



# INDUSTRY 4.0 OPPORTUNITY FOR A STARTUP (WITH SPECIAL REFERENCE TO INDIA)

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## ABSTRACT

*Startup India is the government of India's flagship initiative aimed at catalyzing the entrepreneurial ethic by creating a robust and accessible ecosystem for development and growth in India. Robotics, data transfer, networking, machine learning, and actual information are all major segments of Industry 4.0, a holistic approach to manufacturing. It enables firms to have a better understanding of their processes and gain access to real-time data to boost efficiency, streamline processes, and drive innovation. This research paper seeks to how Industry 4.0 is an opportunity for a startup in India.*

**KEYWORDS** – Start-up, Industry 4.0

## INTRODUCTION

Startups can be especially useful and inventive working collaborators. Many multinational organizations are currently collaborating with startups in Industry 4.0 and see them as valuable collaborators in their road to digital transformation.

"India is on the threshold of a technological breakthrough, wherein younger talent is going to lead the charge through their start-ups, and businesses are embracing technology to create a paradigmatic transformation." In recent years, the Indian startup scene has experienced a significant improvement. The country is at the top of the list of countries that have made millions of dollars in acquisitions in tech-based businesses in the last year. Startups are becoming more well-known as a result of their ingenuity and excellent performance. Their success is fueled by factors such as big investments, restructuring operations, a changing period, and a huge national market.

Due to rising demand from customers, employees, and other stakeholders, most firms are starting to seek a balance between profitability and significance.

According to NASSCOM, India's IoT market would be worth \$15 billion by 2020, accounting for 5% of the international market. The key demand drivers for IoT are expected to be digitized utilities, smart cities, manufacturers, transportation & logistics, and automotive enterprises.

In India UgyogYantra Technologies, Ankur Jain's startup is focusing on creating Industry 4.0 innovations that create producing more efficiently and smarter.

To engage with the Indian government, the World Economic Forum opened its Centre for the Fourth Industrial Revolution in India in 2018. The National Institute for Transforming India (NITI) Aayog has been designated by the World Economic Forum as the recognized nodal agency for developing new policy frameworks for breakthrough ideas. The Indian government has already established the necessary policy framework and incentives for infrastructure development using a PPP (Public-Private-Partnership) model. Bharat Udyog Samarth 4.0 (Smart Advanced Manufacturing and Rapid Transformation Hubs) is India's initiative to expand for Industry 4.0 implementation, to propagate innovative approaches to Indian manufacturers by 2025 through procedures such as experience and ability to understand, under the Department of Heavy Industries (Ministry of Heavy Industries & Public Enterprises).

## LITERATURE REVIEW

Kumar, Dr. Gopaldas. (2018). The purpose of this research paper is to find the opportunity and challenges in the Indian startup

Chatterjee, Deepashree. (2020). Startup India - The numerous operational plans and programs that the administration has started through the Start-up India scheme are extensively discussed in this document. The report examines how productive India's Start-up program has been in stimulating entrepreneurship and contributing to the country's prosperity. A few successful start-ups have been offered as examples.



Dr. G Suresh Babu and Dr. K Sridevi – This research report focused on the concerns and difficulties of starting a business in India, as well as a review of government initiatives connected to starting a business in India.

### RESEARCH METHODOLOGY

This research work is entirely primarily focused on secondary data and retrieved from official websites, Google Scholar, Online Databases, publications, and periodicals, among other sources.

### THE OBJECTIVE OF THE STUDY

1. To briefly describe the many initiatives and schemes that the Indian government has introduced and implemented for Industry 4.0
2. The purpose of this research is to see how the industry 4.0 Start-up India program has affected the growth of start-ups in India.

3. To examine how the various strategies and programs under the Start-up India program can assist new businesses/firms in Industry 4.0 in overcoming various hurdles.
4. To discuss the many measures that start-ups should take to and becoming productive and prosperous of Industry 4.0

### Government initiative in Industry 4.0

#### SAMARTH Udyog Bharat 4.0

(An Industry 4.0 initiative of Ministry of HI & PE, Government of India)

SAMARTH Udyog has authorized five industry 4.0 facilities with distinct identities to increase consciousness and branding. It is stressed that these facilities will share capabilities, use a similar industry 4.0 infrastructure, and interconnect each other's resources to optimize capacity usage.

**These are projects under SAMARTH Udyog Bharat 4.0**

1. Centre for Industry 4.0 (C4i4) Lab Pune
2. IITD-AIA Foundation for Smart Manufacturing
3. I4.0 India at IISc Factory R & D Platform
4. Smart Manufacturing Demo & Development Cell at CMTI
5. Industry 4.0 projects at DHI CoE in Advanced Manufacturing Technology, IIT Kharagpur

### Some start-up companies who are winners under government start-up program 2020

Name	Type	About
UptimeAI Tech Private Limited	Big Data	UptimeAI adapts artificial intelligence for industrial engineers' needs, allowing them to identify infrastructure and productivity concerns before they constitute major breakdowns. Their analytics engine continuously reads sensor data from every piece of plant equipment, analyses it, and warns plant engineers of any potential problems. The programme can be used in a variety of industrial operations, including oil and gas, power, steel, and others.
Minionlabs India Private Limited	Internet of Things	Minionlabs saw an opportunity in the current for efficiency utilization monitoring within a building and decided to fill it. They save a lot of money on electricity bills by using machine learning and AI to obtain valuable intelligence. They also have a hand-sized sensor to capture data in case the electrical data isn't commonly accessible. Minion detects every appliance, equipment, and item in the workplace that turns on and off, and delivers a detailed report on predicted intelligence and maintenance.
Fabheads Automation Private Limited	3D Printers	Fabheads has developed and produced the FibrBots, a new line of 3D printers that print with carbon fiber rather than plastic or metal. The carbon fiber raw substance means allowing each other to print components that are as powerful as sheet metal but as light as polycarbonate, making them Asia's first and only corporation with this potential.
Scapic Innovations Private Limited	Augmented Reality Products	Scapic is transforming the manufacturing and commerce industry by developing a cloud platform that lets businesses create 3D and augmented reality experiences without having to write them. The platform also allows for the internet delivery of these experiences without the need for app installations. It's especially useful in industries



		where products require a lot of visuals, such as the automotive sector.
Planys Technologies Private Limited	Robotics	Planys is a research-based startup that focuses on smart underwater inspection solutions. Planys' technology detects cracks, flaws, and probable anomalies in a wide range of underwater assets. Ports, oil and gas pipelines, desalination or power plants, dams, bridges, and other infrastructure are examples. HD videography, GPS mapping, ultrasonic thickness inspection, and acoustic surveys are among the services provided by the startup.
GingerMind Technologies Private Limited	Computer Vision	To help the visually impaired function as independently as feasible, GingerMind creates AI-powered smartphone apps and wearables such as smartglasses. They also use artificial intelligence and augmented reality to make universities and organizations approachable to visual impairments. Their program Eye-D uses simply a digicam and network access to provide destination functions and more to impaired users.

### THE PROMINENCE OF START-UPS IN INDIA

India is currently the world's third-largest start-up ecosystem (by the number of start-ups) in 2020, up from 5000 in 2010.

This start-up ecosystem is facilitated by technology and broadband adoption, cloud computing, application programming interfaces (APIs), and a national payments stack.

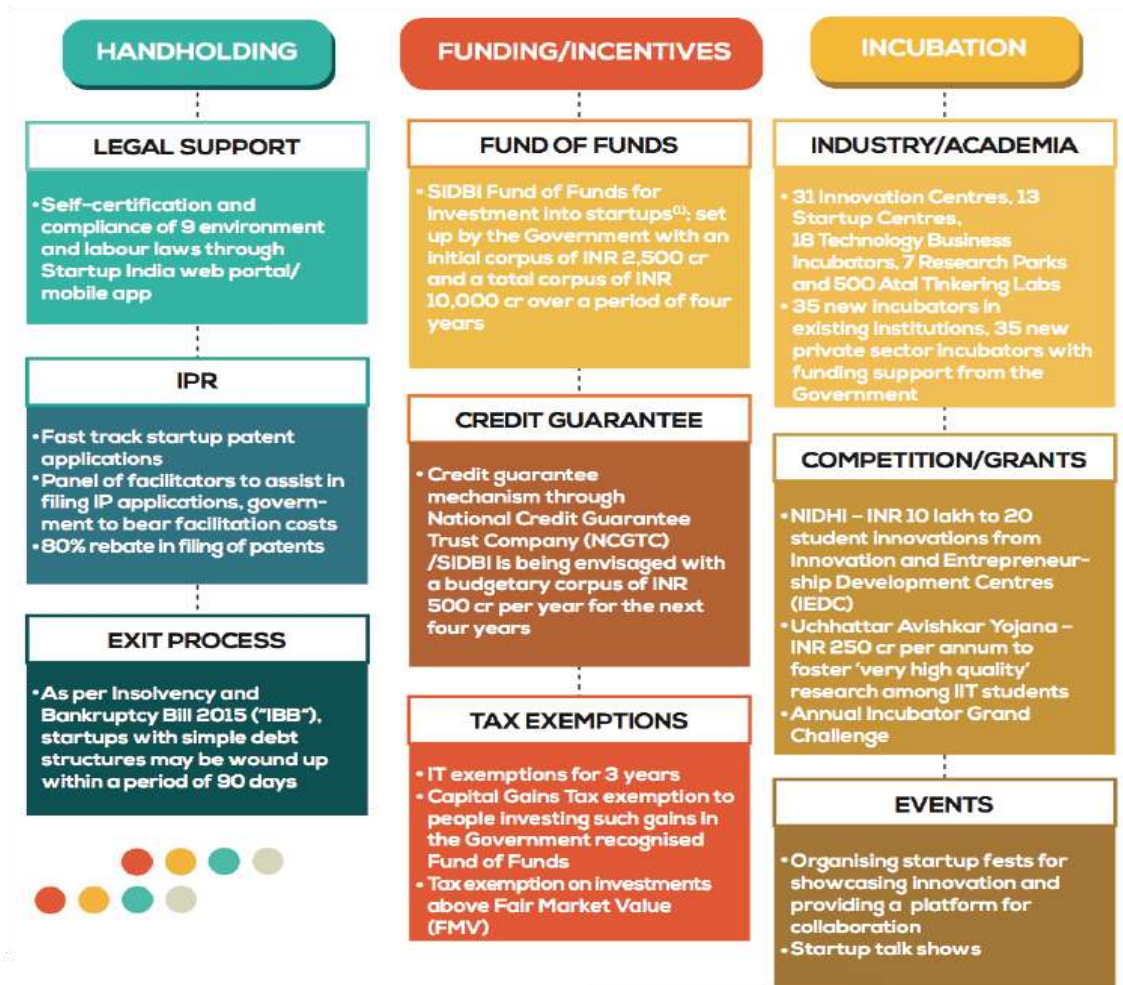
In addition, the Covid-19 epidemic has resulted in a higher number of Unicorn start-ups (start-ups valued at over \$1 billion) in India in 2021 than in 2011-20.

However, there are numerous obstacles (Building and Scaling an Indian Start-up, Diversity and the Digital Divide, Complex Regulatory Environment) that prevent entrepreneurs in India from realizing their full potential.

### GROWTH OF DIFFERENT INDUSTRY 4.0 APPLICATION HAS START-UP PROGRAM IN INDIA

According to a report, the growth of Artificial Intelligence start-ups in India increased by 0.28% in 2013 to 1.54% in 2019 the value increased by \$ 233 million in 2019 to \$ 20 million in 2013. As the year came to a close, the 3D printing industry received some good news when the Indian administration's Ministry of Electronics and Information Technology (MeitY) announced that it is working on a 3D printing policy. The 3D printing sector is expected to reach \$34.8 billion by 2024, according to forecasts from the IT Ministry, with a compound annual growth rate of 23.2 percent. In India, the industrial robots marketplace size was valued at 5,000 units in 2019 and is expected to increase to 11,760 units by 2025, with a consistent yearly development rate (CAGR) of 14.41 percent between 2020 and 2025. IoT is predicted to take up to 20% of the worldwide IoT marketplace in the next 5 decades, making it one of the most crucial parts of Industry 4.0 for India. The IoT segment in India is projected to develop at a CAGR of more than 28 percent between 2015 and 2020, according to the IBEF estimate.

### Government Initiative in start-up



Source - [www.startupindia.gov.in](http://www.startupindia.gov.in)

### CONCLUSION

The management is promoting various programs not just to benefit the present crop of companies, but likewise to encourage potential innovators, tech startups, and academicians among all sectors to become self-sufficient and progress Atmanirbhar Bharat's goal. Numerous initiatives have been introduced to aid the establishment of the Indian startup ecosystem. The Indian authorities have launched several steps to encourage members to begin businesses in India. There are many initiatives taken by the government to boost the startup in India like in tax exemption and if the startup fails there is a simple debt structure within 90 days. Through continuous assistance as well as opportunities across several stages, Startups India shall help accelerate entrepreneurial and sustainable growth by enabling sure those with enough capability to innovate as well as establish their independent firm are supported.

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