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Boosting the innovative potential of cities - STP Belgrade case study

*Parallel session 3:
The productive city (factory city)*

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“Boosting the innovative potential of cities - STP Belgrade case study”

‘Parallel Session 4 - The Productive City (Factory City)

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Executive summary

Science Technology Park Belgrade (STP Belgrade) - the first technology park in Serbia has significantly influenced the innovation ecosystem development in the country by connecting all relevant stakeholders and creating conditions in which high-tech companies can accelerate their growth and development. STP Belgrade was created as the innovation core of the city, contributing to the increasing number of programs and activities while raising awareness about the need to support young entrepreneurs in achieving their full innovative potential. In over 2 years of its existence STP Belgrade has become home to 60 high tech companies, as well as students, researchers and other relevant parties in the innovation ecosystem of the city and country, participating in the activities of STP Belgrade. In this paper we present and analyze the case study of STP Belgrade - opportunities and challenges in building the institution dedicated to innovation development in developing country such as Serbia.

I Background

After a long period of economic isolation and crisis, Serbia has begun the development of the innovation ecosystem only ten years ago when the first initiatives of incubators appeared in two big cities, the university centers of Belgrade and Novi Sad, and when the first steps in creating the legal framework were made with the Innovation Law. Compared to other developed countries, Serbia lagged behind by 20 years in recognizing the potential of innovation and the need to move to a knowledge-based economy. Similar to other countries in the region, Serbia was focused on heavy industry and services rather than on the human potential and innovation. However, small bottom-up initiatives which developed within the cities in Serbia contributed significantly in showing the potential of universities and young entrepreneurs and their role was crucial in developing the ecosystem.

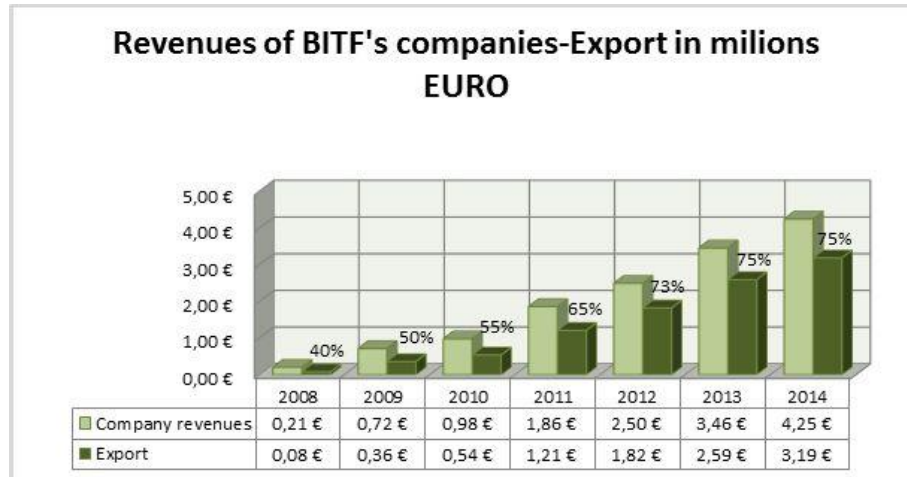
One of the successful bottom up initiatives was the example of the **Business Technology Incubator of Technical Faculties Belgrade** (further on: BITF) that was established in 2008 in the partnership of four Technical Faculties of the University of Belgrade (Civil Engineering, Mechanical, Electrical and Technological/Metallurgical), Palilula Municipality and the Democratic Transition Initiative¹. This was one of the first technology incubators in the country that recognized the need to involve the local municipality and faculties in boosting the innovation ecosystem. Situated in the attic of the Technical Faculties with limited space and budget, BITF supported the development of more than 40 startup companies in the first years of its operations. These companies were winners of many international innovation awards² or being ranked as some of the fastest growing companies in Central Europe³.

¹ <http://www.bitf.rs/cms/item/home/en.html>

² <http://www.bitf.rs/cms/item/news/en.html?view=news&articleId=289>

³ <http://www.bitf.rs/cms/item/news/en.html?view=news&articleId=299>

This increase of revenues showed in the graph below, as well as the results in terms of number of employees (more than 200 in these companies) are the best proof of the economic potential of the innovation sector and the point of leverage for convincing all the relevant parties to gather with the aim of furthering support to the development of this sector.



Increase of revenues of BITF companies/members from 2008-2014

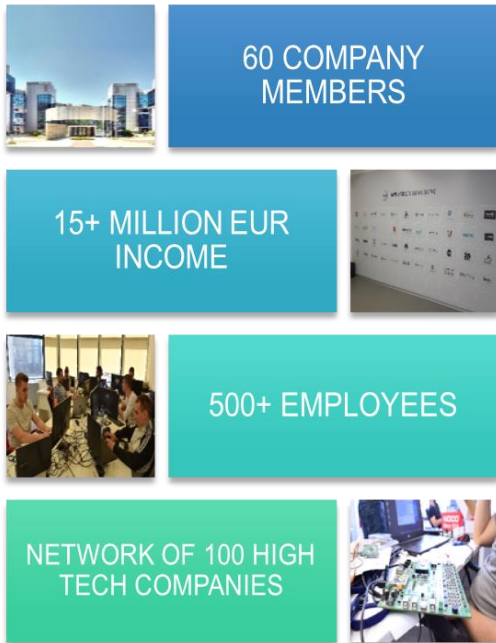
The potential of BITF support to innovative companies was recognized by the Swiss Government and Swiss Secretariat for Economic Affairs - SECO, through their long-term support to BITF first through project “Export Promotion of Innovative Products” implemented by BITF from 2012-2014, and later through the implementation of project “Science and Technology Park Belgrade - the new export instrument of Serbia” starting from January 2015.

In parallel, the construction of the park that was initiated in 1989 was continued after 20 years with the first phase of construction being finished in 2013. With the support of the project, based on previous results, as well as the leadership and commitment of the people involved in the process, STP Belgrade was founded in June 2015 in partnership of the Government of the Republic of Serbia, City of Belgrade and University of Belgrade, with the aim of creating the environment for innovation development and commercialization by connecting business to science



*Complex of Science Technology Park Belgrade in the inspirational environment of Zvezdara forest
(Complex consists of more than 16.000 m2 divided into 5 buildings, one of which is dedicated to the startup program run by the BITF)*

STP Belgrade gathers startups and growing tech companies offering infrastructure and business support services that help them accelerate their growth and development. Based on the good preparation, STP



Belgrade has fast growth - in 2 years of its existence STP Belgrade managed to attract 60 companies from different sectors such as: IT, smart cities, IoT, energy efficiency, medtech, and to create a community of entrepreneurs, startups and growing tech companies. In addition, it managed to become the main national innovation area tending to be regional center for innovation as well. The role of the City of Belgrade was extremely important especially in the first steps of creating STP Belgrade and continues to play a crucial role in its further development. As the most recent IASP member and a fresh example of a science park which acts not only as one of the instruments, but as the key factor in unlocking the innovation potential of all the countries that want to learn more about the model to create partnerships and programs that will gather stakeholders to support similar initiatives. Based on this experience, STP Belgrade is actively working in transferring the practice to other cities in Serbia (Nis, Cacak, Novi Sad, Kragujevac) and making stronger partners within the country with the goal of creating a better innovation ecosystem.

STP Belgrade results (data from 2017)

II Fostering the innovation ecosystem in the city - STP Belgrade as the factory of the future

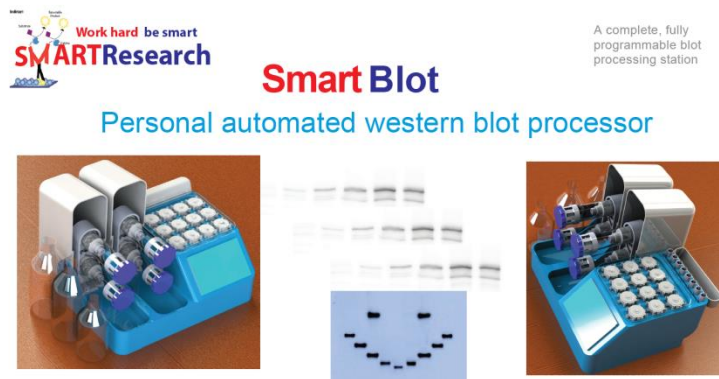
Taking into consideration the urban changes and the fact that most people today live in urban areas, the challenges that cities face are much more important than before. In addition, having in mind the competition, not only in keeping the talents, but also in attracting them, puts pressure on cities in creating conditions where people will love to work and live. Today, cities can actually have the biggest benefits from innovations developed within it. The increasing interaction between cities and companies in developing innovation is putting science parks in a central position to manage this interaction and enhance benefits for both sides.

The case of STP Belgrade shows the importance and benefits of involving the city as one of the partners in science park development- bringing the city administration closer to the entrepreneurial and innovation world, thus raising awareness about the need to implement solutions and ideas that can improve services to the citizens, but also about the benefits that high tech companies can bring to regional development.

The involvement of the city has had multiple benefits to the development of STP Belgrade, especially in the following areas:

- **Institutional** - related to permits, regulations, etc. that enable functionality and operation of STP Belgrade. Bearing in mind that science parks gather and work with the fastest growing sector in the world it is necessary to have support in resolving the administrative barriers that can impede the further development of the Park.
- **Infrastructural** - enabling easier access and connectivity that significantly improves services being offered to companies. In the STP Belgrade case; the direct bus line that was introduced or other adjustments in city infrastructure that are beneficial from the point of view of STP Belgrade members/tenants.
- **Program** - subsidies and programs dedicated to enable beginners in business developed in partnership with STP Belgrade offers better conditions for startups to start their own business.

Since the establishment of STP Belgrade, the City of Belgrade introduced several new initiatives to support young entrepreneurs, such as the “Best startup idea” competition organized annually with awards for the best startups, including access to support schemes at the STP Belgrade. In addition, the City introduced the “Program for supporting the self-employment and innovation” implemented annually since December 2016, through which 6 startup companies had the opportunity to receive full support from STP Belgrade free of charge during the first year of their work.



A complete, fully programmable blot processing station

Smart Blot- a device developed by Smart Research team, a startup supported through the Program for supporting the self-employment and innovation development, implemented by City of Belgrade and STP Belgrade

- **Promotion** - access to activities and events organized by the City improving STP Belgrade visibility and networking potential in the national and international environment.

Involving city authorities in the ecosystem contributed to the increased urge to influence the change and contribute to the wellbeing of the region by supporting innovation. Such an approach has proven to be successful and has contributed to the ownership and sustainability of STP Belgrade. In addition, sharing the feeling and the same vision of making Belgrade the high tech entrepreneurial city where young people can stay and where there are ideal conditions to develop their ideas has been crucial in developing strong partnerships.

From the other side, companies developing their innovation feel the need to bring back to the city part of the innovations they are developing. One of the examples is The Things Network organization - created by a startup supported through the above-mentioned “Program for supporting the self-employment and innovation development”, with the aim to gather companies and enthusiasts in IoT to contribute with their knowledge and innovation in making Belgrade a smart city. Therefore, our case study has shown that increased number of programs and activities that brought together the city and innovators through the STP Belgrade helped to:

- Improve understanding of the potential of the innovation in terms of regional development;
- Establish the shared vision - making the city a better place for those who develop innovations, but also for citizens in general;
- Increase the sense of community and sharing - bringing the knowledge and expertise to other potential entrepreneurs, but also to share the innovation developed through different programs to the city itself.

III Lessons learnt- strong leadership & inclusive vision

The most important lessons learned in establishing and developing STP Belgrade are the ones related to the creation of strong and clear visions with action plans. A close cooperation and involvement of stakeholders, organization and management of the team with relevant expertise as well as the immediate application and demonstration of foreign expertise and creation of follow-up strategy enabled the rapid expansion of the visions.

Following are the key lessons learned which could be an important foundation for all initiators of similar activities across the world:

1. For the success of this venture it was extremely important to have *financial support* to start building the organization before it can be officially registered and employ staff. The support of the project “Science and Technology Park Belgrade - the new export instrument of Serbia” implemented by BITF and funded by the Swiss Government, was immeasurable for risk management, especially in the preparation period when the STP team was being created, the model of STP was being developed and the awareness of key stakeholders was being raised, gathering them around the vision and mission of STP Belgrade.
2. Good familiarity with the *companies and their markets needs is essential* - to be able to provide adequate support and to become the central platform for the innovation development, the STP team needs to work closely with the companies and learn their needs, but also to be aware of the changes to the markets, and be able to quickly adapt to the fast-growing needs of the companies and respond accordingly.
3. *Tracking company growth* - With the aim of securing a high level of innovation and exports, the growing high-tech member companies are monitored and evaluated, based on the achieved percentage of fulfilment of the planned indicators envisaged in the application procedure, regarding innovation development, employment, export and revenue growth. This makes the companies perform better but at the same time provides insights in building a better support program, having mutual impact on the STP Belgrade success and companies as well.
4. The main role of STP Belgrade is to *facilitate the flow of knowledge and technology* among the stakeholders - experience has shown that it not enough to establish the links between the relevant stakeholders and innovative companies, it is important to facilitate these connections in order to secure the results of the potential cooperation. This was especially visible in connecting STP Belgrade company members with the City of Belgrade. Such an approach requires close work with both parties in preparing them for future cooperation.
5. Using the *bottom-up approach in cooperation with the University* - by focusing more on direct communication and building linkages directly with the target groups at the university - researchers, professors, associates, which produced more initiatives and results.

Widely targeted promotion of STP Belgrade to the general public provides increased visibility and therefore many more possibilities in developing networks and bringing new initiatives. Promoting STP Belgrade activities, but also other activities related to innovation development organized in the premises of STP Belgrade, widely to general public also reaches wide range of STP target groups (young people, researchers, growing companies, emerging start-ups, potential entrepreneurs, investors, mentors, etc).

IV Sustainability & Replication

The key activities in the process of establishing the first science and technology park in Serbia aimed at creating the conditions for innovation development and cooperation were:

1. *Gathering the key stakeholders - founders* (Government of the Republic of Serbia, City of Belgrade, University of Belgrade) around the common vision, mission and goal by raising awareness about the importance of developing an innovation-based economy and encouraging them to work with STP Belgrade on developing and promoting the vision and goals.
2. *Building the capacity of the organization* to carry out complex administrative and legal procedures on one hand and to act as a service for high-tech companies which is the fastest growing sector in the world on the other. Managing this balance represents a continuous challenge in running similar institutions.
3. *Using the international best practice examples and adjusting them to local conditions*. In order to ensure sustainability, from the start STP Belgrade used the international experiences of the Technology Park Ljubljana⁴ from Slovenia and later on with Startau⁵ -Tel Aviv University Entrepreneurship Center in Israel. Their experts worked to develop the knowledge and skills of the STP Belgrade team, especially in working with start-ups and growing high-tech companies to

⁴ <http://www.tp-lj.si/en>

⁵ <http://en.startau.co.il/index/aboutus>

create high-tech products and services with added value. Business support programs have been developed based on the needs of companies, using LEAN methodology. These programs entail a wider community support, such as the university (Career Development Center as a link to young people, individual researchers and professors, aimed at joint cooperation and research), mentoring work involving experts, entrepreneurs, potential investors, market penetration support, export benefits, linking STP members for the purpose of testing products, etc. The creation of the STP Belgrade business support programs was significantly facilitated using previously developed BITF capacities and a network of contacts through both member companies and external actors, especially members of the Serbian diaspora. STP Belgrade is continuously working on building trust-based relationships with all stakeholders in the process of building a national innovation ecosystem.

4. *Ensuring financial support from the state* in the first phases of development and bringing the sustainable financial business model in the 5 years period.
5. *Broadening the reach and increasing the network* by including different programs such as virtual membership at STP Belgrade which allows companies to use the services offered by STP Belgrade without being physically placed at the premises.
6. *Sharing the experience and building strong partners* in Serbia is the key in innovation ecosystem development. The Government of Serbia is using STP Belgrade expertise for replication and adaptation of the model in other cities in Serbia. The STP Belgrade results had positive impact on further investment in this sector. Construction of science and technology parks in Novi Sad and Niš are in progress, and another one is planned to be built in Kragujevac. Since the design and construction phase of such complexes takes several years, STP Belgrade supported the launch of a smaller scale incubation center at the University of Niš (the replication of the BITF), in order to boost the innovation potential of the region. The Start-up Center⁶ in Nis started operating in September 2017 and STP Belgrade team is working closely with them on capacity building.

The STP Belgrade is evidence that science parks as regional development instruments can be rapidly developed in Serbia demonstrating the results in terms of: increase of highly educated jobs, attracting high-tech companies and export growth having the bigger impact on regional economy.

VI Conclusion- how to unleash innovation potential

STP Belgrade - the first science technology park in Serbia was opened 27 years after construction first started. The road to establishing the first science park in Serbia was long and full of challenges, but the fast growth of STP Belgrade in 2 years shows that applying the best international practices examples adjusted to local conditions, as well as encouraging the innovation potential in proper way, can bring significant results. Our experience can give valuable insights and a model for all developing countries that are in the process of innovation ecosystem development. We would like to stress out the following points as being crucial in the STP Belgrade development that can serve as principles in all similar environments:

1. *Showing/proving the innovation potential* - taking into consideration the low level of understanding of the innovation sector among the relevant stakeholders in the developing countries, it is extremely important to start small initiatives that can prove their potential and show early results. This is the best way to gather and convince the relevant partners to take part in creating something that can have an even bigger impact.
2. *Gathering partners and sharing the vision with them* - in order to change the ecosystem, science parks need to integrate all relevant partners: institutions, academia and businesses in a shared vision to make the ecosystem better. Only in this way can change be disruptive and bring better results
3. *Having motivated and committed leadership* - Innovations are risky and require long-term investment in terms of money and people, therefore it is very important to have and create

⁶ <http://www.startupcentarnis.org>

leaders that have the vision of what the ecosystem should look like and what needs to be done in order to achieve that. In addition, especially in developing countries, these leaders should bring trust and long-term commitment combined with patience that can influence the change.

4. *Learning by doing* - since most of the developing countries are lagging behind in significant aspects of ecosystem development, a call for action and proactiveness in implementing programs and activities by learning at the same time can shorten the time for getting the first results and successful stories.

The STP Belgrade case study offers useful insights into the models of developing science parks as an instrument of regional development and gives valuable experience for the developing countries in the world that search for the best model and incentive to develop a similar kind of initiative in their cities. STP Belgrade results show that strong leadership and an inclusive vision can contribute to the ecosystem development and that persistence and long-term commitment are key in making innovation the core of the economic development.