

Bioingred Tech

Connecting biodiversity with R&D&I

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*The translation of this document was done with Artificial Intelligence.



Description



**Year of
foundation**
2017



**Type of
company**
Private



**No. of
employees**
18



Headquarters
Itagüí,
Colombia

Bioingred Tech is a Colombian spin-off created in 2017 from an alliance between the Research Group in Bioactive Substances (GISB) of the University of Antioquia and the business group Tech Innovation Group (TIG), which acted as investors in the project. The company connects the country's biodiversity with research, development, and innovation (R&D&I) through the creation and commercialization of high-value-added natural bioingredients for the food, cosmetics, and wellness industries. It does so by developing disruptive technologies and innovative processes¹.

Its scientific and technological foundation—combined with its entrepreneurial capacity, collaborative approach with key actors in the value chain, commitment to environmental and social sustainability, and support to local communities—positions Bioingred Tech as a benchmark in modern bioeconomy. These attributes have been recognized both nationally and internationally, such as the 2023 Innovation Award in the Commercialization category (granted by the Aburrá Sur Chamber of Commerce), its selection among the top startups in the IDB's Amazon BioStartups program, and its position as a finalist in InnovaCafé 2023.

These characteristics make the company an attractive opportunity for investors interested in generating positive impact through innovative, sustainable, and competitive bioingredients.

¹Taken from: <https://bioingred.co/nosotros>

The Challenge:

Transforming Colombian Biodiversity into Real Market Opportunities

Bioingred Tech offers a strategic response to the need to close the gap between Colombia's biodiversity potential and the current demands of the bioingredient market, using a model that involves:



- Integrating advanced scientific knowledge in phytochemistry, green extraction processes, and nanoformulation of innovative ingredients.

- Driving open innovation and circular economy models in collaboration with clients, universities, and strategic suppliers.

- Promoting a real commitment to environmental sustainability, employee well-being, and the development of local communities.

In doing so, the company seeks to solve not only the lack of proprietary and scalable technologies in the bioeconomy but also overcome the cultural, economic, and commercial barriers that hinder the full exploitation of Colombia's competitive biodiversity potential. It focuses on developing technologies to process native species and foster the co-creation of high-impact products across different segments of the value chain.

Innovative Science and Technology Solutions with Social Purpose

Bioingred Tech effectively integrates scientific research, technological development, and innovation in the transformation and commercialization processes of bioingredients derived from Colombia's biodiversity.

²Tomado de: *Business Call to Action (2021), Crepes & Waffles Impact Management Case Study*
<https://static1.squarespace.com/static/6049e33a3512a120620cfe14/t/61c48a709e596c4c81c44687/1640270465876/UNDP-Impact+Measurement+Case+Study-Crepes+and+Waffles.pdf>

The company has specialized infrastructure, a multidisciplinary team, and cutting-edge technology in green chemistry² and nanotechnology³, enabling it to generate innovative solutions that maximize the added value of the country's biodiversity and biomass. A standout example is the development of a natural antioxidant extract from coffee waste, designed for application in functional foods and natural cosmetics.

Using these technologies, solutions are designed to span from extraction to final formulation, ensuring products with specific benefits such as flavor, palatability, and texture.

Bioingred Tech combines trend listening with data analytics and artificial intelligence (AI) to enable agile, evidence-based decision-making. This tool condenses and interprets information to filter options, prioritize opportunities, and accelerate development processes—reducing unnecessary experimentation and focusing on alternatives with the highest chances of technical and commercial success. Bioingred Tech overcomes uncertainty about what to do or which market to target through a structured approach that connects science, data, and the market into a unified decision-making flow.

Moreover, instead of focusing solely on species, its foresight studies are directed toward application categories (cosmetics, food, wellness), allowing for a more strategic and effective market entry.



²*Green chemistry: Focuses on obtaining high-value compounds for the food and cosmetics industries from natural sources, primarily plant species. It uses innovative technologies such as cavitation, energy efficiency, and bubble and sound extraction to identify and concentrate nutrients, functional compounds, or bioactive compounds.*

³*Nanotechnology: This technology enables the efficient extraction, encapsulation, and formulation of bioactive components at high concentrations, protecting their integrity, maximizing their efficacy, and facilitating their incorporation into products such as functional beverages, dietary supplements, and powdered foods. Various formulation strategies based on nanotechnology are used to develop liquid, powder, colloidal (suspensions, emulsions), and nanoencapsulated systems. All of these technologies seek to extract them efficiently, sustainably, and with a low environmental impact, maintaining the naturalness of the processes while incorporating sophistication to offer high-quality ingredients to the industry.*

Current Portfolio

Bioingred currently offers thirty-five (35) commercial references of bioingredients, including inputs such as açai, peppers, cardamom, arazá, and annatto, sourced from wild, organic, agricultural, and traditional origins. These bioingredients are used in hair and body care products, functional beverages, and even sauces, demonstrating their versatility and added value.

In the beverage industry, it develops products under various conditions and formats. Its portfolio includes solutions for infusions, functional teas, and encapsulated teas enriched with vitamins and minerals, responding to health and wellness trends.

Bioingred works with local supply chains in Antioquia, the Amazon (in partnership with the SINCHI Institute⁴), and Colombia's Pacific region, bringing to market products that reflect the biological and cultural potential of these territories, while promoting an inclusive and sustainable bioeconomy model.



Strategic Partnerships

Bioingred Tech has established various strategic alliances to boost the development and commercialization of natural ingredients in the cosmetics and food industries. Key partners include: Belcorp, Química Líder, Dislicores, 1976, Grupo Nutresa, Levapan, Grupo Mane, and the SINCHI Institute.

In particular, with Levapan, it developed four cosmetic bioingredients by combining yeasts from Biolev's portfolio with Colombian biodiversity species, in an open innovation effort. They project annual sales of one million dollars by 2027 and production of three tons per year⁵.

The company has also developed an ecosystem that relies on universities and research institutes to strengthen its R&D processes. It has its own research group and seeks to further build its capacity through academic collaboration.

⁴Amazon Institute of Scientific Research (SINCHI): A research institute of the National Environmental System dedicated to the comprehensive study of the Amazon. Its work focuses on generating scientific knowledge, developing technologies, and formulating proposals for the sustainable use of biodiversity, ecosystem conservation, and the well-being of local communities in the Amazon region.

⁵ <https://www.elcolombiano.com/negocios/levapan-salta-de-la-mesa-y-apunta-a-la-cosmetica-y-a-las-mascotas-FG18873969>

Business Model

Bioingred Tech structures its business model around two main lines that combine direct ingredient sales with the creation of high-value, customized solutions, facilitating its positioning in highly demanding industries:

1

Direct commercialization of ingredients: based on sales of its portfolio of natural ingredients.

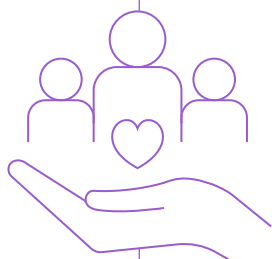
2

Open innovation as a gateway to major companies: operates through the “Client LAB” program, an open innovation platform that enables co-creation of tailor-made solutions with retail channel companies. Through this program, Bioingred Tech offers its partners expertise in origin, access to technological platforms, and infrastructure for the development of customized and differentiated ingredients and products. One example is a natural antioxidant concentrate made from Amazonian fruits, designed specifically for a supermarket chain focused on healthy foods.

This approach has proven key to overcoming common barriers faced by young companies trying to enter large corporations’ supply chains, which usually demand strong financials, years of experience, and operational solidity.

Driving Sustainable Development with Communities

Bioingred Tech engages with communities through its “Conscious Partnerships” program. This approach avoids intermediaries by implementing fair pricing strategies, ensuring a balance between agile market response and product origin.



Another notable aspect is the establishment of strategic partnerships with associations and small-scale farmers, integrating them into the business model. One such partnership is based in Urabá and involves 650 families producing cacao, organic cacao, ginger, coconut, passion fruit, turmeric, and other species.

In southwestern Antioquia, Bioingred Tech works with coffee producers, purchasing the cherry fruit directly to prevent waste in the field and make use of the entire product. The company collaborates with the community to ensure quality through support packages that guarantee quality standards—and therefore profitability. This strengthens the entire value chain, makes pricing more competitive, and opens the door to product scaling.

In Urabá, Bioingred Tech is building a processing plant that will allow producers to participate in the transformation of semi-processed products, which can be sold to Bioingred Tech or other companies. This approach allows producers to move beyond simply selling raw or fresh products at wholesale markets and instead access new opportunities within the value chain.

Bioingred also trains producers on the quality characteristics required of their products. Upon receiving raw materials, it analyzes technical specifications and provides feedback through technical datasheets to improve both processes and product quality.

For example, in the cacao chain, a specific datasheet was created for harvesting cacao in the pod. Training was provided, traceability was strengthened, and Bioingred Tech began purchasing cacao pods directly for in-house processing into higher-quality chocolate.

The company also partners with communities that operate local transformation plants, supporting their production processes to meet safety and quality standards. When issues arise—for example, with microbiological safety parameters—Bioingred issues a technical alert and supports the communities in identifying industrial steps that need improvement.

This process is carried out in collaboration with the SINCHI Institute and is supplemented by a technology transfer package that includes process improvement recommendations and critical control points to ensure that



Risks and Critical Success Factors

Although Colombia has funding mechanisms for research, development, and product validation, one of the most critical gaps for companies like Bioingred Tech is the lack of resources allocated to marketing, commercial positioning, and market access.

While funding exists for stages like product development and testing, it cannot typically be used for activities such as attending trade fairs—even though these are essential for scaling and visibility in global markets. This limitation hinders the commercial growth of high-potential companies.

Internationally, especially in sectors like pharmaceuticals, it's common for product launches to involve multimillion-dollar investments, with marketing budgets three times larger than technical development costs. This imbalance between development and commercial investment presents a major structural weakness for scaling bioeconomy products in Colombia: without robust investment in positioning, even the most innovative solutions risk falling short of their expected impact.

In terms of pricing strategy, the key cost determinants for bioingredients are in the early stages of the value chain—specifically from harvest to initial transformation. For this reason, Bioingred Tech focuses its strategies on promoting early-stage processing directly in the producing communities.

This approach not only improves efficiency and product quality at the source, but also has significant regional impact and aligns with SDG 9, target 9.2⁶, especially regarding inclusive industrialization. It represents a commitment to viewing these chains not merely as agricultural or wild harvesting systems, but as industrial systems with competitive potential.

A critical example is açai, a highly perishable fruit that cannot be marketed fresh, as it deteriorates in less than a day. Without strong early-stage infrastructure, using açai becomes unviable.

Another major challenge in Colombia is the small scale of production, which reduces competitiveness—even with relatively low labor costs. Scaling operations in this context is always risky, but essential for stabilizing margins and accessing new markets.

⁶*Sustainable Development Goal 9: Industry, innovation and infrastructure. Target 9.2 relates to “Promote inclusive and sustainable industrialization and, by 2030, significantly increase the contribution of industry to employment and gross domestic product, in accordance with national circumstances, and double that contribution in the least developed countries.”*

Bioingred Tech's pricing strategy is clear: push toward competitive prices by lowering profit margins in favor of economies of scale. The priority is to achieve long-term sustainability and financial stability, maintaining affordable prices without compromising quality or territorial impact.

Market priorities also differ by region:

1

In Colombia, price is often the primary entry criterion, followed by other attributes depending on company size.

In Europe, the first evaluation criteria are regulatory compliance and quality; then technological sophistication and impact are considered; and lastly, price—which must be competitive, but is not the main filter.

2

One of the biggest challenges for companies like Bioingred Tech is reaching competitive prices without sacrificing quality or impact. Although Colombia has the knowledge and technical capability, there is a lack of support for certifications, regulations, and technical-commercial validations needed to compete in demanding markets.

Pricing development is particularly complex in the bioeconomy value chain, as many of these costs are not covered by traditional development funding. Moreover, end consumers still do not clearly perceive the added value of bioeconomy products, making it difficult to justify higher prices.

For innovative products, pricing curves typically start high due to novelty but decrease over time. Therefore, it is crucial to find a balance between sophistication, scalability, and cost structure to maintain sustainable margins in the long run.



Commercial Challenges and Positioning Opportunities

To promote the bioeconomy through the domestic market, it is essential to encourage local consumption via communication, education, and mass marketing strategies. The average consumer must learn about, value, and adopt products derived from Colombia's biodiversity. However, one of the biggest current gaps is the lack of marketing subsidies, which severely limits brand and product positioning.

Strategic advertising campaigns are needed to make products visible at key points—airports, tolls, shopping malls, supermarkets—and thus build a culture of conscious consumption that strengthens the entire value chain.

The food sector has strong potential to mobilize productive chains due to its volume of consumption, while the cosmetics sector, though smaller in volume, offers higher margins and flexibility. Both sectors should be part of a comprehensive strategy to stimulate everyday consumption and create visibility for all actors involved: communities, developers, distributors, and industry.

If investment continues to focus only on the development of bioproducts without strengthening the domestic market, consumption will remain limited to external markets, where competition is fierce—with countries like Brazil and Peru leading the sector. The key is to strengthen local supply chains and marketing efforts, generating sustainable internal demand that enables impactful scaling.



Investment Needs

Bioingred Tech has built a solid value proposition and marketing strategy, positioning itself nationally as a benchmark bioeconomy company. Its approach focuses on sustainability, effective application of Science, Technology and Innovation (STI), the development of high-value products, and delivering benefits to the communities involved in its supply chains—such as those in Urabá and southwestern Antioquia, where communities have improved their income, diversified crops, and strengthened their organizational processes.

However, to scale its impact and consolidate its position in international markets, the company requires strategic financial support in two key areas:

Strengthening the international sales force, to expand its presence in global markets quickly and strategically, driving solid commercial growth. This is one of the main barriers for emerging companies, which often have innovative products but lack the commercial tools to position them—limiting both their impact and sustainability.

Developing territorially focused supply chains, that enable early-stage transformation processes to be carried out locally—under what Bioingred Tech calls its “Inclusive Industrialization Program.” A lack of capital has limited the effective implementation of this strategy: in many cases, transporting fruit pulp is more expensive than processing it in the field.

For several Amazonian fruits, for example, transport costs can represent between 40% and 85% of the product’s value—and sometimes exceed the income earned by the collector. In extreme cases, transport costs are equivalent to the fruit or pulp’s value (a 1:1 ratio), significantly reducing profitability across the chain.

This territorial approach would enable primary processing near the harvest site—with appropriate technology and quality standards—while reserving the more sophisticated, infrastructure-intensive stages for urban centers. This strategy not only optimizes costs but also stimulates local economies and strengthens community ties within the bioeconomy.