Department of BioTechnology, Government of India
सत्यमेव जयते

BioE3 Biotechnology for Economy, Environment & Employment

birac Ignite Innovate Incubate

DBT-BIRAC Joint Call for Proposals on '*Functional Foods*' for Fostering High Performance Biomanufacturing under BioE3 Policy

1. Background

The **BioE3** (**Bio**technology for **E**conomy, **E**nvironment & **E**mployment) **Policy** for '*Fostering-High Performance Biomanufacturing*' has been approved by the Union Cabinet in August 2024. The Policy lays down the framework for high-performance Biomanufacturing, to accelerate the development and scale up of Bio-based products in the country. Biomanufacturing can fundamentally transform the global economy from today's consumptive manufacturing paradigm to the one based on regenerative principles and will play a pivotal role promoting in '*Green Growth'* while driving country's Bioeconomy.

2. Scope of the Call

'Functional Foods' has been identified as one of the thematic subsectors under the BioE3 Policy for '*fostering high-performance biomanufacturing*". Functional Foods, novel dietary items enriched with nutrients, dietary fiber, phytochemicals or live microorganisms at safe and efficacious concentrations, offer targeted health-enhancing or disease-preventing benefits, addressing chronic lifestyle disorders and nutritional deficiencies. Hence, DBT and BIRAC aim to foster an innovative ecosystem to address critical unmet needs towards functional food biomanufacturing. In view of this, DBT and BIRAC invite proposals in the area of functional foods in the following priority areas:

(i) **Functional Foods targeting chronic and difficult-to-manage disorders**

Functional Foods targeting chronic, difficult to manage disorders (e.g., IBD, MASLD, MASH, metabolic syndrome, chronic fatigue syndrome etc.) through diverse mechanisms—immune modulation, antioxidant and anti-fibrotic actions,

gut-microbiome restructuring, epigenetic regulation, and metabolic reprogramming;

(ii) **Functional Foods for cognitive function and mental well-being**

Functional Foods having neuroprotective effects through bioactive compounds (e.g., flavonoids, omega-3s, adaptogens), gut-brain axis modulation (e.g., prebiotics, probiotics, postbiotics, fermented foods), and development of functional beverages and snacks for enhanced mental performance;

(iii) **Functional Foods for inborn errors of metabolism, and mitochondrial and peroxisomal disorders**

Functional Foods formulated with ingredients such as specific nutrients, phytochemicals, etc. to ameliorate symptoms and support quality of life in inborn errors of metabolism, and mitochondrial and peroxisomal disorders that currently have limited therapeutic options.

Proposals should leverage cutting-edge biomanufacturing approaches, such as precision fermentation for bioactive and probiotic production, targeted nutraceutical formulation, stabilization technologies, and scalable encapsulation or delivery systems, and will be supported under two categories:

a. **Discovery & Application-oriented Integrated Network Research (Expected Outcome - TRL: 3-5):** Under this category, the proposals should focus on proof-of-concept development and applied research to validate the feasibility of innovative ideas and technologies for functional food biomanufacturing in the priority areas enumerated above and to evaluate their functionality, safety, and efficacy.

b. **Bridging the Gaps for Scale-up: (Expected Outcomes - TRL: 5-8)**

   Under this category, proposals should focus on scaling validated technologies from the laboratory to pilot-scale levels or pre-commercial, focusing on efficiency, functionality, safety, and efficacy, as well as techno-economic viability and sustainability of functional food biomanufacturing in the priority areas enumerated above.

3. Key requirements for the proposed projects

a. The proposal must be in concordance with the scope of the Call as outlined above, and this alignment should be clearly and adequately demonstrated within the proposal.
b. Developed technology (if applicable) should be sustainable from an economic and environmental point of view and the technology should be scalable.
c. Gap in the technology to be addressed and strategies proposed to address the gap should be outlined clearly.
d. Proposals must mention the present TRL level of the technology and the TRL proposed to be attained at the end of project duration
e. The proposal should strictly adhere to the prescribed proforma.
f. The proposals with a clear focus and likely execution of deliverables within timelines will be preferred.
g. All proposals must adhere to all applicable statutory regulatory requirements.

4. Mode of Submission

Proposals may be submitted by both Academia and Industry applicants, either independently or as a collaborative project.

a. **For proposals from Academia/Research Institutions/National Laboratories:** Interested applicants should submit the proposals in the prescribed format duly forwarded by the executive head of the institution through the Department's e-ProMIS portal (www.dbtepromis.nic.in)**.**
b. **For proposals from Industry and Industry-Academia/DSIR recognized Non-Profit Organizations/Startups collaboration:** Interested applicants should submit the proposals in the requisite format duly forwarded by the executive head of the Company/LLP/Institution by logging to the BIRAC website (www.birac.nic.in).

5. Eligible Organizations

5.1 Academic Organizations

a. Proposals may be submitted by interested applicants engaged in research activities at various Institutions/Universities/Societies/

Trusts/NGOs/Foundations/ Voluntary Organizations, recognized as a Scientific and Industrial Research Organization (SIRO).

b. The Principal investigator must have at least four years of the employment remaining in the institution at the time of proposal submission.

5.2 Industry

a. Eligibility criteria for the industries will be as per "*Implementation Plan for the Biomanufacturing and Biofoundry Initiative*" attached at ANNEXURE I.

b. Pre-requisite documents required to be submitted by industry as per the BIRAC norms are as follows:

5.2.1 Companies/Startups

a. Incorporation certificate.
b. CA/CS certified share holding pattern as per BIRAC format (Companies having a minimum of 51% Indian shareholding / individuals holding Indian passports are only eligible) mentioning UDIN number.
c. Details regarding in-house R&D facility, if any; or Incubation Agreement with recognized Incubator.
d. Audited financial details of latest last three financial years,
e. Copy of passports of the shareholders if required (in support of 51% eligibility criteria).

5.2.2 Limited Liability Partnership

a. Incorporation/Registration Certificate.
b. Partnership deed: CA/CS certified certificate which states that minimum half of the partners are Indian citizens mentioning UDIN number.
c. Copy of passports of Indian partners/subscribers
d. Research mandate/ details regarding in-house R&D facility, if any/ Incubation agreement
e. Audited financial details for the last three financial years

Companies/LLP, if recommended, have to provide a declaration stating that the Company/LLP is not in default of BIRAC OR any other organization. Further, there are no Legal Proceedings going against the applicant.

6. Evaluation Criteria

The proposals will be evaluated as per existing norms of DBT and BIRAC.

7. Funding Modalities

a. Projects that have academic partners only will be funded by DBT. Projects involving Academia and Industry or only Industry will be supported by BIRAC.

b. Extent of funding will depend on the proposed activities and will be in alignment with the "*Implementation Plan for the Biomanufacturing and Biofoundry Initiative*" attached at ANNEXURE-1.

c. Project duration will be up to 2 years, extendable up to 5 years based on the performance.

8. Scope of Intellectual Property Generated During the Duration of the Project

The Intellectual Property (IP) generated during the duration of the project will be in accordance with the IP Policy of DBT and BIRAC.

9. Discretion

DBT/ BIRAC shall reserve the discretion on determination of sanction of funding and processes as per its standard norms and such determination shall be final. The selection process is not open to review.

10. Contact Information

For queries regarding the Call for Proposals, applicants from Academia may contact Dr. Amit K. Tripathi, Scientist 'D', DBT (Email: amitkr.tripathi@dbt.nic.in, Tel: 011-24363748), while applicants from Industry or those applying under Industry-Academia/Start-up joint proposals may contact Dr. Sujit Das, Officer, Technical Division, BIRAC (Email: tech03@birac.nic.in). For technical queries related to online submission, Academia applicants may reach out to the DBT Application Support - e-ProMIS team at Tel: 011-24365136 or via email: epromis.dbt@nic.in, whereas Industry or Industry-Academia joint applicants may contact the BIRAC IT Team at email: user1@birac.nic.in.

Last date for submission of proposals is 10th July 2025.