SME Ecosystem - 5G Collaboration

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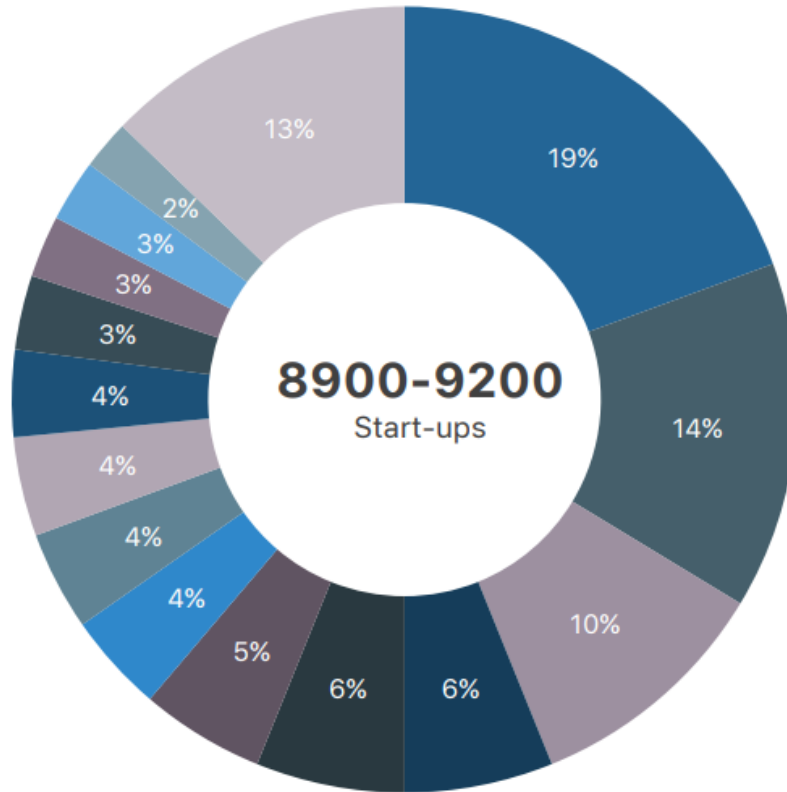
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Entrepreneurs are leveraging opportunities across sectors and markets
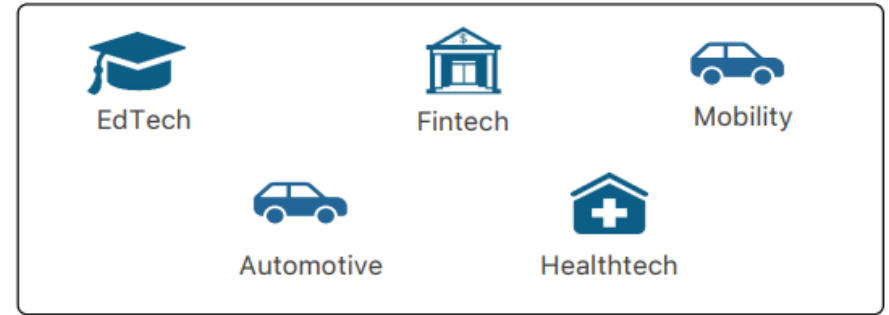
Any role for 5G?

sector-wise split of start-ups

8900-9200
Start-ups

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

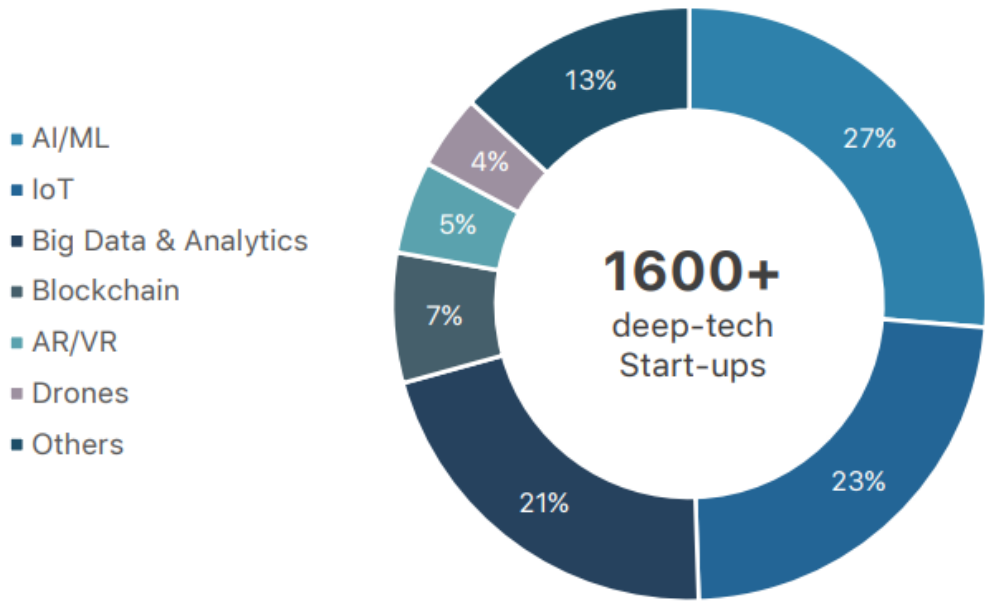Pie chart values: 19%, 14%, 10%, 6%, 6%, 5%, 4%, 4%, 4%, 4%, 3%, 3%, 3%, 2%, 13%

High Growth (CAGR >50%, since 2014)

- EdTech
- Fintech
- Mobility
- Automotive
- Healthtech

Medium Growth (CAGR >35%, since 2014)

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

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

Source: Nasscom, Zinnov

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

% share of start-ups by technology

- AI/ML
- IoT
- Big Data & Analytics
- Blockchain
- AR/VR
- Drones
- Others

1600+ deep-tech Start-ups

13% · 27% · 23% · 21% · 7% · 5% · 4%

Note: total will not be equal to 100

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

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

Source: Nasscom, Zinnov

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

AI + IoT

Cognitifai · BOLTT · LogiCloud

Key Use-Cases

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

Blockchain + AI, + IoT

happyloans · Simplify · SMART CENTRIC

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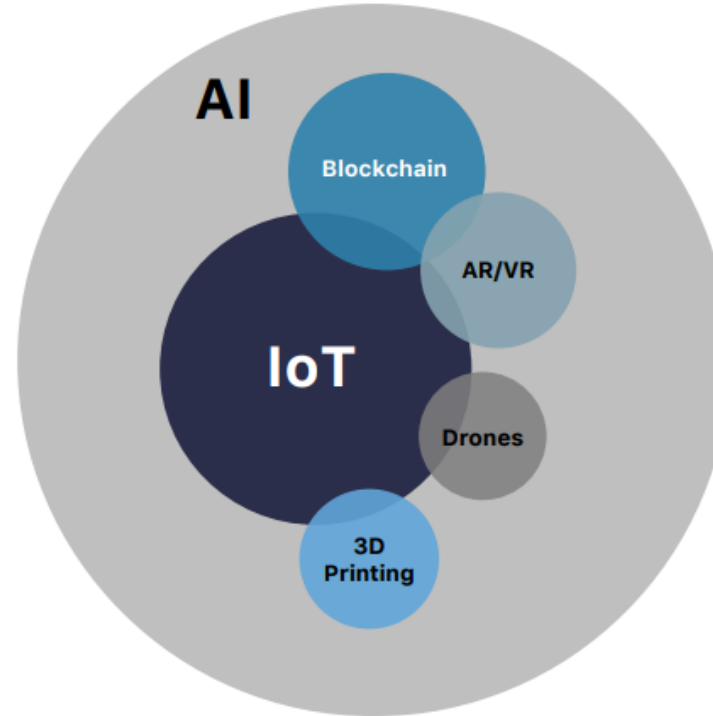
- Patient care and diagnostics
- Automated trading and investments
- Air traffic control
- Improved data protection and data sharing

AI · Blockchain · AR/VR · IoT · Drones · 3D Printing

AI + 3D Printing

Osteo3d · Boson Machines

Key Use-Cases

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

AI + IoT + Drones

SenseHawk · TARTAN SENSE · AUS

Key Use-Cases

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

Source: Nasscom, Zinnov

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

Healthtech

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

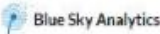**Yostra Labs** - Developer of medical devices for affordable diabetes and intravenous therapy

Agritech

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

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

Air and Water

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

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

Sanitation

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

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

Edtech

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

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

Energy

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

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

Source: Nasscom, Zinnov

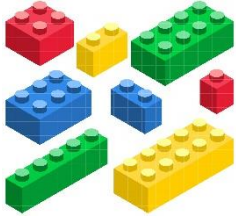# Design and Make by SMEs

Communication Products with IPRs

- LTE & Convergence Chipsets
- 5G NR SoC
- NB IoT Chipsets
- LTE Base-stations
- Rural Broadband
- Broadband & Broadcast
- Satcom products
- Macro, Femto and ultra-Compact LTE BTS
- Network in a Box
- IP Broadband
- 4G LTE Test Bed
- 5G Testbed
- Box Core Network

SMEs supplied 30,000 units of ICU ventilators

Fully functional medical X-ray classification deep-learning model and a reference design kit – A new solution is used for pneumonia and Covid-19 detection system

5G Building Blocks

PUBLIC & PRIVATE
TEST-BEDS
COEs

Urgency to build collaboration

TEST INFRASTRUCTURE

STANDARDS

TEC, BIS, TSDSI

TSPs, OEMs, SMEs

INDUSTRY

POLICY & SPECTRUM

CAPACITY BUILDING

NTIPRIT, NICF, INDUSTRY, THINKTANKS