Business Networks of Small and Medium Enterprises - a need or just an option?

Evidence from Belgium and the Czech Republic

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Abstract
The academic literature and the official documents of the EU institutions, as well as of several global organizations frequently deal - directly or indirectly - with business networks and other forms of cooperation. We have devoted our paper to the examination of the importance of these networks to small and medium enterprises. Our concept lies on the following basic assumptions: firstly, innovations are created through interactions; secondly, network cooperation (representing several forms of interactions) can boost innovation; and finally, innovation centres and other organizations encouraging innovation may have experiences with various business networks. We assume, that the degree of the importance of network cooperation for small and medium enterprises partly could be observed through the practise of these organizations.

The first part of the paper deals with the theoretical background of the topic by defining networks, motives of their foundation and the possible forms of networks. The next section attempts to give a brief overview of science, technology and innovation in the EU, Belgium and the Czech Republic - the countries where the organizations subject to our research work. Finally, we investigate the network initiatives, the business sectors involved in these processes and the kinds of cooperation amongst the enterprises through four case studies.

Key words
Business network of small and medium enterprises, technology transfer office, science park, technology park, innovation centre

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1 Introduction

The notion *network* we use and understand differently in everyday conversation. In entrepreneurship networks represent a certain form of cooperation. It can mean a communication network between the business partners, a network of customers, network of suppliers and so forth. The networks can be local, global and also virtual. The networks of small and medium enterprises (SMEs) can gain access to some advantages which only the large companies can afford (for instance, better chances of acquiring a loan, lower prices by mass orderings, better marketing possibilities). Thanks to this connection, SMEs can participate in projects which they would not be able to execute on their own (Hämäläinen and Schienstock 2000, O'Donnell 2004, Christopherson and Clark 2007, Hanna and Walsh 2008).

The EU, the UNESCO, the UNCTAD and the OECD have accented the importance of small businesses and the creation of networks of cooperation in several documents[2]. Many experts and scholars agreed with them upon the positive experiences from Austria, Italy, Norway, the Netherlands, Denmark, the USA, etc., where several forms of cooperation came into existence on the basis of business networks (Johannisson and Monsted 1997, Mytelka and Farinelli 2000, Elfring and Hulsink 2003). The theoretical part of this paper tells more about the definition of networks, the motives of their creation and the several network forms.

In our research we investigate how important are networks for the small and medium enterprises (SMEs). Whether is it a real "need" or just an option besides the other ones in the business environment? We decided to examine this topic through the experience of organizations specialized on technology transfer, innovation and project development – innovation centres, as we will call them collectively in this paper. We perceive that if innovations are created through various inter-personal relations and ways of communication, then networks, as more or less organized forms of these interactions should foster innovation creation. We were interested to find out that the chosen organizations in which branches with which kinds of networks do have experiences and how do they perceive the importance of networks for SMEs.

We contacted two organizations in Belgium and two of them in the Czech Republic. InduTec is a technology transfer centre acting in the Brussels-Capital Region. Viisiteam represents a network of professionals in business related issues. The South Moravian Innovation Centre and the Technology Innovation Centre Zlín support innovation entrepreneurship in the (south-) eastern regions of the Czech Republic. Before we investigated these organizations it was important to get an overview on the environment where they exist: in the first place it is the European Union and its policies giving broader framework for actions, and the regions on the other hand, where these organizations are embedded in.

2 Basic acknowledgements of networks

[2]EC. 2008. The concept of clusters and cluster policies and their role for competitiveness and innovation: main statistical results and lessons learned.
UNESCO. 2008. International Basic Sciences Programme: Harnessing cooperation for capacity building in science and the use of scientific knowledge.
UNCTAD. 1997. Overview of Activities in the Area of Inter-firm Cooperation.A Progress Report.
OECD. 2000. Local Partnership, Clusters and SME Globalisation.

The use of the notions *cooperation, partnership, network and cluster* is often ambiguous: there is no single definition, they usually depend on the individual authors which concept they denote (Sprenger 2001, O'Donnell 2004). Moreover, if we search for the notions network and cluster (the most frequent notions appearing in our research) in the specialized literature we can acknowledge that some authors use these terms nearly as synonyms, while others make sharp differences between them. In the first case, there is usually only one definition (mainly the definition of the cluster) broad enough to include also "network"[3]. Therefore, it is important to define the notion network for our purposes, too.

The OECD secretariat on the Bologna conference (2000) defined networks as a group of companies using common resources for cooperation in common projects[4]. Networks represent purposeful connections of smaller or larger companies which by the help of this structure create a more complex production plan. They can share business, promotion and sales policies, marketing, information, legal and other services according to which they form their strategic goals.

Authors Skokan (2004) and Mikoláš (2005) deal with networks on the regional level. The latter understands network as a mutual interconnection of companies in an optional form following an optional common goal (not necessarily the economic one). Regional networks are in the focus in the works of Johannisson and Monsted (1997), Keeble and Wilkinson (1999) and Christopherson and Clark (2007).

In our paper we will a make distinction between *network* and *cluster* according to Porter (1990) and Skokan (2004) defining the *cluster* as a complex of geographically concentrated branches built upon the peculiarities (infrastructure, local institutions: universities, research centres, etc.) of a particular locality where they exist. They are mutually connected and they create added value jointly. Their cores can be production, research and business relations, or even networks between certain companies. **Chyba! Nenalezen zdroj odkazů.** shows the differences between networks and clusters.

Insert table 1

Angel (2002) analyzes three main theories of the strategy of cooperation. These are: the theory of transactions costs, the resource-strategy theory and the network theory. Kislingerová (2005) introduces four main theories fostering the understanding of cooperation. These are: the theory of market power, the theory of transactions costs, the theory of representation and the theory of the economic returns. According to Mikoláš (2005), the main motives of network formation are the achievement of synergic effects and the elimination of threats from the business environment. The close cooperation is enforced by technological development and the strong influence of multinational companies in the countries. The author stresses that the goal of network entrepreneurship is, in the first place, the enhancement of competitiveness through transactional and production cost cuts, the access to modern technologies and information, the creation of new, common information databases, the quicker implementation of novelties, the possibilities to penetrate new market segments and the division of risk among the members (see also Christopherson and Clark 2007, Van Gils and Zwart 2009).

[3] OECD. 2007. Competitive regional clusters. National policy approaches. Policy Brief archive. p. 26-27.
[4] OECD. 2000. Local Partnership, Clusters and SME Globalisation. p. 2.

Networks have different structures according to the purpose of their set up (Cooke 2002):

- informal networks – set up on informal relations
- formal networks – their set up is goal-oriented
- soft networks – open networks, the membership is relatively unlimited, the number of members is relatively large, there is free, unbounded exchange of ideas and information
- hard networks – less open networks, set up upon a contract and oriented on certain actions in a given time horizon
- vertical networks –oriented on the customer networks
- lateral networks – broadly specialized companies of similar size, often complementary and having the features of the formal or hard networks.

According to Marková (2004) *formal networks* are characteristic by formal regulation of official means, and they are founded on legal grounds. *Informal networks* are established on informal relations, and they are built by the creative initiative of the entrepreneurs, who need to solve a certain problem in a certain region without state assistance. Elfring and Hulsink (2003) analyze the role of weak and strong ties in the networks. Gulati and Puranam (2009) stress the role of informal organization structure.

Sprenger (2001) for the purposes of the large transnational project Job transfer Europe/ ADAPT distinguished several kinds of networks. *The inter-firm networks* are networks whose members are only firms. Within this category we distinguish: *strategic inter-firm networks*, where the firms are lead by the dominating (large) company; *networks of SMEs*, where the participants are hierarchically on the same level, and often from the same branch of economy; and *dynamic networks* (virtual networks).

The members of the *SME networks* are companies specializing in certain parts of the value chain and mutually supplying each other with their competencies. These networks are characterized by geographical closeness, although it is not a requirement. If the network works well, the synergic effects created influence the development of the members in this field of business and entrepreneurship, but also the development of the geographic district, or of the region, where these companies operate. Therefore the networks of SMEs should represent an important question in the local regional policies.

Dynamic networks represent a special type of regional SME networks. They are also called „virtual networks“, because their key competencies can be flexibly combined according to the customers' requirements. This way of functioning ensures competitiveness of their supply. The concept of *virtual networks* consists of two elements: the long term element (the SMEs), and the short term element (a certain combination of competencies for the purposes of the actual contract). The business contract is the element which puts the stable SME networks in move.

Networks might or might not be geographically concentrated. The information society has created conditions for the construction of virtual networks, using electronic communication. This information technology infrastructure represents the basis of the complex industrial networks (Hämäläinen and Schienstock 2000).

3 Objectives and methods

As the notions network, networking and other variations are widely used in everyday practise, we were interested what do they mean to the entrepreneurs of small and medium

enterprises proper. We have decided not to ask the individual firms or entrepreneurs, but the four organizations in Belgium and the Czech Republic set-up to encourage business and entrepreneurs in numerous ways. They are supposed to have experience with such a common phenomenon like networks. As boosting innovation creation is one of the core elements in each of the investigated institutions, we are going to refer to them in this paper with a joint expression innovation centre, although we acknowledge that doing so is limited and serves only to simplify the reading of this text.

We have conducted our research searching answers for two basic questions:

I. What is the role of the innovation centres in network creation?

II. Is the network cooperation for the SMEs essential or just another option on the market?

During our research we have reviewed a wide range of academic literature, we have collected information from field, and we have lead debates over the topic with some experts in order to get an overview about the context and to be able to identify the key issues for investigation. The review of literature has been conducted through the databases of several university libraries within the EU, as well as in the USA. We drew from our former papers presented on local and international conferences in the Czech Republic and Slovakia.

We have decided to choose case study as the most suitable research strategy because of the character of the investigated phenomenon (business networks, the relation of innovation centres to business networks, the practices of the innovation centres) which we saw "difficult to study outside its natural settings" and to quantify it"[5]. As we have investigated four innovation centres, our research strategy is going to be a multiple case with the intention to provide an in-depth, multilateral analysis of the phenomenon. This process required a few basic steps: revision of theory through the study of literature, analysis of the organizations through their activities (homepages of the organizations, references to the organizations in other sources), analysis and refine of the answers gained through the questionnaire research (additional discussions to the topic) and formulating conclusions.

For the purposes of our research, we have chosen the following organizations: InduTec, the technology transfer centre from Brussels (Belgium), Viisiteam, the network of independent management consultants (Belgium), the Southern Moravian Innovation Centre from Brno (Czech Republic) and the Technology Innovation Centre from Zlín (Czech Republic). Why these countries and organizations? First of all, in the chosen countries entrepreneurship has had a different evolution: while Belgium has a relatively long history, that of the Czech Republic has emerged from an environment with only a 20 years experience from private business. Secondly, we believe that personal contacts are important to make in-depth analyses[6], especially in cases where our questions tread a delicate path. Finally, although the four organizations were set-up from different initiatives and tend to focus on various objectives and economic branches, they have one significant feature in common: the support of innovation activity of enterprises.

To gain information about the organizations' everyday practise and opinion about topics concerning business networks, we have sent four questionnaires, one to each manager of the examined organizations, previously tested by the help of an expert and a manager. The

[5] Pervez Ghauri, Kjell Gronhaug. 2005. *Research Methods in Business Studies. A Practical Guide.* London: Prentice-Hall. p. 114.

[6] The author got inspired by the topic of this paper during a six-month internship in Belgium (2009)

analysis aimed to contain the following indispensable elements: descriptions, interpretations and cross-case comparisons[7]. It is worth underlying that our intention with the gained results was the indication of the different experiences and the (best) practices of these organizations, rather than their generalization.

3.1 Definitions of the most frequent notions

For the description of the *networks of SMEs* we are going to use the rather broad definition of the OECD (see Chapter 2). The *small business networks* and *SME networks* will be used as synonyms to the notion *business networks of SMEs*.

According to the International Association of Science Parks, the expression *Science Park* (Technology Park) stands for an „organisation managed by specialised professionals, whose main aim 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".

The *Business Innovation Centre* is an organization promoting innovation and entrepreneurship by helping enterprises to innovate. It drives the creation of start-ups by several activities and services (support of innovation, incubation and internationalisation) and „promote economic development through job and enterprise creation and development"[8].

The Technology Transfer Office (TTO) is an organization dealing with the systematic transfer of knowledge and technology from the place of their birth (work places on universities, research and development Offices) into their practical commercial use. The synonyms for the expression are: Technology Transfer Institution (OECD), Technology Transfer Centre (Czech Republic, Belgium)[9], Knowledge Transfer Centre and also Innovation Centre. For our four cases we will use a common expression *Innovation Centre (IC).*

4 Science and technology in the EU – the basic objectives

"The Community shall, throughout the Community, encourage undertakings, including small and medium-sized undertakings, research centres and universities in their research and technological development activities of high quality; it shall support their efforts to cooperate with one another, aiming, notably, at enabling undertakings to exploit the internal market potential to the full..." (EC Treaty, Article 163/2)

Research, development and innovation represent an important objective, a common interest for the EU member states. According to the Article 163/1 of the EC Treaty[10], „The Community shall have the objective of strengthening the scientific and technological bases of the Community industry and encouraging it to become more competitive at international level, while promoting all the research activities deemed necessary". All documents concerning research and development in the framework of the Community, shall be in accordance with the stipulations in the Article 163 of the EC Treaty.

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[7] *The SAGE Encyclopedia of Qualitative Research Methods.* 2008. Lisa M. Given ed. p. 68-71.
[8] EBN Mission Statement. http://www.ebn.be/DisplayPage.aspx?pid=14
[9] EC. 2004.*Technology Transfer Institutions in Europe: an overview*.
http://ec.europa.eu/enterprise/enterprise_policy/competitiveness/doc/tti_typology.pdf
[10] EC. 2006. Consolidated versions of the Treaty on European Union and of the Treaty establishing the European Community. In: *Official Journal of the European Union*.

In this relation, one of the most important documents on the EU level is the Lisbon strategy[11] set out in 2000 (revised and relaunched in 2005) with the goal to create by 2010 "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth". The Community implied that the most important actions should be aimed at the increase in the level of R&D and innovation that would lead to a higher growth. In 2002, the European Council in Barcelona concluded that the overall spending on R&D and innovation should be gradually raised so that it reaches 3 % of the GDP on the Community level by 2010. This objective was further developed by clarifying that two-thirds of these investments should arrive from the private sector[12].

According to the European Commission's Key Figures from 2007[13], in spite of the numerous steps and efforts that have been taken during the recent years, the EU is still experiencing a slow-down and under-performance in the creation, diffusion and utilisation of knowledge. Since 2002, the amount of finances invested in R&D has been decreasing; in 2006 it was 1,85 % of GDP, while 2,65 % and 3,4 % in the US and Japan. "If the current -negative- trend continues, by 2010 Europe's R&D intensity will have declined to its mid-1990s level of less than 1,80 % of GDP." says the report.

During the implementation of the Lisbon Strategy we could see that the raise of R&D financing does not necessary bring the wished results, as the relatively similar levels of knowledge investments resulted in different levels of innovative performance in the countries. It has been observed, that the role of the main actors of the EU's economies (firms, universities, governments and public research institutions) and the forms, quality and intensity of their interactions play a significant role in knowledge production. It has also been found, that these actors are influenced by country-specific factors, such as the structure of the industry, the education system, the labour market, the financial and legal system, etc. The EU therefore has to consider these peculiarities and take the necessary steps towards the increased efficiency and attractiveness of the European Research Area, suggests the EC in the Key Figures.

4.1 Research and Development in Belgium and in the Czech Republic

All of the EU member states have been formulating their national strategic documents in accordance with the EU strategy and the several directives, resolutions, regulations, etc. refining the frameworks of actions the member states should implement. We will come back to this topic later in the sections when analysing the two countries separately.

In order to get an initial overview about Belgium and the Czech Republic in relation to R&D on the EU level, we have collected the basic indicators to make a brief analysis. **Chyba! Nenalezen zdroj odkazů.** contains the main indicators in this field.

Insert table 2

Regarding the statistics, the total expenditures on R&D were slightly under the EU's average in Belgium, while the Czech Republic reached only the 77 % of them (still better

[11] EC. 2004. *Facing the challenge. The Lisbon strategy for growth and employment.* Report from the High Level Group chaired by Wim Kok.
[12] EC. 2006. Community framework for state aid for research and development and innovation. In: *Official Journal of the European Union.*
[13] EC. 2007. *Towards a European Research Area; Science, Technology and Innovation; Key Figures*.

proportion than any of the 12 new member states from the eastern part of the EU). On the other hand, R&D intensity in the Czech Republic had been rising on average by 0,33 percentage points between 2000 and 2006 (from 1,21 % of HDP to 1,54 %)[14], while in Belgium it has been declining since 2001 on average by 0,14 percentage points.

There is also a difference in the research founding scheme between the two countries. In Belgium, the business enterprise sector finances the 60 % of the total R&D expenditures, while the government ensures only its 23,5 %. In case of the Czech Republic, there is a relatively similar contribution percentage of the business sector (54 %), but a significantly higher rate on the government's part (41 %). This higher governmental contribution rate is characteristic for all the countries from the eastern part of the EU.

The business sector in the Czech Republic uses the 97 % of its R&D investments for financing the initiatives and activities of the business sector itself. From the remaining 3 % only 0,2 % were invested into higher education, signalizing the persisting lack of cooperation between companies and universities. The higher education institutions fund their R&D activities foremost from public and foreign sources, the private sector represents only 0,7 % contribution. The situation in Belgium tends to be the opposite, as the number of innovating enterprises engaged in cooperations with universities is much higher in Belgium, than in the EU on average[15].

The other substantial difference between the examined countries is the role which the foreign investments into R&D play. While in Belgium the foreign investments into R&D represent 12,4 % from the total, in the Czech Republic they were only 3,1 %. The same time this is the lowest rate within the EU countries, which has been oscillating around 3 % since 2000.

The innovation activity of the enterprises is rather similar, and there have been slightly better results in the industry than in the service sector in both countries. Taking the number of enterprises forming cooperations for innovations, 38,4 % of the Czech companies and 35,7 % of the Belgian ones employ innovation. Both values are higher than the EU's average and both of the countries prefer to cooperate on national and European level, rather than with international partners.

As far as foreign trade is concerned, the high-tech exports count for 6,6 % of the total exports in Belgium, while in the Czech Republic it is almost twice as much in percentage points (12,7 %). Unfortunately, it is still lower than the average for the EU which is 27 %. Belgium's common high-tech export items in 2005 were (by decreasing proportion, but with only slight differences) pharmacy, electronics-telecommunication products, and computers-office machinery. In case of the Czech Republic, the computers-office machinery was on the first place with a 30 percentage points higher export volume than the electronics-telecommunication products[16].

[14] Government of the Czech Republic. 2008. *Analýza stavu výzkumu, vývoje a inovací v České republice a jejich srovnání se zahraničím v roce 2008* [Analysis of research, development and innovation in the Czech republic and their comparison on international level].
[15] Debackere, K; Veugelers, R. 2005. *The role of academic technology transfer organizations in improving industry science links*.
[16] Thomas, Meri (Eurostat). 2008. *Trade in high-tech products.*

4.2 Science and Technology Policy in Belgium with an emphasis on the Brussels-Capital Region

In Belgium, the primary responsibility for science and innovation policy is in the competencies of the Regions and Communities[17]. The Regions are responsible for the general support of industrial and technological research and innovation, while the Communities provide the general support of research in higher education institutions. The Federal Government finances only the activities requiring uniform implementation at a national or on an international level, specialized in the areas of defence, justice, monetary and fiscal policy, social security and important parts of health policy. All of the above introduced Authorities are „fully committed to the Lisbon objectives", stands in the Country Report (2007)[18]. The key policy document, *The National Reform Programme* for Belgium adopted in 2005 provides a synthesis of the major interests while giving high priority of the R&D policy. The administration of Science, Technology and Innovation (STI) objectives works through the cooperation of all the involved authorities and represents a complex system[19] together with the advisory and funding bodies.

The basic goals of the Belgian national strategy are:

- further support of science, technology and innovation activities in order to reach the Barcelona goals
- strengthening the fundamental and strategic research
- international cooperation and access to the international infrastructure with an emphasis on the cooperation within the framework of the European Research Area
- creation of excellence centres[20]
- inter-Community research program aiming to increase linkages between the actors in the R&D system by enhancing collaboration and knowledge spillovers among all actors

The Brussels-Capital Region's policy effort[21] consists in grant and loan schemes to encourage industrial research, and product development, applied industrial research and pre-competitive development. The main policy instruments of the Brussels-Capital Region in the field of Business R&D and Innovation are the support for interfaces at higher education institutions, as well as for promoting R&D spin-offs.

The *Institute for the encouragement of Scientific Research and Innovation of Brussels* was set-up in 2004 with the mission to promote, support and valorise scientific research and technological innovation in the Brussels-Capital Region. The support practices contain

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[17] There are three Communities (the Flemish, the French and the German-speaking) and three Regions (the Flemish, the Brussels Capital Region and the Walloon) in Belgium. <http://www.competence-research-centres.eu/countries/belgium/>

[18] The Belgian Federal Science Policy Office. 2007. *OMC Policy Mix Review Report; Country Report; Belgium*. part 2, p. 2. http://www.belspo.be/belspo/stat/papers/pdf/Rapport_PEER_REVIEW_en.pdf.

[19] On the Federal level it is the Belgian Federal Science Policy Office responsible to the Minister of Economy, Energy, Foreign Trade and Science Policy. In the Femish Region there is the Economy, Science and Innovation Administration of the Ministry of the Flemish Community; in the Walloon Region the Directorate General for Technologies, Research and Energy. On the level of Communities in the French Community it is the Directorate General for non-obligatory Education and Scientific Research; in the Brussels-Capital Region the Institute for the encouragement of Scientific Research and Innovation of Brussels.

[20] *Excellence Centre* is a national, regional or international institution (a research or a training institution, a university or one of its departments, a laboratory, a science museum, a library, etc.) providing services and offering satisfactory incentives to customers for investment in their activity (UNESCO 2008).

[21] The reason behind putting an emphasis on the Brussels-Capital Region within this brief Belgian innovation policy overview is that the examined technology transfer centre, InduTec, is situated in this region and so shall act in accordance with the region's development objectives.

awarding of subsidies or interest-free loans, consolidation of the on-going innovation activities, and the provision of line-up on international programs in the area of scientific and technical research.

4.3 Science and Technology Policy in the Czech Republic[22]

The most important documents setting up the framework of innovation activity and innovation environment development in the Czech Republic are: the former *Operation Programme Industry and Entrepreneurship* (2004-2006), and the current *Operation Programme Entrepreneurship and Innovation* (2007-2013), coordinated by the Ministry of Industry and Commerce.

The development projects are founded from the European Foundation of Regional Development (75 %) and the state budget (25 %). As the part of these programmes, there are other supported activities, such as the creation of industry associations on the regional and inter-regional level. The main means of financial support are donations and interest-free loans, as well as privileged loan terms[23].

The main objectives of the *National Innovation Policy (NIP)*[24] for the years 2005-2010 are:

- strengthening R&D as the resources of innovations
- intellectual property rights' protection
- simplifying the process of R&D organization set-up and their support
- tax benefits encouraging R&D in the business sector
- set-up of technology oriented firms in order to exploit the results of R&D
- technology and knowledge transfer support
- human resources in the field of innovations

Thanks to the efforts made in accordance with the Operation Programmes and the NIP, there are nowadays 25 accredited Science and Technology Parks (STP); 17 in process of accreditation, and 21 in the phase of preparation in the Czech Republic. They contribute a great deal to the technology transfer and to the support of innovation entrepreneurship in the country[25].

5 Innovation Centres[26] in Belgium and in the Czech Republic – the four cases

In our case studies we draw on the information gained from the questionnaire research and the electronic resources concerning the chosen organizations.

5.1 InduTec

"The process of innovation is no longer a linear process; it has become a dynamic network of laboratories, external technology transfer centres and companies" (Anne-Marie van Oost, managing director of InduTec)

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[22] see footnote nr. 14.

[23] Financial support can be gained on the following programmes currently: *Prosperity* (encouraging TTC set-up), *Cooperation* (industry clusters, technology platforms and other ways of cooperation), *Innovation* (organization and marketing innovations, industrial property rights' protection) and *Potential* (organization capacity building in order to conduct research and development and enforce innovation activity).

[24] *Národní inovační politika České republiky na léta 2005-2010*. [National Innovation Policy of the Czech Republic for the years 2005-2010].

[25] SVTP. 2008. *Vědeckotechnické parky 2008* [Science and Technology Parks 2008].

[26] As we indicated in the methodical part, the expression *innovation centre* in this paper is used in the first place for practical reasons as a collective noun to allow more fluent reading of the text – although the investigated organizations may not fulfil all the features of this organization type set-up in the specialized literature.

InduTec[27] is a Technological Transfer Centre created in 1994 as a non-profit organization in order to stimulate innovation and technology transfers between the four industrial engineering institutions[28] of the Brussels-Capital Region and the local enterprises. The organization responds to the technical requirements of the enterprises by building synergies based on numerous competencies and expertise in the institutional sphere.

InduTec's main activities include:

- Valorisation of the results obtained from the University Colleges' research (promotion of scientific publications, requesting patents, grants licensing, creation of new enterprises or spin-offs, etc.)
- R&D facilitation – contracted or cooperative researches (technical or commercial prototype development)
- Set-up of business – a 10 step process of company creation for spin-offs and starter companies
- Support of the initiatives of the Brussels-Capital Region (assistance during the submission of tenders for research projects, industrial and technical feasibility studies, help for entrepreneurs and companies in requesting financial grants/funds).

5.1.1 InduTec's projects in the field of network cooperation

InduTec participates in several partnerships, in which academics and companies are involved in R&D and in their support organizations. One of the InduTec's longest memberships dates from 1994 in *The Brussels Enterprise Agency (BEA)*[29], a non-profit organization situated in Brussels and focusing on start-ups, SMEs and foreign investors who wish to create or develop their enterprise in the Brussels-Capital Region. InduTec takes part in numerous initiatives and projects belonging to BEA, especially the ones concerning health and ecological issues. Other long-term partnership allows InduTec to cooperate with the *Brussels Enterprises Commerce and Industry (BECI)*[30], another non-profit organization defending the interests of the companies and providing various services for them. The other partnerships of InduTec are formed in the lines of environmental sciences, agro-biology, electronics, ICT, material technology, industrial sciences, etc. To more, it devotes its activities to multilateral enterprise support concerning the cooperation with the *Enterprise Europe Brussels*, the member of the Enterprise Europe Network, the SME support organizations.

InduTec has six employees: a managing director, three project managers, a valorisation manager and an office manager. It is in touch with several partner organizations within the Brussels Capital Region (regional agencies, research organizations, Enterprise Europe Network and an export organization), as well as with organizations on the international level (in the field of agriculture, industrial research, medical technologies, small business and networking). It lists numerous partner organizations from the other TTOs and spin-off companies, as well.

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[27] www.indutec.be

[28] These institutes are: the *Institut Supérieur Industriel* (ECAM, Haute École Léonardo da Vinci – Industrial Institute, Leonardo da Vinci University College), the *Institut Supérieur Industriel de Bruxelles* (ISIB, Haute Ecole Paul-Henri Spaak – Industrial Institute of Brussels, Paul-Henri Spaak University College), the *Institut Meurice* (Haute École Lucia de Brouckère – Meurice Institute, Lucia de Brouckère University College) and the *Industriële Wetenschappen en Technologie Departement* (EHB-IWT, Erasmushogeschool Brussel, Department of Industrial Sciences and Technology, Erasmus University College).

[29] Brussels Enterprise Agency <http://www.abe-bao.be/start.aspx>

[30] Brussels Enterprises Commerce and Industry <http://www.beci.be/index.html?page=1&lang=nl&>

5.2 Viisiteam

"The most successful business network is an open network where contacts are made with low threshold, not over-structured, informal and problem driven." (Guido Giebens, management consultant, Viisiteam)

In our research Viisiteam[31] represents an organization which differs from the other investigated ones the most, as it has been founded by independent management consultants from different parts of Belgium. They represent a network of professionals from five different disciplines: innovations, process management, lean management, human resources and marketing. Each of the members owns their own office so they can work individually or with one or more team members, depending on the nature of the project. Each consultant guarantees the quality of their own work. The partners mutually exchange information and experiences from solved projects; they develop know-how and share marketing efforts.

Viisiteam provides the following services within its target disciplines:

- company innovation climate audit, innovation teams' coaching, professional assistance, etc.
- process performance analysis, root cause analysis, product performance analysis, etc.
- company climate scan, coaching and leaning the office processes, the supply chain, manufacturing processes and outsourcing
- team development, leadership development, organization development, etc.
- mission and vision development, creation of product and project portfolios, market studies, concept development and concept testing, brainstorming, prototype testing, customer feedback, etc.

5.2.1 Viisiteam's projects in the field of network cooperation

Guido Giebens, one of the founders of Viisiteam and our partner in the questionnaire research, told us about his vast experiences in the field of networking initiatives on which he /builds his current profession[32]. Some of the other Viisiteam members are also joined into various networks of professionals. Guido Giebens has a great wealth of experience with business networks, especially with design industry and consultancy, gained in associations, such as *Flanders InShape*, a competence centre for product development and industrial design; *FlandersDC*, boosting entrepreneurial creativity; *FlandersDrive*, a networks of suppliers in the automotive industry and *Technology Innovation International (TII)* providing technology transfer innovation support.

Viisiteam has a flexible horizontal organization structure which makes optional cooperations of its members possible.

5.3 Southern Moravian Innovation Centre (JIC)

"We would like to purposefully encourage informal networking of representatives of the most perspective branches of the South Moravian Region." (Dávid Jánošík, project manager of JIC)

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[31] www.viisiteam.com

[32] His past activities involved the founding and later on the managing of the Business Incubator of Antwerp University (UBCA; activities: Starters Club, Innoforum, Innopartners), membership in the TII's Board of Directors (Technology Innovation International, www.tii.org); he worked on two projects within the Innovation Coach initiative and he is a member of many LinkedIn professional networks.

JIC[33] is one of the main project processors supporting innovations and entrepreneurship in the Czech Republic. The JIC's competencies include the setting-up of companies and their multilateral support by consultancy, education, spaces etc. JIC has also participated in the set-up of clusters in the region, e.g.: the cluster for waste treatment and water purification[34], the aircraft industry cluster (the creation is currently postponed)[35] and bioinformatics cluster[36].

The basic document managing the actions of JIC is the *Regional Innovation Strategy for the Southern Moravian Region*[37]*;* besides that it is *the Strategy of Brno City*[38] (the centre of the region).

JIC offers its services for the start-up companies via two institutions: the *Biotechnological Incubator INBIT*, the *Technology Incubator BUT* and the *Y-soft building.* The latter fulfils two objectives as partly serves as an incubator for start-ups and partly offers spaces for the successful companies coming out from the incubator.

JIC is active also in the *International Clinical Research Centre (ICRC)* and the *Central European Institute of Technology (CEITEC)*.

The JIC's partner organizations are the *Regional Development Agency of South Moravia*, the *CzechInvest* (Investment and Business Development Agency), a business consulting company, some research institutions (IT, medical sciences), financial institutions, a promotion agency and some important IT companies (e.g. Microsoft). In the field of technology transfer, the JIC closely cooperates with four universities in Brno[39], with the EU's institutions in the *Seventh Research Framework Programme*[40] and with several support organizations, networks and forums on the international level[41] (e.g. *The European BIC Network, Technology Innovation Information (TII), Gate2Growth – Incubator Forum, CORDIS*). It is also a partner organization of the *Enterprise Europe Network*.

JIC employs 29 people in six departments: the consultants (9), project (6), technology transfer (1), marketing (3), financial (4) and office department (6). The competencies of the consultants department, besides professional consultations, include project, ICT, external relation and human resource management and the management of the *Microsoft Innovation Centre*. In the projects department there is one manager focusing exclusively on the Regional Innovation Strategy of Southern Moravian Region.

5.4 Technology Innovation Centre Zlín (TIC Zlín)

The TIC Zlín[42] was created in 2005 by the University of Tomáš Bať a in Zlín and the Zlín Region to support the innovative entrepreneurship in the region.

The main competencies of TIC Zlín are:

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[33] www.jic.cz
[34] Water Treatment Alliance < http://www.wateralliance.cz>
[35] *Letecky průmysl nespolupracuje, chybějí peníze z EU* [The aircraft industry does not cooperate, lack of funds from the EU] < http://ww.tyden.cz/rubriky/byznys/cesko/letecky-prumysl-nespolupracuje-chybeji-penize-z-eu_7817.html>
[36] CEITEC < http://www.ceitec.eu/>
[37] JIC. 2005. *Regional Innovation Strategy for the Southern Moravian Region.*
[38] 2007. *Strategie pro Brno* [Strategy of Brno-City] (available only in Checz language).
[39] The Masaryk University, the Brno University of Technology, the Mendel University of Agriculture and Forestry in Brno and the University of Veterinary and Pharmaceutical Sciences Brno
[40] „The EU's Seventh framework programme for research and technological development (2007-2013) is designed as a key contribution to the EU's strategy for growth and jobs." (Euractive) <http://www.euractiv.com/en/science/7th-research-framework-programme-fp7/article-117494>.
[41] (available only in Checz language) <http://www.jic.cz/spoluprace-a-transfer-technologii/mezinarodni-projekty.html>
[42] TIC Zlín <http://www.ticZlín.cz/profil.php>

- the administration of the incubator and the technology park (multilateral consultancy, seminars and education programmes for entrepreneurs)
- management of the Technology Innovation Centre
- the support of the transfer of technology between the universities and practise/the firms/businesses
- project supervision for cluster set-up and development

The TIC Zlín's cluster initiatives encompass the set-up of clusters in plastic production, shoe production, wood processing and furniture production, as well as mechanical engineering (in progress)[43].

The TIC Zlín has participated in several development projects, such as the EU's *Sixth and Seventh Framework Programme*, five projects in Zlín Region (incubator, innovation centre, technology transfer centre, regional innovation strategy and capacity building[44]) and in cross-border cooperation with Slovakia[45]. Through joint project development activities, it is a member of *Science and Technology Parks Association in Czech Republic*, *Association of Innovative Entrepreneurship in Czech Republic, Enterprise Europe Network* and it is connected to the local regional network together with three other cities.

TIC Zlín has a managing director and 10 employees in three departments. These are oriented on: the business incubator and the technology park (3), the cooperation with the industrial practise (3) and on the administration of the technology innovation centre (4).

6 Summary and research results analysis

After gathering the information about the investigated organizations through the questionnaire and the online resources, we attempted to organize them into several tables. Unfortunately, the framework of this paper does not allow us to present the detailed information, therefore we summarized the basic information in **Chyba! Nenalezen zdroj odkazů.**.

Insert table 3

The following phase of our research we devoted to the multilateral analysis of the organizations (ICs).

6.1 Comparison of the numbers of members in the ICs – internal members, external member-base

From the investigated ICs, the largest employee base belongs to the JIC, with 30 employees. InduTec and Viisiteam have the fewest employees (6 and 5). On contrary, Viisiteam with the investigated ICs has a different kind of organizational structure, a horizontal one, built up from independent management consultants.

[43] Unfortunately, the founding process of the mechanical engineering cluster is partly slowed down by the current global economic situation, although the candidates keep in touch on informal meetings.
[44] The projects are: Business Incubator Vsetín City, Maštaliska; Innovation and Development Centre of Uherský Brod City; Science and Technology Park and Technology Transfer Centre at the Tomáš Baťa University in Zlín; Zlín Region Innovation Strategy and Capacity building in local and regional organisations for planning and realization of regional operation programs in Zlín Region
[45] Innovation platforms between Trenčín (Slovakia) and the Zlín Region

From all of the investigated organizations, InduTec has the most spectacular network of partner organizations, although it is the one with the longest existence. The network is created by regional agencies, research, SME and export organizations, spin-off companies and other TTOs. We should not forget also the four universities InduTec closely cooperates with.

6.2 Comparison of ICs with respect to its founders

Three of the four investigated ICs are regional organizations representing the interests of the region they work. The Czech ones have among their founding institutions also universities: in case of the TIC Zlín there is one and in case of the JIC there are four universities. This is not so in case of InduTec, although it closely cooperates with four local universities and their departments and relies on their special facilities. Viisiteam was set-up from private initiative to fulfil, in the first place, personal goals. On the other hand, the members can cooperate with universities and R&D support organizations, as the example of our respondent represents.

6.3 The types of networks the ICs have experience with

The most frequent types of networks the examined organizations are embedded in are non-profit associations with open or partly limited membership. The most frequent branches, where these networks were formed, are in the fields of the exact sciences: biotechnology, bioinformatics, medical sciences, IT, design, water treatment and purification. Some of the initiatives put significant effort into environment friendliness and the rational use of energy.

6.4 Comparison of ICs in the relation to the first research question

To gain an overview of what is the role of our examined innovation centres in network creation, we evaluated each of them separately.

6.4.1 InduTec, the mediator and dynamic network creator

The Belgian InduTec represents a small but very active organization in network relations. It connects the four industrial engineering faculties of the Brussels Capital Region through their researchers and research facilities with the entrepreneurs, being a *mediator* between them and the companies from the industry and business sector. In this/current technologically dynamic environment, the role of InduTec as an *external technology source* is crucial for the companies' competitive success. On the other hand, through its *connections* to the practise and by its membership in several national and international organizations, InduTec can offer a *state of the art experience* to the faculties by monitoring projects from the concept to its implementation and by offering their promotion.

6.4.2 Viisiteam, creation of synergies by offering network connections to the companies

Viisiteam as a network of independent professionals represents a unique case among the examined organisations. Its soft structure enables the members to work both independently and in cooperation with some or all of their colleagues, depending on the nature of the client's demand. It further enables its members to be engaged in other networks, organizations and educational institutions, too. By *connecting* their clients to the local and European networks of knowledge transfer offices and companies, in the first place they *facilitate* the enlargement of the already existing networks and they also *support* the creation of synergies, which can be well exploited by their clients. The interactions

between the Viisiteam members on regular basis (exchange of information and experience, as well as joint problem solution) boost the creation of knowledge and give birth to innovative ideas.

6.4.3 JIC – facilities, seminars and forums to make connections

The JIC was founded as a result of cooperation among the South Moravian Region and the four universities in Brno to provide a *complex infrastructure* for the innovation of the entrepreneurship in the region and to offer support to the innovative start-up companies in Europe. As far as networks are concerned, the JIC (in the field of networks) has experience especially with clusters. What is more, it has experience from the CENTRIS international cooperation in technology transfer of the Centrope region. The regular meetings in the Innovation Club, the seminars, the conferences and the internet portal[46] are open to anyone and offer various opportunities to the entrepreneurs, the researchers, the students and other interested parties. They can get *to know each other* and make new connections.

6.4.4 TIC Zlín – helps enterprises to make the most of network cooperation

The TIC Zlín came to existence as the cooperation of the Zlín Region and the Tomáš Baťa University to help the foundation and development of the innovation enterprises, to help the exploitation of the R&D results in the field of high-technologies in practise, and to develop new lines, technologies and services. The TIC Zlín has a vast experience in cluster initiatives, from the *mapping of possibilities*, through contacting the possible future cluster-members to the required administration. In the three existing clusters, it ensures a prestigious *forum* for meeting, communication and promotion; it also helps to adjust the networks of enterprises inside the cluster to function in the most efficient way (common use and purchase of energy and services, etc.) and supports the preparation of joint development projects. Other advantages of the cluster-enterprises are the benefits from the corporate identity, promotion, common intranet and e-commerce, the research facilities, the trainings and the consultations.

6.5 Comparison of the ICs in the relation to the second research question

As we saw in the literature overview, the most influential institutions and organizations on global, as well as on the EU level regard network cooperation as very important. By examining our four cases, we did not get direct answers to the question, whether network cooperation is *essential* for the SMEs, nevertheless we have managed to observe the following features:

- InduTec's mission is "to be the interface of the Brussels-Capital Region towards the University Colleges of the region" which in practise means that it is the member, the creator, and the mediator in dynamic soft networks between the universities and companies.
- Viisiteam represents a network in itself, offering its clients information and the possibility to become a member of other professional networks in Belgium and in the EU.
- The JIC and the TIC Zlín have experience in cluster set-up and are members of several networks of professionals, innovation centres and other support organizations on the national and on the international level and they also participate in international projects.

[46] www.inovace.cz

Our respondents in the questionnaire shared the following ideas about the business networks in their country and about the concept's helpfulness for the entrepreneurs. The answers are contained in

Insert table 4.

Insert table 4

Guido Giebens (Viisiteam) made a very apropos remark to the topic by mentioning the protectiveness and self-centredness which can retain the entrepreneurs from network cooperation. We feel it as a strong retentiveness, especially in a business environment lacking efficient communication channels and business support organizations, and in case of entrepreneurs who are not adequately informed about the opportunities reaching beyond their company. Both of the Czech respondents claimed that the projects subsidized from the EU structural funds have a negative effect on networking. Cluster initiatives in the Czech Republic make up a part of the strategic documents and operation programmes (sooner called Clusters, currently Cooperation)[47] which ensure financial means to cluster set-up. According to the innovation centre agents, these programmes pushed on such industrial groupings which lacked firm bases resulting in not carrying out the set objectives, stagnation and informal decomposition. Dávid Jánošík (JIC) added that the main problem with the EU-founded cluster initiative programmes is, that they force the foundation of a juristic person forgoing the approval of their contribution in practise. This encourages newly-formed network initiatives to get these subsidies. It were preciously these experiences which led them to the activities boosting informal, rather than formal networking. Concerning the results of our observation and questionnaire we can conclude, that networking might be very efficient for the entrepreneurs who are open to cooperation and multilateral communication.

We were also interested in which economic branches our respondents consider to the most important or which they think will own great importance in the near future. For the answers see **Chyba! Nenalezen zdroj odkazů.**.

Insert table 5

InduTec, the expert in exact sciences (agro-food technologies, biotechnology, electronics, ICT, material technologies, medicine, physical and environmental sciences, and transport technologies) claims that innovation represents a dynamic network connecting professionals, companies, external R&D organizations and facilities from the most suitable branches according to the requirements of the project, to create high-quality solutions. Viisiteam and the JIC experts also share the opinion, that networking in general is suitable for everyone. Our respondent from the TIC Zlín added that the importance of networking depends on the character of the region. Jánošík (JIC) sees cross-sector cooperation – especially in life-sciences, ICT and mechatronics – to bear special importance in the future.

[47] see footnote nr. 14

In the theoretical part of the paper we have demonstrated some network structures existing in practise. We have asked our experts, according to their experience, which one is the most successful one (for the answers see **Chyba! Nenalezen zdroj odkazů.**).

Insert table 6

Regarding the "best" network structure we have received very accurate answers to our questions. Anne-Marie Van Oost from InduTec considers dynamic open networks the most fruitful form of cooperation. The other respondents voted for open and informal networks, not over-structured and problem-driven (Gienbens, Viisiteam), which can be later gradually formalised (TIC Zlín). However, success does not rely solely on the structure; it relies rather on the motives, on the objectives and on the character of the actors (Jánošík, JIC).

7 Conclusions

This paper has investigated the relation of the chosen innovation oriented organizations to networking and it has searched for the answer to the question whether networks of small and medium enterprises are a need or just an option for the entrepreneurs. We have examined this question through the practise of four organizations, two from Belgium and two from the Czech Republic.

Our concept was built on three tiers. The first was that innovations are created through interactions (personal of virtual); the second was that networks may boost the creation of innovations, and the third, if networking for SMEs is such important as the amount of specialized literature proves, innovation centres (created in the first place for SMEs) should have an answer to and opinion on this question. Based on these tiers, we have formulated our two research questions. The first one was aimed at the revelation of the role of our ICs in network creation, and the second one concentrated on the opinion of our respondents, the "innovation-managers", on the degree of the importance of networks' to the small and medium enterprises.

To get our first research question answered, we used two sources: the answers of our innovation-managers from the questionnaire and the websites of the ICs they represent. We have found that the examined institutions contribute to network creation by:

- connecting the university research to practise and vice versa by being a mediator for them
- serving as an external technology source
- conveying contacts to national and international organizations and networks
- offering state of the art experience
- helping the projects to be worked out and implemented
- boosting the creation of knowledge and innovative ideas
- offering consultations and trainings
- offering spaces and facilities
- organizing seminars and conferences.

If we consider the types of the networks our ICs have experience with, we will get a very colourful picture. Starting from the open collaborations and ending with clusters, from

highly specialized networks to the ones focusing on a broad range of topics, from private initiatives to governmental ones, from profit-oriented to non-profit ones concluding with the virtual networks. Furthermore, our four respondents' own expertise in all the four economic sectors. According to InduTec's practise, dynamic networks have proved to be the most successful network forms. The Viisiteam expert highlights the efficiency of the open, informal networks with simple structure, problem-driven and allowing for the contracts to be made with low thresholds. The two managers from the JIC and the TIC Zlín put emphasis on the informal networks which can be later formalized, according to their needs.

The second research question concentrated on the opinion of the representatives of ICs about the degree of importance of the establishing of networks. Is it really such a need as the notion's frequency in the professional literature may indicate? Or can our entrepreneurs freely build their private kingdoms protecting their know-how, practise and valuable contacts not being in a disadvantaged position when compared with their cooperating colleagues?

Concerning the received answers, we can conclude, that networking can be

- very efficient for the entrepreneurs *who are* open to cooperation and multilateral communication, and
- *essential* principally in the high-tech branches built upon exact sciences, like the life-sciences.

As our knowledge-based economy practise is getting longer and longer, we, as the entrepreneurs, researchers and other actors in the current dynamic environment, should gradually learn how to set the borders at the right place between our self-centredness and openness to protect our competitiveness, while raising it at the same time.

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References

2007. *Strategie pro Brno* [Strategy of Brno-City]. (only in Checz language). <http://www.brno.cz/download/ksm/strategie072007.pdf>. Accessed 1.5.2009.

2009. Letecky průmysl nespolupracuje, chybějí peníze z EU [The aircraft industry does not cooperate, lack of funds from the EU] <http://ww.tyden.cz/rubriky/byznys/cesko/letecky-prumysl-nespolupracuje-chybeji-penize-z-eu_7817.html>. Accessed 15.6.2009.

Angel, David P. 2002. Inter-firm Collaboration and Technology Development Partnerships Within US Manufacturing Industries. In: *Regional Studies*, vol. 36. no. 4. p. 333–344. DOI: 10.1080/00343400220131115.

Cooke, P. 2002. *Knowledge Economies*. London: Routledge.

Debackere, K.; Veugelers, R. 2005. The role of academic technology transfer organizations in improving industry science links. In: *Research Policy*, Vol. 34 pp.321 - 342. <http://www.elsevier.com>. Accessed 2.7.2009.

EBN Mission Statement. <http://www.ebn.be/DisplayPage.aspx?pid=14/>. Accessed 11.7.2009.

EC. 2006. Community framework for state aid for research and development and innovation. In: *Official Journal of the European Union*. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2006:321E:0001:0331:EN:PDF>. Accessed 29.7.2009.

EC. 2006. Consolidated versions of the Treaty on European Union and of the Treaty establishing the European Community. In: *Official Journal of the European Union*. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2006:323:0001:0026:EN:PDF>. Accessed 29.7.2009.

EC. 2007. *Towards a European Research Area; Science, Technology and Innovation; Key Figures. 2007*. <http://ec.europa.eu/invest-in-research/pdf/download_en/keyfigures_071030_web.pdf>. Accessed 12.4.2009.

EC. 2008. *The concept of clusters and cluster policies and their role for competitiveness and innovation: main statistical results and lessons learned*. Commission Staff Working Document SEC (2008) 2637. Annex to the Communication from the Commission "Towards world-class clusters in the European Union: Implementing the broad-based innovation strategy" COM(2008)652. <http://ec.europa.eu/enterprise/policies/innovation/files/clusters-working-document-sec-2008-2635_en.pdf>. Accessed 11.5.2009.

Elfring, Tom; Hulsink, Willem. 2003. Networks in entrepreneurship: The case of high-technology firms. In: *Small Business Economics,* vol. 21. no. 4. p. 409. ABI/INFORM Global.

Euractive. 2004. 7th Research Framework Programme. <http://www.euractiv.com/en/science/7th-research-framework-programme-fp7/article-117494>. Accessed 15.6.2009.

Eurostat. 2008. *Key figures on Europe*. 2009 edition. <http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-EI-08-001/EN/KS-EI-08-001-EN.PDF>. Accessed 12.5.2009.

EC. 2004. *Facing the challenge. The Lisbon strategy for growth and employment*. Report from the High Level Group chaired by Wim Kok. <http://ec.europa.eu/growthandjobs/pdf/kok_report_en.pdf>. Accessed 12.4.2009.

Government of the Czech Republic. 2008. *Analýza stavu výzkumu, vývoje a inovací v České republice a jejich srovnání se zahraničím v roce 2008* [Analysis of research, development and innovation in the Czech republic and their comparison on international level]. <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=513444>. Accessed 8.6.2009.

Gulati, Ranjay; Puranam, Phanish. 2009. Renewal Through Reorganization: The Value of Inconsistencies Between Formal and Informal Organization. In: *OrganizationScience,* vol. 20. no. 2. p. 422-440. INFORMS. DOI: 10.1287/orsc.1090.0421.

Hanna, Victoria; Walsh, Kathryn. 2008. Interfirm Cooperation among Small Manufacturing Firms. In: *International Small Business Journal*, vol. 26. no. 3. p. 299-321. SAGE. DOI: 10. 1177/0266242608088740.

Hämäläinen, Timo J.; Schienstock, Gerd. 2000. Innovation Networks and Network Policies. In: *OECD National Innovation Systems: Workshops and Meetings of the Focus Group on Innovative Firms and Networks (Phase III).* <http://www.oecd.org/dataoecd/35/8/2100869.pdf>. Accessed: 25.6.2009.

Christopherson, Susan; Clark, Jennifer. 2007. Power in Firm Networks: What it Means for Regional Innovation Systems. In: *Regional Studies*, vol. 41. no. 9. p. 1223–1236. Routledge. DOI: 10.1080/00343400701543330.

IASP. 2002. About Science and Technology Parks – Definitions. <http://www.iasp.ws/publico/index.jsp?enl=2/>. Accessed 10.7.2009.

JIC. Mezinárodní projekty [International Projects]. (only in Checz language). <http://www.jic.cz/spoluprace-a-transfer-technologii/mezinarodni-projekty.html>. Accessed 15.6.2009.

JIC. 2005. *Regional Innovation Strategy for the Souther Moravian Region*. <http://www.jic.cz/en/project-and-strategy/regional-innovation-strategy-executive-summary.html>. Accessed 1.7.2009.

JIC. Technology Incubator BUT. <http://www.jic.cz/en/incubators/technology-incubator-vut.html>. Accessed 1.7.2009.

JIC. Y-Soft Building. <http://www.jic.cz/en/incubators/y-soft-building.html>. Accessed 1.7.2009.

Johannisson, Bengt; Monsted, Mette. 1997. Contextualizing entrepreneurial networking. In: *International Studies of Management & Organization*; vol. 27. no. 3. p. 109. ABI/INFORM Global.

Keeble, David; Wilkinson, Frank. 1999. Collective learning and knowledge development in the evolution of regional clusters of high technology SMEs in Europe. In: *Regional Studies,* vol. 33, no. 4. p. 295-303. <http://www.proquest.com>. Accessed: 18.9.2007.

Kislingerová, Eva et al. 2005. *Chování podniku v globalizujícím se prostředí* [Enterprise behaviour in the globalized environment]. Praha: C.H. Beck.

Marková, Viera. 2004. Analýza súčasnosti a náčrt budúcnosti malého a stredného podnikania v Slovenskej republike [The present and the future of small and medium entrepreneurhip in Slovakia]. In: *Pokrok ve výzkumu MSP*. Praha: Oeconomica.

Mikoláš, Zdeněk. 2005. *Jak zvýšit konkurenceschopnost podniku: konkurenční potenciál a dynamika podnikání* [How to enhance enterprise-competitiveness: competitive potential and the dynamics of entrepreneurship]. Praha: Grada.

Mytelka, Lynn; Farinelli, Fulvia. 2000. Local clusters, innovation systems and sustained competitiveness. In: *UNU/INTECH Discussion Papers*. Prepared for the meeting on Local Productive Clusters and Innovation Systems in Brazil: new industrial and technological policies for their development. Rio de Janiero, September 4 -6, 2000. <http://www.utoronto.ca/isrn/publications/WorkingPapers/Working01/Mytelka01_Clusters.pdf>. Accessed: 2.6.2009.

Technology Transfer Institutions in Europe: an overview. 2004. <http://ec.europa.eu/enterprise/enterprise_policy/competitiveness/doc/tti_typology.pdf>. Accessed 2.5.2009

Národní inovační politika České republiky na léta 2005-2010. [National Innovation Policy of the Czech Republic for the years 2005-2010]. <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14459>. Accessed 7.7.2009.

O'Donnell, Aodheen. 2004. The nature of networking in small firms. In: *Qualitative Market Research*; vol. 7. no. 3. p. 206. ABI/INFORM Global. DOI: 10.1108/13522750410540218.

OECD. 2000. Local Partnership, Clusters and SME Globalisation. In: *SME Conference Business Symposium*. Issues Paper. <http://www.oecd.org/dataoecd/50/41/1912567.pdf/>. Accessed 22.4.2009.

OECD. 2007. Competitive regional clusters. National policy approaches. In: *Policy Brief archive*. <http://www.oecd.org/dataoecd/34/22/38653705.pdf/>. Accessed 15.6.2009.

Pervez Ghauri, Kjell Gronhaug. 2005. *Research Methods in Business Studies*. *A Practical Guide*. London: Prentice-Hall. p. 114.

Porter, Michael E. 1990. *The Competitive Advantage of Nations*. New York: The Free Press.

Skokan, Karel. 2004. *Konkurenceschopnost, inovace a klastry v regionálním rozvoji* [Competitiveness, innovation and clusters in regional development]. Ostrava: Repronis.

Sprenger, Rolf-Ulrich. 2001. *Inter- firm Networks and Regional Networks*. ADAPT, Bonn. Erkrath: Toennes Satz und Druck GmbH.

SVTP. 2008. *Vědeckotechnické parky 2008* [Science and Technology Parks 2008]. <http://www.svtp.cz/storage/parky2008.pdf>. Accessed 7.7.2009.

The Belgian Federal Science Policy Office. 2007. *OMC Policy Mix Review Report; Country Report; Belgium*. <http://www.belspo.be/belspo/stat/papers/pdf/Rapport_PEER_REVIEW_en.pdf>. Accessed 2.6.2009

The SAGE Encyclopedia of Qualitative Research Methods. 2008. Lisa M. Given ed. SAGE Publications. p. 68-71.

Thomas, Meri (Eurostat). 2008. Trade in high-tech products. In: *Statistics in focus*. <http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-08-007/EN/KS-SF-08-007-EN.PDF>. Accessed 2.7.2009.

UNCTAD. 1997. *Overview of Activities in the Area of Inter-firm Cooperation.* A Progress Report. United Nations Conference on Trade and Development. <http://stdev.unctad.org/compendium/documents/UNCTAD.ITE.EDS.2.pdf> Accessed: 15.7.2009.

UNESCO. 2008. *International Basic Sciences Programme: Harnessing cooperation for capacity building in science and the use of scientific knowledge*. p.7.
<http://unesdoc.unesco.org/images/0016/001627/162712e.pdf>. Accessed 19.7.2009.

Van Gils, Anita; Zwart, Peter S. 2009. Alliance Formation Motives in SMEs: An Explorative Conjoint Analysis Study. In: *International Small Business Journal. vol.* 27. no. 1. p. 5-37. SAGE.
DOI: 10.1177/0266242608098345.

Brussels Enterprise Agency < http://www.abe-bao.be/start.aspx>
Brussels Enterprises Commerce and Industry < http://www.beci.be/index.html?page=1&lang=nl&>
CEITEC <http://www.ceitec.eu/>
Enterprise Europe Brussels <http://www.brusselsnetwork.be>
Enterprise Europe Network < http://www.enterprise-europe-network.ec.europa.eu/index_en.htm>
Erasmushogeschool Brussel < http://www.erasmushogeschool.be/en/english>
Flanders InShape <www.flandersinshape.be>
FlandersDC <www.flandersdc.be>
FlandersDrive <www.flandersdrive.be>
InduTec <www.indutec.be>
Institut Meurice < http://www.heldb.be/he/meurice>
Institut Supérieur Industriel <www.ecam.be>
Institut Supérieur Industriel de Bruxelles <www.isib.be>
International Clinical Research Centre Brno. <http://www.fnusa.cz/icrcen.php>.
Internet Public Library (IPL) <http://www.ipl.org/div/subject/browse/sci36.00.00/.>
JIC <www.jic.cz>
Technology Innovation International <www.tii.org>
TIC Zlín <www.ticzlin.cz>
Viisiteam <www.viisiteam.com>
Water Treatment Alliance <http://www.wateralliance.cz>

Network of firms	**Industrial clusters**
Allow companies the reach of specialized services	Attract desired specialized services into the region
Have limited membership	Have open membership
Are set up upon contract agreements	Are set up upon societal values which strengthen confidence and encourage reciprocity
Allow firms to take part in complex production plans	Generate demand for more companies with similar or familiar competencies
Are set up upon cooperation	Are set up upon cooperation, but also upon competition
Companies have common business goals	Companies have common visions

Table 1: Networks of firms and industrial clusters (Skokan 2004)

Country/ Indicator 2006[48]	R&D intensity[49] (%)	R&D expenditures financed by business enterprise sector (%)	R&D expenditures financed by government (%)	R&D expenditures financed from abroad (%)	Enterprises which introduced new or improved products to the market (% of enterprises with innovation activity)*	Enterprises engaged in some form of cooperation on innovation (% of enterprises with innovation activity)*	High-tech exports[50] ** (% of total exports)
Belgium	1,83	59,7	24,7	12,4	40,7	35,7	6,64
Czech Republic	1,54	56,9	39,0	3,1	41,5	38,4	12,74
EU-27	*1,85*	*54,6*	*34,2*	*8,9*	*35,9*	*25,5*	*16,65*

Table 2: The main indicators of R&D development in Belgium and the Czech Republic
Source: Eurostat

*year 2004

** year 2008, the total exports for the EU do not include the intra-EU trade

[48] Eurostat. 2008. *Key figures on Europe. 2009 edition.*

[49] Gross domestic expenditure on R&D (GERD) as percentage of GDP.

[50] High Technology products are defined as the sum of the following products: aerospace, computers, office machinery, electronics, instruments, pharmaceuticals, electrical machinery and armament. (Eurostat)

Organization	Country and territory (surface/number of inhabitants)	Num. of members	Founding Members	Types of networks	Industry
InduTec (1994)	Belgium, Brussels region (162 km2 / 1 048 491)	6	Brussels-Capital Region	employers' organization; governmental organization; industrial association of stakeholders; web platform; network of contact points; consortia of regional organizations; association for SME support; clusters; non-profit organizations	agro-food; biotech.; electronics & ICT; industrial and material tech.; healthcare; energy & environment; physical sciences; transport techn.
Viisiteam (2003)	Belgium, territory not specified	5	Independent consultants	association of professionals, automotive suppliers networks, non-profit organization, governmental organization, joint venture	design industry, business consultancy, automotive industry
JIC (2003)	Czech Republic, South Moravia Region (7066 km2/ 1 124 493 inhab.)	30	South Moravia Region, City of Brno, 4 universities in Brno	association of stakeholders involved in water services and uses, limited liability company, knowledge and communication platform	life sciences[51], mechanical engineering
TIC Zlín (2005)	Czech Republic, Zlín region (3964 km2/ 594 060 inhab.)	11	Zlín region and one university	clusters, interest association of legal persons, civil association,	plastic industry, shoe industry, wood-processing and furniture industry

Table 3: Summary of the basic information about the investigated organizations

[51] The sciences of life and of living organisms, including their structure, function, growth, origin, evolution, and distribution. Biology and its related sciences. (IPL)

What is your opinion about the business networks?	
InduTec (Anne-Marie van Oost)	Business networks can offer contacts, help and such opportunities which can help entrepreneurs a great deal.
Viisiteam (Guido Giebens)	They are necessary to help SMEs to develop their own market niches, to look over the borders, to become more adaptive, more creative in finding new markets, business model and technology opportunities and to become less protective and self-centred.
JIC (Dávid Jánošík)	Clusters, technology platforms, associations and other forms of networks can be very effective.
TIC Zlín[52]	It can be helpful in the fields of marketing, R&D, human resources; the companies can economize on joint use of some resources and influence the regional policies more effectively.

Table 4: The opinions of the respondents about business networks

[52] The respondent works as the Head of the Business Incubator and Science and Technology Park Department of the TIC Zlín and wished his name not to be mentioned

In your opinion in which business sector is the application of networking techniques especially needed and why?	
InduTec (Anne-Marie van Oost)	The process of innovation is no longer a linear one, but a dynamic network putting together laboratories, external R&D organizations and companies.
Viisiteam (Guido Giebens)	Probably all because of the practical use of internet and other communication technologies.
JIC (Dávid Jánošík)	In general for everyone. But it will be especially important for the cross-sector cooperation and in knowledge intensive branches, like life sciences, ICT and mechatronics, in which integration to the European networks is a need.
TIC Zlín	It depends on the specialities of the region.

Table 5: The opinion of the respondents regarding the business sector in network cooperations

In your opinion which network structure is the most successful?	
InduTec (Anne-Marie van Oost)	Dynamic networks made up of TTOs, companies, venture capitalists, business angels and public organizations
Viisiteam (Guido Giebens)	An open network where contacts are made with low threshold, not overstructured, informal and problem-driven
JIC (Dávid Jánošík)	Success relies not on the structure, but rather on the motives, objectives and the character of people. We see informal networks very important.
TIC Zlín	Informal and later on according to the needs step-by-step formalization

Table 6: The opinion of the respondents about the most successful network strucutre