



Una manera de Racer Europa



High technology incubator specialising in technological innovation and sustainable water management. CAJAMAR INNOVA

INCYDE Foundation

Programa Operativo Plurirregional de España

Año 2022

Fondo Europeo de Desarrollo Regional

CO-FINANCED ACTION GOOD PRACTICES PRESENTED BY THE INCYDE FOUNDATION

HIGH TECHNOLOGY INCUBATOR SPECIALISING IN TECHNOLOGICAL INNOVATION AND SUSTAINABLE WATER MANAGEMENT (CAJAMAR INNOVA)

1. Introduction

The founding entity of the Cajamar Foundation, Cajamar Caja Rural, Sociedad Cooperativa de Crédito, has been promoting innovation in the agri-food sector for over 50 years through its research centre in Almería, which has enabled it to surround itself with a wide-reaching network in which knowledge agents, technological companies and end users are interrelated.

The Cajamar Foundation, wishing to improve its open innovation model, has recently been awarded financial support for the development of the project "High Technology Incubator Specialising in Technological Innovation and Sustainable Water Management (Cajamar Innova)" by the Autonomous Community of Andalusia, which is co-financed by the European Regional Development Fund (ERDF) within its Multi-regional Operational Programme 2014-2020.

The High-Tech Incubators project is part of Axis 3: Improving the competitiveness of SMEs, Thematic Objective 3: Improving the competitiveness of small and medium-sized enterprises and Investment Priority 3a: Fostering entrepreneurship, in particular by facilitating the economic exploitation of new ideas and promoting the creation of new companies through incubators.

The High-Tech Business Incubators are advanced centres of European reference for the promotion of innovation and technology transfer to micro-SMEs, which are conceived as a fundamental instrument for promoting the smart, sustainable and inclusive growth to be pursued by the European Union over the coming years.

In the case of the High Technology Business Incubators project, initial implementation of infrastructures throughout the national territory is envisaged, in accordance with the Research and Innovation Strategy for Smart Specialisation of each community, in our case "RIS3 Andalusia", which will help position each region in specific global niches or markets and in international value chains. The project integrates a set of lines of action aimed at achieving a single objective: contribution to the development of the regional production network, through the increase in the "survival" rate of micro-SMEs, motivated by the incorporation of R&D&I in their everyday activity. Incubators will be a fundamental tool contributing to the positioning of Spain in the ranking established by the European Union for the 2020 period.

This incubator hosts SMEs, entrepreneurs and technologists specialised in new technologies related to the efficient and sustainable use of water. This is because water is an essential resource, both in terms of quality and quantity, for the development of economic sectors and society as a whole. In recent years technology and innovation have generated new business opportunities that must be incorporated into the better exploitation of water. For this reason, this incubator was set up with a view to it becoming a national and international benchmark for innovation and entrepreneurship in the field of water, fostering and promoting new projects that favour its better and more efficient use.

The target audience of this initiative is therefore entrepreneurs, companies, researchers, and those interested in the best water technologies, who are in a position to undertake a company incubation/acceleration process. This is mainly aimed at innovative technology-based business projects related to water, in any field (agricultural, urban, etc.), preferably within the framework of the following vertical areas: resource generation, efficient use and energy & the environment. In addition, the horizontal areas are governance, the circular water economy and the use of new

technologies that contribute to improving management through digitalisation (IoT, artificial intelligence, big data, etc.).

Cajamar Caja Rural has two Research Centres, in Almeria (Palmerillas) and Valencia (Paiporta) respectively, and over 50 years dedicated to promoting the agri-food sector, to achieve all these objectives. The centres have specialised personnel, innovative technology and facilities of all kinds, such as high-tech laboratories, diverse workspaces and agricultural land, to enable a diverse range of experiments to be carried out.

Cajamar Innova has made an investment of **3,216,827.42 euros**, of which **2,573,461.94 euros have been co-financed by the ERDF**.

2. Fulfilment of criteria for the selection of Good Practices

The following is the justification of Cajamar Innova's compliance with the seven criteria for the selection of Good Practices, according to the Methodological Guide for the Monitoring and Evaluation of the Communication Strategies of the ERDF and European Social Fund 2014-2020 Operational Programmes.

2.1. Dissemination to beneficiaries, potential beneficiaries, and the public at large

Since the beginning of the project, its correct dissemination has been a main axis in all the activities carried out.

The co-financing by FEDER funds was correctly informed on, both during the execution of the works and with the subsequent information sign at the door of the building where Cajamar Innova is located.

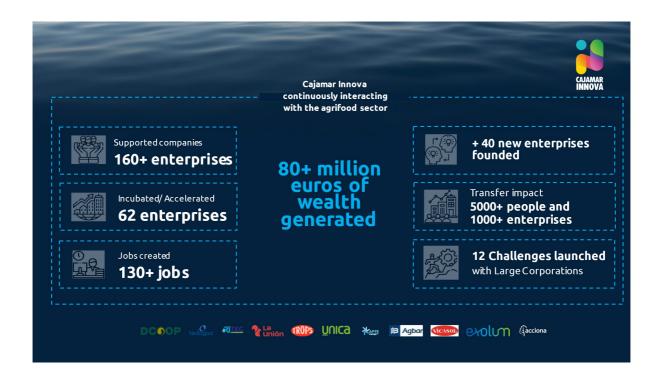






Information sign on the building during the works.

A large number of events have been held to disseminate the initiative with two objectives: to raise awareness of the project and **the fact that it is co-financed by ERDF funds**; and to attract projects to support. In this regard, since 2018, once the grant was announced, more than **75 transfer activities** have been organised in which over **5,000 people** have participated, impacting more than **1,000 companies**. In addition to this the initiative has been publicised at over **140 events** organised by collaborators or sector fairs (Fruit Attraction, Transfiere, Smart Agrifood Summit, Researchers' Night, Emprende UAL, Datagri, among others).



All the activities carried out by Cajamar Innova have been designed to comply with ERDF publicity requirements.



In order to disseminate the calls for proposals and help to ensure that the recruitment of companies was a success, we have had the collaboration of leading media in the field of water and innovation, such as: iAgua, Revista Emprendedores and El Referente, among others.

In addition, a series of strategic alliances have been established with leading companies in the world of water to help maximise the scope of the action, both in terms of disseminating the initiative and of issuing challenges to solve water problems. Examples of these strategic alliances are: Agbar, Apte, Alhóndiga La Unión, Tedagua, Trops, Vicasol, Acciona Agua, Exolum, Dcoop, GS Inima, Ritec and Única.

An informative web page on the project has been made available in both Spanish and English: https://cajamarinnova.es/en/.

Several promotional videos were made, for the first, second and third calls, as well as for the IAT (Hightech Incubator) project, and interviews with representatives of the supported companies were recorded (e.g. https://vimeo.com/showcase/10356330).

Publications were also published in specialised journals and on <u>www.plataformatierra.es</u> and various press releases were distributed to the media.

2.2. Incorporation of innovative elements

Cajamar Innova's aim is to encourage companies to develop technology to improve water-use efficiency and sustainability. This involves companies from all types of sectors, which are offered the resources and technology necessary to guide or promote their ideas.

To carry out this task, Cajamar Innova provides beneficiaries with fully equipped facilities to develop any project in the field of water. Meeting rooms equipped with audiovisual equipment, as well as multiple facilities for work and collaboration, in an open area where entrepreneurs can develop and put their projects into practice, sharing spaces, knowledge and experiences, generating an atmosphere of innovation, participation and collaboration.

These facilities are distributed between the two Cajamar Innova offices. The main office, in the city of Almería, is where all the training and mentoring programmes, etc. are carried out. In over 600 m² of office space with a Wi-Fi network dedicated to the incubation and acceleration of companies, which can accommodate up to 20 enterprises simultaneously (44 workstations), along with a series of rooms and common areas such as the multipurpose room for ideation, presentations or training, three meeting rooms fully equipped for videoconferencing and two rooms for mentoring.







The second headquarters, the "Las Palmerillas" Research Centre, has two work rooms with 20 workstations for the companies, as well as a series of common spaces such as two meeting rooms and an assembly hall with a capacity for 100 people. In addition, state-of-the-art infrastructures, resources and technical and technological support from its two research centres for the validation of its prototypes and pilots, among others, a test area for irrigation technologies, a test area for water treatment technologies, a laboratory for water, soil and plant analysis, a 3D printer area, an electronics and multipurpose workshop and a pilot plant for the production of microalgae have also been made available to the participants in the programmes. The Las Palmerillas Research Centre is in El Ejido (Almeria), it covers 14 hectares, of which 2.5 ha are dedicated to greenhouse crops (27 modules) and 8 ha are dedicated to fruit tree cultivation.











Taking advantage of the ERDF co-financing, the laboratory equipment has been updated and the irrigation rigs have been renewed, so that the companies supported by Cajamar Innova can be offered a cutting-edge infrastructure that is versatile enough to support many companies simultaneously, especially when it comes to carrying out technology validation tests. With this investment, the companies will be able to develop, implement and validate technologies in the research centre, where they will also have the support of the centre's technicians.

Thanks to all this infrastructure and technical staff, as well as Cajamar Innova's potential for dissemination and implementation and the agri-food ecosystem with which it is closely linked, technologies can be quickly and easily tested and developed, thereby speeding up the companies' degrees of action and the promotion of their validated technologies on the real market.

2.3. Adequacy of the results obtained to the established objectives.

Thanks to the aid received from the FEDER, Cajamar Innova has been able to promote small and medium-sized companies so that their technologies can contribute to making the world more sustainable.

These infrastructures, as well as the technological resources and the technical support of its professionals, have made it possible for **62 companies to be** incubated and/or accelerated, creating **more than 130** direct **jobs** and generating a wealth of **more than 80 million euros**, promoting innovation in companies in any sector related to water, be it in the agricultural, urban or industrial spheres:

| INDICATOR | 10/10/2022 | Objectives ERDF 2023 | % Achievement |
|--|------------|-------------------------|------------------|
| C001 (№ of companies receiving aid) | 165 | 152 | 109% |
| C002 (№ of companies receiving subsidies) | 81 | 84 | 96% |
| C005 (№ new companies benefitting from the aid) | 56 | 39 | 144% |
| C008 (№ Increased from employment at the companies subsidized) | 130 | 262 | 50% |
| E020 (Companies impacted by sensitisation, dynamization and awareness-raising actions) | 673 | 600 | 112% |

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

Faced with the problems of lack of water on the planet, which have already been mentioned, ingenious solutions are needed that rely on the most cutting-edge technology to contribute to saving the most valuable resource on the planet. In view of this situation, support has been given to innovative ideas from more than 60 companies, at every level and in all fields; agricultural, urban, and industrial. Thus, any entrepreneur who has ideas, at any stage of development, from a basic idea to the promotion of technology at sales level, will be able to participate in this project as long as they contribute to improving the water situation.

The numerous technologies providing solutions contributing to the optimisation of water use and water recovery developed by the startups, in numerous fields of action, are described below:

- Management of supply and irrigation networks: the solutions developed in this field consist of the control and management of supply networks, which, with the help of artificial intelligence and the management of data collected by sensors, have been able to carry out predictive maintenance on all types of networks, whether from the source from which the farmer obtains the data or from the farmer to society. Faults can be detected and prevented in advance; water accounting enables prior action to be taken accordingly.
- Aquifers, hydrogeology, and drought prediction: technologies capable of detecting underground aquifers and obtaining relevant data for their exploitation have been developed, as well as technologies capable of collecting satellite data and working with them to predict and anticipate droughts.
- Intelligent platforms for irrigation management/precision agriculture: where many sensors, drones and even satellite images can be used to obtain a large amount of information, which is processed by artificial intelligence to be contrasted and provide farmers directly with reliable recommendations for their crops.
- Microalgae and micro-organisms: companies capable of producing microalgae by various means, as well as a wide variety of useful products derived from, them have been tested.
- Moisture retainers, substrates, and fertilisers: related to the optimisation of fertiliser and soil resources, which indirectly contribute to reducing the need for water in agriculture.
- Monitoring technologies: with innovative sensors such as biosensors or sensors incorporated in the plant itself, enable valuable information for water management to be collected.
- Traceability and certification: as a distinction that values institutions that make good use of water resources.

- Water treatment: this is the field with the greatest variability of technologies: elimination of pollutants from irrigation water, capture and elimination of plastics in water, purification in WWTP, formation of nanobubbles for the optimisation of irrigation, purification in hand-held bottles for human consumption, etc.
- Satellite imagery: its function is to use satellites to obtain useful data such as earth movement in dams or contamination at any depth of any surface water source.
- Water generation: with technology to produce water from atmospheric air, water desalination by evaporation or the use of heat from computing devices as energy for water heating.
- > Urban water apparatus: where citizens can take care of water with devices that allow them to collect rainwater through infrastructures created by 3D printing or even manage the domestic water network to reduce consumption.



Cajamar Innova is therefore helping innovative projects to solve the problems and weaknesses detected in the broad framework of water and is working with them to find real solutions. In addition, we are actively working to explore new technologies and business projects that can solve or improve any aspect of the integral water cycle.



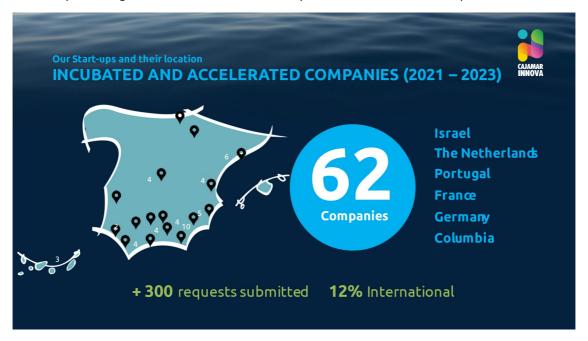






In terms of project scope, over the last three years Cajamar Innova has tendered three calls for applications so that any company or entrepreneur, both nationally and internationally, can have the possibility of being supported in its Incubation and Acceleration programmes. It should be noted that more than 300 applications have been submitted, resulting in the participation of 62 companies in the Incubation and Acceleration programmes.

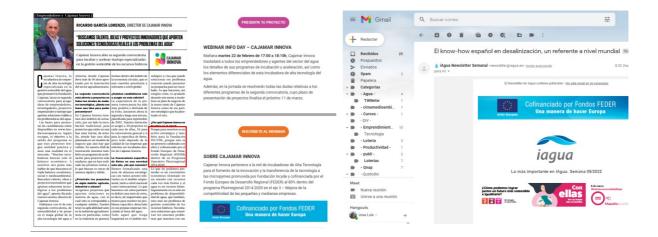
We have supported and helped any type of company or entrepreneur anywhere in Spain and abroad. Here is a map showing the distribution of the startups with which we have cooperated:



As can be seen, in addition to companies in the national sphere, companies located in other countries around the world appear in the margin, so its scope includes and will continue to include territories abrioad as well. There are no distance limits for cooperation in Cajamar Innova, as long as the project that arrives contributes to improving the efficiency and sustainability of water.

As for the coverage of the project to make it known among the population that may be interested, press releases have been prepared, distributed and published by the main specialised media, both on water and entrepreneurship, as well as the general media at regional and provincial level. In addition, a great deal of work has been done to find interested parties and opinion leaders to whom the initiative has been brought to their attention. Newsletters have also been distributed with information about the project and the calls for proposals through Plataforma Tierra, which has more than 14,000 subscribers, although information has also been distributed in other databases of collaborators, with a total of more than 50,000 subscribers.

Advertisements have been placed in different media and social networks to maximise the reach of the initiative.



It is also important to mention the broad dissemination that has taken place at various conferences and events, both those organised by Cajamar Innova and those in which it has participated. Information about the initiative and its co-financing has been shared at these meetings.

2.6. Consideration of the horizontal criteria of equal opportunities and non-discrimination, as well as social responsibility and environmental sustainability.

At all times during the implementation of the project, the criteria for equal opportunities and non-discrimination, as well as social responsibility and sustainability, have been respected. In this sense, all contracts carried out within the framework of the projects have complied with the principles of publicity, free competition, transparency, confidentiality and equality and non-discrimination.

A contractor profile was created on the Cajamar innova website to publish all contracts awarded.



In relation to environmental aspects, no increase in greenhouse gas emissions is expected directly, and indirectly they may be reduced by the adoption of technologies developed in the incubator by third parties. This project also has no negative effects on climate change and, as with the previous aspect, the adoption of the technologies developed in Cajamar Innova by third parties can have a positive effect on climate change. In general, the adoption of the technologies developed in and supported by this project will end up having a positive impact on the ecological status or potential of bodies of water, on the reduction in the generation of waste and its use, it will improve inefficiencies in the direct or indirect use of natural resources, in particular water, obtaining a medium or long-term benefit for the environment.

Thanks to their ideas and technology, the projects and companies supported by Cajamar Innova, contribute to the **efficient and sustainable use of water**, helping to meet the **sustainable development goals** set for 2030, directly impacting 11 SDGs.























2.7. Synergy with other policies or instruments of public intervention

The lines of work of Cajamar Innova and the companies it supports are directly related and aligned with the *Next Generation* funds of the European Union, developed in the Recovery, Transformation and Resilience Plan launched by the Spanish Government, as an instrument to promote public-private collaboration in which the different public administrations, companies and research centres collaborate with the aim of promoting major initiatives that clearly contribute to the transformation of the Spanish economy. Specifically, the PERTE Agroalimentario (*Strategic Project for the Recovery and Economic Transformation of the Agri-Food sector*) and the PERTE for the digitalisation of the water cycle. There is also synergy with the Digital Kit launched by the Spanish Government to support the digitisation of SMEs and the self-employed, given that many of the technologies developed in the incubator can be directly employed in the digitisation of companies.

3. Conclusions

It is essential to highlight that, thanks to the European Funds, a project that has far exceeded its initial objectives, has been successfully implemented. This project has obtained a high degree of user satisfaction and has been widely disseminated.

As a result of this work, Cajamar Innova received two awards at the Annual Communication Event of European Funds in Spain, held in Vilagarcía de Arousa (Pontevedra, September 2023) and organised by the Directorate General of European Funds of the Ministry of Finance and Public Function. Cajamar Innova received recognition in the "Europe Feels Competitive" category and was chosen as the winner of the special "Estrela de Ouro" category for the best Spanish project co-financed with European funds, selected from among the winners of the six categories evaluated.







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