

# ROMANIA



Surface: 238.391 km<sup>2</sup> (the 9th-largest in the EU)

Population: 19,5 million inhabitants (the 7th-largest in the EU)

Capital: Bucharest (2.1 million inhabitants)

EU member starting from 1<sup>st</sup> of January 2007

National currency: LEU (RON)

Official language: Romanian

Administrative organization: 8 Regions





# IND-AGRO-POL cluster

*Innovative products and global value chains integration!!!*

- ESCA Accreditation: Silver
- Field of activity: Agro-industry and related sectors (bio-economy, ICT applied in agro-industry, environment and climate changes linked to agro-food, smart materials used in agro-industry, renewable energy based on agro-industry waste and energetic crops)
- Founding member of Romanian Cluster Association – CLUSTERO; Coordinator of Bucharest Ilfov Clusters Consortium
- Cluster structure: 76 companies; 7 universities; 17 RDI entities; 3 public bodies; 19 catalysers (1 bank)
- Members from 7 regions of Romania → 7 regional pillars: Bucharest, Pitesti, Timisoara, Cluj, Iasi, Ploiesti, Buzau
- Cluster organization: IND-AGRO-POL Association (ONG)
- Quantitative figures: Cluster turnover (eur): **284.951.916** (at the level of companies); Employees: **over 3300**
- Projects: National RDI funds – INDAGRO project, COSME – PROSME project, H2020 – PROSME-INN project, Interreg Europe – CLUSTERIX 2.0, New Models of Innovation for Strategic Cluster Partnerships; Interreg Danube - Danube S3 Cluster, Transnational Cooperation of Clusters active on Agro-Food, based on Smart Specialization Approach in Danube region.
- RDI objectives: SMART AGRICULTURE; FUNCTIONAL FOOD; INDUSTRY 4.0
- Cluster manager: PhD.Eng. Cornelia Muraru Ionel,
- Address: 6 Ion Ionescu de la Brad Blv, Bucharest, RO

# Cluster landscape in Romania (1/2)



- **2009** - the **first cluster policy in Romania** as part of the industrial policy
- **2010 - 2012 - Romanian Cluster Mapping** (in collaboration with GTZ Germany) and the projects INOVCLUSTER I + II launched by the Ministry of Economy - Directorate for Industrial Policy (dissemination of the cluster concept in the 8 development regions and elaboration of the Guide for implementation of the cluster concept; benchmarking of strategies, policies and instruments focused mainly on clusters )
- **2011 - CLUSTERO – Romanian Clusters Association** was founded to support clusters development and internationalization (42 members today)  
[www.clustero.eu](http://www.clustero.eu)
- **2017-2018 - A new Industrial Policy document** based on the National Competitiveness Strategy 2014 - 2020 and the Regional Smart Specialization Strategies; **Cluster Policy is part of the Industrial Policy**;
- **2019 - 59 clusters labeled by ESCA** with: gold - 3; silver - 11 and bronze-45; 5 regional consortia; 2 sectoral networks;
- **Economic sectors:** automotive, high tech; **agro-food**, energy, aerospace, mechatronics, creative and cultural sectors, tourism, ICT, health and medical sciences, constructions, maritime, textiles, furniture, green energies, logistics  $\implies$  **today clusters have a cross-sectoral approach**

# Cluster landscape in Romania (2/2)



- **Clusters are initiated in Romania by both approaches: business-driven/ research-driven or by national/ local public administrations**
- Both **approaches: "bottom-up" or "top-down"**
- **Cluster organization: NGO**
- **"Four clover Model"**: business – RDI - public authorities - catalyst institutions but recently banks became members in clusters
- Clusters are **well aligned with the modern approaches** of:
  - Cross-fertilization
  - Open innovation 2.0 which depends on the strong interaction between RDI entities, the dynamic entrepreneurship, civil society and the policy framework support (public administration)
  - Circular economy
- The main **challenges** for the Romanian clusters:
  - Integration in **global value chains**
  - **innovation** (Romania is a modest innovator in Europe)
  - **internationalization**
  - **Trust**: building trust is critical for cooperation and involves focusing on strengths, adding value and connecting the right people in certain expertise domains
  - number of **SMEs**:
    - 51,36% of the enterprises have directed at least 1% of the total **investments towards innovation** in 2018;
    - **only 1320 SMEs are members of clusters**

# Innovation actors support Romanian clusters

Linkages between innovation actors are very important for the **innovation ecosystem**.

**Ministry of Research and Innovation** is in charge of RDI and financing of innovative clusters (national funds; SF)

**Ministry of Economy** is responsible for the cluster policy as part of the industrial policy

**Regional Development Agencies** are responsible for Regional **3S** and members of clusters

24 Public and Private **Universities** are members of clusters

**R&D Institutes** (public and private), **TTOs**, **training centers** are members of clusters

**SMEs need more innovation**

Clusters play an important role

in driving competitiveness, innovation and jobs creation in the Romanian regions.



# New Industrial Policy Document – 2018 edition



## Recommendations:

- Developing an **industrial policy based on the development of innovative clusters with integrated role of regional value chains**
- An integrated investment approach and the development of appropriate public support programs to **follow the value chain approach**, based on **vertical approach** and **NOT on the current "NACE code"**;
- **Bio-economy to become one of the key drivers for development of Romanian regions**, if managed with a holistic and system-based approach able to integrate industry, **agriculture**, environment, education, research, finance and the labour market
- **Bio-economy needs basic regional structures** in which resource-efficient material flows and value chains can be developed
- **Clusters** are an **excellent type of organization for bio-economy** because there are many industries involved in creation of the **bio-economy value chain**



## Some general remarks on Romanian clusters (1/2)

- **All clusters are unique** differing in objectives, strategy, number of SMEs, composition, size, priorities of development, adjustment to external circumstances, management excellence, financing etc.
- **International cooperation** is very important. **Clusters** become even more visible and attractive if they have **strong linkages with related clusters in other countries**
- **Innovation** cannot prosper in isolation and **clusters are a proper environment** where people and entities with different backgrounds work together to find answers to common challenges.
- The most pertinent **challenge for cluster policy today in Romania is to support the transformation of existing industrial value chains (fragmented) OR the emergence of new ones** FOR development of cross-sectorial emerging industries and, secondly **to support the development of world-class clusters** that can become the engines of Romanian competitiveness.

## Some general remarks on Romanian clusters (2/2)

- **Large firms mainly multinationals** (like **Maschio Gaspardo, Renault** etc.) **within clusters play a catalytic role on the supplier value chains** because they provide good conditions for high technology firms to develop and they have multiplier effects in terms of a region's local economy for materials and resources
- Internationalization means also an **efficient joint marketing and branding** to increase the cluster visibility on international level
- In Ro, **clusters** are essential, but to be effective they **need the right framework of funding, commitment and of creating an open space for cross-fertilization**
- **The Action Plan of the new Industrial Policy Document stipulates concrete measures** for financing innovation in clusters, attracting foreign direct investments, cluster management excellence, facilitating the access of SMEs in global value chains, promotion of skills development, protection of intellectual property, promotion of technological upgrading etc.



# Instruments used by the Romanian clusters

- **DG GROWTH:** European Cluster Collaboration Platform and European Cluster Observatory; Clusters Go International and Clusters of Excellence (COSME); Enterprise Europe Network; European Cluster Weeks; SME Internationalization Portal
- **DG RTD:** Horizon 2020 - (3 pillars ) and SMEs instrument (no so much util now)
- **DG Regio:** Interreg Europe/ Danube- **DG EAC:** Erasmus+, Creative Europe, Erasmus for Entrepreneurs
- **DG Markt:** Joint Cluster Initiative under Single Market Program
- **ESCA - European Secretariat for cluster analysis**
- **International Networks: TCI**
- **Network of clusters from Balkan and Black Sea Regions**
- National Network: Romanian Cluster Association - CLUSTERO
- Regional/sectoral Network: e.g. Consortium of Clusters from BI Region
- **Cluster financing:** own sources (e.g. member fees), services (e.g. innovation/ technological/ competence mapping audits), SF: COP, Regional Operational Programme (e.g. TTOs); National RDI Funds

# Clusters and Smart Specialization



- **Clusters are used today as tools to implement the Regional 3S and the national 3S** (RDI strategy which set priorities for smart specialization) in order to build competitive advantage by developing and **matching R&I strengths to business needs** in order to address emerging opportunities and market developments in a coherent manner.
- **3S should be promoted at all levels in Ro. Clusters are integrated in the Regional 3Ss and in the National RDI Strategy**
- **Identified objectives in smart specialization strategies:**
  - driving cooperation with academia and growth **accelerators; science parks;**
  - **Technological incubations, smart cities to promote entrepreneurship** in emerging industries;
  - facilitating (cross-sectoral) linkages to **support the emergence of common roadmaps and new value chains;**
  - facilitating **trans-national strategic partnerships;**
- **Helping deliver better and more targeted SME support etc.**



# Romanian clusters active in agro-food sector

**Bucharest Ilfov Region (head quarter), South Muntenia regional pillar**

**IND AGRO POL (Silver label) [www.inma.ro/indagropol/](http://www.inma.ro/indagropol/)**

**South Muntenia Region**

**BIOCONCEPT VALEA PRAHOVEI [www.bioconceptvaleaprahovei.ro](http://www.bioconceptvaleaprahovei.ro)**

**West Region**

**IND AGRO VEST (bronze label) [www.sviluppoinsiemevince.ro](http://www.sviluppoinsiemevince.ro)**

**North West Region**

**AgroTransilvania Cluster (gold label) [www.agrocluster.ro](http://www.agrocluster.ro)**

**South West Region**

**Agro Pro Oltenia (bronze label) [www.adroltenia.ro/clustere/](http://www.adroltenia.ro/clustere/)**

**Central Region**

**AGRO FOOD REGIONAL CLUSTER (silver label)**

**[www.agrofoodcovasna.ro](http://www.agrofoodcovasna.ro)**

**South East Region**

**Bio Danubius (bronze label) [www.biodanubius.ro](http://www.biodanubius.ro)**

# What are KETs and why are they important for the Romanian agro-food clusters?



- KETs: micro and nano-electronics, **nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies**
- KETs have applications in multiple industries and help tackle societal challenges
- Countries and regions that fully exploit KETs will be at the forefront of creating advanced and sustainable economies
- **KETs provide the basis for innovation** in a wide range of industries such as automotive, **food**, chemicals, electronics, energy, pharmaceuticals, construction, and telecommunications. **They can be used in emerging and traditional sectors.**
- **THE FUTURE OF ECONOMY WILL BE DIGITAL** (e.g. **Industry 4.0, Precision Farming**, etc.). Stimulating smart technology assimilation across all economic sector value chains, promoting enterprise growth and **clusters 4.0** is critical to Romania's competitiveness.

# Clusters 4.0

- **The concept of clusters 4.0 is related to Industry/Agriculture 4.0**, how clusters can be used to efficiently capitalize on new technologies and service offerings **that lead to digital transformation**, where everything becomes interconnected and smart farms, factories, machines, production systems, and actors across value chains.
- Clusters 4.0 calls for development of a generation of advanced cluster policies to respond to these new industrial challenges by facilitating cross-sectoral value chains, fostering internationalization, stimulating inter-regional investment and accelerating entrepreneurship and skills in digital production, environmental production, circular economy, service innovation and creative economy;
- **Bottlenecks in Ro:**
  - Fragmentation of public support services;
  - No so much private investors;
  - Insufficient added value support services;
  - Offering of services instead of demand analysis;
  - Absence of a **digitization culture**;
  - Lack of **specific skills**.



# Role of Ro regions in cluster policy and development



- **Clusters are important actors in the regional innovation system;** there is an **gap between the 8 regions** - i.e. in some regions all clusters are part of the innovation eco-system and they gained gold, silver or bronze label; in other regions clusters are not very active in the regional development
- **Focus areas in CLUSTERO – Ro Cluster Association:** clusters excellence, open Innovation and regional development (facilitating **cross-sectoral** linkages to support the emergence of common roadmaps and **new value chains**; facilitating **trans-border strategic partnerships** to scale up existing opportunities/potentials);
- **Regional Development Agencies play an important role** in elaborating bthe Regional 3S, establishing the Regional smart priorities, developing new tools for supporting clusters and their members, project development, supporting SMEs to go abroad etc.



# CLUSTERIX 2.0 NEW Models of Innovation for Strategic Cluster Partnerships, INTERREG EUROPE, Draft Action Plan

The efforts of the INMA (Romanian partner of Clusterix 2.0 project) with the support of the entire project consortium (leader – Ecoplus Austria) was set on **2 directions** :

- Changing of the cluster financing scheme under SF so that it fits cluster needs;
- Elaboration of a “bridge” cluster scheme, one smaller one, dedicated to strengthening cluster management on its way towards excellence and financed by the Ro RDI funds.

Representatives of the **two Ministries** (RDI – SF, RDI policy; Economy – cluster policy) **took part in project activities** (especially exchange of experience)

They identified a number of **inspiring ideas from across the project partnership** and turned them into ‘bridge’ cluster scheme under the National RDI Plan 2015-2020 dedicated to cluster management aimed at setting up the cluster RDI agenda.

# POLICY INSTRUMENTS ADDRESSED:

## Policy instrument addressed :

### **1. The Competitiveness Operational Program (COP), SF:**

Type of project: Innovative cluster – aims to stimulate innovation, the action targets the innovation clusters development in order to promote the joint use of equipment, exchange and knowledge transfer, networking, information, dissemination and collaboration among the enterprise and other organisations from the cluster.

### **2. The National RDI Plan III :**

Type of project: Innovative Clusters - type aims at increasing the competitiveness of enterprises which are cluster members by efficient use resources and development of innovative products, technologies and services coming out of the RDI activities jointly undertaken at cluster level



# ACTION 1 (1/4):

**Action 1** : Support to the preparation of the 2<sup>nd</sup> call under the ERDF OP Competitiveness Cluster Program:

## 1.1 Challenge :

- Adapting the guide off applicants to the cluster needs
- Need of learning from best practice of the management authority body experts.

## 1.2. Description of Action :

Action 1 has two objectives:

O1: to convince the Management Authority of ERDF OP Competitiveness Cluster Program to launch a new call after the quasi-failed 1<sup>st</sup> call in 2015;

O2: to review the guide of applicants according to the cluster needs in order to ensure the success of the 2<sup>nd</sup> call.

# ACTION 1 (2/4):

Following **steps** are being followed:

Step 1: Elaboration of the point of view of CLUSTERO – Romanian Clusters Association in terms of changes to the Guide of Applicants

Step 2: Participation of the management authority/intermediate body experts to CLUSTERIX 2.0 project meetings.

Step 3: Organization of regional/national events with participant of management authority/intermediate body where CLUSTERIX 2.0 best practices have been presented, such as:

- the 6<sup>th</sup> Romanian National Cluster Conference, Galati, October 2017;
- 7<sup>th</sup> Romanian National Cluster Conference, Bucharest, November 2018;
- 3<sup>rd</sup> Winter Informal Meeting of CLUSTERO, Piatra Neamt, February 2018.

Step 4: Support to the elaboration of the new guide of applicants (2018).

Step 5: Launching of the call (expected 2019)

Step 6: Accompanying new projects and share learning(2019-2023)

# **ACTION 1 (3/4):**

**Monitoring of results (until 2023 and beyond).**

## **1.3. Players involved :**

**ERDF OP Competitiveness MA;  
Intermediate Body for Research and Innovation;  
Romania Cluster Association;  
Romanian clusters**

## **1.4. Funding sources :**

**ERDF OP Competitiveness**

## **1.5. Monitoring :**

**The clusters will report to the MA both on project and programme indicators.**

# ACTION 1 (4/4):

## Relevance of CLUSTERIX 2.0/ Lessons learned :

### WG CMO Services :

- IDM South Tyrol finances through the dedicated cluster program the competence mapping of cluster companies
- Competence Mapping is a very comprehensive business audit building upon the identification of existing resources in order to determine new horizontal/vertical development opportunities for the company
- In elaborating the Guide of Applicants, both business reviews, innovation audits and competence mapping have been listed as eligible activities in order to trigger innovative developments at cluster level.

# **ACTION 2 (1/2):**

## **ACTION 2 : Elaboration of the Cluster “Bridge” Scheme under National RDI Plan III**

### **2.1. Challenges:**

- Low level of innovation in SMEs of Romanian clusters
- Need to strengthen strategic planning at cluster level.

### **2.2. Description of Action :**

Step 1 : Development of concepts (2016-2017)

Step 2 : Elaboration of the guide (2017)

Step 3 : Launching of the call (January 2018)

Step 4 : Accompanying new projects and share learnings (2018-2020)

Step 5 : Monitoring and evaluation : until 2020 and beyond

# ACTION 2 (2/2):

## 2.3. Players involved :

- Ministry of Research and Innovation
- Executive Unit for Funding of Higher Education and Research (UEFISCDI) (the Romanian Innovation Founding Agency)
- Romanian Cluster Association
- Romanian clusters.

## 2.4 Monitoring :

Clusters implementing projects report every year on project and programme indicators.

# ACTION 3 (1/2):

## ACTION 3 : Support to excellent cluster management

### 3.1. Challenges:

- Need to diversify the spectrum of services towards the members, in particular with respect to innovation and internationalization
- Relative low strategic planning skills at the level of the cluster management
- Need to develop long term sustainable business models

### Relevance of CLUSTERIX 2.0 / Lessons learned :

- The Working Group CMO Services provided a strong input to the elaboration of cluster management training curricula to be envisaged by the Romanian Cluster Association in the Following period.

### 3.2. Description of Action :

Step 1 : Assessment of cluster management training needs (2019)

Step 2 : Cluster Management Training (2019)

Step 3 : Elaboration of a long term cluster management training programme

# ACTION 3 (2/2):

## 3.3. Players involved :

- INMA
- Romanian Cluster Association – CLUSTERO
- Romanian clusters

## 3.4. Costs :

- Cluster Management Training:
  - clusters own resources
  - projects under the National RDI Plan III “bridge” scheme

## 3.5. Funding sources :

National RDI Plan III, own resources

## 3.6. Monitoring :

Number of cluster managers trained

Number of ESCA labels

Number of CLUSTERO accredited clusters.



## INDAGRO PROJECT

INDAGRO – Strategic RDI Agenda of IND-AGRO-POL CLUSTER project is funded by National RDI Plan (PN III)

Project type: Innovative cluster - cluster organization development

Project beneficiary: CMO

Region of implementation: South Muntenia Region (through SM regional pillar of IND-AGRO-POL cluster)

Project period: 2018 - 2020

Project value: 413,500 lei out of which 350,000 lei from the state budget, 63,500 lei own contribution

The project team: 11 experts from the cluster members

- Identifying of sources and opportunities for cluster and inter-cluster innovation
- Innovation audits at the cluster members (companies)
- Technological audits – competence mapping at the cluster members (companies)
- Establishing the main joint products / technologies / services and their main characteristics offered by cluster members, through interdisciplinary and cross sectoral collaboration
- Market studies for the main joint products / technologies / services / processes offered by cluster members
- Establishing of RDI objectives of cluster
- Elaboration of Strategic RDI agenda of cluster
- Foresights on existing resources at the level of cluster members
- Action plan of the cluster Strategic RDI agenda and necessary resources
- Training for CMO (on cluster management) and cluster members – companies (on innovation)
- Cluster Internationalization Strategy
- Cluster TTO – in SM region
- ESCA – Silver label
- Joint ISI/BDI papers

# COOPERATION IS THE KEY OF OUR SUCCESS!



**Thank you  
for your attention!**

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