

UNION BUDGET 2024-25: INNOVATION, RESEARCH & DEVELOPMENT

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The Union Budget 2024-25 places a strong emphasis on innovation, research, and development as key drivers of India's progress towards becoming a developed nation. The union budget outlines ambitious initiatives to bolster the country's scientific and technological capabilities. These include the setting up of the Anusandhan National Research Foundation, substantial investments in private sector-driven research, expansion of the space economy, and advancements in agricultural and nuclear energy research. These strategic measures aim to create a thriving ecosystem of innovation, positioning India as a global leader in technology and sustainable development.



Setting up of the Anusandhan National Research Fund (ANRF)

The Anusandhan National Research Foundation (ANRF)¹ has been established with Anusandhan National Research Foundation (ANRF) Act 2023. The ANRF aims to seed, grow, and promote research and development (R&D) and foster a culture of research and innovation throughout India's universities, colleges, research institutions, and R&D laboratories.

'Jai Anusandhan' as a step further to Jai Jawan, Jai Kisan & Jai Vigyan can be India's true strength in connecting its science, technology and innovation with its people.

PM Shri Narendra Modi

The ANRF will provide high-level strategic direction for scientific research, ensuring collaborations between industry, academia, government departments, and research institutions. It will also create an interface for the participation contribution and of industries and state governments.

Objective: To support basic research and prototype development.

Funding: The Anusandhan National Research Foundation Act, 2023, outlines an estimated cost of ₹50,000 crore for the period 2023-2028 to support and promote R&D activities.²





¹<u>https://pib.gov.in/PressNoteDetails.aspx?NoteId=151846&ModuleId=3#:~:text=Anusandhan%20National%20Rese</u> arch%20Foundation&text=The%20ANRF%20aims%20to%20seed,research%20institutions%2C%20and%20R%26 D%20laboratories.

² <u>https://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf</u>

Private Sector-Driven Research and Innovation

The Indian government recognizes the critical role that the private sector plays in driving innovation and commercializing research. By providing substantial funding and creating a conducive environment for private sector participation, the government aims to accelerate the development of new technologies and products. This initiative is expected to bridge the gap between research and industry, fostering a more robust and dynamic R&D ecosystem.

- **Objective:** To spur private sector-driven research and innovation at a commercial scale.
- **Funding:** A financing pool of $\gtrless 1$ lakh crore will be established to support these initiatives.

Expanding the Space Economy

India's space program has made significant strides over the past few decades, with notable achievements such as the Mars Orbiter Mission (Mangalyaan) and the Chandrayaan missions to the moon. The government is now focusing on expanding the commercial potential of the space sector, fostering innovation, and encouraging private sector participation. This initiative aims to create a vibrant space economy, contributing to technological advancements and economic growth.

Objective: To expand India's space economy fivefold in the next decade.

Funding: A venture capital fund of ₹1,000 crore will be set up to support startups and projects in the space sector.

Impact: This funding aims to catalyze growth in the space sector, encouraging private investment and innovation, and positioning India as a significant player in the global space economy.

Transforming Agriculture Research

Agriculture is a critical sector for India's economy and food security. However, it faces challenges such as climate change, soil degradation, and water scarcity. To address these issues, the government is focusing on enhancing agricultural research and developing new crop varieties that are high-yielding and resilient to climate change. By providing targeted funding and involving domain experts, the government aims to drive innovation in agriculture, ensuring sustainable and



productive farming practices. To boost agricultural productivity and create climate-resilient crops, a thorough review of the agricultural research system will be conducted. Additionally, **109 new high-yielding and climate-resilient varieties across 32 field and horticulture crops will be introduced for cultivation.** These efforts aim to strengthen the agricultural sector and improve crop resilience in the face of changing climate conditions.

Research and Development of Small and Modular Nuclear Reactors

As India seeks to meet its growing energy demands and reduce carbon emissions, nuclear energy presents a viable and sustainable option. Small and modular nuclear reactors offer advantages such as lower costs, enhanced safety, and scalability. By partnering with the private sector, the government aims to accelerate the development and deployment of these technologies, contributing to a cleaner and more reliable energy future for the country. To integrate nuclear energy as a significant part of India's energy mix for Viksit Bharat. The government will partner with the private sector to:

- ✓ Set up Bharat Small Reactors.
- ✓ Conduct R&D for Bharat Small Modular Reactors.
- ✓ Develop newer technologies for nuclear energy.



Conclusion

The initiatives outlined in Innovation, Research & Development of the Union Budget 2024-25 demonstrate India's commitment to becoming a global leader in innovation and research. By investing in the ANRF, encouraging private sector participation, expanding the space economy, and advancing agricultural and nuclear research, the government aims to create a robust ecosystem for scientific and technological advancement. These strategic measures are designed to not only boost India's research capabilities but also to translate innovations into tangible economic and societal benefits.

References:

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Santosh Kumar/ Sarla Meena/ Sheetal Angral/ Ritu Kataria/ Anjali Gupta