

NATIONAL REPORT ON EXISTING STRUCTURES FOR SUPPORT OF ECO-INNOVATION – SERBIA



Project co-funded by European Union funds (ERDF and IPA) Contact: ecoinn.danube@cvtisr.sk

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| IPA PP2 RDA BANAT, Robert Molnar, Branislav Milosav, Irena Zivkovic | |
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1. Abstract

Serbia is a country which fights with many serious problems in economy such as high unemployment rate, obsolete technology in manufacturing sector, very low level of patent applications etc. which in total results with its uncompetitive economy in general. This way, eco-innovation issue is not a priority for the Government so far.

However, relating to alternative energy, energy efficiency and environmental rehabilitation, some steps forward are made by creation of legal environment which is in most cases adjusted to EU regulations/recommendations. But, there is still a lot of work to put the legislation into the right direction in its implementation phase in order to benefit from it.

Generally speaking it is not hard and even not expensive to start a business in Serbia, relating to administrative procedures. But, when it comes to any serious manufacturing, relating the quantity and quality, businesses must calculate with expensive technology to be acquired as well as with certificates, permissions etc. when procedures could be very long, stressful and expensive too. Businesses who are dealing with eco-innovation can't benefit from it, because it is mostly not recognized by institutions and government as well.

For the start-ups it is very difficult and almost impossible to get a commercial loan from the banks. In addition, other requirements such as mortgage, life insurance etc. makes bank loans unattractive for start-ups. Because of that, funds from government, EU or other ones are more attractive for the beginners particularly for those who deal with eco-innovations.

Serbian government since 90's of XX century permanently offers different kinds of support to open a company. Purpose of these supports differ but mainly they are related to self-employment (start a business), engagement of new employees or to acquire the equipment. Available funds are mostly underestimated relating to start-up costs and in cases of self-employment are about EUR 1,000 per request.¹ Result achieved by this support could be estimated knowing the trend of new entries and closed businesses. It differs during the time and new entries are slightly over closed businesses with exception in 2016 when new entries number was higher for more than 50%.²

¹ Source: National Employment Service

² Serbian Business Register Agency: <u>http://www.apr.gov.rs</u>



2. Support structures and sources for facilitating ecoinnovation

2.1 Government support

2.1.1 Active and passive labour policy

Labour policy of the government of Serbia is implemented through institutional support embodied in the **National Employment Service** (hereinafter: NES). It consists of the Directorate, two Provincial Departments, 34 branches, 21 departments and more than 120 offices in all districts in the Republic of Serbia.³

NES implements balanced approach of the philosophy where passive labour market policy is considered of having "negative", while active labour market measures are experienced as to have "positive" effect on the number of persons employed.

On the side of <u>active labour policy</u>, NES facilitates access to the job openings for the unemployed by maintaining excessive database of employers and their needs for workforce; by organizing job fairs, public calls for employment, administering governmental calls for subventions and subsidies for employment and self-employment of general population or vulnerable groups, professional orientation, trainings on basic skills (i.e. ICT literacy), re-training programmes and other activities which match unemployed persons to available jobs.

NES also implements elements of <u>passive labour policy</u> as well: it provides administrative services related to the unemployment such are maintenance of the social and health security accounts of the unemployed and financial compensation for unemployment, where applicable by law.

Other than mentioned, NES cooperates with private agencies for employment, educational institutions, ministries and other relevant stake holders. By law, the National Employment Service and private employment mediation agencies cannot charge their services to unemployed persons.

2.1.2 Available tax incentives

Following the "Decree on encouraging of employment",⁴ several rulebooks regulating the issue for the following categories of employment eligible for tax relief are issued by the Tax authority: employment of persons older than 45 years, employment of persons with disabilities, employment of trainees and persons under the age of 30 and for the recruitment of new employees.

³ <u>http://www.nsz.gov.rs/live/o-nama/nsz-danas</u>

⁴ Tax Administration: <u>www.poreskauprava.gov.rs/sr/fizicka-lica/pregled-propisa/uredbe.html</u>



Other than tax incentives alone, employers can count on direct financial aid for employment, as laid down in the Table 1.

| Provincial Secretariat for Labor, Employment and Gender Equality | Subsidies for new employment of unemployed persons - 100,000- 130,000 RSD/per employee |
|--|--|
| Provincial Secretariat for Labor, Employment and Gender Equality | Financing the employment of a trainee for a certain time - 37,500 RSD in gross amount for persons with a high professional qualification - 27,800 RSD in gross amount for persons with a higher and secondary vocational education |
| National Employment Service | Subsidies for opening new jobs / up to 50 new jobs - 80,000 - 160,000 RSD / per employee |
| National Employment Service | Financing of the retraining / retraining program for the unemployed for the needs of the employer - up to 80.000 RSD / per participant |

Table 1: Financial aid for employment⁵

Source: NES, Government of Autonomous Province of Vojvodina

In addition to the fact that the corporate income tax is among the lowest in the region and is 10%, the Law also provides specific incentives, in the form of tax exemption, incentives for investments, tax credits and accelerated depreciation:

The **exemption from the payment of income tax** for a period of 10 years has a taxpayer whose fixed assets, which he uses for a registered activity, he personally or some other person, invests more than RSD 600 million and who, during the period of investment additionally employs at least 100 persons.

Similarly, a taxpayer who exercises an activity in an area of special interest for the Republic of Serbia shall have the right to exemption from paying income tax for a period of 5 years, provided that: he has invested in the fixed assets (where the taxpayer or some other person invested the amount greater than EUR 70,000); in the period of investing, is obliged to additionally employ at least 5 people; he uses 80% of the value of fixed assets in a registered activity in an area of special interest for the Republic of Serbia, and that at least 80% of permanently employed with him have permanent residence and reside in an area of special interest for the Republic of Serbia.

Tax credits can be obtained for: the investments in fixed assets - a taxpayer who makes investments in fixed assets in his own registered activity has the right to a tax credit in the amount of 20% of the completed investment. The deduction may not exceed 50% of the calculated tax in the year in which the investment was made; hiring part-time workers - a taxpayer who recruits new employees for part time jobs, calculates the income tax reduced in the tax period for an amount equal to the amount of 100% of the gross salary paid to these employees, increased by the corresponding public revenue at the expense of the employer. The unused portion of the tax credit may be transferred to the income tax account from future accounting periods, but not longer than ten years.

Reduction of the tax on profit for a period of 2 years to the taxpayer who earned a profit in a newly established business unit in underdeveloped areas, in proportion to the participation of the profit so obtained in the total profit of the company. The condition for the realization of this kind of tax credit is the separate recording of the operation of such a unit.

⁵ Exchange rate: 1 EUR = 120 RSD (approx. value in recent period)



Accelerated depreciation at rates up to 25% higher than prescribed can be achieved for assets used for scientific research work, education and training of workers, energy saving, prevention of pollution of air, water and land, use of secondary industrial raw materials, as well as for computer equipment.

Other tax incentives include: transfer of loss over a period of up to 10 years; in the case of a concession investment, a concessionary company or a concessionaire having a registered company for the performance of concession activities shall be exempted from paying income tax on income from the subject of the concession for a period of 5 years from the date of the contractual completion of the concession investment as a whole. If a concession company or a concessionaire earns profits before concluding a concession investment, it is exempt from paying income tax; reduction of the tax base on earnings; exemption from payroll tax for certain groups of workers; reduction of annual income tax and avoidance of double taxation - if a taxpayer earns profits by doing business in another country, and if the tax on that profit has already been paid in another country, he will be entitled to a tax credit on corporate income tax in Serbia up to the amount of tax paid in another country.

Besides these systemic tax incentives, there are also **ad-hoc measures** of active employment policy, which add to the pool of incentives for investors in Serbia. The most recent example is Call for applicants⁶ to win grant for the opening of new workplaces in relation to the implementation of the new investment project at the territory of the province of Vojvodina, where SMEs can expect from 3 to 5 thousands of EUR per new workplace created, depending of the location of the municipality where the investment has been made.

2.1.3 Accessible trainings and seminars for skill development

There are several institutions and agencies providing accessible trainings and seminaries for development of necessary skills for the workforce, management and owners of the enterprises and SMEs in Serbia. Level of proficiency and expertise vary in dependence of the goals of programmes and scope of the training/seminary, as well from the institution providing the service.

National Employment Service organizes free of charge trainings for the needs of the labour market through its network of branch offices. Usually, the trainings last for up to six months and are realized by experienced lecturers and instructors in educational and training centres. In the focus of the training is practical teaching, which is realized in a concrete and real working environment. After successful completion of the training, students receive a certificate of acquired competence.⁷

Chamber of commerce and industry of Serbia (hereinafter: CCIS) is host to number of training/seminaries on specific topics for professional improvement. CCIS provides education in either Education Centre which is organisational part of its Education Division, or at the premises of various service providers, partners of the CCIS, schools, universities, etc. Web site of the CCIS maintains excessive list⁸ of the educative sessions which are conducted on non-commercial basis, as well as the list⁹ of educative events which require participation fee.

⁸ http://www.pks.rs/SADRZAJ/Files/Centar%20za%20edukaciju/Spisak%20svih%20obuka%201.pdf

⁶ <u>http://www.region.vojvodina.gov.rs/Konkursi/Конкурс-за-доделу-бесповратних-средстава--за-отварање-нових-радних-</u> места--повезаних-са-реализацијом-новог-инвестиционог-пројекта

⁷ http://www.nsz.gov.rs/live/trazite-posao/edukacija/obuke za potrebe tr i ta rada.cid545

⁹ http://217.24.23.93/Aplikacije.aspx?aplikacija=edukacija



Development Agency of Serbia (DAS), with its network of accredited regional development agencies provide education and trainings¹⁰ as part of its standardized set of services for micro, small and medium enterprises and entrepreneurs. The overall goal is to support the growth and development of micro, SMEs and entrepreneurs, cooperatives and clusters through the improvement of availability, volume and quality of support services for their business. For potential and existing micro, SMEs and entrepreneurs, cooperatives from this program are free of charge.

Within the programme there are mandatory and optional educational sessions to attend:

- 1) Mandatory
 - Training for beginners in business;
 - Preparation of business plan and operations with banks;
 - Financial management;
 - Export for exporters for the first time;
 - Marketing and sales.

2) Optional

- o Review of quality standards and environmental protection standards;
- E-business;
- Innovation;
- Preparations for the Single European Market;
- Information technology and business;
- Investment readiness.

2.2 Domestic support funds

2.2.1 HR development funds

There are no state funds dedicated exclusively to post-general education HR development in the Republic of Serbia. Rather, the issue of financing of the improvement of the HR is tackled through generic and/or specific programmes of support to the micro, small and medium enterprises and entrepreneurs, where trainings and seminaries are part of the more comprehensive set of services. Typically, seminaries, education sessions or trainings are launched as parts of the programmes financed by the state or as a part of donated or internationally co-funded projects. This programmes and projects are publicly advertised and therefore are, by their nature, accessible to everybody provided mandatory conditions of each of them are met.

2.2.2 National scholarship funds

In Serbia, there is **national scholarship fund** which is designed to provide financial impetus for outstanding students. In a desire to systematically provide the care of the state for youth and their

¹⁰ <u>http://www.ras.gov.rs/en/kreiraj-zivot/projekti/program-standardizovanog-seta-usluga-za-mikromala-i-srednja-preduzeca-i-preduzetnike</u>



future, in August 2008 the Government of the Republic of Serbia established the Young Talents Fund, which is under the authority of the Ministry of Youth and Sports.

The Young Talents Fund annually awards and rewards more than 3100 scholarships for secondary school and university students. From the day it was founded, the Fund granted scholarships and awards for more than 23,000 university students and secondary school students in total.¹¹ Other than scholarships and awards alone, the Young Talents Fund, through its cooperation with its partners, provided the opportunity for professional practice and employment, as well as a number of additional activities and benefits which can provide significant support in further education and professional development. The fund awards its scholarships for successful applicants in the following areas:

- Scholarship competition for up to 900 best students of the final year of basic academic studies and up to 400 students of the final year of Master Academic Studies from higher education institutions founded by the Republic of Serbia.
- Competition for scholarships for the best second and third degree students at the universities of the countries of the European Union and the European Free Trade Association (EFTA) and the world's leading universities.
- Competition for awarding pupils of secondary schools for achieved success at recognized competitions in the country and abroad.

An international initiative of UNESCO and pharmaceutical giant L'ORÉAL named "For Women in Science" got the national kick start in Serbia in the 2011. Since then, 20 outstanding women with expertise in natural sciences were awarded the national "For women in science" scholarships.¹²

2.2.3 Local/regional development funds

Local authorities in Serbia are not championing the good practice of having **local funds** dedicated to development of HR on a systematic base. However, municipalities do award certain number of scholarship, rewards or sponsorships for outstanding students, sportsmen and pupils, sometimes co-financed by successful businesses operating in the municipality. Amount of awards are usually in lump sums of rather symbolic than practical value, and are awarded during festive occasions (ones city's day, liberation day, etc.).

Innovation fund is established on 2011. The intention of the Innovation Fund is to contribute to the overall development of innovations through various financial aid instruments, particularly by fostering the establishment of new and strengthening the existing companies, by positioning them to access venture capital markets, and by attracting foreign direct investment in the high-tech research and development.¹³

Other than institutionalized funds, there are very few companies awarding scholarships for students. Hemofarm Foundation is one bright example, who has been supporting students of medicine, pharmacy and technology in Serbia for almost 25 years and has been awarded scholarships to 3,300 students to date.

¹¹ <u>http://www.fondzamladetalente.rs/o-nama/</u>

¹² <u>http://www.zeneunauci.co.rs/program.html</u>

¹³ www.innovationfund.rs/about-if/



2.3 Transnational support funds

2.3.1 Cohesion funds

Republic of Serbia is currently beneficiary of the financial and technical help of the Instrument for Preaccession Assistance (IPA) and therefore is <u>not eligible</u> to use **EU Cohesion funds**.

2.3.2 Framework programmes where Serbia is eligible to apply:¹⁴

- **Creative Europe** is the European Commission's framework programme for support to culture and audio-visual sectors. It was adopted in 2014 for a seven-year period, building on previous Culture Programme and MEDIA, which ran from 2007-2013. The Republic of Serbia joined the Culture programme on 19 June 2014; Creative Europe Desk Serbia is an implementation body of Creative Europe, set up within the Ministry of Culture and Information of the Republic of Serbia.
- **Erasmus+** programme provides funding for cooperation projects in three areas: education, youth and sport. The Republic of Serbia is one programme's partner countries. Having recently started preparatory measures for full participation in the programme, Serbian institutions are offered the possibility of limited participation in 2017 call for proposals for several new types of projects. In addition to opportunities given to it as a partner country form the Western Balkans region, Serbia has been granted access to:
 - KA1 Higher Education
 - KA1 School Education
 - KA1 Mobility in the area of Vocational Education and Training
 - KA1 Adult Education
 - KA1 Youth Mobility
 - KA2 Strategic Partnerships for Vocational Education and Training.

The management of project proposals in Serbia is delegated to Tempus Foundation acting as the national Erasmus+ office.

• Europe for Citizens aims to promote European identity and citizenship and strengthen citizens' participation in all segments of life of the Community. The Republic of Serbia joined the programme in November 2012, following the signature of the International Agreement signed with the European Commission. Up until 2017, over 200 Serbian civil society organisations, local self-governments, educational and cultural institutions have submitted their project proposals. More than 230 national stakeholders have created partnerships across Europe. Office for Cooperation with Civil Society of the Republic of Serbia acts as the national contact of the Programme. The Office promotes the programme, organises info sessions and conferences. It also helps applicants to prepare project applications and find partners in other countries taking part in the programme.

¹⁴ <u>https://europa.rs/eu-assistance-to-serbia/eu-programmes/?lang=en</u>



- Horizon 2020 is the EU's biggest framework research and innovation programme, which has replaced three previous programmes. Horizon 2020 is the instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. Serbia joined the programme in July 2014. Horizon 2020 falls under the responsibility of the Ministry of Education, Science and Technological Development, which provides support for any of the topics through a network of national contact points. The programme is open to Serbian university research groups, research institutes, individual researchers, SMEs, big companies, as well as government, non-government and private organisations and institutions. They participate under the same conditions as their counterparts from EU Member States.
- COSME (Programme for the Competitiveness of Enterprises and SMEs) is an EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises running from 2014 – 2020. Serbia joined COSME on 1 January 2016, upon the entry into force of the previously signed agreement with the EU. The Ministry of Economy is in charge of coordination of COSME activities.
- **CUSTOMS 2020** is an EU cooperation programme providing national customs administrations with the possibility to create and exchange information and expertise. It allows developing and operating major trans-European IT systems in partnership and establishing various human networks by bringing together national officials from across Europe. The Republic of Serbia joined the programme Customs 2020 on 19 November 2014, upon the entry into force of the International Agreement between the European Union and the Republic of Serbia on the participation of the Republic of Serbia in Customs 2020 programme. The implementation of the programme in Serbia falls under the responsibility of Customs Administration of the Republic of Serbia.
- **Fiscalis 2020** is an EU cooperation programme enabling national tax administrations to create and exchange information and expertise. It enables development and operation of major trans-European IT systems in partnership, as well as the establishment of various person to person networks by bringing together national officials from across Europe. The Republic of Serbia joined the programme in 2015.
- Employment and Social innovation Programme EaSI is a financing instrument at EU level to promote a high level of quality and sustainable employment, guaranteeing adequate and decent social protection, combating social exclusion and poverty and improving working conditions. Serbia joined EaSI programme in August 2015.
- EU Scheme for Young Professionals in the Western Balkans (YPS): Based on the encouraging results of the pilot project presented in the context of the Trieste Summit held in July 2017, the European Commission, following a positive opinion of the IPA Committee (Member States), decided to continue the EU Scheme for Young Professionals in the Western Balkans (YPS) for a further two years. The overall objective of this follow up Action is "to contribute to progress in the accession process and deepen regional cooperation in the Western Balkans".



2.3.3 SME instrument

The SME Instrument provides business innovation support to SMEs in the 28 EU Member States and Horizon 2020 associated countries. Being established in a Horizon 2020 associated country, Serbian SMEs are eligible to get EU funding and support for breakthrough innovation projects with a market-creating potential.

According to the "SME Instrument Impact Report – 2017",¹⁵ Serbia was in the group of countries with less than 10 SMEs applies for the funding (5 SMEs applied from Serbia¹⁶), with the 4% of the SME Instrument success rate, where the Iceland was by far the best faring with the 20% success rate.

By topic, Serbian SMEs competed for the funding with: eco-innovation and a sustainable supply of raw materials; climate action, environment, resource efficiency and raw materials; introduction of ICT solutions for Health, Well-Being and Ageing Well; bridging between different program languages and platforms and low carbon and efficient energy systems. Total EU contribution to the projects sought was more than EUR 1.8 million. The biggest contribution of more than EUR 1.6 million applies for the topic "Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well" of a Belgrade based company who previously used the SME instrument funding in the year 2015.

2.3.4 Foreign aid

In regard to the **Foreign aid**: The EU is by far the biggest donor to Serbia with more than €2.6 billion (as of January 2014) in grants provided over the past 13 years in all fields, ranging from rule of law, public administration reform, social development, environment and agriculture. The financial assistance is provided through EU's Instrument for Pre-Accession (IPA) which aims to help Serbia to prepare for assuming and effectively implementing obligations of its future membership in the EU. EU Member States provided substantial bilateral assistance too.¹⁷

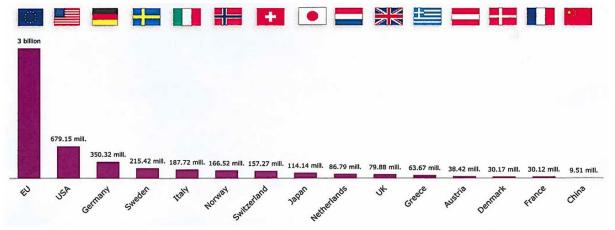


Figure 1. Commited grants for Serbia in Period 2000-2015 (in mill. EUR)¹⁸

¹⁵ <u>https://ec.europa.eu/easme/sites/easme-site/files/</u>

accelerating innovation in europe horizon 2020 smei impact report.pdf

¹⁶ <u>https://sme.easme-web.eu</u>

¹⁷ <u>http://europa.rs/eu-assistance-to-serbia/?lang=en</u>

¹⁸ Source: EU Delegation and ISDACON IS, November 2015. (No data for Russian donations).



Report on foreign aid to Serbia in the year 2015 for the EU Delegation which was prepared by the TNS Medium Gallup¹⁹ provide better insight on the levels of direct aid by selected countries.

According to the USAID statistics,²⁰ Serbia received total of more than USD 33 million since the year 2001, covering number of sectors, from civil rights, judicial reform to business enabling.

Norway is a significant bilateral donor to Serbia, Montenegro and Macedonia. Norwegian aid aims to support Euro-Atlantic integration, which we see as a key to democracy based on the rule of law, and stability in these three countries and the region. Norway embassy in Belgrade funds number of projects²¹ in the region of Western Balkans in the 2017.

Another significant donor to Serbia is Japan with about 20 projects, half of which are still ongoing. Projects are covering several topics with primary focus on: 1) Market-oriented economic reform, 2) Health/Education, and 3) Environmental Protection, tackling social, infrastructural, tourism to SME and medical aid issues, amongst others. According to the data²² for the year 2015 from the site of Japan International Cooperation Agency (JICA), Japan dedicated USD 1.88 million in the form of grant, USD 2.8 million as technical assistance and USD 0.78 million in the form of loans.

2.4 Business incubators

2.4.1 Local incubators²³

In an unpublished study,²⁴ which German experts produced for the needs of the government of the Republic of Serbia, it is mentioned that there 25 incubators in Serbia have been established, half of which are functional, but no precise list is given. At that time Business Registers Agency (APR), retrieves data on 25 incubators, but only 13 of them were on the NARD (nowadays DAS) list.

Another study²⁵ on business incubators in the region was conducted within the TEMPUS program specifies that by the year 2014, 23 incubators were established in Serbia, along with five other initiated initiatives. The business-technological incubator of technical faculties Belgrade (BITF)²⁶ is the most successful business and technology incubator in Serbia, registered as a non-profitable Ltd IN 2016.

Another institution which is host to business incubating initiatives is Science Technology Park (STP). STP Belgrade is primarily intended for growing high-tech development companies, small businesses and start-ups. It is established by the RS Government (represented by the Ministry of Education, Science

¹⁹ europa.rs/eu-assistance-to-serbia/?lang=en#prettyPhoto/0/

²⁰ <u>https://explorer.usaid.gov/query?country_name=Serbia&fiscal_year=2016&transaction_type_name=Obligations</u>

 ²¹ <u>https://www.norway.no/contentassets/0cf812d763e046a29a4c081850c1c364/embassy-supported-projects-2010---2017.pdf</u>
 ²² <u>https://www.jica.go.jp/serbia/english/c8h0vm0000br15zg-att/serbia.pdf</u>

 ²³ Kovačević, M. (2015). *Establishing business incubators as a measure of support to local development* (Unpublished Master Thesis). Belgrade, Serbia.

²⁴ GIZ (2014). Project: Business Incubators in Serbia. Part 1 Screening of the Business Incubators and recommendations to improve their performance (unpublished report).

²⁵ Group of authors (2014). *Strategic Development Plan for Business Incubators and Science and Technology Parks in Western Balkan Region.* Kragujevac: University of Kragujevac and WBCInno project.

²⁶ <u>http://www.bitf.rs/cms/item/home/sr.html</u>



and Technological Development), the City of Belgrade and the University of Belgrade, with the aim to create a favorable environment for developing links between industry and science & research organizations and universities, knowledge transfer, new technology development, innovation commercialization, networking and stimulating growth in the knowledge-based economy. STP Belgrade is becoming a new technology core of the city that brings together domestic and foreign high-tech development companies and promotes start-ups by creating a favorable environment to innovation, technology development and competitiveness.²⁷

The reasons that led to such a confusing situation about determining basic facts as the number of incubators are numerous, some of which are mentioned in the already mentioned study conducted within the framework of the TEMPUS program: "After the initial support at the inception phase, a large number of incubators in Serbia have encountered the problem of long-term, sustainable financing, which resulted in serious difficulties in the functioning of the development of services for small enterprises, tenants of the incubator. Except for follow up support through the ENTRANS program and assistance through the National Investment Plan, there were no state aid programs, and as a result, a number of these incubators were no longer operational (no tenants), and those who are still operative face major problems in the development of their functions and giving full contribution to the development of the SME sector"²⁸

The problem of maintaining the list of operational incubators persisted to date, fostered by the fact that private enterprises sometimes add "business incubator" adjacent to the simple name of the company in their trial to capitalize on virtual attributes of structured SME assistance.

2.4.2 National incubator network

The study²⁹ from the year 2015 extensively elaborates the need for establishment of the national network of incubators in Serbia which would be comparable to the models such are: US based NBIA (National Business Incubation Association), EBN (European BIC Network) or German ADT (Bundesverband Deutscher Innovations, Technologie und Gründerzentren e.V.), and its inclusion in greater array of networks, like European Enterprise Network. This idea was in line with SME development paradigm of the government, DAS and NALED at that time.

To corroborate this initiative, the STIPNet incubator network was established at the end of the year 2013. Founders were BITF (Incubator of Technical Faculties in Belgrade), Business Incubator Zrenjanin, Business Incubator Novi Sad, Business Incubator Subotica and Scientific Technology Park Čačak. It was created as part of a project of support of the Government of the Swiss Federation to the development of entrepreneurship. However, when the program was completed, there were no longer any funds for the functioning and implementation of the common activities, so even if the network is not extinguished, it is not active.

Results of the success of incubators are not instantly visible and sometimes cannot be expressed by shear numbers, since most (if not all of them), are organized as non-for profit organisations, hence not

²⁷ <u>https://www.ntpark.rs/about/</u>

²⁸ Kovačević, M. (2015). *Opus Cit*

²⁹ Ibid.



paying dividends nor presenting financial benefit. The real beneficiary of the work of incubators in any given country is the State budget, since all the taxes on wages, corporate taxes and social benefits of any employee and enterprise is budgetary revenue. For example, if an incubator hosts only 50 employees (of any number of incubated companies) on lawfully obligatory minimal wages, wage taxes and social giving's to the state budget are 9 million RSD. If one add 20% on any turnover of VAT, the numbers score rises for additional RSD 2.6 million, totalling in RSD 11.6 million (about EUR 100.000) each year, plus corporative taxes, where applicable. Usually, though these obligations of the incubated companies, an incubator who is dependent on the budget brings multiplied amount of received funds back to it.³⁰

2.4.3 Mentorship programmes

Mentorship programmes are recognised and facilitated by Development Agency of Serbia which provides mentorship as part of its support package to start-ups. Beside this structured approach governed by state founded agency, there is number of commercially based mentorship programmes at the Serbian market, providing mentorship programmes in the fields of finance, management, medicine, arts and other fields. Sometimes these programmes are part of integral packages for personal improvement which is targeting general public, while sometimes are internal improvement programmes for companies³¹ and/or associations.³²

Internet page³³ which provide maps of the available co-working space cites some 25 sites where individuals, entrepreneurs, freelancers can use shared facilities in urban environment or countryside. Most of it (15) is situated in the capitol city. Price ranges vary from free (Impact Hub Belgrade, Share Square and Webinarium) to up to 20 EUR per day or over 100 EUR,³⁴ depending on the comfort provided.

Other sources³⁵ cite 30 places for digital nomads in Belgrade alone, enlisting internet cafés as coworking space as well. Either way, today there are quite a number of Serbia's co-working pioneers, providing solutions for the people eager to find meaningful employment and/or start their own business with limited resources.

The situation with the fab-labs is a bit murkier, but even though they are still not widely accepted, some of the first structured initiatives on the fab-lab concept in Serbia started during the second decade of new millennia, often with the foreign donation support. Similar to original concept, it is closely tied to the enthusiastic circle of scientists and researches and education and research institutions who are trying to disseminate the idea to the students and future and present day entrepreneurs.

Formation of the fab lab in the renowned "Petnica Research Station" began in July 2015 in collaboration with the "Fab Initiative", the Metropolitan University. Petnica fab lab is conceived as an

³⁰ Interview with BIC Zrenjanin CEO

³¹ <u>https://www.danas.rs/beograd/stipendija-i-mentorski-program-za-najbolje-studente/</u>

³² <u>http://www.sam.org.rs/dogadjaji/profesionalnirazvoj/menprosam/27467/menpowergroup-srbija--sponzor-mentorskog-programa.html</u>

³³ <u>https://www.coworker.com/search/serbia</u>

³⁴ <u>http://www.mokrinhouse.com/accommodation/</u>

³⁵ <u>https://nomadlist.com/coworking/belgrade-serbia</u>



educational fab lab, which means it will primarily focus on training of pupils, students and teachers, but will also provide education on the concept for entrepreneurs. The project was financed by the Embassy of the Kingdom of Norway in Belgrade.

One of the basic goals of the "FABelgrade 2016" conference, organized by the "Fab Initiative" with the support of the US Embassy in Serbia, is the transfer of knowledge and world experience to the domestic "fab lab" community with the aim of encouraging entrepreneurship in the field of new technologies in Serbia, primarily biotechnology. "FABelgrade" became a biennial regional convention dedicated to promotion of digital fabrication and fab lab concept and their application in various fields, and is set for stage in April 2018.

"Fab Initiative" is NGO whose objectives,³⁶ amongst others are: to promote establishment of laboratories for digital fabrication (Fab Labs) in Serbia and the region, develop educational programs to enable technology transfer in the STEAM,³⁷ provide incentives for entrepreneurship development and develop entrepreneurial spirit in young scientists.

Other than "Fab Initiative" and "Petnica Research Station", there is design and prototyping workshop/hub "Fab Lab Belgrade" who is active participant in the fab-lab field in Serbia. It brings people from different fields into a vibrant network involving professionals, technology, design, engineering, coding and many others,³⁸ with main goals: to reduce the capital cost issues for designers and makers, supporting start-ups to develop, grow and bring innovative services, products and ideas to the forefront of Serbian industry.

The idea of the fab labs and "makers" approach is slowly getting attention, even with the youngest. Centre for promotion of the science, created in spring 2010, whose establishment was enacted by the Law on Scientific research, a government institution competent for the promotion and the popularization of science opened the first *Makers Lab* in Serbia – KLIKER (eng: *marble*). The youngest, as well as those less experienced, can here make their first mechanical or electronic circuits, while those more experienced can independently realize their ideas in the Innovation Laboratory of the Center. Makers Lab provides visitors with tools; space and knowledge that will make their ideas come to life.

2.5 Support by companies (internal and external)

2.5.1 Apprenticeship programs

As mentioned with the mentorship programmes, there are certain activities driven by internal company interests for development of specialised workforce,³⁹ especially where there are proprietary solutions or where an economic entity operates within narrow or non-standardised market niches. This, however, is limited to few national companies with traditionally well-established business and access to national and international markets ("NIS" and "Hemofarm", to name a few), but is more of a regular

³⁶ <u>http://fablab.rs/#page_id=393</u>

³⁷ Science, Technology, Engineering, Arts and Math

³⁸ <u>https://www.fablabs.io/labs/fablabbelgrade</u>

³⁹ Kovačević, M. (2015). Opus Cit.



practice of the foreign direct investors bringing the plug-and-play production factories ("Leoni", "DrexlerMayer"...)

Support to external apprentices programs is even scarcer, since no companies in Serbia seem to be specializing its core business in providing dedicated syllabuses as an external service provider to the companies in need.

2.5.2 Private scholarships/fellowships

There are *no* private (outside) scholarships nor fellowships awarded by private foundations, companies, and service groups which are founded in Serbia to date. Outstanding students from Serbia do however compete for international scholarships/fellowships for studying abroad.

This field is yet to be recognized by the national legal framework of the educational system in this country.

2.5.3 Organizations of hackathons

Hackathon as a term has its origins since 1990s. In its informal meaning, it is "an event typically lasting several days, in which a large number of people meet to engage in collaborative computer programming".⁴⁰ Unlike, developed countries Serbian experiences in this type of open source events are relatively new ones but very important in mobilising very dynamic IT community. While first event labeled as hackathon was organized in 1999,⁴¹ in Serbia it was in 2011,⁴² when SEE ICT from Belgrade organized the first non-company hackathon in Serbia and established the tradition of hackathons influencing positive social changes. Since then, numerous hackathons were organized in different Serbian towns. Unlike, first hackathons where international donor organizations (financially) supported them private business sector recognized this form of event as an opportunity for their businesses.

In many cases today's hackathons in Serbia are initiated and supported by business sector in tight relations with some NGO or other type of IT community formal or/and informal organization (SEE ICT, ICT HUB,⁴³ Startit,⁴⁴...). Beside these, hackathons in Serbia are often accompanied by academic institutions related to IT sector (Faculty of Electrical Engineering,⁴⁵ Faculty of Computing,⁴⁶...).

Hackathons in Serbia are widely recognized by different social groups outside of IT sector, but mostly by private business sector, NGO sector (social activists) as well as financial sector.

Most of today's hackathons last 24 or 48 hours with prizes for the best solutions. They are great opportunity to join IT professionals/start ups/students/individuas with social activists as well as with other professionals from private sector in order to create useful solutions for businesses and/or for wider society.

⁴⁰ <u>https://en.oxforddictionaries.com/definition/hackathon</u>

⁴¹ OpenBSD Hackathon in Calgary, Canada, on June 4, 1999.

⁴² <u>http://socijalnoukljucivanje.gov.rs/en/open-data-hackathon-48-hours-10-projects/</u>

⁴³ <u>http://en.icthub.rs/about-ict-hub/</u>

⁴⁴ <u>https://startit.rs/tag/hakaton/</u>

⁴⁵ <u>https://www.etf.bg.ac.rs/en</u>

⁴⁶ <u>https://raf.edu.rs/en/</u>



One of the newest hackathons that being organizing is one in cooperation of National Oil Company – NIS and ICT HUB with total prize fund of EUR 5,000 for 3 best solutions on additional improvement of digital experience of NIS gas stations Serbia wide.⁴⁷

2.6 Crowdfunding

2.6.1 National crowdfunding platforms

According to research,⁴⁸ the recognisability of crowdfunding and the confidence of citizens in this model of financing are still low in Serbia. In the last two years, only twenty campaigns were successful. Nevertheless, it is significantly more than 5 successful campaigns in the first two recorded years. This data testifies to the ease of launching crowdfunding campaigns with no quality analysis and preparation of this assessment of the crowdfundability of a particular idea and project.

Since 2011, through the two largest crowdfunding platforms, a total of USD 653,134 has been paid. Although that it looks like a large number in comparison to other countries, it is scarce. For example, over USD 6,000 is collected per hour in the United Kingdom. In other words, in only 5 days in the United Kingdom is collected more than in Serbia throughout the history of crowdfunding.

Even so, in just four years, from 2012 to 2016, the number of crowdfunding campaigns in Serbia has grown for more than 400% - from 28 to 143 campaigns. Also, by increasing the number of campaigns the number of citizens who are ready to support crowdfunding campaigns increases. As result, there were 3,148 backers who decided to support financially projects they like in the year 2016, which is an increase of 164% compared to 2012. As the number of campaigns grows, so the total annual amount of funds grows. However, annual growth is declining, so an increase from the year 2012 to 2013 amounted to almost 100%, while the growth from the year 2015 to 2016, increased only by 12%, and 9 campaigns in 2015 collected significantly more funds than 11 campaigns in 2014 and 12 campaigns in 2016.

There were two most prominent national crowdfunding platforms: "DONACIJE.RS" and "FANDREJZING.RS".

"Donations.rs" was (probably) the most popular crowdfunding platform from these areas, which was especially celebrated and played a significant role during the Balkan floods. In recent years it has seized, but there are indications⁴⁹ it is ready to reactivate itself.

"Fandrejzing.rs" is an innovative step forward in fundraising. The BelHospice organization opened it to merge socially useful people's initiatives ready to participate in fundraising actions.

⁴⁷ <u>http://hackathon.icthub.rs/</u>

⁴⁸ Gregović, M, Tranfić, I. and Lauš, K. (2017). *Crowdfunding u Srbiji*. Belgrade, Serbia: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

⁴⁹ <u>https://www.donacije.rs/</u>



Startit centers⁵⁰ for entrepreneurs were partly funded from the most successful regional non-profit crowdfunding campaign, which was implemented in October and November 2015 and through which USD 108,000 was raised.

2.6.2 Available international crowdfunding platforms

Other than these two, the following are the platforms that are most commonly used in Serbia and which are mostly donation and reward-based:

"*KICKSTARTER*" is probably the most famous reward-based crowdfunding platform, at least according to Google data. Internet browsing for the term "Kickstarter" exceeds the search for other platforms. Kickstarter is probably best known for its all-or-nothing philosophy.

"INDIEGOGO" is the oldest and largest reward-based crowdfunding plateau. Unlike Kickstarter, Indiegogo it has much more liberal approach to projects. Unlike Kickstarter, Indiegogo allows you to receive funds even if you didn't reach 100% of what you have intended. This practice is bad for a number of reasons and should be avoided, but the "give what you give" model is quite popular in Serbia, making Indiegogo the most popular platform in the region, according to the number of campaigns.

"GLOBALGIVING" - is probably the world's best known donation-based platform. Compared to Indiegogo and Kickstarter, it is relatively small. It has been used by non-profit organizations in Serbia, although it often looks more like a traditional fundraising than crowdfunding.

"*KIVA*" - Kiva is probably the best place to try lending-based crowdfunding. Through Kiva, one can lend money to small businesses in developing countries. Even though one cannot earn big money in Kiva, it's convenient that with a little money you can taste how it is to be a development banker and observe how projects in your portfolio develop.

Some stats⁵¹ regarding the crowdfunding in Serbia by June 2017:

- Crowdfunding in Serbia raised USD 653,134,
- Of the total of 570, only 41 campaigns were successful (7.2%)
- The most numerous funded projects are in the field of art (32%)
- Women run only 27% of campaigns
- The percentage of success on Indiegogo is 3%, and at Kickstarter 37%
- The number of crowdfunding campaigns has increased by 400% since the year 2012
- The number of campaigners in 2016 was 3148, which makes 0.03% of the population

2.7 Events and networking

2.7.1 Local workshops

⁵⁰ <u>https://startit.rs/</u>

⁵¹ Gregović, M, Tranfić, I. and Lauš, K. (2017). *Opus Cit.*



Local workshops on various topics are frequently organized and hosted by interested parties, depending on the fields of interest. By that criterion, there is abundance of providers and events, hosted and organized by interest groups, who may include: employer's union organizations, syndicates, NGOs, various associations, local municipalities and so on. One good example is Canters⁵² for professional development in Serbia.

However, speaking on the structured approach, only handful of government established institutions with sufficiently developed network of the branch offices is presenting significant number of local workshop events: regional centres for socio-economic development as part of the DAS array of agencies,⁵³ local branches of the National Employment Service (NES),⁵⁴ universities and institutions which are part of the national healthcare and social security system.

According to the 2016 report⁵⁵ of the NES, almost a hundred thousand people attended some form of the training in order to attain required skills for new employment. However, it is unclear which number of these was in the clear form of workshops.

2.7.2 International seminars

Similar to workshops, international seminars are organized and conducted by professional organizations and associations, depending on the topics. The coverage and impact may be national or regional with the participation of international parties, experts, associations or exquisite individuals.

2.8 Promotion and marketing

Promotion of Serbia on international fairs and exhibitions is in responsibility of the Development Agency of Serbia (DAS). Serbian development agency is a government organization dedicated to facilitating and implementing direct investments, promoting and increasing exports, improving the competitiveness of Serbian economy, as well as reputation and economic and regional development of the Republic of Serbia.⁵⁶ It was established on January 11th, 2016, pursuant to the Law on Investments, by which the Agency for foreign investments and promotion of export (SIEPA) and National agency for regional development (NARR) formally merged to become DAS.⁵⁷ Activities of the DAS in the field of promotion of Serbian economy range from organization and support to the SMEs from Serbia to participate in international fairs publish guides and other publications⁵⁸ to attract foreign investment and number of other promotional activities.

⁵² https://www.rc-cacak.co.rs/

⁵³ <u>http://ras.gov.rs/regionalni-razvoj</u>

⁵⁴ <u>http://www.nsz.gov.rs/live/mreza/filijale</u>

⁵⁵ http://www.nsz.gov.rs/live/digitalAssets/7/7780 izve taj o radu za 2016. godinu 2.pdf

⁵⁶ http://ras.gov.rs/en/invest-in-serbia

⁵⁷ http://ras.gov.rs/en/about-us/our-services

⁵⁸ <u>http://ras.gov.rs/en/category/news</u>



Beside DAS, Chamber of Commerce and Industry of Serbia (CCIS) plays significant role in connecting Serbian economy to its foreign counterparts. CCIS division for International economic relations is divided in dedicated sections to pursue their role:

- Multilateral Cooperation Centre,
- Centre for Bilateral Cooperation and Coordination of Representative Offices' Operations,
- Centre for Regional Cooperation and Chamber Investment Forum (CIF),
- Centre for Export Products and Services,
- Centre for Cooperation with Exporters, and
- Centre for IT Support and Foreign Trade Analytics.

CCIS is integrated in several International chamber associations (The International Chamber of Commerce (ICC); EUROCHAMBRES – Association of European Chambers; Association of Balkans Chambers (ABC) and Association of Mediterranean Chambers of Commerce (ASCAME)), providing it invaluable insight into benchmarking of the Serbian economy and tool for international promotion. Aside from participation on international fairs throughout the globe, Serbia itself is a host for number of international fairs, exhibitions and expos. According to the internet source⁵⁹ keeping the record on global fair events, there are about 30 international fairs which are taking place in Serbian cities of Belgrade and Novi Sad. Apparently, this source of information is not keeping the track record on fairs in smaller cities of Serbia, lots of which *do* have international character, but with limited impact on international promotional scene.

Beside this institutional infrastructure for promotion, there is number of actions for promotion of entrepreneurial culture in Serbia and promotion of its economy in the framework of various projects implemented through IPA and other donor programmes.

One such activity is traditional competition for the **best technological innovation in Serbia**.⁶⁰ The aim of the competition is to promote the entrepreneurial climate in Serbia and to help potential and existing high-tech entrepreneurs who are willing and able to turn their own ideas and inventions into market-valued innovations.

⁵⁹ <u>http://tofairs.com/fairs2.php?cnt=1034&cty=&page</u>=

⁶⁰ http://inovacija.org/



3. Support structures and sources for energy efficiency, renewable energy and environment conservation

According to the Law on Ministries⁶¹ the issues related to the energy efficiency and renewable energy are mainly entrusted to the Ministry of Mining and Energy,⁶² and those which are related to the environment conservation are mainly entrusted to the Ministry of Environmental Protection.⁶³

The Ministry of Mining and Energy in its organisation has a department for Energy efficiency and Renewable energy sources as well as the financial instrument named as Budgetary Fund for Energy Efficiency. In 2017, total of RSD 25 million have been earmarked from this Fund as well as USD 500,000 from the Global Environment Facility (GEF) for co-financing energy efficiency projects in public buildings in 13 municipalities in Serbia. GEF grant was provided through the project "Removing Barriers to Promote and Support Energy Management Systems in Municipalities throughout Serbia", with implementation period till 2020 and total budget of USD 2.5 million.⁶⁴

The Energy Agency of the Republic of Serbia⁶⁵ was established by the Energy Law⁶⁶ as a regulatory body with competences covering electricity, natural gas, oil and oil product, and CHP heat energy sectors. However, the Agency has some jurisdictions in area of RES which are mainly related to licencing power producers from RES.

Beside these, there is an *Energetski portal*⁶⁷ which is a business web portal on clean energy. It deals with wide range of contemporary energy and environment related issues, such as: RES, Energy efficiency, Sustainable development, relevant Regulations, Tenders, Projects and Funding.

Within the Ministry of Environmental Protection performs the Environmental Protection Agency which as a legal entity deals with environment protection issues on professional way.⁶⁸

⁶¹ Official Gazette of the RS, No. 62/2017

⁶² http://www.mre.gov.rs

⁶³ http://www.ekologija.gov.rs

⁶⁴ <u>https://www.energetskiportal.rs/en/ceremonial-signing-of-the-contracts-for-co-financing-energy-efficiency-projects-in-serbia-local-self-government-units/</u>

⁶⁵ <u>http://www.aers.rs/Index.asp?I=2&a=1</u>

⁶⁶ Official Gazette of the RS, No. 145/2014

⁶⁷ <u>https://www.energetskiportal.rs/en/</u>

⁶⁸ http://www.sepa.gov.rs



4. Summary

According to the Report,⁶⁹ consciousness on environmental challenges and the importance of ecosolutions in the field of renewable energy and energy efficiency exists in Serbia. There are also private companies that are able to generate new eco-innovative solutions, but require more powerful, system support in terms of creating a framework and favorable environment for the development of innovations in this sphere.

Relating support structures, Science Technology Park, National Innovation Fund as well as foreign donators' programs are essential in facilitating eco-innovation in Serbia.

However, different funds are most efficient support structures for facilitating eco-innovations in Serbia. In most cases funds have provided all of available finances under certain conditions but there are no records available in public if some intents to assess their effectiveness. On the other side, majority of local business incubators needed serious initial investments in their infrastructure and HR capacities building.

More than a decade after, it appears there is no systemic acceptance of the incubator's expenses by governing authorities (local or national instance). Rather, business incubators (where they lived up to date) became pray to local political aspirations and sometimes for their assets. Unfortunately, this points out to the elementary not understanding of the mechanism of the BI paradigm itself, where evident need for tangible results has to be constantly nurtured, and financially supported, opposite to the widely accepted "shoot and forget" approach of relevant authorities.

Moreover, when it comes to innovative level of starts-ups within them, by exception of business incubators located in Belgrade and Novi Sad, in most cases tenants are on very low innovative level in their businesses. This situation could be improved by serious national and local campaigns on innovation importance in modern businesses and their long run perspective accompanied by mobilization of all available supporting structures accompanied with funds/budgets targeted to innovative business ideas as well as eco-innovations.

⁶⁹ 2nd Report on Partner National Stakeholders meeting (2017). EcoInn Danube project. RDA Banat.