R&D&i PROJECTS

2021

PTV
PLATAFORMA
TECNOLÓGICA
DEL VINO

CONTENTS

PROJECTS APPROVED IN 2021

This document includes all the projects promoted within the framework of the activity of the Plataforma Tecnológica del Vino (PTV, *Wine Technology Platform*) and approved in 2021 for funding by regional, national and international public authorities.

Since it was set up in 2011, the PTV has promoted a total of 159 R&D&i projects approved for public funding with over 117.7 million euros. These projects have been grouped into Strategic Innovation Plans (SIPs): the 1st SIP covered the period 2011-2013 and closed with a total of 22 approved projects, with a total budget of €18.3M and obtaining €13M of funding; the 2nd SIP from 2014-2016 ended with a total of 60 approved projects, with a total budget of €65.6M and €48.7M of funding obtained; and the 3rd SIP from 2017-2020 accounted for 77 projects approved for public funding with €56M and a budget mobilisation of €73.6M.

SIP	Projects approved	Budget	Funding
1st SIP (2011-2013)	22	€18.3M	€13M
2nd SIP (2014-2016)	60	€65.6M	€48.7M
3rd SIP (2017-2020)	77	€73.6M	€56M

The 4th Strategic Innovation Plan therefore got off to a start in 2021, and will remain in force until 2024. A total of 31 R&D&i projects have been promoted during this year, of which 14 have finally been approved for funding by public authorities.

These 14 innovative initiatives for the wine sector, comprising 13 Spanish initiatives and 1 international, have mobilised a total budget of 25.4 million euros and have obtained funding of 20.4 million euros for their completion. Some 47 companies, 40 research centres and organisations and 3 associations and/or Denominations of Origin have taken part in these projects.

With regard to distribution by areas, 2021 stood out for mobilising a higher number of R&D&i projects in Viticulture (5), Process (3) and Sustainability and Climate Change (3). These are followed by the areas of Wine Economy, with 2 approved projects, and Product, with just 1 project approved for funding. No projects were mobilised in the Health area in 2021, although this trend is expected to be reversed in the coming years of the 4th Strategic Innovation Plan.

Information on the 14 projects approved in 2021 is provided below.

VITICULTURE AREA

"DEVELOPMENT OF FERTILISER PRODUCTS FOR THE CORRECTION OF NUTRITIONAL DEFICIENCIES, MINIMISING THE CONTRIBUTION OF NITROGEN-BASED FERTILISERS AND CHELATES" *(HEPTATURBIRON)*

PROJECT LEADER

Agroquimes S.A.

AIM

To develop granular fertiliser formulations adapted ad hoc to the agronomic characteristics of the crops that occupy the largest surface area in Spain, based on the characteristics of the agricultural soils.
The formulations must permit the reduction or avoidance of amendments from livestock sources that, in many cases, lead to the excessive accumulation of nutrients that can induce nutritional blockages, heavy metals and/or other types of undesirable substances.

CALL

Individual R&D&i project - Centre for the Development of Industrial Technology (CDTI)

DURATION

01/11/2020 – 31/10/2023

"GO DRONES APPLICATORS" *(GO- PHYTODRON)*

PROJECT LEADER

Institute of Agrifood Research and Technology (IRTA)

PARTNERS

Corteva, Asociación Empresarial para la Protección de las Plantas (AEPLA), Universidad de Sevilla (US), Baskegur, Neiker, Syngenta, National Institute for Safety and Health at Work (INSST), National Institute for Agricultural and Food Research and Technology (INIA), Official Association of Agronomists (COIACC) and Universidad Politécnica de Madrid (UPM)

AIM

To promote the use of unmanned aerial vehicles as a safe tool for the application of phytosanitary products, with the aim of advancing their regulatory framework and establishing use scenarios with which to promote their equivalence in conventional land applications. To this end, a detailed multidisciplinary study is proposed, sponsored by representatives from all the agro-industrial branches involved, in which data related to operator safety and the operation, efficacy, and economic and regulatory data will be assessed.

CALL

Call for grants for innovation projects – Supra-autonomous Operational Groups

DURATION

2021-2024

"DEMONSTRATION PROJECT BASED ON UV FLASHES AS STIMULATOR FOR PLANT DEFENSE AND SUBSTITUTE FOR FUNGICIDES" *(LIFEISLIGHT)*

PROJECT LEADER

UV Boosting

PARTNERS

Familia Torres, University of Bordeaux and Institut Laplace

AIM

To demonstrate the environmental, economic and social performance of an innovative technology for protecting plants against fungi based on UV flashes in 3 EU member states.
The project will demonstrate the efficiency of UV technology to protect vines against powdery and downy mildews, the two main fungi that threaten European vines. By reducing the use of fungicide treatments, biodiversity and the environment will be subject to less pressure from toxic chemicals. In addition, the use of physical methods like UV flashes will only allow localised effects on crops, protecting the health of workers.

CALL

Life programme – European Commission (EU)

DURATION

01/09/2021- 30/11/2024

"DECISION SUPPORT SYSTEM FOR THE CHOICE OF ROOTSTOCK AND THE IRRIGATION AND NITROGEN REGIME IN VINES FOR WINEMAKING" *(WANUGRAPE 4 . 0)*

PROJECT LEADER

Spanish National Research Council (CSIC)

PARTNERS

Universitat de les Illes Balears (UIB)

AIM

To elucidate the influence of genetic material and fertigation practices on efficiency in the use of vines for winemaking.
The knowledge generated will be included in decision-making support systems used to choose the rootstock to be used and irrigation and nitrogen management strategies. It will therefore allow the viticulturist to select the most appropriate type of rootstock and the most appropriate water management strategy based on their oenological objective. These developments will be of interest to end producers, who will have new tools available to improve the competitiveness of their viticultural activity, as well as to plant nursery owners and companies specialising in information and communication technologies.

CALL

Proof of Concept – Spanish State Research Agency (AEI)

DURATION

01/11/2021 - 31/10/2023

"INTELLIGENT MANAGEMENT SYSTEM OF SEXUAL CONFUSION FOR LOBESIA BOTRANA IN LA RIOJA VINEYARDS" *(SIGIS)*

PROJECT LEADER

CBC Iberia

PARTNERS

Encore Lab, Pernod Ricard, Grupo Rioja and Bodegas Bilbaínas

AIM

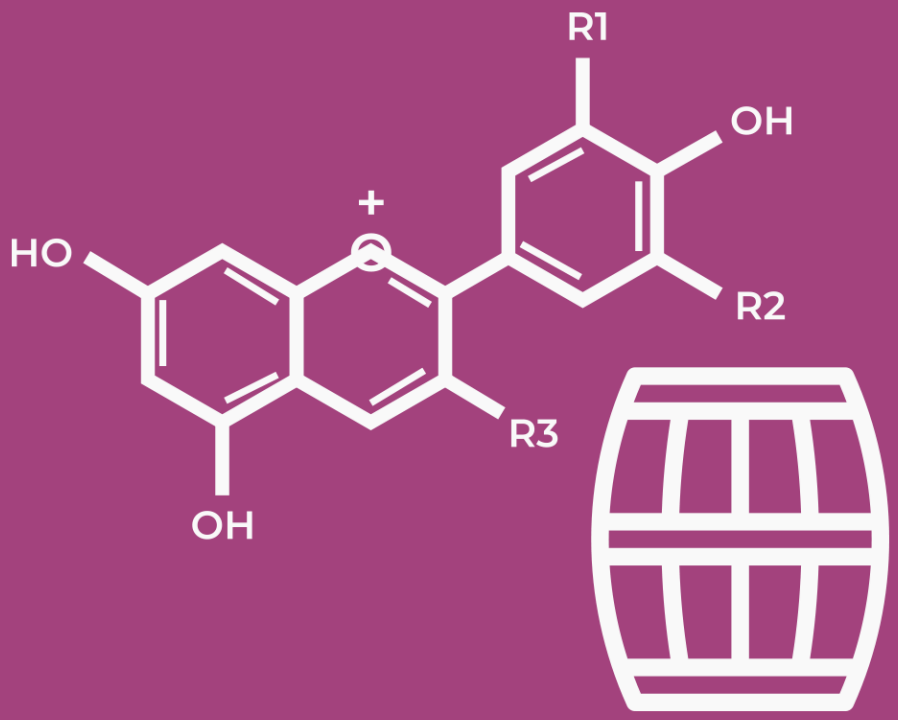
SIGIS proposes a globally pioneering field study based on two innovative prototypes of diffusers and electronic traps that will allow a new intelligent pheromone dosing system to be developed that maximises the effectiveness of sexual confusion to control *Lobesia botrana* in vineyards.

CALL

REG - Gobierno de La Rioja

DURATION

January 2022 - December 2024



PROCESS AREA

"STUDY OF NEW FACTORS RELATED TO THE SOIL, PLANT AND OENOLOGICAL MICROBIOTA WHICH INFLUENCE THE ACIDITY BALANCE OF WINES AND THEIR GUARANTEE OF QUALITY AND STABILITY IN HOT CLIMATES" *(LOWPHWINE)*

PROJECT LEADER

Pago de Carraovejas S.L.

PARTNERS

Bodegas Roda, Bodegas Barbadillo, Hoyada de Lobos, Atens, Productos Agrovin, Vitis Navarra and Fertinagro Biotech

AIM

A scientific proposal to study and experimentally validate alternatives and solutions to the oenological problem of the high pH of Spanish wines in the current conditions of climate change, with the consequent loss of organoleptic balance and other technological problems that influence the quality and food safety of the wine.
The studies will focus on three areas: soil and microbiota, plant material (varieties and rootstocks) and process/product (biological acidification and technical winemaking alternatives).

CALL

Strategic Business Research Consortium Programme (CIEN) - Centre for the Development of Industrial Technology (CDTI)

DURATION

01/09/2020 - 31/08/2024

"NEW MICROBIOLOGICAL STRATEGIES TO REDUCE THE EFFECTS OF CLIMATE CHANGE ON THE QUALITY OF TEMPRANILLO WINES"

PROJECT LEADER

Fundación Parque Tecnológico del Vino (VITEC)

AIM

To set out, develop and validate a scientific and technological solution to the aggravation of the effects of climate change on the quality of Spanish wines, specifically the alterations derived from an increase in the pH and alcoholic strength of wines.
In particular, the project focuses on gaining a deeper knowledge of the metabolism of the yeast *L. thermotolerans* and its behaviour when inoculated with *S. pombe.*

CALL

Torres Quevedo 2020

"IMPLEMENTATION OF NEW ECODESIGN AND CLEANING STRATEGIES TO REDUCE WATER AND ENERGY CONSUMPTION IN THE WINE PRODUCTION PROCESS BASED ON VINEYARD SUSTAINABILITY INDEXES"

PROJECT LEADER

Bodegas Riojanas

PARTNERS

Laboratorios Excell Ibérica

AIM

To investigate the application of ecodesign at critical control points in the wine production cycle, using the know-how acquired in previous projects, in order to work on different ecodesign protocols of the wine production cycle based on the potential microbial load of the grape.

CALL

REG - Gobierno de La Rioja

DURATION

01/09/2021 – 30/06/2024

PRODUCT AREA

"NEW TECHNOLOGICAL WINE JARS MADE FROM CERAMIC STONEWARE FOR THE PRODUCTION OF QUALITY WINES" *(GRES&WINES)*

PROJECT LEADER

Bodegas y viñedos Fontana S.L.

PARTNERS

Gres de Andorra S.L.

AIM

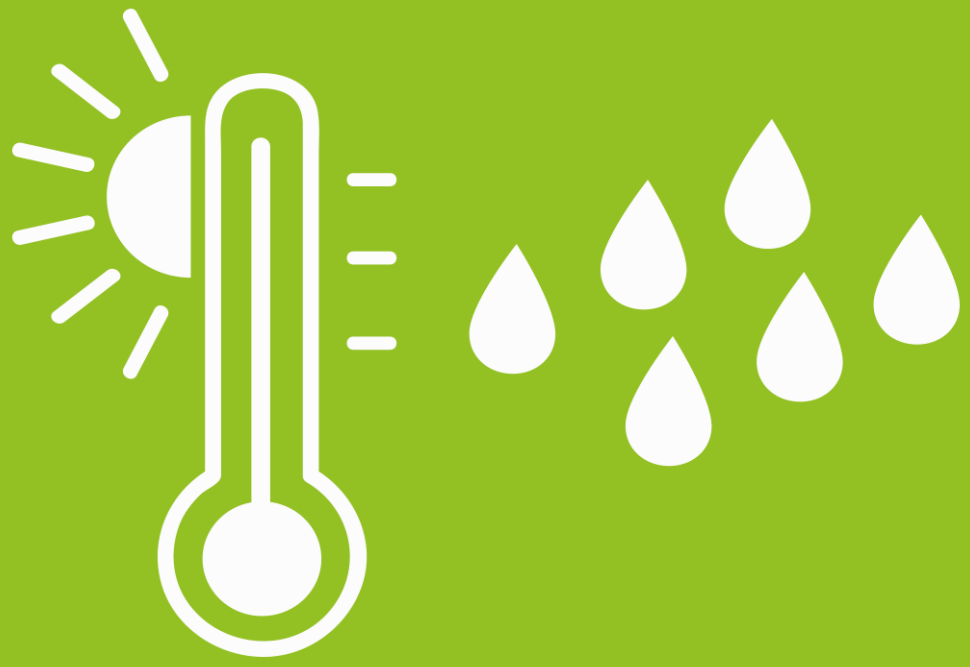
To develop technological ceramic wine jars with the following characteristics: presenting guarantees with regard to structure and seal; permeability and homogeneous oxygen transfer adapted to the characteristics of the wines to be made; easy to maintain and keep clean. The special characteristics that these ceramic wine jars offer for the production and ageing of wines should be analysed in an objective and in-depth way, therefore different trials will be carried out for both red and white wines to investigate which tests offer the highest possible level of representativeness.

CALL

R&D Projects in National Cooperation - Centre for the Development of Industrial Technology (CDTI)

DURATION

01/12/2020 – 30/11/2024



SUSTAINABILITY & CLIMATE CHANGE AREA

"CONTRIBUTION OF BENEFICIAL RHIZOSPHERIC MICROORGANISMS TO THE ADAPTATION OF COMMERCIAL WINE GRAPE VARIETIES TO CLIMATE CHANGE"

PROJECT LEADER

Universidad de Navarra (UNAV)

AIM

To study the response of commercial wine grape varieties to environmental factors associated with climate change (high temperature, high atmospheric CO2 and water deficit), as well as to assess the use of beneficial edaphic microorganisms (mycorrhizae) as a potential tool to help minimise the impact of climate change on the composition of the grape.

CALL

Facing Societal Challenges - Ministry of Science, Innovation and Universities (MCIU)

DURATION

01/09/2021 - 30/09/2024

"RECOVERY OF WINEMAKING WASTE IN THE PRODUCTION OF SUSTAINABLE WINES" *(VIÑ@ SOSTIBLE)*

PROJECT LEADER

Viña Costeira

AIM

To evaluate the feasibility of obtaining highly sustainable quality wines based on the recovery of waste as a fertiliser.

CALL

REG - Xunta de Galicia

DURATION

March 2021 – July 2023

"TOWARDS A SUSTAINABLE AND CIRCULAR VITIVINICULTURE: THE USE OF SEAWEED EXTRACTS FOR REDUCING CHEMICALS AND IMPROVING GRAPEVINE RESISTANCE. SIDE EFFECTS ON WINE QUALITY"

PROJECT LEADER

Andalusian Institute of Agricultural and Fisheries Research and Training (IFAPA)

PARTNERS

Universidad Pública del País Vasco (UPV)

AIM

To improve the sustainability of the vineyard by reducing the use of chemicals on vines, assessing algal biomass and increasing the added value of the wine.

Specific objectives are proposed to achieve this aim: to produce seaweed extracts rich in sulphated polysaccharides; to optimise doses and the number of treatments to naturally stimulate the vineyard's defences against *Plasmopara viticola* and *Erysiphe necator*; to describe the collateral effects of the treatments on the physiology of the vine, the microbiome of the plant and the grape, and the quality of the grape and the wine.

CALL

Facing Societal Challenges - Ministry of Science, Innovation and Universities (MCIU)

DURATION

September 2021 - August 2024

WINE ECONOMY AREA

"DIGITAL TWINS TO OPTIMISE ENERGY EFFICIENCY AND PRODUCT QUALITY IN WINERIES" (DTWINE 2021)

PROJECT LEADER	Institute of Agrochemistry and Food Technology (IATA)
PARTNERS	Marine Research Institute (IIM-CSIC), Bodegas Ramón Bilbao and Instalación y Control de Energía y Fluidos S.L.
AIM	This proposal aims to create Digital Twins for wine fermentation to be tested in pilot industrial facilities. The DTs will be formulated as a database of Digital Twins, each calibrated for one yeast species and accessible through a user-friendly interface. Users will be able to input the composition of the grape must and the DT will automatically select the best yeast and operating conditions to give optimal quality and energy use.
CALL	Strategic Lines of R&D 2021 - Spanish State Research Agency (AEI)
DURATION	01/10/2021 – 30/09/2024

"ARTIFICIAL INTELLIGENCE APPLIED TO AGRICULTURAL PRODUCTION 2050" *(AGRARIA)*

PROJECT LEADER

GMV Soluciones Globales Internet

PARTNERS

Sylentis, Kimitec, Helix Nord, Emergya, Universidad de Sevilla (US), Secmotic, Dronetools, Celtiberian, 1Aingenieros, Isolagua, Agerpix, Instituto Tecnológico de Castilla y León (ITCL), Hispatec Analytics, Tepro, Primafrío, LB-Bagging, Universidad de Salamanca (USAL), Familia Torres and Institute of Agrifood Research and Technology (IRTA)

AIM

The project is part of advanced agricultural production processes through the intensive use of artificial intelligence applied to the value chain. It focuses on 2 fundamental parts: research into the complete value chain of agricultural production through systems governed by artificial intelligence, making intensive use of advanced technologies with the measurable and quantifiable objectives of sustainability, energy efficiency, productivity, competitiveness and the drastic reduction of CO2; and research into the application of the most efficient use of different technologies and artificial intelligence with a neutral carbon footprint, considering the future leadership of the sector by proposing use cases based on the generation of new business models and demand from the smart market.

CALL

MISIONES R&D Programme in Artificial Intelligence 2021 – Ministry of Economic Affairs and Digital Transformation (MITECO)

DURATION

01/10/2021 - 31/12/2023

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