

Deep Tech Start-ups

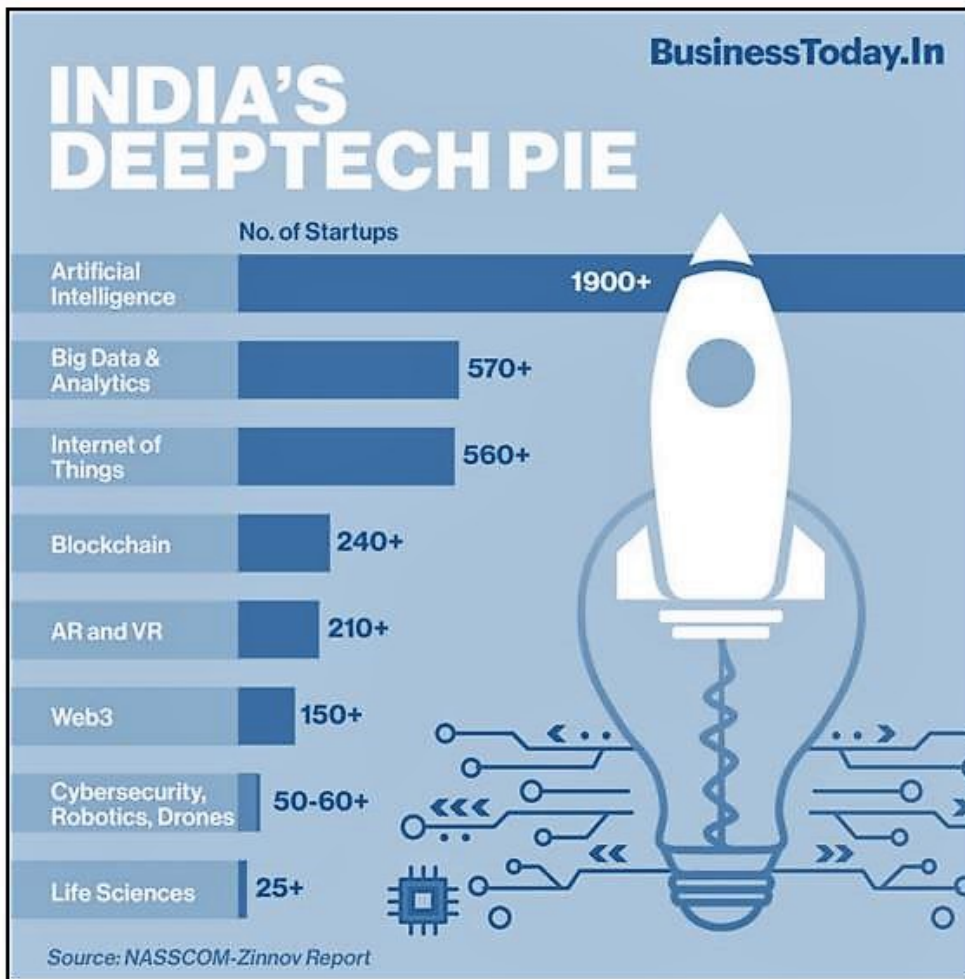
Why in news?

The office of the Principal Scientific Adviser to the Government has put out a draft National Deep Tech Start-up Policy.

What is deep tech start-up?

Deep-tech start-ups in India raised 2.7 billion dollars in venture funding in 2021, and accounts for over 12% of the country's overall startup ecosystem, as per NASSCOM study.

- It refers to a class of startup businesses that develop new offerings based on tangible engineering innovation or scientific discoveries and advances.
- Deep Technology refers to innovations founded on advanced scientific and technological breakthroughs like *Artificial Intelligence, Quantum computing, drones* etc.,
- The *Great Indian Start-up Boom* of the last decade, led by young entrepreneurs and catalysed by the government's Start-up India movement, created an environment of entrepreneurship in India.



What are the advantages of deep tech start-ups?

- **Address real world problems-** It can create more effective, efficient, and sustainable solutions.
 - Example- AI and machine learning can diagnose diseases, optimize supply chains and improve energy efficiency.
- **Create new industries-** The rise of quantum computing is expected to revolutionize fields such as finance, cryptography, and logistics.
- **Foster innovation-** It helps innovation in variety of fields.
 - IIT Madras's Research Park, which has incubated over 200 deep tech companies cumulatively valued at over ₹50,000 crore including those in space and aviation.
- **Increase the patents-** National Chemical Laboratory's Venture Centre supported to file and commercialise high-quality patents.
- **Encourage investments-** Discovery through start-ups founded by themselves foster independent decisions which leverages deep historical investments in S&T in its public labs and institutions.
- **Technology risks-** Deep tech startups are the main route through which India is taking technology risks, a crucial element to build new capabilities.

What are the key provisions under draft policy?

- **Aim-** To support and nurture the unique requirements of deep tech start-ups in India.
- It serves as a comprehensive framework to address the challenges faced by deep tech

startups and provide definitive policy interventions to enhance the ecosystem.

Pillars of the Draft National Deep Tech Startup Policy

Ensuring the security of india's economic future

Facilitating a seamless transition to a knowledge-driven economy

Bolstering national capability and sovereignty through atmanirbhar bharat imperative

Fostering ethical innovation

- **Enhance technology commercialisation**
 - Creating seamless partnerships between academic institutions, research labs and industry.
 - Technology commercialisation offices within academic institutes and research labs.
 - Providing a set of guidelines for commercialisation of publicly funded research.
- **Open Science Data Sharing Platform**- It is set up to encourage collaboration and knowledge sharing among the stakeholders to promote deep tech innovations.
- **Increase R&D expenditure**- It is the critical base for scientific human resource.
- **Simplify intellectual property**- It aims to establish a single window platform that enables a Unified IP Framework, customised for deep tech start-ups.
- **Ease regulatory requirements**- It suggests the creation of Export Promotion Board to ease barriers of entry for Indian deep tech start-ups into foreign markets.
- **Resource intensive policy approach**- To attract global talent, such as offering networking opportunities to international deep tech startups and experts interested in relocating and contributing to the local ecosystem.
- **Inter-Ministerial Deep Tech Committee**- It is constituted to regularly review the requirements of enabling the deep tech ecosystem to function better.

Initiatives taken to promote deep start-ups

- **Tamil Nadu Technology Hub (iTNT Hub)**- It is a public private partnership located in Chennai to serve as a central hub connecting start-ups in emerging and deeptech areas.
- **TIDE 2.0 Scheme**- It promotes tech entrepreneurship in India by providing financial and technical support to incubators that support ICT startups using emerging technologies.
- **Next Generation Incubation Scheme** -It is an initiative of Ministry of Electronics and Information Technology that supports innovative startups in India.
- **National Supercomputing Mission** -It is a government-funded initiative launched in 2015 to make India a global leader in supercomputing.
- **National Quantum Mission**- It was launched in 2023 to provide state-of-the-art quantum research facilities to scientists and researchers across the country.
- **National Education Policy** - It was launched in 2020 to emphasise multidisciplinary education.
- It calls for the creation of a new curriculum that will allow students to study a variety of subjects, such as science, technology, engineering, mathematics, humanities, and arts.
- **NECTAR**- It is an autonomous society under Department of Science and Technology.
- It aims to harness and leverage niche frontier technologies available with central scientific departments and institutions to address the socio-economic challenges of the Northeast region.
- **Funds of Funds Scheme**- The Government has established it with corpus of Rs. 10,000 crore, to meet the funding needs of start-ups.

What lies ahead?

- **Finance**- The government must lay emphasis on the deep tech sectors in existing SIDBI Fund of Funds.
- Industry must increase and channel their research funds.
- **Enable mass procurement**- There is a need to mass procure indigenously developed technologies across the ministries.
- **Focus on Start-up India 2.0**- The energies of India's entrepreneurs should be directed towards building Indian industrial and public capabilities.

References

1. [The Hindu- Deep tech start-ups taking brave risks](#)
2. [The Hindu- Deep tech start-up policy draft](#)
3. [PIB- Deep tech start-up policy for public consultation](#)