



Challenges for Amazon's Bioinnovation

Call for Proposals

2026

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Call for Proposals

Challenges for Amazon's Bioinnovation

IDESAM and partners, with support from the Bezos Earth Fund (BEF), are launching the international Call for Proposals "Challenges for Amazon's Bioinnovation," focused on developing new products and processes in Food and Cosmetics, and New Materials.

This initiative aims to transform high potential technological ideas into impact-driven businesses that strengthen Amazonian bioeconomy.

Funding provided through this program will support the development of solutions proposed by innovative teams composed of:

- Innovators with hands-on experience in the Amazonian bioeconomy, and
- Research and Development (R&D) specialists with global expertise in product development.

These teams will be required to develop technological solutions addressing one of six challenges in the Food, Cosmetics, and New Materials sectors. Solutions should leverage Amazonian biodiversity to create new products and/or economic opportunities for rural communities and other stakeholders involved in the value chains.

The selection process will include participation in both online and in-person activities, culminating in a 15-day immersion experience in the Amazonian region. This immersion will include 10 days in the city of Manaus (Amazonas, Brazil) and approximately 5 days in a rural community related to the proposed innovation. All immersion costs will be fully covered by the program.

The call will select 25 R&D specialists and 25 innovators, who will form 25 teams. Throughout the program, 10 teams will be selected to advance to the next phase, where they will receive scholarships and technical support for technology and business validation. At the end of the program, an evaluation panel will select the three teams with the best-performing solutions. These teams will receive cash prizes of R\$200,000 (first place - 200 thousand reais), R\$150,000 (second place - 150 thousand reais), and R\$100,000 (third place - 100 thousand reais) to support the next stage of development of their solutions.

1. Who can participate

We are seeking two complementary profiles, who will be supported during the early stages of the program to form teams: Innovators with experience in Amazonian bioeconomy and R&D Specialists with global experience in product development.

Applicants in the Innovators category must meet the following mandatory criteria:

Selection criteria	Description
Experience in the Brazilian Amazon context	Demonstrated connection to or experience within the Brazilian Amazon, such as residence, professional or academic work, or engagement with companies, universities, research centers, community-based organizations, cooperatives, Indigenous communities, traditional rural communities, family farming, or similar institutions.
Experience with Amazonian biodiversity products	Proven experience in the production value chain or applied research involving at least one of the prioritized biodiversity products: Brazil nut, açai, andiroba, copaiba, murumuru, buriti, babaçu, or rubber. (Some challenges allow other species; see Annex 1.)
Interest in entrepreneurship and/or technology licensing	Demonstrated interest in transforming technological solutions into bioeconomy businesses or licensing opportunities.
Citizenship and age	Brazilian citizenship (by birth or naturalization) and a minimum age of 18 years is required for all applicants.
Availability for participation in the Amazon immersion experience	Commitment to participate in all program activities, including the 15-day Amazon immersion experience (see Annex 3).

Applicants in the R&D Specialist category must meet the following mandatory criteria:

Selection criteria	Description
Proven experience in the Cosmetics, Food, and New Materials sectors	Demonstrated professional experience in one or more of the following sectors: cosmetics, food, and/or new materials, preferably in R&D, innovation, new business development, or product and process development.
Commitment and availability for mentoring	Applicants must demonstrate availability and commitment to act as mentors throughout the program, in accordance with the established schedule (see Annex 3). The R&D specialist is expected to dedicate a minimum of twelve hours per month over a period of eight months, in line with the program phases.

For the applicants in the R&D Specialist category, participation in the in-person immersion experience is optional; however, confirmed availability during the application process will be considered an advantage.

IMPORTANT:

- Research groups and collectives: this Call is exclusively to individual applicants, and applications must be submitted individually. Even if the applicant is part of a research group or collective, the application must be submitted on an individual basis. If the proposal involves pre-existing intellectual property arrangements, these must be disclosed at the time of application, as outlined in this document and in the application form.
- Individuals who currently have or have had within the last three (3) months, an employment or professional relationship with organizations involved in this Call, as well as individuals who are related up to the second degree to members of the Independent Evaluation Panel or partner organizations. Innovators from traditional or rural communities are exempt from this restriction.

If the applicant has any other relationship with members of the Independent Evaluation Panel or partner organizations, this must be disclosed at the time of application or any other phase on the call, for the purpose of assessing potential conflicts of interest.

Language:

For the innovator profile, applications should preferably be submitted in Portuguese. For the R&D specialist profile, applications may be submitted in English, Spanish or Portuguese. Proficiency in English, Spanish and/or Portuguese is considered desirable for both Innovators and R&D Specialists.

Translation support will be provided by IDESAM for group activities, both online and in person. However, for certain individual activities, proficiency in more than one language may be required. Innovators and R&D Specialists will be responsible for arranging and covering the costs of any translation support required for their individual interactions, including the use of commercially available translation services.

2. What we will Support

Selected participants (Innovators and R&D Specialists) will work in teams to address technological challenges and pursue new opportunities within the Amazonian bioeconomy. The program will support the development of new products and processes in the Food, Cosmetics, and New Materials sectors, as detailed in Annex 1.

Technological solutions should aim to increase efficiency, improve quality, or generate added value across different stages of a given supply chain. This includes the development and use of co-products, materials or secondary outputs that are generated during production processes that have commercial value or can be repurposed (e.g., pulp residues, seeds, oil, fractions, purified molecules, extraction residues, starches, etc.).

Support will focus on the development of products and co-products derived primarily from:

- **Açaí (*Euterpe oleracea* and *E. precatoria*):** with emphasis on seeds, bioactive fractions, and purified molecules.
- **Brazil nut (*Bertholletia excelsa*):** across the entire value chain, including harvesting, drying, processing, and the use of residues such as husks and shells.
- **Amazonian Vegetable Oils:** including Copaiba (*Copaifera* sp.); Andiroba (*Carapa guianensis*); Murumuru (*Astrocaryum murumuru*); Buriti (*Mauritia flexuosa*); and Babassu (*Attalea speciosa*), with emphasis on fractions, purified molecules, and co-products.
- **Amazonian rubber (*Hevea brasiliensis*):** focusing on novel products derived from the latex of native trees, collected by non-timber forest product collectors.

Other products/species from Amazon's biodiversity may be proposed, provided they align with the challenges described in Annex 1 and demonstrate clear market and socio-economic potential.

Additionally, technological solutions must address at least one of the following Priority areas.

Priority Area 1 – Innovation for Local Production

Technological solutions in this priority area focus on strengthening Amazonian territories through innovation in local production and the empowerment of grassroots initiatives. These are solutions that can increase efficiency, improve the quality of products and co-products, and generate value for local communities, thereby strengthening the governance and autonomy of their enterprises. Technology development focuses on production (including extraction and collecting), processing, quality control, and sustainable management of the biodiversity products found in the territories. Examples include solutions that:

- Optimize production processes through improvements and/or new processing stages.
- Complementary processes related to products, such as quality control, ensure that greater value is captured by traditional communities.
- Development and implementation of technologies for production, primary processing, and sustainable management of bioactive compounds on community territory.

Priority Area 2 – New Product Development

Technological solutions in this Priority area focus on creating value for industry through technology-based innovation (new products or new processes), including the development of high-performance ingredients, molecules, and products for industrial applications in Food, Cosmetics and New Materials markets, connecting Brazilian Amazonian biodiversity to global markets.

Examples of solutions in this area include:

- Developing new high-performance ingredients, active compounds, and products—such as ingredients and molecules—for prioritized industrial applications.
- Transforming the use of Amazonian biodiversity into science-based, high value-added solutions, ready for the market.

Learn more about the 6 challenges of this Call in Annex 1.

IMPORTANT additional information:

- By applying, Innovators acknowledge that the purpose of this Call is to create a business venture and agree to establish a startup and pursue their technological solution, or to transfer the right to IDESAM, which will evaluate ways to continue implementing the solution, including negotiations of financial or non-financial considerations for technology holders.
 - Innovators may submit applications for up to two (2) challenges. The selection process will prioritize the first choice, while the second option provides an additional opportunity for placement.
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3. The Phases of the Challenge

The Challenge is organized into four phases: (i) talent selection, (ii) team building and solution design, (iii) immersion and validation, and (iv) final awards.

For a schedule of activities, please refer to Annex 3.

Phase 1 – Talent Selection (Online)

Application Form and Documents

To participate, applicants must submit a single application through this form ([Innovator](#) e [Specialist](#)) and **attach** the following documents:

- Letter of Intent: detailing the applicant's motivations for participating in the Challenge, highlighting:
 - For Innovators: Knowledge of Amazonian bioeconomy and interest in entrepreneurship or licensing.
 - For R&D Specialists: Professional experience in R&D, innovation, new business development, product or process development, as well as the ability to provide technological mentoring.
 - Format: "PDF" file, up to 2 pages.
 - Video - up to 3 minutes: personal introduction and explain why the applicant should be selected. Format: video link (YouTube, Vimeo, TikTok, Instagram, Facebook, or any other social network, ensuring public access)
 - Lattes (Brazilian Curriculum System) or professional resume: including all relevant experience and language proficiency (English, Portuguese and Spanish). Format: link or PDF.
 - Diploma of highest academic degree. Format: "PDF"
 - Commitment and Participation Agreement, if selected (The template will be sent directly to those selected). Format: PDF.
 - If more than one application is submitted, only the most recent version will be considered.
 - For questions regarding the Call for applications or the selection process, please contact us by email: selecao.zoma@idesam.org
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Evaluation Criteria

After reviewing the submitted documents, the Management and Monitoring Committee may invite pre-selected candidates for interviews and request additional information. A total of 25 (twenty-five) Innovators and up to 25 (twenty-five) R&D Specialists who best meet the following criteria will be selected for the next phase:

Evaluation Criteria – Innovators

Evaluation Criteria	Description	Weight
Technology Readiness Level (TRL)	Priority will be given to proposals involving previously developed technologies aligned with the challenges, at Technology Readiness Levels (TRL) between 3 and 4, corresponding to proof-of-concept and validation in a controlled environment. Projects at TRL 2 may be considered on an exceptional basis if they demonstrate high application potential. Preference will be given to technologies closer to or above TRL 4 (see Annex 2)	30%
Alignment with the Call's challenges	Alignment with technological challenges defined by the Call, particularly in the cosmetics, food and new materials markets (Annex 1)	30%
Potential for socioeconomic and environmental impact	If the proposals involve a previously developed technology solution, priority will be given to the technology that considers social and environmental aspects related to the Amazon bioeconomy, such as sustainable resource use, income generation, and environmental impact reduction.	10%
Ability to work in multidisciplinary teams	Experience collaborating with professionals from different fields to jointly develop solutions in academia, industry or in associations and cooperatives.	10%
Previous entrepreneurial experience	Experience in entrepreneurship, market-oriented innovation projects, or technology licensing and transfer processes; or experience in commercialization and business structuring of products from associations and cooperatives	10%
No current ownership of a company	We are seeking innovators who have not yet started a business so that they may receive support from this Call. Therefore, higher scores will be awarded to those who do not have an established company at the time of application.	10%

Evaluation Criteria – R&D Specialists

Evaluation Criteria	Description	Weight
Ability to provide technological mentoring	The candidate's ability to collaborate with Innovators to make technical and market-oriented contributions to the advancement of technologies throughout the program.	30%
Commitment and availability for online and in-person mentoring	Be committed and available to serve as an online mentor throughout the program, according to the established schedule. Be committed and available to serve as an in-person mentor during the Amazon immersion experience (15 days – see Annex 3).	25%
International experience or experience in global companies	Professional experience in multinational companies, international projects, or global industrial environments, preferably in the context of innovation, new business, R&D, or product or process development.	20%
Experience with global biodiversity	Level of familiarity and experience with global supply chains based on biodiversity resources, preferably from Brazilian extractivist systems.	15%
Proficiency in Portuguese and/or Spanish	Fluency in Portuguese and/or Spanish is considered a plus for interacting with Innovators, teams, and communities.	10%

The decisions of the Management and Monitoring Committee and the Independent Evaluation Panel are final and cannot be appealed. The Selection Committee may request additional information from candidates and conduct further interviews to resolve any questions or tie situations, which must be resolved in a manner that meets the main objectives of this Call.

Phase 2 – Integration among participants and solution design (Online)

The objective is to form synergistic teams between Innovators and R&D Specialists and guide them to develop a robust initial technology or product proposal. To achieve this, participants will engage in a structured journey that combines interactive workshops, online sessions, and collaborative dynamics. It is estimated that one R&D Specialist will support up to two Innovators simultaneously, although this may vary depending on thematic alignment.

Participants will undergo:

- Training workshops on Bioeconomy and Target Markets;
- High-level mentoring sessions for designing the Proof of Concept;
- Networking opportunities with experts;
- Technological Mentoring with the laboratory partners (Institute for Technological Research – IPT and Amazon Biobusiness Center - CBA);

- Access to exclusive reports addressing the challenge from the perspectives of the market, science, and the Amazonian reality.

The deliverable for this phase will be a **structured technological or product proposal** and a short online presentation (Pitch Day) for evaluation by the **Management and Monitoring Committee and the Independent Evaluation Panel**.

The **10 best proposals** will be selected to move forward, based on their potential for innovation, feasibility, and impact, using the following evaluation criteria:

Evaluation Criteria	Description	Weight
Relevance of the Proposal	Alignment of the solution with the Challenge's objectives and its potential impact.	30%
Preliminary Feasibility	Technical feasibility of the Proof of Concept. For this criterion, higher Technology Readiness Level (TRL) ratings will be prioritized (Annex 2).	30%
Innovation Potential	Degree of originality and differentiation of the solution.	20%
Team Cohesion and Synergy	Demonstration of collaboration and complementary skills.	10%
Quality of the Presentation	Clarity and persuasiveness during the Pitch Day online presentation.	10%

IMPORTANT: The organizers of the Call reserve the right to select the best proposals, regardless of the challenge; therefore, there may be challenges where no proposals are selected.

Phase 3 – Immersion and Validation (Amazon immersion experience + Online validation)

The goal is to develop solutions, validate the technical feasibility of the prototype, and build a solid, investment-ready business plan. It consists of two sub-phases: Amazon immersion experience (bootcamp) and validation.

Amazon immersion experience (15-day bootcamp, in-person): Selected teams will participate in an intensive in-person training program. The residency will last 10 days in the city of Manaus, Amazonas, which includes the following activities:

- Team training on business validation.
- Support for designing the experimental path for technology validation with laboratory partner (Institute for Technological Research – IPT and Amazon Biobusiness Center - CBA).
- Presentation of the technology proposal at the Amazon Impact Investment and Sustainable Business Festival (FIINSA).

Next, based on the applied challenge, the remainder of the immersion will take place in a rural community in the Amazon region, where the team will visit:

- Community-based production plants from the same value chain of the challenge.

- Experience the reality of the value chain associated with the challenge, ensuring that the development of processes and products is aligned with the local reality.

Validation (6 months, online): Next, based on the knowledge gained during the immersion experience, the teams will validate their proposed solution online over a 6-month period. Activities will include laboratory validation (with support of IPT and CBA); prototype development; business plan development and business and technology mentoring.

The deliverables for the third phase are **a validated prototype** and **a structured business plan** (business case). Teams selected for the third phase will receive a robust package of financial, structural, and intellectual support to allow them to dedicate themselves to fully develop their solutions.

The benefits for those selected for the third phase are:

a) **Scholarships for Innovators** for 6 months, grants will be based on educational level:

Grant Type	Minimum Education Level of the Applicant	Monthly Amount (R\$)
Basic Scholarship I	Doctorate (full)	7,500.00 (seven thousand five hundred reais)
Basic Scholarship II	Doctoral Candidate	6,500.00 (six thousand five hundred reais)
Basic Scholarship III	Master's (full)	5,500.00 (five thousand five hundred reais)
Basic Scholarship IV	Master's student	4,500.00 (four thousand five hundred reais)
Basic Scholarship V	Undergraduate or high school graduates	3,500.00 (three thousand five hundred reais)

b) Grant for R&D Specialists: Consultants selected for the third phase will receive a grant of estimated US\$ 650.00 (six hundred and fifty dollars) for 12 hours of dedication per month for 6 months (support to 1 Innovator) or US\$ 1,300.00 (one thousand three hundred dollars) for 24h of dedication per month for 6 months (support to 2 innovators) in recognition of their dedication and contribution to the projects (values will be converted to the currency of their respective country of origin)

c) **Validation Funding:** Each team will have **R\$ 100,000.00** (100 thousand reais) for costs related to specific supplies, reagents and specialized testing necessary for the development of their project. This funding can also be used for in-person validation of the prototype in a community designated by the Management and Monitoring Committee. All proposed budget items and expenditures must be submitted to approval by the Management and Monitoring Committee. No funds may be used without such approval. This model ensures greater control and alignment with program requirements.

d) **Support to technology validation:** The Institute of Technological Research – IPT and Amazon Biobusiness center (CBA, in Portuguese) will support the design of experiments to validate the solution proposal (new process or product).

- IPT and CBA will make available, if necessary, their infrastructure, equipment, and technical expertise to execute, under the online supervision of the team, (Innovator and R&D Specialist) the experiments and build the Proof-of-Concept validation and prototype development.
- Innovators with access to institutional laboratories may decide to conduct the experimental validation themselves. It is important to highlight that, in this case, IPT and CBA will monitor the process online, contributing with guidance, mentoring, and the preparation of progress reports for the organization committee of the Call. If necessary, IPT and/or CBA can perform some laboratory validation steps (such as specific tests) to increase the robustness of the technological validation of the solution prototype.

e) Logistical and Structural Support for travel and accommodation: The Call will cover the costs of airfare and accommodation in Manaus for all members of the selected teams who do not reside in the city, additionally, shared study and meeting rooms will be made available for common use among the teams.

f) Mentoring and Training: An intensive validation (incubation) program with specialized mentoring in product development, business market fit, impact business modeling, regulatory issues, intellectual property strategy, and the Amazonian bioeconomy. Training on prioritized biodiversity, its biotechnological potential, and the dynamics of the supply chain.

g) Monitoring team progress: During each of the six months of the validation phase, each team will have clear monthly deliverables to be agreed within the business and technology validation scope. The continuity of the teams throughout the entire journey depends on the progress of the activities. Additionally, mentors and lab partners will prepare reports that will support the final evaluation of the teams.

h) Strategic Networking: Connection to a network of researchers, partner institutions, and potential clients (medium and large companies in the target sectors).

i) **Certification:** At the end of the journey, participants will receive a certificate of participation in the "Scientific immersion in the Amazon" issued by IDESAM.

Phase 4 – Final Awards Ceremony (In-Person and Online)

In this last phase, the objective is to select and award the top 3 solutions, presenting them to a strategic audience of investors, companies, and partners. The expected duration of this stage is two weeks.

The 10 finalist teams will present their business case, technology validation process, and prototypes ("pitch") during a Solutions Presentation Day (Demo Day) for the final evaluation panel. The 3 winners will be selected based on evidence of the highest level of adherence to the evaluation and selection criteria indicated in the Call for proposals and the greatest potential for solution development.

Teams that have reached this stage but were not selected among the final three may be eligible

to receive alternative forms of support, at the discretion of the organizers, for the continued development and implementation of their business initiatives.

The three finalist teams will receive prizes:

Challenge Winner Award

Cash prize to support the development of the solution: R\$ 200,000 (1st place - 200 thousand reais); R\$ 150,000 (2nd place - 150 thousand reais); R\$ 100,000 (3rd place - 100 thousand reais).

The cash award should be used to support the continuity of the development of the winning solution and/or implementation of business (startup) in accordance with Fund Utilization Plan to be agreed upon between the Selection Committee and the winners. The purpose of the award is to serve as seed funding so that the startup can be formally incorporated and be able to develop the solution to the challenge.

For those R&D specialists whose innovators are among the three finalists, the specialist will also receive an extra grant of US\$ 1,300.00.

The 3 finalist teams will be invited to an awards ceremony (location to be defined) with travel, accommodation and food expenses covered by the Call organizers.

After the Challenge journey, the winners will be Partners with Zôma, IDESAM's Venture Builder (Venture Builders are "startup factories" that create, validate, and accelerate multiple startups simultaneously), which will provide ongoing strategic support for business creation, including: legal support to ensure compliance with the Biodiversity Law, if necessary (depending on the kind of technology).

- For example, law No. 13,123/2015, registration in SisGen and the structuring of Benefit-Sharing Agreements; access to networks and markets to identify potential customers and industrial partners; ongoing strategic support.

4. Governance of the Call

The governance of the Amazon Bioinnovation Challenge is based on principles of independence, transparency, technical expertise, and impartiality. To ensure a fair and rigorous selection process, the evaluation and monitoring of participants are conducted by two complementary bodies.

The Management and Monitoring Committee is composed of the IDESAM team and its co-organizing partners to manage the operational aspects of the call; screen applications for eligibility; monitor the teams' progress; facilitate access to mentorship and resources; ensure compliance with the Call for Proposals' rules, applying appropriate measures when necessary; and serve as the primary point of contact for participants throughout the entire process.

The Independent Evaluation Panel is composed of senior judges invited by the organizations conducting this call. The panel may include industry and market leaders, scientific and technological experts, community representatives, and strategic voices, including leadership from the organizers to ensure strategic alignment. Their responsibilities include decisions on the selection of candidates and proposals at all stages of the competition; evaluating the technical

and business merit of the proposals at each stage, based on the criteria defined in this Call for Proposals.

The integrity of the evaluation process is our priority. All members of the Management and Monitoring Committee, Partners and the Independent Evaluation Panel will sign a formal Term of Commitment, which includes: a strict Non-Disclosure Agreement (NDA) to protect participants' intellectual property and confidential information; a Conflict of Interest Management Policy to ensure that all evaluations are conducted impartially; a commitment to handle participants' personal Data in accordance with Law No. 13,709/2018 (General Data Protection Law - LGPD) and the rules of this Call for Proposals.

Disqualification A candidate or team may be disqualified at any stage of the Challenge, at any time, if:

- They fail to comply with the requirements of this Call for Proposals and/or other official communications published on the Call's channels;
- Submit a document and/or information that are not authentic or true;
- Have an irreconcilable conflict of interest, as defined in this Notice;
- Engage in illegal, unethical, or discriminatory conduct;
- Fail to demonstrate satisfactory progress, as assessed by the Committees.

The **Management and Monitoring Committee**, at their own and sole discretion, may issue a warning to correct conduct before disqualifying the candidate/team. This possibility will be evaluated according to the severity of each case.

5. Intellectual Property

How Intellectual Property is regulated in the Challenge

All intellectual property generated through projects and businesses within the scope of the Challenge will belong to the Innovators who develop them. This property will comply with current legislation, ensuring the fair distribution of benefits, where and when applicable.

- R&D Specialists may be designated as inventors, if they complete the full journey of the Call and make substantial contribution to the development of the solution, in accordance with applicable intellectual property laws. Such designation aims solely to recognize their technical contribution and their role in maximizing positive impact and benefit-sharing with the Amazon region.
- Notwithstanding such designation, R&D Specialists shall not hold any ownership rights over the intellectual property, nor any rights to commercially exploit it. All economic (patrimonial) rights related to the intellectual property shall belong exclusively to the Innovators (or to such entity as defined by the program). To the extent permitted by applicable law, R&D Specialists hereby assign, on a full, irrevocable, and royalty-free basis, all economic rights that may arise from their contribution.
- For the avoidance of doubt, the moral rights of inventorship, including the right to be identified as an inventor, shall be preserved in accordance with applicable law. However,

R&D Specialists hereby waive any claim to remuneration, royalties, or other financial compensation arising from the use, licensing, or commercialization of the intellectual property, except as expressly agreed in writing with the rightful owners.

If the innovator proposes a solution based on intellectual property previously aligned with the Call for Proposals, such as with their institution of origin or with another research group, a declaration will be required at the time of application. The preparation of additional legal documents to support the intellectual property and its management during the Call will be analyzed on a case-by-case basis.

Teams must ensure that they are the authors of all materials contained in their proposal or that they possess the necessary licenses to use them. They must also formalize their own agreements defining the relationship between them, including potential agreements regarding joint ownership of intellectual property rights or future business arrangements between the Innovators and the R&D Specialist. Therefore, should the team so elect, there remains the possibility for individual negotiations to be conducted between the Innovator and the R&D Specialist.

5.1. Protection of IP and Associated Traditional Knowledge

All proposals must comply with the regulations governing access to Genetic Resources and Associated Traditional Knowledge—Law No. 13,123/2015 (Brazilian Biodiversity Law, aligned with the Nagoya Protocol) and its implementing decrees.

Selected teams will receive mentoring and specialized support to ensure proper registration in the National Genetic Heritage Management System (SisGen) and to structure models for the fair and equitable sharing of benefits with the communities providing the knowledge and/or genetic resources used.

5.2. Disclosure License

By registering for the Challenge, participants grant IDESAM and its co-organizing partners a license to disseminate the material in their proposals.

This license allows IDESAM and its partners to use this material (texts, videos, audio files, presentations, trademarks, and logos) strictly for non-commercial purposes, including the Call for entries selection process and promotional activities for the Challenge, its participants, finalists, and winners. Such promotion may be carried out in any medium and format, including websites, social media, reports, events, and press materials, always with proper credit given to the authors.

The publicity license granted is:

- non-exclusive (i.e., you may use the same materials or grant licenses for others to use them); royalty-free (i.e., IDESAM and its partners will not pay anything for this use); valid worldwide; perpetual (i.e., it has no expiration date). The published material will not contain technical details: that is, the participant's intellectual property rights will not be affected.

The material may be adapted, without significant alteration of its content, to suit the medium in which it will be published.

This license does not grant the organizing organizations any right to commercially exploit the

developed technology.

5.3. Privacy and Protection of Personal Data

Personal Data collected in this Challenge will be treated with the utmost confidentiality and used exclusively for the purposes of (i) evaluation and development of the Call and (ii) participation in the Challenge, if selected. The processing of this personal Data will be carried out in strict compliance with Law No. 13,709/2018 (General Data Protection Law - LGPD) and IDESAM's Privacy Policy.

This Data will be shared only with the partners listed in this call and with third parties directly involved in the execution of the Challenge.

We may publish personal Data such as identification, academic background, and professional history of selected candidates for the purpose of publicizing the Challenge and its results on the websites of IDESAM and its partners, on social media, and in other materials related to this Call or the Challenge.

Personal Data regarding the candidate's gender will be collected exclusively for demographic analysis purposes among those selected and will not be publicly disclosed. As this is sensitive personal Data, its provision is optional.

Any questions or requests regarding the processing of personal Data may be directed to privacidade@idesam.org.

5.4. Image and Voice

By applying to this Call, you grant IDESAM and its partners free license to capture, use, and broadcast your image and/or voice in photographs, videos, and testimonials for the purpose of institutional promotion of the Call and the Challenge, in any media format (including IDESAM's website and social media), in Brazil and abroad, always with the aim of highlighting your participation in the initiative and without commercial purposes. To this end, we will send you a separate Authorization Form for your signature.

If you need to contact us regarding the use of your image and voice, please send an email to privacidade@idesam.org.

6. Learn more about the organizers and partners

The Amazon Bioinnovation Challenge is presented by a strategic alliance that combines deep traditional and scientific knowledge of the Amazon region with the cutting-edge of global scientific research.

The Amazon Bioinnovation Challenge is an initiative of the Institute for Conservation and Sustainable Development of the Amazon (IDESAM), and is supported financially from the Bezos Earth Fund, which allocates part of its resources to protecting the Amazon and strengthening sustainable value chains.

IDESAM is a private association with over two decades of practical experience in promoting

sustainable solutions to the challenges facing the Amazon. Headquartered in Manaus and Apuí, the organization has a deep understanding of socio-biodiversity value chains and leads Zôma, its venture builder (Venture Builders are "startup factories" that create, validate, and accelerate multiple startups at the same time) dedicated to generating businesses within the new forest economy. IDESAM ensures that the innovations generated in the Challenge are connected to the local reality, generating a positive impact for communities and for the conservation of the standing forest.

Penn State University is one of the world's leading research universities and contributes its vast expertise in scientific research, technology development, and product validation methodologies for international markets. The university will serve as the global bridge for this Challenge, connecting Amazonian talent to an international knowledge network and paving the way for local solutions to achieve global impact.

The **Instituto de Pesquisas Tecnológicas** (Institute of Technological Research – IPT, in Portuguese) is one of Brazil's leading applied research institutions, based in Manaus and São Paulo, dedicated to technological innovation, industrial competitiveness, and public policy support through research, testing, certification, and technological development across sectors such as materials, energy, environment, biotechnology, infrastructure, and digital technologies.

The **Centro de Bionegócios da Amazônia (Amazon Biobusiness Center – CBA, in Portuguese)**, located in Manaus, focuses on advancing Amazonian bioeconomy by fostering research, technological development, and business innovation based on biodiversity, aiming to strengthen sustainable value chains, support the development of bio-based products, and promote regional economic diversification aligned with forest conservation.

Emerge is a consulting firm specialized in science-based innovation and deep tech that connects companies, universities, and startups to bring science to market. Its main activities include corporate acceleration programs — such as Emerge Labs #BRF and the Biosolutions program with Suzano Ventures —, training initiatives like the "Innovation for Scientists" course with over 3,000 graduates, and the production of strategic reports such as the Deep Tech Radar Latam. The organization also created the Deep Tech Summit, an event that in 2025 brought together more than 2,000 participants from 17 countries, and its accelerated startup portfolio has raised over R\$ 30 million in capital.

Szazi, Bechara, Storto, Reicher, and Figueirêdo Lopes Advogados (SBSA) has been in the legal market since 2002 and is a pioneering firm dedicated exclusively to the Third Sector, Human Rights, Environmental Law, and Impact Businesses. The law firm coordinates the Fair Contract Project in the Amazon, a methodology to promote fairer trade agreements and improve the lives of Amazonian communities.

In addition, the Call includes as community partners **Terra do Meio Network and COOPEACRE**. The Terra do Meio Network brings together traditional communities in the Middle Xingu region and protects 8 million hectares of the Amazon rainforest. It operates a socio-bioeconomic model based on products such as Brazil nuts and oils. It strengthens financial autonomy and community agency, valuing traditional knowledge. Its governance integrates associations into a network arrangement that generates sustainable income and environmental services. Meanwhile, COOPEACRE - Central Cooperative for Extractivist Commercialization of Acre - is a leading organization in the Amazonian bioeconomy, working to add value to and market socio-biodiversity products such as Brazil nuts, fruits, natural rubber, and vegetable oils, while promoting socio-productive inclusion, strengthening sustainable supply chains, and facilitating access to national and international markets for extractivist communities.

The **Socio-Environmental Institute (ISA)** has been working alongside indigenous, quilombola, and extractive communities—its historical partners—since 1994 to develop solutions that protect territories, strengthen traditional culture and knowledge, raise political profiles, and develop sustainable economies. In this call for proposals, it will provide support in dialogues with the Terra do Meio Network.

The Call organizers reserve the right to include new partners throughout the Call's execution, including but not limited to new community organizations, industries for the evaluation panel composition, universities, communication partners, among others.

7. Final Provisions

Commitments

Participants registered in this Call commit to:

- a) Follow all the rules of this Call for Proposals and other official communications published on the Call's channels.
- b) Ensure the authenticity and accuracy of all information and documents submitted; they may be held liable and disqualified from this call and the Challenge at any time.

7.1. Communications, Questions, and Changes

All official communications, including the announcement of results for each phase, will be made via the call's official website (www.chamadas.idesam.org). It is the participant's sole responsibility to monitor these channels. If a deadline is not met, the participant may not claim ignorance of these communications.

Questions regarding the Call for Proposals must be submitted exclusively through the official contact channel, which will be provided on the website.

Participants who wish to use the trademarks, logos, or other intellectual property of IDESAM and its partners for any purpose, must first request written authorization.

IDESAM may amend this Call at any time, subject to prior notice through official channels. Cases and situations not provided for in this Call for Proposals will be analyzed and decided jointly by the Call's governing bodies, and such decisions shall not be subject to appeal.

This Call for Proposals is governed by Brazilian law. Any questions or disputes related to this Call for Proposals and/or the Challenge that cannot be resolved amicably shall be settled in the courts of the district of Manaus, State of Amazonas, with express waiver of any other jurisdiction.

Annex 1 – Challenge Descriptions

The challenges are described below. The technological routes are only suggestions and should not be seen as a limitation. Proposals for other technological routes are welcome.

Challenge 1

Bioactives from Amazonian Oils

Add value to andiroba, copaíba, and buriti through the production of bioactive compounds, to access premium markets and increase community income.

Biodiversity

Andiroba (*Carapa guianensis*), Copaíba (*Copaifera* sp.), Buriti (*Mauritia flexuosa*)

Amazonian context

The oils from andiroba, copaíba, and buriti are widely produced by traditional communities across the Amazon, yet they are predominantly sold as raw materials due to limited regional processing capacity and a lack of standardization. Despite their bioactive potential, they capture little added value without scalable enrichment technologies. Copaíba oil is extracted from multiple species, often without proper identification, resulting in quality variability that limits industrial applications; however, transforming this traditional product into standardized bioactive ingredients could expand access to higher-value pharmaceutical and cosmetic markets.

Scientific context

The unsaponifiable fraction of andiroba oil contains limonoids and triterpenes with anti-inflammatory and insect repellent activity, but scalable purification technologies remain limited. Copaíba oleoresin is rich in sesquiterpenes such as β -caryophyllene, whose composition varies by species, affecting industrial consistency; this compound also interacts with the CB2 receptor, enabling CBD-like plant-based actives without cannabis regulations. Buriti oil, rich in carotenoids and tocopherols, can be concentrated to produce natural antioxidants and pigments for food and cosmetic applications.

Market context

The demand for natural active ingredients in cosmetics and wellness is growing, especially plant-based compounds with anti-inflammatory and repellent properties, aligned with clean-label trends and premium markets. Industries increasingly require standardized ingredients with defined chemical profiles, creating opportunities for technologies that concentrate or separate key bioactives. The rise of cannabinoid-inspired wellness also favors natural alternatives with fewer regulatory barriers. Environmental concerns and stricter rules on synthetic additives are accelerating demand for bio-based emollients, pigments, and antioxidants.

Possible technological routes

Molecular distillation; Membrane separation technologies; Nanoformulations to enhance bioavailability; Bioactivity – proof of concept

Impact

Developing scalable technologies for the production of high-value products is a way to diversify buyers within communities. Furthermore, products with higher profit margins enable higher payments to supplying communities.

Challenge 2

Functional Starches

Transform babaçu flour or other local starch sources into functional ingredients for cosmetics or food, boosting circular bioeconomy value and community income.

Biodiversity

Babaçu (*Attalea speciosa*). Innovators may suggest another starch source, provided this source already has community producers operating at industrial scale in the Amazon.

Amazonian context

Babaçu flour is a by-product of babaçu oil extraction, widely practiced by traditional communities across the Brazilian Amazon, especially by women who crack the coconuts. Despite its socioeconomic relevance and availability, this biomass is largely underutilized or directed toward low-value uses such as animal feed or subsistence consumption. Improving its utilization could increase value capture in existing supply chains, diversify community income sources, and strengthen forest-based economies without increasing extractive pressure.

Scientific context

Babaçu flour contains starch, fiber, and minor lipid fractions that provide functional properties relevant for industrial applications, including moisture absorption, texture modification, and rheological control. These characteristics make it a promising candidate for physical, enzymatic, or chemical modification to produce functional ingredients for cosmetic and food systems. However, further research is needed to standardize its composition, improve processing stability, and validate its performance against conventional starch sources.

Market context

The global demand for natural functional ingredients is growing due to stricter regulations on synthetic additives and the rise of clean-label and bio-based product segments. In cosmetics, starch-based powders are widely used as sensory modifiers and absorbents, while in other industries, functional flours are emerging as sustainable alternatives to petrochemical or mineral inputs. Developing scalable applications for babaçu flour could unlock new market opportunities, strengthen circular bioeconomy strategies, and support local industrial development in forested regions.

Possible technological routes

Micronization; Surface modification for cosmetic and food functionality; Encapsulation or functionalization; Particle engineering

Impact

Developing cosmetic applications for babaçu flour as a natural sensory modifier, transforming a by-product into a functional ingredient for sustainable cosmetic formulations.

Challenge 3

Adding Value to Fruit Residues

Develop scalable technologies to convert fruit residues into high-value products, promoting income generation through waste valorization.

Biodiversity

Açaí (*Euterpe oleracea* and *E. precatoria*), Andiroba (*Carapa guianensis*), Murumuru (*Astrocaryum murumuru*), Buriti (*Mauritia flexuosa*), Babaçu (*Attalea speciosa*), Brazil nut (*Bertholletia excelsa*). Innovators may suggest other fruit residues, provided the source already has community producers operating at industrial scale in the Amazon.

Amazonian context

Several Amazonian supply chains operating at industrial scale generate large volumes of residues with currently limited applications. For instance, in the açaí value chain, millions of tons of seeds are produced annually and frequently accumulate near processing plants or are discarded in rivers and open areas, creating logistical, environmental, and public health challenges. Developing scalable technologies to valorize these residues could improve resource efficiency, reduce environmental impacts, and increase the overall economic performance of existing bioeconomy supply chains.

Scientific context

Açaí seeds account for approximately 80–85% of the fruit mass and are primarily composed of lignocellulosic polysaccharides, particularly mannan (~50%). Studies show that acid or enzymatic hydrolysis can efficiently convert mannan into mannose, while lignin fractions contain phenolic compounds with antioxidant properties. These valorization routes share key upstream steps such as milling, pretreatment, and fractionation, enabling integrated biorefinery approaches. Similar opportunities exist for residues from murumuru and andiroba oil extraction, which contain fiber, starch, and residual lipids, as well as other fruit residues.

Market context

Different residues present distinct market opportunities. For example, mannose derived from açaí seeds is gaining relevance in the nutraceutical and pharmaceutical sectors, while phenolic extracts are increasingly demanded as natural antioxidants for cosmetics, food, and health products. The growing global demand for bio-based ingredients reinforces the economic potential of transforming low-value biomass residues into high-value inputs.

Possible technological routes

Hydrolysis; Integrated biorefinery process combining different extractions; Nanofiltration

Impact

Creation of new bio-based ingredients; Increased value generation in the supply chain; New industrial inputs for the food, cosmetic, and pharmaceutical sectors; Potential development of Amazonian biorefineries.

Challenge 4

Functional Oils

Add value to copaíba, murumuru, and babaçu through standardization and oleochemistry to access premium markets and increase local income.

Biodiversity

Murumuru (*Astrocaryum murumuru*), Babaçu (*Attalea speciosa*), Copaíba (*Copaifera* sp.)

Amazonian context

Copaíba oil, murumuru butter, and babaçu oil are produced through Amazonian socio-biodiversity supply chains, largely based on community extraction and small-scale processing, where limited infrastructure and technological capacity constrain value addition. These products are typically marketed as raw materials, reflecting challenges such as fragmented logistics, variable quality, and low industrial integration. Despite these constraints, they remain important income sources for forest communities. Strengthening processing capacity, quality standardization, and technological upgrading is essential to improve competitiveness and support forest-based economies aligned with conservation.

Scientific context

Copaíba oil has strong potential for higher value generation if standardized for fragrance and cosmetic applications, requiring defined concentrations of key bioactive compounds through species segregation or processing technologies. Its oleoresin contains sesquiterpenes such as β -caryophyllene with relevant functional properties. Murumuru and babaçu oils, with fatty acid profiles similar to coconut oil, can serve as silicone alternatives in cosmetics. Oleochemical transformations such as esterification, transesterification, and wax production can enhance performance, stability, and market value.

Market context

The fragrance and cosmetics industries increasingly demand standardized active ingredients with defined chemical profiles, and establishing quality standards along with technologies for concentrating or separating key compounds could unlock higher-value markets, potentially increasing the value of final ingredients by four to ten times compared to crude oils. At the same time, environmental concerns are driving the search for silicone alternatives, making bio-based emollients derived from vegetable oils a rapidly expanding market segment.

Possible technological routes

Species-based supply chain traceability; Oil collection protocols using ethnobotany and taxonomic keys to obtain standardized oil; Enhanced product standardization; Fractional distillation; Esterification and transesterification for wax production

Impact

Access to premium fragrance and cosmetic markets; Improved supply chain traceability; Increased revenue for communities from copaíba and babaçu oil and murumuru butter; Replacement of petroleum-derived silicones; Strengthening of the Amazonian oleochemical industry.

Challenge 5

New Rubber-Derived Products

Amazonian latex can shift from low-value extraction to high-value biomaterials, driving markets, innovation, and community income.

Biodiversity

Amazonian rubber (*Hevea brasiliensis*)

Amazonian context

Rubber production in the Amazon remains a territorial and community-based activity, rooted in traditional latex tapping and manual processing. In regions such as Terra do Meio and the state of Acre, rubber is often the second source of income, with cooperatives receiving thousands of kilograms annually and emerging value-added initiatives, such as rubberized fabrics for niche markets. Despite its socioeconomic relevance, the chain faces logistical constraints, limited industrial diversification, and low youth engagement. Global production volumes confirm rubber's economic importance but also highlight its persistent under-industrialization.

Scientific context

Natural Amazonian latex is a promising bio-based material due to its elasticity, biocompatibility, renewability, and mechanical performance. Research demonstrates that latex can be modified through physical, chemical, and biological processes to develop applications in medical biomaterials, biodegradable packaging, functional elastomers, technical textiles, and structural biocomposites. These innovation routes are aligned with global transitions toward fossil-free materials and circular bioeconomy systems, although challenges remain in standardization, allergen control, and scalable processing technologies.

Market context

The global market for bio-based and sustainable materials is expanding rapidly, driven by regulatory pressure to reduce fossil-derived plastics and by growing demand for low-carbon industrial solutions. Latex-based innovations have clear opportunities in high-value sectors such as health technologies, circular packaging, high-performance materials, and sustainable consumer goods. As industries seek renewable alternatives to petrochemical polymers, natural Amazonian latex could become a strategic feedstock for next-generation material platforms, provided supply chain standardization, certification, and scalable industrial processing are achieved.

Possible technological routes

Latex purification and deproteinization technologies; Latex matrices for controlled drug release; Hybrid textile-rubber composite manufacturing; Surface functionalization (waterproofing, antimicrobial finishes); Blending with biopolymers (starch, PLA, cellulose)

Impact

Greater income diversification for forest communities; Higher value capture per kg of extracted latex; Strengthening of community-based rubber supply chains; Stimulating youth engagement in forest-based livelihoods.

Challenge 6

Unlocking the Brazil Nut Chain

Low-energy sanitation and quality control are fundamental to reducing losses and enabling Brazil nut exports from remote communities.

Biodiversity

Brazil nut (*Bertholletia excelsa*)

Amazonian context

Brazil nut collection and processing take place primarily in remote forest areas and community facilities with limited infrastructure. Traditional methods of washing and rudimentary drying often increase moisture levels, raising contamination risks, while quality assessment typically occurs far from production sites. As a result, contaminated batches are frequently identified only after transport, leading to economic losses and logistical inefficiencies. Technologies adapted to low-energy, decentralized contexts are essential to improve sanitary processing and strengthen community-based supply chains.

Scientific context

Brazil nuts are highly susceptible to contamination by *Aspergillus* fungi, which produce aflatoxins, posing serious food safety risks. Current sanitation practices often rely on water washing, which can increase moisture and promote fungal growth, while detection depends on laboratory methods such as HPLC or ELISA, rarely accessible in community settings. Emerging technologies, including dry sanitation and portable detection systems, show potential for microbial control and field monitoring but require adaptation to decentralized, resource-limited production environments.

Market context

International buyers and food safety regulations in Europe and North America impose strict limits on aflatoxin contamination in Brazil nuts. Non-compliance often leads to shipment rejection, financial losses, and reduced competitiveness for Amazonian producers. Markets also increasingly demand traceability and early quality verification. Technologies that enable improved sanitation and rapid field testing at the community level are therefore critical to unlocking export opportunities, increasing buyer confidence, and reducing transaction risks along the supply chain.

Possible technological routes

Portable sanitary modules for community processing centers; UV-C irradiation tunnels; Dry steam or infrared sanitization; Portable ELISA test kits; Biosensors for aflatoxin detection; AI-assisted visual screening systems

Impact

Early detection of contaminated batches; Increased trust between buyers and suppliers; Reduction of export rejections.

Annex 2 – Technology Readiness Level (TRL)

Technology Readiness Level (TRL) is a systematic metric used to assess the maturity of a given technology throughout its development lifecycle, from initial research to full commercial deployment. Originally developed by NASA in the 1970s to evaluate the readiness of space technologies, the TRL model has been widely adopted across various sectors, including defense, energy, healthcare, and, more recently, innovation ecosystems such as the Amazonian bioeconomy. TRL is typically represented on a scale ranging from TRL 1 to TRL 9, where each level corresponds to a specific stage of technological development.

TRL 1–3 (Research Phase):

At Technology Readiness Level 1 (TRL 1), basic scientific principles are observed and documented, usually through academic research. This stage is exploratory, with no immediate defined application. TRL 2 advances to the formulation of a technological concept, where potential use cases are identified but remain largely theoretical. At TRL 3, experimental proof of concept is achieved, demonstrating that the core idea is technically feasible under controlled conditions.

TRL 4–6 (Development and Validation Phase):

The transition to TRL 4 marks the validation of individual components or systems in a laboratory environment. Here, prototypes begin to take shape, and performance can be tested with a degree of reliability. At TRL 5, the technology is validated in a relevant environment that may simulate real-world conditions. This stage is crucial for identifying practical limitations and adaptation needs. TRL 6 involves the demonstration of the technology in a relevant operational context, often through pilot systems or field tests, significantly reducing technical uncertainty.

TRL 7–9 (Deployment Phase):

In the final stages, TRL 7 represents the demonstration of a system prototype in a real operational environment, confirming that the technology works under real conditions. TRL 8 corresponds to a complete and qualified system, where all components are integrated and meet regulatory and performance standards. Finally, TRL 9 indicates that the technology is fully proven in operational use, with successful deployment at commercial or industrial scale.

This structured progression enables stakeholders to clearly understand the distance between a scientific discovery and a market-ready solution.

In the context of Amazonian innovation systems, TRL plays a crucial role in structuring technological development aligned with territorial realities. Investments in these stages are essential, as they support the transition from scientific knowledge to viable products and services adapted to local constraints such as logistics, energy access, and community production systems. In this context, TRL is not merely a technical metric but also a strategic tool for:

- Adapting technologies to environments with limited infrastructure
- Promoting inclusive innovation

- Accelerating the emergence of bio-based industries
- Reducing the technology mismatch between external solutions and local realities.

Annex 3 – Call calendar

Phase	Activity	Date
1. Talent Selection	Launch of the Call for Proposals and Outreach	April 9, 2026
	Application form available	April 9, 2026
	Scheduling interviews	July 1–15, 2026
	Final date for submitting the application form and documents	June 30, 2026
	Announcement of selected candidates	July 22, 2026
2. Integration among participants and solution design (Online)	Onboarding	August 4, 2026
	Workshops and solution design facilitation	August 11 – September 25, 2026
	Pitch Day for the selection of the 10 best proposals	September 29, 2026
3. Immersion and Validation	Preparation for Immersion (ticket purchases, visa applications, etc.)	October 1–30, 2026
	Immersion in Manaus (Workshops, experimental design finalization, etc.)	November 3–13, 2026
	FIINSA – Presentation of Solutions	November 3–5, 2026 (1-day attendance at FIINSA)
	Community Immersion	November 13–18, 2026
	Return from Immersion	November 19, 2026
	Start of the scholarship for Innovators and R&D Specialists	End of November 2026
	Start of the Technology Validation phase	December 1, 2026
	Start of the Business Validation phase	December 1, 2026
	Internal assessment of validation progress	February 24–26, 2027
4. Selection of Finalists	Pitch Day for the selection of the 3 best proposals	May 20, 2027

	Finalist awards ceremony	May – July 2027
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