Interreg

Danube Transnational Programme

DanuBioValNet

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

Pavla Bruskova

National Cluster Association – CZ

www.nca.cz

Project co-funded by European Union funds (ERDF, IPA)

14 Project Partners + **2** Associated Partners
10 Countries

Start date: 1.1.2017
End date: 30.6.2019

Germany
- BIOPRO Baden-Württemberg GmbH
- ClusterAgentur Baden-Württemberg
- Ministry of Economic Affairs, Labour & Housing Baden-Württemberg

Czech Republic
- National Cluster Association

Austria
- Upper Austria

Slovenia
- Ministry of Science
- Anteja ECG

Croatia
- Ministry of Economy, Entrepreneurship and Crafts
- Croatian Wood Cluster

Slovakia
- Prounion

Romania
- Ministry of Economy
- Clustero
- Institute of Economical Forecasting

Bulgaria
- Association of Bulgarian Clusters

Serbia
- Institute of Mechanical Engineering

Montenegro
- Vinecluster of Montenegro

Germany · Czech Republic · Slovakia · Ukraine · Austria · Hungary · Moldova · Slovenia · Croatia · Romania · Bosnia and Herzegovina · Serbia · Montenegro · Bulgaria

■ Danube Transnational Programme area

Project co-funded by European Union funds (ERDF, IPA)

2

The establishment of the **National Cluster Association (NCA-CZ) in 2008** as a non-profit association of individuals and legal bodies **with the goal to:**

◆ ensure coordinated and sustainable development of cluster initiatives in the Czech Republic

◆ advocate cluster organisations and their interests towards the government

◆ align with the European Commission policies & actions

◆ facilitate cluster internationalisation and transfer of the best practices into and outside the Czech Republic

www.nca.cz

NCA - the partner in the European projects:

DanuBioValNet (Interreg Danube)

KETGATE (Interreg Central Europe)

Mission:
„The National Cluster Association creates a long–term and competent platform for the development of cluster initiatives within the Czech Republic and an active interface for their internationalisation."

HELPING CLUSTERS TO CLUSTER

3

Cluster – the phenomenon, basis of competitive advantage and regional specialisation
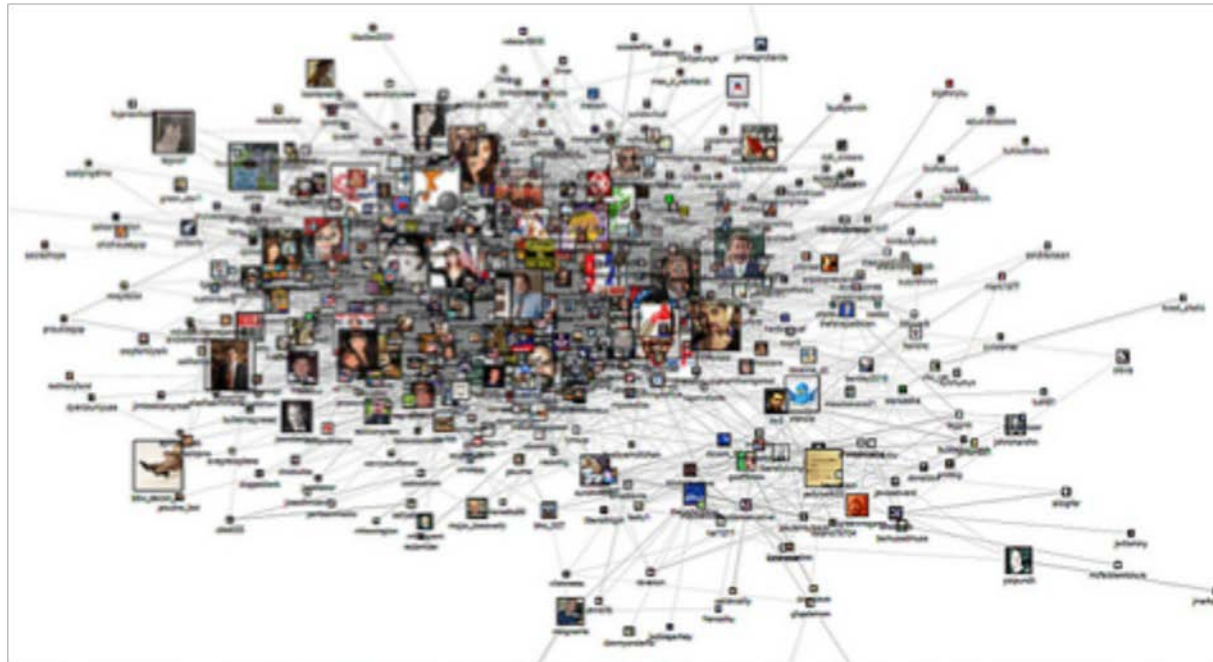
Cluster is a **geographical concentration** of interconnected **companies**, **specialised suppliers**, **service providers** and related **institutions** in a **particular field** and firms in **associated areas**, which **compete** but also **cooperate**, have **common features** and **complement** each other. *(Professor Michael E. Porter, Harvard Business School*

CLUSTERS ⇨ CLUSTER INITIATIVES ⇨ CLUSTER ORGANISATIONS

National Cluster Association - members

Cluster organisations

APPLIED RESEARCH AND TECHNOLOGIES
- CzechBio
- MedChemBio
- NANOPROGRESS

ENERGY, MATERIALS, MANUFACTURING
- ATOMEX Group
- CREA Hydro&Energy
- Czech Machinery Cluster
- Czech Stone Cluster
- Czech & Moravian Glass Cluster
- Cluster of Czech Furniture-Makers
- Cluster of Precise Machinery Vysočina
- Cluster Mechatronics
- ETIK
- EWIC
- HK Metal Cluster
- Industry Cluster 4.0
- Moravian Aerospace Cluster
- Moravian-Silesian Automotive Cluster
- Plastics Cluster

ICT & SAFETY & SECURITY
- Safety Technology Cluster
- Hi-tech Innovation Cluster
- IT Cluster
- Network Security Monitoring Cluster

AGRICULTURE, CREATIVE INDUSTRY
- Cluster of Applied Biotechnologies
- Regional Food Cluster
- Zlin Creative Cluster

Development, education and innovation infrastructure

- BizGarden, Brno
- PRODO-SERVIS, Ostrava
- Regional Development Agency of the Ústí Region
- RERA – Regional Development Agency of the South Bohemian Region
- Palacký University in Olomouc, Science Technology Park and Business Incubator
- Tomas Bata University in Zlin, Faculty of management and economics
- Technology Centre, Academy of Science of the Czech Republic

⇒ 450 companies, 50 educational institutions, 11 R&D institutions
⇒ More than 170 000 employees
⇒ Turnover more than €17,3 billion

Project co-funded by European Union funds (ERDF, IPA)

DanuBioValNet project

- The transition of a fossil-based to a bio-based economy addresses one of the main challenges in the Danube Region.

- Only 10% of chemical feedstock base consists of renewable materials (sugar, starch, cellulose, oils and fats, etc.).

- The Danube Region possesses huge biomass resources, knowledge and technologies for bio-based materials and has strong application sectors that would benefit from bio-based innovations.

- Due to a missing holistic transnational approach in the Danube region, actors in bio-based industry operate disconnected, important bio-based VCs are not established.

- The infrastructure of clusters enables business development and industry modernisation through **critical mass**, **collaboration**, **connectivity**, **joint learning and innovation processes.** The value chain basis of clusters and their **potential to generate the value chain innovation** is one of the most important features in this context.

DanuBioValNet - objectives

- **Building awareness** of bioeconomy and biobased industries in the Danube Region;

- **Identify** and **connect** key actors from different regions and industries in four value chains:

  ADVANCED-PACKAGING - **ECO-CONSTRUCTION** - **PHYTOPHARMA** - **HEMP INDUSTRY**

- **Bring potential partners together** and enable them **to cooperate** - matchmaking events, awareness workshops, Open Space Innovation Arena)

- Identification and benchmarking of **programmes and funding schemes** for biobased industry; the launch of the **BioBased-InnovationExpres**s - synchronised pilot scheme among the partners, incl. funding rules, e.g. on international cooperation of clusters.

- Setting up the **Danube Cluster Policy Maker Forum** – policy frame of the implementation of the **Joint Bio-Based Cluster Policy Strategy** and its Action Plan to improve the framework conditions for clusters to cluster / SME cooperation along bio-based VC across regions.

Realized project activities

Kick-off conference of the DanuBioValNet project – 30 March 2017, Prague

- More than 100 participants from 12 countries

Capitalisation event in November 2017, Bucharest, Romania

Phytopharma Day, in December 2017 in Stuttgart, Germany

Awareness workshops in Bulgaria, Slovakia, Austria, Czechia

Project co-funded by European Union funds (ERDF, IPA)

Realized project activities

Cluster Mapping and **Value Chain Mapping -** eco-construction, phytopharma, biobased packaging. **Outputs:** Regional reports and the Danube synthesis reports
www.interreg-danube.eu/approved-projects/danubiovalnet/section/synthesis-value-chain-mapping-reports

ECO-CONSTRUCTION

Characteristics:

- traditional wood-processing, furniture clusters - strong industry in the Danube Region

Problems

- prevailing regional orientation of the companies
- low export
- lack of labour forc*e*

Opportunities

- Hemp buildings, hemp concrete

Eco Construction in Europe
Location Quotient 2014

Location Quotient
- up to 0,50
- 0,51 - 1,00
- 1,01 - 1,50
- 1,51 - 2,00
- more than 2,00

Project co-funded by European Union funds (ERDF, IPA)

9
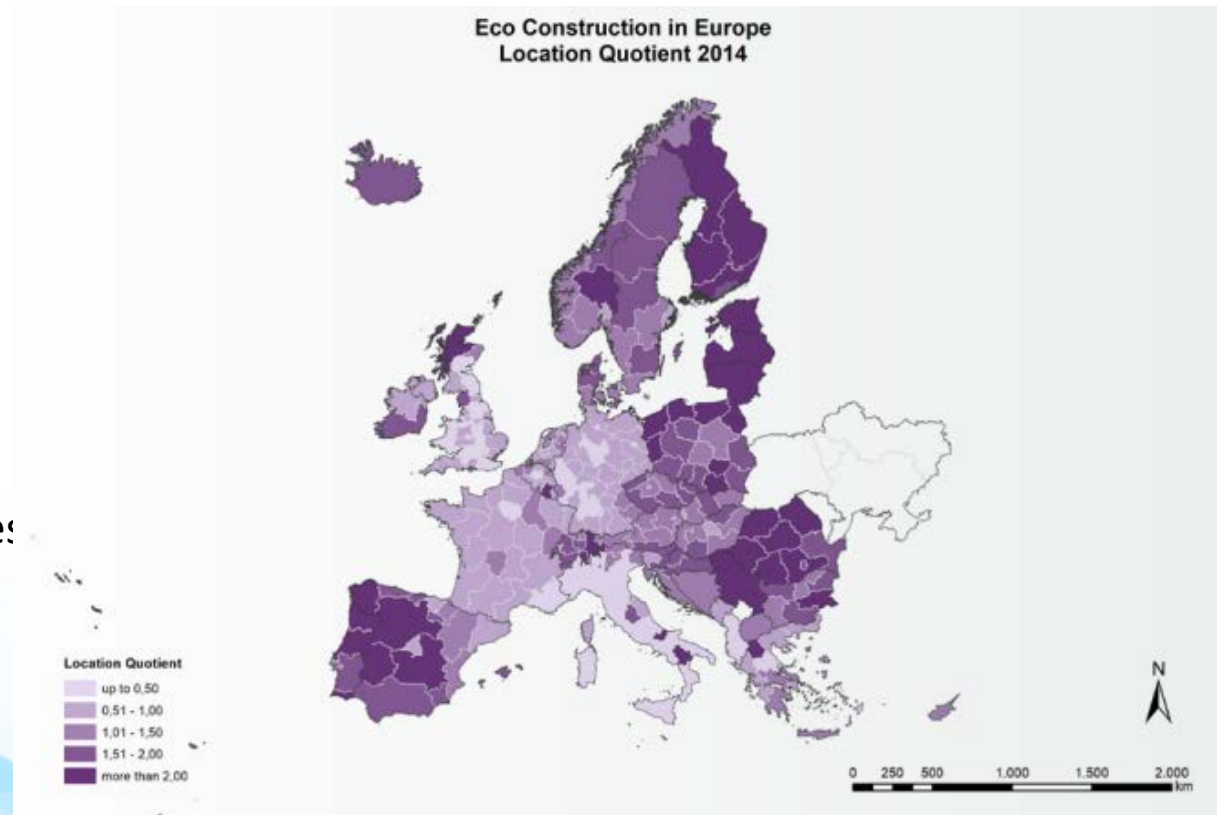
BIOBASED PACKAGING

Characteristics:

- young industry, small number of companies, big potential in DR

- resource material is imported from abroad (FR, D, GB, USA)

- customers are international companies (Nestle, Lego)

Problems:

- high price of input material (bioplastic granulate) and bioplastic products

Opportunities:

- food industry packaging and luxury goods

Bio Packaging in Europe
Location Quotient 2014

Location Quotient
- up to 0,5
- 0,51 - 1,00
- 1,01 - 1,50
- 1,51 - 2,00
- more than 2,00

0 250 500   1.000   1.500   2.000 km
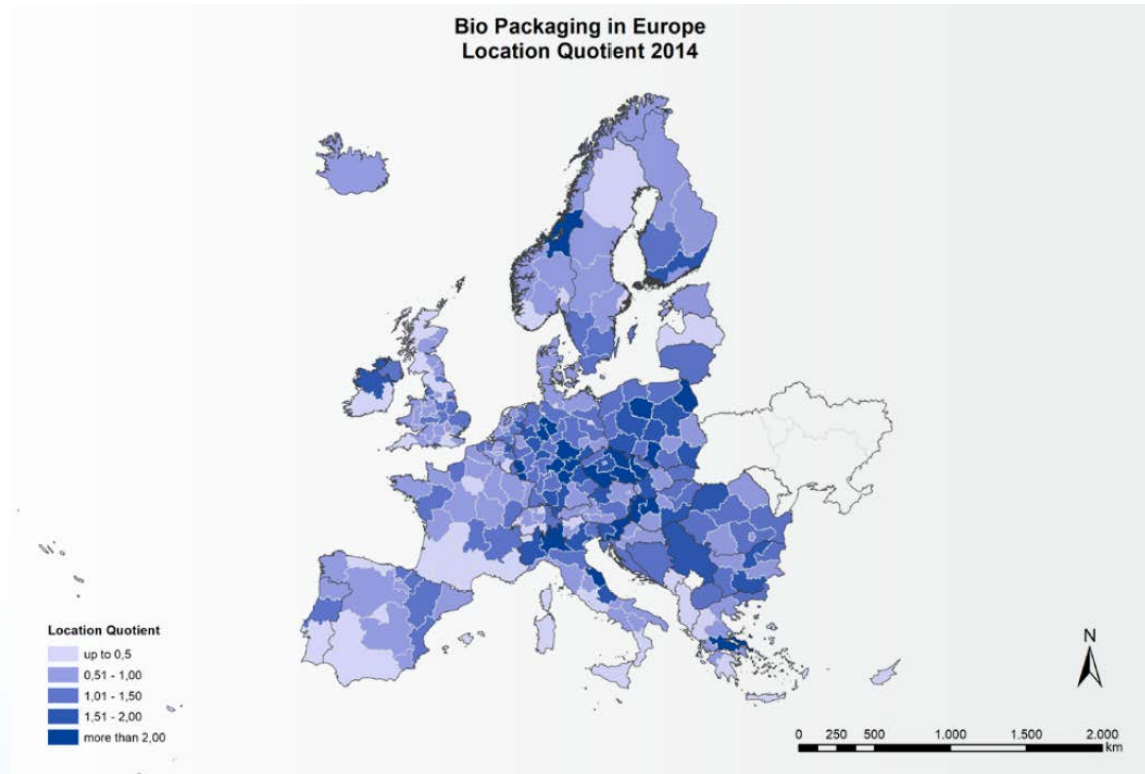
Realized project activities

PHYTOPHARMA

Characteristics

- big concentration in DR, e.g. rose oil (BG)

Problems

- Growers: lack of technologies and labour force, uncoordinated collecting of wild-growing plants, societal issues (condition of collectors of wild-growing plants in Eastern Europe)

- Manufacturers: focus on R&D (repurposing of medical plants), huge interest of pharmaceutical companies in processing of medical plants, opportunities for international export/import

Phytopharmaceuticals in Europe
Location Quotient 2014

Location Quotient
- up to 0,50
- 0,51 - 1,00
- 1,01 - 1,50
- 1,51 - 2,00
- more than 2,00

Project co-funded by European Union funds (ERDF, IPA)

11
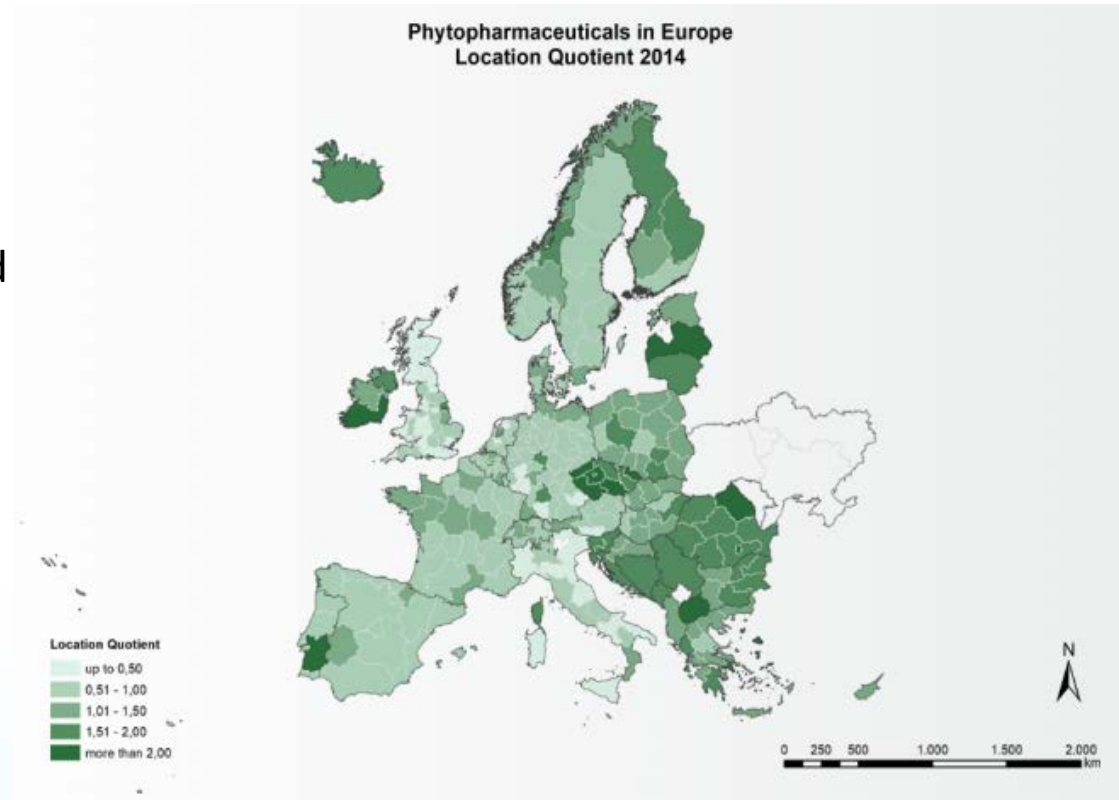
The Danube Hemp Cluster Initiative

- Agronomic potential of hemp production is huge in the Danube countries.

- **The hemp industry can serve as a demonstration model for** the **bioeconomy fostering through hemp clusters** in the Danube region countries

- **Broad scale of exploitability** covering both technical and medical cannabis

MODERN USES FOR THE HEMP PLANT

Industrial Textiles	Paper
Twine	Printing paper
Rope	Fine/Speciality paper
Nets	Filter paper
Canvas	Newsprint
Tarps	Cardboard/Packaging
Carpets	
Geotextiles	
Agro-fiber composites & molded parts	
Brake/Clutch linings	
Caulking	

Bast Fibers

Building Materials
Fiberboard
Insulation
Fiberglass substitute
Cement
Stucco & mortar

Foods
Salad oil
Margarine
Food Supplements (vitamins)
Cooking oils

Industrial Products
Oil Paints
Varnishes
Printing inks
Fuel
Solvents
Lubricants
Putty
Coatings

Hurds (pulp)
Animal bedding
Mulch & compost

THC
Medicine
Recreation
Sacrament

LEAVES   **FLOWERS**

Consumer Textiles
Apparel
Diapers
Fabrics
Handbags
Denim
Shoes
Fine Fabrics

STALK

Hempseed Oil

SEEDS

Personal Hygiene
Soap
Shampoo
Bath gels
Cosmetics
Lotions
Balms

Foods
Granola
Birdseed

Agricultural Benefits
Weed Suppression
Less need for pesticides than most crops
Pollen isolation
Soil improvement in crop rotation
Deep roots are natural soil aerators

HEMP

Seed Cake
(whole plant)
Boiler Fuel
Pyrolysis Feedstock

Animal feed
Protein-rich fiber

CELL FLUID   Abrasive Chemicals

12

Stimulation of hemp cluster initiative

- **Multi-sectoral cluster approach**
  - Increase of the agronomy potential of hemp
  - R&D, new technologies and innovative applications in hemp growing and processing
  - Manufacturing of final products
  - Regulatory measures, legal unification
  - Education, awareness and promotion

- **Hemp cluster network development in the Danube Region**
  - Identification of key hemp actors and the hemp industry strengths in the partner regions;
  - Facilitation of cluster organisations establishment and their mobilisation for internationalisation
  - Inclusion of the hemp experts in the project activities
  - Interconnection of hemp clusters for **cross-country and cross-sectoral collaboration** in the three value chains of the project: Phytopharma, Biopackaging, Eco-construction and beyond (textile, paper, food, medicine, ….)

Cross-regional Cooperation

The DanuBioValNet project shall demonstrate that eco-innovations, new business opportunities, new investments will improve long-term access to materials and opens doors to cross-regional long-term partnerships through:

- Meetings, matchmaking, brokerage, etc. with other clusters **to develop international business, knowledge transfer and R&D cooperation** - cross-sectoral approach (feedstock base, processing infrastructure, innovation and R&D)

Project co-funded by European Union funds (ERDF, IPA)

14
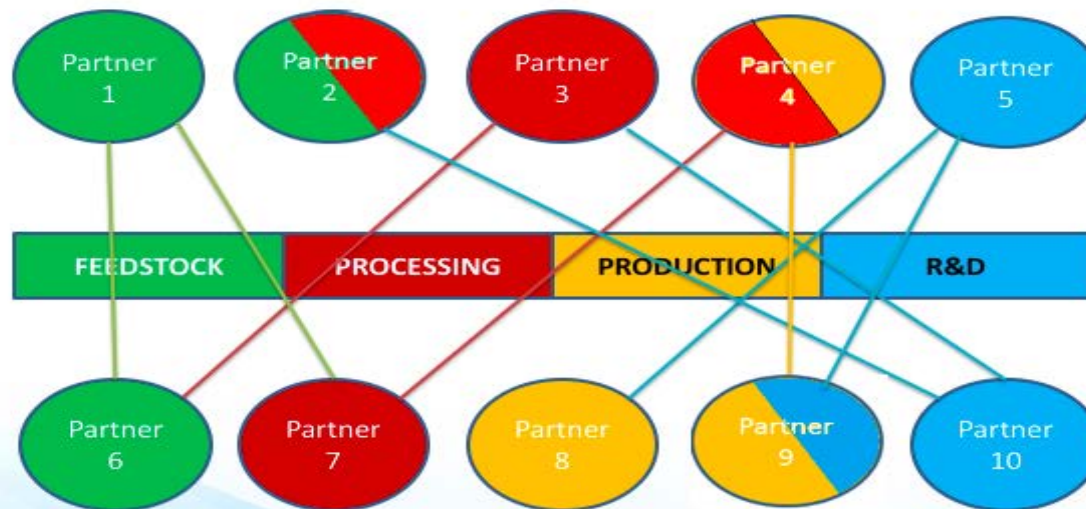
Czech Bioeconomy Platform

NCA invites policy-makers, experts, scientists, business people and practitioners to participate in the informal

CZECH BIOECONOMY PLATFORM

with the purpose to:

– The continuous building of the bioeconomy awareness in the Czech Republic

  - **The best practice so far: The South Bohemian University's Bioeconomy Course**

  - **The DanuBioValNet project**

– Identification of inter – sectorial communication tools to develop bioeconomy (agriculture – industry – R&D)

  - **The model of the hemp industry development**

THANK YOU FOR YOUR ATTENTION

Official project web:
http://www.interreg-danube.eu/approved-projects/danubiovalnet

DanuBioValNet

Project co-funded by European Union funds (ERDF, IPA)