

Project Code:	DTP1-072-1.1	Document type:	Deliverable: LAP
Project start date:	01/01/2017	Project end date:	30/06/2019

Made in Danube

Transnational Cooperation to transform knowledge into marketable products and services for the Danubian sustainable society of tomorrow

Deliverable

Local Action Plan for Competence Centre - Wood Sector

Due date of deliverable: 31/12/2017

Actual submission date: 29/12/2017

Document Control Sheet

Work package Number	WP3
Work package Title	Framework Conditions
Activity Number	T3.3
Activity Title	Common Strategy for Local Action
Deliverable Number	D3.3.2
Deliverable Title	LAP for Competence Center – Wood Sector
Dissemination level	Public
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Quality Assurance	Pannon Business Network Association (PBN)

Versioning and Contribution History

Version	Date	Author/Editor /Reviewer	Contributors	Description/Comments
_v01	DD.MM.YYYY	Koch	Ambros	August: Meeting with local initiative
_v02	12.10.2017	Koch, Schallar	Devic, Ambros	Version “Budapest”
_v03	06.11.2017	Koch, Schallar	Boskovic, Devic, Ambros	“Version Input from local initiative”
_v04	20.11.2017	BOKU	HRAST, CEKOM, UTC-N, UM	Version to be sent to Quality Control (1st draft)
_v05	04.12.2017	Review: PBN	Andrea Enyingi-Kurucz	Quality Control
_v06	12.12.2017	BOKU	HRAST, CEKOM, PBN UTC-N, UM	2nd draft
_v07	19.12.2017	BOKU	HRAST, CEKOM, PBN UTC-N, UM	3rd draft (including feedback SEZ)
_final	29.12.2017			

Document last saved on	29.12.2017
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List of Abbreviations

AF	Application Form
AN	Activity Number
BOKU	University of Natural Resources and Life Sciences, Vienna
CEKOM	Centar kompetencija d.o.o. za istraživanje i razvoj
CIP	Continuous Improvement Process
DTC	Danube Transfer Center
HRAST	Agencija za razvoj Vukovarsko-srijemske županije HRAST d.o.o.
JRC	Joint Research Centre (European Commission)
LAP	Local Action Plan
MiD	Made in Danube
NUTS-3	Nomenclature des unités territoriales statistiques (=Nomenclature of territorial units for statistics, 3: covering small regions)
RDI	Research Development Innovation
RES	Renewable energy sources
RTO	Research technology organisation
WP	Work Package

2 Executive Summary

This local action plan is one of the deliverables in the project “Made in Danube”, part of the Interreg Danube Transnational Programme. Goal of the project is to improve framework conditions for the cooperation of SMEs and research organisations (RTO) in order to develop marketable products and services in the Danube region.

The European Commission’s Joint Research Centre has identified bio-economy as an innovation-driven part of society which could have positive impact on many other areas too. In specific forestry, sustainable agriculture and bioenergy were identified as priority areas. This is why the “Made in Danube Project” chose in each of these priority areas one local initiative as pilot action. They should serve as test areas and develop into innovation hubs, generating know-how that can be transferred to parts of the Danube region too.

The Vukovar-Srijem County was chosen as one of the pilot action areas. Being a region with a traditionally strong background in forestry (origin of the Slavonian oak) the local initiative “Competence Centre – Wood Sector” is planned as such an innovation hub, developing to a regional centre for sustainable forestry and a regional hub for companies and RTOs in the wood sector. Besides, this part of Croatia is also an important agricultural region and active in the fields of renewable energy sources (RES), which gives the initiative a broader scope, making it a player in bio-economy in general.

The local action plan gives background information on the region but also a first analysis on the strengths and weaknesses. The whole local action plan is based on a process called “continuous improvement process”. Central steps within the process are the planning of tasks, Implementation of tasks and the reflection on results. A peer consultation and feedback step supports the following step of the adaptation of tasks. By this a continuous cycle of tasks is installed in order to lead to improved results.

The task list for the local initiative comprises among others steps of analysis, concrete measures to improve competitiveness of the region, develop new products and to initiate new projects. A central role plays the implementation of the “Wood Technology Centre project”.

Conclusion and recommendations state how important it will for the future of the region that leaders and policy makers recognise the potentials of the Vukovar-Srijem County and give society and SMEs of the region financial support to develop a strong bio-economy.

Target group of the plan is the local initiative, which should use it as a working instrument (introduction of continuous improvement process, task list). Apart from that the local action plan plays an important role within the “Made in Danube” project: Together with the results of the questionnaire it serves as basis for elaborating a roadmap related to framework conditions. Based on the roadmapping and the policy dialogue results a common strategy will be developed which has the goal to bring R&D results on the market. To relevant stakeholders in the region the LAP will serve as an information source, where they will find a concise overview of the initiative’s activities, it’s goals and it’s environment.

3 Introduction

3.1 Project “Made in Danube”

The project “Made in Danube “ ‘s aim is to improve framework conditions for innovation in the Danube region. It hereby focuses on the capabilities of the region’s SMEs and the collaboration of research organisations and these companies.

Within the project 3 regional initiatives were chosen as pilot areas in order to develop innovation hubs in bio-economy in three different fields: sustainable forestry, smart agriculture and bioenergy.

3.2 Project context EU & Croatia

“Sustainable forestry” is also among the priority areas identified for the Danube territory by the European Commission’s Joint Research Centre (JRC) (MiD p.1).

The EU Strategy for the Danube Region (EUSDR) supports the Europe 2020 strategy by contributing to smart, sustainable and inclusive growth in the region with its different pillars. In pillar “C) Building Prosperity in the Danube Region” the priority area 8 foresees “to support the competitiveness of enterprises, including cluster development”. Among the proposed actions is “To foster cooperation and exchange of knowledge between SMEs, academia and the public sector in areas of competence in the Danube Region” (EUSDR 2017, p. 54f). “Areas with key research interest in the Danube Region could include, among others, sustainable transport solutions, risk prevention and risk management, water, climate change, forestry or eco-efficient and renewable energy, green technologies or ICT” (EUSDR 2017, p. 60). As such the EUSDR lays the basis for the “Made in Danube” project and as such is also an important foundation for the activities of the local initiative.

On September 11th, 2014 Croatian government adopted the Industrial strategy of the Republic of Croatia from 2014-2020, with food-processing industry and furniture industry as strategic activities.

The smart specialization strategy of the Republic of Croatia 2016-2020 is based on 5 thematic areas with one of them being food and bio-economy, and 13 sub-thematic areas with sustainable food production and processing and sustainable wood production and processing.

Also in 2017, the Development strategy of wood processing industry and furniture manufacturing of the Republic of Croatia 2017-2020 was adopted.

It is expected that at the end of 2017 or beginning of 2018 the Regional Development Strategy of Vukovar-Srijem County 2020 will be adopted. With new info from NUTS-3 level strategy, the LAP will be revised (NUTS = Nomenclature des unités territoriales statistiques / Nomenclature of territorial units for statistics, 3: covering small regions).

3.3 Background information on local initiative

The initiative “Competence Centre – Wood Sector” is located at the Vukovar-Srijem County. Aim of the project is to establish a wood competence centre as a regional centre for sustainable forestry and a regional hub for companies and RTOs. But there is more than just a forestry in Vukovar-Srijem County.

Agriculture and renewable energy sources (RES) have growth potential too and are therefore included in the initiative.

5.3.1. Forestry

Spačva basin (69,382 ha) is the largest habitat of common oak in Croatia and the area is one of the largest in this kind in Europe. The forest area covers 28% of the county and is characterized by an authentic Slavonian oak which makes the biological, ecological, raw and tourist capital that every day gets more value. A unique density of tree rings gives Slavonian oak special strength and makes it suitable for a fine and precise processing. Together with oak ash, elm, hornbeam can be found in the forests.

In addition to sources of high-quality wood mass, the county has a skilled workforce, a tradition of wood processing and production of finished products. SMEs, trained and skilled work force with experienced and skilled craftsmen are backbone of the wood industry of the region.

5.3.2. Agriculture

Fertile land makes up more than half of the county, a total of 146,893 hectares. The largest share of 93.01% is arable land, then 2.9% of the area is covered with pastures, while 0.65% are meadows and 1.38% of the vineyards. On the remaining 2.06% of the area, orchards are planted. The backbone of agricultural production in 2014 makes wheat sown on 32,298 ha, 25,629 ha of corn, soybeans on 20,909 ha and sugar beet on 8,218 hectares. Significant production of fruit and vegetables mainly takes place on small family farms. From 1,512 hectares of orchards planted most of the apples (453 ha) followed by cherries (309 ha) and plums (306 ha). Intensive production of vegetables was carried out on 1,941 ha and is the most common breeding pea (360 ha), consumption potatoes (307 ha), onions (305 ha), beans (165 ha), corn (162 ha), watermelon (152 ha), cabbage (83 ha), carrots (54 ha), peppers (30 ha) and onions and garlic (16 ha).

Production of wine grapes in 2014 was organized on 1,585 ha, of which 930 held by family farms (OPG) and 655 ha companies. Wine production in 2014 is estimated at 5.5 million liter of wine and cellar capacities at the level of 15 million liter. Table grapes are produced on an area of approximately 10 hectares.

5.3.3. Renewable energy sources

Having knowledge and innovative capacity specialized in wood-processing and agri-food sector, Vukovar-Srijem County is increasingly turning to new technologies. Renewable sources of energy are available throughout the county, especially solar energy, biogas, forest biomass as well as geothermal energy.

Wind Energy is also possible to use at the edge of the county, along the Danube, particularly in the towns of Ilok and Tovarnik. Solar energy is usable almost all over the county, according to data obtained from monitoring stations Vukovar, photovoltaic systems of 10 kW set at the optimum angle, without shading can produce 10,040 kWh of electricity. The potential of renewable energy sources is confirmed by the realized projects. Thus, the Vukovar-Srijem County installed about 50 solar power

plants with a total output of 400 kW. The installed biogas plants are up to 9 MW and the plan is to increase to about 15 plants with total capacity of 25 MW.

The cogeneration plant in Babina Greda almost completely forest biomass of 9.7 MW is used, 6 other projects totalling 25 MW are in preparation. It is planned to construct wind farms of 104 MW, now having to carry out further tests and measurements of the wind rose.

At locations of Babina Greda exist exceptional geothermal potential for the development and expansion of the tourist offer, but also for the development of agricultural especially vegetable production through the heating of greenhouses.

3.3.1 Relevant players in the region

3.3.1.1 *Wood Cluster SLAVONIAN OAK*



www.slavonski-hrast.com

The initiative for the Competence Centre was launched by “Wood Cluster SLAVONIAN OAK” members. In the course of the EU projects Transgrowth SEENET and ID:WOOD (SEE) the following problems were identified:

- Insufficient capacity for wood drying
- Outdated technology
- Insufficient knowledge and tracking of new technologies
- Low level of finalization
- Underdeveloped system of quality assurance
- Low proportion of research and development

The idea was further developed through the projects Danube-INCO.NET (FP7) and the project “Made in Danube” (Interreg DTP) towards establishing a Danube Transfer Centre (DTC) for bridging the gap between science and industry.

The “Wood Cluster SLAVONIAN OAK” has been founded in 2010 by Vukovar-Srijem County and now has 35 members from wood industry, academia and public sector. Forestry Faculty University of Zagreb and Croatian Forest Research Institute are the most important scientific and research institutions in Croatia in the field of forestry and wood technology. Spačva is the biggest Croatian wood producing

company with more than 850 employees. Main cluster products are doors, floors, veneer, pellets, wooden houses, furniture and others.

3.3.1.2 *Competence Centre (CEKOM)*



Centar kompetencija d.o.o. za istraživanje i razvoj was established in 2016 by Vukovar-Srijem County with a vision of becoming a leader in bio-economy – smart and sustainable use of resources. Its mission comprises sustainable development, environment protection and competitiveness rising through RDI projects.

CEKOM is part of Danube Transfer Centre network and acts now as first DTC entry point for Croatia: The foundation of a DTC in Croatia started with signing the Letter of Intent in Bucharest in 2013. At first hosted at the Vukovar-Srijem County Development Agency Hrast Ltd. (HRAST), many years of effort have been put into the creation and implementation of the DTC in Vukovar-Srijem County. The development of the DTC reached its peak on 1st March 2016, when HRAST and Steinbeis-Europa-Zentrum agreed on the implementation of the DTC within a contractual framework.

The foundation of the DTC in Vukovar-Srijem County has been initiated by Steinbeis-Europa-Zentrum (SEZ) and implemented according to the so-called Steinbeis transfer model which has been accepted as a role model for technology transfer in the Danube Region. Since the beginning of the DTC project in 2012 the model has been extensively applied throughout the Danube Area.

3.3.1.3 *Agency HRAST*



Vukovar-Srijem County Development Agency HRAST Ltd. has been founded in 2007 as a non-profit organization with a limited liability. The Vukovar-Srijem County is the only founder and owner of the organization.

The Agency has been founded in order to foster the economic development of the county. The Agency's mission is the implementation of the county's development strategy, improvement and coordination of existing development activities, and the planning of development according to the Strategy of Development of the Republic of Croatia and EU demands.

The Agency vision is “to be a dynamic and respectable institution which fosters development of Vukovar-Srijem County and provides users and the diversity of the regional environment with useful services, contents and programs”.

3.3.1.4 Vukovar-Srijem County



The Vukovar-Srijem County is located in the eastern part of the Republic of Croatia. In the East it borders with Serbia, and in the South with Bosnia and Herzegovina, so the county’s border is at the same time the state border of the Republic of Croatia, with a total length of 266,2 km of which 148,2 km are a river border along the Danube and Sava rivers, and 118 km a land border to Serbia

It covers an area of 2,448 km² and, according to the official results of the 2011 Population Census, there are 179.521 inhabitants living in this county.

The county with headquarters in Vukovar includes 5 towns (Vukovar, Vinkovci, Županja, Ilok and Otok), and 26 municipalities with 84 adjacent settlements.

The county is part of the Pannonian plain, the central part being an alluvial plain formed by the large rivers and their tributaries, consisting of loess. The area that is meliorated and prepared for intensive agricultural processing is mainly made up of fertile mould. The developed hydrographic network in the north eastern part is dominated by the Danube and the Vuka rivers, and on the south side flows the river Sava with the tributary of Bosut, in which flows the rivulets Biđ, Spačva and Studva.

The altitude of the land ranges from 78m (Spačva) to 204m (Čukala), and the altitude difference is 126 meters which makes the County a distinctly lowland flatland.

The climate is moderately continental with cold winters and warm summers. The average annual temperature is 11.2°C. The average hottest maximum is 29.9°C, and the average minimum is -12.2°C. The average annual precipitation is 660 mm.

3.3.2 Economic Potential and Development Opportunities in Vukovar-Srijem County

The economic potential of the Vukovar-Srijem County is represented by natural resources: agricultural cultivated land, forests, oil and gas deposits, sand and gravel, water flows and geographical position, as well as installed production and service capacities, high-valued human potential, and ethno and eco-values.

Soil, mild continental climate and favourable annual distribution of the precipitation of this region allow a quality agricultural production. In order to allow machine processing and high yields the arable surfaces are meliorated and re-parcelled to larger units. The main products comprise of wheat, corn, sunflower, soybeans, sugar beets, tobacco and vegetables. In livestock production, the most prevalent are pig breeding and cattle breeding.

Agricultural areas occupy 149,703 ha or 61.1% of the County area, of which 93.4% are related to arable lands. While the rest is related to pastures, meadows, vineyards and orchards.

The total forest area with the well-known Spačva basin area includes 69,398 ha, which forms 28.4% of the county's area and is predominantly represented by Slavonian oak woods, narrow-leafed ash and common hornbeam, while the infertile soil and fields of reed includes 25.674 ha or 10.5% of the County area.

The richness of available wood mass of about 19 million m³ in the county's forests and the annual yield which amounts to about 344,000 m³ of gross wood mass, are good grounds for further development of the wood processing industry, especially the production of final products and furniture.

Rich deposits of quality clay, gravel and sand allowed the development of construction industry, especially brickwork.

The great natural resources abounded by the county are oil and natural gas. Exploitation fields of oil and gas are located in the eastern part of the County (Đeletovci, Privlaka and Ilača). Annual production is about 60,000 tons of oil and about 5,5 million cubic meters of gas.

The favourable geographic position of the County, which represents a significant traffic transversal in the east-west and north-south directions, and significantly developed road, rail and river traffic, are the major advantages of this region that are related to the opening towards Eastern European markets. To tap the full potential in the future it is necessary to further develop the Zagreb - Lipovac highway, the Danube River and the Vukovar River Port.

Available agricultural areas allow intensive crop and livestock production. In the territory of the County there are well-structured capacities that require constant technological upgrading and expansion of the scope and structure of production, for production of sugar and spirit, milk and dairy products, bread-making products, meat and charcuterie products, fruit and vegetable processed products, provender and seed processing, as well as other mentioned and unmentioned capacities of private entrepreneurship that gain more and more importance.

3.4 Vision of the local initiative

3.4.1 Vision

The vision of the local initiative is to become the leader in the region in promoting and implementing bio-economy in the way of smart and sustainable use of resources.

3.4.2 Mission

Mission of the local initiative is to enable sustainable development, to protect the environment and to enhance competitiveness through research, development and innovation projects with a special focus on Bio-economy.

3.4.3 Current status & future outlook

The situation of economy in the Vukovar-Srijem County is significantly better than three or more years ago, but it is still very challenging. Hence it is necessary to launch new investment cycles, strengthen the competitiveness of local economic entities, stimulate innovation, introduce new technologies and to invest in human capital. All these activities aim at the change of the existing low-cumulative structure of the economy in favour of a newly structured economy in which the activities with a high rate of added value will prevail.

Recovery and development of the economy will create the prerequisites for solving the most pressing social problems in this county, of which depopulation and high unemployment rates are the most significant.

4 Local Action Plan

4.1 Objective of the Local Action Plan (LAP)

The LAP is one of the instruments to improve framework conditions. It offers a structure to the relevant stakeholders involved and foresees a process of continuous improvement (CIP). As the project evolves the tasks will be adapted according to the current needs as well as further tasks defined in order to lead to an improved result.

Besides being an instrument for the local initiative the LAP has a central role within the “Made in Danube” project: together with the results of the questionnaire it serves as basis for elaborating a roadmap related to framework conditions. Based on the roadmapping and the policy dialogue results a common strategy will be developed which has the goal to bring R&D results on the market.

4.2 Elements of the Continuous Improvement Process (CIP)

The different steps as shown in Table 1 comprise the following:

1. The process starts with the **definition** of the initiative and its goals. This definition should include the local goals that go in line with the overall goals of the project „Made in Danube“.
2. Based on the initiative definition an in - depth **analysis** is made
3. Definition of tasks for local action
4. **Implementation** of tasks for local action
5. **Reflection** on generated results: What are the lessons learned? Where does the initiative need amendments in order to reach the goals?

6. **Peer consultation:** Reflection on results is supported by a peer partner. Each of the three local initiatives gets support of one of the other local initiatives (on a yearly rotating basis). This support should comprise the discussion of the results, challenges met and innovative solutions found and therefore constitutes an **interdisciplinary learning** process in both directions. Regular meetings within the **DTC network** could serve an opportunity to present and reflect on experiences.

7. **Adaptation:** Based on the results of 5. and 6. a revised and extended task list is drawn up. These adaptations could also be a consequence of changes in EU policies.

8. **Reporting:** Local initiatives are often dependent on external support such as financial funding and/ or political support. Hence the report to political decision makers and other support institutions (such as clusters or partner initiatives) is foreseen as part of the process. This step is important to ensure that the legal framework is supportive and sufficient funding is secured, stakeholders are kept informed and the multiplying effect of the initiative is safe-guarded.

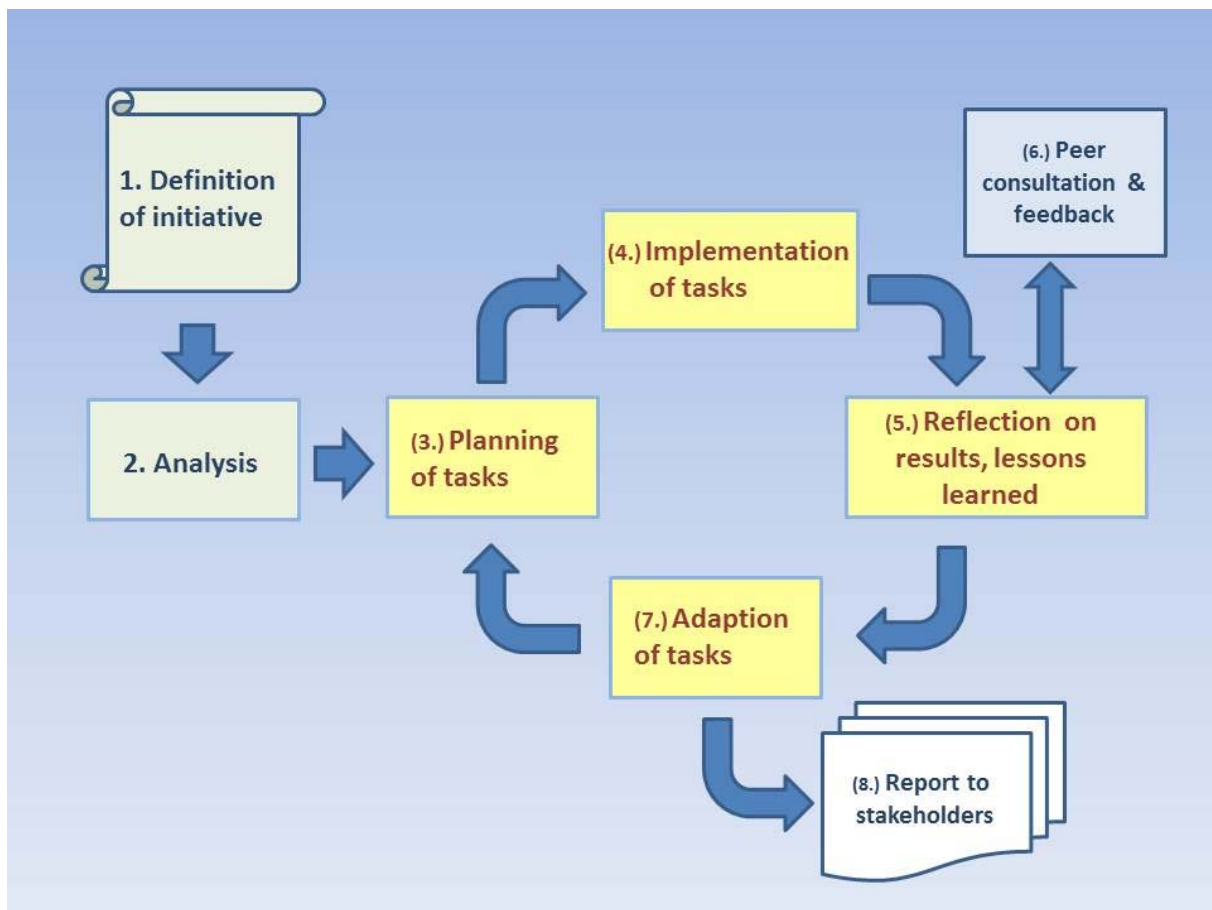


Figure 1: Overview Continuous Improvement Process (CIP)

In order to ensure a continuous and therefore sustainable process it is crucial to fix the following parameter in each step:

- what should be done

- who should do it
- until when
- which resources are necessary, which are available

4.2.1 Durability & transferability

As a continuing planning and implementation instrument the process does not end with the report to stakeholders (8.), but goes on with the planning of new and improved tasks (3.). This introduced process strengthens durability and quality standards. Experiences gained in the three local initiatives which serve as pilot areas will serve as basis to develop implementation plans for other initiatives in the Danube region.

4.3 Local Action Plan - Competence Centre – Wood Sector

4.3.1 Summary of local situation

During the working meetings with the representative of the local initiative of Vukovar-Srijem County the following opportunities, challenges and threats were identified:

4.3.1.1 *Strengths & Opportunities*

- wood as a local competence (origin of “Slavonian oak”)
- special know how in processing the Slavonian oak
- cluster as a linking point for regional and interregional partners (SMEs, RTOs)
- acting as knowledge base in the field of sustainable forestry and wood processing
- creating an environment that is attractive for SMEs to settle in the region
- activities of cluster and SMEs could attract skilled labor force to stay in the region or move there

4.3.1.2 *Challenges & Threats*

- wood is a raw material with „long production time“ (= limited supply)
- planning reliability of regional wood supply is limited
- effects of climate change on the supply of Slavonian oak (drought)
- wood supply for local production depends also on international wood markets
- widening the scope (knowhow, supply) that goes beyond Slavonian oak – reducing the supply risk by using other types of wood
- investment is needed for new technologies
- lack of skilled workforce, high emigration rate of trained workers

4.3.2 Task list Vukovar-Srijem County

The definition of tasks and responsible persons has to be carried out on a local level in order to ensure that local knowhow and expertise is fully taken advantage of. The discussion of tasks and results should involve different stakeholders, such as project and network partners to make the process as efficient and results as sustainable as possible.

The task list is not a stand-alone work tool, but one element within the project's activities that serve the overall project goal. Therefore, when fulfilling a task during the implementation phase, it is important to bear in mind which of the objective(s) should be reached by it.

Within the Made in Danube project several tasks have already been defined. Based upon the identified need for further analysis, an in-depth framework analysis will be carried out, by:

- Conducting interviews with SMEs
- Conducting Interviews with HREs
- Conducting Interviews RPAs

Besides, workshops and working meetings will complement the gathering of information. This information will serve as a basis for the following steps:

1. Potential analysis of the regional SME's innovation capability
 - a. Conduct Innovation Audits
 - b. Identify Technology offers
 - c. Identify technology requests
2. Growth of business network of regional players in the Danube Region
 - a. Initiation of five new innovation partnership agreements (IPA)
 - b. Initiation of ten new co-operation agreements (CA)
3. Documentation and dissemination of knowledge:
 - a. Pilot implementation of the LAP for Competence Centre – Wood Sector Final Report

The final report on the implementation of the LAP may be the final point of the official "Made in Danube" project, but should serve as a boost for the future activities of the initiative.

Following tasks are already planned, are discussed or could lead to the realisation of vision of the Competence centre:

No.	AIM	TASK	WHO	WHEN	Ressources	Comments	J
1	Framework analysis	Conducting Interviews with SMEs	HRAST	30.09.2017	MiD		
2	Framework analysis	Conducting Interviews with HREs	HRAST	30.09.2017	MiD		
3	Framework analysis	Conducting Interviews RPAs	HRAST	30.09.2017	MiD		
4	Potential analysis of the regional SME's innovation capability	Collect Technology requests	HRAST	30.06.2019	MiD		
5	Potential analysis of the regional SME's innovation capability	Identify Technology offers	HRAST	30.06.2019	MiD		

6	Potential analysis of the regional SME's innovation capability	Conduct Innovation Audits	HRAST	31.12.2018	MiD		
7	Innovation capability potential analysis of regional R&Ds	Identify Technology offers	HRAST	30.06.2019	MiD		
8	Growth of business network of regional players in the Danube region	Initiation of new innovation partnership agreements	HRAST	30.06.2019	MiD		
9	Growth of business network of regional players in the Danube region	Initiation of new co-operation agreements	HRAST	longterm	MiD		
10	Documentation and dissemination of knowledge	Pilot implementation of the LAP for Smart Forestry Final Report	HRAST	30.06.2019	MID		
11	Development of technological infrastructure, new technologies	Encouraging project proposals for the development of technological infrastructure and the use of new technologies	Cluster/ Vukovar-Srijem County	31.12.2020	to be identified	proposition for the county development strategy	
12	Increase of RES production in the region	Encouraging the production of RES	Vukovar-Srijem County	31.12.2020		resources are not identified up to now	
13	Increase of RES usage in the region	Encouraging the use of production residues	Vukovar-Srijem County	31.12.2020		resources are not identified up to now	
14	Increase the international experience of young employees	Encouraging of job exchange activities within the Danube region	Vukovar-Srijem County	31.12.2020		resources are not identified up to now	
15	Use of natural materials in play areas	Innovative training on design, installation and maintenance of safe and challenging play areas	HRAST	2018.	SAFERPLAY (Erasmus+)		

16	New products	Development of new products with HER institutions	Cluster/CEKOM	2020.	to be identified	resources are not identified up to now	
17	Branding of Slavonian Oak	Branding of Slavonian Oak	Cluster/Vukovar-Srijem County	2020.	to be identified	resources are not identified up to now	
18	Smart and sustainable use of local raw wood material for rural development	Establishing a hub as a part of European Network of Regions On Sustainable WOOD mobilisation	CEKOM	2019.	ROSEWOOD (H2020)		
19	New products - doors	Innovative new products development of doors from Slavonian oak	Spacva	2019.	ERDF		
20	Competence Centre for Slavonian Oak	Writing project proposal for Competence Centre for Slavonian Oak	Spacva/Cluster	2020.	ERDF		
21	Project proposal for Seed Money Facility	Writing project proposal for Seed Money Facility	CEKOM	2017.	Interreg DTP		
22	Project proposal for Interreg Central Europe	Writing project proposal for Interreg Central Europe	CEKOM	2018.	Interreg Central Europe		
23	Project proposal for H2020	Writing project proposal for H2020	CEKOM	2018.	H2020		

Table 1: Current status of task list

It is foreseen that additional tasks will be added, as well as actual tasks will be revised by the external experts for external consultation, seeking new projects ideas for the initiative and writing project proposals for suitable EU and/or National funds.

4.3.3 Details on implementation “Wood Technology Centre project”

Wood Technology Centre is the infrastructure project of Vukovar-Srijem County and Wood Cluster SLAVONIAN OAK together with Forestry Faculty from Zagreb University and Carpentry and technical secondary school Vinkovci. Building permit has been obtained on the location of Business zone Ambarine, Municipality Gradište in Vukovar-Srijem County.

Wood Technology Centre will address identified problems of SME’s in wood sector:

- Insufficient capacity for wood drying

- Outdated technology
- Insufficient knowledge and tracking of new technologies
- Low level of finalization
- Undeveloped system of quality assurance
- Low proportion of research and development

Wood Technology Centre will have:

- laboratory for product quality testing
- workshop for new products development with 3D technology
- CNC machine,
- drying capacities,
- boiler on biomass,
- presentation hall and offices.

Having in mind the fact that wood-processing industry is a strategic sector and one of the driving forces of an economic development in the region, potential development and capacities upgrading are of crucial importance. In the primary wood sector, Croatia remains a strong exporter, however most of the value added processing is being undertaken abroad. Therefore, Croatia has a large unused potential of exporting high value added wood products.

The only way of competitiveness increment of companies in the wood sector is to: encourage innovations and new technologies transfer, strengthen export potentials and to improve companies' knowledge and skills at all levels.

Wood Technology Centre project aims to provide support to all stakeholders by enhancing sustainable competitiveness of the Danube region's wood-processing industry.

In order to be competitive, the region's wood-processing industry will have to increase innovation capacities, effectiveness of technology transfer, implement quality and environmental standards, and improve its innovation circle. The project aim is to solve global objectives – innovation introduction, knowledge utilization and usage of information technologies for various kinds of industries in the Danube region.

Thus, the project purpose is to foster intensive cooperation and knowledge-exchange between industry, R&D sector and institutional stakeholders, which is a clear contribution to the EU cohesion policy by diminishing the gap between participating regions - through transfer of good practices from other trans-border regions within the EU and implementation of their ideas and precious experience.

Wood Technology Centre project fits into the 3rd Action plan pillar of the EU Strategy for Danube Region and the P8 - Competitiveness of enterprises as the project aims at:

- developing knowledge society through research, education and information technologies
- supporting competitiveness of enterprises, including cluster development
- encouraging cooperation on common projects, programs and new products development

investing in people and skills.

Images of the future Wood Technology Centre, as visualisations, follow:



Figure 2: Visualisation Wood Technology Centre



Figure 3: Visualisation Wood Technology Centre

4.3.4 Social innovations

Croatian Strategy on the development of social entrepreneurship 2014-2020 and also Innovation Strategy, both specifically mention social innovation. Key challenges for social innovation in the region are high unemployment rate and depopulation. Therefore, new knowledge and new technologies are needed for smart and sustainable use of locally available resources. With continuous technology transfer, connecting science and industry, Competence centre in Vukovar-Srijem County plans to develop new products and services and open new jobs – to decrease unemployment rate and stop depopulation process.

4.3.5 Peer consultation

First consultation partner for the initiative of Vukovar-Srijem County is the Technical Faculty of Novi Sad (Prof. Milan Martinov). In return Vukovar-Srijem will act as consultation partner for the initiative in Nitra.

Consultation should take place once a year, the first to be carried out in March 2018, at the occasion of the DTC Meeting in Nitra. A guideline for the consultation and feedback process will be provided by the BOKU beginning of 2018.

4.3.6 Reporting to stakeholders

A regular reporting to external stakeholders is recommended. This reporting serves the initiative to be known, appreciated and supported by local decision makers. Besides it can be seen as a door opener to for additional funding and a strengthening of the regional network.

In the case of the Competence Centre - Wood Sector reporting will be done to the Prefect of Vukovar-Srijem County. This will be done on a regular basis, at least once per year, since Vukovar-Srijem County is the founder and owner of Centar kompetencija d.o.o. za istraživanje i razvoj and of Agencija za razvoj Vukovarsko-srijemske županije HRAST d.o.o.. Vukovar-Srijem County is also founder of Wood Cluster SLAVONIAN OAK with 35 members from wood industry, science, education and public authorities.

4.4 Supporting Tool to Local Action Plan: Tin eTool

The DTIC (Danube Transnational Innovation Cooperation) e-tool is a specialized online platform that can be used by actors operating in bio-economy in the Danube Region, interested in converting research and innovation into applicable and market successful solutions. The instrument is available to any interested potential user under the following link:

<http://www.muri.utcluj.ro/tin-etool/index.php?page=login>

Here users can create an account and start exploring its functions, on an individual scale or as a group of potentially related organizations, such as the LAPs.

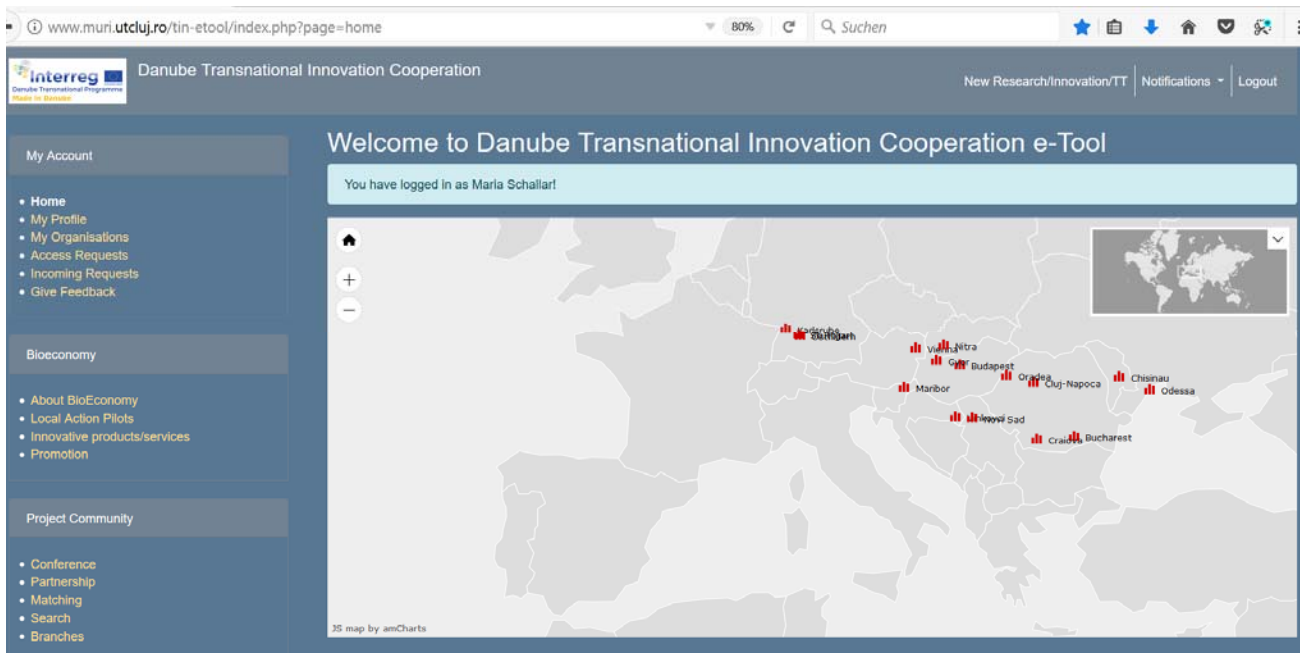


Figure 4: Screenshot Tin eTool: Welcome page

Among the most important features of the platform, the users will be able to present their knowledge offer and search for requests that match their interests and capabilities. They will be able to establish partnerships online and initiate direct collaboration or common involvement in project consortia. Also, within the platform there will be available instruments to help strengthen cooperation within the LAP, such as audio conferencing and project monitoring.

For a better connection to the developments in the field of bio-economy, the platform has a specialized section with information about the project, the LAPs, the specific tools developed by the “Made in Danube” project as well as a promotion and dissemination outlet. Also, the DTC is connected to relevant European data streams that provide useful news with applicability in their own settings. With continuous update and consistent use, the platform will offer the user organizations a quick and effective connection to a network of partners and knowledge that could help them be more competitive and achieve their missions better and have more impact.

Figure 4 and the following images show how the Tin eTool will look like:

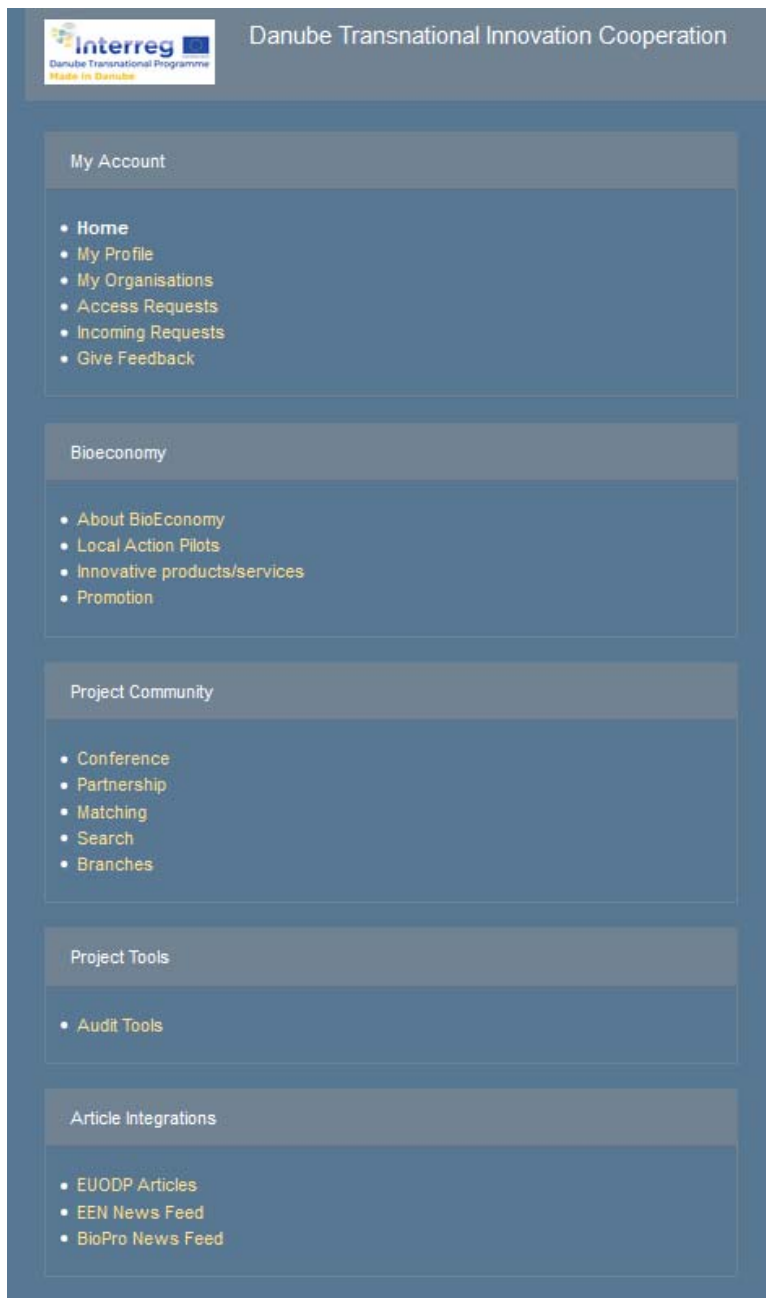


Figure 5: Screenshot Tin eTool: Menu sidebar

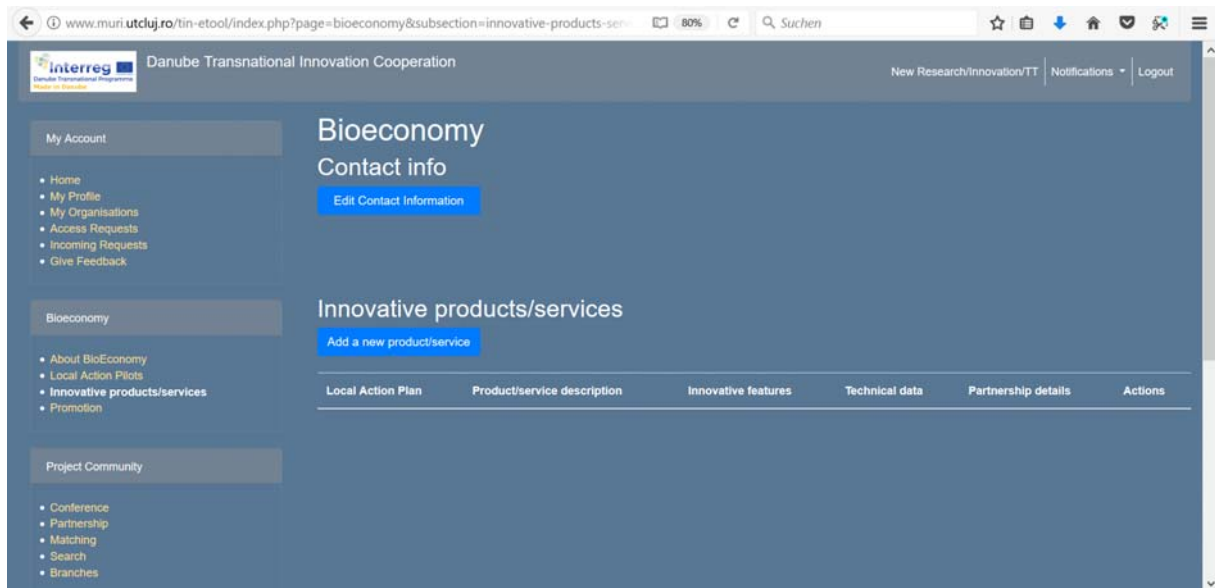


Figure 6: Screenshot Tin eTool: Offering innovative products/services

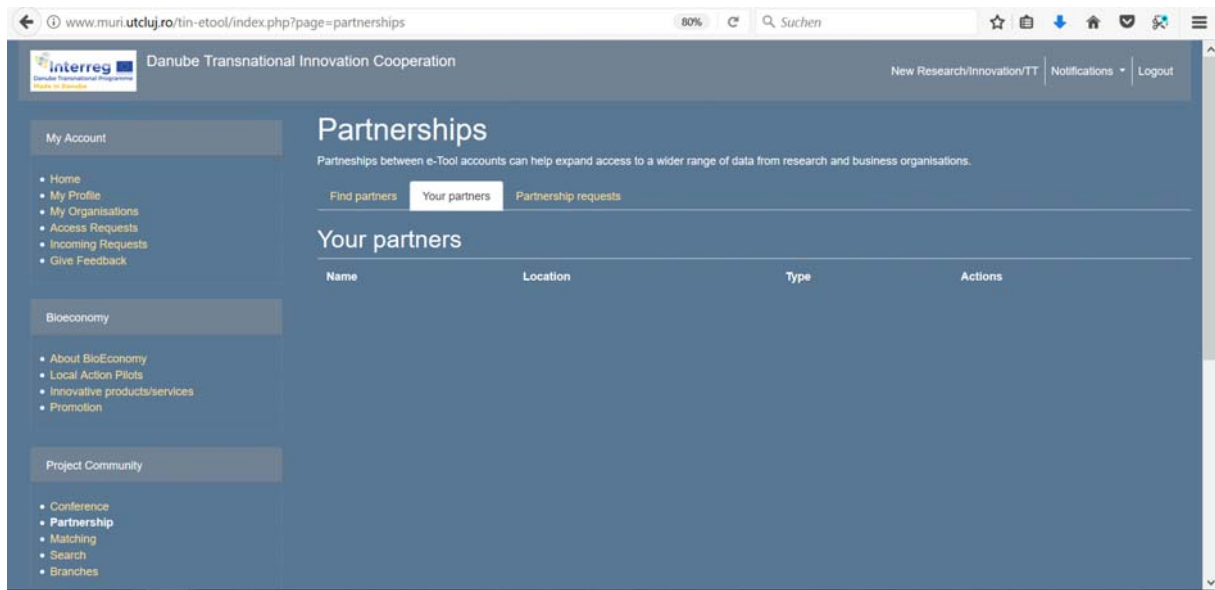


Figure 7: Screenshot Tin eTool: Searching for partners, building partnerships

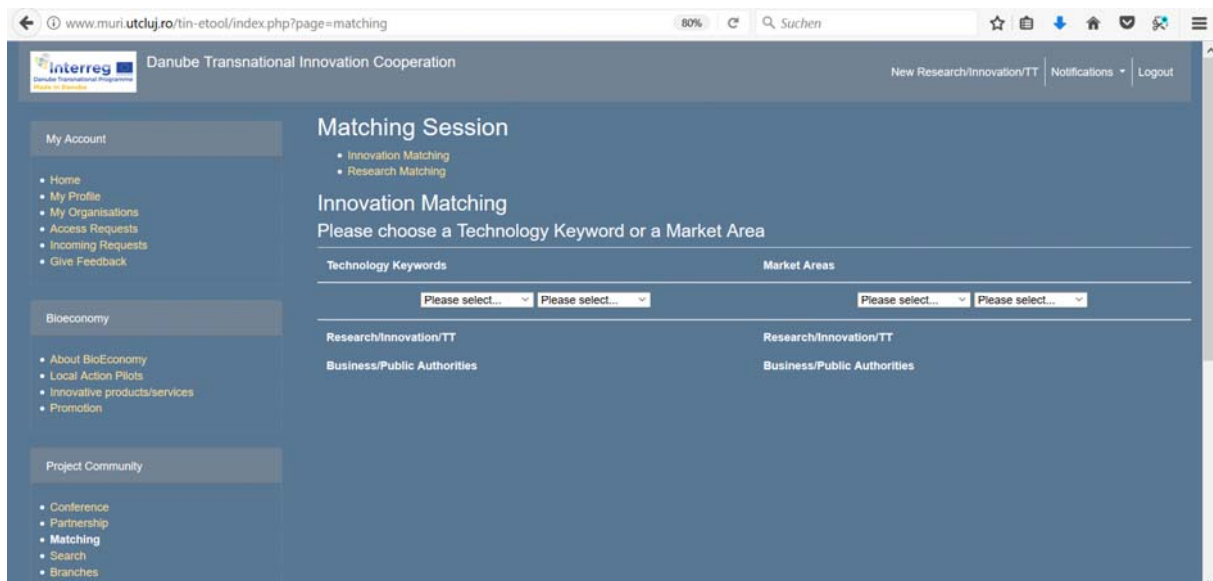


Figure 8: Screenshot Tin eTool: Innovation Matching

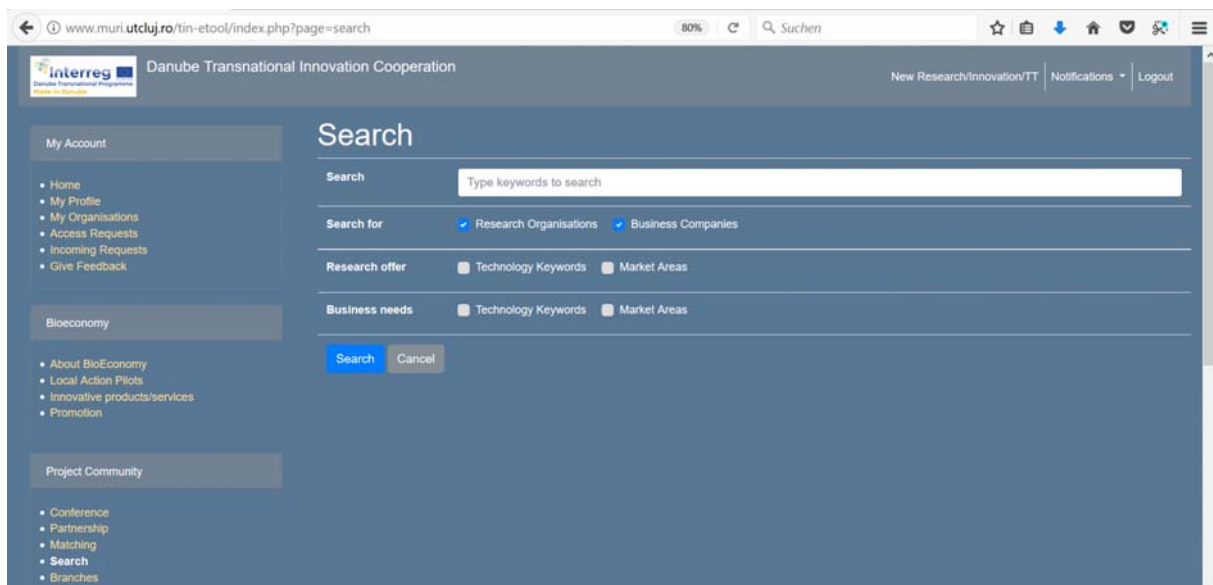


Figure 9: Screenshot Tin eTool: Search function

5 Conclusions and Recommendations

The Vukovar-Srijem County is attractive in many respects and has a high economic potential (agricultural land, forests, oil and natural gas, traffic position, human resources ...).

However, in order to tap the potential of these resources, it is imperative that they are managed by communities or entrepreneurs who know how to value and use them diligently, be able to create added-value and focus on those projects that will benefit everyone - both the state and the local community and entrepreneurs.

Financial and governance decentralization from the state level, strategic mindfulness and creation of spatial and infrastructural assumptions at local levels, socio-economic consensus and the creation of a general positive business environment, are the basic preconditions for launching new investment cycles.

It is very important that the potentials of the Vukovar-Srijem County, as well as all other Slavonian counties, are valued as strategic resources within the national economy.

Such an approach is a prerequisite for the implementation of reindustrialisation within the local economy, which is also a prerequisite for a more equitable development of the economy in the Republic of Croatia.

Ultimately, it can be concluded that the situation in the Vukovar-Srijem County economy is significantly better than three or more years ago but that it is still very complex and that it is necessary to launch new investment cycles, strengthen the competitiveness of local economic entities, stimulate innovation and introduce new technologies, to invest in human capital, all with the aim of changing the existing low-cumulative structure of the economy in favour of an economy in which the activities with a high rate of added value prevails.

Recovery and development of the economy will create the prerequisites for solving the most pressing social problems in this county, of which depopulation and high unemployment rates are the most significant and the most urgent to be solved.

6 Bibliography

EUSDR (2017): Action Plan. Accompanying document to the European Union Strategy for the Danube Region. <https://www.danube-region.eu/component/edocman/action-plan-eusdr-pdf>.

Government of the Republic of Croatia (2016), “Smart Specialisation Strategy of the Republic of Croatia 2016-2020, and Action Plan for the Implementation of Smart Specialisation Strategy of the Republic of Croatia 2016-2017”. In: Narodne novine/Official Journal of the Republic of Croatia No. 32/2016; 13th of April 2016.

Government of the Republic of Croatia (2014): “Strategy of Industrial Development of the Republic of Croatia 2014-2020”. In: Narodne novine/ Official Journal of the Republic of Croatia No.126/2014; 28th of October 2014.

Government of the Republic of Croatia (2014): “Strategy for Innovation Encouragement of the Republic of Croatia 2014-2020”. In: Narodne novine/ Official Journal of the Republic of Croatia No.153/2014; 23rd of December 2014.

MiD (2016): “Made in Danube: Project Proposal” Interreg Danube Transnational Programme.

Vukovar-Srijem County, Administrative Department for Economy and Regional Development (2017): “Information of Economy Status of Vukovar-Srijem County in 2016”. <http://www.vusz.hr/info/gospodarstvo-2>.

Vukovar-Srijem County development Agency Hrast Ltd., One Stop Service Centre (2015): “Catalogue of Investment opportunities with overview of Business Zones”. http://www.ar-hrast.hr/UserDocImages/Invest_in_Vukovar_SrijemCounty.pdf.