

INNOVATIVE GREENHOUSE SUPPORT SYSTEM IN THE MEDITERRANEAN REGION: EFFICIENT FERTIGATION AND PEST MANAGEMENT THROUGH IOT BASED CLIMATE CONTROL — IGUESS-MED

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Deliverable 5.9. Press articles.

Version 1.0

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Deliverable leader:	CAJAMAR FOUNDATION
Author list:	Mª Dolores Fernández Fernádez (CAJAMAR), and Alejandra Navarro García (CREA)

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Abstract

This deliverable describes the outreaching publications as part of T5.3 Communication and outreach performance of iGUESS-MED. The aim of this task was to create a wide and different ranges of communication and outreach products for the general public by providing a vast number updated information on the project to ensure media attention.

The objective of this deliverable is to collect publications and events focused to this target audience: stakeholders, technical advisors, general public, public authorities, and police makers. This deliverable has been structured in four categories: 1) Articles (articles published in the trade press and on the partners' website), 2) Press releases, 3) Interviews on TV and radio, and 4) Other outreach activities, like trade fairs, videos, European Researchers' Night, etc.

In total, 10 articles have been published in the (inter)national and local press and 18 press releases were distributed. In addition, the project was presented at 12 trade fairs, and at 3 editions of the European Researchers' Night, and 3 videos were recorded.

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1 Introduction

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The iGUESS-MED project aims to develop a Decision Support System (DSS) able to effectively manage fertigation and prevent plant diseases and pests in tomato crops grown in soil and soilless in commercial greenhouses of the Mediterranean region. This innovative greenhouse DSS will be developed to (i) help greenhouse farmers to improve the management of fertigation in areas with low (saline) quality waters (ii) to reduce the use of chemicals by a sustainable and integrated pest and disease control and (iii) to improve the climatic efficiency in the existent greenhouse by low-cost climate actions. The DSS will allow obtaining healthier and higher quality productions and higher yields, while will reduce the use of water and the losses of nutrients and chemicals to the environment. iGUESS-MED will be able to manage efficient fertigation, to forecast diseases and pests, and to improve the climatic efficiency in tomato greenhouses, using only climate data acquisition and basic information on cropping system. The DSS will provide feedbacks and alerts about crop needs and real time recommendations to the farmers through friendly portable real time data visualization tools as PC, tablets or smartphones. To achieve this objective, new models for calculating crop evapotranspiration will be performed by integrating sensor data from plant, soil and climate, and forecasting models for assessing disease and pest risks will be developed by using the Integrated Pest Management.

The project consortium (research centers, SMEs and end-users of EU and non-EU countries belonging to the Mediterranean basin) will collaborate from the beginning to make the DSS marketable involving, end-users and stakeholders to validate the system in own greenhouses, reducing gaps between research, application developers and farmers. The application of DSS will benefit the workers and the consumers, providing better working conditions, crop healthiness and reduction of environmental impact.

1.1 Summary of the deliverable

This deliverable describes the outreaching publications as part of Task 5.3 Communication and outreach performance of iGUESS-MED. The aim of this task was to create a wide and different ranges of communication and outreach products for the general public by providing a vast number updated information on the project to ensure media attention.

The objective of this deliverable is to collect the publications and events focused on growers, technical advisors and general public.

The Deliverable has been structured in four categories: 1) articles (articles published in the trade press and on the partners' website), 2) press releases, 3) interviews on TV and radio programmes, and 4) Other activities (trade fairs, videos, European Researchers' Night).





2 Articles

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iGUESS-MED activities and results have been disseminated through articles published in the trade press and on the partners' website targeting farmers and technical advisors. All project partners have been responsible for producing and sending outreach articles to local, national, and international level, using of their own communication networks and channels.

2.1 Articles in the Trade press

Below is a list of articles that have been published in the trade press.

1. iGUESS-MED project. Four Mediterranean countries support the transition towards innovative, sustainable, and competitive greenhouses. Press article in the International journal FreshPlaza. September 2021.

ENGLISH VERSION: (<u>https://www.freshplaza.com/article/9358263/four-mediterranean-countries-support-the-transition-towards-innovative-sustainable-and-competitive-greenhouses/</u>)

ITALIAN VERSION: (<u>https://www.freshplaza.it/article/9357767/quattro-paesi-del-bacino-del-mediterraneo-supportano-la-transizione-verso-serre-orticole-innovative-sostenibili-e-competitive/</u>)

SPANISH VERSION: (<u>https://www.freshplaza.es/article/9358264/cuatro-paises-mediterraneos-apoyan-la-transicion-hacia-invernaderos-horticolas-innovadores-sostenibles-y-competitivos/</u>)

DUTCH VERSION on Groenten Nieuws: (https://www.groentennieuws.nl/article/9358262/)

FRENCH VERSION (<u>https://www.freshplaza.fr/article/9358265/quatre-pays-mediterraneens-soutiennent-la-transition-vers-des-serres-horticoles-innovantes-durables-et-competitives/</u>)

2. Proyectos de I+D+i de Cajamar Caja Rural. Press article in the Spanish journal FHalmería, Anuario Agrícola 2021, pp. 115-116.

(https://www.fhalmeria.com/abrirdocumento.aspx?seccion=noticia&id=31809).

- 3. Pomodoro fuori suolo, nuovi modelli per prevedere il consumo idrico. Sodini, M., Cacini, S., Traversari, S., Venezia, A., Navarro Garcia A., Massa, D. Press article in the Italian journal "Colture Protette" 2022, n.8, pp. 58-61.
- 4. Proyectos de I+D+i de Cajamar Caja Rural Press article in the Spanish journal FHalmería, Anuario Agrícola 2022, p. 113. (<u>https://www.fhalmeria.com/noticia-33119-25/anuario-agricola-2022</u>).
- 5. iGUESS-MED: Sistema innovador de apoyo a los invernaderos en la región mediterránea: fertirrigación eficiente y gestión de plagas a través de un control climático basado en Internet

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de las cosas. Press article in the Spanish journal FHalmería, Anuario Agrícola 2023, p. 124. (<u>https://www.fhalmeria.com/descargar.aspx?seccion=noticia&id=334</u>).

- Pomodoro: induttori di resistenza contro alternariosi e muffa grigia. Nicastro, N., Manganiello, G., Scotto di Covella, F., Navarro, A., Pane, C. Press article in the Italian journal L'informatore Agrario 2023, n.2, pp. 56-58.
- Evaluación del sistema de recomendaciones iGUESS-MED para el manejo del riego y la fertilización en cultivo de tomate bajo invernadero. Gallardo, M., Peña-Fleitas, M.T., Sánchez, F., Bonachela, S., Fernández, M.D. Press article in the Spanish journal Horticultura n. 370, pp. 54-58.
- 8. Un Sistema di Supporto Decisionale per migliorare irrigazione e qualità. Press article in the International journal FreshPlaza Mayo 2024 (<u>https://www.freshplaza.it/article/9613061/un-sistema-di-supporto-decisionale-per-migliorare-irrigazione-e-qualita/</u>).
- 9. Coltivare il pomodoro con acque salmatre. 2024. Di Carlo Borrelli. Press article in the Italian journal Colture Protette, n. 5, pp. 76-77.

2.2 Online articles

Below is a list of articles that have been published on the partners' website.

- 1. Os presentamos iGUESS-MED un sistema innovador de apoyo a los invernaderos en la región mediterránea (<u>https://www.grupolacana.com/os-presentamos-iguess-med-un-sistema-innovador-de-apoyo-a-los-invernaderos-en-la-region-mediterranea/</u>).
- La actividad de investigación y transferencia de la Estación Experimental Cajamar (<u>https://www.plataformatierra.es/innovacion/la-actividad-de-investigacion-y-transferenciade-la-estacion-experimental-cajamar/</u>).
- Field technification, the future of agriculture. (https://www.grupolacana.com/la-tecnificacion-del-campo-el-futuro-de-la-agricultura/)

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Press releases

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iGUESS-MED press releases are the main channel of communication with journalists and editors. Press releases help to communicate and disseminate the project to the media, reaching stakeholders, general public, policy makers, and public authorities.

The first iGUESS-MED press release was aimed to present the project in the Italian PRIMA Info day 2020 (28/1/20: Oggi a Roma l'Info-day sui bandi «Prima 2020» di prossima apertura. Journal: Il sole24ore). <u>https://www.ilsole24ore.com/art/oggi-roma-l-info-day-bandi-prima-2020-prossima-apertura-AC8BSxEB</u>

After the presentation of iGUESS-MED by Alejandra Navarro, project coordinator, in EXPO DUBAI 2020 (2022) around 15 press releases were published to inform about, the press review is forwarded:

- 1. Expo Dubai: da CREA best practice per creare partnership con EAU. ANSA, 22 February 2022.
- 2. CREA: A EXPO DUBAI LE INNOVAZIONI PER AGRICOLTURA SOSTENIBILE. ITALPRESS, 22 February 2022.
- 3. EXPO DUBAI: CREA PRESENTA PRATICHE INNOVATIVE PER AGRIFOOD SOSTENIBILE = dal carbone naturale biochar alla fertirrigazione efficiente con Big Data e Intelligenza artificiale. ADNKRONOS. 22 February 2022.
- 4. Il Crea presenta a Expo Dubai le innovazioni per l'agricoltura sostenibile: vincente il modello italiano. Agricolae.EU, 22 February 2022.
- 5. Expo 2020: Crea presenta le innovazioni per l'agricoltura sostenibile, vincente il modello italiano. Agenzia NOVA, 22 February 2022.
- 6. Crea presenta a Expo Dubai innovazioni per agricoltura sostenibile. ASKANEWS. 22 February 2022.
- 7. Innovazione. A Dubai presentato dal Crea il "modello Italia" per la sostenibilità in agricoltura. Agricultura.it, 22 February 2022.
- 8. Expo, il Crea presenta le sue innovazioni. Italia Fruit News, 23 February 2022.
- 9. "I-Guess Med", il Crea porta all'Expo Dubai il sistema hi-tech per l'irrigazione. Ildenaro.it, 22 February 2022.
- 10. Crea, a Expo Dubai le innovazioni per l'agricoltura sostenible. Gazzeta del Sud online, 22 February 2022.
- 11. CREA presenta le innovazioni tecnologiche per l'agricoltura sostenibile italiana ad Expo Dubai. ESG DATA. Global Responsibility Network, 23 February 2022.
- 12. Il Crea presenta a Expo Dubai le innovazioni per l'agricoltura sostenibile: vincente il modello dell'agricoltura italiana. AGEN FOOD, 22 February 2022.

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- 13. Crea, a Expo Dubai le innovazioni per l'agricoltura sostenibile. Padova news, 22 February 2022.
- 14. All'Expo Dubai, le best practices di Crea per sistemi agroalimentari sostenibili. Agrifood.tech, 1 March 2022.
- 15. Sostenibilità a Expo Dubai mediante CREA e le sue innovazioni per l'agricoltura sostenibile. Greengoldent.it, 1 March 2022.



Figure 1: Alejandra Navarro Garcia from CREA presenting iGUESS-MED project in the Italian Pavilion of EXPO Dubai 2020. Some pictures of press releases after the event.

After the presentation of iGUESS-MED by Alejandra Navarro, project coordinator, in the 5th Mediterranean Water Forum (MWF), Tunisi 2020 around 15 press releases were published to inform about, the press review is forwarded:

- 1. Il Crea al Forum Mediterraneo dell'Acqua di Tunisi. TUNISI Il Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (Crea) parteciperà al V Forum Mediterraneo dell'Acqua, in programma a Tunisi dal 5 al 7 febbraio. ANSA, 1 February 2024.
- 2. L'impegno dell'Italia al Forum Mediterraneo dell'Acqua. Roma candidata a organizzare Forum Mondiale dell'Acqua nel 2027. ANSA , 6 February 2024

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Figure 2: Alejandra Navarro Garcia from CREA presenting iGUESS-MED project in the 5TH MWF (Mediterranean Water Forum), Tunisi 2024. In the picture of press releases the Italian delegation (Undersecretary of State for Agricultural Policies, Food Sovereignty and Forestry, Patrizio La Pietra (MASAF), Alejandra Navarro and Raffaela Pergamo (CREA) and members front the "Agenzia Italiana per la Cooperazione allo Sviluppo" (AICS)).

4 Interviews

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Consortium members presented the results of the project in several press interviews and radio and television programs. A selective list of interviews is provided below.

EVENT	LINK
Interview with local Spanish newspaper (La Voz de Almería).	
Title: "La investigación debe llegar en un producto fiable al agricultor".	https://www.lavozdealmeria.com/noticia/12/almeria/195974/la- investigacion-debe-llegar-en-un-producto-fiable-al-agricultor
Radio programme interview (SER Agricultor Almería).	https://play.cadenaser.com/audio/cadenaser_almeria seragricultoralmeria_20220121_154500_160000/#
Interview with local Turkish newspaper about project introduction	https://www.antalyasonhaber.com/buyuktastan-avrupa-birligi- proje-basarisi-302216h.htm
Interview with Turkish local newspaper about project introduction	https://kaktushaber.com/gundem/au-ogretim-uyesi-prof-dr- dursun-buyuktas-tan-avrupa-birligi-proje-basarisi

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TV programme interview (Cuaderno Agrario).	
Title: Proyecto iGUESS-MED en Las Palmerillas	https://cuadernoagrario.com/?p=38473
Interview with national Spanish newspaper (El País).	
Title: La inteligencia artificial cuida de los tomates de Almería	https://elpais.com/espana/andalucia/2023-02-28/la-inteligencia- artificial-cuida-de-los-tomates-de-almeria.html



Figure 3: Prof. Dr. Dursun Büyüktaş from Akdeniz University shared the details of the iGUESS-MED project in interviews with some local newspapers in Antalya.

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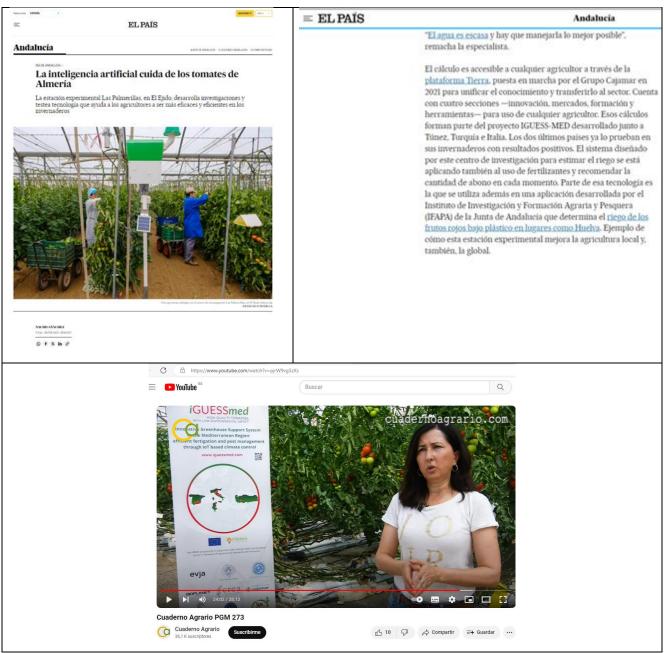


Figure 4: M^a Dolores Fernández, from Cajamar Foundation, shared the details of the iGUESS-MED project in an interview in El País, Spain's most widely read newspaper, and TV programme "Cuaderno Agrario".

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5 Other activities

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The project was presented in the following events:

5.1 Trade fairs

The project was presented to growers, stakeholder as well as policy makers, and public authorities at 11 Trade fairs, 8 internationals and 3 nationals. These events were carried out by EVJA, with presence in 9 fairs, CREA and CRRHAB. A selective list of the most important Trade fairs is provided below:

International Trade fairs

• EXPO DUBAI 2020, Dubai (UAE). iGUESS-MED project was presented by Alejandra Navarro Garcia (CREA) in the Italian Pavilion within the event "People - Planet - Prosperity. Focus on Italian and U.A.E. Best Practices for Innovation in Agriculture" EXPO DUBAI 2020, Dubai (UAE). 22 February 2022. Organized by the Italian Ministry of Agricultural Food and Forestry Policies (MIPAAF) and the Council for Agricultural Research and Economics (CREA).

• SIAMAP 2021. A poster on the iGUESS-MED project was displayed and explained by the coordinator of the CRRHAB team in the 15th edition of the International Exhibition of Agriculture, Agricultural Machinery and Fisheries. This biennial exhibition, organised by the Tunisian Union of Agriculture and Fishery (UTAP), was held from October 26 to 31, 2021. The stand was visited at the opening by several executives from the Ministry of Agriculture and from different ministries.

• Fruit Attraction 2021. Largest agricultural fair in Spain. EVJA had an exhibition space and also presented the iGUESS-MED project.

• Agriteq Qatar 2022. One of the major agricultural Trade fairs in the Gulf region. EVJA exhibit in a space together with its local partner, with a focus on the iGUESS-MED project, since tomato growing in greenhouses is a strategic topic in the region.

• Fruit Logistica 2022. Largest agricultural fair in the European Union. EVJA took part in it meeting growers and industry stakeholders, promoting also the iGUESS-MED project.

• HortiTrade 2023. Major agricultural fair in Chile. EVJA participated with a presentation that was aslo including the iGUESS-MED project, given the relevance of tomatoes in the Chilean market.

• Infoagro 2023. One of the major agricultural trade fairs in Spain, with a specific focus on agricultural technologies and innovations. EVJA had an exhibition area where was also showcasing iGUESS-MED. Evja has also been awarded the best innovative company prize.

• Macfrut 2023. The largest agricultural fair in Italy. EVJA was running an exhibition space where iGUESS-MED project was also presented.

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• Macfrut 2024. The largest agricultural fair in Italy. EVJA and UNIPI were running an exhibition space where iGUESS-MED project was presented.

National Trade fairs

• Fieragricola 2022. EVJA had a speech at the conference focused on the innovative greenhouse growing technologies, also presenting the achievements of the iGUESS-MED project.

• DigitalMeet Agritech 2023. EVJA took part at the conference focused on agritech and held a speech where the iGUESS-MED achievements were presented as a best practice of innovation applied to agriculture.

• Fieragricola Tech 2023. This agricultural fair is focused on farming technology, and EVJA had the opportunity to meet strategic stakeholders to whom the iGUESS-MED project was presented as a prime example of applied technology on the field.

5.2 Videos

Three videos have been produced.

 #CREABREAK per #innovazione2020: in #OrticolturaFlorovivaismo #sistemidecisionali DSS con #lguessmed

In November 2020, Alejandra Navarro Garcia, coordinator of iGUESS-MED, explained the main objectives, innovations and challeges of the project and the trials carried out in the greenhouses of CREA-OF in the CREA YouTube channel. This video has almost 600 views and it is available in this link: https://www.youtube.com/watch?v=8yrF1NTemoU&t=82s

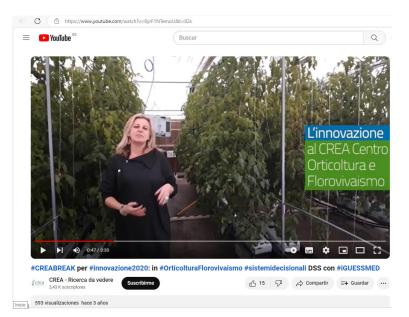


Figure 5: Video recorded by CREA.

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• Dissemination video of the iGUESS-MED project

A video was recorded at the Las Palmerillas Research Centre, which belongs to the CAJAMAR Foundation. In this video, the project was presented, as well as the trials carried out to calibrate the irrigation and fertilisation models were shown.

Link: Proyecto iGUESS-MED | Sistema innovador de apoyo a los invernaderos en la región mediterránea on <u>Vimeo</u>



Figure 6: Video recorded by CAJAMAR Foundation.

• Dissemination video of the visit to the Pilot Farm trial of the iGUESS-MED DSS

A video was recorded by the University of Almeria (UAL) in the open field day carried out in Almería (Spain) to visit the pilot farm trial where the iGUESS-MED DSS was tested. The event was aimed at the students of the Escuela Agraria Vicar, the largest Agricultural Professional Education centre in Almeria.

In this video, the sensors installed in the greenhouse were shown and it was explained how the irrigation and nutrients has been managed in a tomato crop following the iGUESS-MED DSS recommendations.

Link: https://drive.google.com/file/d/1920M5ITh6KcCV8InFQvyXrU1pHBlj9gZ/view?usp=sharing

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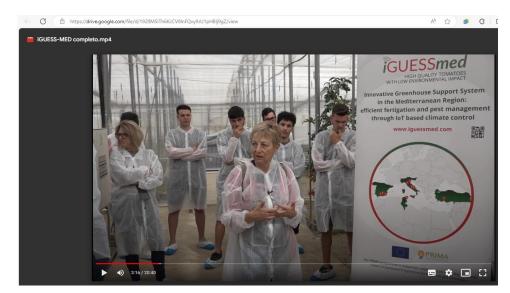


Figure 7: Video recorded by University of Almeria (UAL).

5.3 European Researchers' Night

The project was presented to the general public by CAJAMAR Foundation and UNIPI at the European Researchers' Night celebrated in Almeria (Spain) in 2021, 2022 and 2023 and Pisa (Italy) in 2023, respectively.



Figure 8: The European Researchers' Night celebrated in Almeria in 2021, 2022 and 2023.

6 **Conclusions**

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The project has been successfully presented to the media with several press releases and articles presenting the main outcomes of the project whenever possible. In total, 10 articles have been published in the (inter)national and local press disseminating the project results. In addition, on several occasions the partners gave interviews in local or national media. Furthermore, the project was presented at 12 trade fairs, at 3 editions of the European Researchers' Night, and 3 videos were recorded.

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