S3 Platform Peer Review Workshop 10th – 11th of April 2014 in Novi Sad/Serbia

VOJVODINA Background Information

Location

The Autonomus Province of Vojvodina covers a surface of 21,506 km² (24,4% of the total surface of the country) - the largest counties being South Banat (4,245 km²) and South Bačka (4,016 km²).

Represents the eastern border of European Union.



Figure 1. Vojvodina in Europe



Figure 2: Vojvodina in Serbia

Administrative organisation

The AP Vojvodina consists of **seven counties** (Central Banat, North Banat, South Banat, North Bačka, South Bačka, West Bačka and Srem), with a **population** of 1,931,809 inhabitants (2011 census), representing 26,9% of Serbia's total population. From administrative point of view, the region has 6 cities and towns, 46 municipalities, 467 settlements and 52 urban settlements.

The policy of growth poles in Serbia aimed at a rapid economic growth, jobs creation, boosting the productivity for generating development in small and medium towns and rural areas adjacent to poles. In order to contribute to the development of economy, there were identified several categories of urban centres nationwide: 23 municipalities which record level of development above Republic level of which 12 are located in region of Vojvodina (according to http://www.regionalnirazvoj.gov.rs).

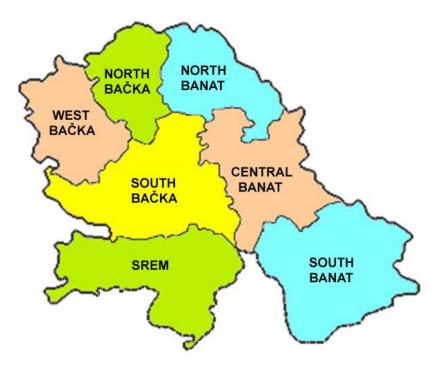


Figure 3: Counties in Vojvodina

Vojvodina lays on important crossings of European routs: Corridor X (road and rail) and Corridor VII (Danube river) with the railway network with the most density in Europe. Vojvodina has one of the biggest water knots in Europe. Vojvodina has 1.400 km of navigable rivers and canals (Danube 358 km, Tisa 164 km, Sava 159 km, Tamiš 53 km and 673 km of Danube-Tisa-Danube hydro system).

Other important traffic routes also pass through Vojvodina. There is a highway coming from Central Europe and the Hungarian border. It goes through Novi Sad and Belgrade further to Nis, where it takes two directions: one to the east towards the Bulgarian border and another to the south towards Skopje and Thessaloniki. There is also the third highway in Srem which takes the direction to the west towards the Republic of Croatia and further on towards Western Europe. On both sides of the highway there is a network of local roads and railway lines.

In Vojvodina is railway-road corridor X which conects Salzburg, Ljubljana, Zagreb, Beograd, Niš and Thessaloniki with branch Xb Beograd, Novi Sad, Budimpešta.

Geography and specific resources

As far as the major forms of relief are concerned, the region is divided into seven areas: Srem (16,2% of the territory), Central Banat (15,1 % of the territory), North Banat (10,8% of the territory), South Banat (19,6% of the territory), North Bačka (8,3% of the territory), West Bačka (11,3% of the territory) and South Bačka (18,7 of the territory). The region is crossed by **two major water courses (Danube and Tisa)**. The Danube passes through Serbia with a length of 588 kilometers, mainly in Vojvodina, and along the whole length is navigable. Floating the Tisa and its tributaries (168 km), Sava (206 km) and Begej (75 km), between which was dug extensive network of irrigation canals, drainage and transport, the Danube-Tisa-Danube Canal, with a total length of 939 km, from of which 673 km are navigable.

The largest reserves of oil were discovered in Vojvodina, about 97 % of total reserves. Intensive research was conducted in the second half of the last century and was discovered approximately two dozen oil fields with

more than 250 deposits. Nearly a third of the territory of Vojvodina was ranked first in the ranking (very perspective). Domestic crude oil is generally of good quality. Mostly parafine type does not contain sulfur and other harmful admixtures into quantities. The processing is performed in the two refineries in Pancevo and Novi Sad. Natural gas generally associated with crude oil reservoirs. The largest deposits located on the territory of Vojvodina, where total reserves are about 43 billion m3. In Vojvodina there are deposits lignite, and total coal reserves are estimated at 525,000,000 million tons. High quality brown coal can also be found in Vojvodina. Among the metallic minerals / mineral resources, nickel and iron have a dominant position, followed by lead and zinc.

Human resources

At the end of 2012, **the civilian active population** employed in the Vojvodina Region totalized 629.539, representing 21.5% of the total active population of the country. Regionaly, most of the working population is employed in Manufacturing (processing industry)(20%), Wholesale and retail trade (10,4%), human health and social work (9,1%) and education (8,6) based on statistical data from 2012.

The regional unemployment rate is 23,9% (slightly above the national average of 23,6%).

In AP Vojvodina, there is one public universities, The University of Novi Sad. There is no official number of private universities in AP Vojvodina.

- Public higher education institutions:

Faculty of Philosophy in Novi Sad , Faculty of Agriculture in Novi Sad , Faculty of Law in Novi Sad Faculty of Technology in Novi Sad, Faculty of Economics in Subotica, Faculty of Technical Sciences in Novi Sad, Faculty of Medicine in Novi Sad, Faculty of Sciences in Novi Sad, Academy of Arts in Novi Sad , Civil Engineering in Subotica , Technical Faculty Mihajlo Pupin Zrenjanin , Faculty of Sport and Physical Education in Novi Sad , Faculty of Education in Sombor , Teacher Training Faculty in Hungarian in Subotica The Faculty of Technical sciences Technical University of Iasi has a total of over 10,500 students in the 13 faculties engaged (3 years studies), master's, PhD, postgraduate training and scientific research.

The AP Vojvodina comprises all forms of education. In 2011-2012 school years, the number of students enrolled in secondary education was of 71,956 students and the number of students in universities was 56,058.

The total number of our R&D organization in the Region of Vojvodina is 35. 8 R&D organizations are from business sector, 3 of them are from public sector, 24 are a part of university. beThe most of the research and development activities are carried out in the sector of public education considering that 70% is conducted in faculties of the University of Novi Sad.

Economic resources, structure of business environment

Regional GDP of Vojvodina is 720.301 mill. RSD, 25,6% of the Republic of Serbioa. In 2009, the **regional GDP per capita** was of 366.000 RSD/capita.

Regionally, in 2010, the services and industry sectors brought the largest contribution to the establishment of regional gross added value with 52.5% and 27.7% respectively. Although nearly half of the employed population of the region is active in agriculture, the contribution of this sector to RGAV is of only 9.9%.

In 2011 there were 23.845 with 240.055 employes. The number of SMEs incressed for 0,3% related to the previous year. Micro and micro SMEs are 96,9% of total number . Medium companies are 2,5% and large are 0,5%.

Large companies in 2011 emplyed 34,9% of employes, medium enerprises emplozed 26,3% while the micro and small enterprises employed 38,9%.

Business support structures

The business infrastructure is underdeveloped. It is at early stage of development. The following types of structures are available in the region:

- **Business incubators for SMEs** (eg. Business Incubator for SMEs in Subotica, Zrenjanin, Kanjiža, Novi Sad, Bački Petrovac, Senta and Pančevo)
- Technological Parks (eg. Novi Sad, Vršac and Subotica);
- Industrial Parks (eg. Subotica);
- **Logistic Parks** (eg. Novi Sad, Subotica-Senta, Apatin-Bogojevo, Bačaka Palanka-Vrbas, Inđija-Stara Pazova, Ruma-Pećinci-Šid, Kikinda-Zrenjanin);

All structures were established through financial support of Provincial government of Vojvodina and EU funds. There are results of projects. These structures are less then 5 years old and require big support in terms of development, knowledge sharing and increase of awareness of their importance. Their financial power is not enough for their sustainable development. Financial supporter have to build indicators to measure their achivemnets in the future. At the moment they are not clear.

In general, the service packages provided varies depending on the type of infrastructure and include: incubation space rental, exhibition spaces, access to utilities, consulting services, promotional services, etc. Hosted companies can take the benefit of provided services.

In the region, there are 30 clusters which are subsidized by the Provincial government (Figure 1).

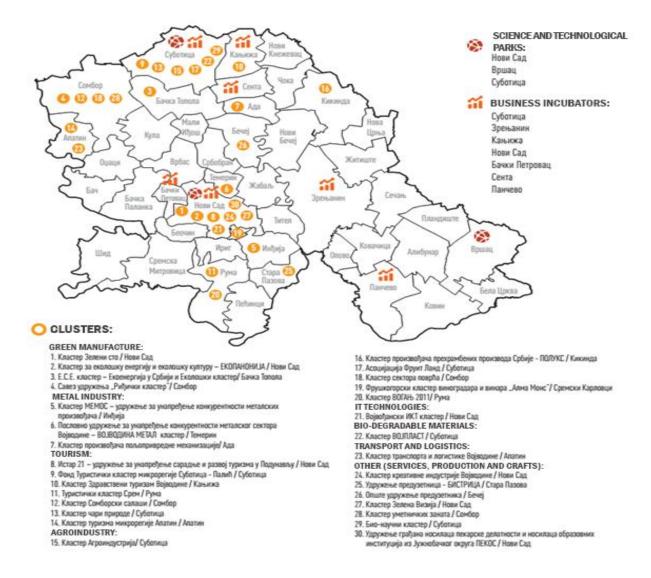


Figure 4: Clusters in Vojvodina

Only 18 are active what is presented in Figure 2.

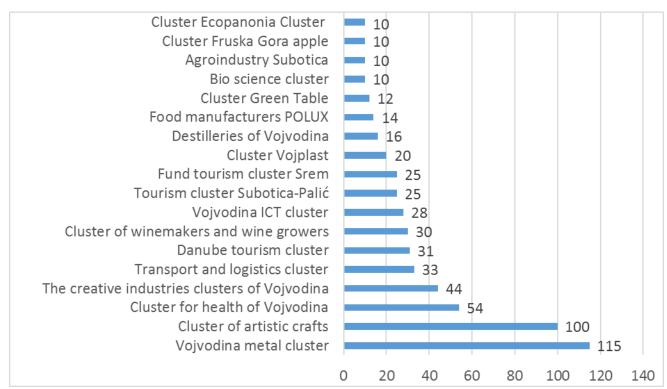


Figure 5: Active clusters in AP Vojvodina

There are also various business support organizations such as chambers of commerce. There are 7 regional chamber of commerce (Novi Sad, Zrenjanin, Pančevo, Kikinda, Sombor, Subotica and Sremska Mitrovica) and one provincial in Novi Sad.

To make development faster and to support local communities and SMEs, there are set up 5 regional development agencies.

Educative center is a centar for qualification and overquailification of unemployed.

Information center for business standardisation and certification, acronym: BSC Centar supports SMEs in long life learning and strengthening of their innovation activities.

Our Mission: The Information Centre for Business Standardisation and Certification (BSC Centre) was founded with the aim to provide information, consulting and other services in the area of standardisation, certification and product conformity assessment to small and medium enterprises so that enterprises can increase their competitiveness on domestic, European and international market. The BSC Information Centre is a consistuent part of quality infrastructure of the Republic of Serbia and by performing its activities, it contributes to accelerating harmonisation of national regulations with the European ones.

Our Vision: The BSC Centre is a modern and flexible organisation operating with optimal explotation of available resources and at the same time fully meeting the needs of service consumers in the area of standardisation and certification.

The development of BSC Information Centre is complied with real needs in the stated areas along with the permanent increasing of its own income.

Who we are: BSC Centre is a non-profit making organization of public utility established on December the 1st, 2009 according to the decision of the Government of AP Vojvodina.

The activity carried out by the BSC Centar is focused on full satisfaction of customers by the improvement of information system, competentness, increase of knowledge level and innovation capabilities. These all should increase competiteveness of the Vojvodina economy.

BSC Centar has been certified according to the SRPS ISO 9001:2008 quality management standard and is in process of acreditation according to SRPS ISO 17024: 2012 to be certification body for persons.

Results:

In supporting the regional innovation system, BSC centar carried out the project INTERRIS ("Transferring of Regional Strategic Planning and Interregional Innovation Strategies; South Great Plain Hungary and Vojvodina Serbia") financed under IPA CBC Hungary-Serbia EU funded Program in 2012 in which we developed the first Regional Innovation Strategy of AP Vojvodina Region and Cross-border Innovation Strategy of Sourth Hungary and Vojvodina, which was the pioneer step of creation of innovation system of Vojvodina together with system of cooperation in innovation area with neighboring countries. The idea was to start trans national cooperatin within innovation process.

Further, BSC centar is in process to strengthen innovation system of Vojvodina through reliazation of new project CROSS-CLUSTER ("Cross-border cooperation in innovation process for the development and harmonization of clusters to increase competitiveness of their SMEs") ") financed under IPA CBC Hungary-Serbia EU funded Program in 2014. In this project we are increasing innovation level pof clusters and their clusters members. Focused is on intelectual property.

For this purpose, three groups of organisations were surveyed. They have particular tasks within the innovation process and they are:

- **Economic organisations:** big companies, medium and small and micro enterprises.
- Scientific research organisations: universities, faculties, institutions.
- **Bridging organisations:** the Provincial Administration, local self-governments, consulting organisations, Chambers of Commerce, professional associations.

Four types of surveys were formed, a separate one for each of these groups with adapted questions. A special, separate survey relating to cross-border innovation process opportunities between the two regions was performed.

Each group of surveys consists of following groups of questions:

- 1.Basic data about organisation
- 2. Sources of innovation
- 3.Barriers for innovation
- 4. Financial resources for innovation
- 5. Cooperation in area of innovation
- 6.Decision making about innovation

A database was created with 1292 organisations to whom questionnaires were sent to; 17,34% responses were received and these responses are related to the regional cooperation. Only 7.89% surveyes responded to the cross-border questionnaire, which indicates that cross-border cooperation is strange to them; the reason for it are probably consequences of the long isolation and events that took place in the region.

The bridging organisations had the greatest response to the questionnaire (14.5% of the sent questionnaires), and the business entities had the fewest response (8.3% of the sent questionnaires). To a certain extent this is understandable because those are basic activities of the bridging organisations or very close to them. The industry organisations consider the innovation activities as casual activities or they are encumbered with everyday problems and therefore, they have neglected these activities.

CONCLUSIONS

1. SWOT analysis of innovation activities in the APV

Strenghths

- The existence of institutions of high education
- Geographic location
- Raw material base
- Bordering the EU

Weaknesses

- The level of innovation in the region is very low (according to the OECD indicators of innovation)
- Lack of politics support
- Lack of institutions and organisations that support innovation processes
- Lack of a database containing innovation potential of the region
- The Republic of Serbia is not a member of the EU
- Lack of earmarked funding resources
- Lack of knowledge of innovation processes
- Lack of high educated personnel
- The education process is not oriented to practical knowledge
- A disproportionately small number of highly educated personnel who can creatively participate in the innovation process (technical and technological profiles)

Opportunities

- Geographical and climatic preconditions for economic development
- Proximity to the EU, Eurasian Union, North Africa and the Middle East
- Establishment of multidisciplinary development teams

Threats

- Lack of innovation funds
- Lack of innovation strategies and appropriate bodies for their implementation and correction
- Concrete and visible political support

- Establishing of R & D and certification laboratories
- The use of EU funds for innovative activity

Figure 6: SWOT analisys

2. Institutional framework for creating innovation activity conditions in the AP of Vojvodina

Questionnaires, as well as innovation results, show that the innovation activities of the APV region are small, because the practical innovation processes do not exist. One of the reasons for this should be sought in the fact that the region of the APV, according to the OECD innovation indicators, is at a very low level. Efforts of all relevant actors in the region are necessary for these processes. These activities would have to go to the establishment of bodies for planning and implementing innovation strategies. Creation of this Regional Innovation Strategy is an important contribution to the paving the way for the activities in this area.

The following figure generally presents the fields of activities, which should be especially insisted on when creating the RIS of the APV. Each of these elements should be carefully considered and corrective actions should be taken to improve them.

IDEA GENERATING INNOVATION PROCESS BEING DEFINED **HUMAN RESOURCE QUALITY** - To increase investments in the Going through all the stages of an - A need for a high number of quality scientific research and engineering development of ideas innovation process must be consistent, personnel - To have better knowledge of consumers disciplined and without arbitrariness and - Quality trained, stimulated and - Innovation guidelines from - Each innovation process is managed as disciplined working force management - Human resource must have functional, any project -To develop new innovation resources applicable knowledge - To stimulate innovation acctivities - Human resource must undergo a - To use externel R&D resources process of continuing education **AVAILIBILITY OF INNOVATION RESULTS** CONTINUITY OF INNOVATION PROCESSES CREATING FAVOURABLE ENVIRONMENT - Results of innovation processes must be The state must support long innovation processes because they may not generate easily available R&D and innovations are a concern of direct added value - R&D institutions must analyse and the entire society, but not of individuals or groups identify companies that need innovation There should be an appropriate banking infrastructure Creation of industrial infrastructure support - Stimulus to innovation processes, - To educate companies how to exploit The very state must initiate complex R&D activities which many innovation protection of intellctual property, tax innovation resuts stem from incentives, favourable legal regulations.. - Verification of new product or service at the market STATE INVOLVEMENT MANAGING INNOVATION PROCESSES THE QUALITY OF EDUCATION Continuity of development policy - Development of innovation processes - There is a direct link between quality of regardless of political mandate must be strategic decision of the education and competitiveness of - A strong link between education, management science and industry - The management must provide all the - Plans and programmes, the number of - To initiate R&D activities through state preconditions for a successful enrolled students must be in accordance institutions and public eneterprices management of an innovation process with long-term plan of industry development, and the state is the only - An innovation process must not be an one that makes decision concerning it employees' casual activity The education institutions must be -Motivation of employed is crucial during capable to provide hands-on training

Figure 7: General fields of activities in the APV RIS

The innovation strategy of the region (APV), itself, must be harmonised with individual innovation strategies of the neighbouring regions, with the EU innovation strategies and strategic documents of the Republic of Serbia and Vojvodina. The following steps should be undertaken:

- To collect data on innovation offers and needs of the region.
 - To analyse the complementarity of supply and demand.
 - Overlaps
 - Deficiencies
 - To unify innovation efforts and processes.
- To create an innovation system in terms of Open Innovation.
- To support the creation of innovation centres as a bridges between basic skills and knowledge and the economy.
- To facilitate political support and provide information on the importance of innovation.

- To continuously measure innovation indicators according to the OECD methodology (Oslo Manuel). All the EU member states are members of the OECD. It is necessary for Serbia to become a member of the OECD, or at least to systematically and continuously implement OECD activities.
- To create conditions for better understanding of the own innovation potentials and potentials of partner countries.
- To create mechanisms that inform others about innovation potentials of the APV region.
- It should develope:

1. Awareness and culture in the innovation society through:

- Overall and real political support in the following way:
- To create legal and other preconditions for verifying innovation process results and projects at the market
- o To develop common development platforms and their connecting.
- To create the same legal preconditions for the explotation of innovative potential under the same conditions both for the public and private sector.

2. Survey of the current state of the APV

To create and maintain:

- o Databases containing innovation resources of the region:
 - innovation companies
 - innovation and technological services
 - unused innovation potential
 - scientific and research organistions
 - bridging organisations in innovation activities
 - patents, small patents, marks, trademarks, industrial designs
 - innovation projects in the region and in suroundings
 - researchers and scientists, their achivements and resultsand, in particular, young researchers
 - clusters and other organisations, micro, small and medium enterprises (technology parks, business incubators ...)
 - innovation activities funds...
- 2. To activate innovation processes in the following way:
 - o To establish centres in order to promote innovation system and to make them work.
 - To activate clusters and cross border clusters, in particular. To emphasize clusters based on knowledge.
- To conduct a constant familiarisation with the possibilities and ways of functioning of organisations supporting innovation process
 - o To constantly popularise innovation processes by informing the public through:
 - Organisation of gatherings:
 - Innovation day/week
 - Innovation fairs
 - Creation of internet presentation of the region

- Webinar
- o Printing of publications, brochures, posters, billboards
- Issuing magazines
- Competitions
- Professional conferences...
- o To modernise and interconnect R&D organisations in the APV and region.
- o To modernise and interconnect education organisations in the APV and region.
- To create a common plan for continuing education and certification.
- To create a unique system for certifying experts so as to create and maintain creative and innovative potential of an indivudual.
- To establish conditions for unhindered mobility of highly educated professionals.
- o To intensify the applied research and to connect science and industry.
- To establish a system for assessing the commercial potential and for financing innovation and R & D projects.
- 4. To provide permanent and secure funding for innovation processes in the following way:
 - To organise sectorial funds for funding:
 - Short-term projects
 - Long-term projects (common state funds)
 - o To establish funds for high risk projects.
 - To establish an exchange of innovation projects and ideas.
 - To have constant and sufficient fund filling from:
 - Budget
 - Public sector
 - Games of chance
 - Socially responsible enterprises
 - Donations by
 - Individuals
 - Enterprises
 - Non-government sector
- To create sector funds and supporting organisation that would collaborate on multidisciplinary projects.
- To create organisations that will commercialise innovation potential
 - o To establish spin-off enterprises.
 - To crate preconditions to reduce knowledge drain via outsourcing.
 - To attract and absorb knowledge to the region.
- 1. To create prerequisites for paving the way to innovation society (to economy based on knowledge) in the following way:
 - To create education programmes and strategies for:
 - Pre school
 - Elementary school
 - Secondary school
 - High education
 - Specialist studies
 - PhD and post-PhD studies.
 - To enable universities and colleges to publish theses and dissertations that are directly related to the innovation process in the region.
 - o To introduce modern methodologies in order to increase and measure inventive and innovation resource potentials (TRIZ, PISA, ...).

- To form distrubutive education institutions throughout the region in order to make knowledgde available to all along with the decreased expenses.
- o To network state and private education institutions.
- o To integrate faculty experts in multidisciplinary teams.
- o To introduce a system for evaluating and rewarding innovation results.
- To connect sources of knowledge and skills in a unique science education unit with the possibility to differentiate them.
- o To increase number of people with high education and to create preconditions to increase students' standard.
- To exchange students with other regions in Serbia and abroad and to create conditions to attract students from other regions.
- To increase the standard and quality of life of highly educated professionals, to organise their exchange.
- To create a unified system for managing a career:
 - To monitor affinities and preferences from a birth
 - To guide the development of highly educated professionals in a stimulating way
 - To guide to applied science and skills
 - To identify leaders.
- To create prerequisites for a positive business migration, both capital and human resources, which would make the APV area attractive for experts with high education from the EU regions and other regions of the world, as well as for the arrival of investment capital.
- 6. To equalize the innovation development of the region.
 - By forming distribution centres for promotion and operation of the innovation system, to facilitate the availability of innovation resources which must be the same at all points in the region.
- 1. To have constant control, measurement and correction of innovation processes in the APV in the following way:
 - To perform constant control over the execution of innovation strategy.
 - To perform constant corrections, adjustments and improvements (through public discussions, practical validity testing, creation of a common test market) and to change the innovation strategy of the APV.
 - To introduce innovation measurement indicators according to the EU standards.
 - To include the public sector into innovation processes (including sector that deals with social issues as well as the sector that deals with the health protection of the population).

Regional common development platform

Innovation process has to be transnational and cross border. Development platform will ensure the integration of all participants through the following programs:

At strategic (decision making) level, there have been identified the following principles:

- Communication platform
- Integration platform
- Innovation state administration (introduction of trans national and cross-border innovation policy)

- Innovation company concept (by providing education to increase company innovation level)
- At regional level, there have been identified the following sectors with potential for smart specialization:
- Agricultural production and food industry
- Renewalbe energy sources
- Information communication technology and professional electronics
- Metal industry
- Tourism

Detailed smart specialization sectors analysis:

- Agricultural production and food industry
 - Organic agricultural production:
 - Crop production
 - Viticulture
 - Fruit growing
 - Livestock production: native species (mangulica, oxes, sheep, donkey)
 - Functional Nutrition
 - Healing herbs
 - Phytopharmacology
- Biotechnology
- Renewalbe energy sources
 - Geothermal resources
 - Biomass/biogas
 - Biodiesel
 - Mini hydropower
 - Wind turbines
 - Solar energy
- Information communication technology
 - Information systems
 - Broadband access
 - Services (teleworking, E-Agriculture, E-Medicine, E-Manufacturing:, E-Tourism)
- Professional electronics (medical equipment and instrumentation) mini bakeries and breweries)
- Metal industry
 - Equipment for the renewable energy systems
 - The equipment for agriculture (irrigation system, agricultural machinery)
 - Process equipment for food industry
 - Process equipment for petrochemical industry
 - Suply for automotive industry, railway systems, shipbuilding
- **❖** Tourism
 - Spa tourism
 - Health tourism
 - Hunting tourism

- Ethno tourism
- · Agging tourism
- Personalized tourism

Horisontal issue which should be incorparated into all sectors are:

- ✓ Ecology and environment protection
 - Waste water management
 - Recycling
 - Decreasy of harmful gas emission
- ✓ Energy efficiency

The formation of innovation centers that will be the organisations for the commercialisation of innovation potential.

Smart Specialization Strategy - priorities, measures

Horizontal Priority 1: Developing innovation competences for future generations

Measure 1.1: Increase of awareness of innovation importance in prorite sectoral areas

For this purpose, the following types of projects are considered as priority:

- Development of system (education, training, info days, discussions, media support...) which will increase concious of innovation
- Development of trainings for trainers for innovativeness in priorite sectors
- Development of strong relations between educators and enterprises in the fields with regional smart specialization potential. Thed goal is to harmonize education supply and need, specially in new technologies in smart specialization sectors.
- Development of trans national knowledge transfer in smart specialization sectors.
- Development of long liofe learning system in smart specialization sectors.

Measure 1.2: Establishing of cooperation between enterprices and education system

The new culture should be developed from the childehood based on the importance of industrial production. This measure proposes development of functional knowledgebased on close cooperation between educational institutions and companies.

- Active practial work at companies
- Labaratories in educational institutions
- Internships in smart copmanies at trans national level
- Master and doctoral studies according to smart specialization sectors

Measure 1.3: Increasing the role of creative sector in industrila production

To this purpose, the following types of projects are considered of priority:

Joint clusters, business parks

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Horizontal priority 2: Supporting enterprises to become and stay innovative within the Vojvodina

Region

Measure 2.1: Assistance services for transforming innovative ideas in business ideas

To this purpose the following project ideas are considered of priority:

Establishing of system to gather innovation potential from employers-innovation capital in function of the company

- Establishment of new business support structures and encouraging the development of the existing
 ones (for example business incubators, business hubs, technological parks etc.), in order to attract
 new companies;
- Develop of "shared resources" initiatives;
- Consultancy activities for innovative start-ups and spin-offs, for idea till the zero seria.

Measure 2.2: Implementation of financial instruments for encouraging the establishment and development of new innovative companies in the region

To this purpose the following type of projects will be considered of priority:

- Self investments into the innovative projects within the company
- Development of business-angels networks;
- Attracting in the region new risk capital funds;
- Microcredit schemes for innovative business ideas.

Horizontal priority 3: Technical assistance

Measure 3.1: Development of the S3 implementation, monitoring and evaluation systems

To this purpose the following projects will be considered of priority:

- Creation of a regional consortium for smart specialization at the level of Vojvodina Region;
- Generating innovation indicators specific to the region but according Oslo Manual and way to measure them.
- Develop monitoring studies to analyse the implementation results obtain by S3 in the region.

Methodology of monitoring of Smart Specialization Strategy

The monitoring of the implementation of the strategy will be developed according to the following **schedule of activities:**

- 1. Activities of monitoring of the implementation of Smart Specialization Strategy will be realised in 2017, respectively in 2019, on correlation with the process of reviewing of performances, as required by European Commission for all Member States.
- **2.** The indicators which:
 - *for context indicators*: the values of indicators will be obtained from secondary sources statistical data from the National Institute for Statistics;
 - for output and result indicators: the values of indicators will be obtained from Annual Implementation Reports of Operational Programs related to period 2014-2020, elaborated by BSC Centar which will be proposed to be financed from Operational Programs.

Measures proposals

-Development of innovation sociaty has to be based on indicators system. Indicators has to be clear, real, achivable, measureable and specific for the region. They should give indication for corection measures and to improvement of innovation process.

Statistical institute of Republic of Serbia is reference center for statistical data which is collecting and presenting innovation indicators selected due to the specific shape of Serbia.

Innovation center of AP Vojvodina with leading role in implementation process of RIS should analyze certain set of innovation indicators on the hub group of organizations in Vojvodina This analysis will prove stream of innovation processes in Vojvodina and achivements of the RIS during realization of the Action plan of Regional innovation strategy.

-The functional knowledge has to be measured by use of PISA tests which should be mandatory part of education process, permanently processed.

Outputs and results

Outputs of the RIS APV will be measured through indicators and their improvements.

Effects will be:

- -increase of production
- -increase of employment and number of companies
- -increase of export and decrease of import
- -increase of BDP
- -increase of population standard.