Applying Triple Helix concept to develop wood sector in Vukovar-Srijem County

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The Danube Region potential towards the development of bio-based economy partnerships
Thematic parallel session 2: Materials and Environmental Technologies
Applying Triple Helix concept to develop wood sector in VSC

Vukovar-Srijem County

• Eastern most Croatian county, covering an area of **2448 km^2**, accounting for **2,8%** of Croatian territory

• Forest areas cover **69.383 ha**, which makes **28,7%** of the county area

• Total wood stock is approx. 19 mil m^3 with average wood stock **344.000 m^3** of gross wood mass, managed by „Hrvatske šume“, Administration Vinkovci
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Sustainable forestry

• Spačva basin - largest oak forest in Europe
  o Natura 2000
  o 51,000 hectares (40,000 in Croatia/VSC)
  o 96% of famous Slavonian oak
  o *lat. quercus robur, cro. hrast lužnjak – slavonski hrast*
  o Slavonian oak from Spačva basin – best of the best
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Croatian wood processing sector

• Long tradition
  o first water-powered sawmill was founded in 1428 and
  o first furniture factory in 1884
  o most known products were oak planks from Slavonian sawmills

48% of Croatian territory (2,5 mil ha) forests and forest land
53,000 employees in forest based industries
10,4% of Croatian export – export of wood industry
Wood industry and forestry generate 3% of Croatian GDP

Wood industry in Croatia has growth potential, but for competitiveness on world's level, new technologies and new products with high added value are needed.
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VSC wood sector

SLAVONSKI HRAST wood cluster

- [www.slavonski-hrast.com](http://www.slavonski-hrast.com)
- founded in 2010 by VSC
- 33 members
- Triple helix:
  - university
  - industry
  - government
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Faculty of Forestry, Croatian Forest Research Institute

25 companies
> 1250 employees

Vukovar-Srijem County local government units
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- Faculty of Forestry, University of Zagreb
- 200 employees
- Forestry division
  - 6 departments
  - 9 laboratories
  - 5 training and research centres
- Wood technology division
  - 5 departments
  - 10 laboratories
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• Croatian Forest Research Institute
• 87 employees
• 6 scientific divisions
• 5 laboratories
• 3 regional research centres
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Spačva – biggest wood producing company

- www.spacva.hr
- 778 employees
- producing doors, floors, furniture, veneer, pelets etc.
Land of the Oaks
VUKOVAR-SRIJEM COUNTY (CROATIA)

SLAVONIAN OAK wood cluster was founded in 2010 by Vukovar-Srijem County. 31 cluster member from wood industry, education institutions, government units and business supporting institutions are dedicated to be builders of sustainable bio-economy.

Our mission is sustainable growth, environment protection and raising competitiveness of forestry based industries by efficient use of unique natural forest resources.

Our final products are doors, floors, veneer, light aircraft, furniture, pelets etc.

www.slavonski-hrast.com
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Vukovar-Srijem County
http://www.vukaz.hr/
Vukovar-Srijem County forest area makes 28.7% of its territory. Tradition in wood processing, existing resources of quality raw wood material, significant percentage of forest territory and largest oak forest in Europe make Vukovar-Srijem County green county with sustainable bio-economy, renewable energy sources, natural environment and humans health protection - desirable place to live and work in.
Visit Vukovar-Srijem County http://www.visitvukovar-srijem.com/

Vinkovci
http://www.vinkovci.hr/
European oldest town continually inhabited more than 8300 years with famous hunting lodge and forest “Kunjjević”

Otok
http://www.otok.hr/
The door of Spačva forest basin with special forest “Lože” and significant landscape of watercourse “Virovi”

Forestry Museum
Unique museum of lowland regular forests displaying a long tradition of organized forestry in Vukovar-Srijem County

www.sisarka.com/
Croatia’s biggest pelet producer

http://www.spacva.hr/en/
Croatia’s biggest veneer producer

Spačva forest basin
Spačva basin in Vukovar-Srijem County (Croatia) is the largest integrated complex of low land oak forest in Europe with 96% of world-famous Slavonian Oak (cro. slavonski hrast)
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PROBLEM

• Export of high quality raw material and semi-finished products outside the VSC and Croatia despite of existing local manufacturing capacities and the market for final products,
• lack of local use of available renewable energy sources of biomass and energy products (exporting pellets),
• use of imported fossil fuels (gas, mazut) that increase energy dependency of VSC, Croatia and the EU,
• unnecessary increasing of CO₂ emission and transportation costs with transporting raw materials, biomass and energy products outside of VSC and Croatia,

make long-term damage to the environment and economy of the

  o Vukovar-Srijem county,
  o Croatia and the
  o European Union.
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SOLUTION

• Entrepreneurial discovery process (S3) – mapping of
  - entrepreneurial needs for RDI
  - existing research and scientific capacities

• Linking them by triple helix institution:
  - Danube Transfer Centre / Competence centre SLAVONSKI HRAST
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Danube Transfer Centre
SLAVONSKI HRAST

- established by Vukovar-Srijem County (government)
- using existing RDI capacities (university)
- to meet the needs of companies (private sector)
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Danube Transfer Centre SLAVONSKI HRAST

- platform for the research and development in wood sector
- encourage constantly developing competencies
- conduct scientific research and encourage their commercialization
- encourage cooperation between scientific community and entrepreneurs
- promote development and applied research
- create a foundation for continuous transfer of technology and knowledge,
- provide entrepreneurs with advanced business support services in order to improve the level of added value of their products
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**CONCLUSION**

- In the area of VSC there are no scientific and research capacities that can meet the development needs of strategic development sector. In accordance with the directives and strategies of the European Commission, Croatia and VSC, smart use of locally available resource is possible by establishing a transfer of knowledge and technology through a triple helix institution

    Danube Transfer Centre SLAVONSKI HRAST

- **Business needs** for research and innovation and the existing **scientific and research capacities** have to be permanently connected by the involvement of public sector, in accordance with triple helix concept (**private sector - public sector - scientific sector**), by enabling efficient management of the institution for the transfer of knowledge and technology
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Thank You for Your attention!

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