LIFE Innocereal EU: A Sustainable and Certified Reality at the Service of the Cereal Sector

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Life Innocereal EU

InnoCereal

Connecting the Cereal Production Value Chain and Developing Carbon-Neutral Sustainable Certification in Europe

LIFE21-CCM-ES-LIFE Innocereal EU/101074009

Beneficiarios

Beneficiarios asociados

General Objectives

Improve the sustainability of cereal production through the implementation of Good Agricultural Practices (sustainable and digital) to increase the environmental and economic sustainability of farms and to reduce greenhouse gas emissions.

Connect all links of the cereal value chain, promoting environmental quality labels that provide greater added value to the final product (bread, pasta and beer).

Specific Objectives

Create an ecosystem along the entire cereal production chain.

Mitigate the carbon footprint.

Develop a quality and sustainability certification.

Improve the economic profitability of farms and the agri-food industry.

Generate knowledge at the European level on economic and environmental results.

Quintuple Helix of Innovation

The sector working together



Problems

- Disconnection in the cereal production chain
- Low environmental sustainability
- Loss of economic profitability

Main Project Actions

- Training for farmers and technicians in sustainable and digital GAP
- Decision-support systems through satellite monitoring
- Innovative prototype for weed control
- Cereal varieties adapted to climate change
- Adaptation of Good Agricultural Practices to each cereal and region
- A certification system for sustainable, low-emission cereals

Benefits

Farmer

- Development and promotion of sustainable actions
- Implementation of new technologies
- Better product positioning

Processor

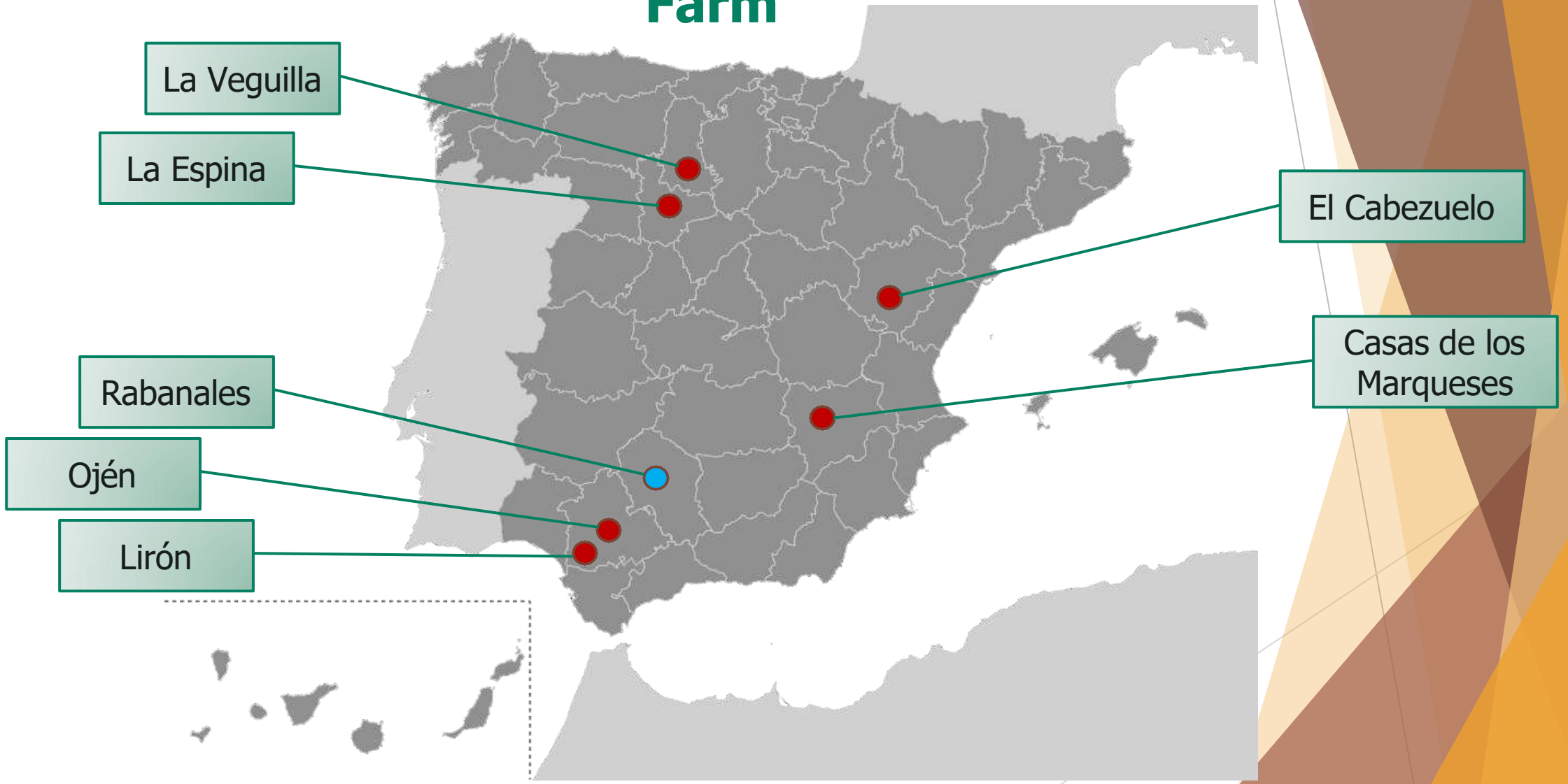
- Sustainable raw materials
- A supplier contracting network

Distribution and Consumer

- Environmental quality labels
- Food safety

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Demonstration Farms and Pilot Farm



Fincas demostrativas y finca piloto



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0 Soil analysis and mapping



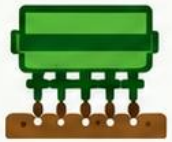
- Soil health and quality status

1 Weed control



- Innovative prototype (NIR)
- Herbicide reduction

2 Direct seeding



- Number of passes
- Use of certified seeds adapted to climate change

3 Variable-rate fertilizer application



- Site-specific fertilization
- Efficient use of N (nitrogen)

4 Input use optimization



- Number of passes
- Variable rates
- GHG (greenhouse gas) and energy (diesel) reduction

5 Yield maps



- Yield (kg/ha)
- Grain quality (ER, kernel)
- Increase in soil carbon

6 Alert systems



- Continuous monitoring

7 Cereal certification system



- Final consumer (livestock, pasta, beer and flours)
- Vocational training and job creation

Results and impact indicators

- **Improved soil health (quality and biodiversity)**
- **Reduction of GHG emissions (CO_2) and energy**
- **Increased carbon sequestration**
- **Higher productivity and quality**

Entry into the sustainable market (market uptake)

Transversality and Results

Cereal Farms



- Implementation of GAPs
- Cost reduction
- Increased profitability
- Commercial agreements

Production Certification



- Reduction of greenhouse gas emissions
- Optimization of fertilizer use
- Food safety

Traceability in the Processing Industry



- Constant supply
- Certified quality
- Economic balance in the value chain

Quality Label

- Sustainable, low-emission products
- Improved consumer perception
- Sustainability label **“Innocereal EU”**



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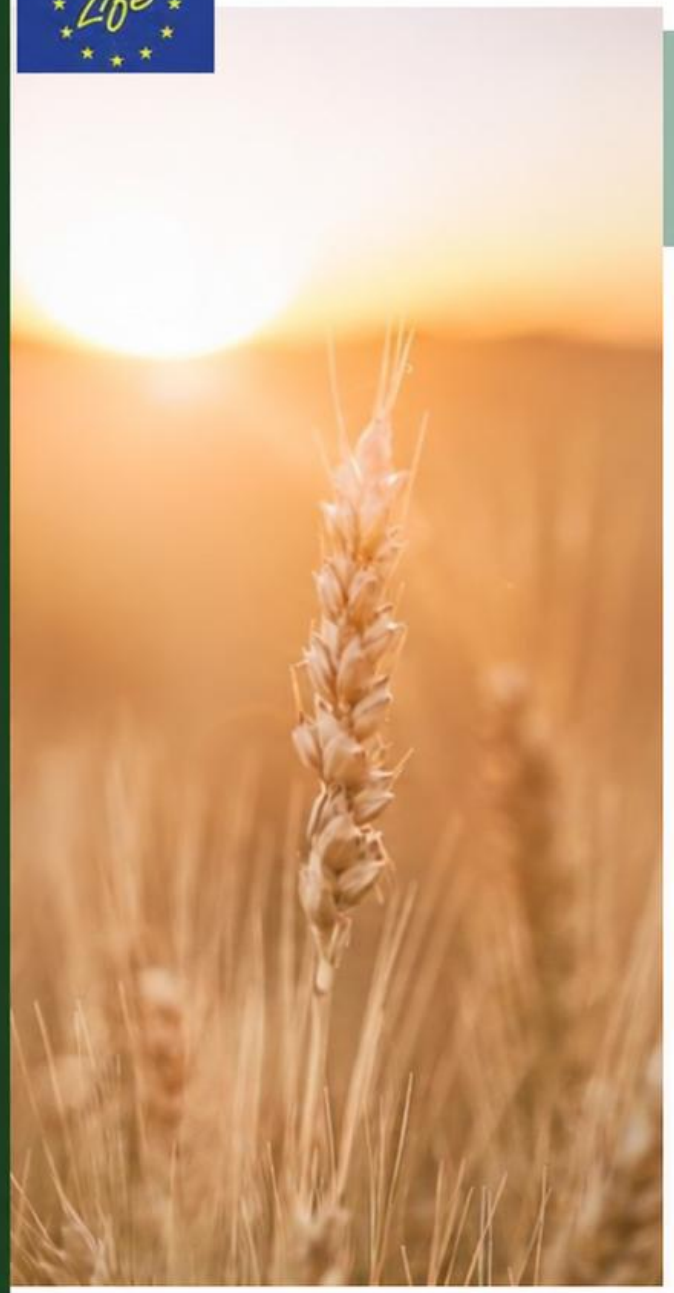
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LIFE INNOCEREAL's experience with C2M support

Sprayer for Site-Specific Distribution with NIR Technology





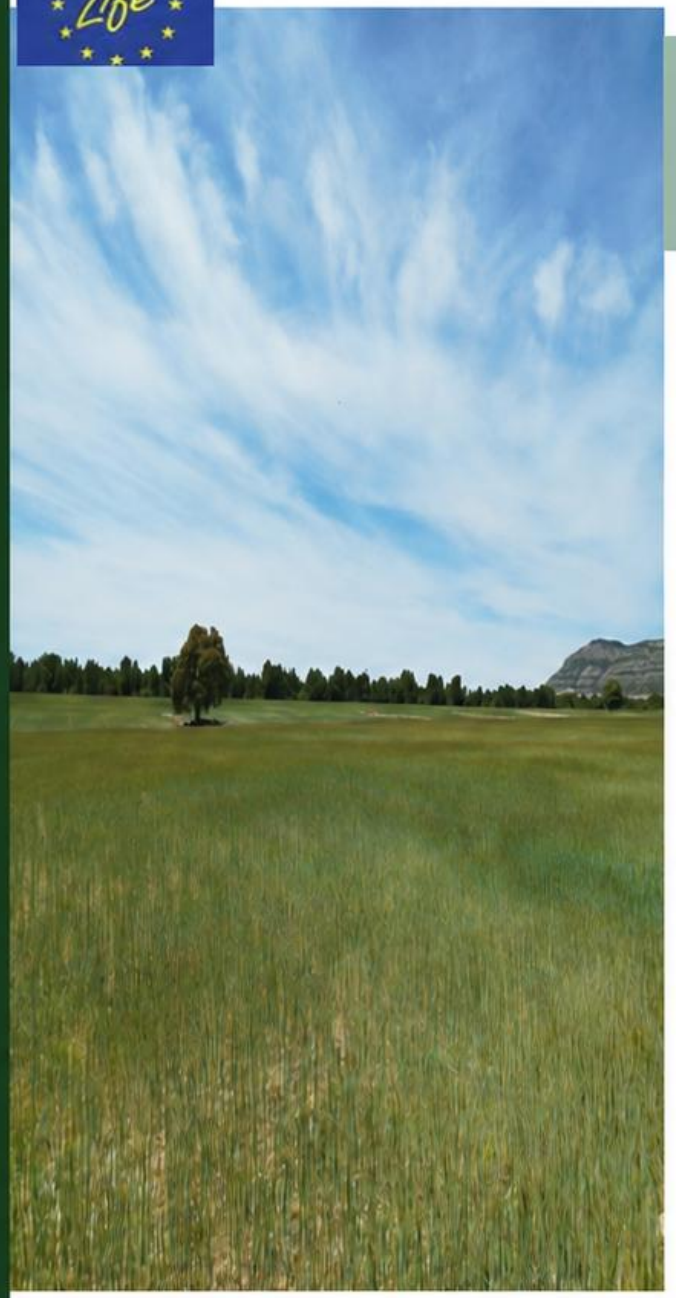


Developing Certification for Sustainable Cereals

The certification covers Certified Low-Emission Cereal (CCBE) and intermediate and finished products made from common wheat, durum wheat, and barley.

This environmental quality label aims to assure consumers that the cereals are produced sustainably while protecting the economic viability of farmers who adopt the Best Management Practices (BMPs) set out in the BMP Manual.

- Conservation agriculture.
- Crop rotation.
- Use of certified seed and replacement seed.
- Use of assisted guidance systems.
- Harvesting with a yield monitor.
- Variable-rate fertilizer application.
- Optimized use of crop protection products.
- Placement of basal fertilizer in the seed row.
- Application of fertilizers with controlled nutrient release in the soil.
- Use of biostimulants mixed with crop protection products.
- Use of local supply chains.



Developing Certification for Sustainable Cereals

CCBE Certification Implementation Status

- The **Inspection Procedure** has been **finalized** and is now **in use on farms**.

- **Since June 2025,** inspections have been carried out under the **Inspection Procedure,** which is based on the European project's **Good Agricultural Practices Manual**. **800 ha have been certified** to date.

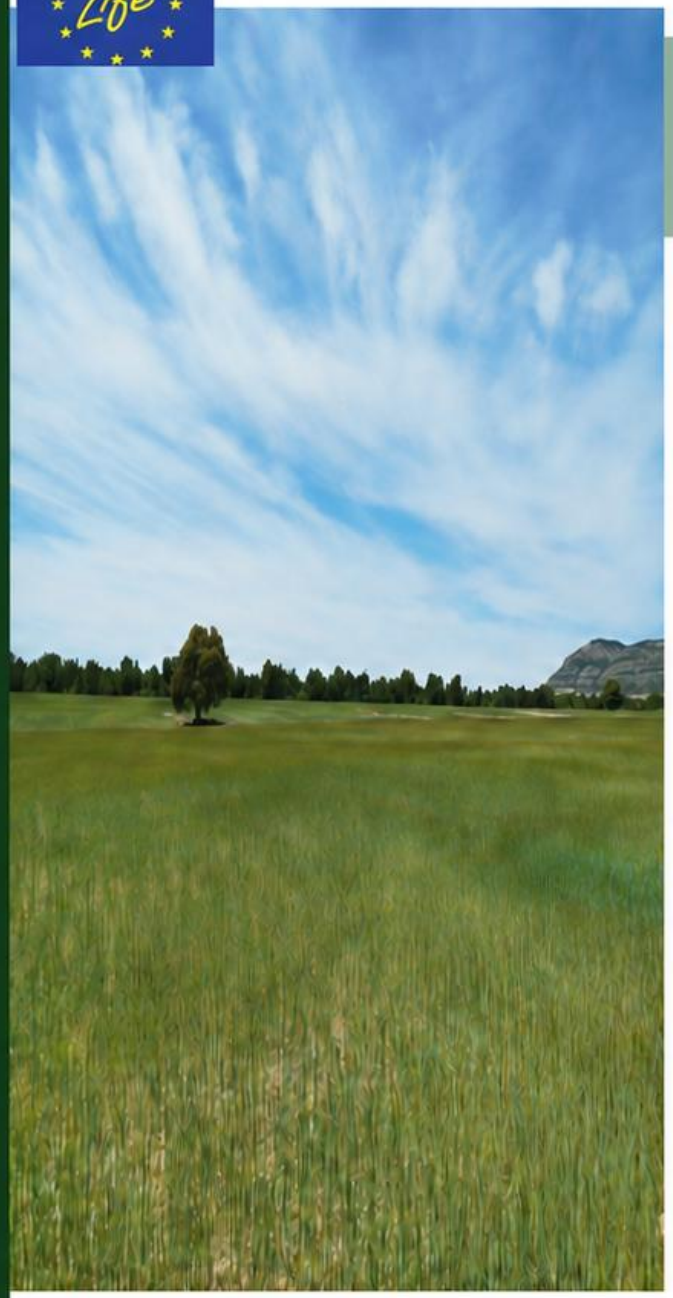
- **Rollout by growing season,** aligned with the **harvest calendar**. It starts in **southern Spain** and gradually expands **northward**.



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Questions of LIFE INNOCEREAL's experience with C2M support



1. How did we assess market potential at the proposal stage?

LIFE INNOCEREAL considered both markets from the start.

NIR Sprayer | Technology adoption

Higher upfront cost than conventional sprayers. **Target customers:** large farms and agricultural contractors. Contractors can spread the cost across more hectares and give smaller farms access.

€15/ha	€30,000–€45,000/year	~€50,000
Estimated herbicide savings	**Savings at 2,000–3,000 ha treated**	**Indicative equipment price**

Initial assumptions to test during the project.

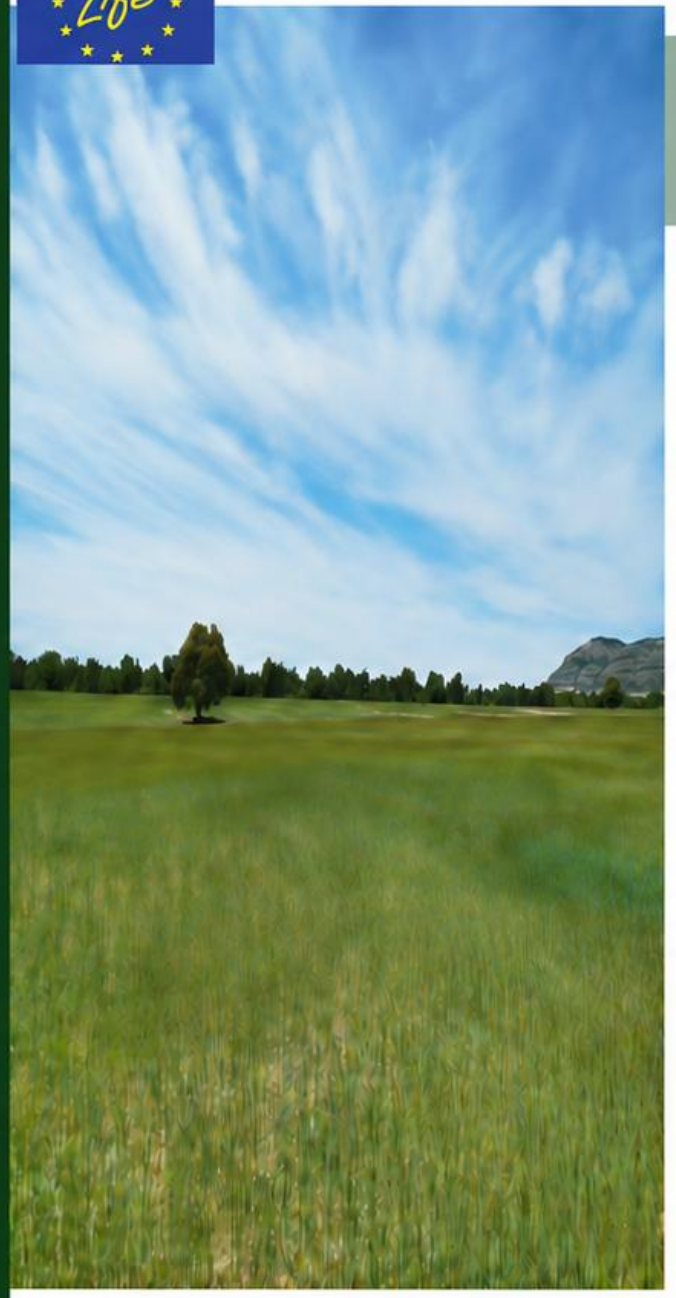
Certification | Low-emission cereals

Farmers → **Processors** → **Food companies**

Traceability, certification and model contracts help differentiate products and share added value fairly.

Other tools with market potential: crop alert system and impact assessment platform.

Market uptake was built into the project alongside technical and environmental validation.



2. How did CINEA's C2M initiative help turn project results into market opportunities?

C2M checklist | Starting point

The spraying technology was technically advanced. The checklist identified four areas to strengthen.

Business planning | **Licensing** | **Commercial capabilities** | **Access to finance**

Business model canvas | Two routes to adoption

NIR Sprayer

Clarified the commercial model

Customers • Manufacturing and sales • Channels • Costs and revenue

Certification

Defined a framework for credible sustainability claims and coordination across the cereal value chain.

Potential investment platform

Technology + **Certification** + **Transition finance**

An option for wider deployment

Clearer roles for research organisations, manufacturers, cooperatives and processors, including partners outside the consortium.

A stronger basis for business plans and future partnerships.

Business Model Canvas – Sprayer NIR technology

Key partners

- University of Cordoba
- AGRIFOOD SECTOR COMMUNICATION
- Greenfield - xFarm
- Glimax

Key activities

- Field days in demonstration farms
- Pilot demonstration activities
- Continuous collaborations in future projects

Key resources

- Multispectral Technology
- Know-how in Precision farming
- Inputs optimization

Value proposition

- Herbicide saving
- Sustainability
- Alignment with European policies (Green Deal/Farm to fork)
- Efficiency in applications

Customer relationships

- Online support
- Software updating
- Training for operators and technician

Channels

- Agricultural machinery manufacturers agreements
- Agrarian trade shows (FIMA, Agritechnica, Demoagro)
- Field demonstrations

Customer segments

- Agricultural services providers
- Agricultural machinery manufacturers
- Digital Agriculture Developers
- Segment 4

Cost structure

R&D (sensors, software)	Patents and licences
Pilot testing, field validation	Technical demonstration
Software maintenance	Cost 6

Revenue streams

Sales	Revenue 4
Business to Business (Agricultural machinery companies)	Revenue 5
Revenue 3	Revenue 6

Business Model Canvas – Certification system

Key partners

- University of Cordoba
- AGRIFOOD SECTOR COMMUNICATION
- AETC
- Certifying entities

Key activities

- Development of certification standards
- Best agricultural practices validation
- Coordination with external certifying entities

Key resources

- Certification standards
- Know-how in Best practices implementation
- Certification registration

Value proposition

- Sustainability seal (added value to the product)
- Image against competitors
- Alignment with European policies (Green Deal/Farm to fork)
- Position to voluntary carbon market

Customer relationships

- Traceability
- Continuous certification system improvement
- Training for operators and technician

Channels

- Business to Business agreements
- External certifying entities
- Agrarian trade shows (FIMA, Agritechnica, Demoagro)

Customer segments

- Cereals companies/collectors
- Agri-food industry
- Food retailers
- Segment 4

Cost structure

- Development of standards
- Traceability management
- Promotion
- Cost 4
- Cost 5
- Cost 6

Revenue streams

- Sales
- Agreements with agri-food industry
- Sustainable seal license
- Training on Best Agric. Practices
- Revenue 5
- Revenue 6

LIFE Innocereal EU: advancing digital farming and low-carbon certification for sustainable cereal production

LIFE Innocereal EU, supported by the LIFE Close-to-Market (C2M) initiative, helps European cereal farmers cut emissions, reduce costs by over 10%, and boost profitability through digital farming, low-carbon practices and market-ready certification.

NEWS ARTICLE

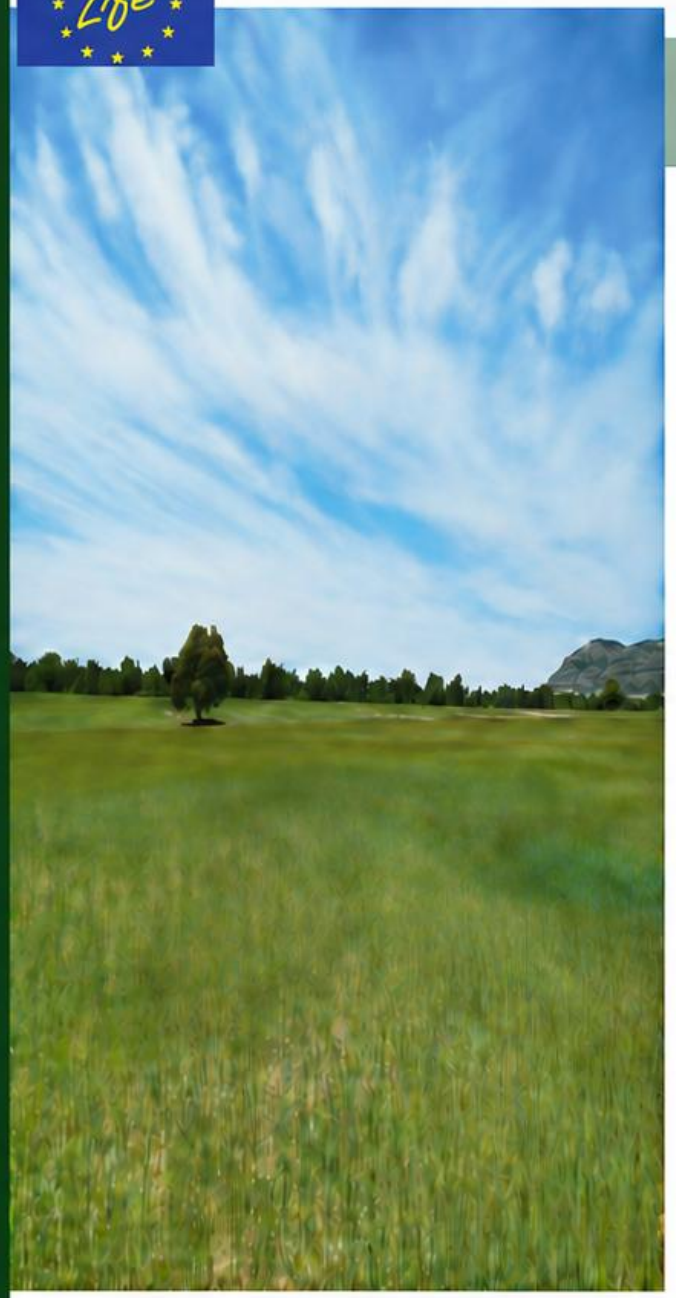
10 February 2026 — European Climate, Infrastructure and Environment Executive Agency — 4 min read



1. Greater visibility through C2M support

Alongside the business modelling support, C2M helped give LIFE INNOCEREAL greater visibility through a dedicated article on CINEA's website, showcasing our approach and results to a wider European audience.

https://cinea.ec.europa.eu/news-events/news/life-innocereal-eu-advancing-digital-farming-and-low-carbon-certification-sustainable-cereal-2026-02-10_en



3. How have you tested market demand?

WP5 | Sustainability, replication and exploitation of project results

1 | Field demonstrations

Demonstration and replication farms provide a practical setting to assess adoption.

2 | Value chain interviews

Farmers
Expectations, production costs, experience with the practices and willingness to keep using them.

Industry representatives
Need for sustainable cereal products and potential for market growth.

3 | WP5 market study

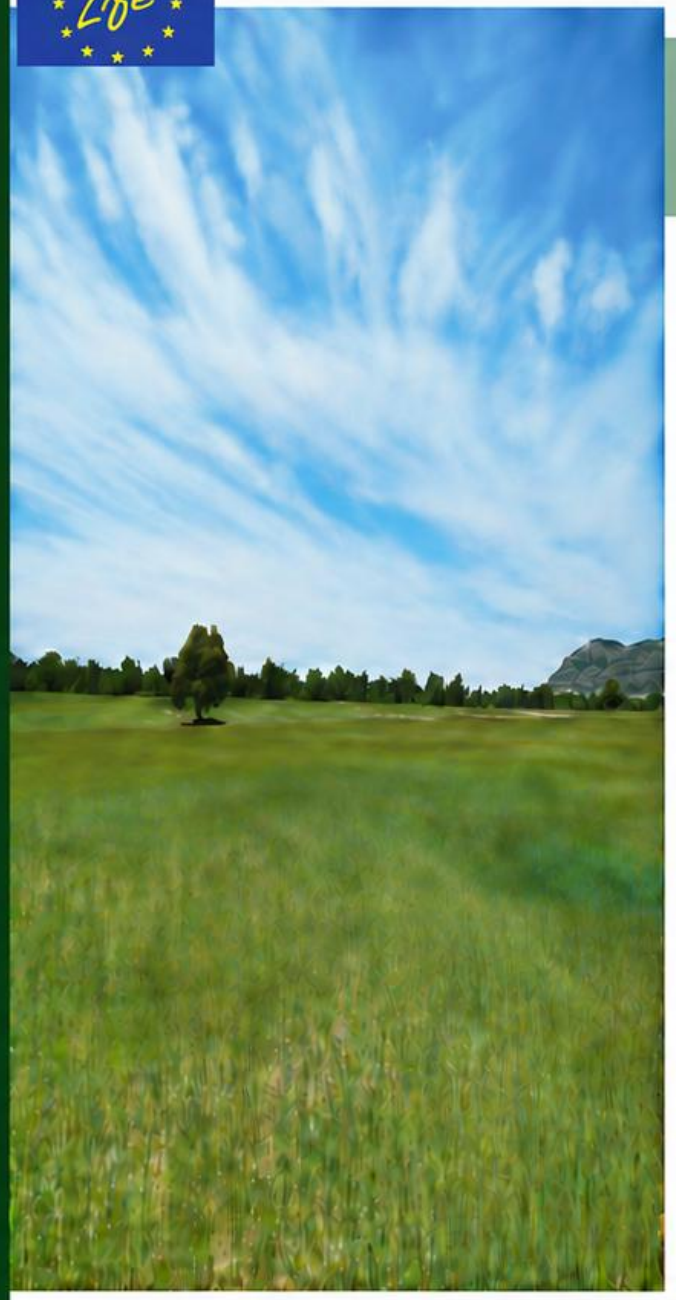
Combines interview feedback with a broader demand assessment.

- Benchmark existing products
- Compare production processes
- Compare certification schemes

Understand user value and barriers to adoption

- Exploitation strategy
- Replication plan
- After-LIFE Plan

The findings will guide how we reach users and sustain adoption beyond the project.



4. What are the main challenges in moving from demonstration to commercialisation?

1 | Farm economics

Higher upfront cost

Prove reliable savings and determine how much land the equipment must cover.

Offer access through contractors or cooperatives.

2 | From prototype to market

Manufacturing capacity, technology transfer, maintenance and after-sales support.

Strengthen commercial skills and business planning.

€100,000–€500,000

Estimated commercialisation needs at the checklist stage. No financing partner had been identified.

3 | Practical, credible certification

Make traceability credible and practical for farmers and processors.

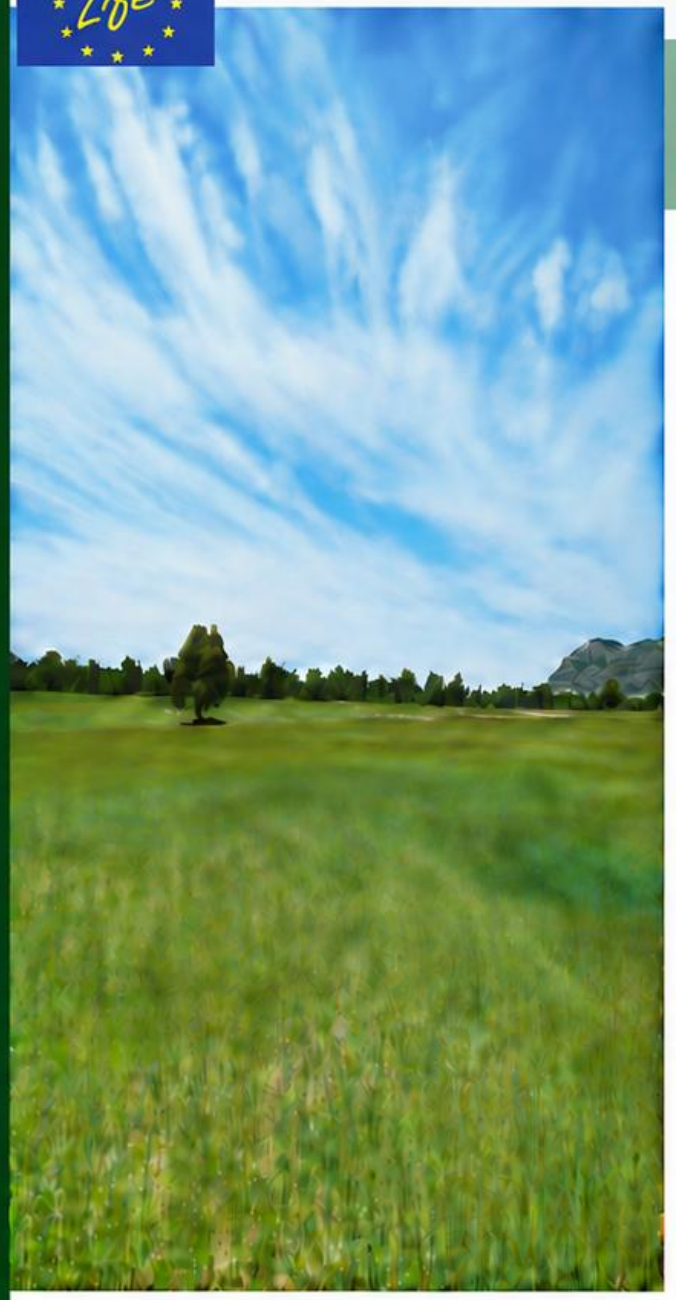
Share added value with those who bear the costs of changing practices and maintaining certification.

4 | Cereal price volatility

↓

Proposed annual purchasing contracts

Farmers and industry agree on prices and premiums each growing season, keeping cooperation viable as markets change.



5. How will you sustain and scale the solution after LIFE funding ends?

After-LIFE Plan | Implementation schedule with clear responsibilities, resources and funding options

Private-sector involvement from the outset

Heineken • Gallo • Cuétara • Monbake • Intermalta • Harinas Polo
Agricultural input suppliers and Spanish Agri-food Cooperatives

Certification

- Framework agreements and purchasing contracts link farmers and industry.
- AETC supports Spain. ECAF helps extend the approach across Europe.
- Ongoing coordination, auditing and training

NIR spraying technology

- Commercial manufacturing and sales
- Field demonstrations and cooperative networks
- Maintenance, technical support and potential access through service providers

Spain | UCO + AEACSV → **European outreach | ECAF**

Replication network in Portugal, Italy and Greece

Building on C2M, assess financing for wider deployment, including the potential investment platform.

Ready to Scale

LIFE InnoCereal connects farming practices, data, certification and markets.

1 Implement



Put sustainable and digital good agricultural practices to work on real farms.

→

2 Measure



Track yield, quality, soil, carbon and crop performance.

→

3 Certify



Certify low-emission cereals through traceability and verification.

→

4 Scale



Expand across the value chain and into other Mediterranean regions.

Next Steps

- Strengthen value chain agreements and put certification into practice.
- Expand replication, technical knowledge transfer and public policy support.

Low-emission cereals need sound agronomic practices, reliable data and a value chain willing to recognise that value.

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Questions?

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