



EU CAP Network workshop ‘Sensing the future: practical applications of proximal and remote sensing for farmers and advisors’

Valencia, Spain
27-28 January 2026



Funded by
the European Union



AgriFood Digitalization in Spain

Maite Ambrós Mendioroz
Spanish Ministry of Agriculture, Fisheries and Food





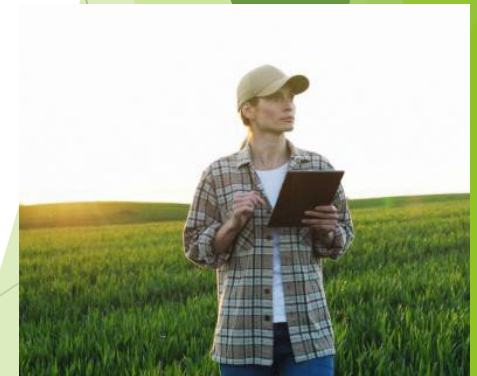
EU CAP Network workshop ‘Sensing the future: practical applications of proximal and remote sensing for farmers and advisors’ Valencia Spain 27th January



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**DG de Rural Development, Innovation and AgriFood Training,
Secretary of State of Agriculture and Food.
Ministry of Agriculture, Fisheries and Food of Spain.
CIHEAM 21st nov 2025**



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1. Context and diagnosis of AgriFood Digitalization in Spain
2. Key Challenges.
3. Spanish Strategy on digitl. Agrifood sector.
4. Flagship Initiatives





1. Context and diagnosis A.F. dig. in Spain



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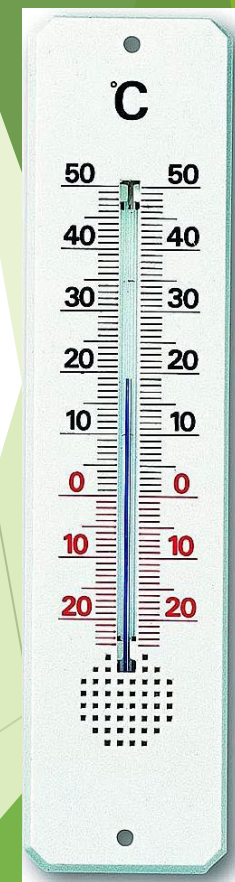
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The Digital Decade Report of Spain 2025 is an analysis (based on Eurostat Data and done by the EU Commission) on performance on **connectivity, digital skills and the digitalization of business and public services.**

<https://digital-strategy.ec.europa.eu/en/factpages/spain-2025-digital-decade-country-report>

- **Robust digital infrastructure** (generally more advanced than the EU average, As of June 2024, total fixed ultra-fast network coverage (100 Mbps) reached 94.12%, with rural coverage climbing to 81.83%.
- moderate progress in the **adoption of key digital technologies by enterprises... but lagging behind SMEs**
- The agri-food sector is recognized as one of the **five leading sectors in Spain's digitalization process**, and labor shortages are currently reducing resistance to technological change.
- Better digital public services for citizens (eHealth...) than for business

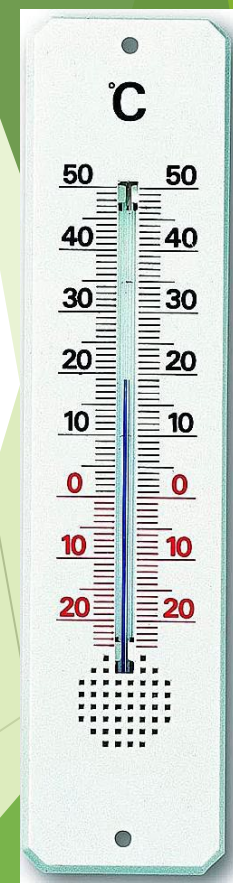


Digital Decade KPI ⁽¹⁾	Spain Country Report 				EU		Digital Decade target by 2030	
	DESI 2024 (year 2023)	DESI 2025 (year 2024)	Annual progress	National trajectory 2024 ⁽³⁾	DESI 2025	Annual progress	ES	EU
Fixed Very High Capacity Network (VHCN) coverage	96.3%	95.0%	-1.4%	97.0%	82.5%	4.9%	100.0%	100%
Fibre to the Premises (FTTP) coverage	95.2%	94.9%	-0.4%	96.0%	69.2%	8.4%	100.0%	-
Overall 5G coverage	92.3%	95.7%	3.7%	98.9%	94.3%	5.9%	100.0%	100%
Edge Nodes (estimate)	167	301	80.2%	-	2257	90.5%	-	10000
SMEs with at least a basic level of digital intensity ⁽²⁾	-	74.2%	4.8%	-	72.9%	2.8%	90.0%	90%
Cloud	27.3%	33.1%	21.5%	-	-	-	75.0%	75%
Artificial Intelligence	9.2%	11.3%	23.2%	10.6%	13.5%	67.2%	75.0%	75%
Data analytics	38.0%	40.9%	7.7%	-	-	-	75.0%	75%
AI or Cloud or Data analytics	49.9%	55.7%	11.6%	-	-	-	-	75%
Unicorns	13	13	0.0%	16	286	4.4%	24	500
At least basic digital skills	66.2%	-	-	-	-	-	85.0%	80%
ICT specialists	4.4%	4.7%	6.8%	5.0%	5.0%	4.2%	8.6%	~10%
eID scheme notification		Yes						
Digital public services for citizens	84.2	88.8	5.4%	88.7	82.3	3.6%	100.0	100
Digital public services for businesses	91.0	85.1	-6.5%	95.0	86.2	0.9%	100.0	100
Access to e-Health records	84.6	88.3	4.4%	87.3	82.7	4.5%	100.0	100

(1) See the methodological note for the description of the indicators and other metrics

(2) DESI 2025 reports the version 4 of the Digital Intensity Index, that is comparable with the DII value from DESI 2023 (referring to year 2022) for the calculation of the annual progress. It is not comparable to the national trajectory that is based on version 3 of the index.

(3) National trajectory value if present in the national roadmap and if the indicator was measured in DESI2025 (year 2024)



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SPANISH OBSERVATORY OF THE DIGITALIZATION OF THE AGRIFOOD SECTOR



Understanding the level of ICT implementation and skills among workers in Spanish agricultural and agri-food industries. Study Published 2023



https://www.mapa.gob.es/es/desarrollo-rural/temas/innovacion-medio-rural/estudio_3def_tcm30-655779.pdf

>3,500 surveys (agriculture, livestock and food processing industry)

The digital transformation of the agri-food sector as seen by its professionals. Priorities in digitization, automation, data transfer, training, and innovation. Published June 2024



https://www.mapa.gob.es/es/desarrollo-rural/temas/innovacion-medio-rural/2024-digitalizacion-estudio6-vers4_tcm30-684019.pdf



SPANISH OBSERVATORY OF THE DIGITALIZATION OF THE AGRIFOOD SECTOR



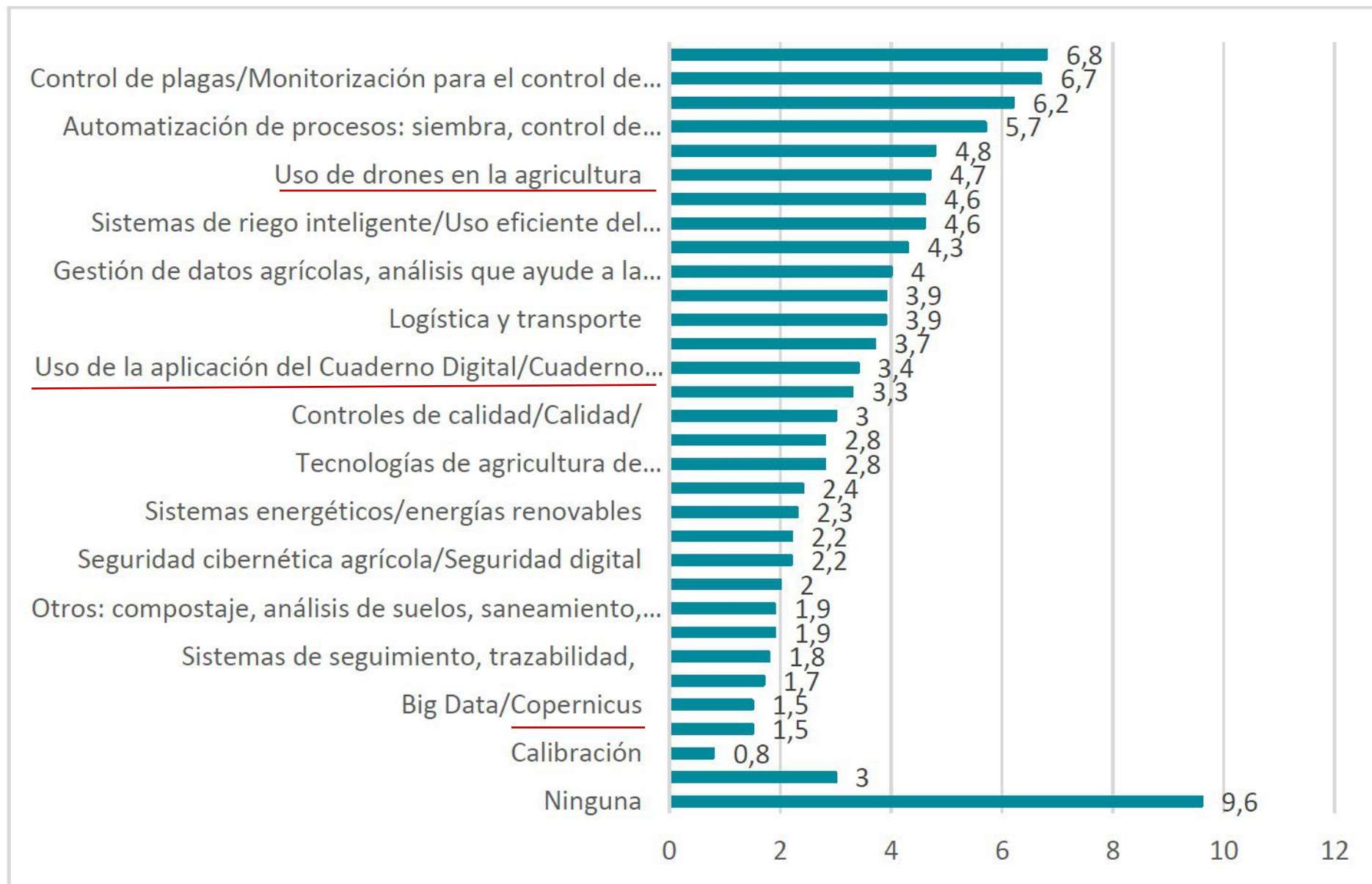
- **Regarding digital tools used in plant production:** most often are for irrigation (19%), plant protection (8%) and fertilization (7,7%) (last two ones specially in citrus production)
- Approximately **89.9% of professionals in the sector value data sharing** positively, acknowledging the critical role of data intermediaries (sharing is most common within the cooperative, and with advisors)
- **Most 3 demanded trainings in agriculture are digital tools for plant protection, automatization of processes and drones!**

(see next 2 slides... in Spanish)



Gráfico 40. Temáticas de cursos que demandan los y las profesionales de la agricultura. En porcentaje

Cursos
Demandados
agricultura





2. Key challenges for the digitalization.



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- **SME Adoption:** While progress is being made, **small and medium-sized enterprises (SMEs) lag behind** in the adoption of key digital technologies and Artificial Intelligence.
 - ▶ **Low CAP Support Uptake:** R3 indicator Spanish CAP Strategic Plan from 3,2% to 2,5 % of holdings (circa 24.000 are supported regarding digitalization) is low.
 - ▶ Fostering digitalization in the Spanish CAP strategic plan will be achieved:
 - ▶ Via **innovation projects** of the EIP Agri (bottom up approach of interactive innovation in multi-actor consortia that cooperate)
 - ▶ **Knowledge exchange, training and provision of advisory services.**
 - ▶ Deployment of **smart villages initiatives (non-productive investments in basic services in rural areas (6872-06 in Galicia and Extremadura) linked to digitalization**
 - ▶ **Investments**

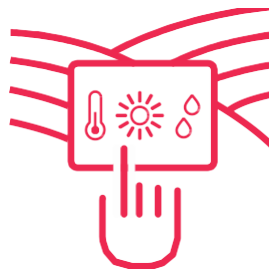




3. Spanish Strategy for the adoption of digital technologies.



2019 Strategy for the digitalization of the AgriFood S.



Initiative that is the result of a powerful multi-actor-expert FOCUS GROUP!!

Coordinated by the Ministry of Agriculture Fisheries and Food.

Try to integrate other policies (specially digital ones at the time)

Holistic Approach in 3 objectives:

1. Reduce digital divide (skills, connectivity)
2. Foster data use
3. New bussiness model

It turned out to be key for the programming of the Common Agriculture Policy and the Recovery and Resilience European Funds post pandemic (also called Next Generation Funds)

<https://www.mapa.gob.es/es/ministerio/planes-estrategias/estrategia-digitalizacion-agroalimentario/>

STRATEGY unfolds through Action PLANS



I PLAN 2019-2020
40 Initiatives – 16M€

II PLAN 2021-2023
21 Initiatives – 64 M€

III PLAN 2024-2026
30 Initiatives – 84M€



17,46%



80,26%



Funds applied on the concrete measures include European (CAP, NEXT GEN, Digital European Program, ERFD, and National Administration Funds)

<https://www.mapa.gob.es/es/ministerio/planes-estrategias/estrategia-digitalizacion-sector-agroalimentario>

FUNDED OR CARRIED OUT DIRECTLY BY THE MINISTRY OF AGRICULTURE

- A1 AgrifoodTEF for testing and experimentation infrastructure for AI and robotics (DEP)
- A2 Center of competence for digital training in the agri-food sector
- A3 Grants for advisory services on digitalization CAP
- A4 Grants for knowledge, information, and training CAP
- A5 Grants for innovative projects of EIP-Agri CAP
- A6 Digital tools of the Ministry
- A7 La Vega Innova: Digital Innovation Hub
- A8 Loans for agrifoodtech Entrepreneurs / agrifood private sector
- A9 Agri-food Sector Digitalization Observatory
- A10 AKIS Advisors Platform
- A11 Grants Precision Agriculture and Industry 4.0.
- A12 Tech services and mentoring of startups related to tech Agri-food Sector
- A13 Design of the Spain AgriFoodTECH Nation Seal
- A14 Open Access to High-Value Data from MAPA
- A15 Standardization and Normalization (ISO/TC 347 Data-driven¹⁴ agri-food systems stan



III Plan

80,26%



III Action PLANS 2024-2026

- DONE BY OTHER MINISTRIES AND ENTITIES OF THE CENTRAL ADMINISTRATION
- A16 Connectivity and 5G deployment actions in the agri-food and rural sector
- A17 AI Initiatives
- A18 Digital Kit/Consulting Kit (free services for SMEs)
- A19 Sectoral Data Space Promotion Plan
- A20 Change Agents (skills SMEs, other key actors)
- A21 Grants for big consortia Industry 4.0 Agri-food PERTE
- A22 Other support Actions for Industry 4.0
- A23 Promotion of E Digital Innovation Hubs
- A24 Complementari R& D Plan Agroalnext
- A25 AgData Agriculture Partnership (R&d) Spanish Research Agency
- A26 Water Cycle Digitalization Ministeri Ecological Transition
- A27 Digital Rural Challenge Program (skills rural population)
- A28 Program for the Promotion of Agricultural Employment



80,26%





4. Flagship initiatives, with a focus on sensors



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EIP AGRI PROJECT: Digital Twin for Pork Fattening and Cutting Coordination

- ▶ Optimization and coordination of the pork supply chain through the implementation of a **digital twin, specifically focused on the production of fattening pigs** that supply a slaughterhouse and its associated cutting plant. This allows livestock companies to more accurately understand the composition of their final product and how it changes according to slaughter weight, enabling them to improve feed efficiency by designing more tailored diets.
- ▶ Beneficiaries: NAVARRA AGRI-FOOD CLUSTER ASSOCIATION (NAGRIFOOD) / AGROPECUARIA OBANOS, S.A. / AGROPECUARIA DEL PIRINEO, S.A. / Sociedad Cooperativa Ganadera de Caspe S.R.L. / CARNICAS IRUÑA, S.A.
- ▶ Grant awarded: €599,889.66
- ▶ <https://digit4pork.eu/>



- ▶ **Dossier of the finished projects available in our web page**

https://www.mapa.gob.es/dam/mapa/contenido/desarroll-o-rural/temas/innovacion/innovacion-aei-agri/dossier_proyectos_innovacion_digital_esp.pdf





EIP AGRI PROJECT: PECUS

- ▶ Maintenance and improvement of extensive livestock farming through the development of digital tools that support decision-making by livestock farmers, forest landowners, and specialized technicians.
- ▶ Analysis of pasture quality and quantity through remote sensing and Artificial Intelligence algorithms to support rangeland management.
- ▶ Digital service platform for livestock farmers, landowners, and managers, including tools for visualization on interactive maps and dashboards with key indicators.



<https://gopecus.es/>

https://www.mapa.gob.es/dam/mapa/contenido/desarrollo-rural/temas/innovacion/innovacion-aei-agri/dosier_proyectos_innovacion_digital_esp.pdf

LA VEGA INNOVADIH of the Ministry of Agriculture



Space for innovation, collaboration, and training:

- **Incubation and acceleration of startups**
- **Technology testing** in agrolabs and pilot projects, and the organization of open innovation challenges
- **Free training and outreach through workshops and courses**

<https://lavegainnova.es/en/>



The "Smart Hives" pilot project is an initiative that incorporates IoT sensors and FIWARE connectivity to transform hive management.

- ✓ Real-time remote monitoring
- ✓ Control of internal and external conditions
- ✓ Detection of theft or tampering
- ✓ Monitoring of bee weight and activity
- ✓ Alerts for critical events



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Spanish CAP S.P. Budget line = knowledge Exchange, information and training

WEB



The Ministry and other regions promote **Knowledge and Information Exchange** as well as training in the agri food and forestry sectors.



Consortia, and individual applications (for example AgriFood Cooperatives Spain) have applied). **Digitalization is a key topic, but there are others (organic farming).**

-Several Universities are doing demonstrative activities for the sector (precisión agriculture, sensors in irrigation) over 300.000 grant

-The Spanish Wine Federation with its Wine HUB, has planned 35 different and complementary training events (technological solutions applied to the entire wine value chain: vineyard, winery, and marketing) Some events will be in person and others online 127.647,30 € grant

Call 2024: 32 initiatives supported = 5 millon €

Examples: Visits to pioneering early adopters on their farms / Open days at research centers, universities, and other centers / Demonstration activities at trade fairs, conferences, and third-party events / In-house events on a specific theme, traveling lecture series.

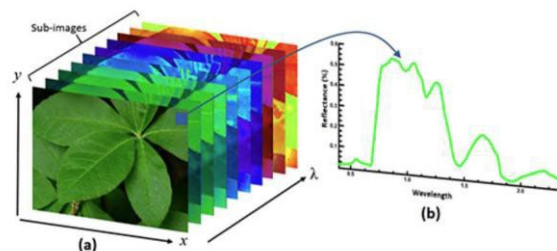
2026 Call, improved has a budget over 9 million euros.



- On line Training and Real life Demonstrations for digital solutions for the agrifood sector.
- For producers, students, advisors, civil servants, compatible with the professional and personal life.
- Virtual “Competence Centre” run by a dozen Universities, coordinated by University of Cordoba, and Politechnic University of Madrid. Funded by the Ministry of Agriculture.
- Circa 250.000 euros/year
- 1.000 students in the last years
- Example course:



Smart Digital Control of Processes and Products Throughout the Entire Agri-food Chain: Spectral Sensors and Blockchain.



<https://centrocompetencias.mapa.es>

Engaging in Digital Platforms to share knowledge

- AKIS Platform:



- EU-FarmBook:



EU-FarmBook



Funded by the European Union

Search Engine for OG and their innovation Projects

<https://akisplataforma.es/proyectos>



 Grupos Operativos y Proyectos Innovadores

Destacados del mes



Proyecto Fundación Biodiversidad
Laboratorio GAD-EX: Acciones de mejora de la biodiversidad a través de la ganadería extensiva en el Geoparque Unesco Las...

 Leer más

legumhari

Grupo Operativo LEGUMHARI: Desarrollo de alimentos y productos innovadores a partir de la valorización de subproductos de leguminosas, avances en sostenibilidad y...

 Leer más

OPienso

Grupo Operativo E-PIENSO: Plataforma tecnológica para la gestión conjunta de la seguridad alimentaria en la nutrición animal
El Grupo Operativo E-Pienso buscar generar...

 Leer más

GO PISTACIA

Grupo Operativo PISTACIA: Producción sostenible de pistacho de calidad
Este Grupo Operativo se crea con el objetivo de impulsar el cultivo de pistacho en Españ...

 Leer más



1640 resultados encontrados

Tipo 

Alcance 

Comunidad autónoma 

 Simbioliva

Grupo Operativo SIMBIOLIVA:
Nuevas soluciones bio-
tecnológicas para una economía...



Proyecto CDTI: PHOTONFOOD

Hortícolas. Investigación



Grupo Operativo: Aproximación de la productividad de zonas de pastoreo desde un enfoque...



Grupo Operativo BIOVESP: Control biológico integrado de vespa velutina



AgroTech solutions search engine



<https://digimapa.akisplataforma.es/>

digimapa Conectado con SIE + DAR DE ALTA UNA EMPRESA

714 empresas (713 empresas filtradas por mapa)

Productos, servicios... Ubicación

Productos / Servicios

Buscar producto o servicio...

- Informes de transformación digital 248
- Desarrollo de software 246
- Sensorización 158
- Automatización 133
- Sistema de planificación de recursos empresariales 127
- Riego 122

↓ **Mostrar los 73**

Tecnologías

Buscar tecnología...

- Big data 374
- Inteligencia artificial 292
- Internet of things (IoT) 250
- Cloud 225
- Sensores 194
- Automatización/robotización 162

↓ **Mostrar los 14**

Especialización

Buscar especialización...

- Soluciones tecnológicas para la 416

1A Ingenieros sedes 4
A Ingenieros, empresa líder en Castilla y León en el ...

A3P
Te asesoramos en la estrategia web para una presencia digital ...

Aalto
Aalto desarrolla su actividad en el área de ciudades y ...

Abamobile
Abamobile, tu partner tecnológico. Desde Asturias desarrollamos aplicaciones móviles a medida ...

Abast sedes 3
Somos una compañía independiente con más de 35 años en ...

Abastores
Abastores es la alternativa digital para agricultores, ganaderos, almacenistas y ...

ABB
ABB es un líder tecnológico en electrificación y automatización que ...

Acacia TI Servicios sedes 2
Acacia TI es una empresa integrada por expertos profesionales de ...

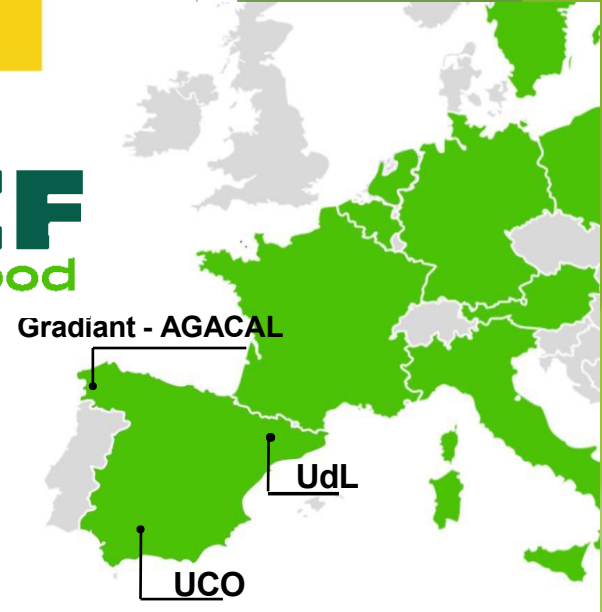
Mapa: Mapa de España con marcadores de empresas. Incluye un recuadro con la bandera de España y el texto "Next Generation EU".

Spanish Satellite Node in the Europeo AgriFOOD TEF

The European Testing and Experimentation Facilities for Agrifood Innovation



- ▶ Europe's largest project focused on Artificial Intelligence and Robotics within the agri-food sector
- ▶ Pan-European consortium
- ▶ Mobilizes €60M over 4 years
- ▶ €5M in Spain: €2.5M MAPA + €2.5M EU Digital European Program
- ▶ Network of physical and virtual testing facilities: VALIDATION SERVICES
- ▶ Artificial Intelligence / ROBOTICS
- ▶ Catalogue of sensor-related services



<https://agrifoodtef.eu/>

Spanish Satellite Node in the European AgriFOOD TEF

The European Testing and Experimentation Facilities for Agrifood Innovation

- ▶ Catalogue of sensor-related services
- ▶ EXAMPLE of the university of Cordoba

<https://agrifoodtef.eu/catalogue-of-services/evaluation-sprayer-boom-spot-spraying-site-specific-applications>

<https://agrifoodtef.eu/>



Evaluation of sprayer boom for spot spraying site-specific applications

ID: S00275

Testing service to assess the efficiency of sprayer booms with sensors for site-specific application of phytosanitary products, focusing on weed detection.

Interested in this service? Contact us at fmarquez@uco.es

AGROALNEXT



- ▶ National R&D program created to drive the digital and sustainable transformation of Spain's agri-food sector.
- ▶ Coordinated by the National Center for Food Technology and Safety (CNTA), it brings together research centers and universities from seven regions (Navarra, La Rioja, Asturias, Murcia, Extremadura, Valencia, Aragón) to bridge the gap between science, technology, and real-world implementation.
- ▶ 250+ R&D projects carried out over three years.
- ▶ €49 million investment, funded by the Spanish Government and EU NextGenerationEU.

<https://www.agroalnext.es/>



<https://www.agroalnext.es/>

AGROALNEXT

MINISTRY OF SCIENCE, UNIVERSITIES AND INNOVATION OF SPAIN WITH Rec Resilience Funds and co-funding by 7 Regions: Research and Transfer program for the agrifood Sector:

► **Agroalnext Complementary Program. Line 3, Digital Transition of the Agri-food Sector...**

Action 3.1. Precision Agriculture.

Action 3.2. Research and Development of Digital Applications for Small and Medium-Sized Producers.

Action 3.3. Research in Modeling, Prediction, and Digital Twin Systems for Decision-Making.

Action 3.4. Research in Disruptive Technologies, Data Integration, and the Use of AI (Impact of 5G and Edge Computing in Agricultural Environments and Farms with Limited Connectivity).

Action 3.5. New Systems for Rapid Monitoring of Food Quality and Safety Parameters.

Action 3.6. Digitization of Safety and Quality Systems in Production, Post-Harvest, Transport, and Carbon-Efficient Distribution.

Action 3.7. Research in the Design of Innovation Mechanisms for Marketing Based on Predictive Models and Big Data.

Action 3.8. Development of platforms for the storage, management, and processing of R&D&I data. La Rioja: Enodatalake for the wine industry. Navarra: Platform on food and health, food quality, and food safety. Murcia: DATALAKE for the agricultural sector. agrario



AGROALNEXT digitalization in the Valencia Region. Examples:

- ▶ Spanish National Research Council (CSIC). Smart and predictive sensors for rapid monitoring of wine quality

<https://agroalnextgva.umh.es/2023/09/21/021-sensiwine/>

- ▶ Micropeptides and proximal remote sensing to improve tomato cultivation.

<https://agroalnextgva.umh.es/2023/09/21/056-tomsmar/>

- ▶ More sustainable grazing with remote sensing and GPS

<https://agroalnextgva.umh.es/2023/09/26/vegclimapp/>

- ▶ Control and optimization of *Cannabis sativa* cultivation in greenhouses and digital traceability (digital twins).

<https://agroalnextgva.umh.es/2023/09/21/048-cannadig/>

S.G of Innovation and Digitalización

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Web Site

<https://www.mapa.gob.es/es/desarrollo-rural/temas/innovacion-medio-rural/>

<https://akisplataforma.es/>

<https://lavegainnova.es/en/>



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EU CAP Network workshop 'Sensing the future: practical applications of proximal and remote sensing for farmers and advisors'

**27-28 January 2026
Valencia, Spain**

All information on the workshop is available on the event webpage:

<https://eu-cap-network.ec.europa.eu/events/eu-cap-network-workshop-sensing-future-practical-applications-proximal-and-remote-sensing>

