

Una manera de hacer Europa



BUENAS PRÁCTICAS

Actuaciones Cofinanciadas

Investment programme for foreign companies in R&D activities 2019. Galicia

ICEX

**Programa Operativo
Plurirregional de España**

Año 2022

Fondo Europeo de Desarrollo Regional

INVESTMENT PROGRAMME FOR FOREIGN COMPANIES IN R&D ACTIVITIES 2019
REPORT ON BEST PRACTICES CO-FINANCED IN GALICIA

The INVEST IN SPAIN programme launched by ICEX Spain Export and Investment aims to promote, attract and consolidate foreign direct investment in Spain, especially new investment projects in industry, technology and services, contributing to regional economic growth and increasing the demand for highly qualified employment. **In the 2019 call, 7 Galician companies were beneficiaries and received ERDF support to the tune of 304,608.52 euros.**

We present two companies as examples of best practices: **MESTRELAB RESEARCH S.L.** and **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.**

MESTRELAB RESEARCH S.L. is a small company founded in Santiago in 2004, dedicated to the development of scientific software for the chemical-pharmaceutical industry. **Thanks to the support of ERDF, the company has developed the R&D project "QNMR MACHINE"**. This is a breakthrough technology that simplifies both the sample preparation and the analysis of laboratory data. **MESTRELAB RESEARCH S.L.** is currently the world's second largest supplier of specialised software for chemical research, with customers such as Pfizer and Moderna. Its software can be considered, according to CEO Santiago Dominguez, "the Microsoft Office of the analytical laboratory, a unique tool available to the research chemist, biologist or biochemist, to help them understand the characteristics of the product they are developing". The eligible budget was 217,328.25 euros and the company received an ERDF grant of 22,536.61 euros.

With ERDF co-financing, MERCANTIA DESARROLLOS ALIMENTARIOS S.L. has been able to develop the R&D project "Research into mechanisms of ethanol elimination, polyphenol concentration, incorporation of prebiotics and probiotics in wine to produce a beverage based on de-alcoholised concentrated cognibiotic wine (COGNIBIOTIC WINE)" which aims to obtain a wine-based beverage, without alcohol, with a high polyphenol content, with prebiotics and probiotics, capable of improving people's cognitive capacity thanks to the high concentration of natural antioxidants. The product resulting from the R&D process is a functional beverage for people who want to prevent cognitive decline and for people with cognitive problems associated with normal ageing or neurodegenerative diseases such as Alzheimer's disease. From an eligible budget of 98,872.50 euros, the company received an ERDF grant of 73,711.50 euros.

We consider the two companies to be examples of implementing best practices because they meet the seven required criteria:

1. High-level dissemination to beneficiaries and general public

The two selected companies have met the first objective: to publicise the co-financed projects and the results obtained among beneficiaries, potential beneficiaries and the general public. Both companies have succeeded in disseminating the European Regional Policy and its importance for the development of Spain and its regions.

In line with the obligations of the regulation, the companies have indicated on their respective websites the details of the projects and the sources of funding. They have also put up information posters on their premises:

MESTRELAB RESEARCH S.L.:

<https://mestrelab.com/feder/>



MERCANTIA DESARROLLOS ALIMENTARIOS S.L.:

<https://mercantia.es/fondos-feder/>

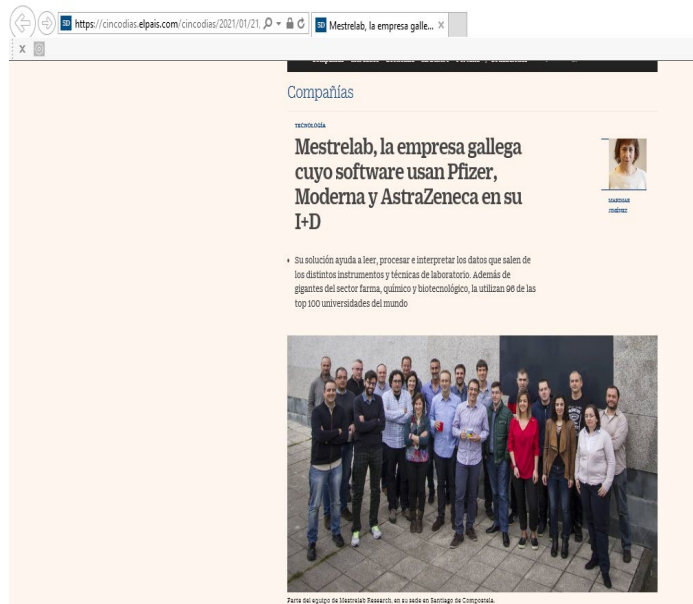


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The company **MESTRELAB RESEARCH S.L.** presented the project and its results at the Webinar held on 5 February 2020 and at the Smart Lab Exchange Europe Congress held on-line on 26-27 January 2021 (<https://mestrelab.com/events/smartlab-exchange-europe/>)



Leading newspapers, both printed and digital, have publicised the innovative technological solution offered by **MESTRELAB RESEARCH S.L.:**



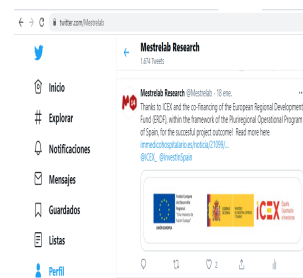
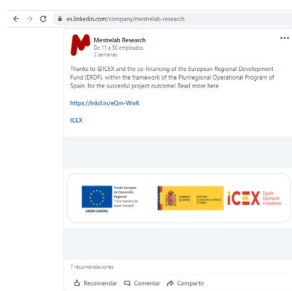
https://www.lavozdegalicia.es/noticia/santiago/2020/03/07/pyme-gallega-global-spin-off-surgida-universidade-santiago/0003_20200357C4991.htm

<https://www.bioga.org/mestrelab-la-pyme-gallega-mas-global/?lang=es>

https://cincodias.elpais.com/cincodias/2021/01/21/companias/1611259279_384152.html

<https://www.immedicohospitalario.es/noticia/21099/mestrelab-recibe-una-subvencion-del-icex-para-implantar-sus-solucion.html>

The events have also been echoed on Social media (Twitter, LinkedIn, Facebook):



The company **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.** has participated in national and international trade fairs, publicising its R&D project and the objectives achieved:

Barcelona Wine Week Fair held from 3 to 5 February 2020:



Ghana Trade Show 2020:



Numerous newspapers have disseminated the results of the project, publicising the benefits of non-alcoholic wine to prevent and treat some neurodegenerative diseases such as Alzheimer's disease:

<https://www.revistaalimentaria.es/vernoticia.php?noticia=mejora-en-los-efectos-del-alzheimer-gracias-a-un-vino-sin-alcohol>

<https://www.iberianpress.es/noticia/lanzan-el-primer-vino-personalizado-a-partir-de-la-genetica-de-cada-cliente/33742>

<https://www.infosalus.com/nutricion/noticia-vino-alcohol-puede-mejorar-estado-cognitivo-personas-alzheimer-20200616173321.html>

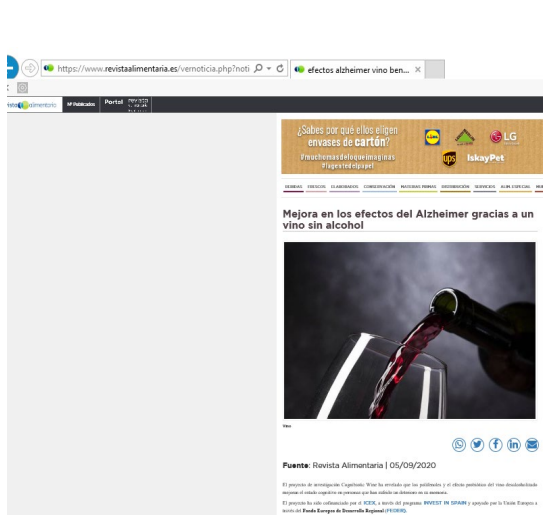
<https://www.geriatricarea.com/2020/07/08/un-vino-sin-alcohol-mejora-la-memoria-en-personas-con-alzheimer/>

<https://primicias24.com/salud/276563/vino-sin-alcohol-podria-mejorar-cognicion-en-personas-con-alzheimer/>

<https://www.mdzol.com/mdz-divinos/2020/6/17/el-vino-sin-alcohol-puede-mejorar-el-estado-cognitivo-en-personas-con-alzheimer-86186.html>

<http://www.diarisigloxxi.com/texto-ep/mostrar/20200616173321/polifenoles-efecto-probiotico-vino-desalcoholizado-mejora-estado-cognitivo-personas-alzheimer>

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2. The action incorporates innovative elements

For **MESTRELAB RESEARCH S.L.** innovation is the fundamental element of its activity. Its innovative technological solution helps to read, process and interpret the data from the various instruments and laboratory techniques, especially nuclear magnetic resonance. In particular, quantitative nuclear magnetic resonance makes it

possible to simplify sample preparation, data analysis and also to determine both the purity and concentration of chemical compounds. The importance of knowing how pure - or concentrated - a chemical compound is today is key to improving the efficacy, reliability and safety of drug research. The software of **MESTRELAB RESEARCH S.L.** can test whether the chemical compound is effective for the desired target by mixing that compound with the virus or bacterium of interest and analysing the reactions on the organism.



The product developed by **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.** is unique and original. The aim is to give wine a medicinal use, which is totally innovative and very beneficial for a large number of people. **COGNIBIOTIC WINE** is a research project based on a series of technological innovations: wine dealcoholisation, polyphenol concentration, non-thermal physical sterilisation treatments, microbiology and food technology, cognitive outcome testing.

The use of polyphenols to preserve or improve cognition has been the subject of several scientific studies published in prestigious journals. Direct human testing of a de-alcoholised wine with a high polyphenol content and prebiotic and probiotic effects is an absolute innovation.

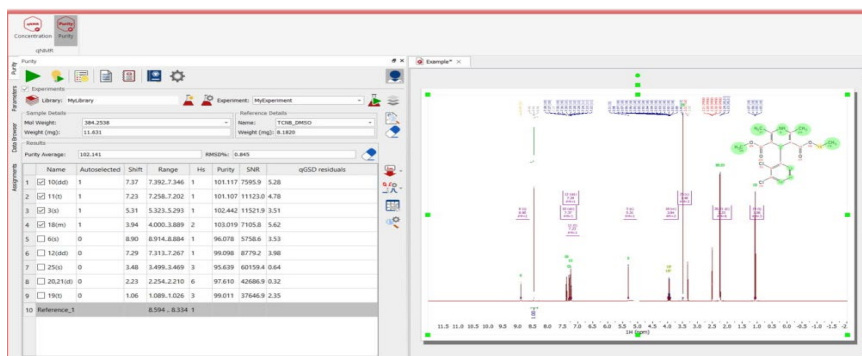


3. Adequacy of the results obtained to the objectives set.

The objective of the company **MESTRELAB RESEARCH S.L.** was to develop a high-performance software capable of processing and interpreting the information resulting from laboratory analysis, as it is usually a very large volume of data, too complex to be analysed by humans.

Thanks to the collaboration of ICEX and ERDF co-financing, the company has achieved the milestone of developing the first technological solution, at a global level, that implements the use of Nuclear Magnetic Resonance to automate the interpretation of data obtained in laboratories. In this way, researchers in various

scientific fields can quickly obtain accurate information that was previously much more costly and difficult to obtain.



The main objective of the R&D project of **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.** is to investigate the technologies and processes necessary for the production of a non-alcoholic wine-based beverage with a high concentration of polyphenols, without preservatives and with prebiotic and probiotic effects that can be used to improve the cognitive capacity of people affected by degenerative diseases such as Alzheimer's disease. **Participating in the ICEX's INVEST IN SPAIN programme and receiving ERDF co-financing has made it possible for the company to meet the established objectives.** The product COGNIBIOTIC WINE was used as a regular beverage by a group of people with different degrees of cognitive impairment and the results were evaluated by a team of geriatric experts. In cognitive tests, improvements in cognitive scores averaging 20% were observed after 15 days of treatment, a very promising result that demonstrates the efficacy of non-alcoholic wine for this type of disorder. The cognitive assessment was carried out by the medical services of the SARAIVA day centre and retirement home in Pontevedra (Galicia) and the usual tests for this type of test (MoCA or MMSE assessment) were used.

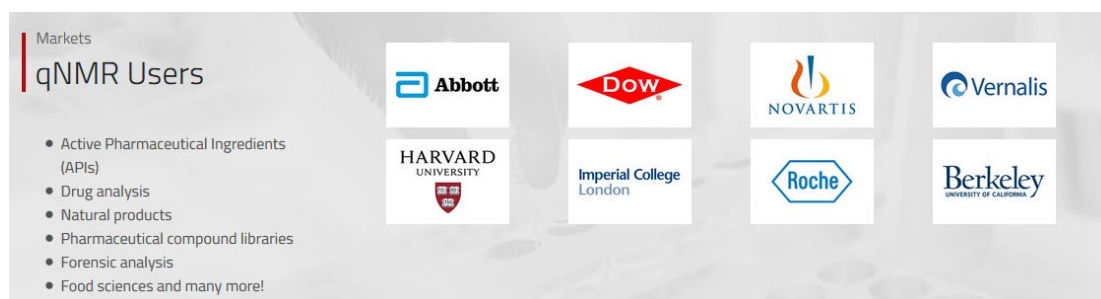
4. Contribution to the resolution of a problem or weakness detected in the territorial area of implementation.

MESTRELAB RESEARCH S.L. The great challenge facing research companies in the pharmaceutical, chemical and biotechnology sectors is to be able to classify, analyse and interpret the information obtained from clinical trials without losing reliability and without these processes taking too long. Increasing productivity is a growing market need, both for the development of new drugs, food, new materials, insecticides, pesticides, etc. The technological solution offered by **MESTRELAB RESEARCH S.L.** improves the process of discovering new products. The developed software speeds up data analysis, helping companies save more than 80% of their time, which means that new products reach the market faster and at more affordable prices for the end consumer.

MERCANTIA DESARROLLOS ALIMENTARIOS S.L. In recent years, life expectancy has increased considerably with respect to previous periods and this trend is expected to continue in the future. The challenge is to enable older people to enjoy an independent and quality life, while minimising the negative effects of any illnesses they may suffer. Cognitive decline is linked to age and certain neurodegenerative diseases. Inflammation and oxidative stress are among the factors involved in cognitive decline and also in some specific diseases such as Alzheimer's disease. The use of polyphenols as antioxidants and the use of prebiotics and probiotics to combat inflammation is a solution to combat deterioration and improve cognitive function in some types of neurodegenerative diseases. Wine, mainly red wine, has a high concentration of polyphenols capable of fulfilling the antioxidant and neuroprotective function indicated, which makes the product developed by **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.** a good alternative in the prevention and treatment of neurodegenerative diseases.

5. High degree of coverage of the target population

The qNMR prototype developed by **MESTRELAB RESERACH S.L.** is widely used in the pharmaceutical, food and biotechnology sectors. Currently all Covid-19 vaccine companies - Pfizer, BioNTech, AstraZeneca and Moderna Therapeutics - use this software in their R&D processes. It is also used by other major pharmaceutical companies such as Novartis and GSK, biotech companies such as Amgen or Gilead (developer of Remdesivir), chemical companies such as BASF, Dow Chemical, Dupont, Bayer, Roche, Johnson & Johnson, Unilever, and 96 of the world's top 100 universities including Princeton, Harvard, Oxford, Stanford, Berkeley, Cambridge, ETH Zurich, along with research centres such as MIT.



The product developed by **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.** is aimed at a broad sector of the population: the elderly and people who show symptoms of cognitive impairment. In recent years, life expectancy has increased considerably compared to previous periods and is expected to continue to do so in the future. As a result, there will be more and more cases of degenerative diseases requiring specific treatments. The results obtained will be the starting point to initiate a larger scale project in collaboration with a geriatric centre, the University of Santiago de Compostela and the Hospital Clínico Universitario in Santiago de Compostela.

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6. Consideration of the cross-cutting criteria of equal opportunities and non-discrimination, as well as social responsibility and environmental sustainability.

MESTRELAB RESERACH S.L. contributes significantly to the creation of high quality employment and wealth generation in the region of Galicia. This is a very knowledge-intensive sector that needs to employ highly qualified people who previously tended to emigrate because they could not find suitable jobs in the area. It currently has 50 employees, and in 2020, while many companies were forced to carry out redundancies, it increased its workforce by 25 %. It aims to end 2021 with 65 employees. The company has become a role model and has proven to have a real "carry-over effect" within the sector: since its creation, 70 other biotech companies have been set up in the Santiago de Compostela area and Galicia is beginning to be considered a centre of excellence in the industry.

The company has launched the "RMN for all" programme. The objective of this non-profit programme is to provide free access to MESTRELAB RESEARCH software applications to all non-profit educational and research institutions in less developed countries. All companies purchasing software products from **MESTRELAB RESEARCH S.L.** have the option to sponsor the institution of their choice if it meets the criteria described above. The sponsoring candidate will receive the same licence package as the purchasing company on the same terms and conditions and at no additional cost.



MERCANTIA DESARROLLOS ALIMENTARIOS S.L. is a company that is very aware of the importance of equal opportunities. It is a company incorporated and led by a woman. Four people were involved in developing the project, all women, which makes **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.** a model to follow and an example of the increasingly important role that women are taking on in the field of scientific research, a traditionally male sector.

The developed product will fulfil a very important social task, contributing directly to improving the quality of life of an increasing number of elderly people.



7. Synergies with other policies or instruments of public intervention

In addition to the collaboration with ICEX, **MESTRELAB RESERACH S.L.** has the institutional support of the Regional Government of Galicia and GAIN, the Galician Innovation Agency. The company has received a grant from the Regional Government of Galicia to hire Senior Talent for R&D activities. The job is aligned with Challenge 2: The future industrial model of Galicia, within Priority 2.3.: promoting IT as a key sector of the knowledge economy, helping to consolidate innovation in companies and the creation of qualified employment. The R&D activity carried out by **MESTRELAB RESEARCH S.L.** is in line with the objectives of the Spanish Industrial Plan PIN 2020: it contributes to the change of the productive model of the Spanish economy, in its transition towards a model based on innovation, better use of resources and knowledge.

The objective of the R&D project led by **MERCANTIA DESARROLLOS ALIMENTARIOS S.L.** is framed within the challenges identified by the RIS3 strategy of Galicia and within the Horizon 2020 action framework where the EU has developed a series of initiatives for active ageing and quality of life for the elderly.

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