Indian Tech Start-up Ecosystem

- Leading Tech in the 20s

EDITION 2019
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.
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
Startup ecosystem snapshot

- # of Start-ups\(^1\) incepted during 2014-19, overall base growing at 12-15% y-o-y
- # of Start-ups added\(^2\) in 2019; steady and sustained growth in new Start-ups
- # of Unicorns\(^3\) added in 2019; total 24 unicorns are active in India
- Total funding received by Start-ups\(^1\) in 2019 (Jan-Sep)
- Share of all start-ups leveraging deep-tech\(^4\); 40% CAGR since 2014
- Active institutional investors\(^5\); up from 310+ in 2018
- Active incubators and accelerators; up from 320+ in 2018
- 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 active¹ 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

### 2019
- **# of Unicorns**: 24
- **Cumulative Valuation**: $95-101 Bn
- **# of Direct Jobs**: 390-430k
- **# of Indirect Jobs**: 1400-1600k

### Recommendations

**To enable revenue generation**
- Provide institution support to tap into global markets
- Ease norms and process for public procurement from start-ups

**To increase corporate participation**
- Expand CSR guidelines to increase capital availability and pace of deployment
- Encourage setting-up for corporate innovation labs

**To increase seed-stage investments**
- Create seed stage co-investment fund for angel investors
- Bring focus on capability over capacity in accelerators and incubators

**To strengthen support ecosystem**
- Build industry-specific world-class innovation clusters
- Build industry specific physical and digital sandboxes

### 2025
- **4X**

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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

<table>
<thead>
<tr>
<th></th>
<th>China²</th>
<th>USA²</th>
<th>India</th>
<th>U. K¹</th>
<th>Germany¹</th>
<th>Israel²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Unicorns³</td>
<td>206</td>
<td>203</td>
<td>24</td>
<td>21</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Avg. Time to Unicorn (Years)</td>
<td>4 - 6</td>
<td>6 - 8</td>
<td>6 - 8</td>
<td>7 - 9</td>
<td>6 - 8</td>
<td>5 - 7</td>
</tr>
<tr>
<td>Avg. Valuation per Unicorn ($ Bn)</td>
<td>~3.8</td>
<td>~3.5</td>
<td>~3.2</td>
<td>~2.4</td>
<td>~2.0</td>
<td>~1.3</td>
</tr>
<tr>
<td>Innovation Clusters with min. 1 Unicorn⁴</td>
<td>18</td>
<td>24</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Unicorns added in 2019</th>
<th>Location</th>
<th>Total Funding</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>icertis</td>
<td>Pune</td>
<td>$330 Mn</td>
<td>Cloud-based contract management platform</td>
</tr>
<tr>
<td>druva</td>
<td>Pune</td>
<td>$211 Mn</td>
<td>Backup &amp; data loss prevention solution for enterprises</td>
</tr>
<tr>
<td>OLA ELECTRIC</td>
<td>Bangalore</td>
<td>$306 Mn</td>
<td>Developer electric mobility services &amp; charging infrastructure</td>
</tr>
<tr>
<td>DREAM11</td>
<td>Mumbai</td>
<td>$100 Mn</td>
<td>Online platform for playing real time fantasy cricket and football</td>
</tr>
<tr>
<td>Delhivery</td>
<td>Delhi</td>
<td>$781 Mn</td>
<td>Logistics services for Indian e-commerce companies</td>
</tr>
<tr>
<td>bigbasket</td>
<td>Bangalore</td>
<td>$885 Mn</td>
<td>Online retailer of grocery products</td>
</tr>
<tr>
<td>RIVIGO</td>
<td>Gurgaon</td>
<td>$238 Mn</td>
<td>Tech-enabled logistics with a truck fleet of its own</td>
</tr>
</tbody>
</table>

Overall

- Unicorns: 24
- % share of B2B: 44%
- Cities: 07
- % of start-ups with overseas market: 44%

In 2019

- Unicorns: 07
- % of start-ups with overseas market: 28%

Source: Zinnov CoNXT Research and Analysis
Overall, the Indian start-up ecosystem is growing steadily

- **2012-2017**: 6600-7100 Start-ups, 9-12% Growth
- **2013-2018**: 7700-8200 Start-ups, 12-15% Growth
- **2014-2019**: 8900-9300 Start-ups, 12-15% Growth

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

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

- **$56-62Bn**
  Cumulative valuation of start-ups

- 21% Share of Unicorns founded in 2014-19

- 24% Share of start-ups at Series C+ funding stage (excluding Unicorns)

- 40% Share of start-ups at Series A and/or Series B funding stage

- 12% Share of angel or seed funding stage start-ups

Illustrative Start-ups

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

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.

High Growth (CAGR >50%, since 2014)

- EdTech
- Fintech
- Mobility
- Automotive
- Healthtech

Medium Growth (CAGR >35%, since 2014)

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

Note: Only sectors with 200+ active start-ups have been considered.
Fintech, enterprise, and retail tech are the most mature sectors with strong metrics across dimensions

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

- 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

Global Acquisitions by Indian companies

- **OYO Rooms** + **Danamica**
- **Qianyu Islands**
- **LEISURE**
- **druva** + **CloudLanes**
- **BYJU'S** + **Osmo**
- **freshworks** + **mobiquity**
- **HEXWARE**

M&A Deals in 2019 (Jan-Aug)

- 70+
- 40+

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\(^1\), in total funding, was only 21% against 48% in the previous year – reflecting the Indian ecosystem’s depth

<table>
<thead>
<tr>
<th>Total and Stage-wise Investment in $ Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 (Jan to Aug)</td>
</tr>
<tr>
<td>Seed</td>
</tr>
<tr>
<td>Early</td>
</tr>
<tr>
<td>Late</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Location</th>
<th>Share of start-ups by location</th>
<th>Illustrative Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangalore</td>
<td>23-24%</td>
<td>fisdom, unacademy, sigtaple, rentmoji, MoneyView</td>
</tr>
<tr>
<td>Delhi-NCR</td>
<td>20-21%</td>
<td>indifi, xpressbees, cars24, Shuttl</td>
</tr>
<tr>
<td>Mumbai</td>
<td>12-13%</td>
<td>PharmEasy, QCKO, flock, kizaht</td>
</tr>
<tr>
<td>Others</td>
<td>42-45%</td>
<td>ElasticRun, ElasticRun, ElasticRun, Vue.ai</td>
</tr>
</tbody>
</table>

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
- Hyderabad
- Pune
- Chennai

CAGR in Number of start-ups since 2014: 51%

Emerging Start-up Hubs
- Ahmedabad
- Jaipur
- Kolkata
- Kochi

CAGR in Number of start-ups since 2014: 55%

Nascent Start-up Hubs
- Thiruvananthapuram
- Kanpur
- Chandigarh
- Coimbatore

CAGR in Number of start-ups since 2014: 45%

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

- 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
Early indicators from nascent start-up hubs are positive

- 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
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,
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

**Maturity Index**

\[ = f (\text{No. of start-ups, } \% \text{ of funded, No. of Unicorns, Adoption of deep-tech}) \]

**Investment Index**

\[ = f (\text{Total investment / Total Start-up, Funding spread across stages}) \]

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**Mature Sectors**

- Fintech
- Healthtech
- Enterprise
- Retail & Retail tech

**Emerging Sectors**

- Edtech
- SCM & Logistics
- Mobility
- Travel & Hospitality
- …

**Nascent Sectors**

- Industrial & Manufacturing
- Gaming
- Agritech
- Media & Entertainment
- …

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**Key Drivers**

- **Fintech**: Financial Inclusion, Lending, Wealth Management, Banking and Insurance Tech
- **Healthtech**: Addressing awareness, affordability and accessibility
- **Enterprise**: Horizontal and vertical solutions for large, medium and small business – locally and globally
- **Retail & Retail tech**: 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

<table>
<thead>
<tr>
<th></th>
<th>Enterprise</th>
<th>Fintech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Active</td>
<td>1600+</td>
<td>830+</td>
</tr>
<tr>
<td>Number of Funded</td>
<td>250+</td>
<td>230+</td>
</tr>
<tr>
<td>Start-ups</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Popular Use-cases
- Data Access Management
- Automated Subscription Billing
- Business Process Automation
- Business Infrastructure Management
- Business Intelligence

### Emerging Use-cases
- Encrypted Data Transmission / Storage
- Business Process Automation
- Cloud Optimization
- Cognitive RPA software for enterprises

### Illustrative Start-ups
- Cloud hosting & Data Center solutions: [Zapp.ai], [InfoWorks], [Facilio]
- Cognitive RPA software for enterprises: [Zapp.ai]
- Solution for facility management: [Facilio]

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

### Healthtech

<table>
<thead>
<tr>
<th>Number of Active Start-ups</th>
<th>Number of Funded Start-ups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Online Pharmacy</strong></td>
<td>1050+</td>
</tr>
<tr>
<td><strong>Telemedicine</strong></td>
<td>220+</td>
</tr>
<tr>
<td><strong>Smart Tools for E-Prescription</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Low cost devices</strong></td>
<td></td>
</tr>
</tbody>
</table>

- **Popular Use-cases**
  - In-Home Healthtech
  - Discovery and booking

- **Emerging Use-cases**
  - Continuous Care
  - Assistive surgery

### Retail & Retail tech

<table>
<thead>
<tr>
<th>Number of Active Start-ups</th>
<th>Number of Funded Start-ups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B2C Marketplaces</strong></td>
<td>440+</td>
</tr>
<tr>
<td><strong>B2B Marketplaces</strong></td>
<td>170+</td>
</tr>
<tr>
<td><strong>Social Commerce</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Coupons &amp; Rewards</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Discounting Tools</strong></td>
<td></td>
</tr>
</tbody>
</table>

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

- **Social product discovery and commerce platform**
- **AI-based visual search and recommendation solution for fashion**
- **Online live streaming e-commerce platform for multi-category products**

- **Illustrative Start-ups**
  - hyperlocal platform for medicine ordering and diagnostic tests
  - Enterprise data operations and orchestration software.

- **Illustrative / Not Exhaustive**

Note: Analysis of start-ups founded between 2014-19
Strong investor-interest is supporting the growth of emerging sectors

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

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

Illustrative / Not Exhaustive
We are also witnessing the emergence of start-ups in nascent sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of Funded Start-ups</th>
<th>CAGR (since 2014)</th>
<th>Popular Use-cases</th>
<th>Illustrative Start-ups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agritech</td>
<td>20+</td>
<td>MEDIUM</td>
<td>Precision Agritech, Farm Implements</td>
<td>AGNEXT: Farm data analytics using satellites, drones and sensors</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Soil and crop monitoring, Predictive Maintenance</td>
<td>IoT based precision farming platform</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Land surveillance, Process Optimisation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quality Control, Plant Safety &amp; Security</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Content Tagging, Contextual Advertising</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Customer Analytics</td>
<td>eSports online Gaming platform with real cash prizes</td>
</tr>
<tr>
<td>Gaming</td>
<td>30+</td>
<td>MEDIUM</td>
<td>Fantasy League, Customer Analytics</td>
<td>Game development platform for casino-based games</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Development Platform</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Game monetisation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AR/VR</td>
<td></td>
</tr>
<tr>
<td>Industrial &amp; Manufacturing</td>
<td>45+</td>
<td>MEDIUM</td>
<td>Predictive Maintenance, Process Optimisation</td>
<td>Digital twin solution for manufacturing processes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quality Control, Connected Factory</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plant Safety &amp; Security</td>
<td></td>
</tr>
<tr>
<td>Media &amp; Entertainment</td>
<td>80+</td>
<td>MEDIUM</td>
<td>Content moderation &amp; translation, Contextual Advertising</td>
<td>Media content extraction engine powered by AI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Content Tagging, OTT</td>
<td>Machine-enabled content translation platform</td>
</tr>
</tbody>
</table>
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.
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.
Deep-tech adoption is pervasive across sectors

Shift in deep-tech adoption across sectors, by year

<table>
<thead>
<tr>
<th>Industry Vertical</th>
<th>2014</th>
<th>2017</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthtech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fintech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial &amp; Manufacturing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edtech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Estate &amp; Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail &amp; Retail tech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel &amp; Hospitality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCM &amp; Logistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agritech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food and Foodtech</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 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

% of Start-ups leveraging AI

- Enterprise: 29%
- Fintech: 9.3%
- Healthtech: 8.2%
- Retail & Retail tech: 6.8%
- Agritech: 2.7%

Use-Cases

- Enterprise:
  - RPA
  - AI PaaS
  - Risk & Threat Detection
  - Personalization
  - Recommendation Engines
  - Predictive Analytics

- Fintech:
  - Robo Advisors
  - Credit Scoring
  - Portfolio Management
  - Fraud Detection
  - Risk Management

- Healthtech:
  - Consultations
  - Surgical Robots
  - Diagnosis
  - Hospital Management
  - Assistive Surgery

- Retail & Retail tech:
  - SCM
  - In-Store Experience
  - Product Creation
  - Personalization
  - Quality Inspection

- Agritech:
  - Monitoring Soil and Crops
  - Agro Bots
  - Supply Chain
  - Automated Irrigation
  - Weather Tracking

% Share of Funding under AI

- Enterprise: 20%
- Fintech: 21%
- Healthtech: 30%
- Retail & Retail tech: 11%
- Agritech: 2%

Illustrative Start-ups

- Agila 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
- PersonalBots: YOI-2017 Total Funding-$474K Description- Debt collection automation system
- PracticAI: YOI-2016 Total Funding-$120K Description- Virtual assistant for patient engagement & task automation in hospitals
- Bewgle: YOI-2016 Total Funding-$120K Description- AI-based customer review analytics
- Fable AI: YOI-2018 Total Funding-$120K Description- AI+IoT platform for precision Agritech
- IntelligentPak: YOI-2016 Total Funding-$620K Description- Personal stylist tool for online retailers
- Food Quality: 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.

**% Share of start-ups under IoT**
- **Industrial and Manufacturing:** 24%
- **Real Estate:** 19%
- **Healthtech:** 11%
- **Enterprise:** 9%

**Use-Cases**
- **Industrial and Manufacturing**
  - Predictive Maintenance
  - Process Optimization
  - Shop Floor & WIP Intelligence
  - Process Optimization

- **Real Estate**
  - Smart Devices for Individual Homes
  - Smart Waste/Water Management
  - Sensor Enabled Infrastructure Management
  - Predictive Traffic Flow

- **Healthtech**
  - Fitness/Health Tracker Device
  - Remote Health Monitoring
  - Hospital Inventory Management
  - Outpatient Services

- **Enterprise**
  - Cloud Analytics
  - End to End/M2M Platform
  - Device Management
  - IoT Infra for Edge/Fog Computing

**% Share of funding under IoT**
- **Industrial and Manufacturing:** 12%
- **Real Estate:** 8%
- **Healthtech:** 32%
- **Enterprise:** 12%

**Illustrative Start-ups**
- **YOI-2015**
  - Total Funding: $6.1M
  - Description: Big data and predictive analytics platform for manufacturing
- **YOI-2014**
  - Total Funding: $908K
  - Description: Ready-to-deploy, intelligent, wireless sensors for home automation
- **YOI-2015**
  - Total Funding: $10M
  - Description: Provides Smart urban infrastructure 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

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Blockchain start-ups in India</td>
<td>110+</td>
</tr>
<tr>
<td>CAGR since 2014, albeit on low base</td>
<td>90%</td>
</tr>
<tr>
<td>Number of sectors where blockchain is being leveraged</td>
<td>8+</td>
</tr>
<tr>
<td>of start-ups are in Fintech segment</td>
<td>75%</td>
</tr>
</tbody>
</table>

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

### AR/VR

<table>
<thead>
<tr>
<th>Key Industries Served</th>
<th>Number of start-ups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edtech</td>
<td>26% CAGR since 2014</td>
</tr>
<tr>
<td>Retail &amp; Retail tech</td>
<td>80+</td>
</tr>
<tr>
<td>Media and Entertainment</td>
<td></td>
</tr>
<tr>
<td>Real Estate</td>
<td></td>
</tr>
<tr>
<td>Healthtech</td>
<td></td>
</tr>
</tbody>
</table>

**Key Use-cases**

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

**Illustrative Start-ups**

- NXG
- VirtualSpaces
- shifu
- JADO0Z

---

### Drones

<table>
<thead>
<tr>
<th>Key Industries served</th>
<th>Number of Start-ups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agritech</td>
<td>17.8% CAGR since 2014</td>
</tr>
<tr>
<td>Space and Defence</td>
<td>60+</td>
</tr>
<tr>
<td>Aerospace and Maritime</td>
<td></td>
</tr>
<tr>
<td>Energy and Utilities</td>
<td></td>
</tr>
</tbody>
</table>

**Key Use-cases**

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

**Illustrative Start-ups**

- TARTAN SRI
- BELLATRIX
- 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

<table>
<thead>
<tr>
<th>Technology</th>
<th>Number of Start-ups</th>
<th>Key Industries Served</th>
<th>Illustrative Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryptology</td>
<td>10+</td>
<td>Enterprise, Fintech</td>
<td><a href="#">Examples</a></td>
</tr>
<tr>
<td>Robotics</td>
<td>30+</td>
<td>Automotive, Healthtech, Fintech</td>
<td><a href="#">Examples</a></td>
</tr>
<tr>
<td>3D Printing</td>
<td>80+</td>
<td>Healthtech, Aerospace, Industrial &amp; Manufacturing, Electronics, Real Estate, Edtech</td>
<td><a href="#">Examples</a></td>
</tr>
</tbody>
</table>

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

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

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

**Blockchain + AI, + IoT**
- Patient care and diagnostics
- Automated trading and investments
- Air traffic control
- Improved data protection and data sharing

**AI + IoT + Drones**
- 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 to help reduce wastage.
- **Intello Labs** - Image recognition-based solutions to address deep and grave agricultural issues.

**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

**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.

**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 losses 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.
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

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

**Contextual Use-cases**
- Jan Dhan, Aadhar, Mobile

**INDIA STACK IN NUMBERS**

- **1.2B** Enrolments (till Oct 2019)
- **34.8B** Authentications (till Oct 2019)
- **1,148.3M** Transactions in Oct 2019
- **INR 1,91,359 Cr** Transacted via UPI in Oct 2019
- **7.6B** E-kyc processed (till Oct 2019)
- **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.

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
   - AuthBridge
   - FRSLABS

2. Payments
   - PhonePe
   - Razorpay
   - benow

3. Lending
   - indifi
   - EzCred
   - quikrloan

4. Paperless Consent
   - Leegality
   - digio
   - ezeDox

5. Tax Compliance
   - SPIDER
   - naapbooks
   - greenGST

Illustrative / Not Exhaustive
Success of India Stack in driving innovation is expected to compound with new and upcoming government platforms.

**Use Cases**

### Data Aggregation and Analytics
- **State-insurance systems**
- **Health-wellness clinics**
- **Ayushman Bharat Portal**
- **e-Hospitals / Apps**

### Data Security
- **Financial Information Providers**
  - Bank, GST Platform, Mutual Fund House, Insurance Provider, etc.
- **Financial Information Users**
  - Wealth Manager, credit lenders, etc.

### Tech-Driven Point Solutions
- **Encrypted Aggregated Account Information**
- **Financial Data Access Fiduciary**

### Socially Inclusive Solutions
- **Upskilling Companies**
- **Job Portals**
  - Academic Institutes
  - Employers

**National Health Stack**

- **Claims & Coverages**
- **Personal Health Records**
- **Health Analytics**

**Sahamati**

- **National Health Registries**

**Skills Registry**

**INDIA STACK**

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.
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*

### Number of Million Households, by income (Millions)

#### 2005
- **India 1**: > $15.4k annual gross HH income
  - 10.1 (4.5%)
- **India 2**: $2.3K - $15.4K annual gross HH income
  - 106 (50%)
- **India 3**: < $2.3K annual gross HH income
  - 93 (44%)

#### 2016
- **India 1**: > $15.4k annual gross HH income
  - 23.5 (8%)
- **India 2**: $2.3K - $15.4K annual gross HH income
  - 161 (60%)
- **India 3**: < $2.3K annual gross HH income
  - 82 (31%)

#### 2025 E
- **India 1**: > $15.4k annual gross HH income
  - 48.8 (16%)
- **India 2**: $2.3K - $15.4K annual gross HH income
  - 201 (66%)
- **India 3**: < $2.3K annual gross HH income
  - 55 (18%)
Start-ups with India 1 as primary market are focusing on user experience, personalization, and niche use-cases.

Illustrative use-cases and start-ups across different sectors

Wave 1
- Personal loans marketplace
- Insurance comparison portals
- E-wallets

Wave 2
- Investment platforms
- Expense tracking
- P2P lending platforms

Wave 3
- Credit score management
- AI-based wealth management
- Internet first banks

Fintech
- Online medicine stores
- Telemedicine portals
- Health record managers
- Wearables for health monitoring

Healthtech
- Health Information
- Parenting/Baby care services
- Diabetes management
- Assistive Tech

Education
- Multilingual test preparation sites
- Micro job/internship portals for students

Illustrative / Not Exhaustive

Note: Analysis of start-ups founded between 2014-19
For India 2, start-ups are using vernacular languages and business model innovation to target multiple use-cases

<table>
<thead>
<tr>
<th>Top Sectors</th>
<th>Trends</th>
<th>Use-cases</th>
<th>Illustrative start-ups</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-commerce</td>
<td>E-commerce platforms are leveraging vernacular platforms and social media to reach out to their customers</td>
<td>E-stores</td>
<td>Saarthi.ai, Myntra, CARS24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vernacular content</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Second-hand market</td>
<td></td>
</tr>
<tr>
<td>Fintech</td>
<td>To finance the unbanked and underbanked, start-ups are trying different models of loans, insurances, and investment platforms which leverage UPI for payments</td>
<td>P2P Lending</td>
<td>rupeek, SLICEPAY, toffee</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bite-size insurance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pay-day loans</td>
<td></td>
</tr>
<tr>
<td>Edtech</td>
<td>With the mobile phone penetration exceeding 700 Mn, Tech-based education has become the go-to delivery model disrupting traditional classrooms</td>
<td>Gamification</td>
<td>doucįnut, iChamp, vaqipu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Test Preparation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tutor Discovery and Doubt clearing</td>
<td></td>
</tr>
<tr>
<td>Healthtech</td>
<td>Start-ups are leveraging digital technology to improve access, affordability, and quality of Healthtech for the Tier II and Tier III populace</td>
<td>Online Pharmacy</td>
<td>Tettyon, MEDCORDS, EzeRx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telemedicine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low cost diagnostics</td>
<td></td>
</tr>
<tr>
<td>Agritech</td>
<td>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</td>
<td>Precision Agritech</td>
<td>AGRO Nxt, TARTANSENSE, MyCrop</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Farm implements</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IoT and Big Data</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Farmer Consultation</td>
<td></td>
</tr>
</tbody>
</table>

Note: Analysis of start-ups founded between 2014-19
20% of B2C start-ups are working towards building solutions for India 3 market with focus on necessities

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

Healthtech
- Gramin Healthtech
  - Provides affordable and accessible Healthtech facility in rural India through telemedicine
- Lifetrion Inno Equipment
  - Developed a portable phototherapy unit used in jaundice treatment of newborns in rural areas

Fintech
- 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.
Start-ups are also building solutions for digital SMBs

<table>
<thead>
<tr>
<th>Ubiquity Of Connectivity &amp; Communication</th>
<th>Speed Of Transactions</th>
<th>Rise In Discoverability</th>
<th>Enhanced Productivity</th>
<th>Technology Sophistication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Cost ISP</strong></td>
<td><strong>UPI Payments App</strong></td>
<td><strong>Product Discovery</strong></td>
<td><strong>Digital Banking</strong></td>
<td><strong>Workflow Management</strong></td>
</tr>
<tr>
<td>Sachet size broadband connection for SMBs at INR 2 per GB.</td>
<td>E-commerce payment and digital wallet unicorn</td>
<td>CMS enabled product discovery platform</td>
<td>Online platform for banking and intercompany settlement for SMEs</td>
<td>Analytics platform to track expenses reporting, sales leads, and other business workflows</td>
</tr>
<tr>
<td><strong>WiFi Management</strong></td>
<td><strong>POS and Self-checkout</strong></td>
<td><strong>Travel services Discovery</strong></td>
<td><strong>Business Process Management</strong></td>
<td><strong>RPA</strong></td>
</tr>
<tr>
<td>Retail WiFi solutions and real-time analytics for retailers.</td>
<td>SaaS enabled platform-independent, POS billing system</td>
<td>Aggregator of end-to-end travel and tourism operators</td>
<td>Mobile-based CRM platform and data management tool</td>
<td>RPA Tool for access control, version control, business &amp; IT reports, audit logging, etc.</td>
</tr>
<tr>
<td><strong>Reseller Network</strong></td>
<td><strong>Accounting</strong></td>
<td><strong>Accounting</strong></td>
<td><strong>Virtual Assistant</strong></td>
<td></td>
</tr>
<tr>
<td>E-commerce distribution channel for non-traditional SMBs</td>
<td>Mobile-based digital transaction recording solution for SMEs</td>
<td></td>
<td>AI-based on-demand concierge service for travel and hospitality SMEs</td>
<td></td>
</tr>
</tbody>
</table>

Source: Zinnov Digital SMB Report 2019
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

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

Note: Analysis of start-ups founded between 2014-19
Start-ups are building solutions across multiple sectors

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Fintech</th>
<th>Real Estate &amp; Construction</th>
<th>Retail &amp; Retail tech</th>
<th>Education</th>
<th>SCM &amp; Logistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>MoEngage</td>
<td>MoInvest</td>
<td>Foyr</td>
<td>Vue.ai</td>
<td>Unacademy</td>
<td>Locus</td>
</tr>
<tr>
<td>HQ: Bangalore</td>
<td>HQ: Bangalore</td>
<td>HQ: Hyderabad</td>
<td>HQ: Chennai</td>
<td>HQ: Bangalore</td>
<td>HQ: Bangalore</td>
</tr>
<tr>
<td>Total Funding Raised: $16.8 Mn</td>
<td>Total Funding Raised: $12.3 Mn</td>
<td>Total Funding Raised: $9.7 Mn</td>
<td>Total Funding Raised: $27 Mn</td>
<td>Total Funding Raised: $90.2 Mn</td>
<td>Total Funding Raised: $32.5 Mn</td>
</tr>
<tr>
<td>Fyle</td>
<td>Active Intelligence</td>
<td>Oxfordcaps</td>
<td>Headout</td>
<td>Oxfordcaps</td>
<td>Locus</td>
</tr>
<tr>
<td>HQ: Bangalore</td>
<td>HQ: Bangalore</td>
<td>HQ: Gurgaon</td>
<td>HQ: Bangalore</td>
<td>HQ: Noida</td>
<td>HQ: Bangalore</td>
</tr>
<tr>
<td>Total Funding Raised: $10.8 Mn</td>
<td>Total Funding Raised: $14.7 Mn</td>
<td>Total Funding Raised: $11.3 Mn</td>
<td>Total Funding Raised: $13.8 Mn</td>
<td>Total Funding Raised: $45 Mn</td>
<td>Total Funding Raised: $32.5 Mn</td>
</tr>
<tr>
<td>flock</td>
<td>Drip Capital</td>
<td>Innovaccer</td>
<td>Qure.ai</td>
<td>Innovaccer</td>
<td>WeInvest</td>
</tr>
<tr>
<td>HQ: Mumbai</td>
<td>HQ: Mumbai</td>
<td>HQ: Noida</td>
<td>HQ: Mumbai</td>
<td>HQ: Bangalore</td>
<td>HQ: Bangalore</td>
</tr>
<tr>
<td>Total Funding Raised: $45 Mn</td>
<td>Total Funding Raised: $45.1 Mn</td>
<td>Total Funding Raised: $11 Mn</td>
<td>Total Funding Raised: $2.3 Mn</td>
<td>Total Funding Raised: $10.6 Mn</td>
<td>Total Funding Raised: $12.3 Mn</td>
</tr>
</tbody>
</table>

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

Journey of start-ups foraying into global markets

**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 international banks to expand its operations to middle east

**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**
- 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**
- 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
- exceed
- BYJU’S The Learning App
- ToneTag
- stellapps
- SenseGiz
- iinteligar
- Sirion Labs
- Smartrivity
- RED WING LABS

Source: News media, Zinnov CoNXT Research and Analysis
Additionally, global unicorns and start-ups are leveraging the Indian ecosystem to build innovative products.

- 77% of all start-ups are in the Enterprise Tech sector.
- 48% of all start-ups have an R&D centre in India.
- 20+ global unicorns have an R&D centre in India. - 3X increase since 2015.
- 85% of R&D centres of global start-ups, in India, are based in Bangalore.

Source: Zinnov
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.
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

- 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.

Number of Unicorns added in 2019

- 07

% share of B2B in recent unicorns

- 71%

Number of Start-ups that achieved Unicorn status in

<table>
<thead>
<tr>
<th>Location</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi-NCR</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Bangalore</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Mumbai</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Chennai</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pune</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

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 with total funding raised greater than $50Mn, by founding year**

<table>
<thead>
<tr>
<th>Funding range</th>
<th>Start-ups founded in 2009-13</th>
<th>Start-ups founded in 2014-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-100 Mn</td>
<td>35</td>
<td>28</td>
</tr>
<tr>
<td>100-500 Mn</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>&gt; 500Mn</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

- 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

**Number of Start-ups having greater than $50 Mn funding**

- 120+ start-ups were founded between 2009-19
- 50+ start-ups were founded between 2014-19

Note: above stats do not include unicorns

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

- 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

<table>
<thead>
<tr>
<th></th>
<th>$ 50-100Mn</th>
<th>$ 100-500Mn</th>
</tr>
</thead>
<tbody>
<tr>
<td>As of 2017</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>As of 2018</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>As of 2019 (Till Aug)</td>
<td>24</td>
<td>28</td>
</tr>
</tbody>
</table>

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

Number of Sectors focused by potential unicorns: 13

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

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

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

- **Retail & Retail tech**
  - Industrial goods marketplace
  - Purchase assistance platforms
  - Horizontal platform

- **SCM & Logistics**
  - B2B logistics management
  - Goods and Freight monitoring
  - Freight transport booking

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

- **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

- **MSME**
  - OkCredit
    - Founded year: 2017
    - Sector: Fintech
    - Funding Raised: $84.87 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.
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

<table>
<thead>
<tr>
<th>Entrepreneurs</th>
<th>Invested Start-ups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kunal Behl</td>
<td>30</td>
</tr>
<tr>
<td>Angel Investor</td>
<td>KhataBook</td>
</tr>
<tr>
<td>Founder - Snapdeal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leena AI</td>
</tr>
<tr>
<td>Vijay Shekhar Sharma</td>
<td>25</td>
</tr>
<tr>
<td>Angel Investor</td>
<td>Paytm</td>
</tr>
<tr>
<td>Founder - Freshdesk</td>
<td></td>
</tr>
<tr>
<td>Girish Mathrubootham</td>
<td>22</td>
</tr>
<tr>
<td>Angel Investor</td>
<td>SPOTDRAFT</td>
</tr>
<tr>
<td>Founder - Freshdesk</td>
<td></td>
</tr>
<tr>
<td>Amit Ranjan</td>
<td>11</td>
</tr>
<tr>
<td>Angel Investor</td>
<td>TapChief</td>
</tr>
<tr>
<td>Founder - Slideshare</td>
<td></td>
</tr>
<tr>
<td>Ramakant Sharma</td>
<td>7</td>
</tr>
<tr>
<td>Angel Investor</td>
<td>Propellid</td>
</tr>
<tr>
<td>Co Founder - Livespace.com</td>
<td></td>
</tr>
<tr>
<td></td>
<td>gromo</td>
</tr>
</tbody>
</table>

- 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

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

Illustrative / Not Exhaustive
Pool of serial entrepreneurs is growing, slowly but surely

150+ Start-ups1 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)

Illustrative / Not Exhaustive

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

Illustrative List
Having witnessed from sidelines, investors are becoming entrepreneurs

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

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

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

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

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

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

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

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

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

Illustrative / Not Exhaustive

20+

Number of start-ups founded by former (fulltime) investors
The ecosystem flywheel is in motion with each successful start-up becoming a launchpad for a larger number of start-ups

Source: Zinnov CoNXT Research & Analysis

Other “Mafias”

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.
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

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

- 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
Angel investors are taking new approaches for deal sourcing and execution

1,100+ Number of active angel investors

Deal Sourcing

Organized Networks

Angel Networks

Investment Platforms

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

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

<table>
<thead>
<tr>
<th>Institution</th>
<th>Initiative</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCEL Partners</td>
<td>ReBound accelerator program</td>
<td>Second and third time founders, peer learning program engaging 8-10 startups at a time</td>
</tr>
<tr>
<td>BLUME Ventures</td>
<td>Arka Venture Labs</td>
<td>In partnership with Silicon Valley based fund - BGV and Emergent, focuses on B2B startups and provides up to $200K in investment with mentorship</td>
</tr>
<tr>
<td>Lightspeed India Partners</td>
<td>Extreme Entrepreneurs</td>
<td>Zero-equity and zero-cash program focused on early stage startups, engages 8-10 startups each year while providing certain benefits to Top 40 applicants</td>
</tr>
<tr>
<td>SEQUOIA</td>
<td>Surge</td>
<td>Accelerator program for India and South Asia, invests up to $2Mn in each startup and encourages co-investment</td>
</tr>
</tbody>
</table>

Primary drivers:
- Provides an opportunity to take position in startups 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 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.
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.

- 140+ Unique Corporates
- 80+ Investments
- 30+ M&A
- 50+ Open Innovation

Overall numbers are higher than 2018 (Jan-Aug)
Indian and Global corporates accounted for 50% of all acquisition deals in 2019 (Jan-Aug)
Companies are using a combination of accelerators, incubators and partner programs to engage start-ups.

12-15% Growth Y-o-Y

Note: Analysis of deals and active programs in 2019 from Jan to Aug
Corporates are actively participating in equity funding rounds

- 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

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

Illustrative / Not Exhaustive
Corporate participation in M&A is steady

- 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.

- Reliance
- TESSERACT
- Acquired to integrate multilingual capabilities on its consumer platforms
- Cisco
- CloudCherry
- Acquired to augment its contact center portfolio with predictive analytics.

24%
Product Portfolio Expansion
Strengthening of their position and expansion of product portfolio

- Reliance
- Acquired to develop an add an augmented reality platform Holoboard to its portfolio.
- M3, Inc.
- DailyRounds
- Acquired to enter into case-based problem solving community platform & medical test preparation business in India

15%
Market Expansion
Expansion into new markets, enhancing business model etc.

- Nazara
- Sku
- Acquired to enhance its product portfolio to increase customer engagement
- memq
- jOSAWACADEMY
- Acquired to expand in the online education space.

11%
Acqui-Hiring
Talent acquisition to improve pace of deep-technology adoption

- KPMG
- Recommendel Labz
- Acqui-hired to build their COE specialising in Data Science and AI driven solutions.
- Walmart Labs
- FloCare
- 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

**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.

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Note: Analysis of structured and active programs in 2019

- Number of Active Open Innovation programs run by corporate R&D centers in India: 50+
- Number of industry verticals across which corporates are collaborating with start-ups: 14
- Of all corporates are Global MNCs with R&D centers in India: 60%
Corporates are already registering success stories via structured collaboration programs

<table>
<thead>
<tr>
<th>Platform Evangelization</th>
<th>License or Vendor Agreement</th>
<th>Joint Go-To-Market</th>
<th>Co-Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporates offer access to their platforms to start-ups</td>
<td>Corporate leverages start-up for internal challenges or integration.</td>
<td>Corporates partner with start-ups to cross-sell solutions</td>
<td>Start-ups and corporates collaborate to co-create new solutions</td>
</tr>
</tbody>
</table>

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

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

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

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

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

**NeeWee**’s procuSense, enhances certainty to manufacturing supply chain and procurement operations at Airbus using AI/ML.

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

**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
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

<table>
<thead>
<tr>
<th></th>
<th>2014¹</th>
<th>2019⁶</th>
<th>2025²</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Unicorns</td>
<td>05</td>
<td>24</td>
<td>95-105</td>
</tr>
<tr>
<td>Cumulative Valuation</td>
<td>$10-20 Bn</td>
<td>$95-101Bn</td>
<td>$350-390 Bn</td>
</tr>
<tr>
<td># of Direct Jobs</td>
<td>80-85k</td>
<td>390-430k</td>
<td>1100-1250k</td>
</tr>
<tr>
<td># of Indirect Jobs</td>
<td>240-300k</td>
<td>1400-1600k</td>
<td>3900-4400k</td>
</tr>
</tbody>
</table>

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 tilted 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
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

Methodology

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

RESEARCH TEAM

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- Achyuta Ghosh
- Ashish Gupta

- Sudhir Gupta
- Aman Saraswat
- Gautham K
- 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

<table>
<thead>
<tr>
<th>Industry Vertical</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise</td>
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<tr>
<td><strong>Industrial &amp; Manufacturing</strong></td>
<td>Engaged in manufacturing of tech-enabled devices or machines; Construction/Mining sector, etc. E.g. IoT based Predictive Maintenance of Machines, 3D Printing (Manufacturing)</td>
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<tr>
<td><strong>Food &amp; Foodtech</strong></td>
<td>Tech-enabled companies supporting the Food &amp; Food-tech industry E.g. Online Food Ordering, Restaurant Management Cloud Solutions, Food Discovery Platform</td>
</tr>
<tr>
<td><strong>Media &amp; Entertainment</strong></td>
<td>Provides content for entertainment across the web and mobile medium E.g. News &amp; Media Apps, Live Streaming Apps, News Platforms, OTT Content, Video Intelligence Apps, etc.</td>
</tr>
<tr>
<td><strong>SCM &amp; Logistics</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Agritech</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Gaming</strong></td>
<td>Tech Innovation and facilitation in the Gaming Industry E.g. AR/VR Gaming, Community platform Games, Fantasy Gaming Platforms etc.</td>
</tr>
<tr>
<td><strong>Aerospace &amp; Defense</strong></td>
<td>Tech-based companies supporting the Defence and Aviation Industry E.g. Military Drones, Green Propulsion Systems developers, Sensors and Platforms for security applications etc.</td>
</tr>
<tr>
<td><strong>Legal Tech</strong></td>
<td>Tech-based companies for Legal help to Individuals/ Corporates E.g. Contract Management, Brand Protection and Anti Counterfeit, Legal Services Discovery/Booking marketplaces, etc.</td>
</tr>
<tr>
<td><strong>Advertising &amp; Marketing</strong></td>
<td>Provides direct advertising and marketing assistance through technology E.g. Content marketing, influential marketing, Push notifications etc.</td>
</tr>
</tbody>
</table>
### 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