

BIRAC-RDI FUND

REQUEST FOR PROPOSALS



BIRAC - RDI Fund

Biotechnology Industry Research Assistance Council (BIRAC) – a Public Sector Enterprise
of Department of Biotechnology, Ministry of Science and Technology, Govt of India

REQUEST FOR PROPOSALS (RFP)

Under the BIRAC–RDI Fund

1. ABOUT BIRAC:

The Biotechnology Industry Research Assistance Council (BIRAC), a not-for-profit Section 8, Schedule B Public Sector Enterprise under the Department of Biotechnology, was established as a dedicated agency to strengthen biotechnology enterprises undertaking strategic, nationally relevant research and product development. Since inception, BIRAC has been central to the expansion of India's biotech start-up ecosystem, from fewer than **50 start-ups in 2012 to over 10,000 by December 2024 (IBER 2025)**, supporting the full product development lifecycle through targeted funding, public–private partnerships, incubation, capacity building, mentoring, and policy interventions.

Over the past thirteen years, BIRAC has supported more than 4,800 start-ups and innovators, established a network of **95 bio-incubation centres**, facilitated the commercialization of over **800 products**, and contributed to the creation of more than 35,000+ high-skilled jobs. With cumulative public **funding exceeding ₹4,000 crore**, BIRAC has **catalysed approximately ₹2,600 crore in industry co-investment and mobilizing about ₹5,000 crore** of VC/ Angel capital into high-risk biotechnology innovation. BIRAC-supported enterprises have reportedly **raised over ₹75,000 crore in follow-on funding**.

As India transitions into Atmanirbhar Bharat journey, there is an imminent need for structured, patient, and professionally managed risk capital to support late-stage translation, manufacturing scale-up, and commercialization.

2. BIRAC-RDI FUND

The RDI Fund operates through a **multi-tier fund management architecture**. Financing support is extended to projects at **Technology Readiness Level (TRL) 4 and above**, distinguishing it from grant-based or early-stage research schemes.

Given its **sectoral expertise in biotechnology**, proven fund management capabilities, robust governance standards, and extensive national innovation ecosystem, the **Biotechnology Industry Research Assistance Council (BIRAC)** is an implementing partner and uniquely positioned to serve as a **Second-Level Fund Manager (SLFM)** under the RDI Fund Scheme.

Accordingly, the **BIRAC–RDI Fund** is established to support **ROI-intensive biotechnology and allied innovation projects** through structured public–private co-investments.

3.BACKGROUND RDI

The Government of India has approved the **Research, Development and Innovation (RDI) Fund**, a flagship **₹1 lakh crore** initiative under the **Department of Science & Technology (DST)** and the **Anusandhan National Research Foundation (ANRF)**. The RDI Fund is aimed at catalysing private-sector investment in R&D, accelerating commercialization of deep-tech innovations, and positioning India as a **global innovation hub**, in alignment with the national vision of **Viksit Bharat 2047**.

Approved by the Union Cabinet in **July 2025** and launched by the **Hon'ble Prime Minister in November 2025 at the ESTIC 2025 event**, the RDI Fund is India's **largest-ever investment in research-led innovation**. The Fund marks a strategic transition from publication-driven research to **outcome-oriented innovation**, enabling economic growth, strategic self-reliance, and global competitiveness.

The RDI Fund focuses on **deep-tech and sunrise sectors**, including biotechnology, artificial intelligence, clean energy, and strategic technologies, by supporting:

- Financing of transformative R&D projects at scale;
- Acquisition of technologies of critical or strategic importance; and
- Provision of long-term, patient, low-cost capital to mitigate private-sector investment risks during extended R&D and scale-up phases.

3. Focused Biotech and Related Areas to Be Funded

Under the BIRAC-RDI Fund, priority for funding shall be accorded to the projects pertaining to the following strategic sectoral focus areas:

- Health, pharmaceuticals, biopharmaceuticals, medical devices, diagnostics, and allied healthcare technologies;
- Industrial biotechnology, synthetic biology, and biomanufacturing, including sustainable bio-products, environmental technologies, and circular economy-oriented solutions;
- Climate-resilient and sustainable agricultural biotechnology solutions, including resource-efficient and environmentally sustainable approaches;
- Secondary agriculture and allied sectors, including fisheries, aquaculture, sericulture, apiculture, animal husbandry, and value-added biotechnology interventions;
- Artificial Intelligence (AI), Machine Learning (ML), and data-driven applications addressing nationally relevant challenges in health, agriculture, environment, and biotechnology; and
- Emerging and interdisciplinary biotechnology domains at the intersection of biotechnology with engineering, AI/ML, materials science, space, marine sciences, and other related disciplines.
- Import substitution and strategic manufacturing that supports/ promotes biotech R&D, biomanufacturing and related areas.

Target markets may include domestic and global markets demonstrating strong demand, scalability, and high growth potential.

The detailed description of focus sectors, sub-sectoral coverage, illustrative project categories, are provided in **Annexure I** and shall be read in conjunction with this section.

3. SCOPE OF THE PROGRAM

Applicants can apply for:

- Projects at **TRL 4 and above**
- Demonstrate strong commercialization and societal impact potential
- Address **nationally relevant and strategic challenge**

Provide defined milestones, deliverables, timelines, and outcomes.

4. FUND DEPLOYMENT & ACCESS FRAMEWORK

4.1 Accessing the Fund

The BIRAC–RDI Fund shall be deployed as **long-term risk capital** through **debt, equity, or hybrid instruments**, including:

- Long-term collateral free loan
- Equity and equity-linked instruments such as:
 - Optionally Convertible Preference Shares (OCPS)
 - Compulsorily Convertible Preference Shares (CCPS)

BIRAC shall allow **blended finance** to balance the funding requirement considering innovation risk, capital efficiency, and sustainability in alignment with RDIF norms.

Disbursal Plan

Category	Maximum Amount	Funding Instruments
I	Up to ₹25 Crore	Loan, Equity & Equity-linked Instruments, and combination
II	Up to ₹50 Crore	
III	Up to ₹200 Crore	

The choice of instruments shall be determined based on project risk profile, development stage, co-investment readiness, and expected outcomes.

4.2 Funding Limits

Financing under the BIRAC–RDI Fund shall **not exceed 50% of the total assessed cost** of the project or funding round.

The remaining 50% shall be arranged by the applicant through internal accruals or commercial/private sources. In exceptional cases, this limit may be relaxed with the approval of the **Empowered Group of Secretaries (EGoS)**.

(i) Project-Based Loan Financing

- Applicable for debt or optionally convertible debt instruments
- Limited to **50% of approved project cost**
- Linked to defined deliverables and outcomes

(ii) Objective-Based Equity Financing

- Applicable for equity or equity-linked instruments
- Limited to **50% of each funding round value**
- RDIF participation shall remain capped at 50% at all stages

Additional Conditions:

- BIRAC–RDI Fund shall not be used as grants or for short-term financing
- Follow-on support may be considered for new projects/objectives
- Conditional term sheets may be issued to facilitate co-investments by the selected applicants on request

5. APPLICATION & REGISTRATION PROCESS

Applicants may apply online by using the APPLY NOW link on the dedicated BIRAC RDIF website (www.biracrdif.org). Once the preliminary information is filled in, a dedicated link will be sent to the applicants email id. Applicants can now continue filling the form using the link or login directly on the BIRAC RDI Fund website. A dedicated “application toolkit”, to assist with the application process, is also available in the website.

6. ELIGIBILITY & COVERAGE FRAMEWORK

6.1 Applicant Eligibility

Eligible Technology Entities must:

1. Be legally registered and incorporated in India under applicable Indian laws (including DPIIT-recognised startups).
2. Have principal place of business and operations in India.
3. Be controlled by resident Indian citizens as per DPIIT FDI Policy.
4. Have global headquarters registered in India.
5. Be engaged in development of **ROI-intensive technologies at TRL 4 or above**.

6.2 Project Eligibility

BIRAC-RDI Funds shall only be used to support ROI-intensive technologies in Biotech and related areas, which

1. are generally based on advances in science and engineering innovation.
2. typically have high uncertainty in functionality, adoption, production, standards / architecture.
3. may entail investment in scientific or engineering R&D before product development.
4. Be aligned with **national relevance**
5. Projects must be Technology Readiness Levels (TRL) 4 and above with objective milestones, deliverables, and timelines.

6. Applicant to demonstrate financial transparency and, co-funding or risk-sharing capacity

*Refer to **Annexure II** for Delta change self-assessment checklist*

7. Evaluation of Applications

Applications received under the BIRAC–RDI Fund shall be evaluated on their **scientific, technological, commercial, and financial merits**.

BIRAC shall adopt a **tiered selection process** for evaluation and approval.

(Indicative timelines: 8 weeks for screening and review, and 12 weeks for fund disbursement)

Stage I: Call for Proposals & Submission

A. Call for Proposal: National calls inviting proposals shall be issued through:

- Leading national newspapers
- BIRAC website
- Social media and other official communication channels

The call shall include scheme guidelines, eligibility criteria, and submission timelines.

Two types of calls may be issued:

- **Open Calls:** Proposals invited across all biotechnology domains aligned with the RDI mandate.
- **Theme-driven Calls:** Proposals invited in predefined strategic or thematic focus areas.

Start-ups and companies engaged in **deep-tech biotechnology and allied sectors** shall be encouraged to participate.

B. Online Submission of Proposals

Applications shall be submitted through **online mode** via the **dedicated BIRAC-RDI Fund portal**.

Stage II: Screening & Expert Evaluation

A. Eligibility Check

1. Administrative Compliance

- o Indian registration and ownership/shareholding requirements as per RDI guidelines
- o Review of founders'/promoters' past default history, if any

2. Technical Compliance

- o Verification that proposals fall within the BIRAC–RDI Fund mandate
- o Confirmation of **TRL 4 and above**, based on information provided (TRL self-assessment can be done following guidance on: <https://www.psa.gov.in>, https://www.birac.nic.in/desc_new.php?id=443)

Only proposals meeting both criteria shall progress to expert evaluation.

B. Expert Committee Review

- First round of evaluation will be EC (expert committee) where following parameters will be assessed:
 - o Value proposition and unmet need
 - o Technical feasibility
 - o IP ownership and regulatory pathway
 - o Business plan, go-to-market strategy, and availability of co-funding
 - o Objectives, milestones, and expected outcomes
 - o Team competence and execution capability

Stage III: Investment Committee Approval

A. Final Recommendation by Investment Committee (IC)

- Consolidated proposal and evaluation findings shall be presented to the IC by the internal team and applicant entity.
- IC shall assess:
 - Project merit and strategic alignment
 - Financial structuring and instrument suitability
 - Co-funding arrangements, returns, and risk-sharing mechanisms

The IC may:

- Approve or reject the proposal
- Seek clarifications or modifications

Final recommendations, along with **term sheet**, shall be communicated to the applicant.

B. Legal Contracting & Documentation

- Financial and Legal due diligence
- Execution of legal agreements and term sheets
- Definition of milestones, deliverables, timelines, and fund-release conditions
- Finalization of terms for loan, equity, or hybrid instruments

C. Project Approval & Fund Disbursement

- Approved projects shall receive the **first tranche of funds** upon fulfilment of pre-disbursement conditions
- Subsequent tranches shall be linked to achievement of milestones and submission of deliverables

Annexure III provides the *Proposal Evaluation Flowchart and indicative timelines*.

8. FUND DISBURSEMENT

Disbursement shall be linked to:

- Execution of legal agreements

- Minimum 50% co-funding
- Achievement of milestones
- Compliance with monitoring and reporting

Milestone	Details	Fund Allocation in tranches
1	Signing of Agreement	Flexible, as recommended by Investment Committee
2	Milestone 1	
3	Milestone 2	
4	Milestone / Project Completion and Report Submission	

BIRAC reserves the right to withhold, suspend, or restructure disbursements in case of non-compliance.

9. REPORTING OBLIGATIONS

Beneficiaries shall submit periodic reports covering:

9.1 Key Reporting Areas

Reports shall include, inter alia:

(i) Technological Advancement

- Prototypes, proof-of-concept, or innovations developed
- Progression in TRLs from sanction stage
- Indicators of product and market readiness

(ii) Commercialisation and Industry Impact

- Industry partnerships, collaborations, or licensing outcomes

(iii) Catalysing Private Capital

- Quantum of private or commercial capital mobilised

(iv) Scheme Sustainability

- Revenue generation and financial performance

(v) Exit and Visibility Outcomes

- Indicators of long-term viability and exit visibility over 5, 10, or 15 years, as applicable

9.2 Sustainability & SDG Alignment

BIRAC RDI Fund supported investments are intended to support India's strategic autonomy and supply chain resilience, enable job creation in high-technology and knowledge-intensive sectors, improve health, social, and environmental outcomes, and strengthen India's innovation ecosystem and transition towards a product-led economy. In this context, RDIF interventions align with national sustainability priorities and contribute, in an indicative and outcome-oriented manner, to relevant Sustainable Development Goals (SDGs), including

- SDG 3 (Good Health and Well-being) through support to healthcare and life-science innovations;
- SDG 8 (Decent Work and Economic Growth) by fostering skilled employment and innovation-driven entrepreneurship;
- SDG 9 (Industry, Innovation and Infrastructure) by enabling applied R&D, indigenous technology development, and resilient industrial capabilities;
- SDG 12 (Responsible Consumption and Production) through promotion of resource-efficient and sustainable manufacturing practices; and

- SDG 13 (Climate Action), where applicable, through support to clean technologies and environmentally sustainable solutions.
- SDG 2 (Zero Hunger), SDG 6 (Clean Water & Sanitation), SDG 7 (Affordable & Clean Energy), and others

This alignment does not impose additional compliance requirements beyond those prescribed under the RDIF framework. BIRAC-RDI Fund beneficiaries would include related information in their reports.

10. RIGHTS & DISCLAIMER

BIRAC reserves the right to amend, modify, or cancel this RFP, reject any proposal, or seek additional information without assigning reasons.

Annexure I

A. Strategic Priorities: Beyond Incrementalism - Engineering the 10x Breakthrough

We are not promoting routine R&D and incremental improvements, we are seeking fundamental shifts in technological capability. Proposals must articulate a **High Delta Change**—a significant, non-linear leap in performance, cost, or efficacy that renders current solutions obsolete. Preference shall be given to **First-in-Class** innovations that offer a **3x to 10x "Delta Change"** in performance, cost-efficiency, or environmental footprint over current global benchmarks.

- **Designer Enzymes & Functional Proteins:** We challenge applicants to move beyond standard fermentation. We seek **AI-engineered designer enzymes** capable of 10x faster catalysis or extreme-temperature stability for industrial applications. Similarly, we prioritize the development of **recombinant therapeutic or nutritional proteins** that offer significantly higher bioavailability or a 5x reduction in production costs, replacing expensive animal-derived imports.
- **Deep Tech & Synthetic Biology Platforms:** We are looking for foundational "Platform Technologies"—such as cell-free synthesis or CRISPR-based metabolic engineering—that can be pivoted across sectors to create a cascade of high-value products. Your innovation should aim to be the **global gold standard**, creating IP that positions India as a primary exporter of technology rather than a consumer.
- **High-Value IP Generation:** Projects must aim for the creation of robust, globally defensible Intellectual Property (IP). We seek to transition India from a user of global patents to a **primary architect of global standards**.
- **Indigenous High-Value Reagents & Equipment:** We seek to break the "Import Dependency Trap." We invite proposals for the indigenous manufacturing of **high-value reagents, viral vectors, complex media, and sophisticated laboratory/bioprocessing equipment**. If your project secures the supply chain for other researchers, it is a priority. This includes **sequencing reagents, high-fidelity**

polymerases, viral vectors, and sophisticated laboratory/bioprocessing equipment that are currently imported. The goal is 10x supply-chain resilience for the Indian bio-innovation ecosystem.

B. National Impact: Driving the Bio-Revolution

The success of your proposal will be judged by its potential to transform the Indian landscape. We are prioritizing projects that deliver a radical shift in how we utilize our bioresources and protect our environment.

- **Bio-Energy & Carbon Neutrality:** We aspire to see **4th-generation biofuels and bio-hydrogen** production systems that deliver a **5x increase in energy yield** from agricultural waste compared to traditional biogas. We seek innovations that turn carbon from a liability into an asset through high-efficiency biological carbon capture and utilization.
- **Clean Environment & Bioremediation:** We need "Deep Tech" solutions for a clean India. This includes **engineered microbial consortia** or enzymatic systems that can degrade complex industrial pollutants or microplastics at **10x the speed of natural processes**, restoring our water bodies and soil health while recovering precious nutrients.
- **Healthcare Access & Precision Nutrition:** Your R&D may bridge the gap between "Elite" and "Mass" healthcare. We seek products that enhance the **quality of life for the common public**—from affordable personalized therapies to bio-fortified foods that multiply nutritional value without increasing costs, directly contributing to a healthier, more productive nation.
- **Multiplier Effect on Rural Economy:** We seek R&D that directly translates to the field. This includes climate-resilient crops, bio-stimulants that reduce chemical dependency. We prioritize innovations that utilize **abundant local bioresources** to convert into high-value industrial feedstock, create high-tech jobs in Tier-2, Tier-3 cities and rural clusters. By converting Agri-residue into high-value proteins or

energy, your project should aim to **double or triple farmer income** through value-addition at the source.

Merit and Impact are our only filters. An enzyme that converts sugar into ethanol is as valuable as a protein that treats cancer, provided the "Delta Change" is profound.

Annexure II

A. Innovation "Delta" Self-Assessment Checklist for Applicants

Applicants must provide quantifiable evidence or logical projections for each "Yes" response.

1. The 10x Performance & Cost Benchmark

- [] **Magnitude of Change:** Can you demonstrate that your solution offers a **3x to 10x improvement** in a critical metric (e.g., speed of production, cost-per-gram, energy yield, or catalytic efficiency) compared to the current global gold standard?
- [] **Cost Decoupling:** Does your technology decouple "high performance" from "high cost"? (e.g., Delivering a therapeutic at 1/10th the global price without compromising efficacy).

2. First-in-Class vs. Incremental Innovation

- [] **Global Novelty:** Is this innovation "**First-in-World**" (a new molecular entity, a unique designer enzyme, or a novel metabolic pathway) rather than a "Me-Too" or "First-in-India" version of existing technology?
- [] **IP Defensibility:** Does the project aim to generate a foundational patent that could influence global standards, rather than just incremental utility patents?
- [] **Platform Potential:** Can this technology act as a "Force Multiplier" to solve problems in at least two other unrelated sub-sectors? (e.g., A protein stabilization platform used in both vaccines and food security).

3. Strategic Autonomy & Import Substitution

- [] **Supply Chain Sovereignty:** Does your project eliminate India's dependence on imported high-value reagents, viral vectors, or sophisticated equipment?
- [] **Indigenous Bioresources:** Does the process utilize abundant local bioresources (e.g., agri-residue, local microbial strains, or marine biomass) to replace imported feedstock?

4. Socio-Economic "Impact Delta"

- [] **Democratic Access:** Will this innovation be viable for the "Bottom of the Pyramid"? (e.g., Can it be deployed in a Tier III city or a rural primary health centre?).
- [] **Farmer Income Multiplier:** Can you show a direct path to **doubling or tripling the income** of the primary producer (farmer/collector) through your value-addition process?
- [] **Regenerative Footprint:** Does the project follow **Circular Bioeconomy** principles—turning a major waste stream into a high-value product with near-zero carbon emissions?

B. How to Use This Checklist in Your Proposal

Applicants are required to include a "**Delta Statement**" for each of the four categories above as applicable.

Example of a Strong Delta Statement:

1. *"Our designer enzyme (Enz-X) achieves a 7.5x increase in plastic degradation speed compared to the current industry standard, while functioning at 15°C lower temperature, reducing operational energy costs by 60%."*
2. *"Currently, 2G Ethanol production from paddy straw yields approximately 250 liters per ton. Our proprietary **solid-state enzymatic liquefaction** process aims to increase this to 400 liters per ton while reducing water consumption by **8x** and eliminating the need for expensive pretreatment chemicals. This shift moves the 'Delta' of rural biorefineries from marginally profitable to highly lucrative, enabling a 3x increase in the price paid to farmers for their agri-residue."*
3. *"Our proposed continuous-flow bioreactor system for viral vector production reduces the physical footprint by **80%** and CAPEX by **60%** compared to current batch-process facilities. Most critically, it increases the yield of GMP-grade lentiviral vectors by a factor of **10x**, driving the cost-per-dose down from ~\$15,000 to ~\$1,500, making gene therapy a viable option for public healthcare programs."*
4. *"Our project introduces a **nanocellulose-reinforced PHA composite** manufactured via a proprietary solid-state fermentation process. This material delivers a **12x***

improvement in oxygen barrier properties (reducing OTR from 120 to <10 cc/m²/day), matching the performance of petroleum-based PET. Unlike current bioplastics, this composite is **100% home-compostable and marine-biodegradable** within 180 days, creating a 'first-in-class' solution for the \$5B Indian flexible packaging market while utilizing 40% less energy during extrusion."

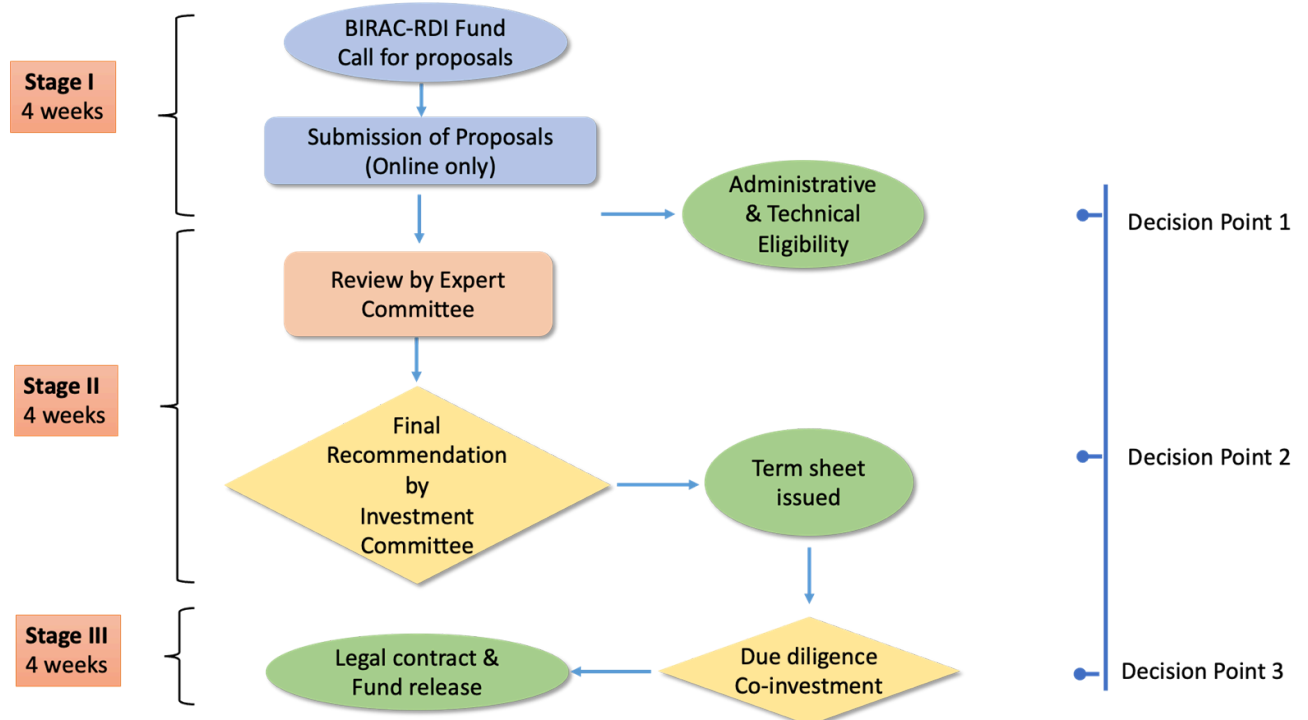
5. "We are scaling the production of **recombinant human-identical Collagen (Type I & III)** using an engineered yeast platform. Our 'First-in-Class' downstream purification process achieves a **10x reduction in endotoxin levels** (<0.05 EU/mg) compared to bovine-derived alternatives. This ensures zero immunogenicity for high-end applications like dermo-fillers and wound scaffolds. By achieving a fermentation yield of **50g/L** (a 5x increase over current benchmarks), we will reduce the cost of medical-grade collagen by **70%**, enabling affordable indigenous production of advanced wound-care devices."
6. "We are manufacturing a '**Next-Gen**' engineered **DNA Polymerase** with a 10x higher processivity and 5x faster extension rate than standard imported reagents. Our manufacturing process uses a novel **chaperone-assisted folding technique** that eliminates the need for a continuous cold chain (stable at **40°C** for 6 months). This 'Delta Change' enables 10x faster PCR diagnostic cycles (from 90 mins to 9 mins) in rural settings, providing a strategic, 'First-in-Class' indigenous supply that is **90% cheaper** than imported high-end reagents."
7. "Our project replaces traditional petroleum-based polymers with a **lignin-based bioplastic** manufactured using a 'First-in-Class' enzymatic grafting process. This material achieves a **7x increase in UV-resistance** and thermal stability compared to standard PLA. By utilizing **100% abundant agri-waste** as feedstock, we reduce the production cost by **60%**, enabling the first viable, mass-scale replacement for single-use plastics in the Indian automotive and packaging sectors."
8. "India currently imports 95% of its **medical-grade Heparin**. Our proposal utilizes a novel **microbial fermentation platform** to produce recombinant Heparin, eliminating the need for porcine (pig) mucosa. This 'Delta Change' ensures a **10x more consistent molecular weight profile** and removes the risk of animal-borne pathogens. Our process is designed for high-density bioreactors, allowing us to produce this critical raw material at **1/5th the cost** of current international imports."

Category		Incremental Change (Will not fund)	10x Delta Change (We want to fund)
Biopolymers Medical Materials Reagents Process Tech		Slightly better tensile strength or lower price.	10x barrier improvement; Marine-safe; Carbon-negative.
	Raw	Domestic version of an existing animal-sourced protein.	Recombinant (animal-free); 10x higher purity; 70% cost reduction.
		Standard grade enzymes for research.	Cold-chain independent; 5x faster reaction kinetics; 100% indigenous IP.
		Optimizing a batch reactor by 5%.	Transition from Batch to Continuous Flow (80% smaller footprint).
Manufacturing		We are setting up a bigger plant.	We changed the process from Batch to Continuous, 10x smaller footprint.
Agriculture		It's a better fertilizer.	It's a bio-stimulant that allows crops to grow with 50% less water AND 5x yield.
Environment		It cleans water slightly faster.	It recovers 90% of precious metals from waste at 1/10th the energy cost.
Healthcare		It's a biosimilar for a common drug.	It's a platform that makes <i>any</i> CAR-T therapy 10x more affordable.

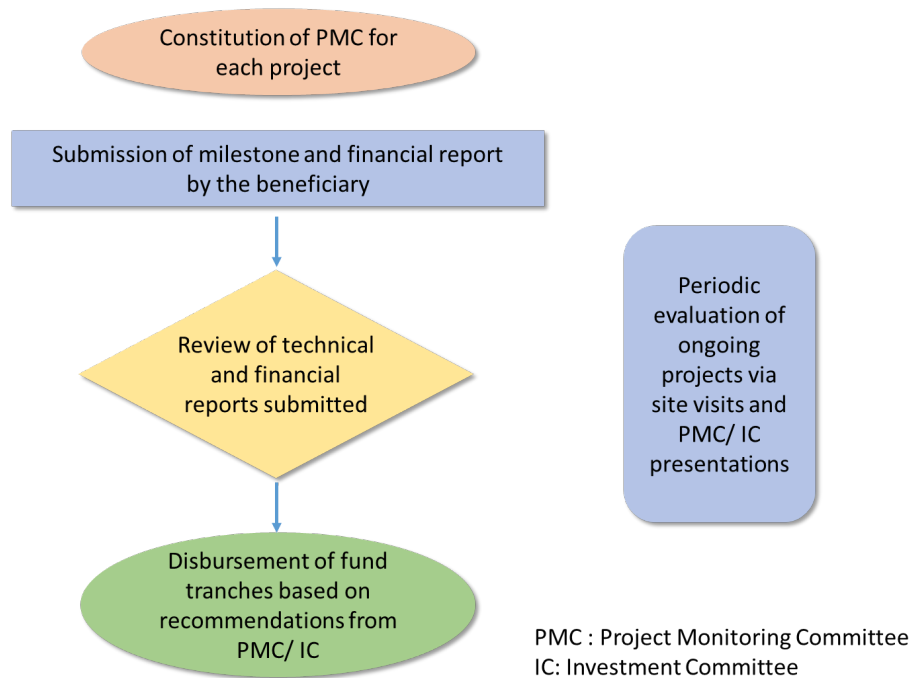
Annexure III

- Application inflow – online submission <<https://biracrdif.org> >
- Assignment of permanent reference number for submitted application <check list completed based on screening completion of the information submitted by applicant>
- Proceeds to Eligibility Screening

Proposal Evaluation Flowchart and timelines



Post-Sanction Project Mentoring and Monitoring



UPDATE

> Only one application per Eligible Technology Entity (ETE) shall be considered for evaluation under a call of application for BIRAC-RDI fund: 18th March 2026.

> Eligible applicants shall be directly evaluated by IC :17th April 2026.