



## CONTENTS

S. No.	Title	Source	Page No.
<b>Defence News</b>			<b>1-4</b>
1	800 किलोमीटर मारक क्षमता वाली ब्रह्मोश खरीदेगी सेना	<i>Dainik Jagran</i>	1
2	S-400 deliveries accelerated as India enhances air defence capability	<i>The Hindu</i>	1
3	ड्रोन टेस्टिंग के लिए सिक्योरिटी चेकलिस्ट बनी	<i>NavBharat Times</i>	2
4	India, US discuss expanding co-production in defence	<i>The Tribune</i>	2
5	1,000 road & infra projects carried out by BRO: Rajnath	<i>The Tribune</i>	3
<b>Science &amp; Technology News</b>			<b>4-8</b>
6	Unravelling formation mechanism of materials used in sensing can enhance performance gas sensors and lithium-ion batteries	<i>Press Information Bureau</i>	4
7	Parliament Question: Establishment of AI University	<i>Press Information Bureau</i>	6

# Defence News

## 800 किलोमीटर मारक क्षमता वाली ब्रह्मोस खरीदेगी सेना

Source: Dainik Jagran, Dt. 27 Mar 2026

नई दिल्ली, एएनआइ: पश्चिम एशिया में जारी संघर्ष के बीच भारतीय सेना ब्रह्मोस सुपरसोनिक क्रूज मिसाइलों के 800 किलोमीटर मारक क्षमता वाले संस्करण का बड़ा आर्डर देने की तैयारी में है। रक्षा अधिकारियों ने बताया कि भारतीय सेना के पास अभी 450 किमी दूरी तक मार करने वाली क्रूज मिसाइलें हैं। सेना अब 800 किमी से अधिक मारक क्षमता वाले ब्रह्मोस क्रूज मिसाइलों का आर्डर देने पर विचार कर रही है।

कुछ दिनों में होने वाली रक्षा मंत्रालय की उच्च स्तरीय बैठक में



ब्रह्मोस मिसाइल • फाइल फोटो

सेना के प्रस्ताव को मंजूरी मिलने की उम्मीद है। पिछले साल मई में आपरेशन सिंदूर के दौरान ब्रह्मोस मिसाइलों ने उपयोगिता साबित कर दी थी।

ईरान व अमेरिका, इजरायल के बीच चल रहे संघर्ष ने लंबी दूरी

- सेना के पास 450 किमी मारक क्षमता वाली क्रूज मिसाइलें हैं
- रक्षा मंत्रालय की बैठक में इस प्रस्ताव को मंजूरी मिलने की आस

की मिसाइलों के महत्व को भी उजागर किया है। भारतीय सेना अब नई पीढ़ी की युद्धक रणनीति की आवश्यकताओं को पूरा करने के लिए बड़ी संख्या में ड्रोन और मिसाइलों को शामिल करने पर विचार कर रही है। भारतीय सेना ने

व्यापक कदम उठाते हुए बड़े पैमाने पर सैन्य संरचना का निर्माण किया है, जिसके तहत तोपखाने और पैदल सेना रेजिमेंटों में विशेष ड्रोन रेजिमेंट और प्लाटून बनाए जा रहे हैं। इसके अलावा सेना एक समर्पित मिसाइल बल बनाने और उनकी संख्या बढ़ाने पर भी विचार कर रही है।

सेना ने ड्रोन का निर्माण भी शुरू कर दिया है। बड़े पैमाने पर इसका उत्पादन हो रहा है। तीनों सेनाओं के पास ये ब्रह्मोस मौजूद हैं, जिनका उपयोग हवाई, जहाजरोधी व जमीनी हमले के लिए किया जाता है।

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## S-400 deliveries accelerated as India enhances air defence capability

Source: The Hindu, Dt. 27 Mar 2026

Amid ongoing tensions in West Asia, India is set to receive the remaining two units of the S-400 air defence system from Russia this year, with one expected as early as next month and the final delivery scheduled for November.

A senior official in the Ministry of Defence confirmed that India is in close coordination with its Russian counterparts to ensure timely delivery. The matter has also been discussed at the highest levels, underscoring the strategic importance of the system.

“Out of the remaining two S-400 systems, one will be delivered next month [April] and the last one by November this year,” the official said, adding that the timeline has been expedited after earlier delays caused by supply chain disruptions and the Russia–Ukraine war. Earlier, it was indicated that final deliveries could extend to 2027..

India signed a \$5.43 billion deal with Russia in 2018 for five squadrons of the S-400 system. So far, three units have already been inducted into service, with the remaining two now expected to be delivered within the stipulated timeframe.

In Indian service, the S-400 has been named ‘Sudarshan Chakra’, inspired by the mythological weapon of Lord Krishna. The system is capable of engaging aerial threats at ranges of up to 400 km, including fighter jets, ballistic missiles, and drones.

The issue of delivery timelines was also discussed during a bilateral meeting between Defence Minister Rajnath Singh and his Russian counterpart Andrey Belousov in Qingdao in June last year. Russia had then assured India of adhering to the agreed schedule.

The S-400 system has already demonstrated its operational effectiveness. During Operation Sindoor, the deployed systems played a critical role in intercepting and neutralising incoming missiles and drones, significantly bolstering India's air defence capabilities.

Last month, the Defence Acquisition Council (DAC), chaired by Mr. Singh had accorded Acceptance of Necessity (AoN) for the procurement of 288 S-400 missiles from Russia at a cost of ₹10,000 crore.

<https://www.thehindu.com/news/national/s-400-deliveries-accelerated-as-india-enhances-air-defence-capability/article70788576.ece>

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## ड्रोन टेस्टिंग के लिए सिक््योरिटी चेकलिस्ट बनी

Source: NavBharat Times, Dt. 27 Mar 2026

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स्वदेशी इंडस्ट्री को  
बताएंगे, क्या है जरूरत

इंडियन आर्मी स्वदेशी इंडस्ट्री को बताएगी कि उन्हें किस तरह के हथियार और इक्विपमेंट्स की जरूरत है। ताकि स्वदेशी इंडस्ट्री उसी दिशा में काम करे और आर्मी की जरूरत धरेलू इंडस्ट्री से ही पूरी हो जाए। रूस-यूक्रेन वॉर, इजरायल - हमास सहित मौजूदा पश्चिम एशिया की जंग को देखते हुए आर्मी ने अपनी विश-लिस्ट बनाई है। अगले महीने प्रयागराज में नॉर्थ टेक सेमिनार में आर्मी इंडस्ट्री को अपनी जरूरतें बताएगी और इंडस्ट्री के पास आर्मी को ऑफर करने के लिए क्या है वह भी देखेगी। 4 से 6 मई तक प्रयागराज में नॉर्थ टेक सेमिनार होगा।

■ नई दिल्ली: युद्ध और मिलिट्री ऑपरेशंस में जिस तरह ड्रोन का इस्तेमाल बढ़ा है उसी तरह ड्रोन पर भी खतरा बढ़ा है। ड्रोन पर सेंधमारी, डेटा चोरी या हैकिंग का खतरा बना रहा है। इसलिए अब रक्षा मंत्रालय ने ड्रोन की सुरक्षा जांच के लिए एक विस्तृत फ्रेमवर्क ड्राफ्ट तैयार किया है। इसमें कहा गया है कि अगर ड्रोन सुरक्षित नहीं है तो वे दुश्मन के हाथों में जाकर राष्ट्रीय सुरक्षा के लिए बड़ा खतरा बन सकते हैं। इस फ्रेमवर्क ड्राफ्ट के तहत अब ड्रोन खरीद से पहले सख्त जांच जरूरी होगी। इसमें हार्डवेयर और सॉफ्टवेयर दोनों की टेस्टिंग शामिल है। ड्राफ्ट में कहा गया है कि वल्लेबिलिटी और पेनिट्रेशन टेस्ट

सभी टेस्ट पास होने पर ही ड्रोन को खरीद प्रक्रिया में रखेंगे

एन्क्रिप्शन और सिक्योर बूट की जांच, कोड सिग्नेचर और फर्मवेयर वैलिडेशन, इन सब टेस्ट में पास होने के बाद ही किसी भी ड्रोन को खरीद की प्रक्रिया में शामिल किया जाएगा। ड्राफ्ट के मुताबिक, ड्रोन को कई तरीकों से निशाना बनाया जा सकता है। दुश्मन ड्रोन और कंट्रोल स्टेशन के बीच कम्युनिकेशन को इंटरसेप्ट कर सकता है,

फर्जी कमांड भेज सकता है या पूरा कंट्रोल अपने हाथ में ले सकता है। GPS जामिंग और स्मूफिंग के जरिए ड्रोन को रास्ता भटकाना भी संभव है। इसके अलावा ड्रोन से जुटाए गए डेटा को चुराना या उसमें बदलाव करना भी बड़ा खतरा है। फ्रेमवर्क में कहा गया है कि फ्लाइट कंट्रोलर, फर्मवेयर, GPS/INS सिस्टम, सेंसर, ट्रांसमिशन-रिसेप्शन यूनिट, ग्राउंड कंट्रोल सॉफ्टवेयर सबसे ज्यादा संवेदनशील है।

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## India, US discuss expanding co-production in defence

Source: The Tribune, Dt. 26 Mar 2026

Top officials of India and the US discussed the 'way forward' on joint production and co-development of high-end technology during the India-US Defence Policy Group meeting. US Ambassador to India Sergio Gor said: "Our work today turns leaders' commitments into concrete progress--deepening our Major Defence Partnership". This, he said, was for "expanding joint production and information sharing, and advancing a free and open Indo-Pacific for both our nations."

A Defence Ministry spokesperson said: "Both sides reviewed ongoing initiatives, identified priority areas for co-development & co-production of defence equipment". Both sides reaffirmed

commitment to enhancing military-to-military cooperation through joint exercises, training visits & strategic exchanges, the spokesperson added.

Defence Secretary Rajesh Kumar Singh and US Under Secretary of War Elbridge Colby co-chaired the meeting in New Delhi with both sides looking to accelerate the momentum. Gor's remarks on 'co-production' have come at a time when India and the US are closing in on having a deal for jointly making the F414 fighter jet engines in India. The engines are to power the Tejas Mark-2 jets and the first version of the advanced medium combat aircraft (AMCA).

Also India is not very happy over the delay of F404 jet engines by US company General Electric. These engines are to power the Tejas Mark-1A jets. Public sector plane-maker Hindustan Aeronautics Limited is ready with almost 16 planes, but it does not have the engines. Last year, Defence Minister Rajnath Singh took up the matter with his US counterpart Pete Hegseth. On the sidelines of the meeting, Colby called on External Affairs Minister S Jaishankar and later met Foreign Secretary Vikram Misri. "Exchanged views on the current geopolitical scenario," Jaishankar posted on x after Colby called on him.

Ministry of External Affairs spokesperson Randhir Jaiswal posted on X that Misri met Colby on the sidelines of the India-US Defence Policy Group meeting today. "They exchanged views on advancing bilateral defence cooperation, regional security and further strengthening the strategic partnership," Jaiswal said. Yesterday, Colby, speaking at an event in New Delhi, said the US was looking ahead to a critical new decade of their major Defence partnership with India. The US, he had said, was looking to expand its sales of military equipment to India but added the potential for co-production and co-development of equipment with India was great possibility.

Colby, looks after policy matters in the Department of War. India and the US have a 'Defence Framework' between the two countries to leverage defence industrial, science, and technology cooperation to enhance our forces' readiness and to jointly develop and produce capabilities. The US and India are looking to hasten and augment cooperation in areas, including long-range precision ammunition, maritime domain awareness, anti-submarine warfare, and advanced technologies.

<https://www.tribuneindia.com/news/top-headlines/india-us-discuss-expanding-co-production-in-defence/>

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## **1,000 road & infra projects carried out by BRO: Rajnath**

*Source: The Tribune, Dt. 26 Mar 2026*

Defence Minister Rajnath Singh on Wednesday said the Border Roads Organisation (BRO) was carrying out 1,000 road and infrastructure projects, including new construction, upgrade and maintenance, as part of its five-year plan.

Chairing a meeting of the Parliamentary Consultative Committee for the Ministry of Defence, Singh informed the members that these projects were aimed at strengthening border connectivity. He said all-weather connectivity was being ensured even in remote and high-altitude regions, thereby strengthening the operational mobility and defence preparedness.

Deliberations were held on issues pertaining to defence, infrastructure development and ongoing strategic initiatives aimed at strengthening national security and operational preparedness.

Underscoring the need for robust infrastructure along the borders, the minister told the committee that BRO was fostering an ecosystem in the encompassing national security, development, and connectivity. He acknowledged the BRO's efforts towards enhancing connectivity in the North-Eastern region and in areas affected by Left-Wing Extremism, contributing to security and regional development.

"The BRO has facilitated the mobility of defence forces and worked towards bringing a positive transformation in the lives of the residents," he said. The BRO has been entrusted with the task of developing infrastructure along the Indo-Myanmar border, spanning approximately 1,600 kilometres, an initiative that will further bolster the border management capabilities, he added.

The committee was informed that BRO was rapidly adopting modern construction techniques by making best use of technologies such as high-altitude equipment, modular bridges and precast technologies. "The BRO has enhanced both the quality and the pace of its work. This demonstrates that we are building future-ready infrastructure," he said.

A comprehensive overview of the BRO including its role, key achievements, challenges faced in difficult terrain and extreme climatic conditions was provided by Director General Border Roads (DGBR) Lt Gen Harpal Singh. The committee was informed how border infrastructure development improved operational preparedness and accelerated socio-economic growth of border areas contributing towards the national vision of developed India by 2047.

Minister of State for Defence Sanjay Seth, Chief of Defence Staff General Anil Chauhan, Defence Secretary Rajesh Kumar Singh, DRDO Chairman Dr Samir V Kamat, Secretary Defence Production Sanjeev Kumar and Secretary Ex-servicemen Welfare Sukriti Likhi were also present in the meeting.

<https://www.tribuneindia.com/news/top-headlines/1000-road-infra-projects-carried-out-by-bro-rajnath/>

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## Science & Technology News

### Unravelling formation mechanism of materials used in sensing can enhance performance gas sensors and lithium-ion batteries

*Source: Press Information Bureau, Dt. 25 Mar 2026*

Scientists have unraveled the long-standing mystery behind the formation of mesoporous tin oxide (SnO) beads, an advanced material widely used in sensing and energy applications. This can help control the size, shape and related parameters of the particles which are critical for enhancing performance in gas sensors, lithium-ion batteries, and advanced solar cells.

Mesoporous SnO<sub>2</sub> beads are valued for their high surface area and tunable porosity, yet the detailed mechanism of their formation remains unclear. Earlier models proposed that crystalline nanoparticles form during the solvothermal stage and subsequently assemble into beads.

A team of researchers at the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, an autonomous institute of the Department of Science and Technology (DST) has resolved the long-standing scientific ambiguity and provided a definitive model for their formation.

They have demonstrated that the as-prepared beads are actually amorphous. They consist of a tin-rich organic network with nanoscale heterogeneities of approximately 1.2 to 1.4 nanometers. Crystalline primary SnO<sub>2</sub> particles do not form during the solvothermal process conducted at 140 to 180 degrees Celsius. Instead, crystallization begins only during calcination at 400 degrees Celsius and above.

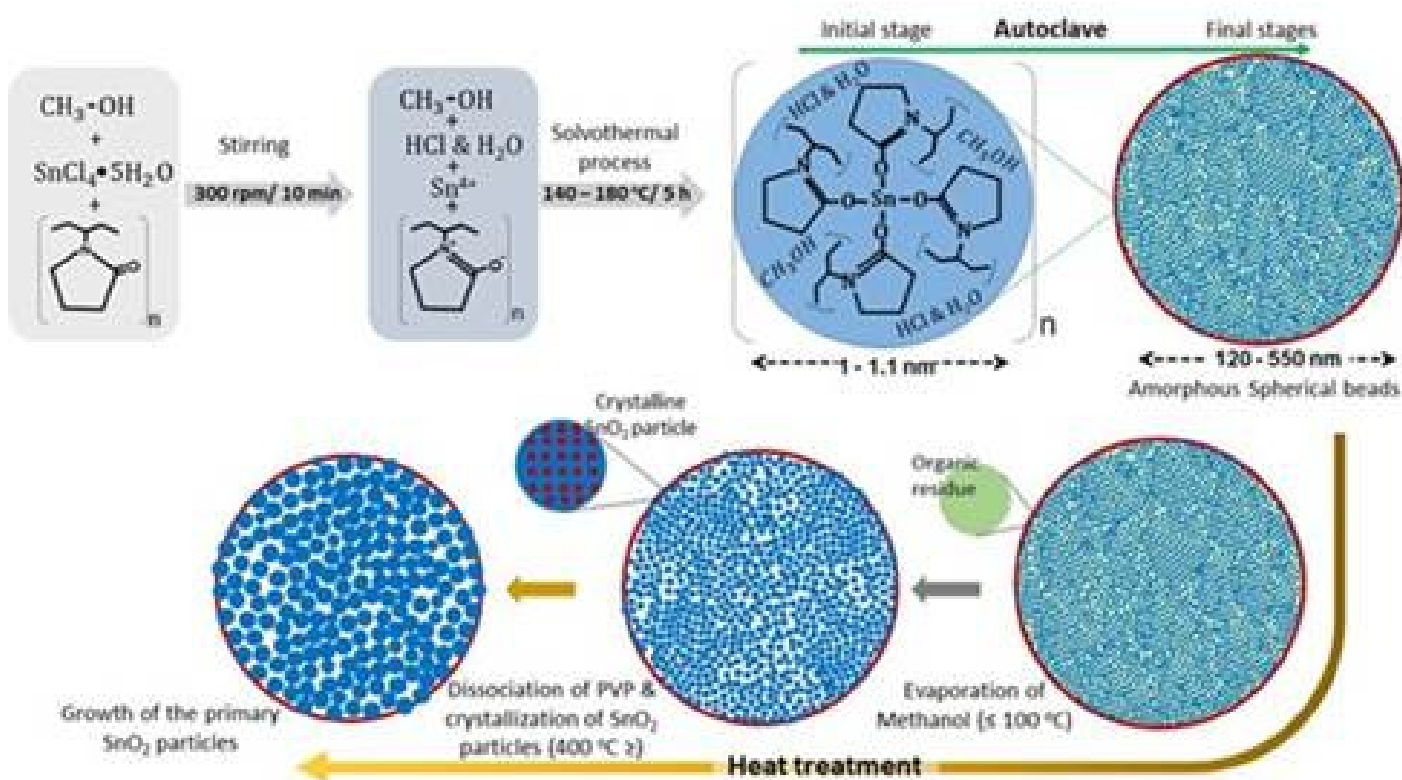


Fig 1: Formation of mesoporous SnO<sub>2</sub> beads from tin-rich complex networks and amorphous spheres formed during stirring and solvothermal treatment, to crystalline primary SnO<sub>2</sub> particles and mesoporous structure development during calcination above 400 °C as PVP decomposes.

Upon calcination, polyvinyl pyrrolidone decomposes, generating interconnected voids that evolve into the mesoporous architecture. Crystallization and pore formation occur simultaneously. The growth follows the classical Ostwald ripening mechanism, in which larger particles grow at the expense of smaller ones to reduce surface energy. A coarsening exponent of about 0.3 confirms that the process is governed by volumetric diffusion.

Small Angle X-ray Scattering analysis, an advanced characterization technique to measure the nano features in the material, provided bulk-averaged structural information over sample volumes several orders of magnitude larger than those accessible through conventional TEM. This enabled precise identification of nanoscale heterogeneities within the amorphous beads and established a direct link between microstructural evolution and crystallization behaviour.

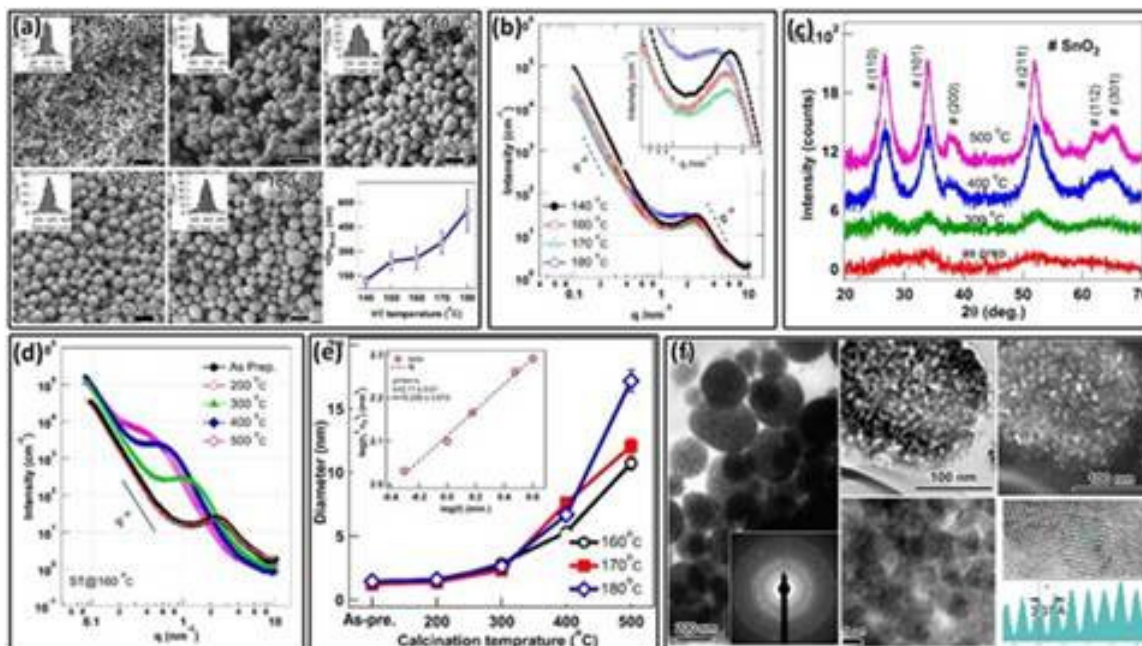


Fig 2 : (a) SEM micrographs showing the morphology of as-prepared beads synthesized at different solvothermal temperatures; (b) SAXS profiles of the as-prepared beads; (c) XRD patterns of beads after heat treatment at various temperatures; (d) SAXS profiles of heat-treated beads highlighting changes in microstructure; (e) Primary particle size as a function of calcination temperature, with the inset depicting Ostwald ripening behavior of beads calcined at 500°C for varying durations; (f) TEM images illustrating the hierarchical structure of beads at different length scales.

The mechanistic insight gained from this study enables fine-tuning of synthesis parameters to control particle size, porosity, and crystallinity, which are critical for enhancing the effectivity of the particles in their applications. This research published in the Indian Journal of Physics positions SnO<sub>2</sub> as a reference system for understanding other mesoporous metal oxides such as TiO<sub>2</sub>, ZnO, and Fe<sub>2</sub>O<sub>3</sub>.

The findings strengthen ARCI's leadership in advanced materials research and open new pathways for engineering high-performance materials for energy, environmental, and sensing technologies.

Publication link: <https://doi.org/10.1007/s12648-024-03419-6>

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2245048&reg=3&lang=1>

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## Parliament Question: Establishment of AI University

Source: Press Information Bureau, Dt. 25 Mar 2026

The Government has accorded high priority in the current Budget to strengthen Science & Technology and promote private sector participation in Artificial Intelligence (AI) and deep-tech sectors. In this direction, the Government has launched the Research, Development and Innovation (RDI) Scheme on 03 November 2025, with a total outlay of ₹1 lakh crore over a period of six years. The Scheme aims to incentivise private sector investment in R&D across strategic and sunrise sectors, including deep technologies such as quantum computing, robotics and space; AI and its applications in agriculture, healthcare and education; energy transition and climate

action; biotechnology, biomanufacturing, pharmaceuticals and medical devices; and the digital economy, including digital agriculture.

The Scheme is being operationalised through a Special Purpose Fund (SPF) established within the Anusandhan National Research Foundation (ANRF), with a two-tier funding structure. Under this mechanism, the SPF custodises the corpus and channels funds to Second-Level Fund Managers (SLFMs). The Technology Development Board (TDB) and the Biotechnology Industry Research Assistance Council (BIRAC) have been designated as SLFMs and have issued calls for proposals in February 2026. Further, applications for additional SLFMs, including Fund of Funds, have been invited and are under evaluation. The Scheme supports technology development at Technology Readiness Level (TRL) 4 and above by start-ups, companies and industry-led R&D entities.

Further, the Department of Science & Technology (DST) is implementing the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), under which 25 Technology Innovation Hubs (TIHs) have been established in areas such as AI, robotics, IoT, cybersecurity and quantum technologies. Under this Mission, the Bharat-Gen initiative is being implemented to develop multimodal, multilingual generative AI models tailored for India. In addition, the Anusandhan National Research Foundation (ANRF), under its Mission for Advancement in High-Impact Areas (MAHA), supports Artificial Intelligence for Science & Engineering, promoting industry-academia collaboration and accelerating the development and commercialisation of AI-driven solutions.

Moreover, the Union Cabinet approved the IndiaAI Mission in March 2024, with a total outlay of ₹10,371.92 crore over a period of five years, to build a robust and inclusive AI ecosystem in the country. The Mission is being implemented by the Ministry of Electronics and Information Technology and focuses on strengthening innovation, supporting research and start-ups, enhancing data access, and ensuring responsible AI deployment. The IndiaAI Mission comprises seven key pillars, including compute capacity, foundation models, datasets platform, application development, skilling, startup financing, and safe & trusted AI.

Under this Mission, initiatives such as BharatGen, India’s indigenous multilingual multimodal large language model supporting 22 Indian languages, have been launched. Further, approval has been accorded for development of a sovereign LLM ecosystem to enhance public service delivery and digital trust. The detailed allocation under the NM-ICPS, RDI, and IndiaAI Mission (for 5 years) is as follows:

<b>S. No.</b>	<b>Financial Year</b>	<b>Budget Allocation (in crore)</b>
<b>NM-ICPS</b>		
1	2024-25	815
2	2025-26	750.6
<b>RDI Scheme</b>		
3	2025-26	20,000

Components	Total Expenditure (₹ Cr)
IndiaAI Compute Capacity	4563.36
IndiaAI Foundation Models	1971.37
IndiaAI Datasets Platform	199.55
IndiaAI Application Development Initiative	689.05
IndiaAI FutureSkills	882.94
IndiaAI Startup Financing	1942.5
Safe & Trusted AI	20.46
IndiaAI Overheads and Contingency @1%	102.69
<b>Total</b>	<b>10,371.92</b>

The

Government is undertaking multiple initiatives to strengthen the Artificial Intelligence (AI) ecosystem in the country through the establishment of Centres of Excellence (CoEs) and related institutional mechanisms. In this regard, three Centres of Excellence in Artificial Intelligence have been approved in key sectors namely healthcare, agriculture, and sustainable cities at reputed academic institutions, including the Indian Institutes of Technology (IITs). These CoEs aim to promote research-driven innovation, develop scalable AI-based solutions, and foster collaboration among academia, industry, and government.

Further, under the IndiaAI Mission, efforts are being made to enable access to high-end computing infrastructure, support research and innovation, and promote the development of AI applications for public good. The Government is also strengthening the AI ecosystem in education and skilling through initiatives including establishment of Centres of Excellence and integration of AI in learning frameworks, to equip youth with industry-relevant skills and build a future-ready workforce. The Ministry of Education is supporting such initiatives, including Centres of Excellence and skilling programmes in emerging technologies, benefiting all States and Union Territories

This information was given by Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences, and Minister of State in the Prime Minister's Office, Personnel, Public Grievances and Pensions, Atomic Energy and Space, Dr. Jitendra Singh, in a written reply in the Lok Sabha on Wednesday.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2245233&reg=3&lang=1>

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The Tribune  
The Statesman  
पंजाब केसरी जनसत्ता  
The Hindu  
The Economic Times  
Press Information Bureau  
The Indian Express  
The Times of India  
Hindustan Times  
नवभारत टाइम्स  
दैनिक जागरण  
The Asian Age  
The Pioneer