

## **TECHNOLOGY PARK MOSTAR: FROM IDEA TO REALISATION**

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### **ABSTRACT**

*Globalisation and production trends which comes 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 chance that technology parks in the future will be substitution for these organisations? Technology parks represent the place of SME's 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. New Technology Parks may really help the recovery of Bosnian economy, but a deep knowledge of the critical points of the local competitiveness is a must, has to be achieved before planning the technology park; a system of relationships: University/research + entrepreneur/industry + local government + bank/financial institutions must be defined; Both real estate and service strategies must be simultaneously planned and implemented; bottom-up approach, local and global thinking must be used.*

**Key words:** technology park, technology transfer, entrepreneurial, SME, sustainable development, university, regional development

### **1. INTRODUCTION**

Most of the manufacturing complex companies of once major industrial systems of the West Balkan countries are currently in an extremely difficult situation. The consequences of the war and postwar political confusion, reflected in destroyed factories, outdated machines and equipment, loss of position when they report an unemployment rate of 40-50% and average monthly salaries which are not back on their feet, like the ironworks of Zenica, Sisak, Smederevo, Niksic and Skopje, the automotive factories as Zastava, TAM, FAP or VW-TAS, EI Nis, foundries of Jelsingrad, Tuzla, Ilijas, Kikinda, Belgrade, Topola, Prva Petoletka Trstenik, Sarajevo-based UNIS, FAMOS and Energoinvest, Rade Koncar-Zagreb, IAT-Trebinje, SOKO-Mostar, Igman-Konjic, Litostroji-Ljubljana, Novi Travnik's BNT and other companies, have been to almost to no avail despite the significant effort and huge investments. The reasons for the failure are numerous and go beyond the possibility to be dealt with in this paper. In such a complex economic environment, one of the true chances for the development of industrial sectors in the region is found in a possible development of small and medium sized enterprises, as the backbone of the regional economic development.

There is a number of reasons which have made SME companies as a possible way out of the crisis in the West Balkan countries, to mention at least some of them:

- These companies require relatively low investments for their start ups and development,
- Their capacity to switch instantly and with low investments from one type of product to another, makes them rather resistant to the negative influence of still unregulated and unprotected regional market,
- There are enterprises do not embody high financial risks, so that sourcing finance for the start up of SME enterprises is no longer a problem for the businessmen in the region,

- The existence of a strong SME sector focused on the manufacturing industries helps in establishing and building up a wide private sector, and in raising the unemployment rates,
- Numerous, high-tech technologies were formerly available only to large industrial systems due to their exclusive nature. This has changed and now they are available to the SME's sector as well,
- High adaptability to market conditions and fast changes of production programs for large industrial, systems, which engage the largest number of SME enterprises, etc.



## 2. TECHNOLOGY PARKS AND COMPETITIVENESS

«Technology park-TP» is more or less a wide notion, used to describe various attempts to encourage development of “undertaking / business spirit through foundation of knowledge based SME's “within one state or region. This notion has more than one synonym, as “science park”, “science-technology park”, “research park” or “technopolis”.

Although there are numerous definitions of TP, 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):

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

The definition about TP according IASP is following:

"A TP/SP is an organisation, managed by specialized professionals, whose main objective is to **increase the wealth of its community** by promoting the culture of **innovation** and the **competitiveness** of its associated businesses and knowledge-based institutions." To reach these goals a TP **stimulates and manages the flow of knowledge and technology** amongst universities, R&D institutions, companies and markets; facilities the creation and growth of innovation-based companies through **incubation and spin-off processes**, and provides other **value added services** as well as high quality **space and facilities**.

## 3. SITUATION ABOUT TP PROJECT'S IN BOSNIA AND HERZEGOVINA

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 TP 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. The idea of making such a technological park was introduced in the Canton of Zenica-Doboj a few years ago and city of Mostar, also. Unfortunately, the previous development strategies in Bosnia and Herzegovina, either cantonal or local units of autonomy, have not treated the issue of TP adequately. TP has also not been discussed in the latest Development strategy of B&H-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 many of scientific circles of Bosnia and Herzegovina, together with numerous faculties' and institutes' employees, cooperated in the work shops as consultants. Founding an TP 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. This could be the biggest obstruction, but also not necessarily, because the politicians have given their agreement for the development of the first technology park in Bosnia and Herzegovina already in 2000.

#### 4. THE REGION OF HERZEGOVINA AND TECHNOLOGY PARK IDEA



The authors of this paper know that in this moment it is better discussed about Herzegovina Economic Region in agreement of EU-RED Project and our intention is to give a small contribution in the process of final creation of the Regional Strategy. The Herzegovina Economic Region of B&H presents economic entity, consisting of 27 municipalities from southern part of B&H (in the Federation BiH-21 municipalities and in the Republic of Srpska-6 municipalities). The estimated number of inhabitants is 383.000. On 28 November 2003, 37 representatives of key development organizations from Herzegovina (26 municipalities from the Herzegovina Region of B&H, entrepreneurs associations, local development agencies, chambers and independent experts) signed an Agreement on the

Foundation of the Regional Development Agency for Herzegovina, REDAH. This agency is now operational and fully involved in the regional strategy work for Herzegovina. The representatives of key development institutions and organizations from the region are involved in the Partnership Group for development of the region, which is composed of 40 development actors. The Partnership Group actively works on building the Development Strategy of this respective region, in cooperation with Working Group composed of the municipal representatives and several Focus Groups composed of sectoral experts. As a STRATEGIC GOALS AND PRIORITY OBJECTIVE the Project team were defined Sustainable Economy, Institutional Structure for Economic Development Region Developed, Space and Planning Documentation Updated, Human Resources Developed, Satisfactory Employment Rate and Achieved Preserved Environment. The joint work of the Partnership Group representatives resulted in 169 regional project ideas, which can contribute to the regional development. As the project No. 96. was defined Technology Parks for new technologies and products in Mostar. Without wishes to say that the serious work of all in Project team is not well our observation on the project list said that most between 169. projects are really inside the duties, research and working activities for future Technology Park in Mostar (e.g. Establishment of regional informatics centre; Feasibility study on solar energy production and use; Pilot project of small solar power plants; Additional education in industry-new technologies; Net of entrepreneurial productive business zone for SME's; Mobile regional educational centre for SME's; Centre for transfer of technologies in metal-processing sector; Centre for workers prequalifying; Cluster for stone processing; Cluster for producers of plat-houses and greenhouses; Regional centre for industrial design; Net of producers of Herzegovina traditional furniture etc. and many similar projects). For everyone whose are suspect in the role of TP look at the definition of TP which gives Luis Sainz, the President of International Association of Science/Technology Parks who said: " TP is a space, physical or cybernetic, managed by professional team that provides value-added services, worse main aim is to increase the competitiveness of its region or territory of influence by stimulating a culture of quality and innovation among its associated business and knowledge-based institutions, organizing the transfer of knowledge and technology from its sources to companies and to market place, and by actively fostering the creation of a new and sustainable innovation-based companies through incubation and spinn-off processes. In short, TP is the best tool for regional development."

#### 5. CONCLUSION

It is clear that TP 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 development agencies, stakeholder forums, one-stop shops etc., forming the TP's are not duplicating the capacity of the same mission.

The field of interest is the same, but the actions of TP 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 TP should be a generator of the SME's development. (Petkovic,2003) As shown in the previous chapters, Technology parks represent the place of SME's



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. TP is a space, physical or cybernetic, managed by professional team that provides value-added services, whose main aim is to increase the competitiveness of its region or territory of influence by stimulating a culture of quality and innovation among its associated business and knowledge-based institutions, organising the transfer of knowledge and technology from its sources to companies and to market place, and by actively fostering the creation of a new and sustainable innovation-based

companies through incubation and spinn-off processes. In short, TP is the best tool for regional development.

New Technology Parks in Mostar may really help the recovery of Herzegovina economy, but:

- ◆ A deep knowledge of the critical points of the local competitiveness is a must, has to be achieved before planning the technology park
- ◆ A system of relationships: University/research + entrepreneur/industry + local government + bank/financial institutions must be defined,
- ◆ Both real estate and service strategies must be simultaneously planned and implemented
- ◆ Bottom-up approach
- ◆ Local and global thinking

## 6. REFERENCES

- [1] Petkovic D.: Technology Parks in the Function of Entrepreneur Development and Growth of SME's; International Conference "Economic Recovery of Serbia through Development of Science Parks", Belgrade, June, 2004.
- [2] Petkovic D., Visekruna V., Jasarevic S., Plancic I.: TECHNOLOGY PARKS – THE GENERATOR FOR DEVELOPMENT SME'S: ONE CASE FROM BOSNIA AND HERZEGOVINA; Industrial Engineering –Innovation as Competitive Edge for SME; 28-29.April 2004, Estonia,Tallin.
- [3] Petkovic D., Majstorovic V., Visekruna V.: TECHNOLOGY PARK (TP) MOSTAR – THE PLACE FOR DESIGN AND DEVELOPMENT SMALL AND MEDIUM ENTERPRISES; 3<sup>rd</sup> DAAAM International Conference "Advanced Technologies for Developing Countries"; 23-26.June 2004, Split, Croatia
- [4] Tihi B., Petković D.: Tehnološki parkovi-Novi kvalitet u BIH ekonomiji; III NSS Kvalitet 2003, Zenica 13/14.11.2003, Zbornik str. 197 – 202; ISSN 1512-9268.
- [5] Petković D.: Tehnološki parkovi – Više od mjesta za tehnološki transfer i razvoj MSP, Zenica, 2006,
- [6] \*\*\*: Regionalni ekonomski razvoj; Model EU za kreiranje održivog razvoja u BIH, EC Sarajevo, 2002.
- [7] \*\*\* : Lokalni ekonomski razvoj – kratki priručnik;Odjel za urbani razvoj, Svjetska banka, Washington DC, USA, Maj 2001.
- [8] Iztok Lesjak: Tehnološki park Ljubljana, Međunarodna konferencija "MSP –iskustva evropskih zemalja-izazov u privrednom razvoju BIH", Sarajevo, maj.2002.
- [9] Dr Jovanović L.: Upravljanje tehnološkim razvojem - Izazovi trećeg milenijuma; Biblioteka Menadžment, Beograd, 2001.
- [10] [www.eured/bih.org](http://www.eured/bih.org)
- [11] [www.iaspworld.org](http://www.iaspworld.org)