

## ERGO

*Analysing developments impacting business*

### DRAFT NATIONAL DEEP TECH STARTUP POLICY 2023

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#### **Introduction**

The Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC), at its 21st meeting dated 7 July 2022, had recommended the creation of a national consortium and a working group to propose a comprehensive policy framework to address the needs of, and strengthen, the Indian deep tech startup ecosystem.

Consequently, the draft National Deep Tech Startup Policy (Policy) was released by the national consortium for public consultation and feedback on 31 July 2023. The draft policy, which is open for public comments until 15 September 2023, is geared towards driving innovative growth in the field of technology for bolstering productivity and enhancing India's global capability and standing.

The Policy provides a comprehensive framework to address the challenges encountered by deep tech startups, and 9 key priority areas requiring interventions to create a conducive ecosystem. Taking a cue from world economies, this Policy proposes to foster a thriving competitive ecosystem, attracting talent and investment, thereby elevating India as a global leader in deep tech space.

#### **Background**

There are 10,298 startups operating within the deep tech space in India. With the advancement in cutting-edge technology and engineering disruption, major countries are leveraging the benefits of deep tech start-ups. However, the present ecosystem in India is not equipped for the same.

#### **Implementation and enforcement of the proposed legal framework**

To augment the deep tech startup ecosystem, the Policy identifies 9 key priority areas requiring intervention to promote research, bolster the intellectual property (IP) regime, provide access to diverse sources of capital, devise ways to attract and retain human capital, thereby enhancing innovation for scientific breakthrough and technological advancements.

##### **1. Nurturing Research, Development, and Innovation**

The Policy aims to increase gross expenditure on research and development (R&D) through public-private investment, facilitating seamless partnerships between academia, research labs and industry, IP commercialisation and calibrating existing research assessment and appraisal practices at educational and research institutions by incentivising patents and entrepreneurial outcomes. It recommends establishing an open science and data sharing platform encouraging collaborative knowledge sharing and data accessibility and guidelines to strengthen translation and commercialization of public funded research outcome.

To ensure access to resources, the Policy aims to develop an online repository providing comprehensive information on global research and innovation grants. It proposes establishment of the centre for deep tech translation to assess research (publications, patents etc.) for potential commercialisation for identifying promising technologies and recommends a single point of contact (SPOC) for technology transfer offices in universities.

## 2. **Strengthening Intellectual Property Rights**

The existing national intellectual property rights policy 2016 has significant achievements, however it does not specially address the IP rights challenges faced by the deep tech startups. Hence the Policy suggests establishing a deep tech-centred single window platform consisting of a unified IP framework, with guidelines to create and design IPs specifically for deep tech startups, implementing strong cybersecurity protocols to safeguard sensitive data, track access and usage of confidential information, streamline the patent application process, and develop a unified database from all higher education institutions gathering publication, patent, and project report information.

The Policy proposes building in-house capabilities to support deep tech startups with patent landscaping and freedom-to-operate analyses, strengthening India's position in global IP conventions, including enabling provisions in free trade agreements, extending IP protection for Indian IP globally, evaluating amendments in digital frontier technologies to permit patent eligibility, bolster organizational capacity and training.

For technologies developed for strategic sectors with significant government funding, the policy proposes granting 'Government purpose rights' with a non-exclusive, non-transferable, irrevocable license for the Government to use the IP, for internal consumption or manufacturing. The Government shall have 'march-in' rights for protecting national security or for strategic reasons, with the ability to use the patent under certain conditions, subject to payment of acquisition/licensing fees.

## 3. **Facilitating Access to Funding**

Access to long-term finance is critical for deep tech startups' product development, validation, scaling and as a fundamental driver of growth. To address this concern, Government has taken several initiatives such as the biotechnology innovation fund, the Small Industries Development Bank of India (SIDBI) fund scheme, the provision of grants and credit schemes, tax exemptions, etc. However, the existing policy framework has multiple lacunae ranging from fragmented funding, the mismatch between gestation period and market expectation, to working capital issues caused by payment delays.

The Policy suggests measures such as constitution of a centralized platform / single window to record the lifecycle of the government grant, long term grants for science-based research institutions which form a hub for deep technologies, direct corporate social responsibility funds to deep tech startups, establishment of a dedicated deep tech capital guidance fund, development of a common grant framework across different ministries and pilot testing funds with a robust selection process for funding, setting up of a debt fund for financing the working capital requirements, designing of specialized financial products by banks for startups, fiscal incentives like tax rebates, and custom duty exemptions or reduced tariffs on imported equipment, machinery, and raw materials. Furthermore, to support long gestation periods, technology impact bonds are proposed to be provided wherein returns are conditioned upon success, and compliance and taxation burden could be reduced by providing an easy framework for mergers and acquisitions. The Policy proposes additional measures such as an expert committee's validation to determine the economic feasibility of a startup, joint funding opportunities for technical infrastructure, participation of technical experts, and funding fewer startups by providing a higher capital commitment

#### 4. **Enabling Infrastructure Access and Resource Sharing**

The key to reducing initial capital investment for startups is to provide access to shared infrastructure resources, for a nominal fee. While existing schemes involving institutes like IIT-M, IISc etc. already provide research facilities and incubation centres, the Policy proposes shared equipment by providing 'frontier scientific infrastructure' financed through multiple modes. This would be technology specific and established closer to industry clusters, with shared governance and representatives from academic institutions and industry. Existing platforms of under-utilised academic institutions with adequate infrastructure, should be strengthened, with a SPOC under their institution innovation councils to facilitate leasing to startups.

To leverage existing data from sectors such as space, agriculture, health, meteorology, and climatology, the startups should provide data access for wider usage by including network safety protocols for sensitive data. Existing policies would be complemented by institutional mechanisms to disseminate data to stakeholders through creation of data trusts and student internships. Domain expertise may be utilized for clear interpretation of data, through a fee for service model. The Policy also provides for a network of standardised, field test and experimentation sites to facilitate deep tech testing, co-working and cross-pollination with international deep tech startups and procurement of capital equipment.

#### 5. **Create Conducive Regulations, Standards and Certifications**

The Policy suggests a balanced approach for regulating these technologies which does not create any barriers in the research and innovation process. To keep pace with technological development, participative and consultative sessions may be held among the regulatory and certification bodies, deep tech startups and end-users, to aid knowledge sharing, sensitization, and development of regulations. Regulatory sandboxes may be established for deep tech to test the technology, its functionality, and potential risks.

Policy suggests subsidies and exemptions provided by the Government for certifications and accreditation costs, involving global players for defining sector sensitive standards, a documentation catalogue for synergizing regulatory requirements and subsystem interoperability standards permitting hardware compatibility, data encryption, data transfer that will help deep tech startups.

#### 6. **Attracting Human Resource and Initiate Capacity Building**

The Policy discusses equal opportunity to deep tech entrepreneurs from tier II or III cities and underrepresented communities, Government initiatives like Digital India Bhashini, drone schools' international partnerships, National Education Policy, 2020, and inclusion of artificial intelligence as a subject in the school syllabus. Issue of attracting and retaining talent is proposed to be resolved through skill enhancement grants to providing higher salaries, mentorship and exchange programs, awards and recognition programs, incubation centres and collaborations, employee stock option plans, diversity reporting, equal opportunity and equal pay initiatives, mandating Government grants in women-led startups, venture capitalists to be incentivised with 15% of the funding corpus being allocated to such startups, streamlining the taxation regime, developing centres of excellence and rendering domain specific instruction.

#### 7. **Promote Procurement and Adoption**

To overcome long gestation periods, Government procurement can be the first market for the deep tech startup products, with favourable terms like a minimum order quantities, unbundling of projects to include deep tech startups, improved grievance redressal mechanisms, providing exemptions from bank or performance guarantees, advances, liquidated damages and penalties or reduced milestones based rates in case

of projects involving public sector undertakings, large corporates or R&D, timely payment and settlement of invoices, simplified request for proposals, a quality focused procurement. The policy suggests collaborative public funded research, limiting foreign competition, and for large Government contracts, mandating a subcontracting plan to allow in-house development of subcomponents.

#### 8. **Enhance Policy and Program Interlinkages**

Currently several policies, support India's deep tech startup ecosystem, however interlinking of the policies and coordinated efforts with global multilateral institutions is required. Accordingly, the Policy recommends establishing an inter-ministerial deep tech committee to create a comprehensive ecosystem, to identify synergy opportunities between different sectors, streamlining the administrative process, promoting a conducive regulatory environment, channelizing resources, cross-border scientific collaborations, to attract foreign direct investments in deep tech startups, and facilitating international technology transfer.

India has increased tariff rates on imports to shield the domestic industry and promote indigenous production. The Policy aims to balance the commitment to enable growth of indigenous industries with providing best quality equipment. It recommends an analytical study to understand the global value-chain distribution and overcome the hurdles in penetrating the global markets, including free trade agreements, multilateral agreements, plurilateral initiatives, and the export promotion board, to create a footprint of Indian products in the foreign markets. This requires building in-house capacity in a globally competitive landscape. The new and emerging technologies require critical minerals; hence it is imminent to minimize the import dependencies, identify the supply chain vulnerabilities and lay a 10-year and 20-year roadmap for building indigenous strategic capability.

#### 9. **Sustenance of Deep Tech Startups**

Deep tech start-ups find it difficult to sustain due to funding limitations, resource and infrastructure constraints, lack of an understanding of the business environment and the risks associated with frontier technologies. To address these concerns, deep tech startup-centric funding programs should be implemented along with funding sensitization programs for training startup founders and including success-based funding. A deep tech investor meet platform could be organized for collaboration with strategic investors.

#### **Way forward**

The Policy is a positive step in developing India's deep tech ecosystem. It acknowledges the evolving nature of deep tech startups and addresses the intrinsic challenges by providing a cohesive framework. The proposed recommendations would enable development of stronger incubators and research institutions for start-ups which in turn will further aid in securing foreign investment and mentorship and help develop a robust IP ecosystem in India.

To enable PM-STIAC, to achieve its vision and intended objectives, the Government must play a proactive role by reforming the certifications, licensing, and approvals process for the deep tech startups, provide tax reliefs and remove any roadblocks in smooth implementation of the Policy.

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