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The InnoRegio-program: a new way to promote regional innovation networks - empirical results of the complementary research -

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**The InnoRegio - Program: A new way to promote regional
innovation networks
- empirical results of the complementary research -**

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1. The InnoRegio-Program and its aim

Ten years after German reunification the economic situation in the new Federal Länder was still unsatisfactory. New approaches were being sought in promotional policy so that the weaknesses that are known or suspected can be better targeted and removed. One of these weaknesses is the lack of research, and the consequent shortage of innovation by companies. Another is inadequate regional cohesion between companies and related facilities. Formal and informal co-operation between the various regional protagonists is regarded as essential to strengthen corporate innovation and exploit the regional economic potential, and that means networking companies, research facilities, universities, the administration and politicians.

In April 1999 the German Federal Ministry of Education and Research (BMBF) therefore launched a promotional initiative known as the InnoRegio.¹ Prospective participants were invited to enter a competition for promotional funds by putting forward concepts for the development of innovative regional joint ventures or associations. During the period from 1999 to 2005 the BMBF will provide a total of € 255 million for this initiative. Thus, the InnoRegio-Contest is the most important pillar of the ministry's innovation policy for East Germany. In the course of 2001, two further measures have been added to the promotion of regional innovative networks, "Innovative Regional Growth Cores" and "Interregional Alliances".

This article outlines the concept of the promotion and selected empirical results of the development of the InnoRegio networks and the establishments involved.

2. Design of the InnoRegio-Program

The networks involved in this program were chosen in a multi-stage-competition:

- ◆ I: Initial qualification phase (from April 1999 to October 1999)

Participants put forward their first concepts for promotion for their project associations. Out of 444 applicants 25 initiatives were selected in November 1999 for the next phase.

- ◆ II: Development phase (from November 1999 to October 2000)

These 25 InnoRegios were awarded up to 300.000 to mobilize the partners required and to draw up a more detailed version of their concept. In October 2000 the jury recommended 19 InnoRegios for promotion in the implementation phase (another 4 InnoRegios in Summer 2001). Thus 23 InnoRegios were promoted currently (map)

- ◆ III: Implementation phase (from November 2000 to 2004)

The networks have developed their organizations, acquired further partners, and above all they have adapted their projects to the conditions of the promotion.

¹ <http://www.innoregio.de>

Geographical allocation of the InnoRegio-networks



Special features of the promotion

During the development phase the InnoRegios were also given immaterial support like moderators who monitored the communication and organisation process. Consultancy on subject areas and bureaucratic aspects of the promotion is given in the development phase and the phase of implementation.

At the beginning of InnoRegio-program agencies of co-ordination were established. These agencies are equipped with promotional funds that will declining over time.

The implementation of the InnoRegio initiative will be monitored by complementary research until 2005 which is conducted by the DIW Berlin. This research undertakes the tasks of analysing the elaboration and implementation of the InnoRegio projects and identifying success factors, fostering the dialogue between the networks on their individual experiences, working out proposals to transfer successful approaches to other networks and regions, advising the BMBF on the implementation of the main areas of promotion, assessing the promotional approach, and making recommendations for future promotional programs.

3. Some theoretical references of InnoRegio

In order to ensure competitiveness on the long run, for enterprises it is important to generate innovations. In reason of increasing specialization of the firms (concentration on core-competencies) and the complexity of new technologies, the knowledge needed in innovation processes is widespread. Thus innovation and the process of knowledge creation and diffusion within the economy almost is based on division of labour. Regarding to the coordination of those interactions, market-coordination as well as coordination on hierarchies poses some difficulties. Due to this networks are viewed as superioir mechanism of coordination according to divided innovative activity (Fritsch 2001).

The concept of innovation systems is based, just like the network-approach, on the idea of division of labour according to the innovation process. Research activities on this refer to national, supra-national, sectoral and regional innovation systems. All of those approaches assume that innovation processes take place in a systemic context, which includes a lot of actors and their interactions (e.g. feed-back) and interrelations (Edquist 1997). Therefore the concept focuses on the functions and the contributions of different types of organizations (such as enterprises, universities, public research facilities, labour administration,) to innovation processes.

Especially evolutionary approaches of innovation theory are regarding, that innovation mostly depends on re-combination of already existing ideas and experiences. Thus creation of knowledge always includes aspects of learning. Deepening this theories of learning differentiate between "lerning by boing" (Arrow 1962), "learning by using" and "learning by interacting" (Lundvall 1992).

The distinction between codified knowledge, that is easily transmittable in a formal and systematic language and tacit knowledge (Polanyi 1966), that has an implicit or personal related character, has an implication for innovative activities. Exchange of tacit knowledge, that furthermore is increasing over time because of accelerated tempo of knowledge

production and decreasing possibilities for structuring and codification entirely, relies almost on direct personal contacts. Therefore spatial proximity of the persons involved in innovation process is suitable to transfer this type of knowledge. This is considered as an important advantage for regions on generating innovations.

The concept of InnoRegio is based on these interrelations between networking and innovation that are founded on theory and that partly have been proved empirically. The networking of regional protagonists in the innovation process - or regional innovation systems, as they are also called, should on principle evolve spontaneously from the interests and needs of those involved, and by self-steering. But in view of many obstacles, like high start-up costs, lack of confidence and the free-rider problems associated with this, promotion can be helpful in the initial phase. It is then also reconcilable with policy on the general order.

But success of regional innovation networks by no means is predetermined. In case of promotion conditions just have been created, which make it possible to exploit the advantages of networking relating to innovation process mentioned above. Besides competent, co-operation experienced partners with competencies that complete to each other as well as confidence between those partners among other things it is necessary to evolve an appropriate system of information and communication. In the following chapter we will outline and explore some of these so called success-factors.

4. Selected results and empirical findings

The basis for the complementary research poses the following questions:

- ◆ Has InnoRegio led to the formation of a network of regional protagonists that is permanent viable?
- ◆ Has networking led to the formation of new, efficient innovation systems, or has it strengthened existing systems?
- ◆ What effects are changes in the innovative ability of the network participants having on value creation, competitiveness and employment in the region as a whole?

Actually results of the InnoRegio-program in terms of innovations or impact on competitiveness and employment are not existing, because only a few projects will terminate in 2001. But referring to chapter 3 (theoretical basis) we examined so called success-factors of innovation networks, that can be considered as pre-conditions of innovation and competitiveness. For this reason in presenting results of our studies, the first step will be to describe the 23 networks' structures and overall levels of development. In particular, we will examine:

- objectives and focal points of activity
- composition of networks according to the number and participants' spheres of responsibility
- extent of cooperation actually achieved
- participants' assessment of the structures of participation, the organization and the inner cohesion

The presentation of these results should not and cannot attempt to offer a detailed description of particular networks. Rather, our objective is to outline indicators of the most important influences on network processes. The data base is compiled of information both from a written survey of all 23 InnoRegio networks conducted in summer 2001, eliciting responses from around 600 of the 1,400 InnoRegio participants, as well as from nearly 200 personal interviews conducted thereafter with individuals from this group.

The second step will deal with the state of project implementation. As an indicator, we have taken the number of confirmations of support received, derived from the answers to questionnaires and data received from the organization funding the projects.

The third step will seek to answer the question whether the state of network development have had an influence on the level of project approval, and if so, how. Only the 19 networks that qualified at the outset can be used as a basis for determining this, because at the time of the survey they were the only ones in a position to have submitted project proposals.

Structure of the networks

Objectives, focal points and participants

The InnoRegio-Program did not specify the objectives, topics, or composition of the networks in concrete terms. The 23 networks that received support thus cover a broad spectrum of activities and differ significantly among themselves in terms of the individual participants involved. The networks are active in the areas of medical technology, renewable resources, biotechnology, micro-system technology, mechanical engineering, manufacturing technology, circular-flow economics, environmental technology, and automotive technology. Various branches of the service industry may also be included here, such as those offering travel and tourism for physically challenged people, or establishing consultation and treatment services for people with diabetes. Restriction to one strictly limited technological field is the exception rather than the rule: usually, each network includes more than one field.

The differences in the choice of topic are reflected in the structure of participation as well. The share of manufacturing industry, service enterprises and scientific facilities differs widely among the actors in the individual networks. For the sake of simplification, one can differentiate among four types of networks according to their objectives and structure of participation:

- six networks with a large share of research institutions not linked to large universities (“research networks”)
- four networks with a large share of manufacturers (“producer networks”)
- five networks with a large share of service enterprises or institutions (“service networks”)
- eight mixed networks without any well-defined structure of participants

Size

Taking as a yardstick the number of network partners – the actors immediately involved in the project as well as the associated individuals or institutions prepared to support the network – we can identify three networks as being relatively large (with far more than 100 actors), twelve networks as being medium-sized (31-60 actors) and eight as small networks (up to 30 actors). Since many networks still are looking for participants, these relationships may change somewhat in the future².

Network size is among the factors that significantly impact the success of the network. The larger the number of participants, the more extensive the network’s total sphere of competencies tends to be, but this also raises additional problems of organization and communication.

² A more in-depth study of the effects of size – which cannot be carried out in the framework of this paper – should also take into account whether or not the partners themselves represent larger or smaller institutions or enterprises.

Enterprise performance

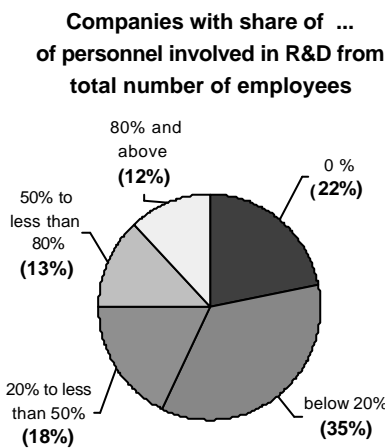
The performance level of the network partners is a central factor in network success. Indicators for the performance of enterprises active in a particular network were compiled from figures on their internal R&D, innovation activities of the last two years, share of personnel involved in R&D (Figure 1) and assessment of current market position (Figure 2).

Comparing these results of the questionnaire with results of the new federal states overall, it appears that according to R&D-capacities, innovative activities and competitiveness the enterprises involved in InnoRegio have obviously a performance above-average. Nevertheless, these results are probably not unrealistic, as the enterprises were a selection that have already demonstrated their readiness to innovate by taking part in InnoRegio.

According to the criteria “above-average innovation activities” (20% and more of personnel assigned to R&D) and “better performance than the competition”, around one-fifth of the participating enterprises can be categorized as high-performing in all networks. Seven have a significantly higher share of high-performing enterprises (30% and more), another seven have an average share, and nine a significantly smaller share (10% and less).

Figure 1

Research and development
of the companies in 2001

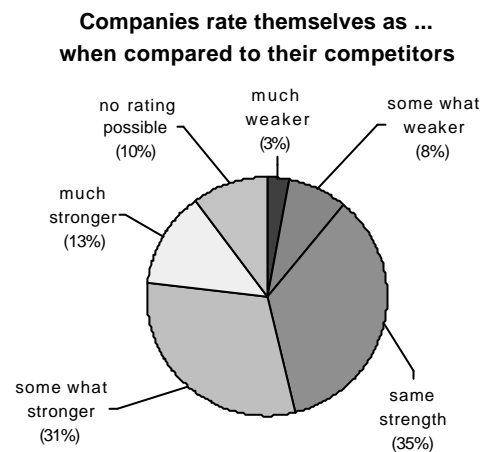


Source: DIW Berlin and partners, questionnaire
from summer 2001.

DIW Berlin 2002

Figure 2

Rating of the current market position
of the companies 2001



Source: DIW Berlin and partners, questionnaire
from summer 2001.

DIW Berlin 2002

Along with the share of high-performing enterprises, the degree of homogeneity probably influence enterprises' performance. Uniformly high performance of participating enterprises – which is currently the case for 12 networks – tends to be advantageous; whereas a more heterogeneous structure – which is the case for the other nine networks – could potentially cause problems for network cohesiveness.

Current State of Network Development

Economic integration

The objective of the InnoRegio project is to create synergy effects for participants, to accelerate innovation processes, and to strengthen regional economies by creating a stable network among the actors. The positive experiences the actors gather in dealing with one another constitute one of the main factors promoting integration: these experiences result both from relationships of cooperation in a narrow sense and from relationships with suppliers or clients. In many networks, strong supplier and client relationships exist alongside cooperation among individual actors. In some cases, such relationships existed prior to formation of the InnoRegio network, while in others, the InnoRegio network paved the way for new relationships. The pre-existing economic interchange within five networks proved to be particularly strong. In terms of the form and depth of the relationships, at least three of these networks are based on regional value-added chains that had existed for a long time previously. In seven networks, the interchange relationships play a relatively minor role. This applies particularly to the service networks and to the research networks.

Important network effects can also result from actors' contacts to partners outside of the networks. Supra-regional cooperation in particular can help transfer new knowledge – or knowledge previously unavailable in a particular region – into the network. A lack of external relationships can endanger the network's flexibility, while an excess of external relationships endangers its cohesiveness. In any case, external contacts have a significant influence on network development. The relationship between regional relationships and supra-regional contacts is similar: 70% of the most important partners of InnoRegio participants are located within the same region. There were few divergences from this rule: three networks participated to an only very limited extent in cooperation, and two did not at all.

Competency requirements fully met

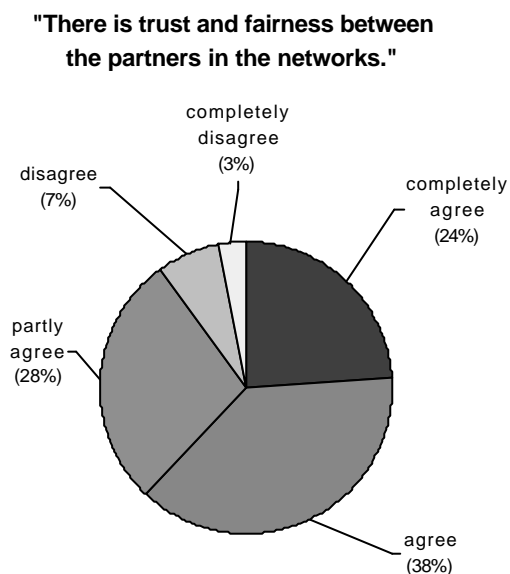
In evaluating the composition of the networks, no all-inclusive statement can be made. The "optimal" structure depends much more on the partners' individual capacities and on the projects' objectives and strategies. Thus, the best point of reference for the degree of a network's development is the assessments of its participants. On average, four-fifths of the participants stated that they saw their networks as being complete. In four networks, more than 90% expressed that the network was complete, and in nine networks at least one-quarter of all participants still were seeking partners. The former networks were evaluated as being relatively complete, and the latter were seen as urgently needing more participants. Approximately one-third of those seeking partners would like to establish relationships with manufacturing and service enterprises, and approximately 20% with universities and colleges.

Climate of Trust

In relationships of cooperation whose objective is innovation, sensitive technological or business-related information has to be shared. Contractual safeguards do provide basic guidelines for cooperation, but they only offer limited protection against abuses. Trust is thus an indispensable basis for all cooperation. An adequate picture of the climate of trust in a network can only be obtained from the participants themselves (Figure 3).

Figur 3

Participant rating of the confidence within the network 2001



Source: DIW Berlin and partners, questionnaire from summer 2001.

DIW Berlin 2002

The majority of network partners state that the necessary climate of trust is either fully or partially existent in their networks. Only approximately one-tenth of those questioned found fault with the climate of trust in their network. On this point, evaluations vary relatively widely among the networks. The average results obtained from a scaled assessment ranging from poor (1) to excellent (5) was between 3.0 and 4.2. For all networks, the average was 3.8; seven were more than .2 percentage points below the average and four were more than .2 percentage points above. The internal cohesiveness in these networks received a similar assessment, in part being judged as in need of improvement, and in part as well developed.

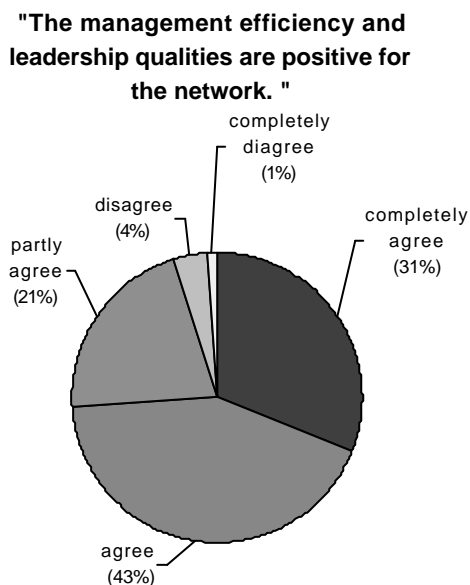
Network management and organizational structure

For a network to function successfully, it is crucial that it have sound management, and effective organizational structures for information exchange and decision-making. In the initial phase, management is of central importance for the InnoRegio concept. Assessing management and organizational structures thus offers further criteria with which the level of development can be judged. It is again necessary for a suitable form of organization to tailor itself to actual conditions in the network. Due to the lack of an objective measurable indicator, the views of network participants once again have to be used in the assessment.

The management assessment was carried out using the categories "positive influence on the network", "leadership ability" and "confidence in the management". The majority of participants gave the management a positive assessment using these criteria. Only a few were dissatisfied (Figure 4). The assessment was also scaled. The range was between 3.6 and 4.4. Every sixth network diverges by at least 0.2 percentage points above or below the mean for all other networks (4.0) respectively. This is classified as having an above average positive or negative value respectively.

Figure 4

Participant rating of the network management 2001



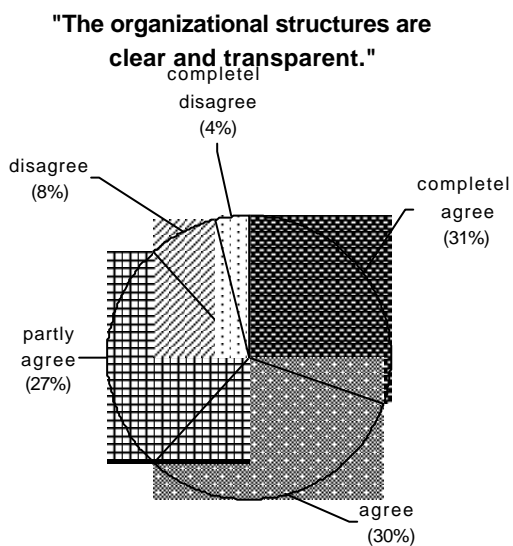
Source: DIW Berlin and partners, questionnaire from summer 2001.

DIW Berlin 2002

The organizational structure was assessed using the same scheme. Most actors confirm that their networks have a transparent and clear organizational structure and only a few explicitly expressed themselves to be dissatisfied (Figure 5). The estimation of the condition of the network organization by the network partner lay with a scale average of 3.8 on average on the same level as the confidence climate; the range between the networks lay between 3.2 to 4.4. Every sixth network was at least 0.2 percentage points above or below the average respectively and was correspondingly classified.

Figure 5

Participant rating of the internal organization



Source: DIW Berlin and partners, from summer

DIW Berlin 2002

Overall assessment

In order to assess the level of development in the networks, a simple indicator was fashioned, namely the average ranking for the five indicators completeness, degree of integration, level of confidence, quality of network management and transparency of internal organization. When measured in this way, five networks' development was considered to be very good, while five displayed marked deficiencies.

At present this assessment can only be seen as an interim result. The indicators used are still relatively rough and are partially based on incomplete information. All the same, a comparison with the experience of accompanying research shows that this classification is perfectly suitable to be used as a first point of reference.

Implementing the InnoRegio-program: Process and state of project approval; assessment of the program

Transforming project ideas into viable project proposals worthy of receiving support at first progressed very slowly, partly because of problems with the support regulations, and partly because of the applicants' lack of experience. To speed up the process, special consultation routines were established. The support management team is important in this respect; it is comprised of InnoRegio actors and advisors commissioned by project backers to implement the program. Joint meetings with the applicants contributed to a faster resolution of problem areas in the support arrangements and sped up the decision-making process. Despite some initial problems, the participants overwhelmingly judged the support concept and the individual benefits of the InnoRegio to be positive (Table 1)⁴. Probably acceptance partly results from the considerable number new partners especially acquired for R&D (Table 1).

Assessment of the InnoRegio promotion by the participants of the networks In %						
The participants ...	statement is ...					total
	incorrect	not really correct	partly correct	mainly correct	correct	
started projects/planned projects, that otherwise not had been realized	14	7	22	22	35	100
started projects/planned projects in a larger scale/extend	22	7	26	20	25	100
got new contacts to regional ...						
universities/- of applied sciences	22	7	26	17	28	100
institutions of advanced training	43	15	19	11	12	100
labour administration	57	16	16	6	5	100
companies	7	5	25	27	35	100
acquired new customers	44	15	24	7	10	100
acquired new suppliers	58	15	17	5	5	100
acquired new cooperation partners for ...						
R&D-activities	14	8	23	26	29	100
production	51	10	16	13	10	100
(advanced) vocational training	40	12	22	13	12	100
upshot: Take part on InnoRegio is already worthwhile	10	13	39	21	17	100
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.						DIW Berlin 2002

The survey and interviews conducted in the framework of this study, as well as the project backers' statements point to marked differences between the networks in the project approval process. Of the 19 InnoRegio networks that were already classed as being worthy of support, four received early approval for support for their first projects, six needed to have

⁴ In comparison to the survey from the previous year the approval has even grown.

a longer qualifying period before receiving support and nine were still in the initial stage of the project.

The reasons for these differences are varied. However, one contributing factor was that not all applications could be dealt with at the same time. In actual fact, by late 2001 a not inconsiderable backlog of applications had built up, although this has been dealt with since then: by the end of March 2002 just under 260 applications had been promised a total of €68 mn in support⁵ (Table 2). This represents nearly a third of the €231 mn in support funds allocated to the InnoRegio network.

Among these projects which already granted there are several projects in the area of (advanced) vocational training. An objective of these projects for example is to establish new courses of studies, exploit new vocational fields, to improve the vocation of specialized personnel (Soete, Wurzel, Drewello 2002). Although the InnoRegio-projects mainly focus on R&D, these vocational projects are anything but inconsiderable. To find appropriate personnel could be seen as an essential problem by the firms involved and it could be an impediment regarding to innovation. This not only apply to enterprises involved in InnoRegio, its rather a problem concerning to the enterprises places in the new federal states (Brenke, Eickelpasch, Vesper 2002).

Table 2				
Appropriated proposals, appropriated and reserved amounts of the InnoRegio-networks ¹⁾				
InnoRegio-Network	already granted proposals	already granted amount		reserved amount
	Count	Mill. Euro	In % of totally reserved amount	Mill. Euro
Berlin-Buch-AG	1	0,2	4,5	5,1
Firm	1	0,3	5,9	5,1
BioHyTec	18	5,1	62,4	8,2
RIO	8	1,1	27,1	4,1
DISCO	2	0,4	3,5	10,2
Maritime Allianz	39	8,6	54,1	15,9
NUKLEUS	4	1,0	8,6	11,3
Kunststoffzentrum	6	3,2	28,6	11,3
NinA	8	3,7	35,8	10,2
Rephyna	11	1,9	17,2	11,3
INNO PLANTA	21	9,9	48,5	20,5
INNOMED	0	0,0	0,0	5,1
MAHREG	21	4,8	46,8	10,2
Micro innovates Macro	0	0,0	0,0	3,1
Barrierefreie Modellregion	2	0,6	9,1	7,2
INPROSYS	2	0,5	10,4	5,1
Musicon-Valley	14	2,2	24,3	9,2
Textilregion Mittelsachsen	20	5,1	32,1	15,9
InnoSachs	43	7,1	39,5	17,9

⁵ Information on the approval of projects can be found on the joint support catalogue for the BMBF and the BMWi. See <http://www.bmbf.de>.

RIST	4	0,6	12,0	5,1
KONUS	4	2,0	22,0	9,2
Bio Met	20	7,7	37,4	20,5
IAW 2010	8	2,6	28,3	9,2
Total	257	68,6	29,8	230,6
Among: Projects applied from...				
industrial companies	143	32,1	x	x
associations (included nonprofit Ltd.)	61	22,3	x	x
universities	31	8,6	x	x
research facilities	22	5,7	x	x
Project is....				
a office	23	11,6	x	x
a single project	80	32,7	x	x
a cooperative project	154	24,3	x	x
1 March 2002.				
Source: BMBF.				DIW Berlin 2002

However, the different speeds with which projects were approved could also be linked to individual regions' peculiarities. In many regions, the number, scale and type of projects had not yet been confirmed at the beginning of the period under consideration in this study. The project's time sequence often had to be restructured, and some actors dropped out or new ones joined. In addition to these factors, the networks' priorities or the participants' previous experience of receiving support also had an influence on the speed at which the approval process progressed. The following examines the importance of network-specific factors in this process.

The connection between network development and project approval

As previously mentioned, networks differ according to their priorities, structure of participants, level of development and not least according to the amount of progress made in the project approval process. Clear links exist among these factors. For example, the networks' priorities can influence the structure and perhaps even the number of participants. The structure and size of networks can also have an influence – via participants' performance level or previous experience – on the speed of project approval. The range and precision of defined network aims, the partners' willingness to cooperate, and the competency of network management are also very important. In view of the complexity of interactions and the limited number of cases available for study, we did not attempt to test these connections statistically. An estimation using selected factors came to the conclusion that those InnoRegio networks that were better developed in structure and efficiency reached the project implementation stage more quickly. Various connections are discussed in the following.

Network composition

Research and producer networks have relatively minor problems in submitting good applications for support (Table 3). In the case of research networks, this may be due to the

fact that applicants have more experience with the criteria for obtaining R&D funding. The producer networks did well in the implementation stage when the network was overwhelmingly comprised of companies that performed well, had experience in innovation and worked together. Otherwise, some problems resulted in networks' being able to finance their own contributions and putting up financial security. Service networks, on the other hand, only progressed slowly. Here it seems to be important whether "socially-orientated services" are involved, or a business field that has been practically rebuilt from scratch, as it is difficult to prove the viability of such projects.

Table 3					
Types of networks and state of project implementation in 2001					
	Research networks	Poducer networks	Service networks	Networks without well-defined structure of participants	Total
networks starting implementation ...					
very fast	3	1	0	0	4
fast	0	1	1	4	6
slowly	2	2	2	3	9
Total	5	4	3	7	19
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.					DIW Berlin 2002

Network size

Differences in the size of networks appear to have a not insignificant influence on the implementation of concepts and projects, judging from the fact that small networks make little progress when compared to medium-sized and large networks – measured by the number of projects already approved (Table 4). At first glance, this is surprising as the size of small networks is an advantage when fixing priorities and aims and running processes that require cooperation. It seems, however, that the fact that small networks suffer from a limited pool of actors and abilities has a greater influence.

Table 4				
Size of networks and state of project implementation in 2001				
	large networks	medium networks	small networks	Total
networks starting implementation ...				
very fast	2	1	1	4
fast	0	5	1	6
slowly	1	5	3	9
Total	3	11	5	19
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.				DIW Berlin 2002

Especially the service-networks are rather small than the other types of networks (Table 5) and it seems so that service-networks have the greatest problems in starting their projects.

Table 5					
Types of networks and size of networks 2001					
	Service networks	Poducer networks	Research networks	Networks without well-defined structure of participants	Total
the network is ...					
small	3	-	2	3	8
medium-sized	1	3	2	6	12
large	-	1	2	-	3
Total	4	4	6	9	23
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.					DIW Berlin 2002

Company performance

A relatively clear link exists between the implementation of projects and the proportion of successful companies in the network. This is shown particularly clearly when the relationship between the speed of implementation and the proportion of innovative companies in the network is examined. Networks with a clearly above-average proportion of innovative companies are more likely to be able to develop their projects to the approval stage than those with a clearly below average proportion (Table 6).

Table 6				
Enterprise performance and state of project implementation in 2001				
	Proportion of high-performanced companies is ...			Total
	far above average	average	far below taverage	
networks starting implementation ...				
very fast	-	4	-	4
fast	4	-	2	6
slowly	2	2	5	9
Total	6	6	7	19
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.				DIW Berlin 2002

It is particularly remarkable that practically all networks with a relatively low proportion of successful companies can only begin to implement their projects at a later stage. Presumably, this is because companies that extensively undertake research stand out as being more professional and goal-oriented when implementing research than those with less research experience. Their projects therefore generally have a higher level of sophistication, which encourages the award of financial support.

Climate of trust, organization and network management

The climate of trust is used as an indicator for the networks' internal cohesion. It was presumed that marked cohesion between the participants would support the development of the project. However, the opposite was instead found to be true: actors in networks that started early and actors in networks that experienced initial problems rated the level of trust in their network lower than actors in networks implemented at a later stage (Table 7).

Confidence between network partners and state of the project implementation in 2001				
	Confidence between network partners is ...			total
	high	middle	low	
networks starting implementation ...				
very fast	0	2	2	4
fast	1	3	2	6
slowly	2	6	1	9
total	3	11	5	19
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.				DIW Berlin 2002

However, the level of organization in the network seems to be of great importance. This was judged to be better by the networks that began earlier than those that began later (Table 8).

Assessment of the network organization and state of project implementation in 2001				
	Organization is rather valued as ...			Total
	well developed	developed	un-developed	
networks starting implementation ...				
very fast	2	1	1	4
fast	2	3	1	6
slowly	1	5	3	9
total	5	9	5	19
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.				DIW Berlin 2002

Finally, while it appeared to be a well justified assumption that the quality of network management also had a positive influence on project implementation, such a relationship could not be confirmed by the data (Table 9).

Table 9				

Assessment of the networks' management and state of project implementation in 2001				
	networks' management is rather valued as ...			total
	good	middle-rated	bad	
networks starting implementation ...				
very fast	1	2	1	4
fast	3	3	-	6
slowly	2	4	3	9
total	6	9	4	19
Source: Survey by DIW Berlin + Partner in the InnoRegio networks, summer 2001.				DIW Berlin 2002

Summary

The assumption that a link exists between the level of a network's development and its ability to develop projects capable of receiving financial support is *prima facie* not implausible. This is, however, only partially supported by our findings, which could be due to the rough indicators that had to be used. The networks would benefit from further studies devoting more attention to the network characteristics covered here.

5. Conclusions and questions to be answered

Entering third phase the InnoRegio program was accompanied by difficulties. The complexity and the length of the project approval process in particular were bemoaned by the network actors. This problem was mainly caused by the complex support regulations to which all participants had first to become acquainted with (InnoRegio is anything but a ready made). Several measures, such as the intensive consultations with the applicants and the close cooperation between everyone in the support management team led to an acceleration of the process. By March of this year, almost 260 projects had obtained support of €68 million.

The main results achieved within the starting period of InnoRegio are:

- The InnoRegio competition has mobilized both, a remarkable set of ideas and a great number of participants.
- New regional innovation systems seem to be created, existing systems seem to be strengthened.
- Quite a number of new jobs were already created.
- Some promising projects in the area of R&D and (advanced) vocational training were initiated.

But, of course, one cannot say yet, how sustainable these results will be. And one should not withhold some problems, e.g. that, as a result of the longlasting starting period, some participants decided to withdraw, which in some cases weakened the network process. One of the main problems left is how to finance the network management according to declining governmental support in the future. There are many ideas discussed, but in fact nobody really

knows until yet how to deal with. Over all, as a support program InnoRegio seems to be succesfull at least in its first stage.

Once approval for projects had been granted, the InnoRegio networks entered a new phase of development. Only in time we will see what kinds of innovation will result from the financial support and what benefits cooperation and participation within the network entail. In future it will be interesting to see whether measurable economic success results for those involved – and for the region as a whole. This is likely to take place only in the long term, and it requires a stable economic situation within the network in the medium term. The networks consist of groups of partners with shared – but also in part divergent – aims. It is possible that participants will leave the network after their financial support runs out. Securing the cohesion of the network even in such situations constitutes one of the future challenges facing the InnoRegio support program.

Furthermore we will try to examine the evidence for spillover and synergetic effects building the main idea behind the support. Maybe supported structures (e.g. agencies of coordination) are too rigid for innovation processes. Regarding to this we will observe in which ways the development of the networks is going on. Possibly we have to look for alternative ways of supporting co-operations.

References

- Acs, Z., Audretsch D.B. (1992): Innovationen durch kleine Unternehmen. Sigma, Berlin
- Arrow, K. J. (1962): Economic Qwelfare and the Allocation of Resources for Invention. In: Nelson, R. (Ed.): The Rate and Direction of Inventive Activity. Princeton, pp. 609-625.
- Braczyk; H.J., Cooke, P., Heidenreich, M. (1998) (Eds): Regional Innovation Systems – The Role of Governance in a Globalized World. UCL Press, London.
- Brenke, K., Eickelpasch, A., Vesper, D. (2002) Fortschritte beim Aufbau Ost – Fortschrittsbericht über die wirtschaftliche Entwicklung in Ostdeutschland, in DIW-Wochenbericht (69) Nr. 26, S. 393-416.
- Brusco, S. (1990): The Idea of the Industrial District. Ist Genesis. In: Pyke, F. et. al. (Eds.): Industrial Districts and Inter-Firm Co-operation in Italy, Genf.
- Camagni, R. (1991): Local „Milieu“, uncertainty and innovation networks – towards a new dynamic theory fo economic space. In: Camagni, R. (Ed.): hnovation networks – spatial perspectives. London/New York, pp. 121-144
- Cohen, W., Levinthal, D. (1989): Innovation and Learning – The two Faces of R&D. In: Economic Journal (99) pp. 569-596.
- Cooke, P. (1996): The new wave of regional innovation networks: analysis, characteristics and strategy. In: Small Business Economy (8), pp. 159-171
- Dosi, G. (1988a): The nature of the innovation process. In: Dosi, G., Freeman, C., Nelson, R. , Silverberg, G., Soete, L. (Eds.): Technical Change and Economic Theory. London/New York, pp. 221-238.
- Dosi, G. (1988b) Sources, procedures, and microeconomic effects of innovation. In: Journal of Economic Literature (26), pp. 120-171.
- Edquist, C. (Ed.) (1997): Systems of Innovation. Technologies, Institutions and Organizations. Printer Publishers, London.
- Eickelpasch, A., Kauffeld, M., Pfeiffer, I. (2002): Das InnoRegio-Programm: Umsetzung der Förderung und Entwicklung der Netzwerke. In: DIW Wochenbericht (69), Nr. 21, S. 329-338.
- Feldman, M.P. (1994): The Geography of Innovation. Kluwer, Boston.
- Freeman, C. (1995): The National System of Innovation in historical perspective, Cambridge Journal of Economics (19), pp. 5-24.
- Freeman, C. (1991): Networks of innovators: A synthesis of research issues. In: Research Policy 20, pp. 499-514.
- Fritsch, M. (2001): Innovation by Networking: An Economic Perspective. In: Koschatzky, K., Zenker, A. (Eds.): Innovations Networks – Concepts and Challenges in the European Perspective, Physica (Series „Technology, Innovation and Policy“, Vol. 12), Heidelberg, pp. 25-34
- Fritsch, M., Lukas R. (1999): Innovation, Co-operation, and the Region. In: Audretsch, DB. Thurik, R (Eds.) Innovation, Industrie Evolution and Employment. Cambridge University Press, Cambridge, pp. 157-181.
- Gassmann, O. (1997): Internationales FuE-Management. Oldenbourg Verlag, München/Wien.
- Gmünden, HG., Ritter, Th. (1999): Innovationserfolg durch technologieorientierte Geschäftsbeziehungen – Ein Vergleich zwischen Ost- und Westdeutschland. In: Meißner, D., Steinmeier, I. (Hg.): Innovationsmanagement. Berlin.
- Grabher, G. (1993): The Embedded Firm. On the Socio-economics of Industrial Networks. Routledge, London.
- Heidenreich, M. (2000): Regionale Netzwerke. In: Weyer, J. et. al. (Eds.): Soziale Netzwerke. Konzepte und Methoden der sozialwissenschaftlichen Netzwerkforschung. Oldenbourg Verlag, München/Wien, S. 87-110.
- Hilbert, J. (1997): Vom runden Tisch zur innovativen Allianz? Stand und Perspektiven des Zusammenspiels von regionalen Innovationssystemen und Qualifizierung. In: Dobischat, R., Husemann, R. (Hg.): Berufliche Bildung in der Region. Zur Neubewertung einer bildungspolitischen Gestaltungsdimension. Berlin, s. 65-86
- Kowol, U., Krohn, W. (1995): Innovationsnetzwerke. Ein Modell der Technikgenese. In: Halfmann, J.

- et. al. (Hg.): Technik und Gesellschaft, Jahrbuch 8. Campus, Frankfurt/New York, S. 77-104.
- Landabaso, M. (1997): The promotion of innovation in regional policy. Proposals for a regional innovation strategy. In: *Entrepreneurship & Regional Development* (9), pp. 1-24.
- Lundvall, B.A. (1992) (Ed.): *National System of Innovation. Towards a Theory of Innovation and Interactive Learning*. Printer Publishers, London.
- Miles, R.E., Snow, C.C. (1995): The new network firm: A spherical structure built on a human investment philosophy. In: *Organizational Dynamics* (24), pp. 5-18.
- Nelson, R.R. (1998): The Agenda for Growth Theory: A Different Point of View. *Cambridge Journal of Economics* (22), pp. 497-520.
- Nelson, R. R. (1993): *National Systems of Innovation. A comparative analysis*. Oxford University Press, Oxford.
- Nelson, R.R., Winter D.G. (1982): *An Evolutionary Theory of Economic Change*. Harvard University Press, Cambridge MA.
- Nooteboom, B. (2000): *Learning and innovation in organizations and economies*. Oxford University Press, Oxford.
- OECD (Ed.) (1999): *Boosting Innovation: The Cluster Approach*. OECD, Paris.
- Polanyi, M. (1966): *The Tacit Dimension*. Doubleday, New York.
- Porter, M.E. (1999): Unternehmen können von regionaler Vernetzung profitieren. Trotz Globalisierung liegen viele langfristige Wettbewerbsvorteile direkt vor der Haustür. *Harvard Business Manager* 3/99, S. 51-63.
- Porter, M. (1990): *The Competitive Advantage of Nations*. Macmillan, London.
- Saviotti, P. (1998): On the dynamics of appropriability of tacit and of codified knowledge. In: *Research Policy* (26) pp. 843-856.
- Saxenian, A. (1994): *Regional Advantage. Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA.
- Schneidewind, U. (1998): *Die Unternehmung als strukturpolitischer Akteur*. Marburg.
- Soete, B., Wurzel, U., Drewello, H.J. (2002): Innovationsnetzwerke in Ostdeutschland: Ein noch zu wenig genutztes Potenzial zur regionalen Humankapitalbildung. In: *DIW-Wochenbericht* (69), Nr. 16, S. 251-256.
- Sternberg, R. (1996): Technology policies and the growth of regions: evidence from four countries: in: *Small Business Economy* (8), pp. 75-86.
- Storper, M. (1995): Regional technology coalitions. an essential dimension of national technology policy. In: *Research Policy* (24), pp. 895-911.
- Storper, M. (1993): Regional worlds of Production: Learning and Innovation in the Technology Districts of France, Italy and the USA. In: *Regional Studies* (27), pp. 433-455.
- Sydow, J. (1999): Management von Netzwerkorganisationen – Zum Stand der Forschung. In: Sydow, J. (Ed.): *Management von Netzwerkorganisationen*, 279-314. Gabler, Wiesbaden.