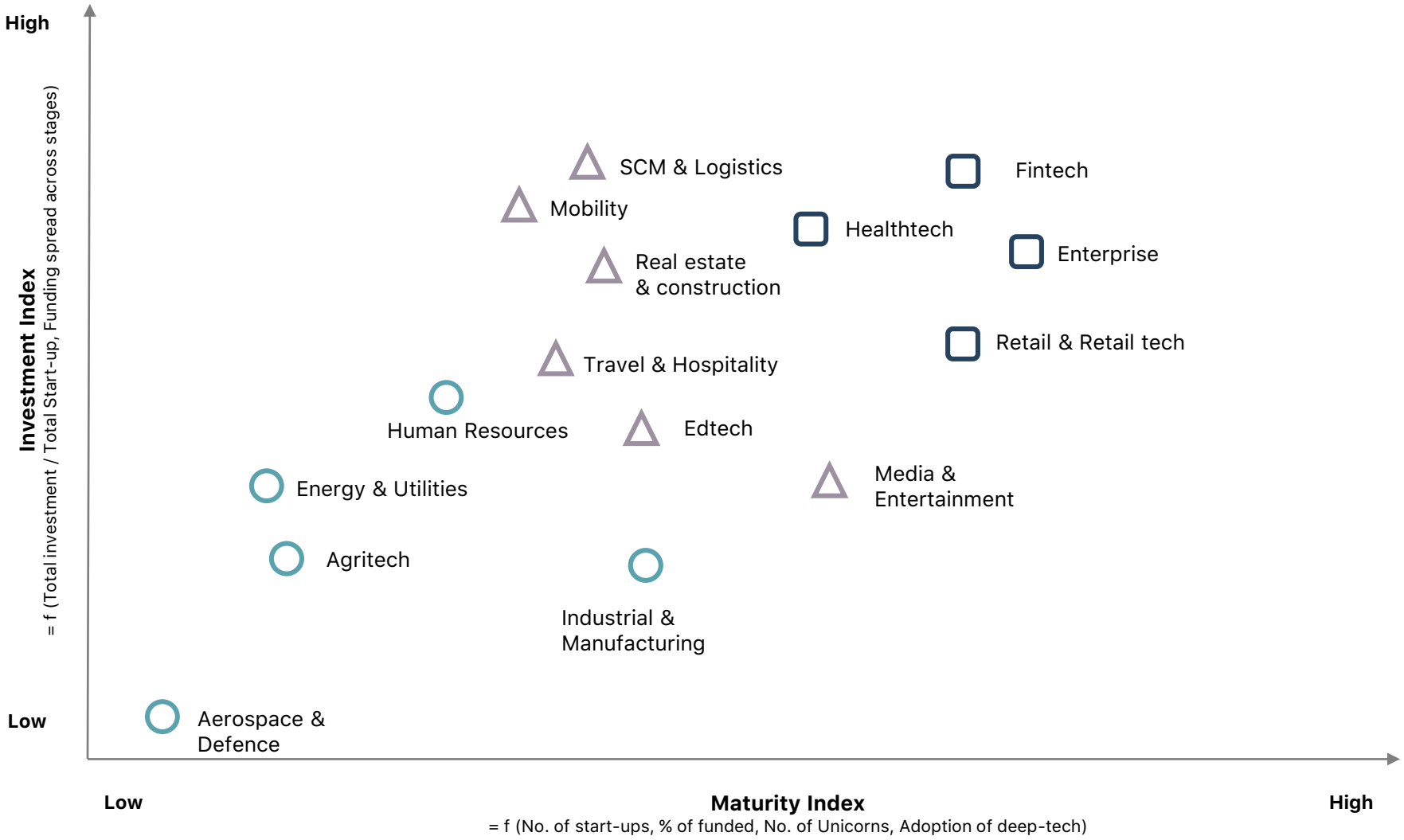
Medium Growth (CAGR >35%, since 2014)

- Human Resources
- SCM & Logistics
- Real Estate & Construction
- Food & Foodtech
- Retail & Retail tech
- Enterprise
- Industrial & Manufacturing
- Travel & Hospitality

Note: Only sectors with 200+ active stat-ups have been considered

Note: Others Include Media and Entertainment, Advertising and Marketing, Energy and Utilities, Gaming, Legal tech, Aerospace and Defense etc. Analysis of start-ups founded between 2014-19; Please refer appendix for sector definitions.

Fintech, enterprise, and retail tech are the most mature sectors with strong metrics across dimensions



Mature Sectors

Sectors with a large unfunded and funded start-up base with high adoption of deep-tech and investor activity.

Emerging Sectors

Sectors with a medium unfunded and funded start-up base with relatively low-to-high adoption of deep-tech and medium-to-high investor activity.

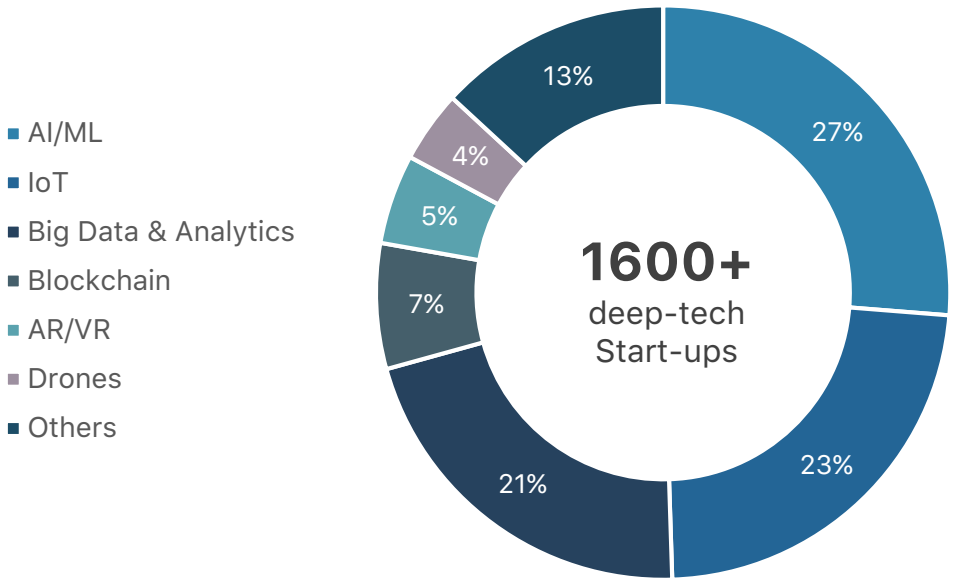
Nascent Sectors

Sectors with a small start-up base with and hence relatively lower investor activity.

Note: Model measures and plots maturity of a sector relative to all other sectors in terms of start-up and investor activity. Please refer appendix for definitions.

18% of all start-ups are now leveraging deep-tech

% share of start-ups by technology



Note: total will not be equal to 100

	5 year CAGR (Number of Start-ups)	Key Application Areas
Artificial Intelligence	65 – 67%	Enterprise, FinTech, HealthTech
Internet of Things	45 – 46%	Industrial, Real Estate, HealthTech
Big Data & Analytics	38 – 40%	Enterprise, FinTech, Retail & Retail Tech
Blockchain	88 – 90%	FinTech, Enterprise, Agritech
AR/VR	55 – 60%	EdTech, Retail & Retail Tech, Real Estate

- Deep-tech start-up pool has grown at 40% CAGR since 2014
- Pool has expanded from 16% of the total start-up base in 2018; and is up from 8% in the year 2014
- Blockchain, 3D printing, robotics, and drone start-ups continue to expand rapidly- albeit on a smaller base

Others include Robotics, 3D Printing, Virtualization, Cybersecurity etc.

Indian start-ups had an active 2019 with increase in overseas and domestic acquisitions

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Global Acquisitions by Indian companies

OYO ROOMS + Danamica + Qianyu Islands + @LEISURE VACATION RENTALS

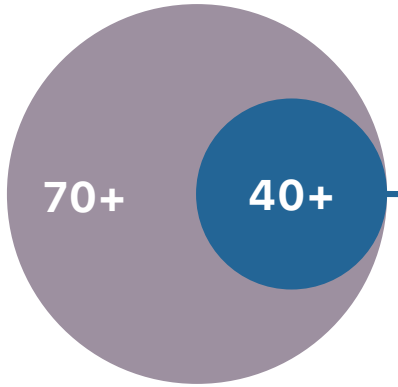
druva + CloudLanes

BYJU'S The Learning App + Osmo

HEXAWARE + mobiquity

freshworks + natero DATA IN. SUCCESS OUT.

M&A Deals in 2019 (Jan-Aug)



Start-ups that were founded between 2009-19

Start-ups that were founded between 2014-19

Acquirer Category

50%	Indian or Global Start-up
25%	Global Corporate
24%	Indian Corporate
1%	Private Equity

Reason for Acquisition

41%	Building Tech Capabilities

Expand capabilities across organization

23%	Product Portfolio Expansion

Strengthening of their position and expansion of product portfolio

18%	Market Expansion

Expansion into new markets, enhancing business model etc.

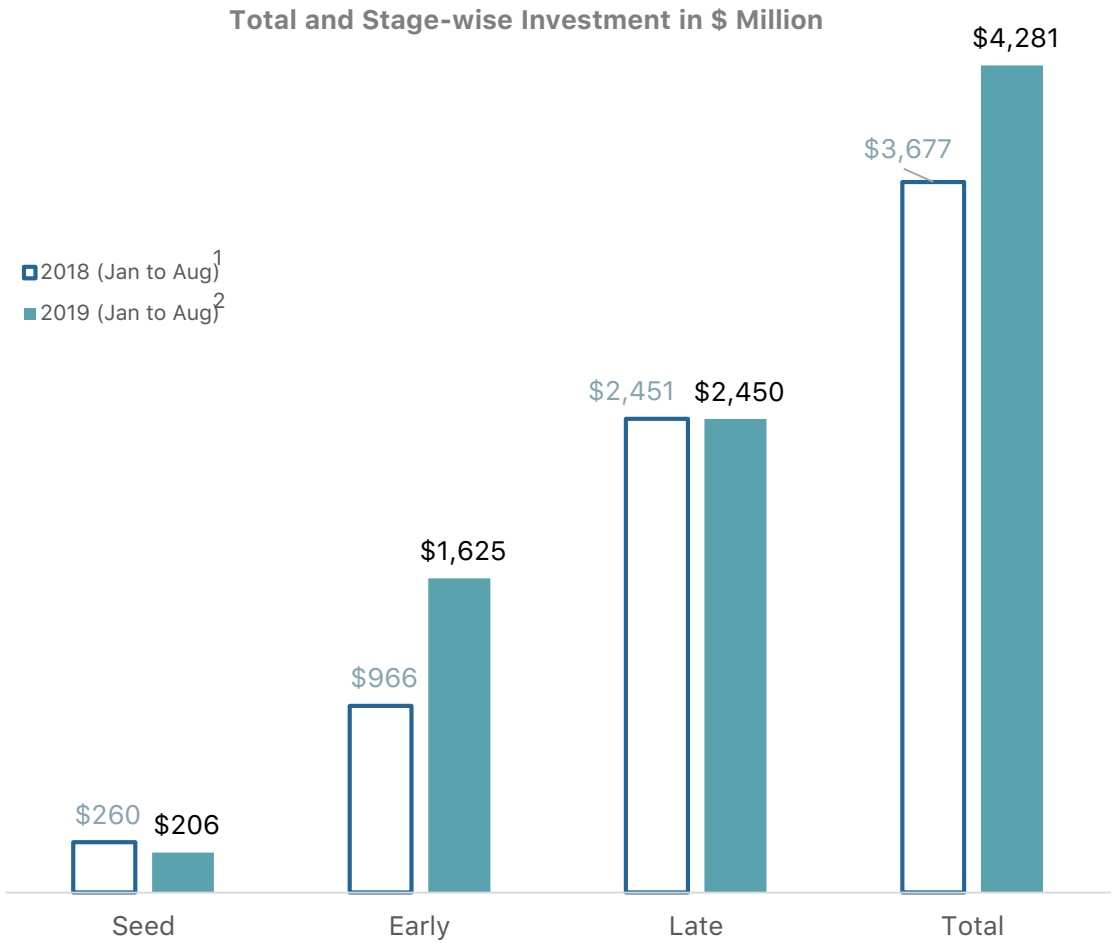
17%	Acqui-hire

Buying out a company primarily for the skills and expertise of its staff

Source: Crunchbase, Zinnov CoNXT Research and Analysis

Illustrative / Not Exhaustive

Investment environment for start-ups continues to be positive overall



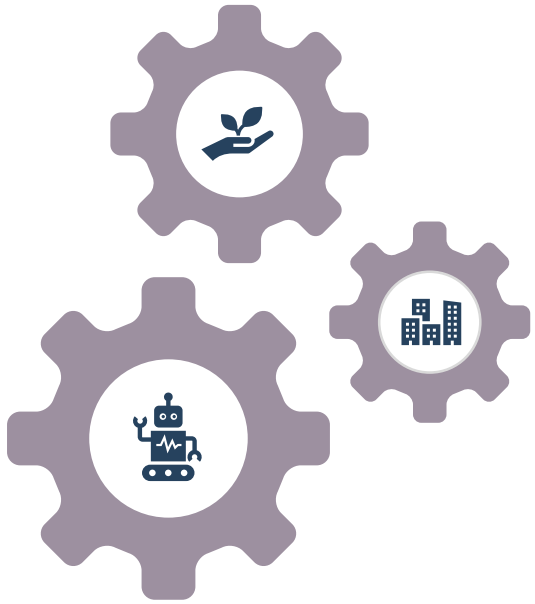
- Total investment in start-up ecosystem has increased by 16% year-on-year in 2019 (Jan to Aug)
- Distribution of funding was better compared to 2018 (Jan to Aug) with early stage start-ups increasing their share
- Only, seed stage investments have seen a drop in terms of share and absolute terms
- In 2019 share of unicorns[1,2], in total funding, was only 21% against 48% in the previous year – reflecting the Indian ecosystem's depth

Note: (1) Funding Analysis is done for start-ups founded between 2013-18; (2) Funding Analysis is done for start-ups founded between 2014-19

10 key trends are enabling the ecosystem’s growth

Key trends enabling the Indian start-up ecosystem's growth

1. Growth of new start-up hubs
2. Increasing depth and breadth of sectors
3. Diffusion of deep-tech
4. Building on India's unique digital infrastructure
5. Serving the underserved
6. Built in India. Branded Global
7. Strengthening pipeline of potential unicorns
8. 2nd Innings
9. Evolving investor landscape
10. Intensifying corporate participation



Growth of new start-up hubs

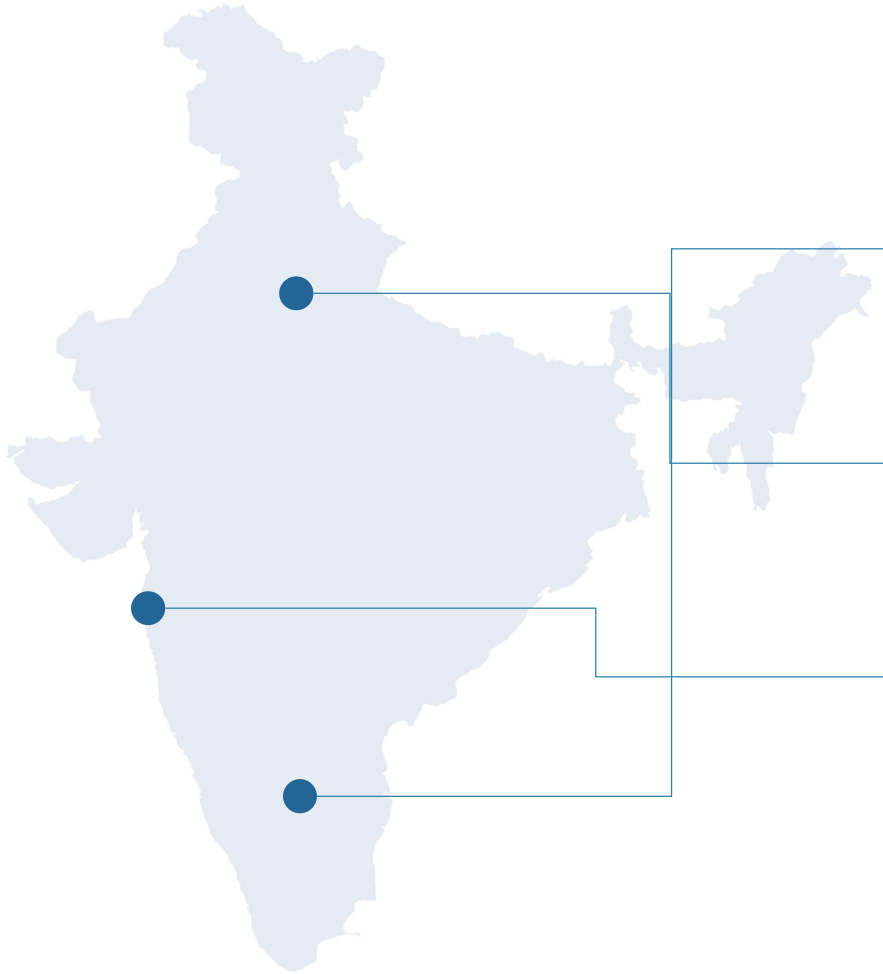
01

While most of the reports consistently focus on established start-up hubs – we have witnessed a marked increase in start-up activities across India’s emerging and nascent start-up hubs.

There is a steady rise in total number of start-ups and total funding received across these hubs. These cities boast of well-funded companies like LendingKart, CarDekho, CareStack and SurveySparrow.

With strengthening policy support, expansion of institution support, creation of local communities, and sustainable cost advantages - we can expect more success stories, including unicorns, from across the country.

Bangalore, Delhi-NCR, and Mumbai are home to 55-58% start-ups



Share of start-ups by location		Illustrative Examples
23-24%	Bangalore	fisdom, unacademy, SIGTUPLE, rentomojo, Money View™
20-21%	Delhi-NCR	1mg, indifi, CARS24, XPRESSBEES delivering happiness, Shuttl
12-13%	Mumbai	PharmEasy, ACKO, flock, MIKO, kissht
42-45%	Others	EarlySalary.com, ElasticRun, Vue.ai, darwinbox

Note: Emerging start-up hubs are start-up hubs with more than 20 funded start-ups, Nascent start-up hubs are start-up hubs with less than 20 funded start-ups

However, ecosystem expansion is driven by rapid growth of other start-up hubs

Established Start-up Hubs[2]

51% CAGR in Number of start-ups since 2014

Hyderabad, Pune, Chennai

Emerging Start-up Hubs

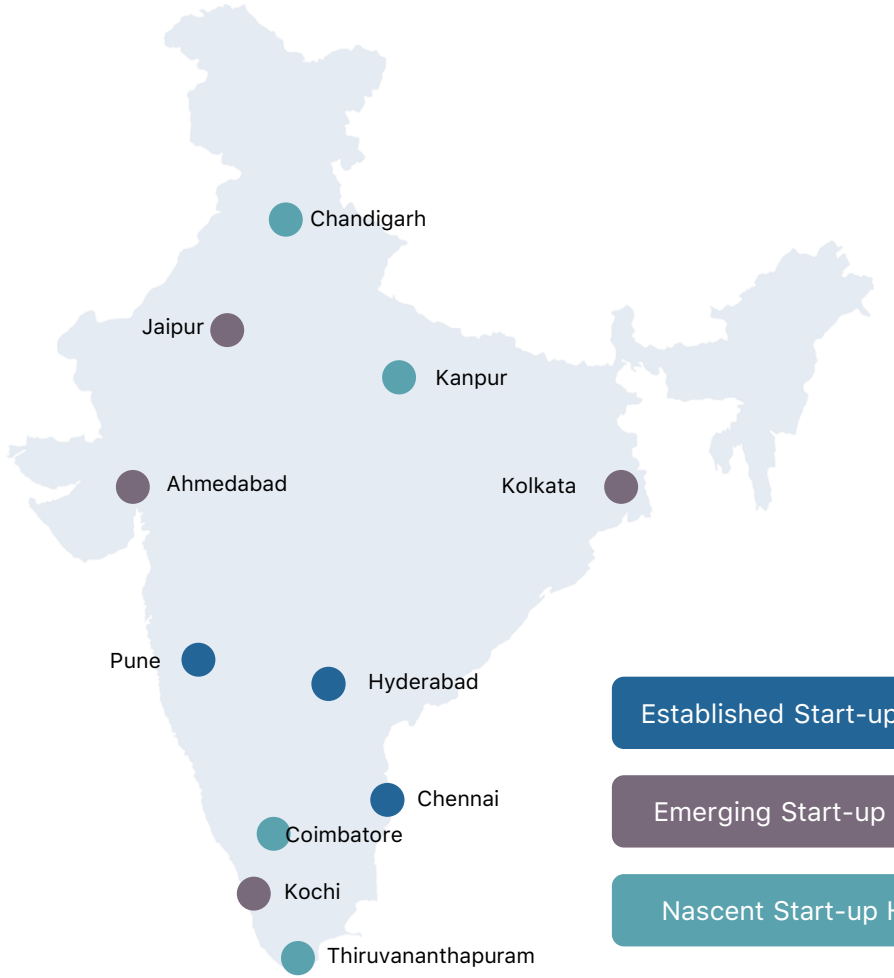
55% CAGR in Number of start-ups since 2014

Ahmedabad, Jaipur, Kolkata, Kochi

Nascent Start-up Hubs

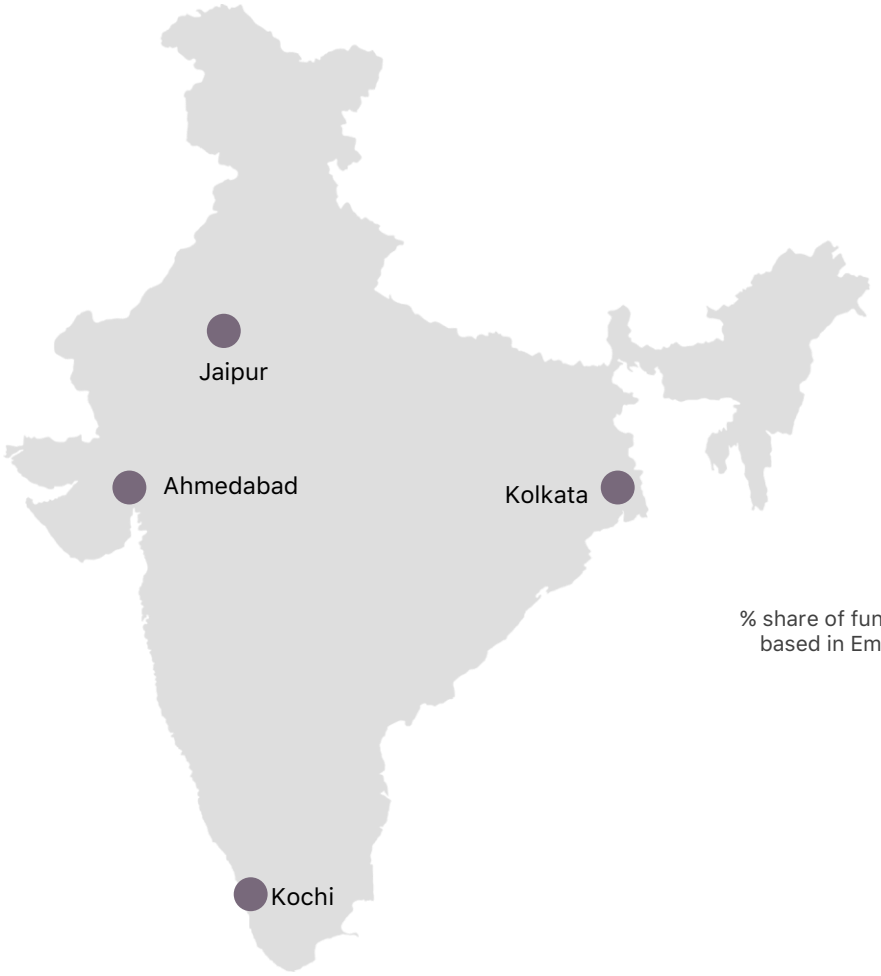
45% CAGR in Number of start-ups since 2014

Thiruvananthapuram, Kanpur, Chandigarh, Coimbatore



Note: Emerging start-up hubs are start-up hubs with more than 20 funded start-ups, Nascent start-up hubs are start-up hubs with less than 20 funded start-ups (2) Bangalore, Delhi-NCR and Mumbai are also established start-up hubs.

Emerging start-up hubs are growing steadily



% share of funded start-ups based in Emerging hubs

Funded Start-ups

AXIO, Nebulaa, SastaSundar app (health & happiness), MapGenome, INVIXIUM ACCESS, CarDekho (RIGHT CAR, RIGHT NOW), mihup, SRISHTI ROBOTICS, LENDINGKART, Tax2win, HB healthyBillions, survey sparrow

Ahmedabad	Jaipur	Kolkata	Kochi
43%	25%	17%	15%

- 150+ funded start-ups in emerging start-up hubs
- While a majority start-ups are in seed and early stage we have outliers like LendingKart and CarDekho, which can be considered as potential unicorns

Note: Emerging start-up hubs are start-up hubs with more than 20 funded start-ups

Illustrative / Not Exhaustive

Early indicators from nascent start-up hubs are positive

% share of funded start-ups based in Nascent hubs

Funded Start-ups

Thiruvananthapuram	Chandigarh	Kanpur	Coimbatore
33%	23%	23%	21%

- 40+ Funded start-ups in Nascent Start-up hubs
- Founders are leveraging cost arbitrage and support from academic and/or Govt. initiatives to build solutions both for domestic and overseas market
- A key driver is access to talent from technical institutions in the region

Note: Nascent start-up hubs are start-up hubs with less than 20 funded start-ups

Illustrative / Not Exhaustive

Proactive actions from local communities, academia and state government are driving growth of new start-up hubs

Kerala

Ecosystem Enablers:

- India's first space tech park to be set-up in Thiruvananthapuram
- BRINC – Country's first international accelerator for hardware start-ups, Kochi
- Maker Village - India's largest hardware incubator & ESDM facility, Kochi
- Fab lab – Fabrication Laboratory, Thiruvananthapuram

Ahmedabad

Ecosystem Enablers:

- Centre for Innovation Incubation and Entrepreneurship (CIIE) - Start-up Incubator
- iCreate Entrepreneurial Litmus Test (iELT) – Start-up Accelerator
- Centre for Advancing and Launching Enterprise – Technology Business Incubator
- Venture Studio – Start-up incubator set-up by Ahmedabad University in collaboration with Stanford University

Jaipur

Ecosystem Enablers:

- Amity Innovation Incubator - Jaipur's academic not-for-profit incubator
- Bhamashah Technohub – India's largest business incubator
- Assocham Launchpad - Elevator Pitch Series
- Start-up Oasis – Jaipur based Incubation Centre

Chandigarh

Ecosystem Enablers:

- TIE Chandigarh – Supports start-ups through mentoring, networking, funding and incubation
- BIGShift Chandigarh – Platform for start-up showcase
- Chitkara Innovation Incubator – Academic Start-up Incubation centre
- Chandigarh Angels Network – Angel Network providing mentorship and funding

Sources: KSUM, startupgujarat.in, istart.rajasthan.gov.in, chandigarh.tie.org, saccindia.org, TOI articles, yourstory articles

Illustrative / Not Exhaustive

Strong policy support, expanding talent base, and proximity to untapped markets are some of the key drivers

Strong policy support

Since 2014, there has been a remarkable increase in the quality and the extent of support provided by the State Government. State specific start-up policies have enabled expansion of infrastructure, coworking spaces, incubators, and accelerators – and in certain cases access to funding and market access.

Expanding talent base with better exposure

India's talent base is expanding beyond large cities as fresh graduates are choosing to stay back in non-metropolitan cities. These individuals have an almost similar exposure to technologies via the Internet. This enables the founders to recruit quality talent at a relatively lesser cost – allowing better runway and also a base for growth.

Proximity to markets

Start-ups have almost similar access to global markets like their peers in established hubs. Additionally, their proximity to digital populous outside large cities allows them to understand and solve for relatively untapped it's use-cases. For example, Agritech start-ups in smaller cities have a distinct advantage in understanding pain points of the relevant masses.

Source: startupindia.gov.in, doingbusiness.org,

Increasing depth and breadth in sectors

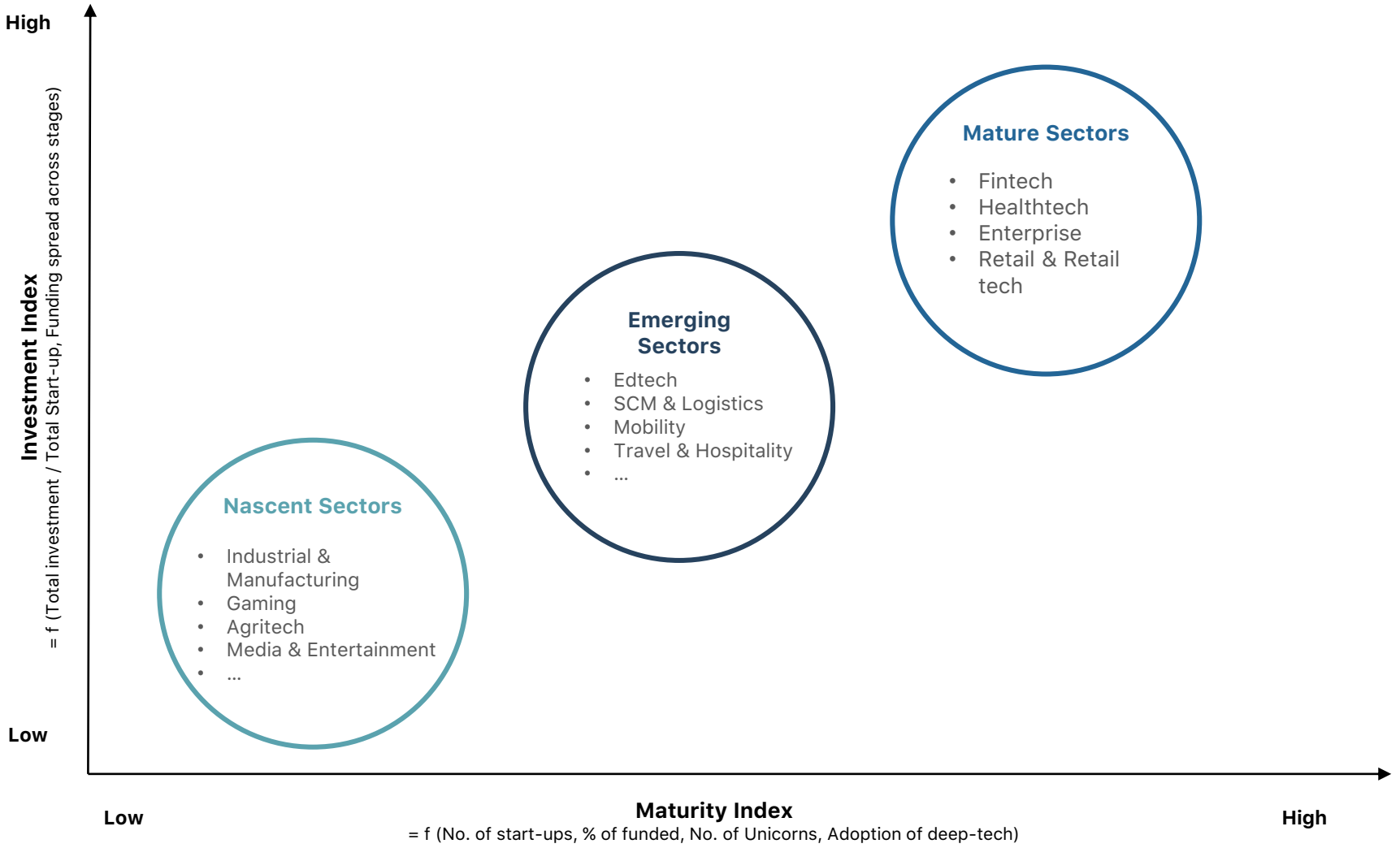
02

Diversity in industry sectors and use-cases is reflective of an ecosystem's strength. We continue to witness an expansion in industries targeted by Indian start-ups and also a marked improvement in the quality of use-cases being solved for.

There is increased activity in Edtech, Retail & Retail tech, HR, and Healthtech technology start-ups while significant improvement in sectors like Agritech, aerospace, defence and space.

With active institutional participation, expanding community base, and constant policy support we can expect this trend to continually strengthen the Indian start-up ecosystem.

The Indian ecosystem has a healthy mix of sectors at varying maturity levels



Mature Sectors

Fintech

Key Drivers: Financial Inclusion, Lending, Wealth Management, Banking and Insurance Tech

Healthtech

Key Drivers: Addressing awareness, affordability and accessibility

Enterprise

Key Drivers: Horizontal and vertical solutions for large, medium and small business – locally and globally

Retail & Retail tech

Key Drivers: New business models, improving connectivity, ubiquity of UPI - continue to propel the sector

Note: This is an oversimplified illustration of the Maturity vs Investment Index

Illustrative / Not Exhaustive

In mature sectors like fintech and enterprise, start-ups are focusing on newer use-cases

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Enterprise

Number of Active Start-ups: 1600+

Number of Funded Start-ups: 250+

Network Security	Business Intelligence	Data Access Management
IT Infrastructure Management		Automated Subscription Billing
Cloud Optimization	Voice Bots	Encrypted Data Transmission / Storage
DevOps		Business Process Automation

Popular Use-cases

Emerging Use-cases

Illustrative Start-ups

- Cloud hosting & Data Center solutions
- Cognitive RPA software for enterprises (ZAPPY.AI)
- Enterprise data operations and orchestration software. (Infoworks)
- Solution for facility management (facilio)

Fintech

Number of Active Start-ups: 830+

Number of Funded Start-ups: 230+

Reward Based Payment	Cross Border Payments	Alternative Lending
Insurance Comparison		Cross Platform Payment Gateway
Credit Score Management	Internet first banks	Invoice Reconcillation
Fraud prevention		AI-based wealth Management

Popular Use-cases

Emerging Use-cases

Illustrative Start-ups

- Integrable payment gateway solutions for organizations (Razorpay)
- Digital ledger account book for small businesses (KhataBook)
- Online platform that provides working capital for SMBs in India (LENDINGKART)
- QR code-based payment app (BharatPe)

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

In Healthtech and retail tech as well, variety of use-cases are increasing

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Healthtech

Number of Active Start-ups: 1050+

Number of Funded Start-ups: 220+

Popular Use-cases

- Online Pharmacy
- Telemedicine
- Tech-driven medical diagnosis
- In-Home Healthtech
- Discovery and booking

Emerging Use-cases

- Smart Tools for E-Prescription
- Low cost devices
- AI-enabled diagnostics
- Continuous Care
- Assistive surgery

Illustrative Start-ups

- PharmEasy (Take it easy): hyperlocal platform for medicine ordering and diagnostic tests
- qure.ai: AI-based decision support tool for diagnostic images
- SIGTUPLE: Enterprise data operations and orchestration software.
- MEDTRAIL: Smart clinics for post-consultation care to the patients

Retail & Retail tech

Number of Active Start-ups: 440+

Number of Funded Start-ups: 170+

Popular Use-cases

- B2C Marketplaces
- B2B Marketplaces
- Social Commerce
- Coupons & Rewards
- Discounting Tools

Emerging Use-cases

- Cashless checkout
- JIT Inventory
- Fresh produce monitoring
- Experiential Commerce
- Fraud detection

Illustrative Start-ups

- meesho: Social product discovery and commerce platform
- Vue.ai: AI-based visual search and recommendation solution for fashion
- SHOPX: Online assisted purchase platform catering to rural customers
- Bulbul: Online live streaming e-commerce platform for multi-category products

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

Strong investor-interest is supporting the growth of emerging sectors

	Number of Funded Start-ups	Growth (since 2014)	Popular Use-cases	Illustrative Start-ups
SCM & Logistics	70+	MEDIUM	Warehouse Management; Equipment and Goods Tracking; Hyperlocal Delivery; Equipment and Goods Tracking; Route Optimisation; Demand Forecasting	shadowfax – On-demand B2B focused delivery service LOCUS – Logistics management software for SCM Optimisation
Edtech	120+	HIGH	Test Preparation; Tutor Discovery; Doubt Clearance; Tech-enabled classroom; Digital and vernacular content; Gamification and tracking	unacademy – Online learning platform with live course content and videos shifu – AR based learning for children
Mobility	30+	HIGH	Battery Tech; Fleet Management; Safety and Security; Vehicle – as–a-service; ADAS; V2X Connectivity	rapido – Affordable intra-city commute with Bike-taxis Shuttl – App-based ride pooling platform for office commute

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

We are also witnessing the emergence of start-ups in nascent sectors

	Number of Funded Start-ups	CAGR (since 2014)	Popular Use-cases	Illustrative Start-ups
Agritech	20+	MEDIUM	Precision Agritech; Land surveillance; Farm Implements; Poultry and Cattle Management; Soil and crop monitoring; Cold chain and supply chain management	AGNEXT: Farm data analytics using satellites, drones and sensors eXabit Systems: IoT based precision farming platform
Gaming	30+	MEDIUM	Fantasy League; Development Platform; Customer Analytics; Game monetisation; AR/VR	MPL MOBILE PREMIER LEAGUE: eSports online Gaming platform with real cash prizes ABILITY GAMES: Game development platform for casino-based games
Industrial & Manufacturing	45+	MEDIUM	Predictive Maintenance; Quality Control; Process Optimisation; Connected Factory; Plant Safety & Security	neewee: Digital twin solution for manufacturing processes CynLr: Robotic vision intelligence solution for industrial robots
Media & Entertainment	80+	MEDIUM	Content moderation & translation; Content Tagging; Contextual Advertising; OTT; Customer Analytics; Immersive Tech	MARSVIEW: Media content extraction engine powered by AI Prudle Labs: Machine-enabled content translation platform

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

We anticipate emerging and growing sectors to steadily mature, and a continued diversification in sectors

Improving institutional support

Access to large datasets and improved lab facilities with sector specific capabilities allows entrepreneurs to reduce time-to-market. A good example would be innovation facilities being set-up by **ISRO** across the country.

Increasing corporate participation

Revenue opportunities through increasing corporate collaboration programs improves odds of success and attracts more entrepreneurs to the sector. For example, there is an increase in participation in aerospace and automotive.

Sector specific policies and initiatives

Policy focus, e.g. electric vehicles, and Government's commitment to increase procurement from MSME, e.g. smart governance and defence sector, is steadily opening opportunities/markets for start-ups.

High global exposure

With average founder age at 32 years – experienced founders are entering the ecosystem consistently. Exposure from prior work experience with domain expertise allows them to focus on deeper problems.

Diffusion of deep-tech

With 18% of base being deep-tech start-ups, applications have permeated across all industrial sectors. Further, convergence of technologies is enabling start-ups to solve for more use-cases.

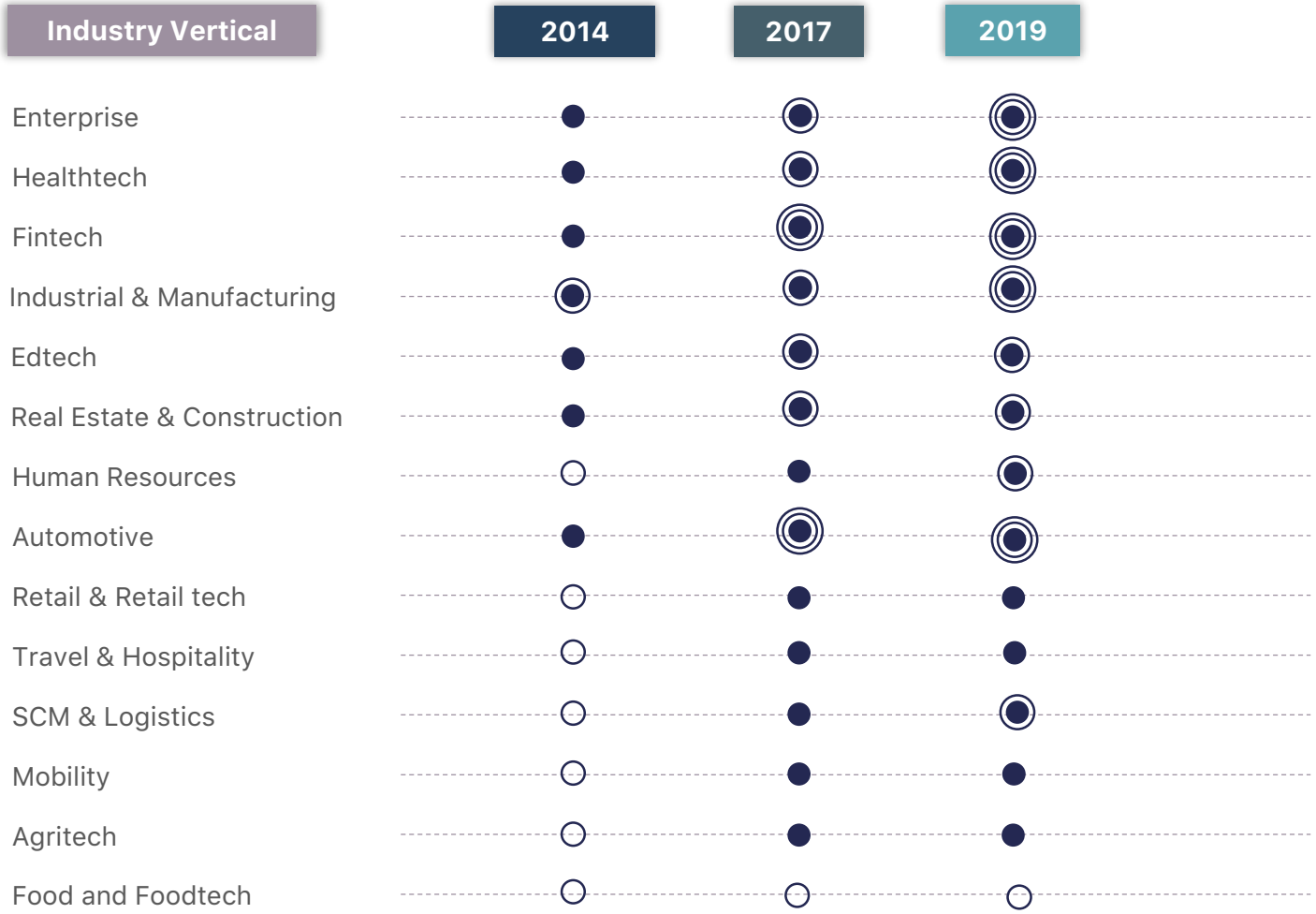
With increasing global competition, adoption of deep-tech is essential in many industries. The increasing adoption is also reflective of the improving technology skills in the Indian start-up ecosystem..

With increasing focus and support from policymakers, the expanding base of talent with niche skills, and improving exposure to application and technologies – we expect this diffusion of deep-tech to enable a globally recognized innovation ecosystem in India..

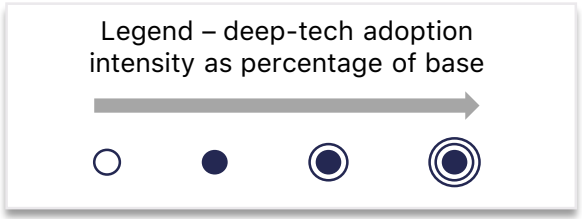
03

Deep-tech adoption is pervasive across sectors

Shift in deep-tech[1] adoption across sectors, by year



- Start-ups in Enterprise, Healthcare, Fintech, Industrial and Manufacturing sectors have been the quickest to adopt deep-tech.
- Sectors like Edtech, SCM & Logistics, AgriTech have seen a shift in deep-tech adoption to solve problems for the masses.



Note: (1) Deep-tech includes AI/ML, AR/VR, IoT, Blockchain, Cryptology, Robotics, 3D Printing, Big Data & Analytics

AI/ML is being deployed heavily in enterprise, fintech, and Healthtech

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	Enterprise	Fintech	Healthtech	Retail & Retail tech	Agritech
% of Start-ups leveraging AI	29%	9.3%	8.2%	6.8%	2.7%
Use-Cases	RPA AI PaaS Risk & Threat Detection Personalization SCM Recommendation Engines Predictive Analytics	Robo Advisors Credit Scoring Portfolio Management Fraud Detection Risk Management	Consultations Surgical Robots Diagnosis Hospital Management Assistive Surgery	SCM In-Store Experience Product Creation Personalization Quality Inspection	Monitoring Soil and Crops Agro Bots Supply Chain Automated Irrigation Weather Tracking
% Share of Funding under AI	20%	21%	30%	11%	2%

Illustrative Start-ups

Agara Labs
YOI-2017
Total Funding-$2.5M
Description- Customer interaction analytics solution for businesses.

fyle
YOI-2016
Total Funding-$10.6M
Description-Expense management software

Niramai
YOI-2016
Total Funding-$14M
Description- Early stage breast cancer screening device

Bewgle
YOI-2017
Total Funding-$120K
Description-AI-based customer review analytics

Fasal
YOI-2018
Total Funding-$120K
Description- AI+IoT platform for precision Agritech

ParallelDots
YOI-2014
Total Funding-$2M
Description-Powerful DIY tools and customized solutions for organization

moneytor
YOI-2017
Total Funding-$474K
Description- Debt collection automation system

praktice.ai
YOI-2016
Total Funding-$120K
Description-Virtual assistant for patient engagement & task automation in hospitals

BULYST
YOI-2016
Total Funding-$620K
Description-Personal stylist tool for online retailers

INTELLO LABS
YOI-2016
Total Funding-$2.6M
Description-AI for Digitizing Food Quality

Note: Analysis of start-ups founded between 2014-19, (1) Only funding 2019 (Jan-Aug) has been considered

Illustrative / Not Exhaustive

Start-ups are leveraging IoT to solve use case primarily in manufacturing, healthtech, and real estate

	Industrial and Manufacturing	Real Estate	Healthtech	Enterprise
% Share of start-ups under IoT	24%	19%	11%	9%
Use-Cases	Asset Tracking/Monitoring Predictive Maintenance Process Optimization Shop Floor & WIP Intelligence Process Optimization	Smart Devices for Individual Homes Smart Waste/Water Management Sensor Enabled Infrastructure Management Predictive Traffic Flow	Fitness/Health Tracker Device Remote Health Monitoring Enhance Drug Management Hospital Inventory Management Outpatient Services	Cloud Analytics End to End/M2M Platform Device Management IoT Infra for Edge/Fog Computing
% Share of funding[1] under IoT	12%	8%	32%	12%
Illustrative Start-ups	**YOI**-2015 **Total Funding**-$6.1M **Description**-Big data and predictive analytics platform for manufacturing **YOI**-2015 **Total Funding-**$3.6M **Description**-Ready-to-deploy, intelligent, wireless sensors	**YOI**-2015 **Total Funding-**$10M **Description**- Provides Smart urban infrastructure automation **YOI**-2014 **Total Funding**-$908K **Description**-IoT based solution for home automation	**YOI**-2015 **Total Funding**-$6.1M **Description**-Smart Tools for prescriptions and physician order entry **YOI**-2014 **Total Funding**-$252K **Description**-Wearable patch for real time monitoring body vitals	**YOI**-2018 **Total Funding**-$34.6K **Description**- Builds controllers to manage & control edge and fog computing **YOI**-2015 **Total Funding**-$805K **Description-** IoT solutions and services for smart cities and other industrial clients

Note: Analysis of start-ups founded between 2014-19, (1) Only funding 2019 (Jan-Aug) has been considered

Illustrative / Not Exhaustive

There has been a significant increase in the number of blockchain start-ups

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110+	Number of Blockchain start-ups in India
90%	CAGR since 2014, albeit on low base
8+	Number of sectors where blockchain is being leveraged
75%	of start-ups are in Fintech segment

Key Use-cases

Trade Finance	Inter Bank Payment	Supply Chain Traceability
Shipping Documentation	KYC	Secure Record Keeping
Claims Management	Customer Data Sharing	Quality Control and Audit
Digital Identity	Pharma track and trace	3D Design Records

Illustrative Start-ups

SIGNZY

Digital contract drafting and signing platform running on cloud

TrustLogics™

Blockchain-based recruitment platform

9ZIP.in

Blockchain software platform for managing the agricultural supply.

LaLa World

Financial ecosystem for the underbanked

KOINEX

Indian cryptocurrency trading platform

Schröcken.

Blockchain-based operating system for business ecosystems

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

AR/VR and drone start-ups are also gaining traction

AR/VR

26% CAGR since 2014

80+ Number of start-ups

Key Industries Served

- Edtech
- Retail & Retail tech
- Media and Entertainment
- Real Estate
- Healthtech

Key Use-cases

- Experiential Learning
- In-Store Navigation
- Augmented Catalogues
- Interior Designing
- Motion Simulation
- 360° Virtual Tour

Illustrative Start-ups

DIMENSION NXG, Virtual Spaces, shifu, JADO OZ

Drones

17.8% CAGR since 2014

60+ Number of Start-ups

Key Industries served

- Agritech
- Space and Defence
- Aerospace and Maritime
- Energy and Utilities

Key Use-cases

- Health Analytics for Crops
- Topological Survey and Inspection
- Intrusion Detection
- Operation Optimization
- Aerial Mapping
- Nano/Micro Satellites

Illustrative Start-ups

TARTAN SENSE, BELLATRIX AEROSPACE Propelling Dreams, SenseHawk

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

Pool of start-ups in robotics, 3D printing and cryptology is slowly expanding

Technology	Number of Start-ups	Key Industries Served	Illustrative Examples
Cryptology	10+	Enterprise, Fintech	QNU, ZIROH Labs, taqbit, ShieldCrypt, Encryptik
Robotics	30+	Industrial & Manufacturing, Healthtech, FinTech, Automotive, Consumer Robotics, Defence	Invento Robotics, emotix, GENROBOTICS, BIONIC YANTRA
3D Printing	80+	Healthtech, Aerospace, Industrial & Manufacturing, Electronics, Real Estate, Edtech	chizel, ETHEREAL, reemer, MORPHEDO, ROVONIZE, Osteo3d

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

Convergence of deep-technologies is giving rise to new use-cases and solutions

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AI + IoT

Cognitifai · BOLTT · LogiCloud

Key Use-Cases

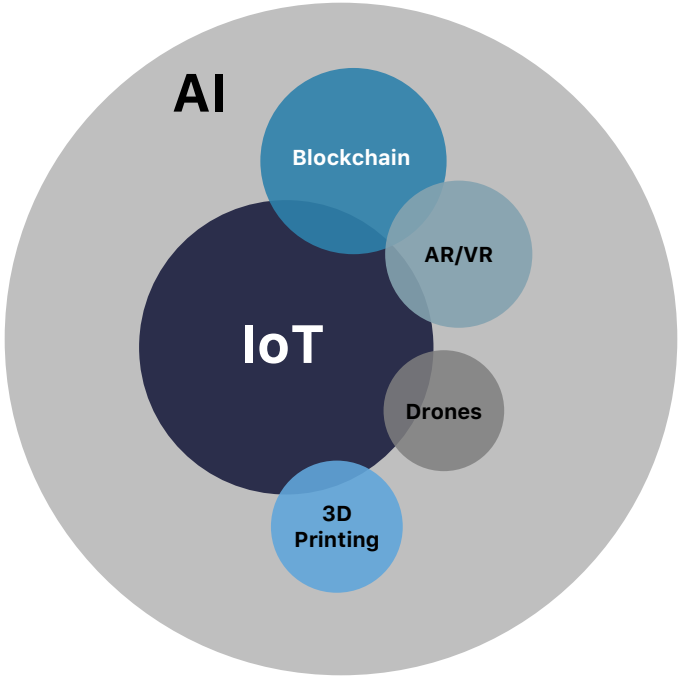
- Quick insights from data
- Avoid unplanned downtime
- Increasing operating efficiency, and enhancing risk management
- Personal Smart Assistants

AI + 3D Printing

Osteo3d 3d printing healthcare · Boson Machines

Key Use-Cases

- Real time detection of defects in 3D printing of medical devices, aircraft components
- Train machines for modelling objects



Blockchain + AI, + IoT

happyloans · Simplify · SMART CENTRIC

Key Use-Cases

- Patient care and diagnostics
- Automated trading and investments
- Air traffic control
- Improved data protection and data sharing

AI + IoT + Drones

SenseHawk · TARTAN SENSE · AUS Aarav Unmanned Systems Pvt. Ltd.

Key Use-Cases

- Precision Agritech
- Surveillance in smart cities, military, and defence
- Aerial mapping of real estate
- Capturing live events from wide angles

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

Deep-tech start-ups also hold key to efficiently solving India's pressing challenges, at scale

Healthtech

Adiuvo Diagnostics – Portable diagnostic device to rapidly detect skin infections in rural locations with minimal infrastructure.

Yostra Labs - Developer of medical devices for affordable diabetes and intravenous therapy

Agritech

Raav TechLabs – AI powered food quality analysers for agricultural and dairy products with an aim tohelps reduce wastage.

Intello Labs - Image recognition-based solutions to address deep and grave agricultural issues.

Air and Water

Blue Sky Analytics – AI powered geospatial data intelligent platform to give actionable insights on various environmental parameters.

Aqua Waterless systems - IoT solutions that enable smart water management systems.

Sanitation

Genrobotics – Developed Bandicoot, a sewage cleaning bot with a mission to end manual scavenging.

Garv Toilets –Portable Bio Toilets equipped with RFID-IoT sensors for public sanitation applications

Edtech

Guvi - Developer of hyperlocal mentoring platform for providing online programming in vernacular language

Blackboard Radio – AI powered personalized English coach for school going students in Tier 2 and Tier 3 cities

Energy

Flip Robotics - Autonomous robotic solution for cleaning Solar PV panels with waterless technology.

Orxa Grid – IoT-enabled energy monitoring devices to reduce electric grid loses and increase efficiency

Source: Zinnov CoNXT Research and Analysis

Illustrative / Not Exhaustive

Improving talent skillsets combined with policy measures is expected to support rapid adoption of deep-tech

Improving talent skillset

Programs like NASSCOM **Future Skills**, Government of India's **Skill India,** and multiple corporate initiatives, e.g. Intel, Google and Microsoft have committed to skilling more than 200,000 engineers through different mechanisms. This will provide the talent base required to take-on the market challenges and opportunities.

Improving exposure with increasing corporate R&D Centres

R&D centres of global MNCs in India are increasingly taking on cutting-edge mandates from headquarters, e.g. **Google, Ericsson, and Microsoft set-up their global AI research centres** in India in 2019. This coupled with an inclination and openness to leverage start-up ecosystems provides the much needed opportunities and exposure to both entrepreneurs and their teams; and simultaneously expands pool of potential experience entrepreneurs.

Focused support from policymakers

With whitepapers and policies such as **National Strategy for Artificial Intelligence**, **National Drones Policy**, and **National Digital Communications Policy 2018** amongst others – policymakers are creating a conductive environment for start-ups to build solutions without ambiguity around rules and regulations. These measures open up the expanding targetable market opportunities.

Building on India’s unique digital infrastructure

#04

The hypothesis that India-specific technology stacks are driving innovation has been proven to be true. India Stack has provided start-ups a new-age innovation architecture that fundamentally reduces the time-to-market and challenges industry norms.

While majority of current use-cases are in banking and financial services – there is a second-order effect across insurance, Edtech, and Healthtech sectors.

We can expect the impact of India-specific technology stacks on market dynamics to be a key driver in the ecosystem’s growth. It can also, potentially, enable global disruption in industries like Healthtech, Edtech, and financial services.

The India Stack has been one of the biggest reasons for India's successful technological inclusion of its citizens

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Contextual Use-cases

GSTN GOODS AND SERVICES TAX NETWORK | FASTag | BBPS BHARAT BILL PAYMENT SYSTEM

India Stack

India Stack is a complete set of APIs that digitize elements such as authentication, digital signatures, and payments

Consent layer	Open Personal Data Store
Cashless layer	IMPS, AEBS, APB, and UPI
Paperless layer	Aadhar e-KYC, E-Sign, Digital Locker
Presence less layer	Aadhar authentication

Jan Dhan, Aadhar, Mobile

INDIA STACK IN NUMBERS[1]

AADHAAR

1.2B
Enrolments (till Oct 2019)

34.8B
Authentications (till Oct 2019)

UPI

1,148.3M
Transactions in Oct 2019
2.4X since Oct 2018

INR 1,91,359 Cr
Transacted via UPI in Oct 2019

AADHAAR e-KYC Fast, Secure & Cost Effective!

7.6B
E-kyc processed (till Oct 2019)

DigiLocker

31.6M
Registered users (till Oct 2019)

3.7B
Issued Documents (till Oct 2019)

Source/Notes: iSpirt, uidai.gov.in, npci.org.in, digilocker.gov.in, (1) All numbers are updated till Oct 2019

Illustrative / Not Exhaustive

Start-ups are leveraging India Stack's disruptive nature to provide seamless services to customers

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India Stack's Open APIs allow for 3rd party disruption

- Cuts Transaction Cost
- Cuts Onboarding Cost
- Ubiquitous, Inclusive Platform
- Contextualised Offerings
- Innovation
- Aligns Market and Social Goals
- Trust-based system

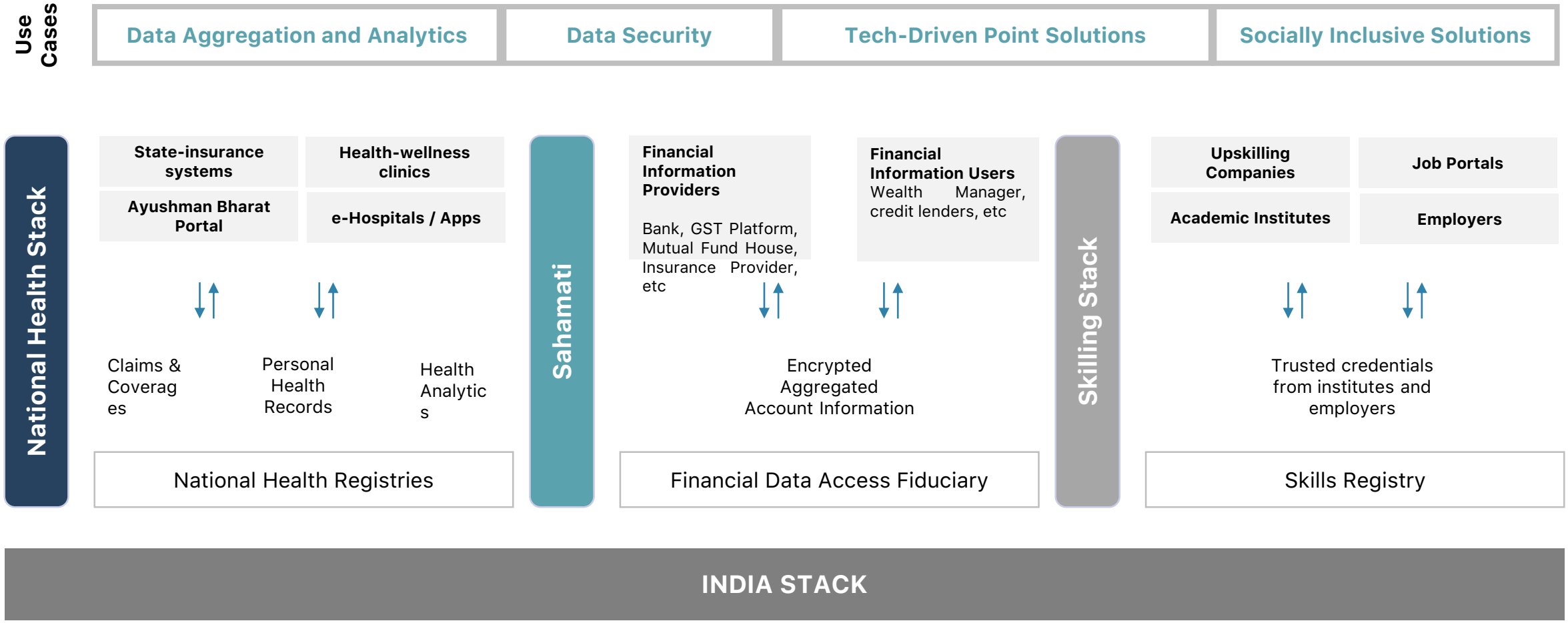
Start-ups leveraging India Stack

1	Background Verification	directverify, FRSLABS, AuthBridge
2	Payments	PhonePe, Razorpay, benow
3	Lending	indifi, EzCred, QuikkLoan
4	Paperless Consent	Leegality, digio, ezeDox
5	Tax Compliance	SPIDER, naapbooks, greenGST

Source: iSpirt, Zinnov Research and Analysis

Illustrative / Not Exhaustive

Success of India Stack in driving innovation is expected to compound with new and upcoming government platforms



Sources: sahamati.org.in, nit.gov.in, ispirit

Illustrative / Not Exhaustive

With strong drivers the trend is expected to gain momentum as more success stories emerge

Strong commitment and support from policymakers

With the success of India Stack, the Government has increasingly leveraged technology for the nation's growth and to deliver public goods. Multiple bodies have articulated their intent to expand the technology stack to energy, governance, edtech, transportation, and Agritech sectors.
.

Adoption Initiatives by Government and Industry Bodies

Various industry bodies that engage with corporates and start-ups have created dedicated programs to create awareness on existing platforms and increase adoption of existing stacks. E.g. NPCI's collaboration with T-Hub and Maharashtra Innovation Society to drive national building goals through India Stack.

Economic advantage observed by start-ups and companies leveraging the India Stack

Start-ups have begun to observe the advantages of adopting government-built stacks. Expanding total addressable market along with better access and lower cost structures are strong drivers for start-ups to serve large untapped markets.

Serving the Underserved

Improved connectivity and increased technology adoption have significantly improved the addressable market in India. Entrepreneurs are increasingly building products across sectors for these markets.

Indian SMBs and consumer segments are not only large markets by themselves – servicing them can potentially unlock larger under serviced global markets for Indian start-ups.

With increasing internet penetration, expanding technology access, and improving ease with online transactions – we expect more entrepreneurs to service the challenging but under tapped markets.

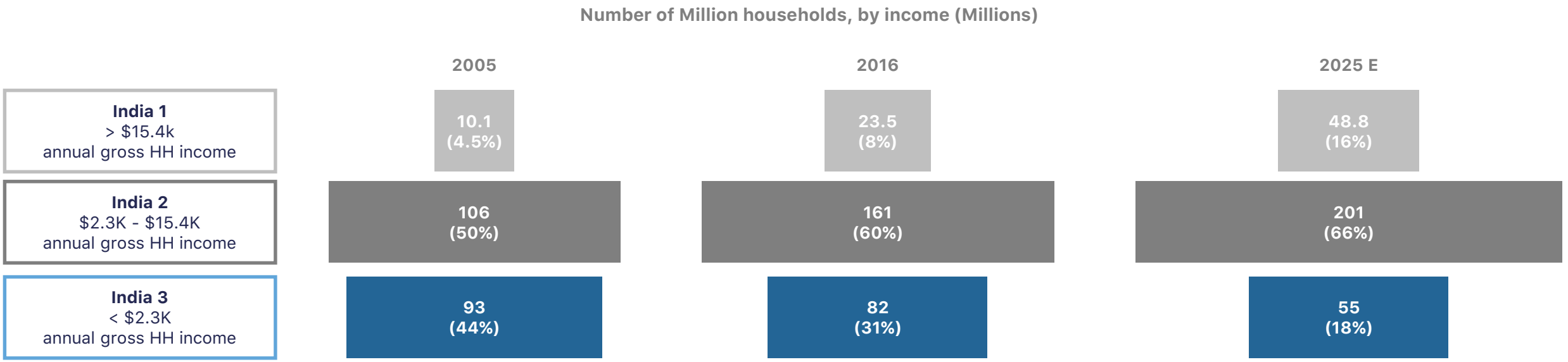
#05

With shifting income segments and improved connectivity the target addressable market in India is growing

600Mn Est. Number of connected consumers by 2019

3X Expected growth in per-capita income by 2025

46% Share of internet users from rural areas by 2019E



Source: BCG Report 2017-The New Indian, Kantar IMRB

Start-ups with India 1 as primary market are focusing on user experience, personalization, and niche use-cases

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Illustrative use-cases and start-ups across different sectors

	Wave 1	Wave 2	Wave 3
Fintech	• Personal loans marketplace • Insurance comparison portals • E-wallets	• Investment platforms • Expense tracking • P2P lending platforms	• Credit score management • AI-based wealth management • Internet first banks
Healthtech	• Online medicine stores • Telemedicine portals • Health record managers • Wearables for health monitoring	• Health Information • Parenting/Baby care services • Diabetes management • Assistive Tech	• Healthtech financing • Personalized genetic testing • Robotic exoskeletons & bionic arms • AI driven automated diagnosis
Education	• Multilingual test preparation sites • Micro job/internship portals for students	• Gamified education • University admission & discovery	• Assistive tech for visually impaired • AR based learning

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

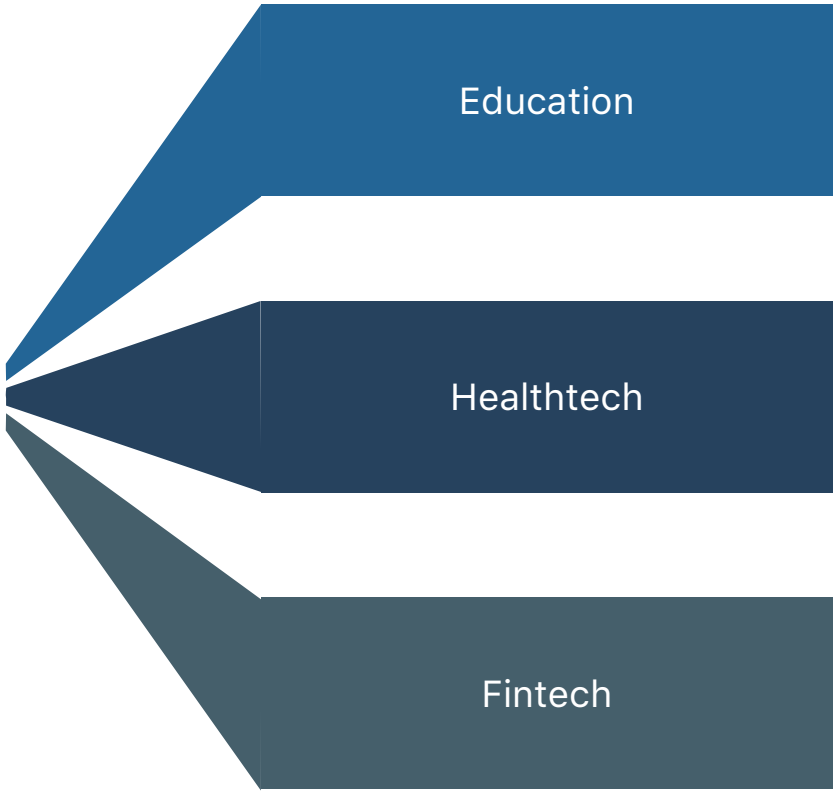
For India 2, start-ups are using vernacular languages and business model innovation to target multiple use-cases

Top Sectors	Trends	Use-cases	Illustrative start-ups
E-commerce	E-commerce platforms are leveraging vernacular platforms and social media to reach out to their customers	E-stores Vernacular content Second-hand market	Saarthi.ai, Paytm Mall, CARS24
Fintech	To finance the unbanked and underbanked, start-ups are trying different models of loans, insurances, and investment platforms which leverage UPI for payments	P2P Lending Bite-size insurance Pay-day loans	rupeek, SLICEPAY, toffee
Edtech	With the mobile phone penetration exceeding 700 Mn, Tech-based education has become the go-to delivery model disrupting traditional classrooms	Gamification Test Preparation Tutor Discovery and Doubt clearing	doubtnut, iChamp, vaqüpu
Healthtech	Start-ups are leveraging digital technology to improve access, affordability, and quality of Healthtech for the Tier II and Tier III populace	Online Pharmacy Telemedicine Low cost diagnostics	Tattvan, MEDCORDS, EzeRx, 1mg
Agritech	A segment traditionally slow in adopting technology is seeing start-ups utilize frugal innovation to create low cost data driven tech solutions to improve yield and farmer efficiency	Precision Agritech Farm implements IoT and Big Data Farmer Consultation	AGRONXT, TARTANSENSE, MyCrop

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

20% of B2C start-ups are working towards building solutions for India 3 market with focus on necessities



iDream Education
Tablet-based E-learning solutions designed for government schools and offers content in different vernacular languages

Krishworks
A tech-enabled activity center for learning English. Provides tablet-based solutions to make learning interesting for kids.

Gramin Healthtech
Provides affordable and accessible Healthtech facility in rural India through telemedicine

Lifetron Inno Equipment
Developed a portable phototherapy unit used in jaundice treatment of newborns in rural areas

Gram Cover
Online insurance marketplace focused on rural areas.

Kissht
Offers a line of credit to buyers to make online purchases. Users can pay for purchases over time in EMIs.

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

Start-ups are also building solutions for digital SMBs

Ubiquity Of Connectivity & Communication

Low Cost ISP

Sachet size broadband connection for SMBs at INR 2 per GB.

WiFi Management

Retail WiFi solutions and real-time analytics for retailers.

Speed Of Transactions

UPI Payments App

E-commerce payment and digital wallet unicorn

POS and Self-checkout

SaaS enabled platform-independent, POS billing system

Rise In Discoverability

Product Discovery

CMS enabled product discovery platform

Travel services Discovery

Aggregator of end-to-end travel and tourism operators

Reseller Network

E-commerce distribution channel for non-traditional SMBs

Enhanced Productivity

Digital Banking

Online platform for banking and intercompany settlement for SMEs

Business Process Management

Mobile-based CRM platform and data management tool

Accounting

Mobile-based digital transaction recording solution for SMEs

Technology Sophistication

Workflow Management

Analytics platform to track expenses reporting, sales leads, and other business workflows

RPA

RPA Tool for access control, version control, business & IT reports, audit logging, etc.

Virtual Assistant

AI-based on-demand concierge service for travel and hospitality SMEs

Source: Zinnov Digital SMB Report 2019

Illustrative / Not Exhaustive

Trend is expected to gain momentum on account of large untapped markets and improving connectivity

Expanding addressable target market

With success of India Stack, the Government has doubled down on leveraging technology for nation's growth and for delivering public goods. Multiple bodies have articulated intent to expand technology stack to energy, governance, edtech, transportation and Agritech sectors. This is supported by projects like Digital MSME.

Improving connectivity and increasing comfort with digital technology

87% of India's internet users are classified as regular users. With only 40% penetration the base is expected to grow rapidly. With among the lowest data rates, India already has the highest per capita data usage. Coupled with increasing adoption of UPI for micro-payments it is expected that the odds of online transaction will increase rapidly in coming years.

Large, untapped and unique market with global opportunity

India's unique demographic and income mix requires heavy localization of products and solutions for them to succeed at scale. Proximity to a large untapped market with improving accessibility and affordability quotient is expected to be the biggest attraction for start-ups. Importantly, research notes that these solutions can be offered to 5.8Bn people globally.

Built in India. Branded Global.

Ecosystem's effort to promote product start-ups from India for global markets has begun to yield results. More and more entrepreneurs are building technology products from India and targeting both western and eastern countries.

Simultaneously, access to markets and quality talent base continues to attract global start-ups, including unicorns, to build products from India. The numbers continue to increase.

With access to large markets, high quality and relatively inexpensive talent, and an increasing knowledge base – we anticipate that the Indian ecosystem will build more and more globally recognized products.

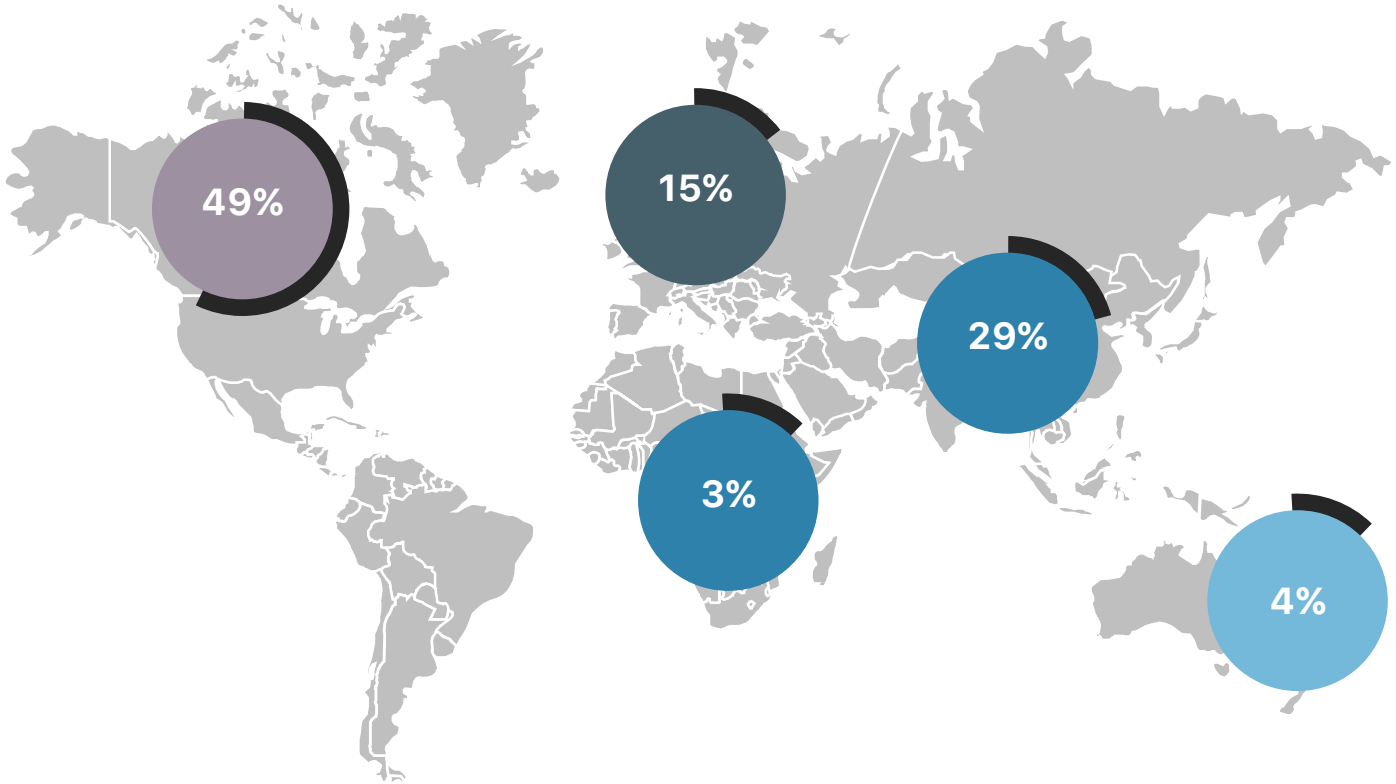
21% of Indian start-ups are primarily focusing on global markets

18% CAGR increase in no. of Indian start-ups focusing primarily on global markets since 2014

70% Of the start-ups are B2B, which suggests that entrepreneurs are taking a balanced view before selecting use-cases

80% Of these start-ups are based out of either Delhi-NCR, Bangalore, Chennai, or Mumbai

Distribution of start-ups on the basis primary market geography



Note: Analysis of start-ups founded between 2014-19

Start-ups are building solutions across multiple sectors

Enterprise

MoEngage
Founded year: 2014
HQ: Bangalore
Geo Served: United States
Total Funding Raised: $16.8 Mn

Fyle
Founded year: 2016
HQ: Bangalore
Geo Served: United States
Total Funding Raised: $10.6 Mn

Flock
Founded year: 2014
HQ: Mumbai
Geo Served: United States
Total Funding Raised: $45 Mn

Fintech

WeInvest
Founded year: 2014
HQ: Bangalore
Geo Served: APAC
Total Funding Raised: $12.3 Mn

Active Intelligence
Founded year: 2016
HQ: Bangalore
Geo Served: APAC, US
Total Funding Raised: $14.7 Mn

Drip Capital
Founded year: 2014
HQ: Mumbai
Geo Served: United States
Total Funding Raised: $45.1 Mn

Real Estate & Construction

Foyr
Founded year: 2014
HQ: Hyderabad
Geo Served: United States
Total Funding Raised: $9.7 Mn

Manufacton
Founded year: 2014
HQ: Bangalore
Geo Served: United States
Total Funding Raised: $3.5 Mn

Travel & Hospitality

Oxfordcaps
Founded year: 2017
HQ: Gurgaon
Geo Served: APAC
Total Funding Raised: $11.3 Mn

Headout
Founded year: 2014
HQ: Bangalore
Geo Served: United States
Total Funding Raised: $13.8 Mn

Healthtech & Wellness

Innovaccer
Founded year: 2017
HQ: Noida
Geo Served: United States
Total Funding Raised: $111 Mn

Qure.ai
Founded year: 2016
HQ: Mumbai
Geo Served: Asia, NA, EU
Total Funding Raised: $2.3 Mn

Retail & Retail tech

Vue.ai
Founded year: 2015
HQ: Chennai
Geo Served: North America, EU
Total Funding Raised: $27 Mn

Education

Unacademy
Founded year: 2015
HQ: Bangalore
Geo Served: United Kingdom
Total Funding Raised: $90.2Mn

SCM & Logistics

Locus
Founded year: 2015
HQ: Bangalore
Geo Served: United States
Total Funding Raised: $32.5 Mn

Density of Start-ups: High | Medium | Low

Note: Analysis of start-ups founded between 2014-19

Illustrative / Not Exhaustive

Also, start-ups with India as an initial market are now going global

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Journey of start-ups foraying into global markets

Pine Labs	**Pinelabs** YoI: 1998 HQ: Noida Funding Raised: $227 Mn Sector: Fintech	In 2009, Pinelabs ventured into the mainstream payment space to provide solutions to merchants	In 2017, the company entered Malaysia with an exclusive partnership with CIMB bank	After investment of $125 Mn from Temasek & PayPal, the company is in talks with in with international banks to expand its operations to middle east
practo	**Practo** YoI: 2008 HQ: Bangalore Funding Raised: $179 Mn Sector: Healthtech	In 2013, Practo opened up in Singapore.	With $90 Mn, raised from Tencent, Sequoia Capital, Altimeter Capital and others. In 2015, Practo launched in Indonesia and Philippines. In year 2016, Practo launched in Brazil.	Practo. With $ 55Mn Series D funding led by Tencent along with Ru-Net, RSI Fund and Thrive Capital, Practo is aiming to broaden that international footprint
Paytm	**Paytm** YoI: 2010 HQ: Noida Funding Raised: $2.8 Bn Sector: Fintech	After raising $472 Mn from Alibaba Group, Paytm became Unicorn in 2015	In 2017, Paytm launched its app "Paytm Canada" in Canada	After raising $1.4 Bn from Softbank. Paytm launched PayPay in Japan in joint venture with Softbank and Yahoo Japan
GOQii	**GOQii** YoI: 2014 HQ: Mumbai Funding Raised: $50 Mn Sector: Healthtech	In 2015, GOQii received $13.4 Mn from Cheetah Mobile and NEA in order to accelerate its growth in US and China	In Dec 2016, GOQii in partnership with Amazon Launchpad program goes global to UK, USA and Canada	Goqii is going to work extensively with Mitsui & Co, an active investor, to establish its foothold in Asia's second largest economy

Other Examples: wittyfeed, iexceed, BYJU'S The Learning App, ToneTag, stellapps, SenseGiz, INTELLICAR, SirionLabs, Smartivity, REDWING LABS

Source: News media, Zinnov CoNXT Research and Analysis

Illustrative / Not Exhaustive

Additionally, global unicorns and start-ups are leveraging the Indian ecosystem to build innovative products

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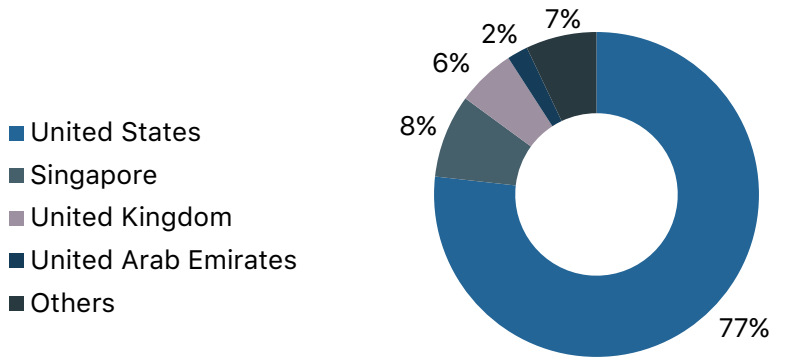
Global HQ location split of start-ups with R&D presence in India



48% Of all start-ups are in the **Enterprise Tech sector**

20+ Global Unicorns have an R&D centre in India. - **3X increase** since 2015

85% R&D centres of global start-ups, in India, are based in **Bangalore**

Illustrative list of global start-ups with R&D presence in India

JFrog United States R&D Centre: Bangalore	sumo logic United States R&D Centre: Noida	COHESITY United States R&D Centre: Bangalore, Pune
snowflake United States R&D Centre: Bangalore	AUTOMATION ANYWHERE United States R&D Centre: Bangalore, Vadodara	ATLASSIAN Australia R&D Centre: Bangalore
harness United States R&D Centre: Bangalore	rubrik United States R&D Centre: Bangalore	canopy Singapore R&D Centre: Bangalore
WEINVEST.NET Singapore R&D Centre: Bangalore	Invoice Bazaar UAE R&D Centre: Bangalore	TRAYDSTREAM United Kingdom R&D Centre: Mumbai
Clik.ai Canada R&D Centre: Gurgaon	sensfix Germany R&D Centre: Mysore	

Indicates unicorns

Source: Zinnov

Illustrative / Not Exhaustive

With inherent local advantages, start-up will continue to leverage India to build world-class products and solutions

Large and quality talent base

India has a strong technology talent base which can be leveraged at a fraction of the cost as compared to other global locations like USA and UK. This creates a strong incentive for start-ups, like large corporates, to build in India.

Business model advantage

New business models for technology products allows for inside sales from India allowing global players to adopt solutions from start-ups without long sales cycles. There has also been an increased openness from customers to try new and competitive solutions which has allowed India-built solutions to go global.

Improving institutional support

A Trifecta of factors like global start-up missions, overseas investors, and support from experienced founders has improved the access global market. For example, Softbank enabled Oyo and Paytm to enter markets like China and Japan; while Start-up Canada has provided Indian entrepreneurs an alternate launchpad to access the North America market.

Increasing corporate R&D participation in the Ecosystem

Global corporate R&D centres are leveraging open innovation to drive internal mandates. This, in turn, is allowing Indian start-ups to solve global challenges early in their lifecycle and gain customer base before building overseas presence.

Strengthening pipeline of potential unicorns

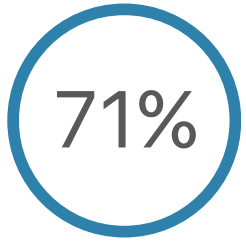
Unlike 2018, this year investments were better distributed across different round sizes. This led to an increase in the number of start-ups with total funding greater than $50 Mn, creating a strong pipeline of potential unicorns.

An expanding pool of start-ups with resources available to gain market share and leadership, also confirms that the years 2018 and 2019 were not an exception in terms of number of start-ups becoming unicorns.

Growing pool of experienced operators along with India’s unique parallel start-up ecosystem, is expected to support continuous growth of the ecosystem.

Unicorn club has significantly expanded in 2019

Number of Unicorns added in 2019



% share of B2B in recent unicorns

Number of Start-ups that achieved Unicorn status in

Location	2018	2019
Delhi-NCR	4	2
Bangalore	3	2
Mumbai	1	1
Chennai	1	
Pune		2

- 2019 witnessed addition of 2 unicorns from Pune. This is second year in a row where a start-up outside Bangalore, Delhi-NCR and Mumbai has achieved a unicorn status
- 5 of 7 unicorns added in 2019 were B2B – highest ever in a year till date
- Indian unicorn club now has companies in gaming, supply chain and logistics, enterprise, e-mobility in addition to e-commerce and mobility

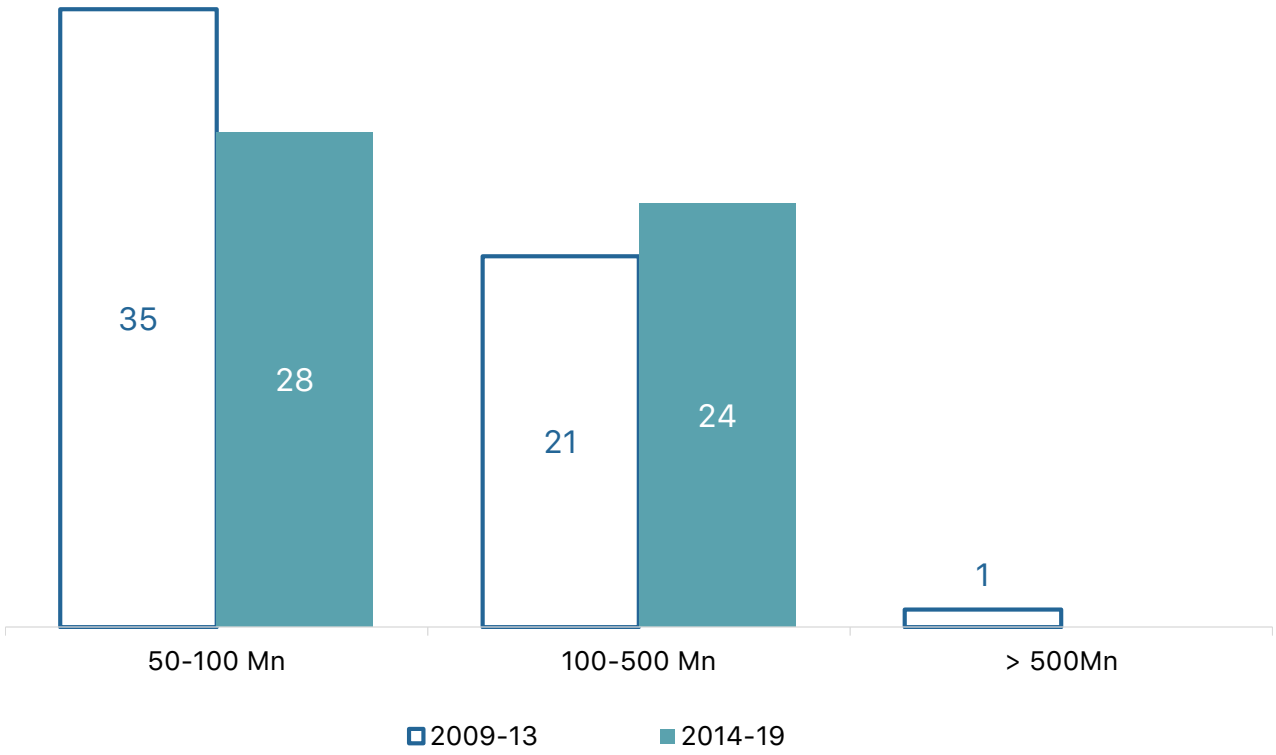
Unicorns in 2019

icertis, DREAM11, druva, OLA ELECTRIC, RIVIGO, DELHIVERY, bigbasket

Source: News media, Crunchbase

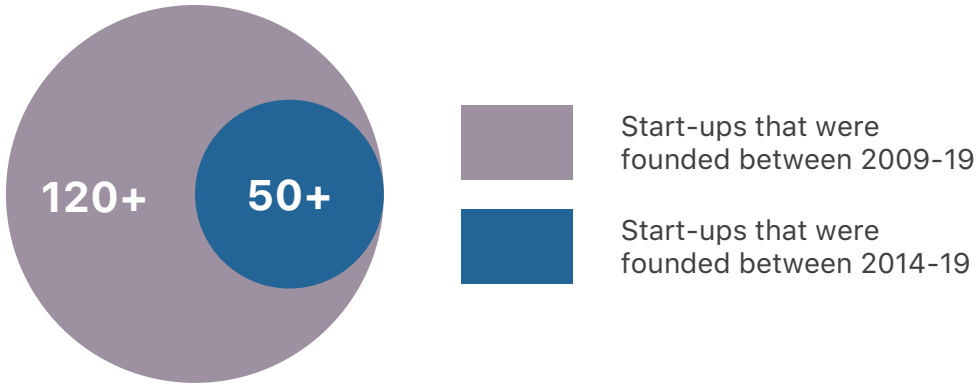
India has its largest pipeline of potential unicorns, ever

Share of start-ups[1] with total funding raised greater than $50Mn, by founding year



Note: above stats do not include unicorns

Number of Start-ups[1] having greater than $50 Mn funding



- Pace of investment suggests that start-ups, founded in 2014-19, are scaling quicker than their older peers
- These start-ups constitute almost approximately 41% of the total pool of all companies with greater than $50Mn in cumulative funding

Note: (1) Start-ups founded in 2009-19 have been considered for analysis

2019 was remarkable in terms of number of start-ups added to the potential unicorn pool

35+

Number of start-ups added to the pool with more than $50Mn in total funding

3X

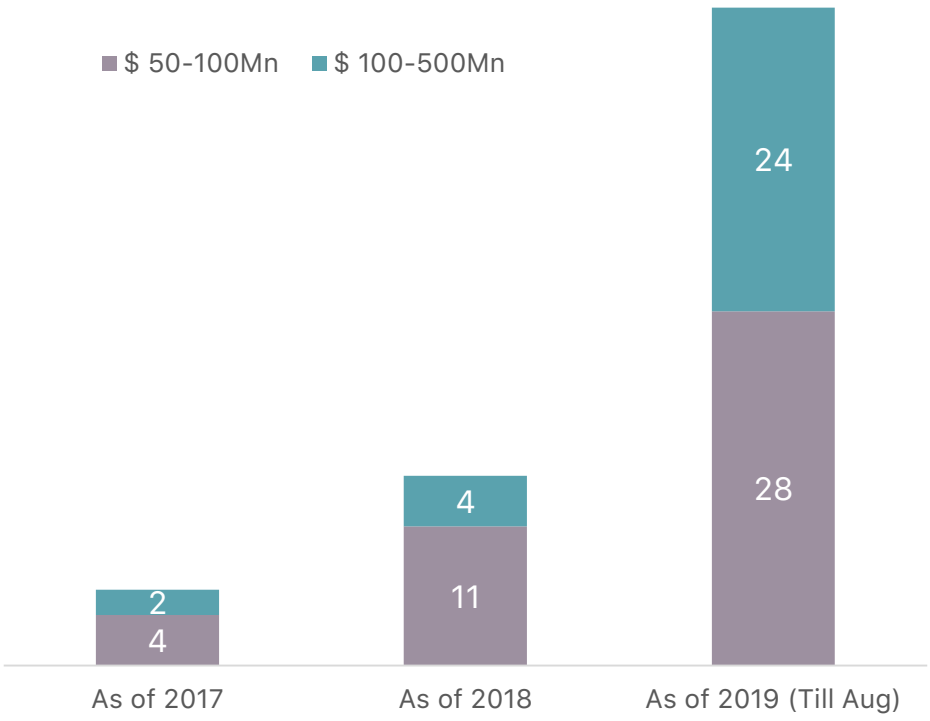
Growth in the base of Start-ups with more than $50Mn in total funding

6X

Growth in start-ups with total funding in the range of $100-500Mn

- Compared to previous years the equity funding in 2019 (Jan to Aug) was more distributed
- In 2018, unicorns had cornered large percentage of investments through mega funding rounds
- In 2019, we have not witnessed any funding round greater than $500Mn yet

Cumulative Number of start-ups, by total amount raised



Note: Analysis of start-ups founded between 2014-19 and with total funding more than $50Mn+. Does not include start-ups that became unicorn on or before 31-Aug-19

We have an increasingly heterogenous mix of start-ups across sectors

13 Number of Sectors focused by potential unicorns

9 Number of Sectors with minimum 3 start-ups in the pool

Fintech

- SME Capital financing
- Consumer Lending
- Online & Offline Payment solutions for enterprises

Mobility

- On-demand rental services
- Intra-city commute pooling
- Bike taxi services

Healthtech

- Online Pharmacies and Teleconsultation services
- Health and Fitness platforms
- Aggregator for doctors and clinics

Retail & Retail tech

- Industrial goods marketplace
- Purchase assistance platforms
- Horizontal platform

SCM & Logistics

- B2B logistics management
- Goods and Freight monitoring
- Freight transport booking

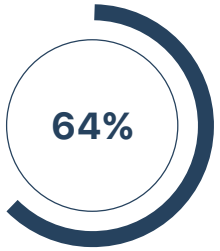
Real Estate & Construction

- P2P listing of residential properties
- Marketplace for shared rentals

Note: Analysis of start-ups founded between 2014-19 and with total funding more than $50Mn+. Does not include start-ups that became unicorn on or before 31-Aug-19

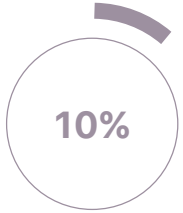
Illustrative / Not Exhaustive

Within their sectors the start-ups are targeting varied end customers



Share of B2C start-ups in $50Mn+ funding pool

Share of B2C start-ups that serve India 1 and India 2 markets



Share of the B2C start-ups serving India 3 market

Market Focus

MSME

OkCredit
Founded year: 2017
Sector: Fintech
Funding Raised: $84.87 Mn

Urbanclap
Founded year: 2014
Sector: Local Services
Funding Raised: $215 Mn

Moglix
Founded year: 2015
Sector: Retail & Retail tech
Funding Raised: $101 Mn

India 1

Qtrove
Founded year: 2016
Sector: Retail & Retail tech
Funding Raised: $51.58 Mn

CRED
Founded year: 2018
Sector: Fintech
Funding Raised: $147 Mn

India 2

Sharechat
Founded year: 2015
Sector: Social Platform
Funding Raised: $224 Mn

Spinny
Founded year: 2015
Sector: Automotive
Funding Raised: $80 Mn

Large Corporations

Pi Datacentres
Founded year: 2014
Sector: Enterprise
Funding Raised: $118 Mn

Razorpay
Founded year: 2014
Sector: Fintech
Funding Raised: $107 Mn

Note: Analysis of start-ups founded between 2014-19 and with total funding more than $50Mn+. Does not include start-ups that became unicorn on or before 31-Aug-19

Illustrative / Not Exhaustive

A growing pool of experience operators and India's parallel ecosystem will enable continuous expansion of the pipeline

India's parallel start-up ecosystem

The parallelism observed with the rise of one start-up triggering the growth of other, solving complementary problems is expected to strengthen the pipeline of Unicorns in future as seen in the case of Flipkart and PayTM in the past. This is a unique feature of the Indian start-up ecosystem compared to the sequential growth of sectors in US and China

Improving Institutional Support

Committed policy support to open new markets, improve regulations, and provide enabling innovation architecture; and an expanding pool of global investors looking to add value beyond just investment – is creating suitable environment for start-ups to target more opportunities and access resources required to grow.

Growing and accessible pool of operators

The consistent increase in continued participation of experienced operators in the ecosystem has led to the creation of strong knowledge base and best practices for the newer pool of start-ups. Moreover the first batch of entrepreneurs and start-up employees with experience in growing a new business – are allowing newer firms to grow more efficiently.

2nd Innings

We observed a consistent increase in continued participation of entrepreneurs, investors and former employees of start-ups in the Indian ecosystem, albeit in different personas compared to how they started.

Not only does this reflect positively on the country, it augments the overall growth of the ecosystem as the hands-on knowledge is retained and shared with the larger pool.

On the basis of global data, as ecosystem matures, we can expect an increasing number of individuals to continue to be part of the ecosystem – and don multiple hats/personas.

First cohort of successful entrepreneurs are turning into angel investors to support the start-up ecosystem

55+ Number of start-up founders (with >3 investments) actively investing in the ecosystem; up from 45+ in 2018

220+ Total number of start-ups[1] funded by founders; up from 210+ from 2018

- Entrepreneurs turned investors are bringing more maturity to the start-up ecosystem
- Having had a stint as a prior entrepreneur they are more capable mentors for the first timers than the other angels
- Serial Entrepreneurs turned investors are taking initiatives to solve for the capital starve in seed stage ecosystem. E.g. 100.VC, angle networks

Entrepreneurs	Invested Start-ups	
 **Kunal Behl** Angel Investor Founder - Snapdeal	30	KhataBook, Leena AI
 **Vijay Shekhar Sharma** Angel Investor Founder - Paytm	25	GOQii, Nurturing Green
 **Girish Mathrubootham** Angel Investor Founder - Freshdesk	22	SPOTDRAFT, pickyourtrail
 **Amit Ranjan** Angel Investor Founder - Slideshare	11	TapChief, LUCIDEUS
 **Ramakant Sharma** Angel Investor Co Founder- Livespace.com	7	PropelId, gromo

Note: (1) Start-ups founded in 2014-19

Illustrative / Not Exhaustive

Pool of serial entrepreneurs is growing, slowly but surely

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150+

Start-ups[1] have been founded by serial entrepreneurs

- Serial entrepreneurs typically have better odds of success than new entrepreneurs
- Their continuous participation is reflective of the opportunities at hand
- And of a maturing ecosystem – as past experience continues to contribute to future growth

Illustrative List

Amit Gupta
Founded
Yulu (Funding Raised: $6.8 Mn)
Inmobi (India's first Unicorn)

Kunal Shah
Founded
CRED (Funding Raised: $147 Mn)
Freecharge (Acquired by Axis Bank)

Anand Jain
Founded
Clevertap (Funding Raised: $41.6 Mn)
Burrp (Acquired by Infomedia18)

Kashyap Deorah
Founded
Hypertrack (Funding Raised: $8.5 Mn)
Chalo (Acquired by opentable)
Chaupaati Bazaar (Acq. By Futurebazzar.com)

Kumar Rangarajan
Founded
Slang labs (Funding Raised: $1.2 Mn)
Little Eye labs (Acquired by Facebook)

Saurabh Kochhar
Founded
Meddo (Funding Raised: 3.6 Mn)
Foodpanda (Acquired by Ola)
Printvenue (Funding Raised: $4.5 Mn)

Note: (1) Start-ups founded in 2014-19

Illustrative / Not Exhaustive

Having witnessed from sidelines, investors are becoming entrepreneurs

20+

Number of start-ups[1] founded by former (fulltime) investors

Investor turned entrepreneurs have been observed to have certain advantages:

- Easier access to the funding Network
- Fiscal Discipline - strong determination to derive maximum value from every penny spend
- Learning from the mistakes of entrepreneurs that they have funded in past
- Broader business perspectives

This micro-trend is reflective of the whitespaces and opportunities at hand in the ecosystem.

Illustrative List

Abhishek Shah
CEO & Co-founder, Wellthy Therapeutics
Ex Vice President, Unilazer Ventures

Amiya Adwitiya
CEO & Founder, Squadcast
Ex Investment team, Accel Partners

Anshoo Sharma
CEO & Co-founder, Magicpin
Ex Venture Partner, LightSpeed India Partners

Alok Mittal
CEO & Co-Founder, Indifi Technologies Pvt Ltd
Ex Managing Director, Cannan Partners

Bala Parthasarthy
CEO & Co-Founder, Moneytap
Ex Managing Partner, Prime Ventures

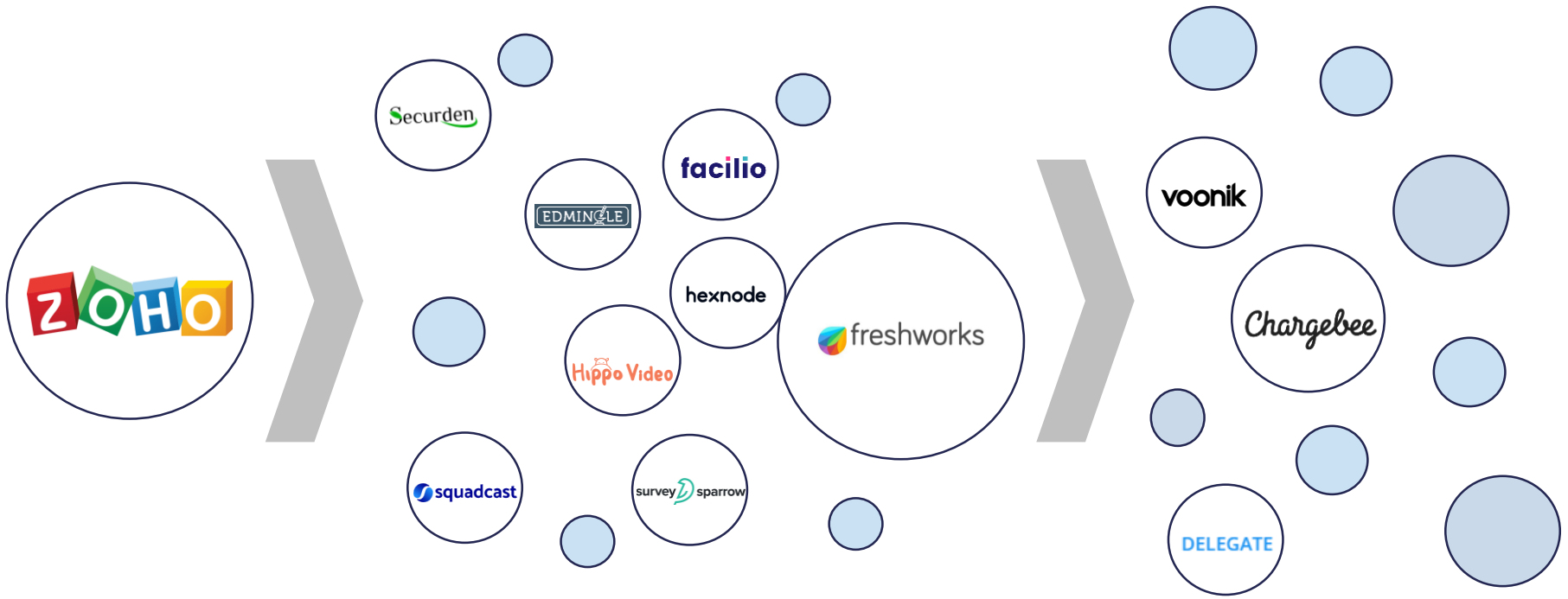
Dr Ritesh Malik
CEO & Founder, Innov8 Coworking
Ex Founder, Geurilla Ventures

Sahil Kini
CEO & Co-founder, Setu
Ex Venture Advisor, Aspada Investments

Subramanya SV
Co-Founder, Fisdom
Ex Managing Director, Bessemer Venture Partners

Note: (1) Start-ups founded in 2014-19

The ecosystem flywheel is in motion with each successful start-up becoming a launchpad for a larger number of start-ups



20+ Start-ups founded by
ex Zoho team

10+ Start-ups founded by
ex FreshWorks team

Other "Mafias"

TAXI FOR SURE
Flipkart
freecharge
redBus.in
ixigo
INMOBI

Source: Zinnov CoNXT Research & Analysis

Illustrative / Not Exhaustive

The trend is expected to intensify, as a virtuous cycle expands on the back of a growing start-up ecosystem

Preference for Experienced Operators

As per research, individuals with prior exposure to start-up ecosystem can reduce failure rates and produce more successful exits with their tactical, experiential knowledge and easier accessibility. This automatically makes them a preferred choice for different roles.

More friendly environment to start-up

With more availability of capital, strong support of the ecosystem, wider talent base and expanding targetable market base across the sectors - the environment for setting up a start-up has improved as compared to the 1st innings of the operators. This combined with prior experience makes a new venture more attractive.

Expanding base of successful start-ups

As the number of successful start-ups increase, it is only natural for us to witness more experienced operators taking up newer roles. In mature ecosystems like US, it is estimated that 10% of all active founders are serial entrepreneurs and a higher base has had some prior experience with the start-up ecosystem.

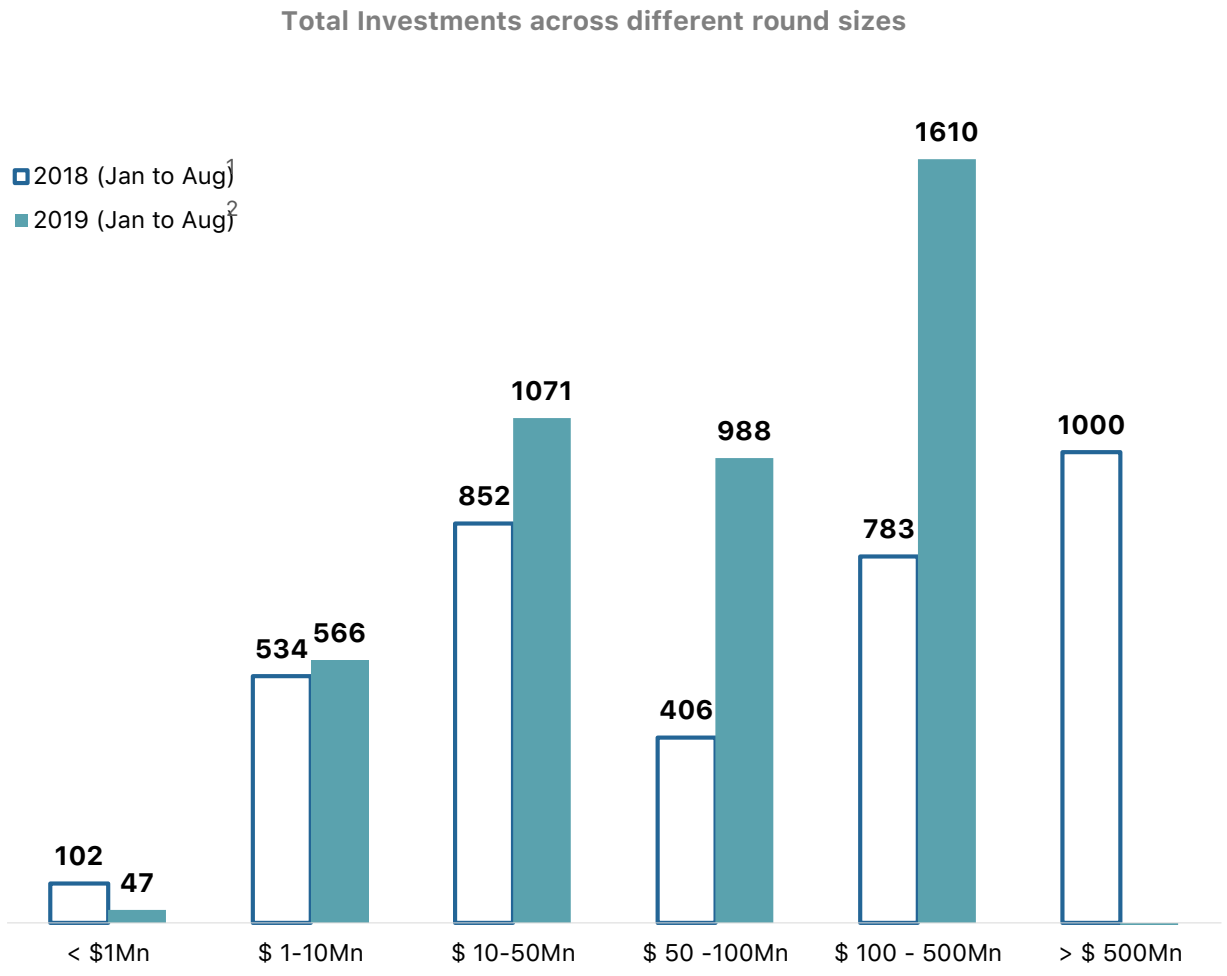
Evolving investor landscape

In 2019 witnessed an increase in number of institutional investors and a change in how angel investors source and execute deals.

This shift in investor mix led to an increase in average deal size but a drop in the number of deals and net new start-ups funded. It also led to investors moving upstream for a variety of reasons. Interestingly, we witnessed investors innovating on their unique value proposition to attract start-ups.

With policymakers proactively resolving issues, increasing number of new and renewed funds, and quick follow-on rounds – we can expect the investors to become creative and innovative.

We witnessed a balanced distribution of investments across round sizes



- Drop in deals smaller than $1Mn is attributed to the challenge with Angel Tax that lead to a large drop in number of active investors; it also lead to drastic reduction in unique start-ups funded at seed
- Institutional activity at seed stage, though higher, translated into larger cheques and hence round size
- 2019 has not witnessed any mega funding rounds greater >$500Mn in a single start-up

Note: (1) Funding Analysis is done for Start-ups founded between 2013-18; (2) Funding Analysis is done for Start-ups founded between 2014-19

Angel investors are taking new approaches for deal sourcing and execution

1,100+ Number of active angel investors

Deal Sourcing

Organized Networks

TiE, Wadhwani Foundation, LinkedIn, F6S

Angel Networks

Indian Angel Network, Mumbai Angels Network, The Chennai Angels

Investment Platforms

OneCrowd, AngelList, Let'sVenture

Deal Execution

Traditional Approach

Direct investment into a start-up either via debt, equity or convertible debt. This not only resulted in immense paperwork and increased the time-to-closure for a round – it also led to the "**Angel Tax**" challenge which was resolved only after mid-2019.

New Approach

Angel Funds, sub category of CAT 1 Venture Funds registered with SEBI. These allow, up to 200 investors to leverage single investment vehicle with - Min Investment amount of **INR 25L** and Max of **INR 10 Cr** per investor. With only **1 year Lock-in period** it allows investments in companies within **5 years of incorporation**

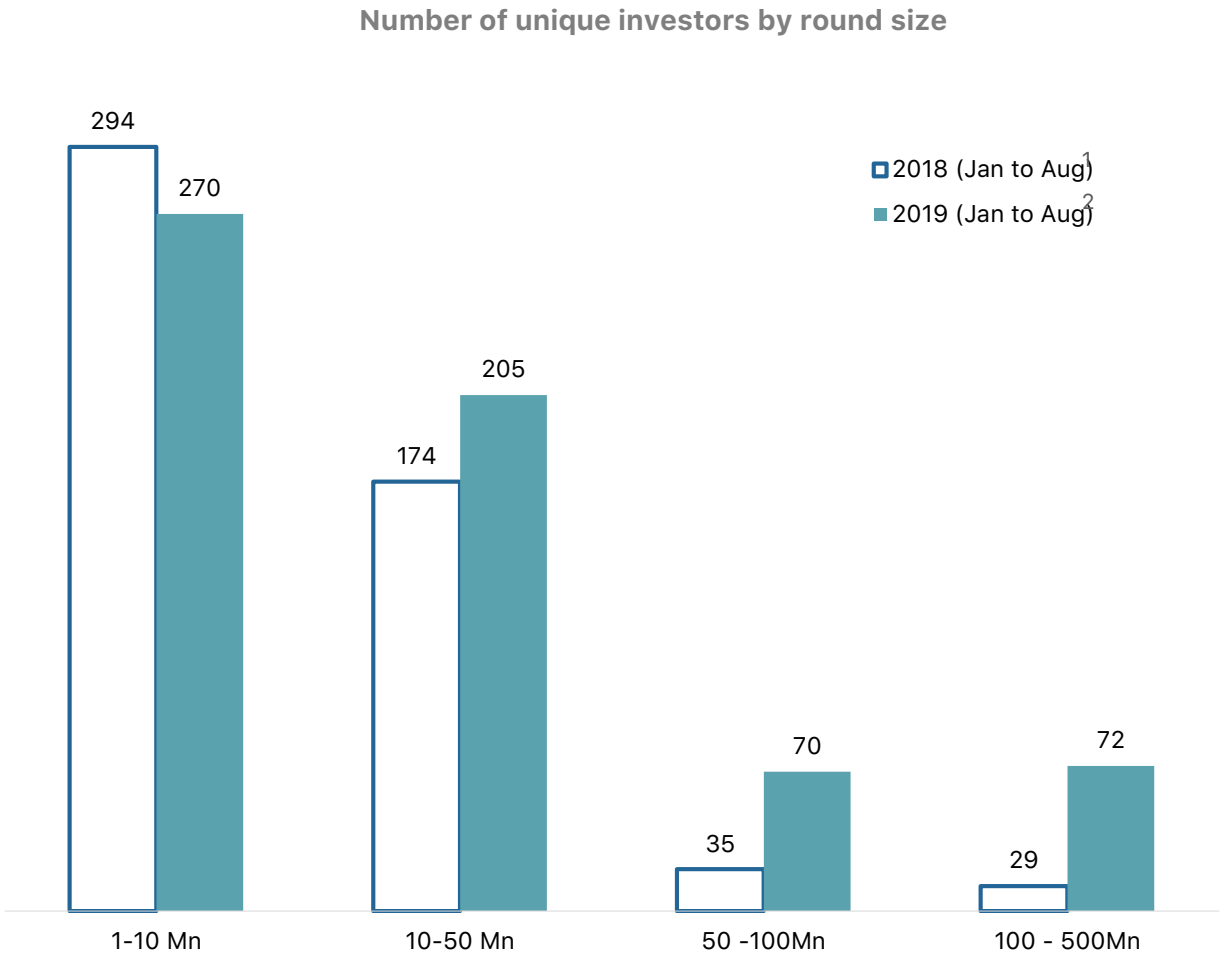
Benefits of Angel Funds

- **Completely Private**
- **Easy and quick investment into start-ups; single entry on the cap table**
- **Diversified risk with no limit on Number of deals or investment per deal**
- **Indirect impact is the growth in new lead investors; and future fund managers**

Source: Angelist, Letsventure, Article by hindubusinessline: SEBI paper suggests doubling PMS investment floor to ₹50 lakh

Illustrative / Not Exhaustive

There has been an increase in the number of active institutional investors across the board



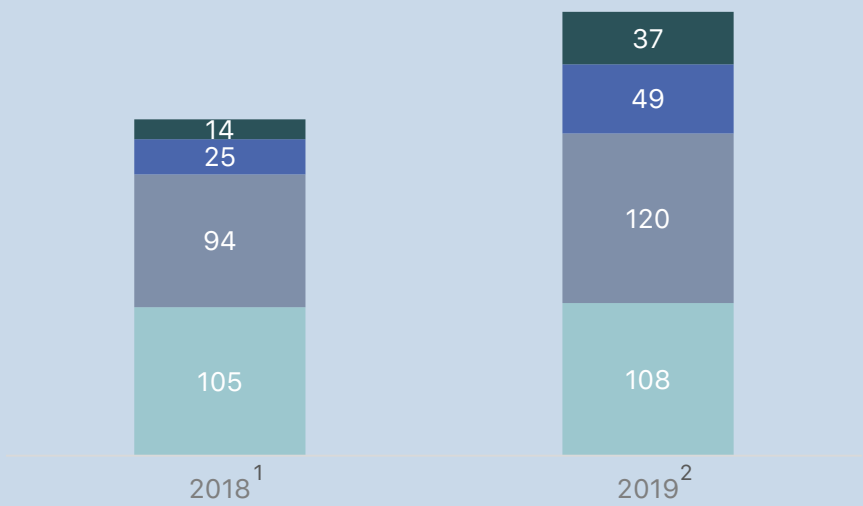
- 14% increase in # of unique investors in 2019 as compared to 2018.
- Given the institutional preference for a minimum post deal equity ownership, the entry of institutional investors also led to an increase in the average deal size at seed stage.
- Overall, there has been an increase in the number of unique investors across all funding rounds – except marginal drop in $1-10Mn round sizes.
- This has also contributed to an increase in the number of funding rounds in $50-500Mn round size.

Note: (1) Funding Analysis is done for Start-ups founded between 2013-18; (2) Funding Analysis is done for Start-ups founded between 2014-19

Investor pool composition is shifting, with clear increase in private equity investor across rounds

Venture Capital

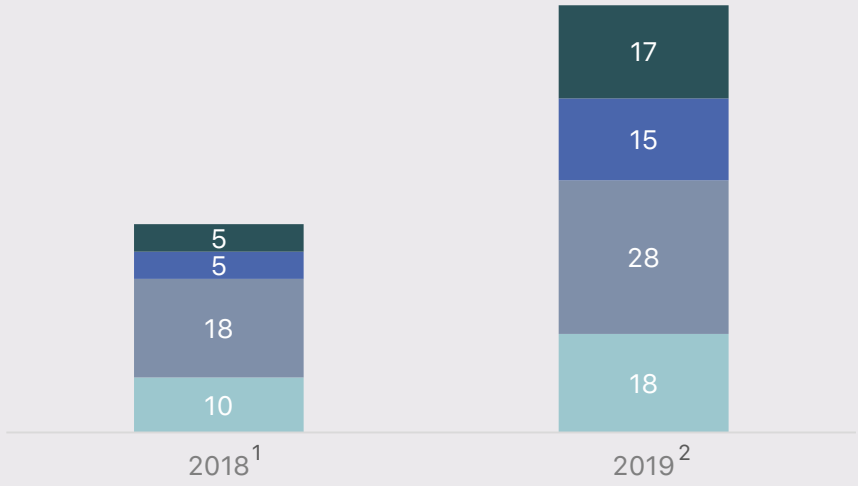
Number[3] of unique and active investors



Participation from relatively lesser known Venture Capital from overseas has increased across the board

Private Equity

Number[3] of unique and active investors



Private Equity participation has increased across all the deal size types on account of seeking better returns and reserving right to play in larger rounds

Note: (1) Funding Analysis is done for Start-ups founded between 2013-18; (2) Funding Analysis is done for Start-ups founded between 2014-19 (3) Graph represents unique investors in a particular round size. It is likely that a investor may have invested across different round sizes in same or different start-ups.

Seed and early stage institutional investors are responding by increasing focus on downstream investments

ACCEL PARTNERS	Launched **ReBound** accelerator program focused on second and third time founders. Peer learning program is designed to engage 8-10 start-ups at a time.
BLUME VENTURES	Launched **Arka Venture Labs** in partnership with Silicon Valley based fund - BGV and Emergent. Initiative focuses on B2B start-ups and provides them up to $200K in investment with mentorship
Lightspeed INDIA PARTNERS	Operates **Extreme Entrepreneurs** zero-equity and zero-cash program focused on early stage start-ups. Program engages 8-10 start-ups each year while providing certain benefits to Top 40 applicants.
SEQUOIA	Launched **Surge** accelerator program for India and South Asia. Program invests up to $2Mn in each start-up and encourages co-investment.

Primary drivers:

- Provides an opportunity to take position in start-ups early-on, potentially leading to better returns
- Allows investor to solve for "opportunity cost"
- Tap into opportunity available due to reduction in angel investors
- Allows for choice at later stages where the fund primarily operates
- Allows investor to create a moat around primary investment stage by offering tangible value

Source: accel.com, arka.vc, ee.lsvp.com, surgeahead.com

Illustrative / Not Exhaustive

Deployment pressure for existing investors and proactive focus from global investors is expected to make ecosystem more competitive

Return of Angel Investors

With increase in early stage investments and overall improving rate of follow-on funding – angel investors are expected to return in 2020. These could be direct investments or through Angel Investment Funds – either way, the seed stage investments are expected to improve and become more competitive.

Increase in Fund of Fund

A new INR 20,000 Crore seed stage Fund of Funds announcement from Govt. of India is expected – this will make available capital for institutions to create more micro-VCs and VCs in the Indian ecosystem. To compete for quality start-ups – it is expected that investors focus on select thematic areas to offer deep capabilities and value beyond capital.

Ecosystem Arbitrage

Indian start-up ecosystem is more frugal compared to other geographies. This coupled with relatively lower valuations is becoming an attractive proposition for global investors to expand into new sectors / use-cases; and into newer geographies.

Increasing dry powder with institutional investors

As per SEBI, as on June 2019, Venture Capital Funds (category in Alternate Investment Funds) have raised commitments of INR 21,000+ Crores with INR 7000+ Crores raised. This is 50X growth compared to cumulative net figures released for Jun 2014. Coupled with overseas VC, PE and Corporate investors – Indian ecosystem will only become more competitive.

Intensifying corporate participation

Corporate participation in 2019 increased significantly with large enterprises investing, acquiring, and building commercial partnerships with start-ups. This is a reflection of their growing confidence in Indian start-up ecosystem.

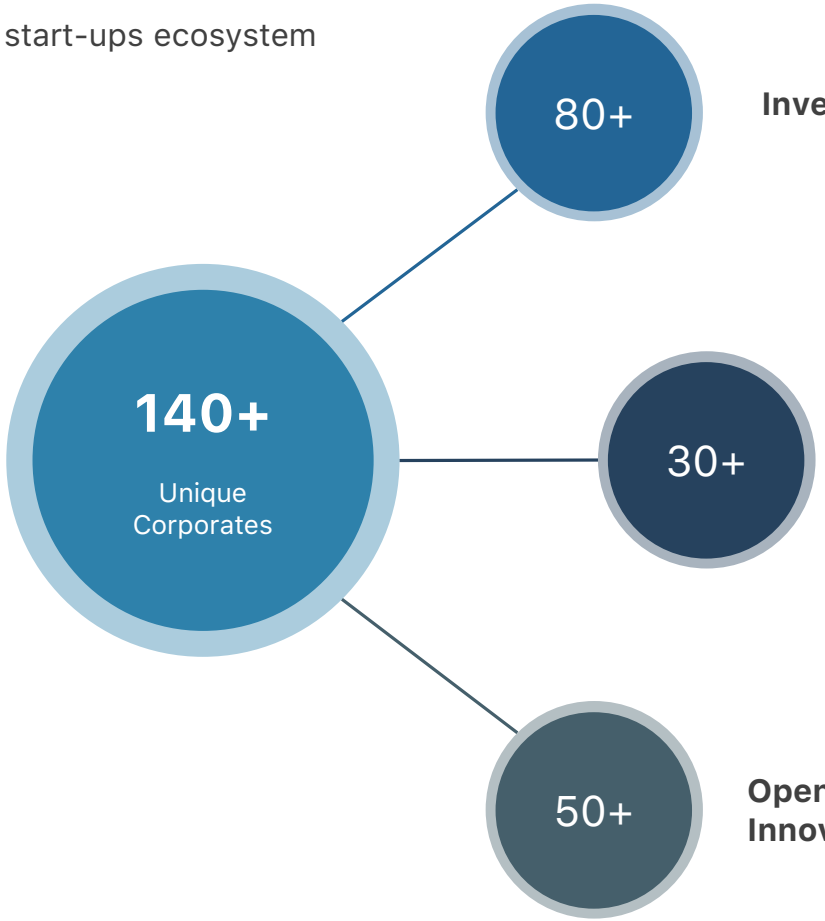
Corporate participation is important as it enables both revenue and exit opportunities for start-ups. Both are critical for the ecosystem to grow sustainably.

Given the relative low participation compared to other ecosystems, and ever increasing market pressure – corporate participation is expected to stay strong.

Corporates are using multiple approaches to engage with Indian start-ups

There is an increase in the number of unique corporates transacting with the start-ups ecosystem in India

12-15%
Growth Y-o-Y



Investments

Overall numbers are higher than 2018 (Jan-Aug)

M&A

Indian and Global corporates accounted for 50% of all acquisition deals in 2019 (Jan-Aug)

Open Innovation

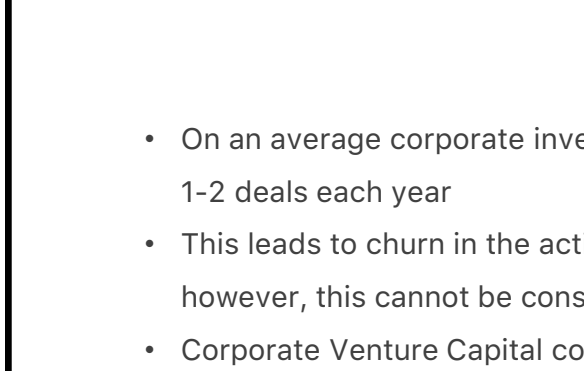
Companies are using a combination of accelerators, incubators and partner programs to engage start-ups.

Note: Analysis of deals and active programs in 2019 from Jan to Aug

Corporates are actively participating in equity funding rounds

New and inactive investors returned to India

Number of Active and Unique corporate investors by funding round size



80+

Number of corporate investors active in 2019 (Jan-Aug)

10%

Increase, compared to 2018 (Jan-Aug)

90%

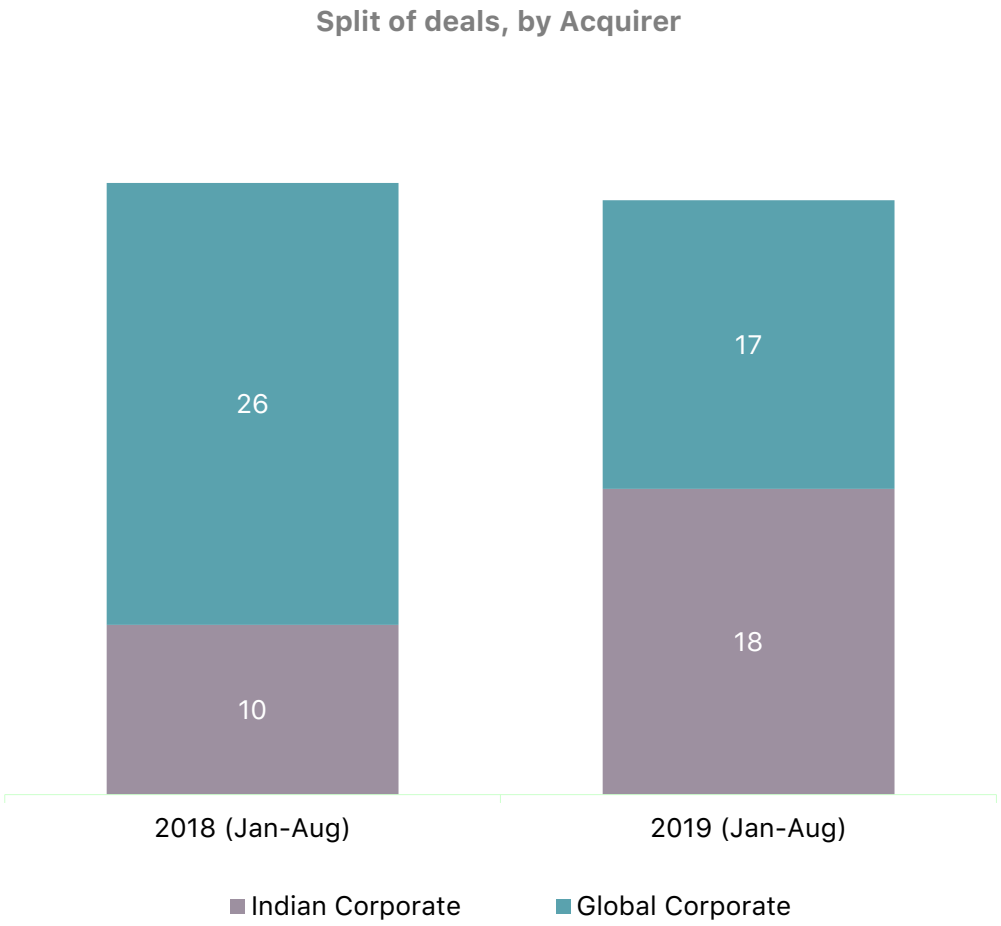
Of the corporate investors are global MNCs

- On an average corporate investors tend to participate in 1-2 deals each year
- This leads to churn in the active investors each year – however, this cannot be construed as lack of interest
- Corporate Venture Capital companies are an exception, with consistent participation in 3-4 deals each year on an average
- $10-50Mn round sizes are preferred by majority of the corporate investors

Note: Analysis of deals in 2019 from Jan to Aug

Illustrative / Not Exhaustive

Corporate participation in M&A is steady



Note: analysis of deals involving start-ups founded in 2009-19

2018 (Jan to Aug)	~	2019 (Jan to Aug)
36 M&A deals		**35 M&A deals**

- The share of Indian corporates in total deals has increased in 2019 primarily due to active participation by Reliance Industries
- Number of unique corporates, across all M&A transactions, decreased marginally, from 35 in 2018 (Jan to Aug) to 31 in 2019 (Jan to Aug)

Note: Analysis of all deals in Jan-Aug of 2018 and 2019

Acquisitions are driven primarily to build technology capabilities

50%

Building Tech Capabilities

Expand capabilities across Analytics, Innovation, Platforms, etc.

Acquired to integrate multilingual capabilities on its consumer platforms

Acquired to augment its contact center portfolio with predictive analytics.

24%

Product Portfolio Expansion

Strengthening of their position and expansion of product portfolio

Acquired to develop an add an augmented reality platform Holoboard to its portfolio.

Acquired to enhance its product portfolio to increase customer engagement

15%

Market Expansion

Expansion into new markets, enhancing business model etc.

Acquired to enter into case-based problem solving community platform & medical test preparation business in India

Acquired to expand in the online education space.

11%

Acqui-Hiring

Talent acquisition to improve pace of deep-technology adoption

Acqui-hired to build their COE specialising in Data Science and AI driven solutions.

Acqui-hired to work in its health and wellness space and digitize its retail services

Note: Analysis of deals in 2019 from Jan to Aug

Illustrative / Not Exhaustive

Corporates are taking initiatives for open innovation to capture extrinsic value of a start-up

- Corporates are leveraging start-ups to solve business challenges to deliver revenue growth, cost savings, and/or improve customer experience
- Corporates are increasingly building structured programs to build repeatable and replicable processes to collaborate, at scale

50+

Number of Active Open Innovation programs run by corporate R&D centers in India

14

Number of industry verticals across which corporates are collaborating with start-ups

60%

Of all corporates are Global MNCs with R&D centers in India

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.

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.

Note: Analysis of structured and active programs in 2019

Corporates are already registering success stories via structured collaboration programs

NASSCOM zinnov

Platform Evangelization

Corporates offer access to their platforms to start-ups

unity

Unity Technologies' Centre of Excellence helps gaming start-ups ideate, build and test new products.

EDISON STARTUPS POWERED BY GE HEALTHCARE

GE Healthcare's Edison X Platform allows healthcare start-ups to develop, deploy, manage, secure and distribute new solutions.

License or Vendor Agreement

Corporate leverages start-up for internal challenges or integration.

Stride + SOCIETE GENERALE

Stride licensed its SmartKYC application that has automated a client onboarding process for Societe Générale in Europe

neewee + AIRBUS

Neewee's procuSense, enhances certainty to manufacturing supply chain and procurement operations at Airbus using AI/ML

Joint Go-To-Market

Corporates partner with start-ups to cross-sell solutions

ALTIZON + wipro

Altizon's Datonis IIoT suite is a key component of Wipro's growth strategy in the industrial and energy sector

ZestIOT + CISCO

Cisco and ZestIoT have jointly closed on an agreement with a leading Indian Airport to smoothen their operations

Co-Innovation

Start-ups and corporates collaborate to co-create new solutions

ZASTI + MAERSK

Maersk is leveraging an inspection technology developed with Zasti for domain specific use case in containers.

Playment + BOSCH

Playment has worked on multiple pilots supported by Bosch and was able to achieve 99% accuracy on their computer vision models

Source: Zinnov CoNXT Research & Analysis

Illustrative / Not Exhaustive

Willingness to leverage multiple collaboration models and consistent market pressures are expected to sustain the trend

Relatively low Corporate Engagement Compared to other Ecosystems

Participation of Global and Indian Fortune 500 corporates in the Indian start-up ecosystem is lower than other ecosystems. While the gap is reducing there is a sufficient headroom for corporates already engaging with start-ups globally to become active in India as well.

Continuously increasing market pressures for corporates

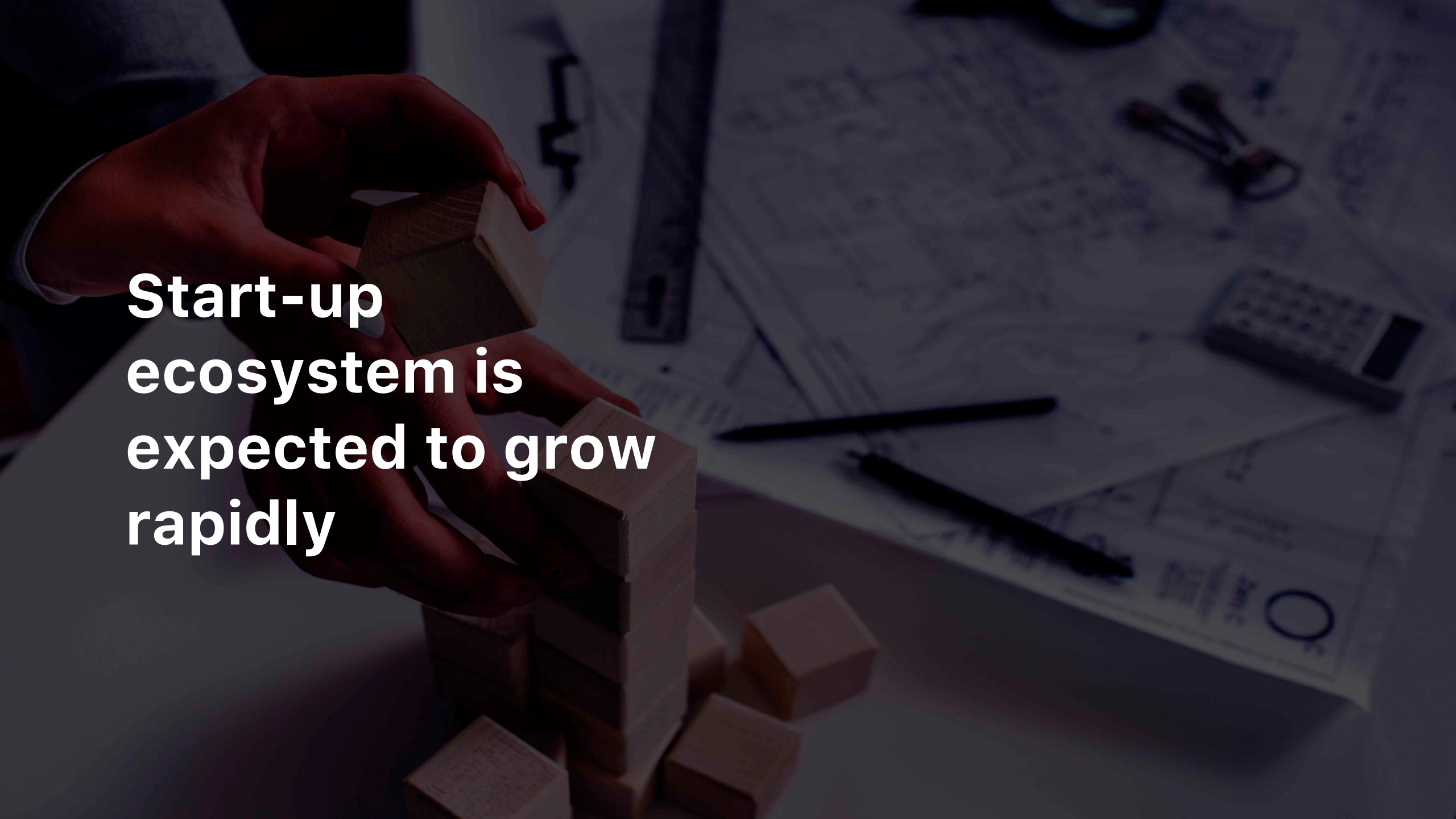
Public markets continue to demand growth. The pressure is not expected to reduce anytime soon. Corporates, in need to protect existing turfs and identify new growth opportunities have to look at start-up ecosystem for solutions. With increasing number of success stories it is expected that corporate participation will continue to intensify.

Increasing willingness to leverage multiple collaboration models

Corporates are increasingly engaging with start-ups beyond acquisitions and investments. They are entering into exchange and strategic partnerships with start-ups to find solutions and drive innovation, while helping them with various corporate specific resources. This willingness to execute open innovation initiatives is expected to create more revenue and growth opportunities for everyone.

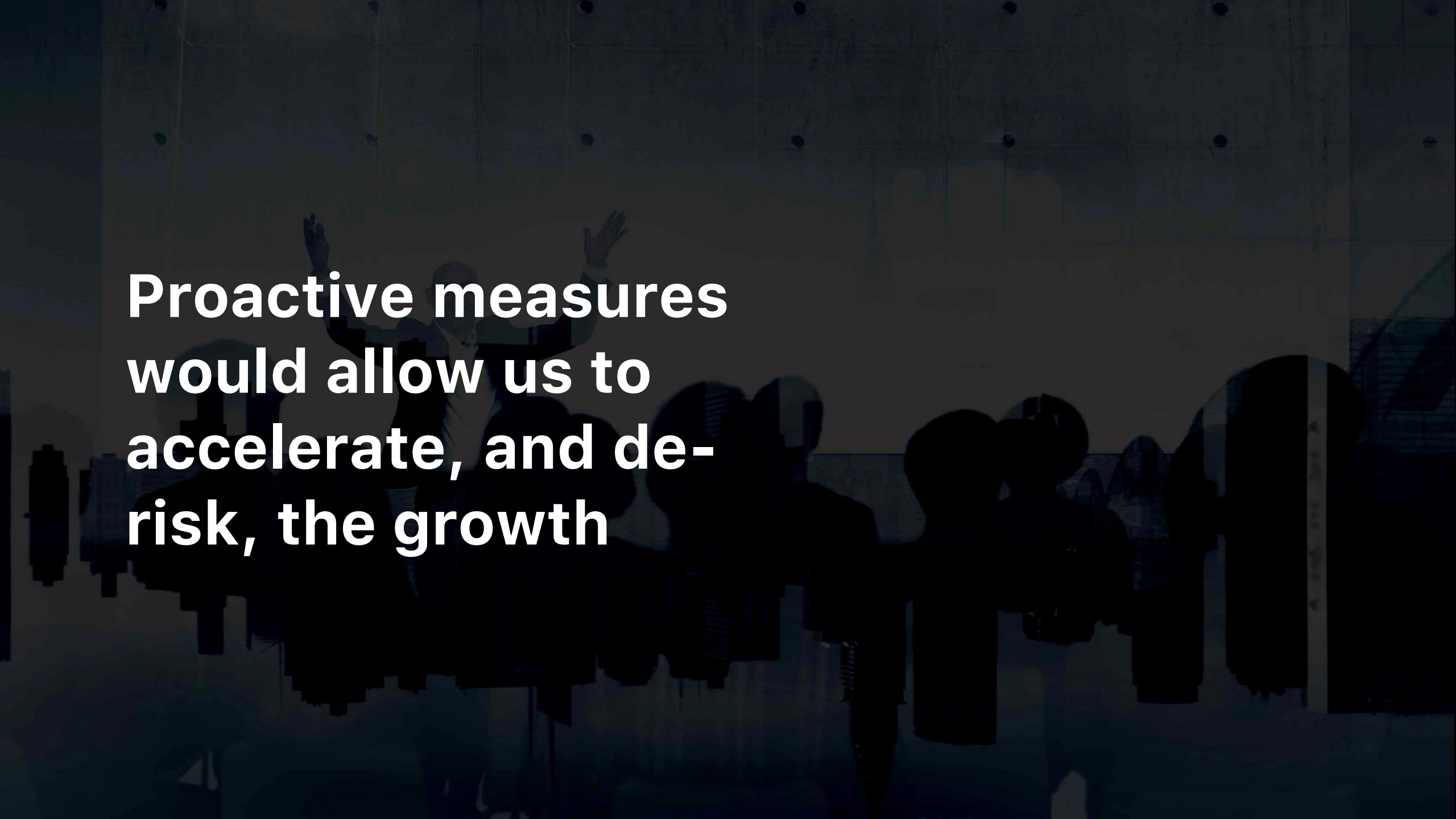
Ecosystem Arbitrage

Indian start-up ecosystem is more frugal compared to other geographies. This coupled with relatively lower valuations is becoming a attractive proposition for global investors to expand into new sectors / use-cases; and into newer geographies.


Start-up
ecosystem is
expected to grow
rapidly

Outlook 2025 for the Indian start-up ecosystem

Note: (1) Analysis of companies founded between 2009-14. Estimated numbers as on Dec 2014. Includes Flipkart in Unicorns. (2) Analysis of companies founded between 2009-25 (3) Calculated based on analysis of all funded and 500 unfunded start-ups. Valuation Est. is based on data model (4) Calculated based on DPIIT model with adjustment for outliers witnessing strong growth (5) For Unicorns, start-ups founded in or after 2000 are considered. (6). Analysis of companies founded between 2009-19


Proactive measures
would allow us to
accelerate, and de-
risk, the growth

Recommendations to enable revenue generation

Provide structures institution support for early stage start-ups to tap into global markets

Challenge:
- India is emerging as a hub for start-ups building B2B and B2B2C solutions with Software-as-a-Service business model
- Overseas markets provide a better premium for the services however due to limited availability of funds it is difficult for start-ups to aggressively tap into these markets

Illustrative Examples:
- JETRO, Japan's premier investment agency, operates Global Acceleration Hub in 12 countries to provide a launchpad for Japanese start-ups to tap into overseas markets including India, Europe, and North America
- Austrade, has built Launching Pads in five countries for Australian start-ups to generate cross-border revenue

Easy procurement norms of Public Procurement for Start-ups along with spend targets

Challenge:
- While the current policy provides an equal platform to start-ups across sectors vis-à-vis the experienced entrepreneurs/companies in public procurement, the process is long drawn and cumbersome
- For a start-up, pace of growth is the most critical metric and time – long cycles discourage participation

Illustrative Examples:
- Govt. of UK is working towards building a 'single market' for procurement from start-ups across all Government and public bodies. G-Cloud is a catalogue service that enables government buyers to purchase cloud-based IT services
- City government of Philadelphia has set-up FastFWD program for buying solutions from start-ups
- City government of Barcelona has taken a use case based challenge approach to fast track procurement from start-ups

Recommendation to increase seed stage investments

Create seed stage co-investment fund for angel groups

Challenge:
- Angel investors are a critical part of ecosystem flywheel for they provide risk-capital, experience and expertise at very early stage founders. Current structure of Fund of Funds, while valuable, is heavily titled towards institutional investors. To encourage participation of individual investors it is important take innovative measures beyond tax concessions.

Illustrative Examples:
- UK's Angel CoFund was set-up with GBP 100Mn corpus was set-up in 2011 to specifically invest alongside angel investors. Followed by London Co-investment Fund in early 2015 with a corpus of GBP 25Mn.
- Govt. of the Hong Kong SAR's Innovation and Technology Venture Fund with a corpus of $2Bn is working with 6 approved venture capital funds designated as "Co-Investment Partner" to reduce deployment time and cost

Bring focus on capability over capacity in accelerators and incubators

Challenge:
- India has 335+ active accelerators and incubators with capacity to support 5000+ start-ups annually
- Numbers are set to expand to 450+ by 2025 with policy support from Central and State Government agencies
- However, till date, no unicorn emerged from these programs and neither have they resulted in a major M&A or IPO

Illustrative Examples:
- Govt. of Israel provides additional funding support to accelerators and incubators after a competitive bidding process with proposal being measured on output metrics (like exits, follow-on funding, export revenue enabled) than input metrics (like number of events)

Recommendations to increase corporate participation

Expand CSR guidelines to increase capital availability and pace of deployment

Challenge:
- Current guidelines allow deployment of CSR funds only to technology and business incubators in an public institution.
- However, high majority of these programs have either no or poor success metrics. At the same time, private / industry backed programs have to spend more time on fund raising than on nurturing start-ups.

Illustrative Examples:
- Govt. of UK, Seed Enterprise Investment Scheme (SEIS) provides tax relief by allowing 50% of invested amount against income tax liabilities
- Govt. of Australia, allows investors a 20% non-refundable carry-forward tax offset for investments into start-ups

Encourage set-up of corporate innovation labs

Challenge:
- As an ecosystem, India is still viewed as a nascent ecosystem compared to Israel, US, and China; in some cases Europe
- Simultaneously, the ecosystem would not grow at high velocity if the corporate participation is low
- Corporate participation is needed to create revenue and exit opportunities for start-ups

Illustrative Examples:
- Innovation Labs Program, under Israel Innovation Authority (IIA), encourages open innovation by providing financial and non-financial support to corporates to build business aligned programs
- IIA provides direct funding support to start-ups; but doesn't require the entrepreneur to establish a company until and unless they require funding support (allows internal teams to participate)

Recommendations to strengthen support ecosystem

Build industry-specific world-class innovation clusters

Challenge:
- Israel is known as a cybersecurity hub, United Kingdom like Singapore is emerging as financial services hub-these hubs are attracting start-ups, corporates, investors and ecosystem enablers from all over the world to set-up their presence
- India, in spite of its market size and talent, is not known as a specialist for any industry

Illustrative Examples:
- Beyond providing schemes similar to Start-up India, the Govt. of Singapore has taken firm policy measures through its institutions like Monetary Authority of Singapore to build favorable policy environment for financial services start-ups
- Govt. of Canada is investing up to $950M to support business-led Innovation Superclusters in Protein, Digital Technology, Advanced Manufacturing, and Ocean industries

Build industry-specific physical and digital sandboxes

Challenge:
- In critical and regulated industries like transportation, financial services, healthcare, smart cities – it is critical for a start-up to have access to right building blocks and controlled environment to rapidly deploy, test and iterate solutions
- These controlled environments, in form of digital data sandbox or physical smart cities sandbox, are needed for India to attract smartest entrepreneurs to solve large, underserved and core challenges

Illustrative Examples:
- In 2014, Singapore set-up Smart Nation Program Office to drive policy change and technology adoption for variety of challenges faced by the city nation. Cornerstone of Singapore's success as a smart city is in its ability to create digital, policy and physical sandboxes to test new technologies in real-world conditions

Note for Reader

Methodology

This report has been co-developed by **NASSCOM** and **ZINNOV MANAGEMENT CONSULTING** through a comprehensive three-month study to understand the Technology Product & Digital 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

15+ Interviews with industry experts

Secondary Research

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

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- **Rahul Mahto**
- **Atit Danak**

Definition of a start-up

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

01

Age: 5 YEARS

Active technology product / platform companies incepted in the last 5 years (in 2014 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: PROTOTYPE +

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 companies founded between 2014-19, calendar year 2019 (Jan-Aug), calendar year 2018 (Jan-Aug), until and unless specified otherwise.

Definition of Industry Verticals

Enterprise	B2B Enterprise Product companies targeting Horizontal solutions for Large Enterprises / SMBs E.g. Data Analytics/AI/ML Platforms, Development Platforms, Productivity Applications, Customer Services, Big Data/Cloud/Security Infrastructure, etc.
Healthtech	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.
Human Resource	Tech-enabled companies supporting Human Resources Activities E.g. Applicant Tracking systems, HR Management System, Candidate Assistance & Sourcing, Corporate Training, 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 & 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.
Fintech	Enables financial services, banking and insurance through technology E.g. Online Banks, Financial Management Apps, Payment Management Platforms, Crowdfunding Platforms, Lending Marketplace, Money Transfer Platform, Expense Management, 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 & 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 & Retailtech	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, Grocery & Home essentials, Home Services, Coupons, etc.

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Healthtech	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.
Human Resource	Tech-enabled companies supporting Human Resources Activities E.g. Applicant Tracking systems, HR Management System, Candidate Assistance & Sourcing, Corporate Training, 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 & 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.
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Definition of Industry Verticals

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)
Media & 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.
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
Aerospace & Defense	Tech-based companies supporting the Defence and Aviation Industry E.g. Military Drones, Green Propulsion Systems developers, Sensors and Platforms for security applications etc.
Energy & 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 & Foodtech	Tech-enabled companies supporting the Food & Food-tech industry E.g. Online Food Ordering, Restaurant Management Cloud Solutions, Food Discovery Platform
SCM & 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 Goods Transportation Marketplace, etc.
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 & Marketing	Provides direct advertising and marketing assistance through technology E.g. Content marketing, influential marketing, Push notifications etc.

Other Definitions

Industry Sector Maturity

Mature Sectors	Sectors with a large unfunded and funded start-up base with high adoption of deep-tech and investor activity.
Emerging Sectors	Sectors with a medium unfunded and funded start-up base with relatively low-to-high adoption of deep-tech and medium-to-high investor activity.
Nascent Sectors	Sectors with a small start-up base and hence relatively lower investor activity.

Start-up Hubs

Seed Stage	Funding stage where a start-up raises an amount less than equal to $7Mn as reported by media.
Early Stage	Funding stage where a start-up raises an amount between $7Mn to $30Mn as reported by media.
Late Stage	Funding stage where a start-up raises an amount greater than $30Mn as reported by media.

Funding Stages

Nascent Hubs	Start-ups Locations with less than 20 funded start-ups
Emerging Hubs	Start-up Locations with more than 20 funded start-ups


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