

3. Deep-Tech Start-Ups – S & T

The Union government relaxed norms for deep-tech start-ups to avail financial assistance from the Department of Scientific and Industrial Research (DSIR)

Removal of Viability Criterion for Deep-Tech Start-ups- Policy Significance

Key Policy Change – The Department of Scientific and Industrial Research (DSIR) has removed the mandatory three-year viability requirement for deep-tech start-ups to access financial assistance. Eligible start-ups can now receive financial support of up to ₹1 crore. The support is extended under the Industrial Research and Development Promotion Programme (IRDPP). DSIR functions under the Ministry of Science and Technology, with a mandate to promote industrial R&D, indigenous innovation, and technology commercialisation.

Rationale Behind the Reform – Earlier, start-ups were required to demonstrate financial sustainability and operational viability for at least three years. This condition disproportionately affected deep-tech start-ups, which typically have

1. Long gestation periods,
2. High capital intensity,
3. Extended research, testing, and validation cycles.

The reform reflects a shift from revenue-based assessment to innovation-potential-based evaluation, aligning policy with the realities of frontier technology development.

Understanding Deep Technology (Deep Tech)

Conceptual Meaning – Deep technology refers to advanced, science-driven and disruptive innovations rooted in fundamental research and engineering breakthroughs. Unlike consumer-facing digital start-ups, deep-tech ventures focus on core technological problem-solving with long-term impact.

Key Domains of Deep Tech

1. Nanotechnology and Advanced Materials
2. Biotechnology and Life Sciences
3. Semiconductors and Chip Design
4. Quantum Technologies
5. Artificial Intelligence and Data Sciences
6. Robotics and Autonomous Systems
7. Additive Manufacturing (3D Printing)
8. Green and Clean Technologies

Significance of India's Deep-Tech Ambitions

Global Leadership and Strategic Positioning – Strengthens India's position as a trusted global R&D hub in the evolving "China+1" supply chain realignment. Leverages India's vast STEM talent pool to lead in frontier areas such as quantum computing, 6G communication, and advanced semiconductors.

Technological Sovereignty – Reduces dependence on foreign technology imports in sensitive sectors such as

1. Defence,
2. Space,
3. Telecommunications,
4. Cybersecurity.

Enhances national resilience against geopolitical shocks and global supply-chain disruptions.

Addressing India-Specific Development Challenges

Enables "India-first" technological solutions, including

1. AI-driven diagnostics for rural healthcare,
2. Precision agriculture for food security and climate resilience,
3. Green hydrogen and energy storage for clean energy transition.

Aligns innovation with inclusive and sustainable development goals.

Economic Upgradation and Value Creation – Facilitates India's transition

1. From low-cost services and assembly-based manufacturing,
2. To high-value research, design, and intellectual property creation.

Generates high-skilled employment and strengthens India's knowledge economy.

Research Development and Innovation (RDI) Scheme Fund

Financial Outlay and Structure – The RDI Scheme has a total outlay of ₹1 lakh crore over six years.

₹20,000 crore is allocated for FY 2025–26. Funding is sourced from the Consolidated Fund of India. The Department of Science and Technology (DST) acts as the nodal implementing department.

Core Objectives of the RDI Scheme – Encourage the private sector to scale up R&D and innovation in

1. Sunrise sectors,
2. Areas critical for economic security and strategic autonomy.

Finance transformative projects at higher Technology Readiness Levels (TRLs), bridging the gap between lab research and market deployment. Support the acquisition of critical and strategically important technologies. Facilitate the creation of a Deep-Tech Fund of Funds, improving long-term risk capital availability.

Overall Assessment

The removal of the three-year viability condition marks a paradigm shift in India's innovation policy, recognising that breakthrough technologies require patient capital and early-stage support. Combined with the RDI Scheme, the reform strengthens India's

1. Deep-tech ecosystem,
2. Strategic autonomy,
3. Global competitiveness.

It reflects a move towards mission-oriented, future-ready public funding, crucial for achieving Atmanirbhar Bharat in high-technology domains.

Source- <https://www.thehindu.com/news/national/centre-relaxes-norms-for-start-ups-to-avail-funds-from-dsir/article70471860.ece>