

Press Release on the 408th Report of the Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change

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The Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change under the Chairmanship of Shri Bhubaneswar Kalita, M.P., Rajya Sabha presented/laid on the Table its 408th Report on Demands for Grants (2026-27) of the Department of Scientific and Industrial Research, in both the Houses of Parliament on the 25th March, 2026. The Committee considered and adopted the draft Report in its meeting held on 24th March, 2026. The Recommendations/observations made by the Committee in this Report are enclosed.

2. The entire Report is also available on <https://sansad.in/rs>.

408th Report on Demands for Grants (2026-27) of the Department of Scientific and Industrial Research

RECOMMENDATIONS/OBSERVATIONS-AT A GLANCE

BUDGET ANALYSIS

The Committee observes that under the Budget Head “Assistance to PSEs”, there is extremely low expenditure (38.7% of RE by January, 2026), indicating serious implementation challenges or lack of demand. The Committee recommends that a thorough review is needed to identify bottlenecks, and if the scheme is not viable, the Department should consider reallocating funds to more effective programs or revising the budget downward.

(Para 2.2)

The Committee notes that the expenditure under the Budget head “Industrial Research & Development” is also below the expected pace (71.11%). While the BE for FY 2026-27 is reduced as compared to RE 2025-26, it remains above the projected actual. The Committee recommends that the Department should strengthen monitoring and expedite project approvals to improve utilization.

(Para 2.3)

The Committee further notes that the BE for 2026-27 for several schemes appears optimistic given the current year's actuals. For instance, Establishment Expenditure (₹16.79 crore) is higher than the projected actual of ~₹14.66 crore. The Committee recommends that future budgetary allocation

should be based on realistic assessments of expenditure patterns, considering the first 10 months' data, to avoid persistent underspending. The Department should use the current year's actuals to set more accurate targets, especially for schemes with consistent shortfalls.

(Para 2.4)

The Committee observes the abysmally low share of funds used for research as compared to salary, pensions and other expenditure. This is significantly lower as compared to globally reputed R&D organisations. The Committee recommends that the Department should come up with a comprehensive five year roadmap to improve this situation with specific tangible outcomes.

(Para 2.10)

CENTRAL ELECTRONICS LIMITED (CEL)

The Committee observes that the revival of this loss-making Public Sector Undertaking stands as a remarkable success story, transforming its trajectory to emerge as a growth-oriented entity operating in strategic sectors. Having acknowledged this commendable turnaround, the Committee notes with concern that the allocation of a meager ₹3.03 crore for a PSU which has just been revived, is currently in its critical growth phase, and functions in areas of national importance, appears insufficient and warrants more proactive support from the Government. The Committee therefore strongly recommends that CEL should prepare a comprehensive future roadmap outlining its strategic direction along with its corresponding financial requirements, and should subsequently approach the Government to secure a significant increase in its budget allocation to sustain its growth momentum. In this context, the Committee also feels that the decision to pursue listing in the capital markets is a step in the right direction, as this will provide CEL with the much-needed visibility, enhance operational transparency, and grant the Company access to market capital for funding its future expansion plans. The Committee recommends for early listing along with focus on contemplating other business opportunities to make CEL a truly flagship electronics PSU.

(Para 3.10)

The Committee further recommends that CEL should establish a more structured and intensive collaborative framework with CEERI, Pilani, given that both institutions operate under the same administrative department. In this regard, the Committee suggests that CEL should explore the feasibility and strategic potential of entering into a formal agreement that grants it an exclusive, pre-emptive right of first refusal for all technologies, innovations, and developments emerging from CEERI, Pilani. Such an arrangement would ensure that indigenous technologies developed at significant public expense are first offered to a departmental PSU for commercialization, thereby creating a streamlined pipeline from laboratory research to market-ready products. This exclusive access would not only provide CEL with a competitive advantage in accessing cutting-edge technologies but also accelerate the commercial deployment of CEERI's innovations, fostering greater synergy and self-reliance within the departmental ecosystem.

(Para 3.11)

3.12 The Committee also observes that CEL is already making significant strides in the aviation sector by supplying the Runway Visual Range (RVR) transmissometer and partnering with CSIR-NAL for the production and supply of Automated Weather Observing Systems (AWOS) along with other precision aviation instruments. The Committee commends CEL's strategic decision to enter

the field of avionics, recognizing it as a forward-looking move that aligns with the national objective of technological self-reliance. In light of this, the Committee recommends that CEL should proactively identify and compile a comprehensive list of avionics-related products and systems for which the country is still dependent on foreign sources. Thereafter, the Company should dedicate its research, development, and production capabilities towards achieving complete self-reliance in these identified products, thereby reducing import dependencies, strengthening indigenous defence and aviation infrastructure, and positioning itself as a key player in the domestic avionics manufacturing landscape.

(Para 3.12)

3.13 The Committee further observes that with the Railways in the country embarking on a significant capital expenditure growth trajectory, there exists a substantial opportunity for CEL to align its capabilities with the evolving needs of the sector. In this context, the Committee recommends that CEL should work closely with the Research Designs and Standards Organisation (RDSO) and the Railway Board to collaboratively develop newer technologies that address both current and future requirements of the Indian Railways. The Committee notes that the Ministry of Railways has recently announced a new Rail Tech policy specifically aimed at engaging innovators and start-ups to drive technological innovation in the sector, and CEL should proactively endeavour to take advantage of this policy framework. The Company can explore development opportunities in a wide range of emerging innovation areas, including AI-powered elephant intrusion detection systems (EIDS) to reduce wildlife collisions on tracks, AI-based fire detection systems for passenger coaches, drone-based broken rail detection mechanisms, advanced rail stress monitoring systems, sensor-based load calculation devices for parcel vans (VPUs), integration of solar panels on railway coaches to enhance energy efficiency, AI-enabled coach cleaning monitoring systems for improved maintenance, obstruction detection technologies for safe operations in low-visibility and foggy conditions, AI-driven pension management and dispute resolution systems for employee welfare, newer and advanced versions of the Kavach 4.0 train collision avoidance system, and machine vision inspection systems for automated track and coach monitoring. By leveraging the Rail Tech policy and collaborating with RDSO, CEL can position itself as a key technology partner to the Railways, driving innovation while simultaneously expanding its product portfolio and revenue streams in this high-growth sector.

(Para 3.13)

The Committee also observes that with the recent rapid rise in Artificial Intelligence and its associated technologies, the prices of consumer memory and storage chips particularly RAM and SSDs have increased significantly due to the monopolistic control exercised by a few global companies dominating this critical segment. Furthermore, the Committee notes that while India has emerged as a leading global assembler of mobile devices, a substantial percentage of electronic components and parts are still imported. In this context, the Committee recommends that CEL should view this as a strategic opportunity and should proactively develop capabilities in the consumer electronics sector. By leveraging its existing technical expertise and institutional experience, CEL can contribute to import substitution efforts by indigenous manufacturing of electronic components, thereby reducing dependency on foreign suppliers, strengthening the domestic electronics ecosystem, and positioning itself to capture a share of the growing consumer electronics market.

COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH (CSIR)

The Committee acknowledges the critical role of CSIR in driving India's indigenous R&D ecosystem and notes the comprehensive justification for an enhanced budgetary allocation of ₹600 crore under the National Laboratories Scheme for the fiscal year 2026-27. After examining the submissions, the Committee observes that the requested funds are not merely for routine expansion but are directed toward high-priority national missions, strategic defence capabilities, and translational research aimed at bridging the lab-to-market gap. The Committee, therefore, recommends the following:

1. Given the direct linkage of CSIR's projects to national security (e.g., loitering munitions, AUVs), energy independence (Green Hydrogen, critical minerals), and healthcare resilience (indigenous API development), the Department should accord the highest priority to meeting this funding demand. Any delay or shortfall in allocation could impede India's technological self-reliance and strategic preparedness.
2. The Committee endorses the initiatives aligned with the Viksit Bharat vision and SDG targets, particularly those focused on rural livelihood enhancement (Aroma, Floriculture, Seaweed Missions), climate action, and waste-to-wealth generation. The Committee recommends that these societal missions be sustained with adequate funding to ensure inclusive growth and grassroot-level impact.
3. The Committee expresses concern over the ageing infrastructure in CSIR laboratories. It strongly recommends that a portion of the additional funds be specifically earmarked for the modernization of high-end R&D facilities, pilot plants, and testing centres. This is essential to maintain global competitiveness in emerging fields such as AI, quantum materials, and advanced batteries.
4. Recognizing the importance of bridging the lab-to-market gap, the Committee supports the funding for TRL-linked projects under the FIRST, NCP/FBR, and FTT/FTC categories. The recommended outlay should facilitate the establishment of pilot plants and scale-up facilities to boost industrial partnerships, support the startup ecosystem, and promote export-oriented innovation.

(Para 4.12)

The Committee also takes note of the recategorization of the National Laboratories Scheme as a Central Sector Scheme, with exclusion of establishment expenditures, in the upcoming 16th Finance Commission Cycle. While this restructuring is expected to enable more focused and structured funding for core R&D activities, the Committee recommends that CSIR should appropriately formulate and submit any additional requirements under the new scheme to the Ministry of Finance at the earliest for favourable consideration. The Committee also urges the Department of Expenditure to ensure that this transition does not disrupt ongoing research programmes and those adequate safeguards are put in place to maintain continuity of funding for critical national missions.

(Para 4.13)

4.12 The Committee strongly recommends that DSIR and the Department of Expenditure should consider the request for an additional ₹600 crore allocation to CSIR favourably. The Committee believes that this enhanced outlay is a fiscally prudent investment that will catalyse multi-laboratory collaboration, leverage industry participation, and yield substantial economic and strategic returns

for the nation. The Committee expects a firm commitment from the Government to ensure that these mission-mode projects are sustained without interruption and that CSIR is enabled to deliver on its mandate of building a self-reliant and technologically advanced India.

(Para 4.14)

A LOOK INTO THE ROLE OF KEY CSIR LABORATORIES

5.4 The Committee recommends that CSIR and DBT should formalize their collaborative mechanisms through structured frameworks such as Memoranda of Understanding, joint steering committees and coordinated research calls to ensure that the nation derives maximum benefit from the combined expertise of both the Departments.

(Para 5.4)

The Committee emphasizes the need for strengthening institutional collaboration mechanisms between CSIR-NEERI and MoEFCC. The Committee recommends that both organizations should formalize their collaborative framework through structured mechanisms such as joint research programmes, regular consultation meetings, and coordinated approaches to addressing national environmental challenges. The Committee recommends that MoEFCC should leverage CSIR-NEERI's scientific expertise as its primary technical arm for environmental assessments and policy support, while CSIR should ensure that CSIR-NEERI maintains and enhances its interdisciplinary research capabilities and continues to provide independent, credible and objective scientific inputs to all the stakeholders.

(Para 5.6)

The Committee recommends that the Department should consider the urgent need for augmenting the human resources of CSIR-NEERI to enable it to fulfill its expanded national and international mandate. The Committee endorses the proposed optimum strength of 642 and recommends that the process of filling existing vacancies be expedited on priority. The Committee further recommends that the creation of new sanctioned positions, particularly in the scientific, technical, and technology transfer categories, be taken up with the concerned authorities at the earliest. The Committee emphasizes that adequate and appropriately structured human resources are central to CSIR-NEERI's ability to function as a mission-ready national institution, delivering high-impact outcomes for the country and strengthening India's leadership in environmental sustainability.

(Para 5.8)

The Committee strongly endorses the creation of dedicated budget lines for national environmental missions, emphasizing that stable and predictable funding is essential for maintaining high-quality, continuous datasets that underpin evidence-based policymaking and international reporting. The Committee recommends that the Ministry of Finance should establish dedicated budgetary provisions for sustained environmental monitoring and mission-mode programmes, enabling a transition from short-term project-based funding to long-term national missions.

(Para 5.10)

The Committee recommends that DSIR, in consultation with MoEFCC and NITI Aayog, should develop a mission-mode governance framework with multi-year horizons and outcome-based evaluation for programmes aligned with national priorities such as Net Zero, clean air, water security, and circular economy. This will enable integrated planning and measurable national impact.

The Committee supports the formal inclusion of CSIR-NEERI as a technical execution partner within national environmental frameworks and flagship missions. It recommends that MoEFCC and other concerned Ministries should formally engage CSIR-NEERI in the design and implementation of national environmental missions, leveraging its scientific expertise.

(Para 5.12)

The Committee finds merit in including CSIR-NEERI experts in official Indian delegations to international environmental forums. It recommends that the Ministry of External Affairs, in coordination with MoEFCC and DSIR, should evolve a mechanism for such inclusion to strengthen India's technical credibility and global leadership in environmental governance.

(Para 5.13)

The Committee strongly supports anchoring a National Environmental Data Repository at CSIR-NEERI, integrating air, water, waste, and emissions datasets. It recommends that MoEFCC, in collaboration with DSIR and CSIR-NEERI, take expeditious steps to establish this repository with adequate funding and technical support.

(Para 5.14)

The Committee appreciates the vision of positioning CSIR-NEERI as India's scientific interface for Global South cooperation in environmental sustainability. It recommends that MEA and DSIR should develop a comprehensive framework for leveraging the Institute's expertise in international development partnerships and Global South cooperation.

(Para 5.15)

The Committee observes that CSIR-NEERI's five regional centres serve vast geographic areas under significant manpower and infrastructure constraints, limiting their effectiveness in supporting State Governments, Pollution Control Boards, and Urban Local Bodies. The Committee endorses the Institute's proposal for a calibrated, need-based expansion of its regional presence, emphasizing that expansion must be phased, strategically targeted, and adequately resourced. Priority should be given to ecologically sensitive regions, high industrial concentration zones, rapidly urbanizing areas, and climate-vulnerable zones. The Committee recommends that expansion should follow the hub-and-spoke model, with the Nagpur Headquarters focusing on national coordination and advanced research, while regional centres undertake applied research, monitoring, and stakeholder engagement. A modular, mission-driven approach should be adopted, with centres co-located wherever feasible with State institutions or academic partners to optimize resources. The Committee emphasizes that such expansion requires enabling support, including augmented manpower, dedicated funding, delegated financial powers at regional level, and alignment with national missions. With appropriate policy backing and resources, CSIR-NEERI's regional centres can evolve into a robust nationwide network supporting environmental governance and sustainable development.

(Para 5.17)

The Committee strongly recommends that the Government should provide the necessary policy backing, financial resources, and institutional support to CSIR-CEERI to enable it to fulfill its mandate of advancing India's semiconductor and electronics capabilities. The Committee also recommends that the upgradation of the fab facility, the expansion of skill development programmes, and the collaboration with SAMEER and other stakeholders be pursued expeditiously.

The Committee recommends that CSIR-CFTRI should leverage its scientific expertise to develop a comprehensive range of low-cost, affordable, and easy-to-use field testing kits that enable consumers and local food inspectors to detect common adulterants quickly. The Committee also recommends that the existing portfolio of testing aids for oil adulteration, synthetic colours, and adulterants in milk and water be expanded to cover a wider range of adulterants commonly found in Indian food products, and that these kits be made readily available to the general public.

(Para 5.25)

The Committee recommends that the awareness and capacity-building initiatives undertaken by CSIR-CFTRI be significantly scaled up and systematically integrated into a national mass awareness campaign on food adulteration. A comprehensive dissemination strategy should be developed utilizing all available media platforms—including social media, traditional media, and community engagement programmes to empower citizens with the knowledge and tools to identify adulterated food. The Committee also recommends that the Institute's publications, including booklets on food safety and adulteration be expanded and translated into regional languages for wider reach.

(Para 5.26)

The Committee recommends that CSIR-CFTRI should leverage its scientific expertise to publish independent, higher-quality reference standards for common food products. These alternative benchmarks should serve a dual purpose: first, as a voluntary gold standard for premium, health-conscious producers seeking to differentiate their products in the market, and second, as a scientific tool to advocate for gradual upward revision of national regulations. The Committee also recommends that the development of Certified Reference Materials under the Institute's Vision-2030 be accorded highest priority and that the Institute should proactively engage with FSSAI to demonstrate and disseminate these reference materials.

(Para 5.27)

The Committee recommends that the Ministry of Finance and the Department of Scientific and Industrial Research should provide the necessary financial backing for the development of a mobile application to enable consumers to identify subpar food products. The proposed app should function by allowing users to scan product barcodes to access independently verified quality ratings, flag ingredients of concern and compare nutritional profiles against scientifically established benchmarks.

(Para 5.28)

FROM LAB TO MARKET: STRENGTHENING CSIR'S TECHNOLOGY TRANSFER MECHANISM

The Committee observes that the average revenue per technology commercialized by NRDC varies significantly and is generally low in absolute terms. To address this, the Committee recommends that the Department formulate a comprehensive Standard Operating Procedure (SOP) to govern the process of transferring technologies to its industrial partners. The Committee recommends developing a more sophisticated and flexible licensing framework that moves beyond standard upfront fees and royalties, incorporating milestone-based payments that structure deals with payments linked to the licensee achieving specific commercial benchmarks, such as successful pilot production, first commercial sale, or reaching a sales target. Furthermore, the framework should

involve strategic decision-making regarding exclusive versus non-exclusive licensing, determining when to offer exclusive licenses for higher fees to attract major industry players and when to employ non-exclusive licenses to ensure the wider dissemination of socially important technologies.

(Para 6.11)

The Committee also recommends that the Department should explore the idea of establishing more verticals under CEL under different categories like healthcare, aerospace, energy, ecology, etc. These PSUs would work in close collaboration with CSIR laboratories, not only commercializing indigenous technologies but also contributing to their further development. The profits generated by these enterprises would flow back to the Government in the form of dividends. Additionally, by ensuring competitive pricing, this would ultimately serve the national interest and benefit the broader public, besides developing other businesses by CEL as mandated by the Department of Public Enterprises.

(Para 6.12)

The Committee further recommends that the Department should establish a dedicated and centralized "Technology Marketing & Commercialization Wing" with its separate budget to serve as a single-window interface for industry, functioning proactively by providing market intelligence to identify industry needs and map them to existing CSIR technologies. This wing could also be responsible for strategic branding and outreach, developing a strong CSIR brand through targeted global marketing campaigns, technology showcases, and industry-specific roadshows, moving beyond a reliance on passive online portals. Additionally, it could feature dedicated deal facilitation, employing professionals with business development and negotiation expertise to structure and close technology transfer agreements more efficiently.

(Para 6.13)

6.14 The Committee observes that the Department is exploring the option of Section 8 startup model for CSIR labs to allow for equity stakes. The Committee opines that the Department is thinking in the right direction. The Committee recommends for early setting up of the proposed Section 8 Company so as to facilitate monetization of CSIR technologies at higher valuations. The Committee also recommends moving from exploration to a structured, time-bound implementation of this equity-based model. For breakthrough technologies with high commercial potential, CSIR should consider taking a strategic equity stake in spin-off ventures or licensing partners instead of, or in addition to, upfront licensing fees and royalties. This would align CSIR's long-term interests with the company's success, potentially yielding significantly higher returns that can be reinvested into future research. A clear policy framework with guidelines on equity percentage, exit strategies, and conflict of interest must be developed to enable this.

(Para 6.14)

HUMAN RESOURCE MANAGEMENT

The Committee observes with serious concern that nearly one-third of the positions in the Department are currently lying vacant. Even more alarming is the situation in CSIR, where more than half of the scientific and technical posts remain unfilled. Several laboratories, including CBRI Roorkee, CIMFR Dhanbad, 4PI Bangalore, IGIB New Delhi, IIIM Jammu, IITR Lucknow, NBRI Lucknow, NCL Pune, and NIScPR New Delhi, are grappling with over 60% vacancies in their scientific and technical grades. Disturbingly, even the laboratory with the lowest vacancy rate in this

category, IIP Dehradun, still has more than 25% of its scientific and technical posts vacant. The Committee also notes with deep concern that even two Director-level positions are also currently vacant. Furthermore, the grade of Outstanding Scientist H is severely understaffed, with only 8 positions filled out of a total sanctioned strength of 23. Compounding these issues, 50% of the posts at the level of Distinguished Scientist are also vacant, highlighting a critical leadership and expertise gap within the organization. In light of this concerning situation, the Committee strongly recommends that the Department and CSIR undertake an expedited, time-bound recruitment drive to fill all vacant positions on a priority basis, with special emphasis on scientific and technical grades as well as leadership roles, to ensure uninterrupted research activities, effective institutional management, and the fulfillment of CSIR's mandate as the nation's premier R&D organization.

(Para 7.3)

The Committee appreciates that the Department has notified new recruitment rules, acknowledging this as a timely and crucial step towards addressing the persistent vacancy crisis in CSIR. The Committee views this as a positive development that, if implemented effectively, will go a long way in filling the large number of vacancies across scientific and technical grades, strengthening research capacity, and positioning CSIR to meet the evolving challenges of science and technology in the years ahead. The Committee recommends that CSIR should fix a definitive timeline for completing the first round of recruitment under CSRAP Rules, 2025. Given that more than 50% of scientific and technical posts are vacant across CSIR laboratories, an urgent and time-bound recruitment drive is imperative to prevent further erosion of research capacity. The Committee also recommends that laboratories with more than 60% vacancies in scientific and technical grades — namely CBRI Roorkee, CIMFR Dhanbad, 4PI Bangalore, IGIB New Delhi, IIIM Jammu, IITR Lucknow, NBRI Lucknow, NCL Pune and NIScPR New Delhi — should be prioritized in the recruitment cycle under CSRAP Rules, 2025. The Recruitment and Assessment Board (RAB) should devise a special fast-track mechanism for these institutions.

(Para 7.7)

The Committee also recommends that CSIR/RAB should issue consolidated recruitment advertisements at fixed, pre-announced intervals — ideally twice a year — so that aspiring researchers can plan and apply without uncertainty. This will also prevent the recurrence of long gaps in recruitment that led to the current vacancy crisis.

(Para 7.8)

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