

TECHNOLOGY PARKS – THE GENERATOR FOR DEVELOPMENT SME'S: ONE CASE FROM BOSNIA AND HERZEGOVINA

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Summary: *In this article the state of art of process development technology parks in Bosnia and Herzegovina were discussed. Globalization and production trends which come from Western Europe make a situation in which the domestic universities and institutes are not able to transfer in commercial level in small and medium enterprises (SME's). Are there chances that technology parks in the future will be substitution for institutes? What is with the "pilot project" of the Science-Technology park in Zenica (B&H)?*

Key words: *technology park, technology transfer, entrepreneurial, SME, human resource.*

1. INTRODUCTION

«Scientific-technological park-STP» is more or less a wide notion, used to describe various attempts to encourage development of “undertaking / business spirit through foundation of knowledge based MSP” within one state. This notion has more than one synonym, as “scientific park”, “technological park”, “scientific-technological park”, “research park” and “technopolis”.

Although there are numerous definitions of STP, the fact is that it represents an agglomeration of SME's, which has the following features:

- It is connected to the educational or research institutions
- It ensures the infrastructure and services for the activities of the gathered SME's, first of all real estate and business space
- Makes the technology transfer process much easier
- It is visualised as the economical development agitator of the depicted region

If we put it mathematically (Lesjak,2002):

TECHNOLOGICAL PARK= PLOT OF GROUND + BUILDINGS / EQUIPMENT + SERVICES OF THE EDUCATED PEOPLE

It is clear that STP has its place within all the new organizational forms of the present moment of the economy of Bosnia and Herzegovina, under the conditions of the regional cantonisation. Although we witness opening of the local development agencies, regional/ cantonal development agencies, stakeholder forums, one-stop shops etc., forming an STP is not duplicating the capacity of the same mission. The field of interest is the same, but the actions of STP are much more sophisticated and complex. It is clear that the expectations are great, especially today, when Bosnia and Herzegovina is experiencing hard economical times and where STP should be a generator of the SME's development. (Petkovic,2003)

It should be the place of the creation of the following:

- Motivation and climate for the development of company, based on the skills within the company itself
- Promotion of self-employment as a modern social trend
- Making a positive image of an undertaker
- Providing employed people with detail information and solutions
- Opening of the new work-places and jobs in the region
- Help when turning the regional potential into commercial companies
- Providing a profile at the market for the high technological company in the region, through foreign partners and international contacts. (Glas,2002)

So, STP should help the home industry become competitive in these times of the global process called the globalisation.

The economy of Bosnia and Herzegovina is at the moment highly incapable of meeting the challenges of this kind, and defining and financing the projects that would help it. Our aim when forming STP must be additionally different: we must maintain the most creative potential in the country, and enable the standard close to that in the western countries, along with the challengeable jobs like in the West. The same maintained potential, probed in difficult market conditions, will, in ten years, be capable of constructing a totally new industry of Bosnia and Herzegovina, based on new assumptions and new industrial branches.

2. HISTORY OF THE FIRST STP PROJECT IN BOSNIA AND HERZEGOVINA

The idea of making such a technological park was introduced in the Canton of Zenica-Doboj a few years ago. The cooperation with the region Piemonte (Torino- Italy) resulted in definition to build three arks of that kind: scientific-technological in Zenica, eco-park in Kakanj and agriculture-nutritional park in Visoko.

The key facts are shown in the Table 1.

R.b.	Name of the decision:	Signatory:	Date:
1.	Agreement to the SME-Technopark project in cooperation with the region Piemonte in Italy	Foreign Office Minister Nedeljko Despotović	06-12-2000.
2.	Exclusion of MI “Kemal Kapetanović” from sale in the	President of the government of Zenica-Doboj canton	20-04-2001.

	privatisation process	Hamdija Kulović	
3.	Decision to the agreement on the project of forming the scientific-technological parks in Zenica-Doboj canton	President of the Ministry Council Dr Zlatko Lagumdžija	30-08-2001.
4.	Decision on the elaboration of the project of Scientific-technological park in Zenica	President of the Government of Zenica-Doboj canton MSc Vahid Hećo	22-10-2001.
5.	Decision on financing the elaboration of the Project STP Zenica	President of the Government of Ze-Do canton Mr Vahid Hećo	08-05-2002.
6.	Contract on elaboration of the Study "Project of formation of STP Zenica"	Minister Drago Vrbic and Dean of the FME Zenica Prof.Dr.Safet Brdarević	25-03-2002.
7.	Protocol on delivery of the Study "Project of formation of STP Zenica"	Cantonal Economics Minister Mirsad Šaranović and Project Manager Doc.Dr.Darko Petković	25-03-2003.
8.	Examination and evaluation of the study	Cantonal Government and Ministry of Economics	25-04-2003.
9.	Ceremony of delivery of the Study to the Consignee, promotion and presentation of the Study	Cantonal Government Minister MSc Nedžad Polić and Dean of FME Zenica prof.Dr.Safet Brdarević	??????

Table 1. Chronology of the decisions in the STP Zenica founding process (Petkovic&et.all, 2003)

As seen, the cantonal Government Zenica-Doboj has approved the realisation of this study in April 2002, and the project team, consisted of more than 30 national and foreign researchers and experts from Slovenia, Italy and Spain, finished its work in March 2003, as specified by the contract. The manager of the project team was Dr Darko Petković.

What has been done in the meantime by the consignee of this study? Unfortunately, objectively nothing. Performer of the study, Center for management, quality and development, was obliged to perform its task, and Cantonal Government, as a unit of regional autonomy, to work on its implementation. The same task was given by the Ministry Council.

3. STP POSITION IN THE WORLD

To better illustrate the development of science-technological or simply technological parks in the world, we can take a look at the following set of diagrams – statistics on development of this business form, given by the World Association of science-technological parks (IASP). Of course, all founded parks in the world are not members of IASP. Membership requires not only

membership application form, but also a set of preconditions. It is everyone's right to found a technological park or to label one's business form in this way and have a good trade, and at the same time, never to be a member of this association. Numerous parks in Spain, England or Italy that are not IASP members prove this. (Jovanovic, 2001)

4. RECONSTRUCTION / DEVELOPMENT STRATEGIES IN BOSNIA AND HERZEGOVINA AND NTP

Unfortunately, non of the previous development strategies in Bosnia and Herzegovina, either cantonal or local units of autonomy, have not treated the issue of STP adequately. STP has also not been discussed in the latest Development strategy of Bosnia and Herzegovina- Programme strategy for reducing the poverty (PRSP), finished in 2003. Attention has not been drawn to it neither at more than ten round tables nor public discussions in more than 15 work-shops engaged with PRSP.

These facts are surprising, considering the fact that more than 22 names from the scientific circles of Bosnia and Herzegovina, together with numerous faculties' and institutes' employees, cooperated in the work shops as consultants. Founding an STP is, in the national scientific, but also business circles, still considered as another "fashion caprice" of a group of young people, inexperienced in production problems. We are not trying to persuade anyone to the contrary. Indeed, on STP is being written by men who did not participate in the production of millions of tones of steel or coal, and who do not have political references.

This could be the biggest obstruction, but also not necessarily, because the politicians have given their agreement for the development of the first technological park in Bosnia and Herzegovina already in 2000. To our great regret, what "de facto" Study of performance did not explore is "the critical level of human resources in depicted region" who are to consume the idea of STP.

In the case of Zenica-Doboj canton, which was to be the test-example for this business idea in Bosnia and Herzegovina, it did not work out. This park was seen as an addition to the planned business zones, business centres and incubators, which, unfortunately, do not exist as well. It should have been the common effort to create a new business environment with work zones, incubators, institutes, faculties, team for the local economic development, regional development agencies, and other organisations with the same aims, either supported by the government or not.

From the above stated, it is clear that STP is based on a long-term development conception, in which the entire population of a depicted region should find its interest.

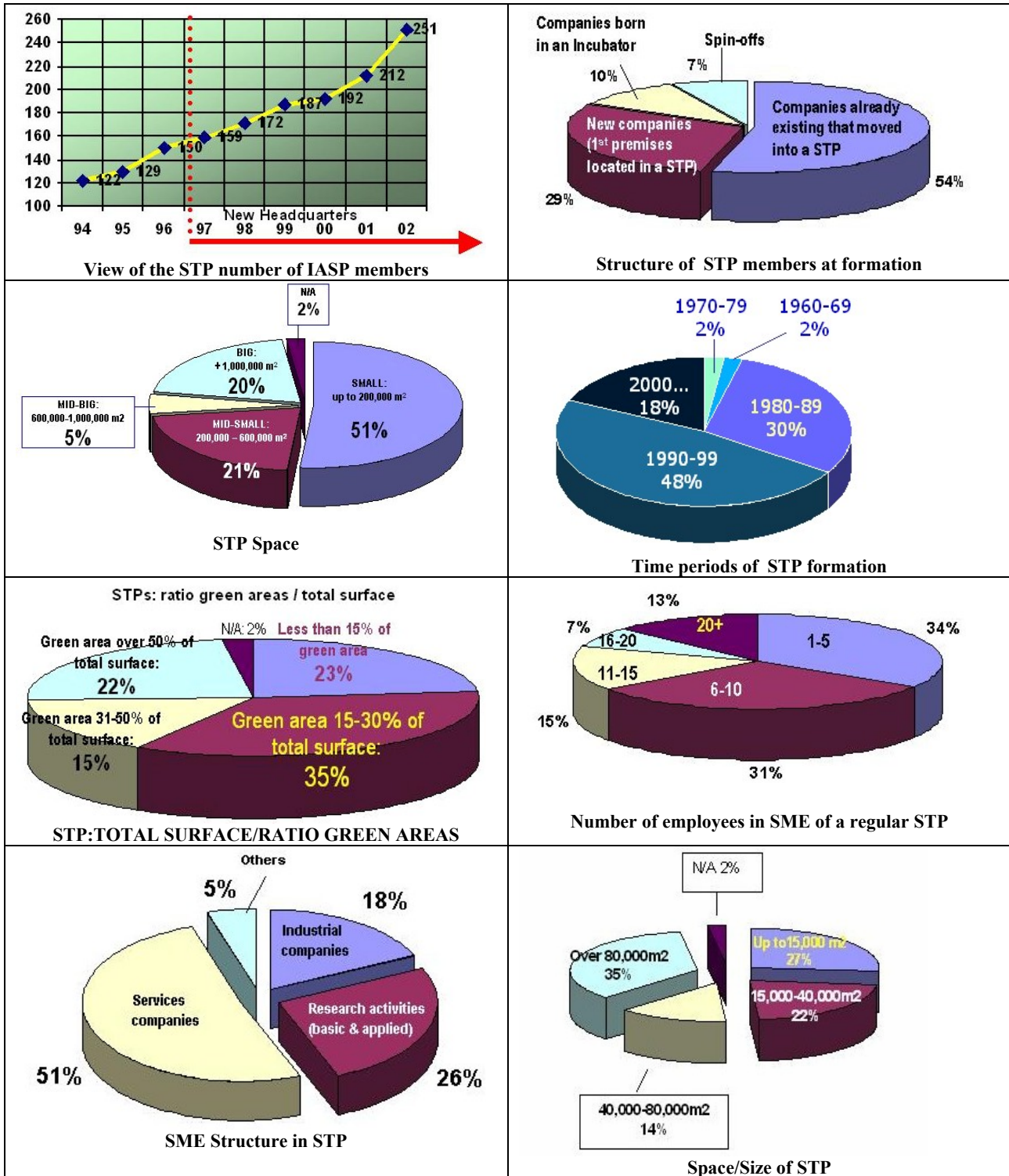
The development of STP Zenica, conceived in already mentioned Study of performance, is structured in three, or precisely, four phases, presented in detail on 500 pages. The aim of setting the development perspectives of STP Zenica was creation of a stabile development of STP. It is clear that projecting a "plain copy of technological parks" from the developed countries, whose experiences we had, was not an option. Guided by these premises and according to the defined project task, the project team has tried to give all the answers in this Study. For some other, the time and the existence of STP in the real environment's conditions are necessary. (Brdarevic,2002)

6. CONSLUSION

As shown in the previous chapters, technological parks represent the place of MSP development, the place of the most

direct technological transfer, where faculties and institutes gain their chance to present their scientific knowledge, adding a

business spirit to their teaching role. NTP is closely connected to small and big business systems, because it is very unrealistic



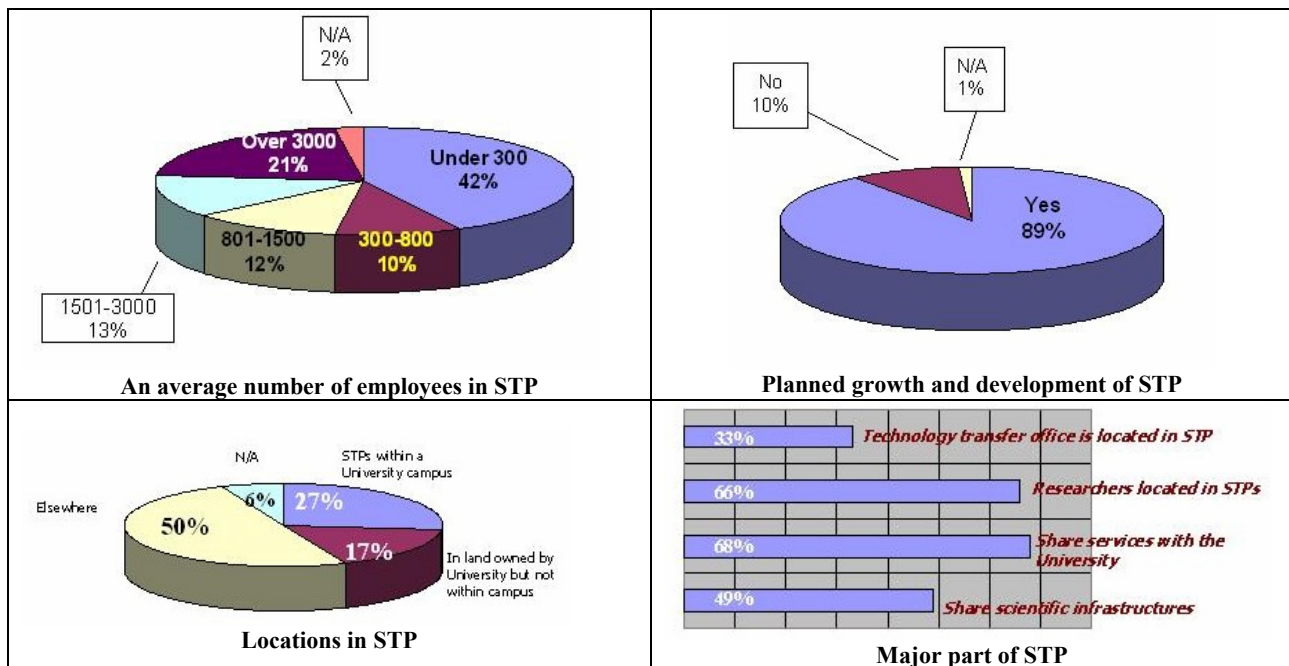


Fig1. The main data about STP in the world

to talk about SME development without strong metal-, wood-, or chemical sector factories

The question is how the government of Bosnia and Herzegovina can or the Federation and Republica Srpska Ministry councils help?

First of all, they should back up the concept of regional development through institutions, one of which is, definitely, the technological park. Additionally, in some other areas, we consider agriculture-nutritional parks and eco-parks, as MPS development creators. We think that is enough. The rest are incubators, business or work zones, industrial zones...

It is on the Ministry council to clarify the strategy of regional development, at this moment led by EC, and to define the locations of technological parks and other development methods. On the examples of the neighbouring countries, as Serbia, Slovenia, Croatia, it is visible they accepted the projects of STP foundation very seriously. SCG plan to spend more than 150 millions EUR for this cause, and in Slovenia and Croatia TP already exist. If we go further, we will see that the government of Hungary has the program of MSP development through NTP and industrial zones development, and the same process have the governments of Spain, Italy, Austria and other EU countries undergone much earlier.

Finally, allow us to suggest what the others should have widely defined and elaborated in their strategies of a much higher rang. Considering the global situation in the area of Bosnia and Herzegovina, in our opinion, optimal locations for technological parks are Sarajevo – TP with information and knowledge technologies domination, TP Tuzla – chemical technologies, plastics etc., TP Mostar – coloured metals processing technology, and TP Banja Luka – electronical technologies. As the centres of agriculture-nutritional technologies we see Bihać, Prijedor, Čapljina, Bijeljina and Visoko. Candidates for eco-parks are definitely places with the highest air pollution and other sorts of pollution.

Maybe you have noticed that Zenica, where the authors of this paper come from, is not on the list. Hopefully, Zenica will in the future have perspectives for TP foundation in metal and wood processing, but also other production technologies. At this moment, this region does not have the requested level of

knowledge and understanding, neither scientifically nor politically.

Let us say in the end that the authors of this paper wanted to point out to one of the relevant development possibilities, not elaborated in the Development Strategy of BIH-PRSP. Taking into consideration that this is a strategy of fight against poverty, as seen from the title, the whole discussion on technological parks could be inappropriate.

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