

Eureka Globalstars

Project partners Search Form

Contact Person Details	
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Organization Details:		
Name: Mirá LTDA		
Country: Brazil	Website:	
Type of <input checked="" type="checkbox"/> SME	<input type="checkbox"/> Large Company	<input type="checkbox"/> University
Organization: <input type="checkbox"/> Research Inst.	<input type="checkbox"/> Administration	<input type="checkbox"/> Other (specify):
Number of <input checked="" type="checkbox"/> < 10	<input type="checkbox"/> 11-50	<input type="checkbox"/> 51-100
Employees: <input type="checkbox"/> 101-250	<input type="checkbox"/> > 250	

Describe the activities, products, services, and expertise of your organization:

We specialize in developing innovative products sourced from Brazil's rich biodiversity, aiming to add value to the natural products chain through continuous innovation. Our primary focus lies in crafting mead and sparkling honey wine from the exquisite honey of Brazilian native bees. At Mirá Pesquisa e Desenvolvimento LTDA, we are dedicated to research, characterization, and technological advancement, emphasizing Brazil's socio-biodiversity assets. Our approach exemplifies regenerative entrepreneurship, promoting forest preservation, empowering small family farmers, and raising consumer awareness to address systemic challenges and achieve sustainable development goals. Motivated by the diverse flavors of indigenous Brazilian bee honeys and the increasing demand for natural alcoholic beverages, we are committed to pioneering research and development efforts. Our primary objective is to introduce an innovative beverage category: sparkling wines crafted through the fermentation of stingless bee honey.

Brazil's native stingless bee species exhibit remarkable diversity across morphological, ecological, and behavioral spectra, leading to unique apicultural products such as pollen, propolis, and honey. These products possess distinctive characteristics highly valued by connoisseurs, particularly within the haute cuisine domain. Beyond their exceptional taste, they offer numerous health benefits, including anti-inflammatory and antioxidant properties, meeting the increasing consumer demand for natural, health-oriented products.

To achieve our ambitious goals, our team consists of scientific experts with extensive

backgrounds in chemical ecology, pollinator conservation, and fermentation/yeast dynamics. Leveraging our collective expertise, we conduct rigorous assessments of raw materials, comprehensive characterizations, product evaluations, and initial market initiatives. Our corporate strategy integrates scientific rigor with contemporary entrepreneurial paradigms such as customer development (Blank, 2020) and lean methodology (Reis, 2011), enabling us to effectively overcome scientific challenges and tailor our sparkling wine offerings to meet the discerning demands of the marketplace.

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Complete this template and send it back to your national contact point:

- Lieve Apers – VLAIO (Belgium, Flanders) lieve.apers@vlaio.be
- Rodrigo Moraes – FINEP (Brasil) internacional@finep.gov.br
- Klara Musilova – MEYS (Czech Republic) Klara.musilova@msmt.cz
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- Javier Romero – CDTI (Spain) josejavier.romero@cdti.es
- Arnold Meijer – RVO (The Netherlands) Arnold.meijer@rvo.nl
- Umut Ege – Tübitak (Türkiye) eureka@tubitak.gov.tr

Project Details	
Project Title	From Hive to Glass: Celebrating Brazil's Socio-Biodiversity through Sparkling Wines
Acronym	Hive to Glass
Tech area	Food Engineering
Keywords	Stingless Bee Honey, fermentation, Sparkling Wines, Brazilian Socio-Biodiversity
<p>Describe your Project:</p> <p>The proposed research aims to introduce a novel offering into the premium beverage sector: a distinctive natural sparkling wine derived from the fermentation of honey sourced from indigenous stingless bees. Positioned within the market as a carbonated mead variant, this beverage aligns seamlessly with the burgeoning trend of "pét-nats" or pétillant naturel, characterized by its natural production processes.</p> <p>Our goal is to develop a beverage entirely from stingless bee hive products, utilizing honey as the main fermenting ingredient, pollen for flavor and yeast nutrient, and naturally occurring yeast as the fermenting microorganism. To achieve this goal, we will focus on two species of native stingless bees with well-established production chains in Brazil, where surplus honey is readily available: <i>Scaptotrigona sp</i> (Mandaguari, prevalent across various Brazilian biomes) and <i>Melipona flavolineata</i> (Uruçu Amarela, native to the Amazon region).</p>	
<p>Describe the innovative part of your project:</p> <p>Our main technical-scientific challenge in this project is to isolate, characterize, and propagate the natural yeasts present in honey, which are crucial for the fermentation process. This effort aims to optimize the fermentation kinetics of honey-based recipes derived from these bee species, with the goal of achieving a final product with an alcohol content of 13% and a dry taste.</p> <p>Additionally, elucidating and defining the parameters that govern the gasification, maturation, and preservation of these beverages presents significant challenges due to the absence of prior scientific data.</p> <p>Finally, a scale-up study of these protocols must be conducted, with a focus on mitigating cross-reactions and oxidation phenomena during the transition to larger production scales.</p>	
<p>Describe the market expectations of your project:</p> <p>The global wine market continues to thrive, with a size valued at USD 296.6 billion in 2022. Projections suggest further growth, with the industry expected to reach USD 444.50 billion by 2030, boasting a compound annual growth rate (CAGR) of 5.95% during the forecast period (2023 - 2030). This growth is fueled by increasing wine consumption and evolving lifestyle patterns.</p> <p>As consumers seek new tastes and experiences, the wine industry is adapting to meet their demands. This shift has led to the emergence of alternative beverages like mead.</p>	

Mead, a traditional alcoholic drink crafted from fermented honey, water, and sometimes fruits or spices, is gaining popularity among consumers seeking diversity in their beverage choices. With its distinct flavor profile and rich history, mead provides a refreshing departure from conventional wine options.

The mead market is experiencing steady growth, with a global market size of USD 230.3 million in 2021. Projections indicate continued expansion, with the market expected to reach USD 596.6 million by 2030, exhibiting a compound annual growth rate (CAGR) of 8.4% during the forecast period (2023-2030). This growth underscores the evolving landscape of the beverage industry, driven by consumer preferences for taste and flavor diversity.

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Possible Partner Profile:			
Type of Partner Needed (multiple choices are allowed)	<input checked="" type="checkbox"/> SME	<input checked="" type="checkbox"/> Larger Company	<input checked="" type="checkbox"/> University
	<input type="checkbox"/> Administration	<input checked="" type="checkbox"/> Research Institution	<input type="checkbox"/> Other (specify):
Describe the expertise of possible partner(s) required for your project:			
<p>We are currently in search of international partners who possess specialized expertise in various areas crucial to our research and development endeavors. Specifically, we are seeking collaboration with organizations or individuals proficient in fermentation processes, wine production techniques, yeast selection methodologies, and chemical analysis.</p>			
Describe the role of possible partner(s) in your project:			
<p>Given the intricate nature of our raw materials—honey and pollen sourced from stingless bees—and the limited scientific data available regarding their composition and fermentative characteristics, we are actively seeking collaborative partners to engage in the subsequent phases of our research and development project:</p> <p>Yeast Pure Culture Development: Collaborating on the cultivation and isolation of yeast strains suitable for fermentation of our unique raw materials.</p> <p>Sequential Fermentation Optimization: Fine-tuning fermentation conditions to promote optimal yeast growth and metabolic activity, ensuring efficient conversion of substrate sugars into alcohol and carbon dioxide.</p> <p>Performance Evaluation: Conducting thorough assessments of yeast performance, including growth rate, alcohol yield, tolerance to adverse conditions, and other relevant factors.</p> <p>Storage and Preservation: Implementing strategies to safeguard yeast strains, such as freeze-drying or cryopreservation methods, to maintain long-term viability and stability.</p> <p>Scale-up: Potentially scaling up production processes to accommodate larger volumes, while maintaining consistent and controlled fermentation conditions.</p> <p>Chemical Characterization and Quantification: Conducting detailed chemical analysis to characterize and quantify substances present in the fermentation process, providing insights into the composition and quality of the final product.</p> <p>In addition to technical expertise, prospective partners with experience in licensing and distributing high-value-added products within the European market would be particularly advantageous. This would facilitate the commercialization and market</p>			

penetration of our innovative fermentation products within the European Union.

Deadline for Partner Search:

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