



**Paper for the 30th IASP World Conference on
Science and Technology Parks, 2013**

**Enhancing position of the STPs by
building partnerships for boosting
innovativeness of the city**

**WORKSHOP 5 - Innovative business models for STPs
in response to city challenges**

JUSTYNA ADAMSKA

**FUNDACJA UNIWERSYTETU IM. ADAMA MICKIEWICZA
W POZNANIU - POLAND**

Introduction

Technology parks and areas of innovation are important tools for city economic development as long as their main goal is joining the economic and intellectual resources in the area where the park is established in order to enhance region' s competitiveness. For this type of organisation it is necessary to choose the right place where the park operates and build good relations with other actors of the innovation system. It also means realistic business partnerships to create an excellent environment for business to thrive. It is important for technology park to form strong bonds with city authorities, scientists, enterprises and even media in order to advance the creation of smart jobs, promote academic entrepreneurship and a variety of other means. In practice the communication and cooperation between all the actors of local innovation ecosystem is very difficult to achieve. At this point there is the opportunity for STPs to become important and well known entities to their surrounding area, integrating all the institutions responsible for boosting the innovativeness of the city.

Modern theories point to the need to build a network of cooperating institutions and business, which improves the flow of information, technologies and facilitates innovation. Most of the parks operating in Poland understand this attitude very well and, through various initiatives, they try to foster not only cooperation between business based in the technology park, but also cooperation with other partners in the region. Technology parks in Poland are on a good track to becoming one of the most important elements in the regional innovative systems. The truth is that creating the right innovative environment is a long-term process that requires the consistent involvement of many players, including local-governments, business-related institutions, entrepreneurs and academic institutions. Therefore, the dialogue between these institutions is necessary.

Technology parks as local driving forces

Technology parks have a 20-year tradition in Poland and they carry out a very important mission to combine science and business. These institutions are quite a new phenomenon. The dynamic development of technology parks in Poland is also observed, as shown in Figure 1. They were mainly caused by the availability of structural funds allocated to increase the competitiveness of the economy. The first Polish parks were created in the mid 90's, at the initiative of local authorities and universities. The number of technology parks has tripled since Poland joined the EU in 2004 and their combined physical footprint has increased tenfold .

Figure 1 The growth of science and technology parks in Poland in the years 1995-2012

Source: Own calculations based on SOIIPP [2013].

In 2012 at the request of the Polish Agency for Enterprise Development (PARP) Benchmarking of technology parks in Poland was performed . Analysis in all areas of the benchmarking study have made it possible to determine the strengths and weaknesses of Polish technology parks surveyed. The major strengths include:

- A wide range of services provided by the parks for tenants.
- Good financial situation of the parks.
- High rate of tenant satisfaction from cooperation with the park.
- Well-developed and continually expanding cooperation network with consulting companies
- and independent experts.
- Experience and high effectiveness in obtaining grants from public sources, including the EU.
- Activity of parks within the scope of cooperation with the external environment and the impact of the park on the region.

The major weaknesses include:

- Too low innovation level of park tenants.
- Too low efficiency in terms of cooperation with the scientific sector, without effects in the form of research grants, research projects, research teams working in the parks, or spin-off companies.
- Small number of external customers served (limited offer of services in comparison with the group of tenants),
- Small and declining number of international projects in which parks are involved.
- No tenant selection system that would be conducive to innovation.

The first technology park in Poland was founded in 1995 - it is the Poznan Science and Technology Park (PSTP). For over 18 years PSTP has been supporting the process of commercialisation of scientific research results in the economy and has been stimulating the enterprise development among others via using the abilities of national

and international cooperation. Since 1997 PSTP has been helping in participation in research programmes of European Union and has been taking part in the technology transfer process, educating experts who work both with enterprises and scientists. The result of those works was creation of a starting programme of the regional innovation strategy in Wielkopolska together with Marshal Office and many institutions from all the region which is now successfully realised.

One of the aims of PSTP development strategy is building partnerships for boosting innovativeness of the city. As the result the number of spin-off companies is supposed to increase together with the number of patents and new technology solutions generated on the area of PSTP. The tool needed to achieve the above mentioned aim is realisation of the PSTP' s key project: “ The construction of the High Technology Incubators Complex ‘ Materials and Biomaterials’ and ‘ IT and Communication Technologies’ ” . Nevertheless, not only investments in new infrastructure but also searching new solutions for more efficient system of knowledge commercialisation and the region' s development are the main objectives of the project. The High Technology Incubators is a place with suitable conditions for simplifying the creation, transfer and diffusion of modern solutions for entrepreneurs. The construction of the High Technology Incubators provides new services for small and medium enterprises and extending partnerships with the companies and institutions from the city, region, country and Europe. Thanks to modern infrastructure located on the area of PSTP, innovative companies have the opportunity to experience the support in the form of research, business-related and infrastructure services coordinated by PSTP. At the same time as a result of the project realisation, the social and economic potential of the region of Wielkopolska is used.

Wielkopolska' s innovation climate

Wielkopolska, as one of the 16 regions of Poland, is in good position comparing to the situation of other regions. It has relatively strong and diversified economy and elaborated knowledge base. Wielkopolska is a region with a strong identity, a place with a unique “ code” – history, heritage, culture and natural resources. Wielkopolska' s goal is to supplement work, responsibility and reliability with such attributes as creativity, openness and modernity. Wielkopolska' s development policy focuses on the implementation of the concept of growth based on the creation and absorption of innovation. Since 2004 there have been many initiatives undertaken by different actors of the system, also many local authorities to bridge science and business gaps, predominantly by establishing new intermediaries, investing in infrastructure. The city of Poznan is classified as the third strongest centre of scientific research and education in Poland with the number of research workers reaching a few thousands, and over 120 thousands students .Today Wielkopolska is predisposed to become a brand of know-how and innovation, a place of science, transfer of knowledge, research and development. The region' s authorities want to combine intelligence with imagination, creativity with craft, tradition with modernity. They' ve already created a friendly climate and good conditions for safe investment in Wielkopolska – both for foreign partners and rapidly developing local entrepreneurship. The structure of the technology sectors in Wielkopolska is presented in Figure 2.

Figure 2 Structure of high-tech Industry sectors in Wielkopolska

Source: Elżbieta Wojnicka, Piotr Klimczak, Magdalena Wojnicka, Jakub Dębowski: Prospects for the development of small and medium-sized high-tech enterprises in Poland to 2020, Warsaw 2006

Over the years, institutions supporting and promoting innovative business have sprung up across the region, mainly located in Poznan - capital and the biggest city in the region. There is a rich net of economic support institutions, such as chambers of commerce, capital clubs, foundations and development agencies and consulting

companies, and also there are entrepreneurship support technology parks, incubators and economic zones. Four technology parks are already operating in this region, two are in process of being set up and one more is in the pipeline. On the one hand, a range of tools and services for innovative companies have been created, which in terms of their quality are on a similar level to institutions in the most economically developed nations. This is supported by the report “Centres of innovation and enterprise in Poland” (2012), prepared for the Polish Agency for Enterprise Development. The document shows that the Wielkopolska is one of the Polish leading regions in terms of innovation. On the other hand, despite the city’s centuries-long tradition of small and medium businesses, entrepreneurs in Wielkopolska display a relatively low level of innovativeness and willingness to cooperate with academia and STPs. Such behaviours result from, lack of awareness and knowledge among entrepreneurs operating in Wielkopolska, regarding the role of innovation and possible forms of introducing innovative solutions, lack of trust in partnerships, and not attractive support institutions’ offer. Innovativeness of small and medium enterprises as well as support of their cooperation, in particular within the scope of innovative, research and development activities, are the major areas on which the innovation policy in Wielkopolska should focus. Enhancement of the support of actions aimed at adapting enterprises’ model of operation to needs of the knowledge-based economy should be another area of actions. Pursuant to recommendations of the Ministry of Regional Development (2011) activities which support development of innovation potential of enterprises in Poland, in particular of those from the sector of SMEs, should be implemented in two fields:

- rising awareness of the need to introduce innovations, of benefits resulting from their introduction and of the actual distance between Polish economic entities and enterprises from the most innovative economies,
- creating and ensuring of tools and instruments aimed at facilitating the innovation process in enterprises particularly in the form of innovation grants, a system of reliefs and exemptions for entities which implement innovative solutions.

The greatest challenge for the economy of Wielkopolska is to increase the level of enterprises’ innovativeness and consequently to change the structure of the region’s economy. Analysis of the needs of Polish enterprises from Wielkopolska with regard to support for innovative activities, carried out for the model of innovation-based development, shows that the services provided by business environment institutions in Poland do not match the real needs of enterprises. The enterprises have problems with identifying and finding suitable services on the market, especially in relation to innovation activities, searching for technological partners, technological consulting and audits. As a result, a large number of enterprises do not explore the possibility of introducing innovations. The offered support can be personalised by way of maintaining consistent dialogue with groups of entrepreneurs, which will help specify the scope of their needs. As regards the line of innovativeness, the provided services should cover the generation, management and commercialisation of innovation processes (maximising the regional R&D resources).

An analysis of solutions of key problems in reply to the question: How can innovativeness of enterprises in Wielkopolska be increased? is presented in Figure 2.

Figure 3 An analysis of relationships between key problems concerning improvement

of innovation supply in the region

Source: Regional Strategy of Innovation for Wielkopolska.

Increasingly greater significance has been attached to dynamic networks of relations of non-hierarchical structure which due to highly flexible nature of relations between entities have powerful impact on innovation processes. This marks a change in the previous concept of innovative systems which distinguished several basic groups of entities (triple helix) with relatively fixed relations. More and more often international literature refers to innovative ecosystems stemming from previous concepts of innovative environment. They are based on systemic concept identifying subsystems of particular significance to development of innovations. The concepts of innovative ecosystems also point out to the need for cooperation between entire communities living on a given territory, for establishing relations between enterprises and science sector and the citizens, and for creation of values not only in terms of economy but also in terms of society. Effective innovative system must therefore be permanently rooted in territorial system in which it operates. The concept of innovative policy of Wielkopolska has been adopted the model which refers to economic, social and spatial subsystems, assuming that correlation between these subsystems influences innovativeness and competitiveness of the region (Figure 3). Operating of innovative enterprises requires proper functioning of economic subsystem, i.e. adequate conditions for conducting business activity, including legal and administrative regulations, financing system for innovations and institutions in business environment that intermediate in the commercialization of innovations. Moreover indispensable is also proper working of social subsystem: culture of innovativeness and entrepreneurship in society and social infrastructure, especially of education system and science sector, compliant with the needs of knowledge based economy. Proper functioning of enterprises requires also adequate quality of physical space (spatial subsystem), in particular technical infrastructure and specialised infrastructure (e.g. research laboratories). Crucial here is also accessibility and attractiveness of spatial development and natural environment which are the factors impacting location of enterprises.

Figure 4 System based approach to the innovation policy for Wielkopolska

Source: Regional Strategy of Innovation for Wielkopolska.

Since the level of regional innovativeness depends on actions of many stakeholders, the local government has also an important task to fulfil which consists in coordination of these actions and provision of incentives that encourage developmental actions in desired directions.

These actions may take the following forms:

- provision of funds for accomplishment of specific objectives of innovative policy (always based on co-financing),
- establishment of partnerships with institutions and organisations, included technology parks, demonstrating potential for strengthening elements of innovative ecosystem in a region,
- support in creation of innovative strategies of various entities that are compliant with the framework of conducted innovative policy,
- granting quality symbols and certificates like “ partner in implementation of innovative policy” .

Poznan STP' s integration with the city

Parks are institutions that should mainly facilitate the development of cooperation networks in the region. So, the degree of involvement in cooperation with the key conclusion drawn from activities promoting innovation in Wielkopolska is the belief that together we can achieve more. Therefore, local authorities also focus on creating and strengthening partnership agreements aimed at co-creating the innovation policy. Such a conclusion will allow all actors of the innovation process to assume an active and creative role in the implementation of the Regional Innovation Strategy for Wielkopolska. The success factor is the model based on joint responsibility for the future of the region, which participants of the innovation process wittingly assume by way of influencing each other, as well as stimulating and motivating each other to fuel growth.

As it was mentioned before, since the European Union adopted a range of priorities and strategies that opened the possibilities of funding new projects, five new technology parks have been established in Wielkopolska. For this reason Poznan Science and Technology Park (PSTP), operating for over 18 years, reviewed its practices in marketing and PR in order to intensify co-operation with the local authority and academia and become more visible in the surrounding area.

In order to become better-known entity to the citizens, PSTP, inter alia, takes part in many initiatives together with local authorities and universities. One of the example of such cooperation is the event called Poznan Entrepreneurship Days (PED). It is a joint initiative of the City of Poznan, District of Poznan, Wielkopolska Chamber of Commerce and Industry, Poznan Science and Technology Park and Poznan International Fair. The purpose and leitmotif of Poznan Entrepreneurship Days is creating a positive climate for entrepreneurship and economic cooperation at the local, regional and international level. One could participate in many panel sessions during this time. The Youth Academy of Entrepreneurship as well as meetings on the topic of start-ups, regarding the establishment of a company, were among the most popular. Every year, there is exhibition space divided into several thematic zones: financial support, innovation and technology transfer as well as administration institutions were among the over 40 exhibitors. The Economic Forum of the Poznan Agglomeration is usually held at the same time as the fair. Around 500 people took part in ten various panel discussions. This project combines three events, both those with the already established position such as Poznan Days of Academic Entrepreneurship or Economic Forum of the Poznan Agglomeration and brand new projects such as the Fair of Entrepreneurship which probably will be permanently included in the calendar of important events in Poznan. During Poznan Entrepreneurship Days, there are discussions regarding: creation and carrying on successfully new businesses; innovative entrepreneurship; international economic cooperation. Participants of Poznan Entrepreneurship Days are persons interested in conducting their own business activities, in particular: students, graduates from universities, persons having several years of professional experience, i.e. all those who are looking for an idea regarding their career path, entrepreneurs with various business experience and from various industries, interested in development of the company, seeking new solutions and new challenges (e.g. assistance for young business students), innovators - business oriented scientists and research workers, investors, financial institutions and research and development units looking for new areas of cooperation.

The most important conclusion from this event is that this is a joint initiative of a few regional actors, included Poznan Science and Technology Park, which makes the issue of innovativeness and entrepreneurship important and visible for many citizens of Poznan.

The other form of integration of Poznan Science and Technology Park for boosting innovativeness is engagement in World Innovation Days (WID) organised by The Marshal Office of the Wielkopolska. The aim of the event is to explore topics important for an innovative economy and society. Therefore, the authorities of the Wielkopolska region have been organizing WID for several years in order to provide an international platform for exchanging the best practices and achievements in the area of innovation. The innovation policy implemented in the Wielkopolska has particularly focused on supporting research and development environments and companies, as well as on introducing them actively into the system of innovations. This is why World Innovation Days comprise specialist workshop meetings, aiming at popularizing the importance of innovation in branches which are strategic for the development of economy. In 2012, IT, biotechnology, and design sectors were discussed. This triad is primarily responsible for generating and absorbing modern methods, solutions and technologies, and therefore, it has actual impact on raising the competitive value of Wielkopolska.

Poznan Science and Technology Park also tries to support regional development and promote a pro-innovative approach via various publications. One of them is a quarterly IQ which allows for an enhanced exchange of experiences between the world of science and local business and facilitates networking with national and international innovation centres. The next one, "First Step into Your Own Business" is a promotional

and informative brochure added to the Poznan edition of newspaper and issued once a quarter. In this publication there are success stories of various business undertakings and get to know tenants of PSTP as well as experts who cooperate with the park. The brochure describes also examples of best practices, introduce PSTP' s new initiatives and present activities carried out by institutions which support entrepreneurship in Poznan city. First Step into Your Own Business is also a training and advisory programme addressed at entrepreneurial students, graduates and researchers of universities of the Wielkopolska who think of setting up a business activity. The City of Poznan is a partner to this project. The result of the cooperation is also Guide to Entrepreneurship – a publication dedicated to the participants of entrepreneurship classes. Readers can find there articles on some practical issues concerning setting up, conducting and financing your own business as well as success stories of young entrepreneurs.

The latest initiative of the Director of PSTP, prof. Bogdan Marciniak is an infrastructural venture of the scientific community of the Poznan city called Wielkopolska Center for Advanced Technologies (WCAT). The integration of Poznan researchers will enable to create a centre of high international rank, which through its activities and economic environment will make a very essential element of science-based regional economy of the Wielkopolska area. The outcome of multidisciplinary work of the centre will be the development of new syntheses of chemicals, biochemicals and agrochemicals (fine chemicals), as well as the development of a new generation of bio- and nanomaterials and their precursors, followed by the development of advanced technologies and biotechnologies of their production intended for the application to optoelectronics, medicine, pharmacy, agriculture and many other branches of industry and technology. The Centre is a consortium joining: 5 universities, 4 institutes of the Polish Academy of Sciences, Institute of Natural Fibres and Medicinal Plants, Poznan Science and Technology Park of Adam Mickiewicz University Foundation and City of Poznan as a associate member.

Results and conclusions

Effective partnerships are characterised by mutual trust, which is founded on, among others, general and easy access to full and reliable information. Undertaking activity within the scope of promoting innovation culture and supporting enterprising, innovative and creative attitudes among citizens of the regions is equally significant for creating effective partnerships and at the same time positive changes in STPs' position in community.

Nowadays, The European Union supports innovativeness in Poland and EU Funds provide an opportunity for the advancement of a knowledge-based economy. Poznan is focusing on advanced technologies: seven out of sixteen projects of strategic importance are connected with ICT and biotechnology. Thanks to the inflow of resources from EU Funds, and the reasonable strategy adopted in the form of the Operational Programme Innovative Economy and regional strategies, Poland has a chance to make considerable progress in this field. Thanks to the dissemination of the idea of a knowledge-based economy, local governments have discovered more and more frequently that the proximity of an academic centre pays off, because it favours investment in new technologies. The authorities of Polish cities and voivodships are also creating more and more places where science meets entrepreneurship and they cooperate with technology parks. A key issue for Wielkopolska is overcoming mental barriers which stand in the way of introducing innovations in companies as well as increasing staff competencies and development of companies' technical background.

Science sector should gradually be increasing its income arising from co-operation with business, while the education offer should better match the needs of regional economy. Attention should be paid to increasing the quality of services provided by technology park as well as institutions supporting innovations financing. The innovation policy of the Wielkopolska is implemented in partnership with other actors of the innovation system, willing to assume partial responsibility for boosting the competitiveness and innovativeness of the region.

Presented in this paper joint initiatives of STPs and local authorities show the opportunity to create an open, dynamic and learning network, ready to take on new challenges. If technology parks or the other actors of innovation ecosystem want to effectively support innovativeness they must tighten cooperation and raise social awareness concerning the role of innovation in the modern world. It's a very hard task to achieve the active collaboration and effective communication between so many partners. Real success is usually the product of intense cooperation.

Today's image of the parks leads to the conclusion that, in general, technology parks have a positive influence on the regional economy. Since the innovation of business in Poland is still at quite low level, the parks have a bigger role to play in the future. Stimulating innovative attitudes is a long-term and complex process requiring a systematic approach, consistency, engagement, and ability to create conditions facilitating intelligent development. At the same time, a modern economy is not able to develop in isolation, having no contact, no exchange of experiences or best examples with local or international communities. There is no single universal model of innovative development, neither on economic, educational, or social ground. However, partnership for boosting innovation, using technology parks' potential might be a good direction for realising strategy for innovation.