



Interreg



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Danube Transnational Programme

DanuBioValNet

Regional cluster landscape Croatia

WP3 Value Chain Mapping

Activity 3.2 Cluster Mapping

Output 3.2 Cluster Mapping as an Analytical Tool

D3.2.1 Regional cluster landscapes and one entire cluster landscape for Danube Region

***Cross-clustering partnership for boosting eco-innovation
by developing a joint bio-based value-added network for the Danube Region***



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CLUSTER MAPPING FACT SHEETS

In the following the cluster mapping results of selected clusters and cluster initiatives in Croatia in the field of Eco-Construction, Bio-based Packaging

and Phytopharmaceuticals are presented. Besides the mapping as such, additional informations are given about age, size, key objectives etc.

ECO-CONSTRUCTION

Names of cluster organisations/initiatives:

- The Croatian Competitiveness Cluster for Wood Processing
- The Croatian Wood Cluster
- The Wood Cluster Slavonian Oak

Short Description of the cluster/cluster initiative:

- **The Croatian Competitiveness Cluster for Wood Processing** - Established in 2013 by the Government (bottom down approach); operates on national level; works by the principle of triple helix model; oriented on forestry, wood-processing industry and related subjects from academia and policy level; Its members cover the entire value chain of the wood-processing industry (the cultivation of wood and its logging, the subsequent processing and production of products with high

added value) to support services, development cooperation and education); has 30 relevant members in wood-processing/furniture/eco-construction (78 members in total).

- **The Croatian Wood Cluster** - Established in 2013 by the companies (bottom up approach), operates on national level, oriented on forestry, wood-processing industry and energy from wood; performs numerous activities (specialized events, sectoral magazines, education, lobbying, etc.); 76 relevant members in the field in wood-processing (furniture/eco-construction) (86 members in total)
- **The Wood Cluster Slavonian Oak** - Established in 2010; operates on regional level (Vukovarsko-srijemska County), 16 relevant members in the field in wood-processing (31 members in total).

Cluster Visual Map of value chains:

The cluster map visual presentation sample is in figure below.



- 1 **The Croatian Competitiveness Cluster for Wood Processing** - its members cover the entire value chain of the wood-processing industry (the cultivation of wood and its logging, the subsequent processing and production of products with high added value)
- 2 **The Croatian Wood Cluster** - members include sawmills, wood-based panels producers, laminated chipboard, furniture from solid wood, wooden furniture, doors, windows, prefabricated houses, biomass and pellet producers
- 3 **The Wood Cluster Slavonian Oak** - members include sawmills, wood-based panels producers, laminated chipboard, furniture from solid wood, wooden furniture, doors, windows, biomass and pellet producers.

Picture 1: Value chain visualisation – Hrvatski Klaster



Numbers indicate amount of companies in the respective value-adding step.

Services offered by cluster organisation/cluster initiative:

Active participation in the communication between business, public and other organizations in the frame of optimal management. Support of the innovative, entrepreneurial and educational activities of their members.

List and short description of other key actors in bioeconomy including those with strong cooperation between SMEs and research in your region/country:

• Leading clusters:

- The Croatian Competitiveness Cluster for Wood Processing
- The Croatian Wood Cluster
- The Wood Cluster Slavonian Oak

• Key industrial leaders:

- **ANTE MIJIĆ - QUERCUS d.o.o.** - sawing logs, drying of sawn-timber, carving friezes for parquet flooring and ship construction elements, the newest in company is plant for the production of biomass.
- **ARDOM d.o.o.** - a wide selection of types of wooden houses built from logs will satisfy all your needs and desires, whether you are looking for a holiday home or a house to live in.
- **CEDAR d.o.o.** - producing and exporting primarily beech timber
- **CIPRIJANOVIĆ d.o.o.** - produce furniture, solid wood panels and wood briquettes
- **DISPAČVA d.d.** - 5 factories: sawmill, hardwood sawmill, final, furnace factory and bioenergy factories. Product from Slavonian oak
- **DOMET d.o.o.** - production and assembly of passive and low energy houses
- **DRVENE KONSTRUKCIJE d.o.o.** - production of laminated wooden constructions
- **DRVO TRGOVINA d.o.o.** - sale of wood assortments
- **DRVOPROIZVOD d.d.** - production line of multilayered and massive floors made of

oak, beech and ash: high quality wood with controlled origin.

- **GEC GP d.o.o.** - sawn timber (boards, beams, laths, elements according to customer specification) from high quality fir, spruce, pine and ard
- **JAVOR d.o.o.** - wood assortment of all stages of processing, from logs to final products
- **PROSTORIA d.o.o.** - production of furniture
- **LOKVE d.o.o.** - production of windows and balcony doors in variants of wood and wood/aluminum
- **MMM-VUKELIĆ d.o.o.** - production of cut materials, veneers, veneered panels, classical parquet, flooring, veneered and solid doors, exterior joinery and piece furniture
- **PAN PARKET d.o.o.** - the manufacturer of three-layer parquet
- **PILANA ŠANTEK d.o.o.** - sawmill
- **HRVATSKE ŠUME d.o.o.** - state raw material provider
- **Competent research and academia:**
 - Faculty of Forestry, University of Zagreb
 - Pannonian Competence Centre for Wood
 - North-West Croatia Regional Energy Agency
 - Croatian Chamber of Forestry and Wood Technology Engineers
 - Energy institute Hrvoje Požar
 - Croatian Forestry Institute
 - Faculty of Architecture, University of Zagreb
 - Faculty of Civil Engineering, University of Zagreb
 - Faculty of Textile Technology, University of Zagreb
- **Important policy and decision makers:**
 - Ministry of Agriculture
 - Croatian Parliament - Committee for Agriculture
 - Ministry of Economy, Entrepreneurship and Crafts
 - Ministry of Regional Development and EU Funds
 - Ministry of Construction and Physical Planning
- **Other key relevant stakeholders:**
 - CROBIOM - Croatian Biomass Association
 - Croatia Green Building Council

ADVANCED BIO-BASED PACKAGING

Names of cluster organisations/initiatives:

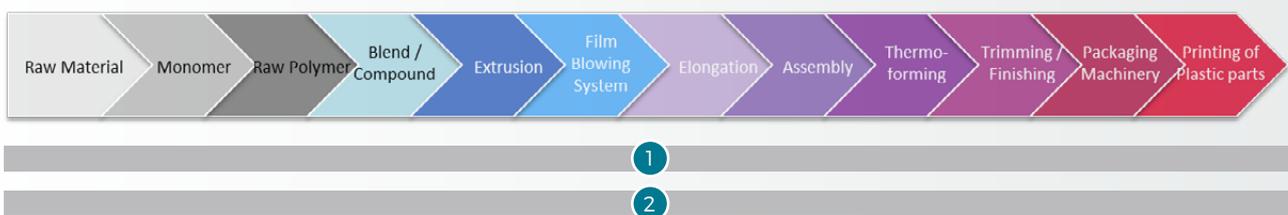
- Cluster of Chemical, Plastic and Rubber Industry, representative of business institutions, scientific and research organizations and public sector.
 - **Established year:** 2013
 - **Location:** Zagreb
 - **Number of Members:** 24
- The Association of Plastics and Rubber Industries, established by the Croatian Chamber of Commerce.

Short Description of the cluster/cluster initiative:

The Association of Plastics and Rubber Industries includes members registered under NCEA C 20.16 and 22 i.e. manufacturers and processors of plastic and rubber. Companies are mainly small and medium-sized enterprises.

Cluster Visual Map of value chains:

The cluster map visual presentation sample is in figure below.

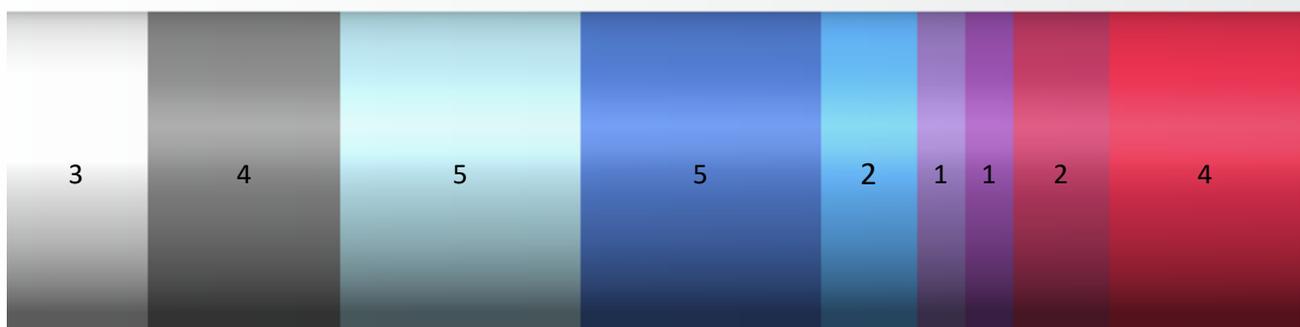


- 1 Currently, biopolymer production remain rather scarce in Croatia, There are only a few companies in the market that in the processing of polymers have also started to use biopolymers mainly for the production of packaging, i.e. foils and bags. Less than 1% of total production. (PE from sugar cane). All needs for the biopolymers are satisfied from importing mainly Italy and Germany.
- 2 Cluster map present the plastic material production. According to the production of polymers in Croatia some technological capacities could be easily adapted to the bio-polymer production.

Picture 2: Value chain visualisation – Hrvatski Klaster

Hrvatski Klaster/Bioplastic

- | | | | |
|---------------|----------------------|---------------------|---------------------------|
| Raw Material | Monomer | Raw Polymer | Blend/Compound |
| Extrusion | Film Blowing System | Elongation | Assembly |
| Thermoforming | Trimming / Finishing | Packaging Machinery | Printing of plastic parts |



Numbers indicate amount of companies in the respective value-adding step.

Services offered by cluster organisation/cluster initiative:

- Representing the interests of the plastics and rubber industries of the Republic of Croatia
- Increase the competitiveness of this industry branch through the development and improvement of production
- Promoting the reputation of the scientifically-based plastics industry
- Promotion of sustainable development and assistance in solving the problems of waste disposal of plastic and rubber

List and short description of other key actors in bioeconomy including those with strong cooperation between SMEs and research in your region/country:

- **Leading clusters:**
 - no Biopolymers/Bioplastic organization/association

Key industrial leaders:

- MURAPLAST
- Mi.Plast
- Eco Cortec

Competent research and academia:

- Faculty of Chemical Engineering and Technology,
- Ruđer Bošković Institute,
- Faculty of Food Technology and Biotechnology,
- Faculty of Natural Sciences
- Faculty of Mechanical Engineering and Naval Architecture

Important policy and decision makers:

- Ministry of Economy, Entrepreneurship and Crafts
- Ministry of Agriculture, Ministry of Environment and Energy

PHYTOPHARMA

Croatian Competitiveness Cluster for Food processing sector was established in 2013 in Zagreb and it is an umbrella cluster on the policy level. It represents a networking and cooperation platform for different business subjects aiming to improve food processing sector competitiveness in the Republic of Croatia. It is comprised of recognized business subjects and public, private and business institutions, scientific and research community stakeholders and professional and business associations (67 members).

One of the most relevant member in the area of phytopharma is **EUVITA Cluster**, association in the field of organic production and processing, fruit, vegetables and medicinal plants production in particular on the natural cosmetics, natural medicine and nutrition supplements. According to the membership structure of the EUVITA cluster covers a wide area of the country.

Cluster Visual Map of value chains:

The cluster map visual presentation sample is in figure below.



- 1 Cultivation of aromatic and medical plants. A part of the production is associated to the collecting of wild plants, while a part is related to cultivation - 90% chamomile, and the rest are mostly lavender 5%, sage, immortelles, menthe, Melissa. Production is fragmented and is not organized.
- 2 The processing is in the form of teas, essential oils, hydrolytes, base oil, tinctures, natural cosmetic, dietary supplements. Some firms have their complete process production, from cultivation, harvesting to primary production.

Picture 3: Value chain visualisation – Hrvatski Klaster

Hrvatski Klaster/Phytopharma



Numbers indicate amount of companies in the respective value-adding step.

Services offered by cluster organisation/cluster initiative:

- assistance in the organization and financing of cooperative production, processing and distribution (placements) of joint and other products
- link with scientific research organizations on joint projects for research and development of new markets and technologies, fostering innovation of products and services and innovation processes of joint products and funding through EU funds
- fostering the development of conventional production and processing by introducing new eco-technologies and concepts of sustainable development and creating conditions for the development of organic production and processing for final products
- preparation of conditions, organization and increase of competing ability of ecological production and processing of fruits, vegetables and medicinal herbs
- lco-ordination of finding business partners, exploring possibilities for co-operation and joint ventures,
- lorganization of exchange of experience and transfer of knowledge and technology

List and short description of other key actors in bioeconomy including those with strong cooperation between SMEs and research in your region/country:

• **Leading clusters:**

- there is no leading cluster in the phytopharma industry in Croatia

• **Key industrial leaders:**

There are several large pharmaceutical companies:

- Pliva,
- JGL

- Belupo

and smaller producers like:

- Genera
- PharmaS
- BioPharm
- Yasenka

• **Competent research and academia:**

- Faculty of Pharmacy and Biochemistry, University of Zagreb
- Faculty of Food technology and Biotechnology, University of Zagreb

- Faculty of Chemical Engineering and Technology, University of Zagreb

- Faculty of Agriculture in Osijek, JJS University of Osijek

- Faculty of Food Technology Osijek

- The Ruđer Bošković Institute is regarded as Croatia's leading scientific institute in the natural and biomedical sciences as well as marine and environmental research

- Faculty of Chemical Technology, University of Split

- BIOCentar

• **Important policy and decision makers:**

- Ministry of Health

- The Ministry of health's National Institute of Public Health

- Ministry of Economy, Entrepreneurship and crafts

- Ministry of Agriculture

- Ministry of Science and Education

• **Other key relevant stakeholders:**

- Croatian Chamber of Economy

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