

What's Bubbling in Startupland

- *Amitabh Kant**

India's rise from an emerging economy to a global startup leader has been rapid and impressive. In a short time, we've become the third-largest hub for innovation and entrepreneurship in the world. Today, startups are addressing some of our biggest challenges—from finance to agriculture, health, and education.

A key example is fintech, which has transformed thanks to the JAM trinity—Jan-Dhan, Aadhaar, and Mobile. This initiative has given most households access to basic banking, allowing quick, easy transactions and immediate access to credit, stocks, and insurance—all through mobile phones. With the growth of the Unified Payment Interface (UPI), digital payments now happen in just 30 seconds to a minute, making cashless transactions a daily habit for millions.

Our digital public infrastructure has paved the way for the private sector to innovate atop the tracks laid by the government. A study by Bank for International Settlement (BIS) says that the technological progress India achieved in seven years would have normally taken fifty years. This has been made possible due to the dynamism and vibrancy of our young startups.

According to Startup Blink's Startup Ecosystem Report 2024, the United States remains the top startup hub, driven by strong venture capital, a culture that rewards innovation, and a highly skilled workforce. To make India the world's number one startup nation, we need bold strategies that boost growth and create an environment where creativity and entrepreneurship can thrive.

The Future is Tech | Firstly, Indian startups must lead innovation in deep tech areas like AI, machine learning, blockchain, quantum computing, and robotics, which can transform the country. We need to build multilingual and multimodal AI models using our unique data, free from biases. The global race in AI has just started, and India must not fall behind or become dependent on Western tech. Instead, we should innovate quickly, cheaply, and efficiently—drawing inspiration from ISRO's space successes—and embrace open-source solutions to do more with less.

India also relies heavily on importing clean-tech products: 80% of solar tech, 85% of batteries, 65% of electric vehicles, and 50% of wind power equipment. By 2030, the value of these imports could hit around US\$100 billion, and by 2040, it could rise to US\$225 billion each year. To secure our economy and protect the environment, it's vital that India develops and produces these technologies locally, in a way that's cost-effective and competitive.

Deep-tech and clean-tech sectors take a long time to develop and need patient investment. To help these sectors grow, we should create a large fund called a Fund of Funds (FoF) that can share risks and invest money into smaller funds called Alternative Investment Funds (AIFs). These smaller funds will then invest in innovative startups working in these cutting-edge areas. This has been announced in the budget and needs quick implementation. As returns materialize over time, the FoF will share risks with AIFs, which should have a minimum lifespan of 12 years, extendable up to 20 years, providing the stability needed for sustained growth and innovation.

By Indians for Indians | Secondly, we must ensure that Indian resources flow into the startup movement on a significant scale. Currently, about 80% of funding for Indian startups comes from foreign investors. To truly grow our startup ecosystem, India must mobilize its own resources—like insurance companies, pension funds, and large family businesses—to invest more. Ideally, around 2.5 to 3% of their funds should go into startups.

Unlike the US, which has a strong flow of risk capital supporting new businesses, India needs to develop its own risk-capital base to nurture and sustain its young startups. This will boost homegrown innovation and help build a vibrant entrepreneurial ecosystem.

Academia meets Industry | Thirdly, industry and academia must work more closely. Professors should be allowed to own equity in startups in exchange for their expertise, encouraging more innovation. Research institutions should also be able to hire PhD students to solve industry problems, and rules should be set to enable companies to buy the patents and IP created in universities.

In 2024, India paid US\$14.3 billion in IPR royalties but only earned US\$1.5 billion from IPR licenses—indicating that we need to do much better at turning patents into market-ready

products. Strengthening the link between research and business will help ideas become real, marketable innovations.

Policy for Innovation | In terms of policy reform, India has made key changes in sectors like space, geospatial mapping, and drones. Startups like Dhruva, Agnikul, Skyroot, Pixxel, and Cosmos are leading space tech with rockets, engines, and satellites. Now, we need radical reforms for small modular reactors and to promote circular economy practices—especially for waste, scrap metals, and old vehicles.

Given our cost advantages, India can make significant progress in these sectors.

Our Diaspora Dividend | Fifth – amid tightening immigration policies in Western countries, India must tap into its diaspora to attract top-tier scientists and researchers in fields like AI, quantum computing, semiconductors, cybersecurity, and pharmaceuticals. This will propel India to the forefront of research and development.

To do this, India should launch ambitious programs inviting 500 distinguished academics from the top 100 universities worldwide to spend at least six months a year at Indian institutions over five years. They should be provided with a substantial one-time research budget to set up labs or start new projects, with teaching optional. Additionally, we should create 1,000 research sabbaticals for faculty from the top 200 universities, supported by attractive budgets and annual top-ups. Both initiatives must encourage collaboration with local academics and mentorship for PhD students and are integral to the One Lakh Crore investment in R&D.

Bridging the Skill Gap | Sixth, we must bridge the talent gap for technical skills in the startup ecosystem. India produces around 2.5 million STEM graduates each year, but there's a mismatch between the skills these graduates have and the needs of the startup ecosystem—especially in AI, machine learning, big data, product development, and cybersecurity. To bridge this talent gap, we must continuously upskill our workforce, update curricula, and tailor course offerings to match the changing demands of both domestic and global markets, particularly in emerging fields like climate technology.

Ethics and Trust | Finally, startup founders and entrepreneurs in India must follow high standards of corporate governance, financial management, and ethical behaviour—ideally

through self-regulation. Building a culture of accountability and transparency will help startups gain trust with stakeholders, attract investors, and ensure sustainable, long-term growth.

India has come a long way from the country we once knew, transforming rapidly in just a few years; and now, if India aims to become a developed nation and reach a \$30+ trillion economy by 2047, startups will need to be the main drivers of innovation and disruption. To achieve this, we must focus on building cutting-edge technologies, developing self-reliant industries, strengthening academia-industry links, reforming key sectors like space and nuclear, attracting top global talent, and rewarding a culture of long-term investment and ethical growth. These steps will unlock India's full potential and secure its place as a global innovation leader.

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