

# Policy Proposal for Advancing Space, Science, and Technology in India: A Multi-Ministerial, Youth-Driven National Strategy

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## Submitted to:

- Ministry of Science and Technology
- Department of Space (ISRO)
- Ministry of Education
- Ministry of Electronics and Information Technology
- Ministry of Defence
- Ministry of External Affairs
- Ministry of Commerce & Industry
- Ministry of Skill Development and Entrepreneurship
- Ministry of Finance
- Local MLAs

## I. Executive Summary

India's progress in space, science, and technology has positioned the country as a global leader in low-cost innovation, satellite technology, space exploration, and digital transformation. With Chandrayaan, Aditya-L1, and Gaganyaan, India is strengthening its place in global space leadership. However, rapid technological shifts — from artificial intelligence and quantum computing to biotechnology and advanced materials — demand a coordinated, future-ready strategy.

This policy proposes a **multi-ministerial, youth-driven approach** to accelerate India's leadership in space, science, and technology. It focuses on expanding research and development (R&D), boosting innovation ecosystems, building talent pipelines, supporting startups, and ensuring equitable access. Youth participation is emphasized as innovators, researchers, entrepreneurs, and citizens shaping India's scientific future.

## II. Policy Gaps Identified

### 1. Limited Integration of Youth in R&D

- Unstructured pathways for students to participate in national science and space missions
- Brain drain due to lack of domestic opportunities

### 2. Funding and Infrastructure Deficits

- LR&D spending remains below global averages
- Limited world-class research labs accessible to students

### 3. Fragmented Innovation Ecosystem

- Weak industry-academia collaboration
- Startups in deep tech face funding and mentoring gaps

### 4. Digital Divide and Access Inequality

- Rural and underserved communities lack access to advanced STEM learning tools

### 5. Limited Commercialization of Research

- Academic research often does not transition to market-ready products/services

### 6. Insufficient International Collaboration

- Untapped potential in global partnerships for joint missions and tech development

## III. Objectives of the Proposed Policy

1. Position India among the **top five global leaders** in space, science, and technology by 2040.
2. **Double national R&D investment** to 2% of GDP by 2030.

3. Create **structured pathways for 1 million youth** to participate in space and science initiatives by 2035.
4. Strengthen India's **startup and innovation ecosystem** in deep tech, AI, quantum, and biotech.
5. Ensure **equitable access** to science and technology education across regions.
6. Foster **international collaborations** in exploration, climate science, and emerging tech.

## IV. Proposed Initiatives & Multi-Ministerial Collaboration

1. **National Youth Space and Science Mission (NYSSM)**

**Lead:** Department of Space + Ministry of Education

- Student payload opportunities in satellite launches
- Annual Youth Space Hackathons and National Science Olympiads
- Virtual internships with ISRO and DRDO

2. **Innovation and Research Acceleration Program (IRAP)**

**Lead:** Ministry of Science & Technology + Ministry of Finance

- Expand funding for university labs and incubators
- Grants for youth-led research in space tech, biotech, AI, and quantum computing
- National network of science parks and maker-spaces

3. **Deep Tech Startup & Commercialization Fund (DTSCF)**

**Lead:** Ministry of Commerce & Industry + NITI Aayog

- Seed funding and mentorship for youth-founded startups
- Fast-track regulatory approval for deep tech innovations
- Market linkage support for turning research into products/services

4. **STEM for All Program (STEM-A)**

**Lead:** Ministry of Education + Ministry of Skill Development

- Expand STEM labs in rural schools
- AI-driven online platforms for equitable science learning
- Scholarships for underrepresented groups in STEM

5. **National Defence and Space Innovation Bridge (NDSIB)**

**Lead:** Ministry of Defence + Department of Space

- Encourage youth innovators to design dual-use technologies
- Collaboration with defence research centres
- Joint projects on space security, satellites, and surveillance

#### 6. **International Science and Technology Collaboration Platform (ISTCP)**

**Lead:** Ministry of External Affairs + Ministry of Science & Technology

- Joint missions with NASA, ESA, JAXA, and emerging space agencies
- Student and researcher exchange programs
- Collaborative climate science, energy, and medical research projects

## V. Implementation and Monitoring Framework

- **National Space, Science, and Technology Council (NSSTC):** Chaired by the PMO, coordinating inter-ministerial efforts
- **State Science Missions:** Tailoring initiatives to local strengths (e.g., biotech hubs, IT clusters)
- **Youth Monitoring Mechanisms:** Student report cards, innovation indices, and feedback forums
- **Pilot Programs:** Launch in 100 universities and 200 districts with strong STEM potential
- **Capacity Building:** Training educators, establishing fellowships, and youth innovation awards

### Monitoring Tools:

- Real-time dashboards on R&D investments and youth participation
- Annual National Innovation Report
- Independent youth-led audits every two years

## VI. Funding Sources

- Consolidation of existing schemes (Atal Innovation Mission, Startup India, National Education Mission)
- Public-Private Partnerships (PPP) with industry leaders in tech, telecom, aerospace, and biotech
- CSR funding for STEM education and infrastructure
- International grants and collaborations (World Bank, UNESCO, international space agencies)
- Sovereign innovation bonds for deep tech investments

## VII. Conclusion and Call to Action

This proposal sets forth a bold vision for India to harness the power of space, science, and technology for national progress, global leadership, and youth empowerment. By embedding innovation into education, industry, defence, and international collaboration, India can ensure that its young population becomes the driving force of its scientific and technological rise.

We urge the Government of India to adopt and launch this **multi-ministerial, youth-driven science and technology policy by National Science Day, February 28, 2026.**

**Respectfully submitted by:**

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