

MIREȘU MARE AGRICULTURAL SMART CLUSTER

Presentation for private
and institutional partners

The “Mireșu Mare Agricultural Smart Cluster” starts from a simple but essential idea: in today’s economy, sustainable competitiveness cannot be built alone. Business needs research. Research needs applicability. Public administration needs credible partners able to deliver. The cluster is where these forces meet and work in an organized way.

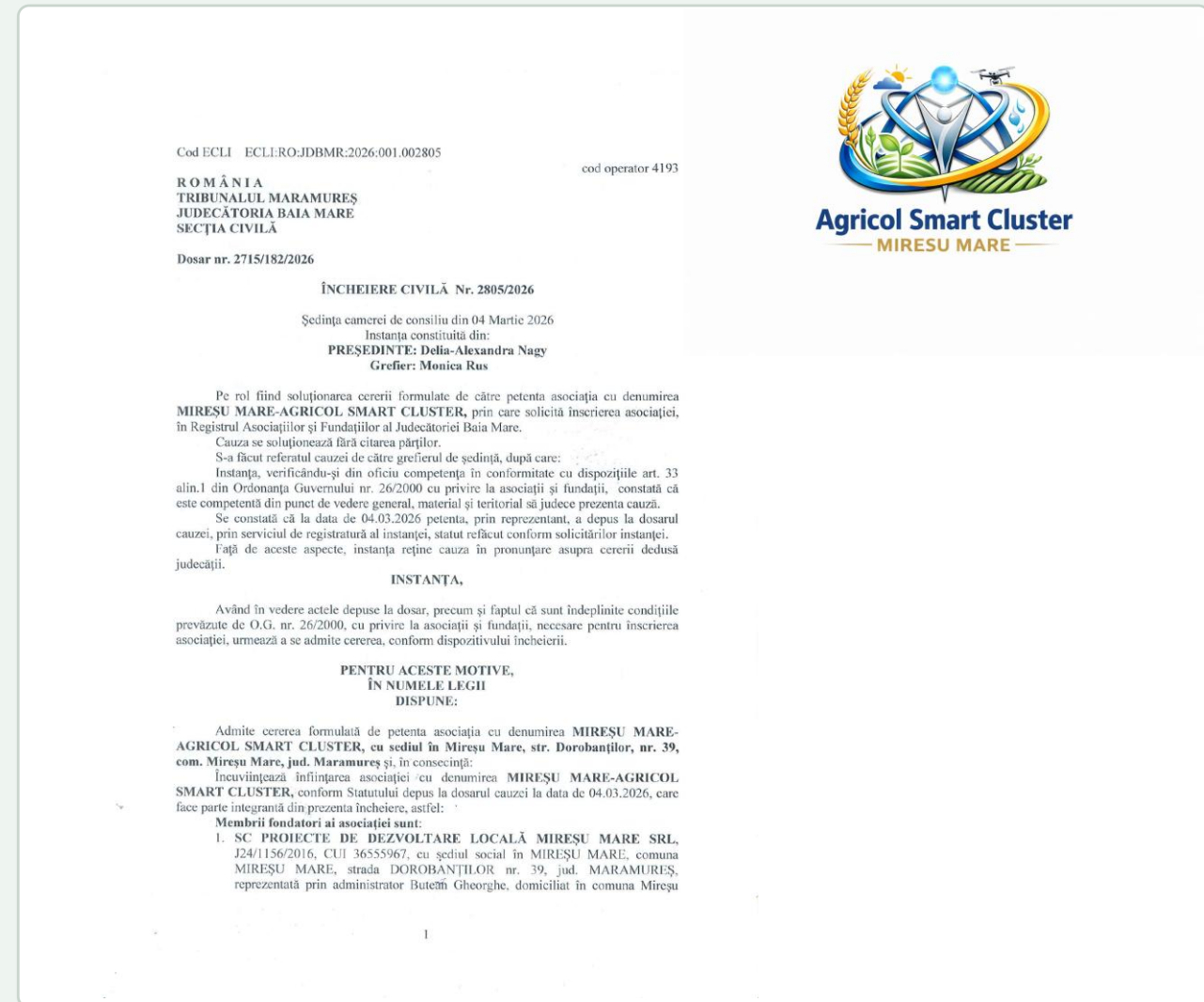
What makes it special is its ability to turn collaboration into real economic value through trust, knowledge transfer, joint projects, access to funding, applied innovation, and a stronger voice in relation to the market and institutions.

For companies, it means faster access to expertise, technology, partnerships, and growth opportunities. For public authorities, it is a practical instrument linking public interest, investment, and territorial development. For research, it helps valuable ideas move from the laboratory into the economy and the community.

We see the cluster not as an extra legal form, but as a strategic mechanism for economic development. Where there is trust, vision, and shared execution, it becomes a real advantage for the region, investors, and institutional partners.

Founding document: Civil ruling no. 2805/2026

Mireșu Mare, Maramureș County



Incorporation deed and registration in the Register of Associations and Foundations

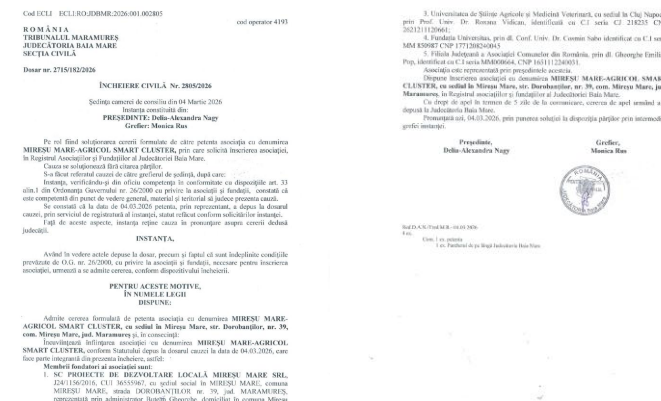
Legal status and cluster profile

- Association established by Civil Ruling no. 2805/2026, delivered on 04.03.2026.
- Name: Mireșu Mare Agricultural Smart Cluster.
- Duration of operation: unlimited.
- Declared organization as a “Four Clover” cluster.

Declared mission: collaboration, complementarity, innovation, knowledge transfer, and the efficient use of resources for sustainable rural development.



Supporting documents



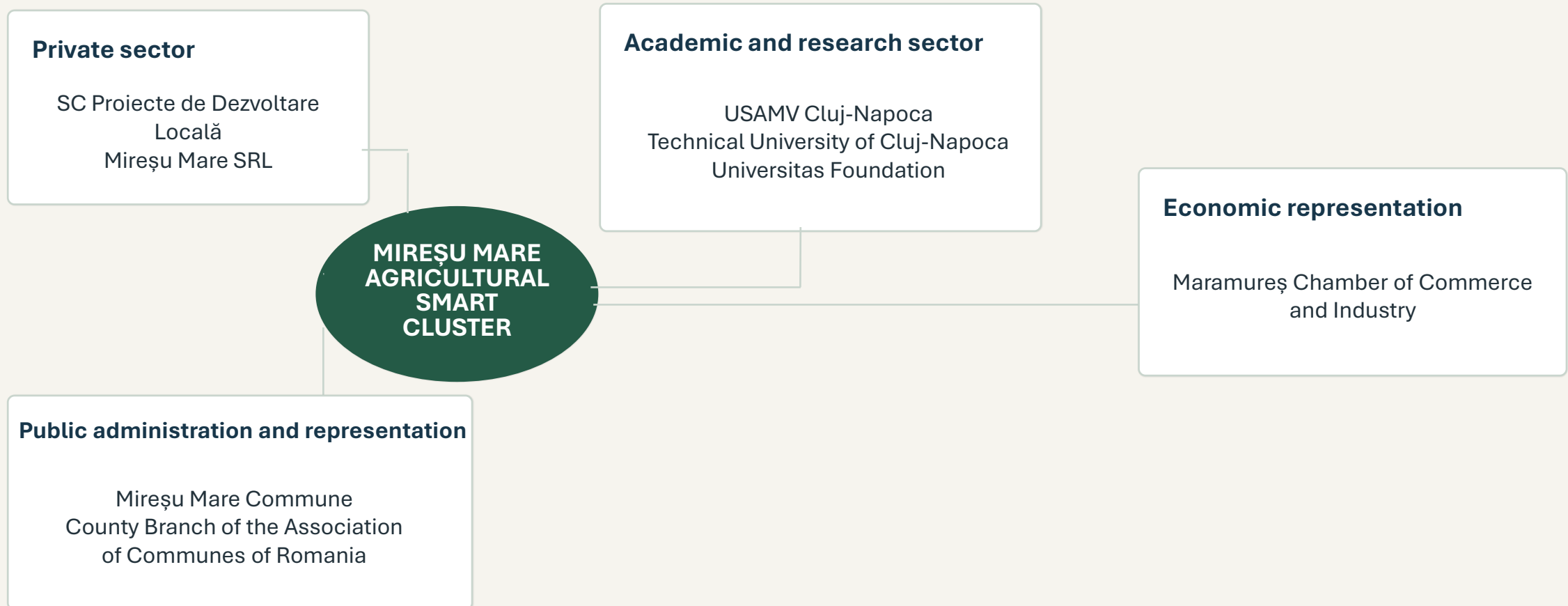
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The ruling confirms the establishment of the association and its registration in the court registry.

Structure of the founding partnership

The cluster brings together actors from the private sector, administration, economic representation, and academia.



The practical value of the cluster

The founding document explicitly describes the associative benefits below.

Operational efficiency

Pooling resources and expertise for more efficient agricultural production and distribution.

Access to information and innovation

Exchange of knowledge and innovative agricultural techniques among cluster members.

Stronger negotiation

Higher production and sales volumes, with better bargaining power vis-à-vis suppliers and buyers.

Joint promotion and marketing

Shared promotion strategies at regional or international level, with visibility and market access.

Shared infrastructure

Development of warehouses, processing centers, irrigation stations, and storage or transport facilities.

Sustainability and local impact

Promotion of responsible agricultural practices and contribution to the economic and social development of rural communities.

23 statutory objectives, synthesized into 6 pillars

The wording below groups the statutory objectives into themes that are easy to discuss with partners.

Research, development and innovation

Collaborative platforms, new products and solutions, applied research.

Technology transfer

Transfer of ideas, know-how, databases, and the application of results to the private sector.

Investment and infrastructure

Joint investments, agricultural infrastructure, prototypes, and market launch.

Human capital and skills

Professional training, high-quality human resources, and university involvement.

Funding and projects

Grants, non-reimbursable funds, consortia, networks, and development strategies.

Sustainability and rural development

Reducing environmental impact, responsible practices, and support for rural communities.

Document excerpts

[Small text excerpts from Romanian legislation, including Law 128/2019 on Smart Agriculture and Law 104/2017 on Rural Development, are visible in the background.]

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Collaboration framework for the private and public sectors

Based on the declared mission and objectives, the cluster offers a common working framework for the following types of partnerships.

For private partners

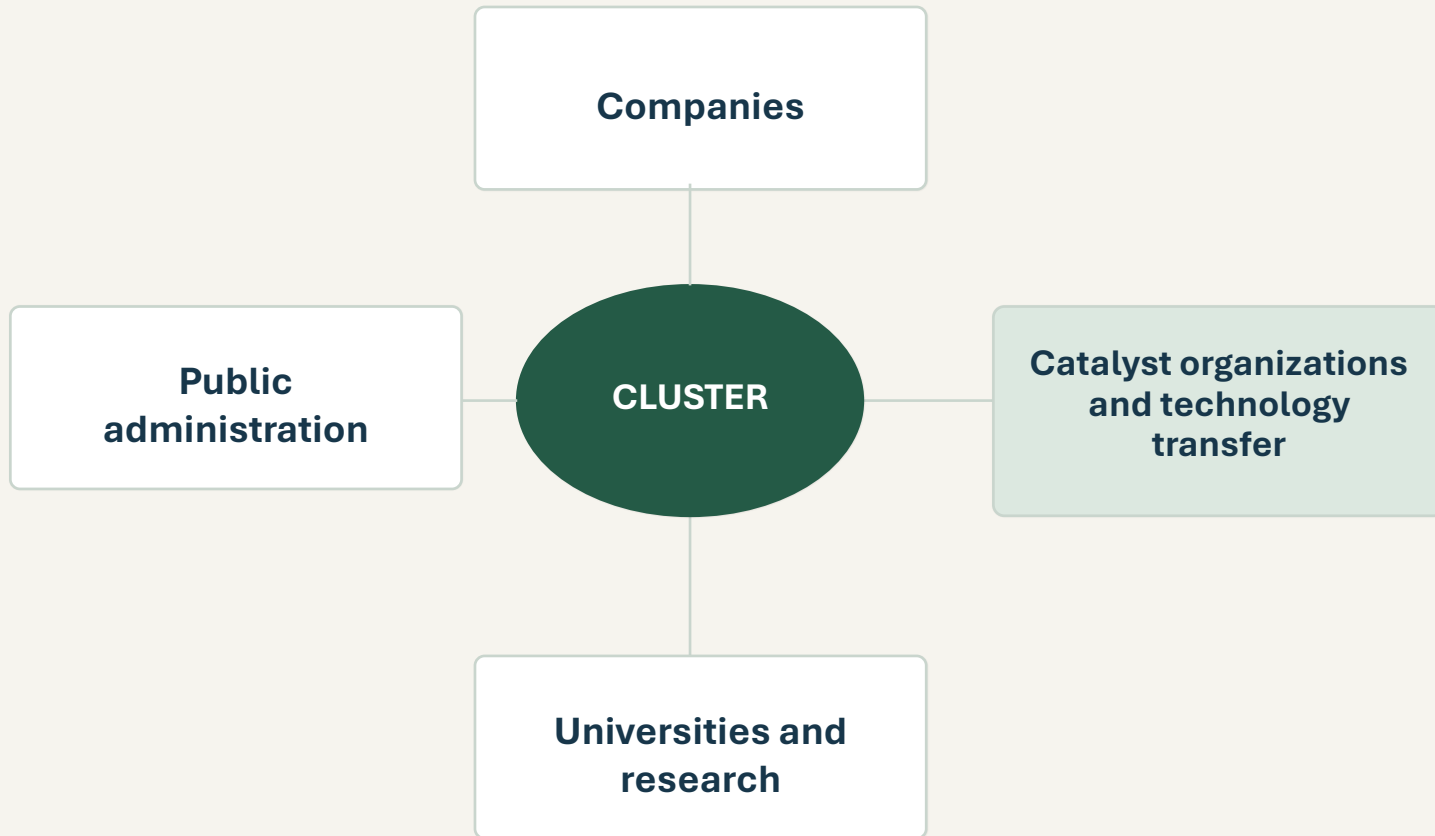
- access to research, development, and technology transfer networks
- consortia for projects, grants, and non-reimbursable funding
- piloting innovative products, solutions, and prototypes
- promotion, trade fairs, events, and expansion into new markets
- cooperation in infrastructure, logistics, and the agricultural value chain

For public and governmental partners

- alignment of solutions developed by private entities with local and central needs
- projects for rural development, employment, and local skills
- stable cooperation mechanisms among administration, universities, and the economy
- sustainable agricultural practices and reduced environmental impact
- attraction of investment and external resources for the territory

Operation under the “Four Clover” model

The document defines the cluster as a platform with four categories of actors, complemented by management and oversight bodies.



Governance

General Assembly

the association's deliberative body

Board of Directors

leadership and administration

Auditor / board of auditors

control and oversight

Mission: collaboration, complementarity, innovation, knowledge transfer, and efficient use of resources.

Collaboration tracks aligned with the statutory objectives

For discussions with partners, these lines of work can quickly structure concrete projects and consortia.

Track 1

Technology transfer and pilot projects

testing and introducing new solutions in agriculture and related industries

Track 2

Agricultural infrastructure and logistics

warehousing, processing, irrigation, storage, and transport facilities

Track 3

Grants, funding, and consortia

projects with local, national, European, and international funding

Track 4

Training, events, and internationalization

skills, trade fairs, conferences, dissemination, and network expansion

Invitation to dialogue

The cluster can operate as a coordination platform for innovation, funding, and sustainable rural development projects.

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The presentation can later be expanded with a project portfolio, new members, and partnership proposals.

Why the cluster is a distinct asset in the market and research economy: A cluster is not just a legal form, but an instrument of organized economic power. It does not replace the company, the university, or the administration, but coordinates them within a mechanism that generates competitiveness, innovation, and territorial development. By synthesizing the legal profile, mission, benefits, and statutory objectives, the cluster appears as a strategic platform, not as a simple formal association.

CORE IDEA

A cluster is more distinctive than other legal forms not because it has, in itself, some “magical” legal force, but because it brings together, within a single economic architecture, actors that normally remain separate: companies, universities, research, public administration, consulting, innovation, and financing. That is the real difference. An LLC produces and sells. A cooperative aggregates the direct economic interests of its members. An ordinary association represents or promotes. A consortium is usually formed for a project and then dissolved. A cluster, by contrast, creates a stable ecosystem with memory, strategy, and the capacity to multiply results.

In the market economy, the cluster is an asset because it does not work only for the interest of a single entity, but increases the competitiveness of the entire economic chain. It can reduce costs through collaboration, accelerate access to technology, increase bargaining power, build shared infrastructure, and open new markets. In other words, it does not merely gather members, it creates economic critical mass.

In the research economy, the cluster becomes even more valuable. Research, on its own, often remains in the laboratory. A company, on its own, avoids the risk and cost of innovation. Administration, on its own, cannot generate a market. The cluster brings them to the same table and turns the idea into a prototype, the prototype into a project, and the project into a usable product, service, or infrastructure. This is real technology transfer, not just talk about innovation.

Institutional integration

Brings together the private sector, administration, universities, and technology transfer within a stable framework.

Economic advantage

Consolidates resources, reduces cooperation costs, increases bargaining power, and supports shared infrastructure.

Research advantage

Moves scientific results from the laboratory into applicable projects, prototypes, services, and products.

Credibility and scale

Increases attractiveness for investment, funding, and public-private partnerships with territorial impact.

Message for partners: the cluster offers, at the same time, economic cooperation, knowledge transfer, and institutional execution capacity.

Project portfolio for the start-up phase

The projects are presented as an initial stage of design, development and partnership action.

1. Professional retraining centre

rehabilitation and functional conversion of a public building in Remeți pe Someș
training, certification, licensing, and a local agricultural drone platform

role: human capital, skills, and training services for the cluster

2. Regional IoT & AI data centre

regional hub for IoT, GIS, weather, drone, and advanced analytics data
shared platform for monitoring, prediction, and decision support

role: digitalization, piloting, and technology transfer

3. Off-grid cold-storage facility

integrated agri-logistics infrastructure for vegetables, with a main focus on cabbage and potatoes
1,000 tone modular refrigeration and 100 tone freezing

role: conditioning, storage, cold logistics, and energy resilience

4. Integrated project based on the Circular Economy

It uses biological resources from soil and water to produce food, feed, clean energy, materials / raw materials for other industries;
It is complex and multidisciplinary; it involves actors from: industry, farmers, universities, the political environment and civil society.

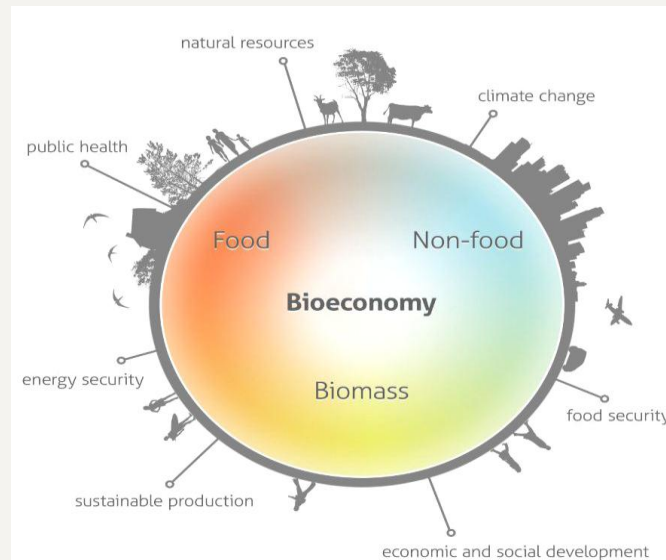


Conceptual illustration of the training and data centres.

Early partnerships, by action fields

Public and institutional: Mireșu Mare Commune, county-level structures, funding programmes, and administrative facilitation. Academic and research: universities, training providers, laboratories, and technology-transfer actors. Private and associative: farms, cooperatives, economic operators, agritech suppliers, and solution integrators.

Portfolio logic: training and certification → data and analytics → processing, storage, and market access.



INTEGRATED PROJECT BASED ON CIRCULAR BIOECONOMY
Strategic Partner: SC. GNIR



Concept plan for the off-grid cold-storage facility.

Professional retraining, training, certification and licensing centre

Local public investment, with an agricultural drone training platform and a human capital development component.



Conceptual illustration focused on the training and professional retraining component.

Role in the cluster ecosystem

training, certification, technology piloting, and skills development for smart agriculture

Executive summary

- conversion of the Remeți pe Someș Cultural Centre into a multifunctional professional retraining facility
- programmes for agricultural and non-agricultural professions, digital skills, management, and rural entrepreneurship
- local theoretical and practical training platform for agricultural drones

Stage indicators

12–24 months

estimated duration

5–10

training modules

100–300

people trained / year

Early partnerships

Mireșu Mare Commune, accredited training providers, universities, farmers, and local companies

Regional IoT data, advanced analytics and artificial intelligence centre

Regional hub for digital services and decision support for smart agriculture, positioned as an innovation infrastructure.

Executive summary:

- rehabilitation of an existing 299 m² public building for data, AI, and monitoring functions
- integration of IoT, GIS, weather, drone, and operational data into a shared platform for cluster members
- development of AI services for alerts, predictions, risk analysis, and operational optimization

Stage indicators

200 TB

minimum net
storage

30–50

Members connected,
phase I

500–1,500

integrated data
flows

99.5%

availability
target



Conceptual illustration focused on the regional IoT & AI data centre.

Early partnerships

Mireșu Mare Commune, the cluster, universities and research institutes, agritech suppliers, professional associations, cooperatives, and other eligible partners

Off-grid cold-storage facility for vegetables, with a main focus on cabbage and potatoes

Modular agri-logistics infrastructure designed as a strategic asset for the local and county agri-food chain.



Concept plan of the investment, with a photovoltaic field, microgrid, and refrigerated storage.

Executive summary:

- 1,000 t of modular refrigeration, in two 500 t modules, and 100 t of freezing capacity
- complete reception, washing, sorting, grading, packing, labelling, and pre-cooling flow
- dedicated energy microgrid: photovoltaic park, batteries, and back-up generator

Project benchmarks:

≈€7.54M

excluding VAT

≈1.8 MWp

PV park

≈5.0 MWh

usable storage

500 kVA

motor generator

5.0–6.5 ha

site area

phased

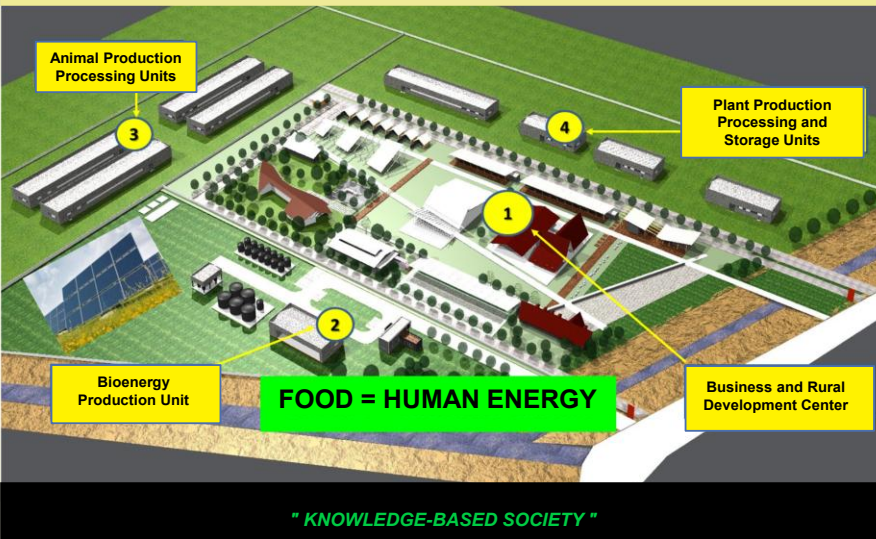
core + phases 1–3

Early partnerships:

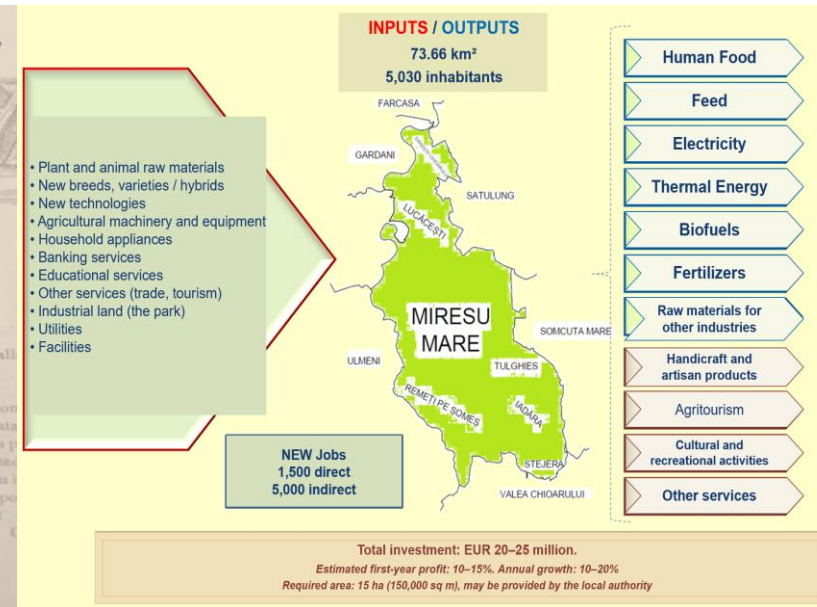
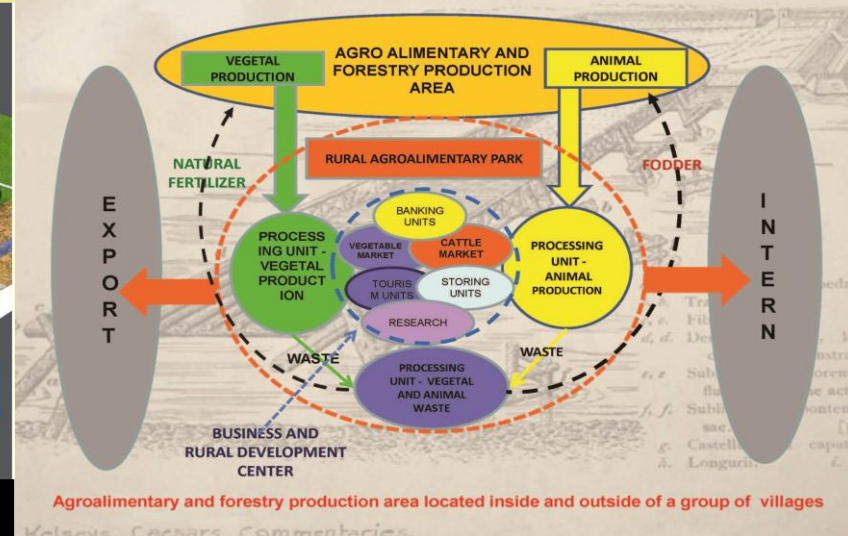
Mireșu Mare Commune, producers, cooperatives, energy partners, processors, and logistics operators

INTEGRATED PROJECT BASED ON CIRCULAR BIOECONOMY – Partner: SC. GNIR

INTEGRATED PILOT PROJECT BASED ON CIRCULAR BIOECONOMY



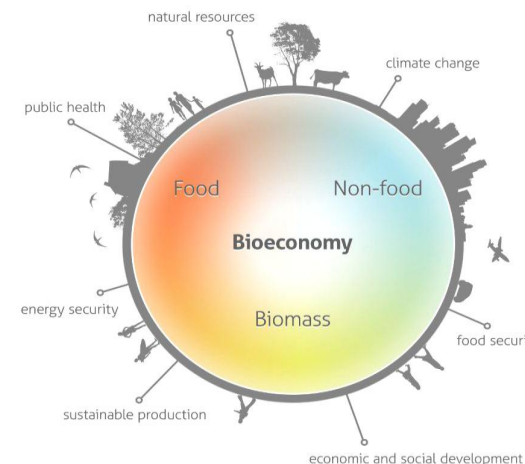
SCIENTIFIC AND INNOVATING ASPECTS OF THE RURAL AGROECOLOGICAL PARKS



CIRCULAR BIOECONOMY REPRESENTS:

A necessary response to the multiple challenges of today's society;
It uses biological resources from soil and water to produce food, feed, clean energy, materials / raw materials for other industries;

It is complex and multidisciplinary; it involves actors from: industry, farmers, universities, the political environment and civil society.



ADVANTAGES:

Reversing the trade balance (increasing exports);
Increasing competitiveness
Creating jobs: 1,500 direct and 5,000 indirect;
Ensuring food safety and security;
Rational and efficient use of agricultural and forestry resources;
Maintaining a clean environment and producing non-polluting energies
Ensuring new qualifications
Countering the effects of climate change
Motivates the return of the young generation to rural areas;
Ensures partnership between universities, industry, public authorities and NGOs;
Allows technology transfer and dissemination of good practices;

Indicative timeline for launching the projects and structuring partnerships

The four projects can start in parallel, but at different speeds.

In stage I, the focus is on partnerships, technical preparation, eligibility, and the launch of the first operational lots.

Phase 1 0–3 months

- structuring of the public, academic, and private partnership
- definition of roles: promoter, operator, technical partners
- preliminary studies, pre-feasibility, and mapping of funding sources

Phase 2 4–9 months

- DALI / SF / PT, approvals, and procurement packages
- cooperation memoranda and pilot lots
- common timeline for retraining, IoT & AI data, and cold storage

Phase 3 10–18 months

- execution and fit-out for priority components
- installation of initial platforms and first operational flows
- training, technical integration, and preparation for acceptance

Phase 4 18–24+ months

- operationalization, pilot services, and member expansion
- validation of indicators, demonstrators, and co-financing attraction
- phased scaling toward regional infrastructure and services

Project synchronization

Professional retraining centre | 12–24 months: public project with a rapid launch on educational functions and pilot training.

Regional IoT & AI data centre | 18 months: regional digital infrastructure, with an initial phase of data integration, laboratory, and decision support.

Off-grid cold-storage facility | phased: core + phases 1–3, with the option to start through the 500 t commercial lot and the energy microgrid.

Integrated project based on Circular Economy 12–24 months: public project with rapid launch on educational functions and pilot training.

Message for partners

- the current stage is suitable for early entry into design, co-definition, and institutional positioning
- early participation increases influence on project architecture and the operating model
- the cluster can aggregate economic, public, and research interests into a coherent portfolio

Proposed framework for cooperation, co-financing and operationalization

Working principle

The cluster operates as a coordination platform, not as a simple representative structure.

Governance should clearly distinguish between the UAT’s public and asset-holding role, the cluster’s orchestration role, the academic role of technology transfer, and the private role of investment, operation, and scale-up.

This separation of roles increases bankability, decision clarity, and institutional credibility.

Public and governmental

can contribute: assets, institutional support, approvals, and coherence with territorial strategies

obtains: mature projects, useful infrastructure for the territory, and measurable economic impact

Academic and research

can contribute: expertise, laboratories, curricula, pilot cases, and technology validation

obtains: real technology transfer, access to data, applications, and long-term partnerships

Private and investment

can contribute: co-financing, technology, operation, market access, value chain integration, and commercial scale-up

obtains: early access to flagship projects, regional services, and an applied innovation ecosystem

Proposed Stage I mechanism

- Mireșu Mare Commune: asset-holding and institutional promoter for public projects
- Cluster: aggregation platform, partnership governance, and portfolio development
- Universities and research: applied design, validation, training, and technology transfer
- Companies and investors: co-financing, technology, operations, market access, and demonstrator cases

Immediate partnership needs: technical co-definition, institutional validation, access to funding, technology suppliers, service operators, and partners for pilot projects.