

## **RESEARCH DEVELOPMENT AND INNOVATION (RDI) SCHEME: SCIENCE&TECHNOLOGY**

**NEWS:** Cabinet Approves Research Development and Innovation (RDI) Scheme to scale up Research, Development and Innovation in Strategic and Sunrise Domains

### **WHAT'S IN THE NEWS?**

The Union Cabinet has approved the ₹1 lakh crore Research Development and Innovation (RDI) Scheme to boost private sector R&D and deep-tech innovation in strategic areas. Implemented through the Anusandhan National Research Foundation (ANRF), it aims to address India's low GERD-to-GDP ratio and build a robust innovation ecosystem.

### **Overview of the RDI Scheme**

- The Union Cabinet has approved the **Research Development and Innovation (RDI) Scheme** with a **corpus of ₹1 lakh crore**.
- The funding will be channelled through the **Anusandhan National Research Foundation (ANRF)**.
- It is a long-term investment in building **India's research and innovation capacity**, particularly in strategic and high-tech sectors.
- The scheme is aligned with the government's long-term vision of **Viksit Bharat@2047**.

### **Key Objectives of the RDI Scheme**

- **Promote private sector investment** in R&D, particularly in areas of **economic security** and **strategic importance** (e.g., defence tech, semiconductors).
- Support **transformational R&D projects** that are at **higher Technology Readiness Levels (TRLs)**, especially those closer to commercialization.
- Enable **acquisition and indigenization of critical technologies** to reduce import dependence and enhance self-reliance.
- Establish a **Deep-Tech Fund of Funds (FoF)** to promote **deep-tech innovations**, startups, and frontier technologies like AI, quantum tech, space, and clean energy.

### **Institutional Framework for Implementation**

- **Governing Board (ANRF):**
  - Chaired by the **Prime Minister of India**.
  - Provides overall policy direction and strategic oversight.
- **Executive Council (ANRF):**
  - Implements the scheme's activities.

- Approves guidelines, selects projects, and identifies fund managers.
- **Empowered Group of Secretaries (EGoS):**
  - Chaired by the **Cabinet Secretary**.
  - Monitors implementation, reviews progress, and approves course corrections.
- **Nodal Ministry:**
  - The **Department of Science and Technology (DST)** is the lead department for scheme execution.

### **Funding Mechanism: Two-Tiered Structure**

#### **1. First Tier – Special Purpose Fund (SPF):**

- SPF is created under the **ANRF** and acts as the **main custodian of funds**.
- Government contribution: **₹1 lakh crore as a 50-year, interest-free loan** to ANRF.

#### **2. Second Tier – Fund Managers:**

- SPF allocates funds to a **variety of second-level fund managers**.
- These fund managers provide **concessional long-term loans** or **equity investments** to R&D projects.
- Their role is to **evaluate, select, and monitor** individual R&D proposals.

### **Forms of Financing Provided:**

- **Long-term concessional loans** (at low or nil interest rates).
- **Equity financing**, especially to support high-potential startups and early-stage innovations.
- **Contribution to the Deep-Tech Fund of Funds** to build a pipeline of futuristic technologies.

### **Rationale Behind the Scheme**

- **Low GERD-to-GDP Ratio:**
  - As per the **Economic Survey 2024-25**, India's **Gross Expenditure on Research and Development (GERD)** increased from ₹60,196 crore in 2011 to ₹127,381 crore in 2021.
  - However, GERD remains **only 0.64% of GDP**, much lower than other major economies like China (~2.4%), USA (~3.5%), South Korea (~4.5%).
- **Private Sector Underinvestment:**

- India's R&D is largely government-funded, with **limited private sector participation**.
- High-risk nature of deep-tech R&D and lack of financing mechanisms hinder innovation.

### Significance of the RDI Scheme

- **Addresses financial constraints** faced by private companies and startups in undertaking high-risk R&D.
- **Stimulates innovation** in emerging and strategic sectors such as:
  - Artificial Intelligence (AI)
  - Semiconductors and chip design
  - Quantum computing
  - Defence and aerospace
  - Clean and renewable energy
- **Promotes Atmanirbhar Bharat (Self-Reliant India)** by reducing reliance on imported technologies.
- **Strengthens academia–industry linkages**, encouraging collaboration and commercialization.
- Helps **India transition to an innovation-led economy** and contribute to global tech value chains.
- Contributes to the **goal of Viksit Bharat@2047**, building a future-ready R&D ecosystem.

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