

INNOVATION NETWORKS IN METROPOLITAN REGIONS: THE CASE OF BERLIN AND POZNAŃ

ALEXANDER TÖLLE, MAGDALENA WADOWICKA

Adam Mickiewicz University in Poznań,
Institute of Socio-Economic Geography and Spatial Management,
ul. Dziegiełowa 27, 61-680 Poznań

Abstract: The globalisation of economic relations has led to a profound restructuring process of spatial relations. European cities and regions find themselves in a net of global flows, and the extent of integration into that net is the deciding factor in economic growth or decline. Regional innovation networks are seen as key components for stimulating growth and innovation in the business community as well as within regions. This has led to the launch of numerous network initiatives supported by the EU, as well as respective national and regional policies. As an element of regional development, innovation policies are geared to connect the research community and the production sector in order to quickly turn research results into marketable products. Policies manifest themselves in established networks and cluster structures as well as in science and technology centres and parks, as the “breeding places” of innovative products and companies. With the significance of state borders losing importance in a globalising world, transnational networks have become an answer to the internationalisation of research as well as markets. In the case of Germany and Poland, the vision of turning the shared macro-border region into an “innovative, knowledge-based economic area” has led to the establishment of the Oder Partnership. Notably, by looking at partners, structures and public engagement, this article will analyse the innovation policies in two of the metropolitan regions included in this Partnership – of Berlin and Poznań – and assess compatibilities and discrepancies in connecting the existing innovation network structures.

Keywords: innovation networks, clusters, innovation policy, metropolitan regions, transborder co-operation

INTRODUCTION

One of the most important tasks facing centralised and localised authorities in the days of advancing globalisation of the economy and European integration, is creating the conditions for the competitiveness of individual areas, because it is a high level of competitiveness that is the key factor in dynamic economic development, increased employment, and rapid structural transformations. In the light of the growing role of knowledge in the economy, of primary importance in enhancing the competitiveness of a region is stimulating innovation by increased financial outlay in the R&D sector. A parallel measure is the setting up of co-operation networks between the economy and science sector. An important role is played here by links generated not only at the local, but also at the transnational level.

The globalisation of economic relations, in conjunction with the European integration process, has led to the concept of networking in transnational cooperation spaces. Examples like the Central European Region CENTROPE, the Oresund Region, or the Greater Region SaarLorLux are demonstrating how joint lobbying, marketing and business strategies, economic and spatial policies, infrastructure projects and tourist services can enhance the competitiveness of the regions involved. The main role is played by the metropolitan regions of these areas, as economic hubs. Following such examples, in 2006 Poznań and Wielkopolska as well as Berlin and Brandenburg – together with the Polish voivode-ships of Lower Silesia (Dolnośląskie), Lubusz (Lubuskie) and West Pomerania (Zachodniopomorskie) and their capital cities, and also with the German federal states of Mecklenburg-Cispomerania (Mecklenburg-Vorpommern) and, since 2008, Saxony (Sachsen), agreed to develop a macro-region formed by their territories into an “innovative, knowledge-based economic area”. Accordingly, cooperation in this “Oder Partnership” is to be focused – apart from on the fields of tourism, transport and logistics – on the sector of innovation, technology and SMEs (Tölle 2010). With the Oder Partnership still being in its infancy, this will require connections to be made between existing innovation structures. It is against this background that this paper will analyze the innovation networks in the metropolitan regions of Berlin and Poznań, in particular looking at partnerships, structures and public engagement. The paper will end by listing the opportunities and obstacles to joint innovation strategies.

REGIONAL INNOVATION POLICY IN THE EUROPEAN UNION

In European Union states, central and local government policies are now oriented towards the building of the competitive power of regions to a much higher extent than previously due to the inclusion of the Lisbon Strategy in the EU regional policy for 2007–2013. This is supposed to be achieved through higher outlays on scientific research and development of technology as well as the formation of a knowledge-based society. The principal mechanism for enhancing innovativeness in EU regions is via Regional Innovation Strategies (RIS), designed to assist local and regional authorities in implementing efficient systems of innovation support in individual regions. RISs should define the directions of innovation policy and ways of building and optimising innovativeness-supporting regional infrastructure. Clusters and networks have become acknowledged as significant contributors to a successful regional development policy. As individual companies – especially SMEs – are overstrained by the task of collecting and utilizing the knowledge necessary for developing successful products, knowledge that is increasingly specific, tacit and complex, and therefore ever

more difficult to obtain and interpret (Oerlemans et al. 2007). Network structures are effective devices for tackling these difficulties, as they allow regional firms to gain access to global innovation processes. So globalisation has diminished the dominance of regional – as well as continental and national – markets, but has also led to a “re-regionalisation (or re-agglomeration)” in that regional networks have become the basis for international competitiveness (Sternberg 2000: 390).

In the literature on the subject one can find many definitions and typologies of clusters. The inventor of the concept of the cluster, M.E. Porter (1990, 1998) defines it as a geographic concentration of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a nation or region. In turn, innovation clusters as defined in the EU “Community Framework for State Aid for Research and Development and Innovation” (2006: 10) as “groupings of independent undertakings – innovative start-ups, small, medium and large undertakings as well as research organisations – operating in a particular sector and region and designed to stimulate innovative activity by promoting intensive interactions, sharing of facilities and exchange of knowledge and expertise, and by contributing effectively to technology transfer, networking and information dissemination among the undertakings in the cluster. Preferably, the Member State should intend to create a proper balance of SMEs and large undertakings in the cluster, to achieve a certain critical mass, notably through specialisation in a certain area of R&D&I and taking into account existing clusters in the Member State and at Community level.”

Notwithstanding the fact that there are different definitions of clusters and networks in the scientific world, and that the underlying theories are subject to an ongoing academic dispute (Jarus 2008; Hassink 2001), the common background of innovation policy practised today is the understanding of innovation as a process of interactions and reactions by different actors (Oerlemans et al. 2007), as opposed to a linear process. That is also why cluster policy and network policy is in practise often the same thing (Koschatzky 2001; Raenke et al. 2003; Kulicke 2009). Such policies in EU countries are being designed at all levels of power, starting with the local level (including urban communes and agglomerations), through to regional and central ones, and ending with supranational. The promoters of the idea of co-operation and establishment of innovation networks are primarily central and local government administration (top-down initiatives) and business-environment institutions. Apart from representatives of the public sector, economic entities (bottom-up initiatives) and the science sector (the establishment of a cluster or network can be inspired by a strong university pursuing a policy of networking with local enterprises) are also engaged in network formation. In economic practice both kinds of initiative, top-down and bottom-up, coexist, although in states with a long tradition

of development based on local production systems (e.g. Italy) the setting up of innovation clusters has so far been largely a result of grass-roots, private initiative rather than measures undertaken by governments. Brodzki and Szultka (2002) note that conducting a cluster-based innovation policy requires an extensive public-private partnership with the private side as leader, while the public side should act as a development catalyst. Thus, the fundamental role of public authorities in terms of innovation policy should embrace the creation of the conditions for the operation and development of SMEs while initiating networks between enterprises, science (universities, scientific research institutes) and the business environment. Such a network is necessary for the transfer of knowledge of scientific ideas to production.

INNOVATION STRUCTURES IN THE METROPOLITAN REGIONS OF BERLIN AND POZNAŃ

Innovation structures in the Berlin Capital Region

The Berlin Capital Region (officially named the Capital Region of Berlin and Brandenburg) consists of the two independent German federal states of Berlin (3,420,000 inhabitants) and of Brandenburg (2,540,000 inhabitants). Close cooperation between them mostly concerns the fields of spatial planning, major infrastructure projects, and economic development. Innovation policies in Berlin go back some three decades, when in 1983 the first business incubation centre in Germany was established in what was then West Berlin. Since 1990, the main tools have been the offering of start-up venture capital and of low cost locations in founder and technology centres and parks, whose creation has received more than €670 million of public funding (Kulke 2008:196). With a similar policy having been pursued in Brandenburg, the Berlin Capital Region has currently 38 technology and founder centres, of which 18 (with a total of more than 700 companies and nearly 3,500 employees) are located in the city itself and 7 in its direct vicinity. In addition, there are 3 innovation centres (with together around 230 companies and 2,600 employees) and 4 technopoles (innovation parks, with together around 660 companies and 8,400 employees, as well as 32 research institutes with around 4,500 employees) situated in Berlin.

In recent years however, economic development policies have become more focused on fostering development in existing growth sectors, a strategy called “strengthening strengths”. In 2007, the “Joint Innovation Strategy Berlin-Brandenburg” was adopted, which defines the five competence fields of

1. Biotechnology, medical technology and pharmaceuticals,
2. Energy technology,
3. ICT/Media,

4. Optical technology and
5. Transport system technology.

There are numerous institutions involved in the implementation of this innovation policy. For instance, each state has its subsidy bank – the Investitionsbank Berlin (IBB) and the Investitionsbank Brandenburg (ILB) – with the task of fostering the development of the metropolitan region as a business and industry location notably by co-financing of the start-up, the growth or the stabilisation of firms. In turn, Berlin Partner is a private company (i.e. 55% private sector share) with two main activities: the marketing of Berlin, and the guiding of potential investors as a “one-stop” contact point. Its associates are the IBB, Berlin CC (Chamber of Crafts), Berlin CIC (Chamber of Industry and Commerce), the Association of the Federations of Enterprises in Berlin and Brandenburg (UVB), and a holding with 50 partner companies. The institutional equivalent in Brandenburg is the Brandenburg Economic Development Board (Zukunftsagentur Brandenburg, ZAB) founded in 2001 whose associates are the federal state of Brandenburg, local CCs and CICs, and again the UVB. Another key actor in innovation policies – the TSB Technology Foundation Berlin – is a private foundation originally created by banks and companies of the Berlin region, which the state of Berlin engaged in. The TSB’s mission is to support the research and education sector in order to generate innovative technologies in applied sciences, notably by supporting alliances and projects between the research sector and the private market. In terms of policy support, the tasks of the TSB in Berlin are in Brandenburg carried out by the ZAB.

The backbone of the networking structures (Tab. 1) is formed by the private companies – which may range from SMEs to major companies – and research institutions. Concerning the latter, of special importance are those linked to the region’s main universities: the Technical, Humboldt, and Free University in Berlin, the University of Potsdam, and the Technical University of Cottbus. There is also involvement in specific fields of universities of applied sciences in the region. Of special importance in the health sector is the Charité University Medicine, a joint venture of Free and Humboldt University. Concerning non-university research institutions, an important role are playing the large organisations of German research centres such as Helmholtz Association, Leibniz Association, Fraunhofer Society, and Max Planck Society. Institutes of one or more of these organisations are included in nearly all networks. Also federal research institutions, such as the German Space Centre or the Federal Institute for Material Research and Testing, have become engaged.

In addition, most networks have non-research members, which range from local bodies such as technology centres or local development boards and to regional special interest groups and working committees; CICs are also frequently members. The initialising and sustaining role of the public side in these networks

Tab. 1 “Competence Field Networks” in the Capital Region of Berlin and Brandenburg

Network	Founding year	Number of members			Organisational-Legal form	Annotations
		Private Companies	R&D units	Non-Research Institutions		
Competence Field: Biotechnology, Medical Technology and Pharmaceuticals						
BioTOP B-BB Action Centre for Biotechnology	1996	190	20	n.d.	Mutual consent, managed by TSB	Funded by B and BB as network node, EU sup.
BIOHYTEC Biohybrid Technology Network	2000	19	6	5	Registered association	Funded by the Partners, federal support
GlykoStrukturFabrik Network Glycolic Bio-Technologies B-BB	2003	12	5	-	Mutual consent, office within Charité	Funded by B, EU support
Net-DDD Network for Drug Discovery&Dev. B-BB	2007	6	14	-	Mutual consent, office in research institution	Funded by one research partner and TSB
Nutrigenomics Network	1999	n.d.	n.d.	n.d.	Contact point TSB, sustained by reg. assoc.	Funded by Partners
White Biotechnology Network B-BB	2007	13	5	3	Mutual consent, office at Biotech. Park Luck.	Funded by BB, federal support
RMIB Regenerative Medicine Initiative B	2007	6	20	1	Mutual consent, office within Charité	Funded by the partners
INB Imaging Network B	2006	8	3	2	Mutual consent, managed by TSB	Funded by B, federal support
Health Capital B-BB Health Network B-BB	2005	27	5	9	Mutual consent, managed by TSB	Funded by B and BB
Diagnostik Net B-BB Diagnostics Network B-BB	2007	12	6	1	Contact point TSB, sustained by reg. assoc.	Funded by the partners

Competence Field: ICT / Media						
media.net berlin brandenburg Association of the Creative Industries in B-BB	2002	231	6	6	Registered association	Funded by B and BB
Create Berlin Network of the Berlin Design Community	2006	83	2	1	Registered association	Funded by B and 28 "committed" partners
SeSam BB Security and Safety made in B-BB	2008	13	3	8	Registered association	Funded by BB, federal support
MOBKOM.NET Mobility & Communication Technology Net.	2007	20	7	-	Registered association	Funded by BB, federal support
Competence Field: Energy Technology						
EWET Cooperation Network Energy Works / Energy Technology BB	2006	10	1	3	Managed by CEBra – registered association	Funded by BB, federal support
Competence Field: Optical Technology						
Oabb Optic Alliance B-BB	2007	12	6	5	Registered company	Funded by BB, federal support
photonik BB Photonics Network B-BB	2008	16	6	5	Registered association	Funded by BB and B, federal state-cofunded
Op TecBB Competence Network Optical Technologies B-BB	2001	61	30	4	Registered association	Funded by B, EU and federal support
Competence Field: Transport System Technology						
automotive B-BB Automotive Suppliers Network B-BB	2006	57	5	9	Registered company	Funded by B and BB, federal support
FAV Transport Technology Systems Net. B Network "Transport and Mobility"	1997	n.d.	17	7	Mutual consent, managed by TSB	Funded by B, EU support

Cont. Tab. 1

LNBB Logisticsnet B-BB	2006	11	1	7	Registered association	Funded by B and BB, and by the partners
BBAA Berlin-Brandenburg Aerospace Alliance	1998	78	9	10	Registered association	Funded by BB, federal support
Competence Field: Food Industries						
EMIL-Net Development of Microsystem technics for innovative food production	2007	8	4	-	Mutual consent, office at one research part.	Funded by partners
BEN e.V. Food Network BB	2007	39	2	4	Registered association	Funded by BB, federal support
Competence Field: Geo-information Technologies						
GEOkomm networks Network for the geoinformation industry	2002	15	5	-	Registered association	Funded by BB, federal support
Competence Field: Metal Industries						
ME Network – Network of the Metal and Electrical Industries in the Capital Region profil.metall	2007	2	2	1	Mutual consent, office at industry's Alliance	Funded by the Alliance, start-up funded by BB
Steel and Metalworking Network in B-BB	2007	103	7	3	Mutual consent, office at research partner	Funded by BB, federal support
Competence Field: Mineral Oil and Fuel Production						
BBPro Network of Competence: Mineral Oil Economy / Biofuels	2008	15	5	1	Mutual consent, office at one company	Funded by BB, federal support

Source: own compilation on the basis of available data from the respective networks
[Abbreviation: B – Berlin, BB – Brandenburg, B-BB – Berlin and Brandenburg]

becomes apparent by the presence of the ZAB and the TSB in the majority of networks. The latter frequently takes the leading position by managing networks or maintaining contact points. There is also a “network networking” to be observed as some networks figure as partners in others (e.g. the Aerospace Alliance is partner in the SeSam network, or the OpTecBB-Network in the Optic Alliance). The TSB-managed BioTOP Action Centre for Biotechnology constitutes a network node linking all six networks of this Competence Field.

As organisational forms, their main structures can be distinguished: a network is either based on mutual consent and managed by one of its partners (be it a private company, a research institution, or in several cases the TSB), or has the legal form of a registered association. Only two networks have registered as private companies. Most networks are funded by the state of Berlin and/or of Brandenburg, some receive federal or EU co-funding.

THE CASE OF THE POZNAŃ METROPOLITAN REGION

The city of Poznań, with 557,000 inhabitants (in an agglomeration of 944,000 inhabitants), is the capital city of the Wielkopolska Voivodeship with 3,400,000 inhabitants. Poznań is the heart of one of the most powerful metropolitan regions in Poland; however there are today no scientific or politically defined spatial boundaries for this region. While this is of no concern as such in the context of the network approach discussed in this paper (which does not depend upon any delimitation of outer boundaries), it is bound to become an issue in the context of which political and administrative authorities will govern networks in future.

The basic role in innovation policy is played by local and regional government authorities and institutions from the business-environment sector, including the Poznań City, Poznań Poviát Council, Marshal's Office of the Wielkopolska Voivodeship, Wielkopolska CIC, Wielkopolska Agency for Entrepreneurship Development (WARP), Wielkopolska Capital Club, Polish Chamber of Importers, Exporters and Co-operation, universities (including Adam Mickiewicz University AMU as well as the universities of technology, of economics, and of life sciences), and private entities. Among governmental organisations, in turn, the most engaged body is the Polish Agency for Entrepreneurial Development (PAED).

One of the basic instruments of Poznań's innovation policy is the Programme Supporting Innovation Projects, which is an umbrella programme encompassing all those measures whose ultimate goal is to create an innovation-friendly, economic-scientific milieu. Under the Programme, on the initiative of the Poznań City Hall, the Wielkopolska Innovation Platform was set up in 2005, financed

from the city's budget and intended to provide a basis for co-operation between scientific circles and business, and to help commercialise scientific achievements. Thus, the role of the local and regional authorities in the Poznań metropolitan region is primarily to initiate co-operation between business and science, organise conferences, and fund the development of innovation networks, while the actual formation of innovation structures is left to the private sector. Ventures intended to set up co-operation links in the Poznań metropolitan region, including networks and clusters, may seek co-funding from the Wielkopolska Operational Programme and the national Innovative Economy Programme.

In structural terms, innovativeness in the Poznań metropolitan region is based on cluster networks that link enterprises, research institutions and other representatives. While the term "cluster" is used, those structures appear to be more comparable to what is named a "competence field network" in the Berlin Capital Region. This is a clear evidence for the need to agree on wording as a basis for any form of future transnational cooperation. According to the PAED, out of the 129 clusters and cluster initiatives operating in Poland in 2008, seven were located in Wielkopolska, of which five were in the Poznań agglomeration (Tab. 2). In 2008, the Wielkopolska Innovation Network of Co-operation was established on the initiative of the Polish Chamber of Importers, Exporters and Co-operation and the Wielkopolska Capital Club. This network combines several Wielkopolska cluster initiatives from the food, construction, motor vehicle, metals, and renewable energy industries. In the Poznań metropolitan region, innovation networks only started to be established a few years ago, as the greatest number of clusters was set up in the years 2007–2009. This means that the Wielkopolska clusters are very young structures and still not fully developed. A variety of organisational-legal forms are employed including consortia, associations, and simple mutual agreements, on which most of the existing clusters are based. Some of the Wielkopolska clusters have a large number of members, such as the Wielkopolska ICT Cluster, combining a total of 82 enterprises and R&D units. The other clusters in the Poznań metropolitan region have fewer than 20 members. Cluster members are predominantly SMEs.

The formation of clusters has been affected by a number of factors, including access to new technologies, high-quality human capital, and financial abilities, but also the tradition, history and culture of the Wielkopolska region. As stated by the OECD (1999, 2001), each country has its own set of specific clusters, and even in individual states clusters involving the same sector may differ. The clusters in the Poznań metropolitan area mostly operate in the ICT and automotive sector, while other initiatives embrace chemistry, furniture and automation. Whereas the ICT branch has the greatest number of cluster members, in the automotive sector one can find the greatest number of R&D units. The clusters are co-financed predominantly by EU funds, e.g. the European Social Fund, and to a lesser degree by the state budget.

Tab. 2. Clusters and cluster initiatives in Wielkopolska Region

Network	Founding year	Number of members				Organisational-legal form	Cluster co-ordinator
		Private Companies	R&D Units	Business Environmental Institutions			
Clusters seated in the Poznań agglomeration							
Wielkopolska Motorisation Cluster	2007	10	4	3	consortium	Nickiel Technology Park Poznań	
Wielkopolska ICT Cluster	2008	80	2	–	association	Wielkopolska ICT Cluster Management; Initiative supported by Poznań City Office, Poznań University of Technology, Poznań Supercomputer-Network Centre and Poznań IT companies	
Wielkopolska Cluster for Advanced Automation Technologies ELPROTECH (cluster initiative)	2007	14	1	1	agreement	Wielkopolska Chamber of Commerce and Industry in Poznań	
Wielkopolska Chemical Cluster (cluster initiative)	n.a.	n.a.	n.a.	n.a.	n.a.	AMU Faculty of Chemistry	
Wielkopolska Furniture Cluster (cluster initiative)	2007	14	2	1	oral agreement	Wielkopolska Agency for Entrepreneurship Development	
Clusters seated outside the Poznań agglomeration							
Typographic-Advertising Cluster in Leszno	2007	17	–	–	association	Typographic Preparation Chamber MANUS	
Pleszew Boiler Cluster	2004	65	12	8	agreement	Eurocentre for Innovation and Entrepreneurship	
South Wielkopolska Food Cluster (cluster initiative)	2009	20	2	–	association	Regional Chamber of Commerce in Kalisz	
Wielkopolska Aviation Cluster (cluster initiative)	2009	4	–	–	association	Regional Chamber of Commerce in Kalisz	

Source: own compilation on the basis of data from PAED, Wielkopolska Innovation Platform and the Wielkopolska Innovation Network of Co-operation.

In contrast to Berlin, where founder and science centres were involved at the beginning of innovation policies some decades ago, in the Poznań metropolitan area similar institutions have only been created in recent years, parallel to the said network structures. Hence, several scientific-technological parks, technology transfer centres, technological incubators, and entrepreneurship incubators were set up in the years 2004–2009. Today there are two technological parks, namely, the Poznań Scientific-Technological Park (PPNT) of the AMU Foundation and the Nickel Technology Park Poznań, six technology transfer centres, one technological incubator, and four entrepreneurship pre-incubators in Poznań. Established in 1995, the PPNT was the first of its kind in Poland, while the Nickel Technology Park Poznań is the first private technological park in Poland. The PPNT is a member of the Consortium of the Wielkopolska Centre for Advanced Technologies implementing one of the four key projects funded from the Innovative Economy Operational Programme in Poland. As an innovation centre, the Park has also launched the investment project “Construction of a Set of High Technology Incubators” addressed to chemical, biotechnological and information firms with a high development potential. The park is also one of the chief animators and agents introducing the strategy of innovative economic development in Wielkopolska. In general, the users of the technological parks are primarily small and medium-sized businesses. The two parks generate total employment of 1,089 positions, with the Nickel Technology Park Poznań accounting for 70.6% of that.

CONCLUSIONS

It was outlined at the beginning of this paper that strategic networking in and between metropolitan regions is becoming increasingly important in the context of a globalising economy and of the European integration process, and so is the internationalisation of innovative networks. The Oder Partnership offers a potential basis for transnational linking of networks, yet it has to be acknowledged that this will require addressing existing obstacles on both sides in order to profit from the opportunities. In the Capital Region of Berlin and Brandenburg sophisticated public innovation policy structures have been built up over years with strong engagement of the public side, so a top-down approach is prevailing. However in the Poznań metropolitan region, in the rather recent network building the initiative of the private sector has been more decisive, so there is a bottom-up approach prevailing. While the organisation structures of cluster networks as such are similar, the differing engagement of the public sector in Poznań and Berlin is bound to become an issue when transborder co-operation structures are to be prepared. This also concerns a second point: The states of Berlin and Brandenburg have a more synchronised innovation policy (despite the undeniably parallel structures that still exist) than Poznań and the

Wielkopolska Region. An integrated innovation structure for its metropolitan region is lacking, and this will require a definition of the region's perimeters as a starting point. As pointed out earlier, a region from an innovative network perspective may rather be understood as a field of actors and organisations than a territory delimited by outer boundaries. Yet the definition of the region becomes highly important in the context of which political and administrative authorities are governing the networks.

In addition, future transborder cooperation will require an agreement on wording. Currently, a "cluster" in Poznań appears to be the equivalent of a "competence field network" in Berlin, while a cluster there is seen as a mega-structure. Even more important in this context is in how far the Poznań clusters may be seen as real structures of research and private company cooperation, or perhaps rather as formations around traditional production structures. According to PAED data for the Wielkopolska clusters, Europe is the territorial range of their market impact. However, as follows from a study carried out by the Innovation and Technology Institute of Berlin, Polish networks (in comparison to German ones), while open to international collaboration, do not possess the necessary contacts or knowledge in this field. They are also failing to take the active steps necessary to find partners in and outside Europe (Meier zu Köcker et al. 2008). Therefore one may talk of a limited potential for creating transnational networks and bilateral co-operation between Poznań and Berlin. Nevertheless there are existing contact points to be detected, notably when acknowledging that the branches of motorisation and of ICT are top of the innovation network agenda in the metropolitan region of Poznań as well as of Berlin, and that other fields may involve technical networks such as automation or chemistry. From this perspective there is therefore good potential for cooperation, and the future will show how they are exploited for the good of the two neighbouring metropolitan regions.

REFERENCES

- Brodzki T., Szultka S. 2002: *Koncepcja klastrów a konkurencyjność przedsiębiorstw. Organizacja i Kierowanie* [The Conception of Clusters and The Competitiveness of Companies. Organization and Management], 4(110).
- Community Framework for State Aid for Research and Development and Innovation*, 2006: Official Journ. of the European Union, C 323, 30 Dec. 2006.
- Hassink R. 2001: *The Learning Region: A fuzzy concept or a sound theoretical basis for modern regional innovation policies?* Zeitschrift für Wirtschaftsgeographie, 45(3/4), 219–230.
- Jarus T. 2008: *Wiek kooperacji* [The Age of Co-operation]. [In:] *Wielkopolska konkuruje wiedzą a nie biedą* [Wielkopolska Competes on Knowledge, not Poverty.], Wyd. Urząd Marszałkowski Woj. Wielkopolskiego [Marshall Office of Wielkopolska Region in Poznań], Poznań, 22–23.
- Koschatzky K. 2001: *Networks in Innovation Research and Innovation Policy – An Introduction*. [In:] K. Koschatzky, M. Kulicke, A. Zenker (eds), *Innovation Networks. Concepts and Challenges in the European Perspective*, Physica, Heidelberg&New York, 3–23.

- Kulicke M. 2009: *Cluster- und Netzwerkevaluation – eine kurze Bestandsaufnahme* [Cluster and network evaluation – the state of the art]. [In:] J. Wessels (ed.), *Cluster- und Netzwerkevaluation. Aktuelle Beispiele aus der Praxis*, iit, Berlin, 11–19.
- Kulke E. 2008: *The technology park Berlin-Adlershof as an example of spatial proximity in regional economic policy*. *Zeitschrift für Wirtschaftsgeographie*, 52(4), 193–208.
- Meier zu Köcker G., Hein D., Chinalski M. 2008: *German-Polish Network-based R&D-Co-operation. Enablers and Barriers*. Berlin.
- OECD, 1999: *Boosting Innovation – The Cluster Approach*. OECD Report.
- OECD, 2001: *Innovative Clusters*. OECD Report.
- Oerlemans L., Meeus M., Kenis P. 2007: *Regional innovation networks*. [In:] R. Rutten, F. Boeckema (eds), *The Learning Region*. Foundations, State of the Art, Future, Edward Elgar, Cheltenham & Northampton, MA, 160–183.
- Porter M.E. 1990: *The Competitive Advantage of Nations*. Macmillan, London.
- Porter M. E. 1998: *Porter on Competition*. Harvard Business School Press, Boston.
- Raenke V., Reitzig J., Richter G. 2003: *Clusterhandbuch Brandenburg* [Cluster Manuel Brandenburg]. IMU, Berlin.
- Sternberg R. 2000: *Innovation Networks and Regional Development – Evidence from the European Regional Innovation Survey (ERIS): Theoretical Concepts, Methodological Approach, Empirical Basis and Introduction to the Theme Issue*. *European Planning Studies*, 4(8), 389–407.
- Tölle A. 2010: *Transnational co-operation in strategic networks in Polish metropolitan areas*. [In:] P. Churski, W. Ratajczak (eds), *Regional development and regional policy in Poland: First experiences and new challenges of the European Union membership*, KPZK PAN, Warszawa, 106–120.

SIECI INNOWACJI NA OBSZARACH METROPOLITALNYCH NA PRZYKŁADZIE BERLINA I POZNANIA

Streszczenie

Globalizacja stosunków gospodarczych doprowadziła do głębokich zmian w procesie stosunków przestrzennych. Europejskie miasta i regiony znalazły się w sieci globalnych przepływów, podczas gdy stopień integracji w tej sieci stał się czynnikiem decydującym o rozwoju gospodarczym lub zapaści. Regionalne sieci innowacji są postrzegane jako kluczowe składowe stymulujące rozwój i innowacyjność w społeczności ekonomicznej oraz w regionach. To z kolei doprowadziło do wprowadzenia licznych inicjatyw sieciowych, wspieranych przez Unię Europejską oraz odpowiednie polityki ogólnokrajowe i regionalne. Jako element rozwoju regionalnego polityka innowacji nakierowana jest na łączenie środowisk badawczych i sektora produkcyjnego w celu szybkiego przekuwania wyników badań na zbywalne produkty. Polityka objawia się w ustalonych sieciach i strukturach klastrowych, a także w ośrodkach i parkach nauki i technologii jako „wylęgarni” innowacyjnych produktów i firm. W sytuacji, gdy w globalizującym się świecie granice państw tracą na znaczeniu, ponadnarodowe sieci są odpowiedzią na umiędzynarodawianie się badań i rynków. W przypadku Niemiec i Polski wizja przekształcenia wspólnego makroregionu granicznego

w „innowacyjny obszar gospodarczy oparty na wiedzy” przyczyniła się do powstania Partnerstwa Odra. Należy przy tym zaznaczyć, że biorąc pod uwagę partnerów, struktury oraz zaangażowanie publiczne, niniejszy artykuł jest analizą polityki innowacji w dwóch regionach metropolitalnych będących częścią Partnerstwa – mianowicie Berlina i Poznania – oraz oceną zgodności i rozbieżności w łączeniu istniejących struktur sieci innowacji.