

## THE NETWORK OF INCUBATORS AND CLUSTERS IN THE REPUBLIC OF SERBIA: IMPROVING THE COMPETITIVENESS OF SMES THROUGH INSTITUTIONAL SUPPORT

*Cooperation between incubators and clusters can be used as an instrument of institutional support aimed at enhancing SMEs competitiveness and establishment of innovative entrepreneurial ventures. Creating conditions for such cooperation serve as a strategy platform for incubators and clusters and helps fostering technological development. A basic requirement for this development is creating appropriate concentration of professional and competent people and organizations. Emergence of highly concentrated research and development activities is dependent on the support of stakeholders, including obtaining necessary funding. The objective of this paper is: to examine the role of strategy development as a platform for facilitating cooperation networks, including business incubators and outside institutional support as drivers of regional economic development and SMEs competitiveness on the example of Autonomous Province of Vojvodina, Serbia.*

*Practical results that can be achieved through the establishment and development of cooperation networks are diverse. At first place, they contribute to strengthening the cooperation on the level of the urban areas to the level of the region. Second, they facilitate cooperation between industries, universities, institutions and companies in and outside Serbia. And third, they serve as a mean to work together with: experts from different fields; development centres and agencies; organizations for support economic development, development funds; support institutions.*

*JEL: M13; L14; L52; L53; O2; O32; O38*

### Introduction

Business incubators and clusters play a decisive role in economic development of underdeveloped regions. Examples of 'pioneering' geographical regions that experienced regional development and growth through geographic concentration of firms and cluster-based policies are Emilia-Romagna in Italy and Catalonia in Spain (Anderson et al, 2004). The strength and dynamics of their action and the total development potential depend on how developed the relations among enterprises, universities, authorities, development agencies and all the other economic development factors are, and on nature of those

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relations. The economic development concept is based on facilitating these relations. Inter-organizational networks are neither run by market forces nor by hierarchic structures. It is assumed instead that one party depends on resources controlled by the other one. And only together they can accomplish successful results. As noted by Porter (1998, p. 90) “*in the new economics of competition*” all participating parties at different levels – business, government and institutional level have a certain “*role to play*”. Zeinalnezhad, Muriati & Shahnorbanun (2010, p. 78) examined the relationship between the two concepts – network and cluster based on the description of the United Nations Industrial Development Organization (UNIDO). According to this description, networks can be developed within the cluster or outside it. Cluster in certain cases may lead to the development of the networks themselves. Furthermore, a network can become a cluster by developing cooperation with service providers, business associations and public institutions.

This study is related to the role of incubation networks as “*a driver of innovation in the 21<sup>st</sup> century*” providing global and local infrastructures for development of knowledge-based entrepreneurship (Carayannis et al, 2006). Moreover, in countries like Serbia they can contribute for development and support of SME sector in general by providing assistance to start-ups and existing businesses and a platform for successful cooperation with different stakeholders.

In the case of transition economies, the development of small and medium-sized enterprises (SMEs) shall be treated as an indicator of their ability to move from a planned system to a market economy. Failure of development of the SME sector in the transition period occurs as a function of politics and lack of institutional support, combined with the weakness of large companies, rather than a specific feature of the transition *per se* (Paunović et al, 2011).

Business incubators can serve as an instrument facilitating development of new ventures and existing SMEs and their support is essential. Moreover, they can provide opportunities for networking and clustering with other firms, organizations and institutions, and contributing in this way for strengthening the link among academia, business and support institutions. Regional development in Serbia is also dependent on this instrument, including in the Autonomous province of Vojvodina. Besides, Serbia is currently in a serious recession and the revitalization of the national economy in order to increase the competitiveness of SMEs through their involvement in clusters and incubators is the highest priority. To achieve positive results and increase the competitiveness of the economy, which is the ultimate goal, it is of great importance to establish a platform that will determine the roles and needs of co-operation between:

- administrative authority (administrative bodies and public institutions at all levels);
- organizations supporting the competitiveness of the economy – clusters, business incubators;
- educational and research institutions (universities, innovation centres, laboratories, technology parks).

Connecting key factors of economic development is an extremely complex process and requires methodological basis of its performance. Moreover it is not a process which can be

carried out all at once, in the whole country. It requires action at the local level and then, on this basis and experiences, it is possible to apply such an approach to a broader, regional and then, at the national level. In this regard, it is necessary to:

- Define the scope of medium- and long-term goals;
- Methodologically set up a platform for cooperation and joint action;
- Define an action plan that includes the preparation, implementation, evaluation and audit of individual and general activities.

Despite competition of neighbouring countries like Bulgaria and Romania, Vojvodina is determined by some authors to have some advantages for outsourcing – these are “facilities for providing high quality ICT services at low cost”, while software is determined as the most competitive segment of the IT sector, compared to hardware and services (Katić, Milošev & Raletić, 2013, p. 302). To utilize these advantages, some actions have been undertaken on regional level.

The initiative for creation of “*Strategy for development of business incubators in Autonomous Province of Vojvodina in the period of 2011-2015*” is launched by the Provincial Secretariat for Economic Affairs at the Government of the Autonomous Province of Vojvodina, in order to foster the development of business infrastructure. Development of this Strategy is supported by the Austrian Development Agency (ADA) under the “*Strategic Partnership for Support of the economic development of Vojvodina*”. This is one of the most important instruments of the Government of Vojvodina to improve the competitiveness of the regional economy's program for economic development of the Autonomous Province of Vojvodina, which is continuously carried out since 2004 with over 14 measures. The strategy development is not only a sign of continuity in the implementation of the program itself, but also points to quantitatively different phase in its implementation based on an integrative approach, more closely with cooperation and organic connection between the individual measures of the program (Paunović et al, 2011, p. 5)

Centre for Strategic Economic Studies “Vojvodina-CESS” during the 2010 and 2011 created the Strategy in collaboration with the establishment of business incubators with their partners in Linz, Austria – representatives of Tech2B incubator, Representatives of the Vojvodina Investment Promotion – VIP and managers of business incubators in Vojvodina, as well as their consultants.

The strategy of business incubators in Vojvodina focuses on removing obstacles that SMEs face (which preceded the establishment of the company) with the intent to suggest policy instruments and measures, which are under the jurisdiction of the Government of Vojvodina.

The objective of this paper is: to study the role and implementation of strategy development as a platform for facilitating cooperation networks, including business incubators and outside institutional support as drivers of regional economic development and SMEs competitiveness on the example of Autonomous Province of Vojvodina, Serbia.

## 1. The role and characteristics of business incubators and clusters

### *Incubators*

Business incubators accelerate the development of successful entrepreneurial companies by providing hands-on assistance and a variety of business and technical support services during the vulnerable early years. Typically, incubators provide space for a number of businesses under one roof with such amenities as flexible space and leases; office services and equipment on a pay-as-you-go basis; an on-site incubator manager as a resource for business advice; orchestrated exposure to a network of outside business and technical consultants, often providing accounting, marketing, engineering and design services; assistance with financing; and opportunities to network and transact business with other firms in the same facility. Incubators reduce the risk involved in business start-up and their young tenant companies gain access to facilities and equipment that might otherwise be unavailable or unaffordable (Meeder, 1993). Differences in stakeholder objectives for incubators, admission and exit criteria, the knowledge intensity of projects, and the precise configuration of facilities and services, will distinguish one type of business incubator from another.

Different definitions exist about the nature of incubators. “*Business incubation* is a dynamic process of business enterprise development. Incubators nurture young firms, helping them to survive and grow during the start-up period when they are most vulnerable. Incubators provide hands-on management assistance, access to financing and orchestrated exposure to critical business or technical support services. They also offer entrepreneurial firms shared office services, access to equipment, flexible leases and expandable space – all under one roof” (Wolfe, Adkins, and Sherman, 2001).

Business incubators provide entrepreneurs with a supportive environment to help establish and develop their projects. By providing services on a 'one-stop' basis, and enabling overhead costs to be reduced by sharing facilities, business incubators can significantly improve the survival and growth prospects of start-ups and small firms at an early stage of development. In its generic sense, the term 'business incubator' is often used to describe a wide range of organisations that in one way or another help entrepreneurs develop their ideas from inception through to commercialisation and the launching of a new enterprise. A broad definition of the term embraces technology centres and science park incubators, business and innovation centres, organisations which have no single physical location and concentrate instead of managing a network of enterprise support services ('incubators without walls'), so-called 'new economy' incubators, and a variety of other models (European Commission, 2002).

Making a parallel between the narrower definition and the broader explanation, it can be noted that in many cases the incubators are located in scientific and technological parks. This concentration boosts advantages from the geographic proximity of firms and institutions: universities, venture capitalist associations, and other organizations in high-tech and knowledge-based sectors (Büchi, Casalegno & Pellicelli, 2010).

In this paper is used the following definition: “*Incubators* ... Companies whose main task is to provide and to rent available office space, and to provide administrative, technical, and

other services to newly-formed enterprises or innovative organizations” (Morača et al, 2011).

Table 1

The role of incubators in society/stakeholders’ roles and effects:

Stakeholders	Expected effects
Residents of the incubator	<ul style="list-style-type: none"><li>• Increasing the chances of success;</li><li>• Raises credibility;</li><li>• Helps to improve skills;</li><li>• Increase the synergy between the tenants;</li><li>• Facilitate access to mentors, information, etc.</li></ul>
Government	<ul style="list-style-type: none"><li>• Address the shortcomings of the market;</li><li>• Promotion of regional development;</li><li>• Generate new jobs;</li><li>• Revenues and fees;</li><li>• Demonstration of political commitment to small businesses.</li></ul>
Research institutions and universities	<ul style="list-style-type: none"><li>• Strengthening the interaction between universities, research institutions, practice</li><li>• Promote research;</li><li>• Provides an opportunity for graduates and students to develop their knowledge and skills.</li></ul>
The business community	<ul style="list-style-type: none"><li>• Strengthening the possibility of introducing innovations;</li><li>• Managing the supply chain;</li><li>• Assumption of social responsibilities.</li></ul>
The local community	<ul style="list-style-type: none"><li>• Develop a culture of entrepreneurship and self-assessment;</li><li>• Revenues remain in the community.</li></ul>
The international community	<ul style="list-style-type: none"><li>• Create opportunities for trade and technology transfer between companies and customers incubator hosts;</li><li>• Allows a better understanding of the business culture;</li><li>• Exchange of experience through associations.</li></ul>

Source: Paunović, Du Pont, Dobrilović, Šenk, Ivanić and Vukov, 2011, p.15.

The number of business incubators in the world is estimated at around 5000. In Asia there are more than 1,000 of them, approximately 1000 business incubators are situated in North America, in Europe a little bit less than 900, while the rest is spread out across other continents. Business incubators have been grouped into 60 national and regional associations. The European Business & Innovation Centre Network, the biggest association of business incubators in Europe encompasses more than 240 members from the European Union and 11 members coming from other countries (Miljašić, 2011, p. 10). The Business Incubator Network of Serbia includes all 23 business incubators (Miljašić, 2011, p. 13).

The successful operation of business incubators in addition to the direct effects (measured by the number of tenants who leave the incubator) have indirect effects on stakeholders in the community in which they are established. In addition to significant economic effects, business incubators have equally important social and cultural effects. Social effects are particularly manifested when business incubators are established as an instrument of regional development. As the regional policy essentially redistributive nature, politics of solidarity and aid to underdeveloped regions, while important cultural effects of business

incubators are manifested through their impact on the creation of entrepreneurial culture in the community in which they are established especially important for transition countries.

While improving the system of cooperation among businesses, organizations which provide support to businesses and academic community, universities should be focused on transfer of technology, joint research activities, as well as with the question how to stimulate entrepreneurs and experts to cooperate closer with local communities. The importance of education and training seems to be crucial when building links and future networks of business incubators and other actors of branch such as cluster members. Business incubators appear as “facilitators” meaning much more than the real estate instrument” (Paunovic, 2012, p. 17).

### *Clusters*

Business incubators can provide clustering opportunities for firms. But in comparison to incubators that are typically targeted at business support in the early stages of the firm’s life cycle, similarly to technological parks that are larger in size and serve ‘a broader range of firms’ (Berbel et al, 2011) clusters can involve established and more mature businesses. According to a basic typology of the World Bank for the business services provided to SMEs, in business incubation target firms are ‘start-ups and SMEs with high growth potential’ while industrial clusters are ‘related and supporting businesses and other organizations linked by a shared value chain (vertical) or shared final market (horizontal); concentrated in technology industries’ (InfoDev, 2010, p. 14). More precise understanding about the nature of clusters can be obtained from the definitions used by recognized researchers.

The most famous author in the field – Michael Porter provided a useful explanation of cluster, that in whole or in part is used by other researchers who give their interpretation for this term. “Clusters are geographical concentrations of interconnected companies and institutions in ... an array of linked industries...” (Porter, 1998). As noted by Sforzi, the concepts of industrial district (ID) and cluster are sometimes confused; although both of them overcome the sector as a unit of economic analysis, as the author metaphorically explained: “*the concepts of ID and cluster do not share the same DNA*”: the unit of analysis in industrial district is local community, and industry is its economic component (Sforzi, 2009, p. 332-33). ID that differentiates from ‘manufacturing town’ by the tendency of ‘merging’ between communities and firms’ and from ‘economic region’ by the dominance of industrial activity, is a “*socioterritorial entity ... characterized by the active presence of both of community of people and of population of firms in one naturally and historically bounded area*” (Becattini, 2004, p. 19).

The Porter’s basic definition is used by the Ministry for Economy and Regional Development (MERD in Serbia – Ministarstvo ekonomije i regionalnog razvoja), Department for SMEs and Entrepreneurship. They give the following interpretation: “*Cluster* represents the geographical concentration of inter-connected enterprises, specialized suppliers, service providers, firms coming from related industries, and institutions connected to them (e.g. universities, agencies, tourist and trade associations),

which compete among themselves, but also cooperate.“ (Ministry for Economy and Regional Development, Department for SMEs and Entrepreneurship, 2008). In general, flexible organizations, such as clusters represent very good instruments of assembling and clustering small businesses, and give them the strength and competitiveness to enter the international market, develop new technologies and improve skills of the employees.

Strategic guidance to support clusters and business associations, which aim to strengthen the competitiveness of the economy and regional development, are related to the following areas:

- Development of Innovation
- Business Sustainability
- Internationalization of cooperation and networking
- Regional specialization
- New skills and creation of new jobs

Flexible organizations, such as clusters (districts and cooperation for example in Italy) represent very good instruments of assembling and clustering of small businesses, and give them the strength and competitiveness to enter the international market, develop new technologies and improve skills of the employees. From the perspective of academia clusters can be used as a possible mean for connecting universities with stakeholders (Stanković, 2013). But beside benefits from clustering, participating enterprises can experience some challenges, as competitions for labour and other production factors – the ‘cost’ of many firms operating on a limited geographical area (OECD, 2004).

## **2. Business incubators and clusters in Serbia**

Most of the business incubators in Serbia have been set up on the territory of the Vojvodina region, a total of 8, and they are situated in the following towns and municipalities: Novi Sad, Subotica, Zrenjanin, Bački Petrovac, Pančevo, Senta, Kanjiža and Beočin. These establishments are based on the success of the e BBI program and on the Vojvodina's government larger investments into the development of this sector. Seven incubators have been set up in the region of East and Southeast Serbia. They are situated in Niš, Vranje, Zaječar, Bor, Knjaževac, Prokuplje and Medveđa. There is an initiative to form two new incubators in this region, one in Majdanpek and the other one in Kladovo. Six incubators are located in the region of Šumadija and Western Serbia Kragujevac, Rača, Kruševac, Užice, Valjevo and Kraljevo; four of them already existing with an initiative to form two new incubators. There are two incubators in the region of Belgrade, situated in the Zvezdara and Rakovica municipalities. The biggest incubator is in Vranje 2.700 m<sup>2</sup> than second one in Subotica (2.000 m<sup>2</sup>) and the third one is in Nis (1.650 m<sup>2</sup>) (Miljašić, 2011, p. 13).

Setting up of business incubators in a particular place will boost the economic development of the whole region, since they attract new investments and are considered to be economic growth engines, while new companies enable commercial publicity and boost international trade. Also, they can create specialized knowledge centres and increase production, based on which the competitive advantage has been built, and as such they are often good examples of regional success, progress and successful entrepreneurship.

Figure 1



Source: <http://www.bitf.rs/cms/item/clubs/sr/networks/incubators.html>.



The Province Secretariat for Economy, Employment and Gender Equality has recognized clustering in the economy, business connecting and networking as one of the strategic measures for economic development, with the aim of grouping industrial capacity and strengthening the competitiveness of the region (Vasin, 2012).

Cluster Development Strategy in Vojvodina should be based on the recognition and support of 10 to 15 clusters in various areas evenly distributed on the territory of AP Vojvodina with 3-5 priority areas that will be particularly encouraged by the Provincial government, and will rely on traditional comparative advantages that Vojvodina has. These areas are: the efficient use of arable land, food-processing facilities, infrastructure and logistics, metals and textile area, as well as development of modern advanced technologies and ICT, which can be used in the above mentioned traditional areas (Vasin, 2012).

The Platform for cooperation highlights the special cooperation between clusters and incubators, in order to meet the demands of competitiveness and challenges of globalization. But in the strategy they speak, more or less, alone on the creation of clusters and incubators in a general way, without separation of the basic sectors. If for example, the service sector, especially tourism sector expects greater efficiency, the platform must focus on key arguments and creating an environment for SMEs in the sector, as well as the change in the macroeconomic environment in relation to specific sectors. This inevitably means raising the issue of cooperation between incubators and clusters, what and how to incubate, especially in services, to adapt SMEs to global market. In a business environment, there are fragmentary associations, which tend to be clusters, but they are unrelated. Interesting, no synergy effect. Incubators that have a role to help SMEs to survive in the market can not alone cope with the discouraging conditions of business environment. Platform puts special emphasis on the process of removing barriers and establishing a system of investment incentives, linked to micro and small enterprises, increasing efficiency and productivity in the sector. Through incubation should assert new technologies that relate not only to production but also for services (new catering technology) and that will be later supported by the cluster because they participated in creating the need for the development of ideas (Morača et al, 2011).

An important aspect is the networking of the incubators amongst one another. Activities that pertain to common public relations work must be carried out by all incubators. Networking with other organisations (such as, for example, investment funds, VIP, clusters, and trade associations) with respect to complementary services and synergies must be checked and pursued (Kirchweger & Preisinger, 2011, p. 5).

## **Networking**

In order to improve the better coordination to work and represent the common interests of business incubators in Vojvodina, intense will be connected to a common association, as well as with other national and international organizations and associations. In parallel to this process should be developed partner network of business incubators, which should be:

local authorities, financial institutions and other sources of funding, educational institutions, research organizations, companies.

Facilitating the exchange of founders within the individual incubators of Vojvodina, as well as across Serbia, must be initiated. Moreover, the group of the incubators alumni must be involved to a greater extent and networked. As a result, knowledge and know-how transfer from experienced businessmen to start-up ventures and potential entrepreneurs should be forced and reinforced. Networking with other organizations (such as, for example, investment funds, VIP, clusters and trade associations) with respect to complementary services and synergies must be checked and pursued.

#### *Association of Business Incubators in Vojvodina*

In order to improve the work and for a better representation of common interest individual incubators will join and establish the Association of Business Incubators Vojvodina. Association should seek to achieve the following objectives:

- linking organizations in supporting entrepreneurship and the creation of new enterprises;
- improving the knowledge of its members;
- gathering information on the modalities and best practices in business incubators;
- organizing annual conferences and exchange of information;
- provide resources for projects and business incubators;
- representing interests in dialogue with the Government and other stakeholders.

Who constitutes the network is shown on table 2.

#### *2.1. Creating conditions for joint action*

Alfred Marshall (1920) was making an analogy between the companies and the overall economy, arguing that the trees (individual business) can grow and fail for various reasons, but it is essential for the economy the fact that the whole forest develops. It is therefore important that the SMEs policy becomes part of integrated socio-economic development policy.

Table 2

Participants in the network

Level	1. Incubator – Cluster Network	2. Local, regional and national institutions (regulator, decisions)	3. Institutions that provide financial support <sup>2</sup>	4. Scientific research and education institutions	5. Other partners
Local	<ul style="list-style-type: none"> <li>• Business Incubator Subotica</li> <li>• Wellness Tourism Cluster</li> </ul>	<ul style="list-style-type: none"> <li>• Municipal Secretariat for Economic Affairs</li> <li>• Local Economic Development Agency</li> </ul>		<ul style="list-style-type: none"> <li>• Secondary Technical School</li> <li>• Technical College</li> </ul>	
Regional	<ul style="list-style-type: none"> <li>• Tourist Cluster Fund Micro Palic Subotica</li> <li>• Cluster Vojplast, Hajdukovo</li> <li>• Fruitland Subotica</li> <li>• Association of Bio Research Cluster</li> <li>• Cluster Agribusiness</li> </ul>	<ul style="list-style-type: none"> <li>• Provincial Secretariat for Economy</li> <li>• Provincial Secretariat for Labour and Employment</li> <li>• Provincial Secretariat for Science and technological development</li> <li>• Provincial Department of Education</li> <li>• Provincial Secretariat for Regional Development</li> <li>• Provincial Secretariat of Finance</li> </ul>	<i>Regional level – directly</i> <ul style="list-style-type: none"> <li>• Capital Investment Fund</li> <li>• The Development Fund of AP Vojvodina</li> <li>• Development Bank of Vojvodina</li> </ul> <i>Regional level – indirectly</i> <ul style="list-style-type: none"> <li>• Foundation for European Affairs</li> <li>• VIP - Investment Promotion Fund</li> <li>• Guarantee Fund APV</li> </ul>	<ul style="list-style-type: none"> <li>• Faculty of Engineering Novi Sad</li> <li>• Faculty of Economics Subotica</li> <li>• Faculty of Science Novi Sad</li> <li>• Faculty of Technology Novi Sad</li> <li>• Institutes (database of experts from universities)</li> <li>• Vojvodina CESS - Centre for Strategic Economic Studies</li> <li>• BSC Center - Center for Standardization and Certification</li> <li>• Center for Competitiveness and Cluster Development</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Employment</li> <li>• Agency for Development of Small and Medium Enterprises SMER Subotica</li> <li>• Regional clusters</li> <li>• Businesses</li> </ul>
National		<ul style="list-style-type: none"> <li>• Ministry of Economy and Regional Development</li> <li>• Ministry of Science</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry for the National Investment Plan</li> <li>• National Agency for Regional Development</li> <li>• Republican Fund for Innovation</li> <li>• SIEPA</li> <li>• Commercial banks</li> </ul>		<ul style="list-style-type: none"> <li>• National Employment Service</li> <li>• INFOSTUD</li> <li>• Clusters</li> <li>• Multinationals</li> </ul>
International			<ul style="list-style-type: none"> <li>• European Commission (IPA Funds, FP7, CIP, TEMPUS)</li> <li>• GIZ (GTC)</li> <li>• USAID</li> <li>• UNIDO</li> <li>• The World Bank</li> </ul>		

Source: Morača, Mihalj, Lanji Hnis & Kirchweiger, 2011, p. 38-40.

<sup>2</sup> All institutions of the state, regional and local governments that have the financial resources to improve the competitiveness of the economy.

### Categories of policies to support SMEs according to their objectives

Macroeconomic objectives such as the creation of new jobs, economic growth and exports are subject to macroeconomic policy. Increasing the employment rate is one of the main goals of SMEs not only in developing countries but also in developed countries.

<b>Objectives</b>	Macroeconomic	Redistribution income Reduction of poverty in developing countries
	Social	Creation of new jobs Economic Development The growth of exports
	Static efficiency	The presence of externalities Barriers to entry Asymmetric Information A small number of participants Incomplete information dissemination (insufficient access to information on potential market) Harmonization of market conditions
	Dynamic efficiency	Support of innovation

Source: Harvie and Lee, 2003.

### International connections

Incubators should set up business and innovation networks that aim to transfer information, knowledge and technologies, such as the European network of business innovation centres (EBN). European network of business and innovation centres<sup>3</sup> was established in 1984 year. It is a leading pan-European non-governmental network that brings together more than 200 businesses and innovation centres (BICs) and similar organizations, such as incubators, innovation and entrepreneurship centres across the enlarged Europe. This network provides help and support business and innovation centres, so it works as a liaison with other organizations, including European Commission, provides expertise in numerous areas, including finance and best practices. The European Commission has granted a license EBN network management with EC BIC logo and trademark to management and use of the benefits of membership and qualifications for appointment to the appropriate use of EC-BIC protective the logo. The incubator was licensed to use the EC-BIC Quality Mark must meet the five key criteria relating to: the mission, organization, services focused on innovative entrepreneurs/start-up enterprises and SMEs performance – measuring activities, and evaluation and quality.<sup>4</sup> Business incubators in Vojvodina should focus their efforts on the integration of the EBN network, thus reaching compliance with the corresponding BIC quality system.

<sup>3</sup> <http://www.ebn.eu>.

<sup>4</sup> Ibid.

According to the EBN network, a business incubator must function as a link between innovative entrepreneurs /start-ups and local public and private bodies, which is essential to the incubator:<sup>5</sup>

- conclude cooperation agreements with relevant partner agencies and service providers (such as the Regional Development Agency and the Regional Chamber of Commerce);
- ensure the availability of tools in an incubator, so that every entrepreneur/enterprise and SME newly refer to the appropriate service provider for example the database;
- ensure that the incubator staff, especially those who advise entrepreneurs/start-ups and SMEs have the latest knowledge and skills of other service providers in the relevant sector.

Based on the current economic condition of businesses and based on the current condition of strategic tools for the development of business clusters and incubators, it is necessary to establish networks of all the relevant factors affecting economic development, in line with the following principles:

- each factor must be visible and recognizable;
- the role of the factor must be identified as well as its impact on the environment;
- professional capacities of the employees must be, in a certain way, available and visible.

Based on these principles it is necessary to create conditions for all the economic development factors to focus together on the following activities (Morača et al., 2011):

- to define information flows among the factors;
- to train people on how to communicate better, on how to exchange relevant information and on how to use the information flows that have been established;
- to designate and to train contact/cooperation person that will serve as an “interface” between an organization and an environment;
- to train employees on how to use the established networks and to adjust the enterprise operations to that purpose;
- to create a subject matter experts database covering different areas;
- to initiate all types of cooperation through joint development projects. To start with small projects in order to teach the factors how to cooperate with each other;
- to create conditions for obtaining applicable knowledge through student practice and to create conditions for lifelong learning;
- to create conditions for funding business ventures, innovative activities of entrepreneurs through incubators and their development through clusters.

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<sup>5</sup> Ibid.

*Connecting business incubators, clusters and universities* will create significant development potential. By doing so it will boost the economic development of the particular area or region, which, without the proper support of the authorities at all levels and without the logistic support of public institutions, will be very much limited.

That is why it is very important to prepare the said institutions, to familiarize and, in some cases, to train the management for providing full support to all the mentioned activities.

It is also important to say that without meeting the financial prerequisites for the development of businesses and without significant financial support provided to clusters and business incubators, development projects and economic sustainability at local and regional levels, in general, are put at risk.

Activities concerning the establishment of cooperation between business incubators and clusters and provision of support to their joint actions are specific for each region and local authority and institutions, and they can be classified into the following categories:

- transfer of ideas, innovative solutions and technologies from universities, public research institutes and clusters on entrepreneurs' initiatives supports through business incubators;
- fostering of joint industry-academic community projects;
- revitalization and development of the existing companies in clusters and incubators using the existing professional potentials of universities, business incubators and clusters;
- strengthening of professional, scientific and technical-technological capacities through joint education, procurement of modern equipment and joint activities aiming to further develop economic capacities in order to enable balanced economic development and to disable wasting money through accumulation of particular type of equipment and machinery;
- support to *greenfield* and *brownfield* investments.

## *2.2 Methodology used*

The methodology is based on: 1) qualitative techniques for collection, analysis and summary of data; 2) the feedback from the Cooperation platform and Action plan offering non-conventional, bottom-up approach for business support; 3) best practices method. The Cooperation platform and Action plan are made together with regional experts and experts from Business incubator Linz and Clusterland Linz, Austria. The Cooperation platform is based on identification of the needs of enterprises in order to create favorable conditions to improve their performance. Using this platform, the paper also serves as a tool to disseminate best practices for cooperation with international actors. So the use of best practice – Clusterland Upper Austria from the city of Linz is a key important moment in the cooperation activities. They were our partners when we work on methodology that we can use in Serbia for networking between economic actors. So the approach to follow is to make steps and have results first on a local level (Business Incubator Subotica has a

connection and contract with four clusters), after discussions with other Vojvodina's incubator, new connections with clusters to be made.

Therefore, the methods for practical realization of the Cooperation platform include a number of steps, based on bottom-up approach:

*The first step* (already implemented) was just on local level, to make connections between Business Incubator Subotica and other Clusters in the region thus creating a network to support SMEs. They established a Cluster house as unique business development organizations to support clusters, associations and the SME sector based in Nis, Serbia. It was established at the initiative of seven clusters of Southeastern Serbia and with technical support from the Danish Programme for Local Economic Development in the Balkans in January 2011. The Cluster House is the coordinator of the Balkan Cluster network, which includes more than 30 cluster organizations and support institutions of all Balkan countries.

*The second step* is to make connection between incubators and clusters on regional level. In December, 2013 was established a Network of technology incubators and parks in Serbia. The five founders are incubators from Belgrade, Novi Sad, Zrenjanin, Subotica and Čačak. This network has several aims to establish a good working system for developing a competitiveness of SMEs in Serbia. The problem that we notice, is, that it is a very slow process.

*The third step* is to develop networking among incubators and clusters on national level (Serbia). Till now, we network on Vojvodina level and we are in the beginning of networking on national level.

Presented in a more structured way, the proposed procedure to follow includes iterative cycle of spiral improvement. Each iteration consists of four segments: planning, action based on the defined plan, progress control, actions aiming to adjust and to remove identified obstacles. In the next iteration identified problems and plan shortcomings are incorporated into the next planning cycle, which is known as Deming cycle of continuous improvement or PDCA (Plan, Do, Check, Action) (Morača et al, 2011, p.2). Each iteration segment consists of three fields or aspects: individual, comprehensive and control aspect. Each aspect must be present in all segments:

Table 3

Iteration segments and aspects

Segments	Planning	Action	Control	Adjusting and harmonizing
Individual aspect	An Individual improvement plan consists of a vision, of a scenario, of an objective, etc. and it is made by each factor separately.	In the second segment individual factors are carrying out what has been planned. It is assumed that all the factors have harmonized their action plans in order to increase effectiveness.	Progress of the realization of individual plans is analyzed, problems and discrepancies are identified and the basis for resolving them is defined.	Activities are taken in order to correct the identified discrepancies, adequate measures are taken towards modification and harmonization of what has been set up as an objective and of what has been achieved and the experience database is produced, based on which a new planning cycle will be launched.
Comprehensive aspect	Based on individual plans; implies the use of versatile tools, by means of which policies and objectives in common to each individual plan are unified and the comprehensive plan of action and support is produced. Based on the comprehensive plan the role of all factors in a single development plan is defined and guidelines are given to adjust individual plans in order to accomplish better results.	In parallel with realization of individual plans, elements of the comprehensive plan are also carried out. The basic factors which carry out this part of the plan are authorities at all levels and public institutions. The objective is to create adequate conditions for realization of individual development plans.	Harmonization of individual plans with the comprehensive one is subject of the analysis. Progress in realization of both plans is checked, as well as their comprehensive effects	Activities are taken aiming to correct the identified discrepancies in realization of the comprehensive plan; support is provided to enterprises to carry out their plans and to resolve the identified problems.
Control aspect	It is important to establish an efficient flow of information towards all the factors, setting up control mechanisms in order to prevent information loss, misuse, or abuse. The control aspect is repeated in all segments and it is particularly present in the third one.	Among other things, it include control of: <ul style="list-style-type: none"> <li>• cooperation policies implementation – what is the form of and the motive for cooperation among the factors,</li> <li>• local resources use and improvements,</li> <li>• business environment improvements,</li> <li>• innovations and development activities effects</li> </ul>	The special emphasis is put on the data loss prevention and on the prevention of misuse or abuse of information.	The special emphasis is put on monitoring" what has been planned – what has been done ratio".

Source: Morača, Mihalj, Lanji Hnis & Kirchweiger, 2011, p. 3-6.



### *2.3. Plan formulation*

#### Plan formulation – individual aspect

The current condition of the economic development factors is analyzed, and then, based on this analysis, an annual development plan is prepared for each factor separately, following the following structure (Morača et al., 2011):

- Development and harmonization of process/business structures: which processes should be improved, established and carried out in cooperation with other factors;
- Development and harmonization of organizational structures in order to enable effective and efficient process implementation and better cooperation with other factors;
- Development and training of management: to establish PDCA cycle of improvement in all management processes, to familiarize and to train the management on how to establish effective and efficient cooperation with other development factors/players;
- Development of the business environment in which innovations are created by means of "new fusion" – development projects and business activities initiated and carried out through cooperation with other factors that affect the economic development;
- Construction of the business network, in fact of one "network in which each face is visible" (widely based development and promotion organizations) and expanding cooperation with local organizations which provide support to businesses.

#### Plan formulation – the comprehensive aspect

*Networking:* Cooperation with local authorities and organizations which provide support to businesses (in particular with organizations for support at regional level), improvement of the promotion system.

*R&D:* Improvement of cooperation among enterprises, scientific research institutions, technology licensing organizations, developmental and experimental laboratories and public institutions and intellectual property protection.

*Market processing:* Using the existing distribution systems, trade companies, IT, etc., cooperation with marketing specialists, and similar activities.

*Cooperation with financial institutions:* Connecting with banks and improvement of their role and function.

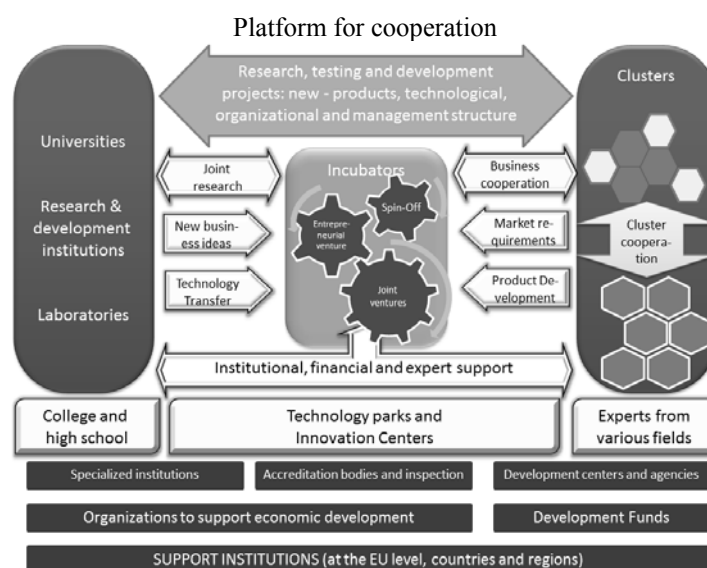
*Human resources improvements:* Selecting and preparing experts from different areas of expertise, professional development of employees working for enterprises as well as for other organizations and institutions.

*Establishment of cooperation with all those ministries* whose role and activities are very important for the businesses.

*Setting up of operative multidisciplinary teams* whose members are employed within different organizations, who might get involved in resolving concrete problems, designing projects or carrying out particular activities important for the economic development.

*Business and development oriented cooperation with international organizations* foreign markets analysis and processing and enabling transfer of information.

Figure 2



Source: Morača, 2011.

#### 2.4. Expected results and indicators

The following results are expected to take place when we have networking:

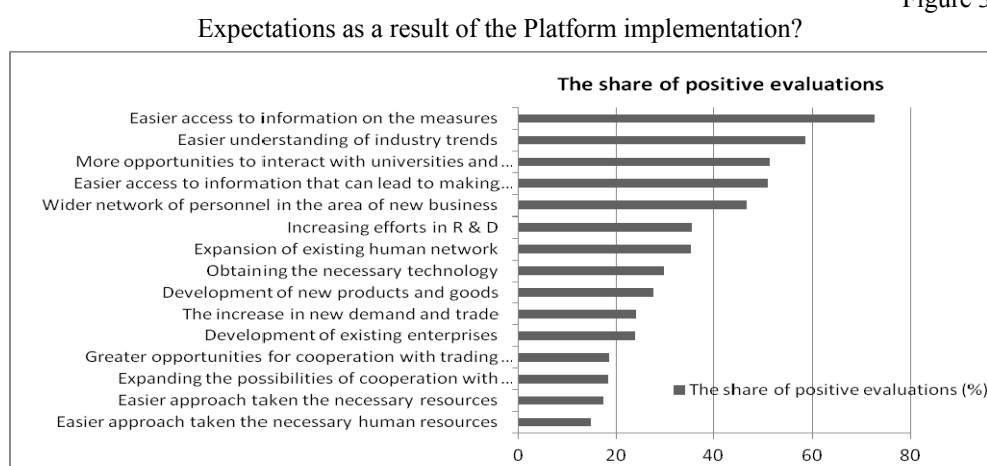
- Support institutions and experts network register;
- Easier access to information on measures taken by the authorities; designated contact persons at support institutions, trained to cooperate with universities, clusters and incubators;
- Greater opportunities for interaction with universities and research institutions, trade companies and financial institutions;
- Easier access to information, business trends (at regional, national and global level), funds and human resources that might lead to starting a new business;
- Expanding of existing HR networks; wider HR network in new business areas;
- Greater R&D efforts; obtaining the needed technology; launching new products;
- Development of existing enterprises; increase in a new demand and in trade volume.

The overall results can be monitored through the following indicators that will be made with Association of Business Incubators

- Number of newly-formed enterprises and initiated business ventures;
- Sales volume in a particular industry in the region;
- Number of development projects;
- Number of agreements on cooperation concluded among enterprises and between enterprises and development organizations, etc.;
- Number of new jobs and trained participants – trainings, seminars, practice etc.;
- The total capital turnover in a particular industry of the region;
- Export volume per industries and total export volume of the region.

If we analyze this table above we can conclude that in first four cases, in easier access to information on the measures, easier understanding of industry trends, more opportunities to interact with universities and research institutions and easier access to information that can lead to making a new job we still need to work on achieving effects in cooperation with trading companies and financial institutions, as well as providing the necessary funds and human resources. In the next sixth case (increasing efforts in R&D, expansion of existing human network, obtain the necessary technology, development of new productions and goods) we have effects of certain of the R&D as well as the development of products and the end five case (greater opportunities for cooperation with trading firms, expanding the possibilities of cooperation with institutions, easier approach taken the necessary resource and easier approach taken the necessary human resources) we seeing easier access to information that can lead to starting a new job.

Figure 3



Source: Morača, Mihalj, Lanji Hnis & Kirchweiger, 2011, p. 35.

## **Conclusions**

Successful activities and cooperation between business incubators and clusters is possible to be achieved through strong interaction with local authorities, public companies, local business support organizations, universities and through their support. It is necessary to establish information flows which will enable the “right” information to be received “on time” at the “right” place.

The proposed steps for practical realization of the Cooperation platform consider that economy and businesses demand strategic development oriented action meaning that development processes must be adjusted to the existing development potential. It does not mean to wait, activities should be undertaken as soon as possible, but one must be realistic when it comes to results, which are expected to take place within a reasonable period of 3-5 years.

Based on the above-mentioned, the following actions are proposed:

- Establishment and development of cooperation networks;
- Meeting conditions and fostering of technical and technological development;
- Incubation of new enterprises;
- Lack of information on market needs, demands and opportunities;
- Provision of funds for development projects;
- Human resources development.

Foundation of the economic development factors cooperation network and, primarily, establishment of cooperation among business incubators and clusters will have enormous impact on the economic development of the Northern Vojvodina region. Gathering information and creation of specific ties among public and private sector, different industries, research institutions and universities is a significant and responsible process whose effects have positive impact on the competitiveness of enterprises in long-term period. In order to make this process continuous it is necessary to provide the information system and to strengthen it – database, training and vocational training of the staff that is in charge of the network setup, promoting such an approach as well as enabling and fostering cooperation among all the factors through participation in development projects.

It is planned a development of support systems for business incubators. In order to implement the Strategy, the Government of AP Vojvodina shall establish the following system for support of business incubators:

- Non-financial support, which should enable the development of capacities of business incubators and development of incubator services.
- Financial support through the allocation of funds for projects of business incubators.

Following the adoption of the Strategy, the Government of Vojvodina will initiate the development of the Business incubator operational document for the implementation of the

Strategy. Operational measures for the implementation of the Strategy can be developed in a modular manner, including for example. Two groups of modules: Obligatory module (raise awareness before incubation activities, support for the establishment of business incubators, human resource management) and optional modules (funding, alumni, internationalization). As already mentioned, the program of development of business incubators define performance standards of business incubators for indicators promoted by the Strategy. These standards represent the expected values of the above indicators and will be determined for each individual business incubator, taking into account their specificities measuring trends, and by measuring the change in the value of these indicators over time will be determined the success of business incubators.

Clusters and business incubators play a central role in creating networks. It is important to have them moving in the right direction. In order to improve their organizational structure and to strengthen their role and significance, there is a need for financial independence, which in addition to support that they get from the authorities, development programs and funds, also includes their own financial resources based on services delivered. Revitalization and economic and infrastructural development projects at local, regional, national and international level should be used to get the professional staff, experts, involved and trained, to procure modern equipment, to build laboratories, to implement standards etc. The medium and the long-term tasks are to increase the number of services that have been offered in order to provide financial independence.

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