

The InnoRegio Programme: Implementing the Promotion and Developing the Networks

The Federal Ministry of Education and Research (BMBF) has opened up new paths in promoting innovation in the new federal states with its InnoRegio Programme. Under the programme 23 regional associations of companies and research establishments that have agreed to cooperate in innovation networks have been selected by competition for public funding. The promotion is for the years 2000 to 2006, and a total of euro 255 millions is earmarked for the programme.

This article covers the development from the autumn of 2000 to the autumn of 2001. In that phase the networks that are regarded as eligible for promotion on principle developed their innovation projects further and applied for the necessary funding. Problems have arisen in the course of these activities, mostly due to some of the participants' lack of experience in working with so complex a promotional programme. The project sponsors have dealt with the problems by modifying their promotion practice and offering intensive consultancy, while the networks have adjusted their organisational structures and the contents of their concepts. Despite the initial difficulties most of the InnoRegio participants are satisfied with the promotional approach. By March this year nearly 260 projects had been started and euro 68 million had been approved for them. As the projects progress it will become clearer how far the promotion has stimulated innovation and what benefits have resulted from cooperation in networks.

The InnoRegio concept and the current state of implementation

With its InnoRegio promotional initiative the BMBF hopes to help remove one of the weaknesses in the innovation process in the new federal states – the inadequate cooperation at regional level between companies, research establishments and industry-related institutions. It is hoped that better networking of these will utilise local competences to strengthen the companies' capacity for innovation and so give rise to stronger economic growth and employment. Innovation here means

not only technical innovation but also new forms of organisation and communication.

The offer of funding is not addressed to individual companies or specific technologies but to associations formed for the purpose of cooperation (networks). The networks judged eligible for promotion were selected in a two-stage procedure that started with the advertisement of the competition in mid-1999 and ended in October 2000 when initially 19 InnoRegio networks were selected. Four more networks only qualified later, in the first half of 2001, and they were then included in the promotion in the middle of the year. Altogether, therefore, 23 networks in all the new federal states together are being funded.

The aim of the complementary research¹ is to assess the promotional approach, and for this purpose the development and activities of the InnoRegio networks are being analysed. The research is based on theoretical concepts of the conditions needed for networks to be stable and operate successfully.

During the period from autumn 2000 to autumn 2001, which is under review here,² the networks developed their organisation further, obtained more partners and above all concretised their innovation projects and adjusted them to the conditions of the funding. This process took up most of the period under review. The complementary research focused on the questions of how the composition, organisation and cohesion of the networks had developed, what stage the concretisation of the projects had reached and what role various network qualities and the promotional practice were playing in this process. The analysis of the progress in the innovation in the projects and the influence of the networks on this can only begin now that the projects have started, but statements on intended innovation processes and on the advancement of innovation and its determinants, and certainly the effects on employment and growth, will only be possible at a later date.

¹ The complementary research is directed by DIW Berlin and includes the Arbeitsstelle Politik und Technik (APT) at the Free University Berlin, artop-Arbeits- und-Technikgestaltung, Organisations- und Personalentwicklung e.V. at the Humboldt University, Berlin, Euronorm GmbH Berlin and CEIS of the University of Jena. Further information is available under www.diw.de/innoregio.

² A report on the promotional period up to autumn 2000, 'The InnoRegio Initiative – The Concept and First Results of the Complementary Research' by Alexander Eickelpasch, Martina Kauffeld, Ingo Pfeiffer, Ulrich Wurzel and Thomas Bachmann, appeared in the DIW Economic Bulletin No. Vol 39, 1/2002. See also 'Innovation Networks in Eastern Germany – A Still Under-utilised Potential for Human Capital Formation in the Region' by Birgit Soete, Ulrich G. Wurzel and Hansjörg Drewello in DIW Economic Bulletin Vol. 39, 6/2002.

The method used in this article

Networks are complex social formations, and the way they function is influenced by a wide range of factors. According to the latest state of research the essential success factors in the formation of innovative networks are a common objective, suitable forms of organisation and communication, the efficiency of the participants, the availability of complementary competences and the ability to incorporate these in innovative projects.

This account of the individual findings cannot be a detailed description of the individual networks, nor is it intended to be. The objective is rather to sketch the indicators for factors that are assumed to be of importance in the network processes. The data come from a written survey of all 23 InnoRegio networks that was carried out in the summer of 2001 and to which around 600 of the 1 400 InnoRegio participants responded. The results of just under 200 interviews with these respondents are also included.

The second stage in the study was to examine the status of project concretisation. The indicator of this is the number of funding approvals. Again information on this is available from the surveys; data were also supplied by the project sponsor.

In the third stage of the study the question tackled was whether the state of development of the networks influenced the progress in project approvals at all, and if so, in what way. Only the 19 networks that qualified in the first round could be included here, as when the data were compiled only they could already have put forward project applications.

The structure of the networks

Their objectives, main activities and participants

The promotional programme did not prescribe the objectives, the contents or the composition of the networks. The 23 networks funded thus present a broad range of activities and they also differ greatly in the structure of their participants. They are active, for example, in medical technology, renewable raw materials, biotechnology, microsystems technology, mechanical engineering, process technology, recycling and environmental technology and automotive technology. There are also areas of the services sector, such as tourist facilities accessible to the handicapped, or building up a consultancy and therapy service for diabetics. Limitation to a narrowly defined field of technology is the exception, and most of the networks cover several areas.

For the sake of simplification, four types of networks can be distinguished by their objectives and the structure of their participants:

- six with a high share of research establishments outside universities and universities ('research networks')
- four with a high share of producing companies ('producer networks')
- five with a high share of services companies or facilities ('services networks') and finally
- eight that are mixed and have no specific structure of participants.

Size

Judging by the number of network partners – actors directly participating in the projects and persons or institutions in the environment who are willing to support the work of the network – three networks can be said to be relatively large (with far more than 100 actors), twelve are of medium size (31 to 60 actors) and eight are small (up to 30 actors). As many networks are still looking for participants, these figures may change.

The size of a network is one of the factors that affect its success. A larger number of participants tends to increase the range of competences, but it also raises problems of organisation and communication.

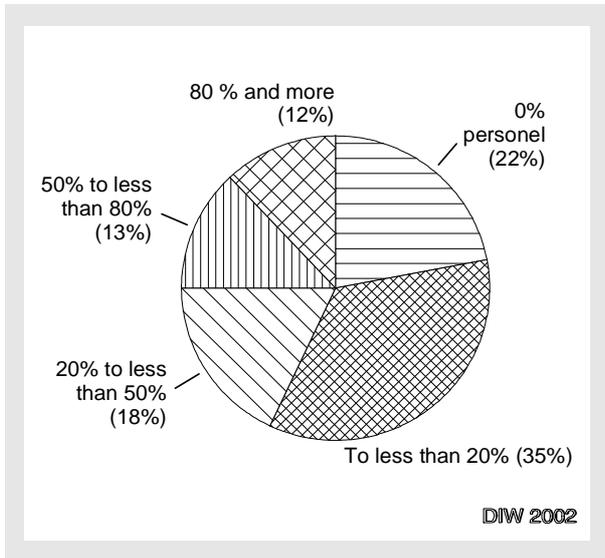
The efficiency of the companies

The efficiency of the partners in the network also affects its success. The indicators used to show the efficiency of the companies participating in the networks were their own R&D, their innovation activities in the last two years, the share of personnel in R&D (cf. figure 1) and the company's own assessment of its current market position (cf. figure 2). Taking all the networks together, around one fifth of the companies participating can be regarded as efficient by the criteria 'above-average innovation activities' (20% or more of personnel in R&D) and 'more efficient than competitors'. Seven networks have a clearly higher share of efficient companies (30% and more), another seven have a rather average share and nine a clearly lower share (10% and less).

Besides the share of efficient companies the degree of homogeneity may also be assumed to influence the efficiency of the network. If high efficiency is relatively evenly spread, as is the case so far in twelve networks, this could tend to have a beneficial effect, while a rather heterogeneous structure, as is to be found in the other nine networks, could jeopardise cohesion.

Figure 1
**Research and Development (R&D)
 in the Companies in 2001**

Companies with a share of their total personnel in R&D of ...



Source: DIW Berlin and partners, written survey of summer 2001.

The state of development of the networks

Business relations

The objective of the InnoRegio initiative is to create synergy effects for those involved through stable networking, and to accelerate innovation processes and so ultimately also strengthen the region's economy. One of the factors that help networking is participants' positive experience with each other. This can result from joint ventures in the narrower sense, but also from supplier or customer relations. Many networks have intensive supplier and customer relations, but they also include joint ventures between participants. In some cases these relations existed before the InnoRegio network was formed, and in others they were started through the network. The business relations already established were particularly intensive in five networks. Judging by their form and intensity at least three of these networks are based on chains of value creation that have existed for a long time. The state of trading relations is relatively low in seven networks, and here the services and research networks predominate.

Important effects for networks can also result from contacts between the participants in the network and partners outside. Joint ventures outside the region in particular can help to transfer new knowledge, or knowledge not hitherto available in the region, into the

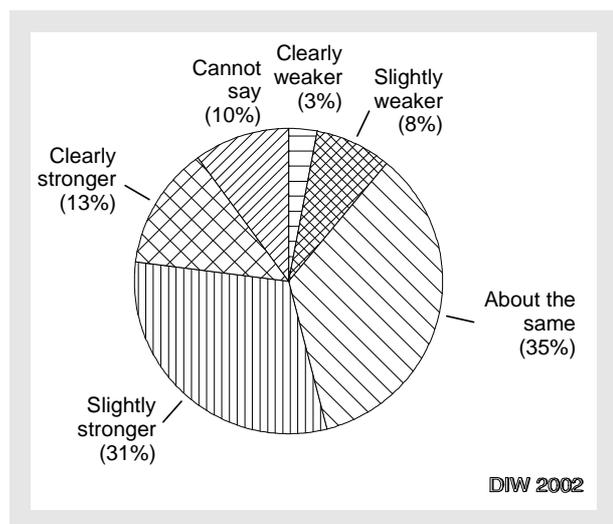
network. A lack of external relations can jeopardise the network's adaptability, but an overweight of such relations can also jeopardise its cohesion. In any case external contacts are a major factor influencing the development of a network. The ratio of regional relations to contacts outside the region is relatively similar: 70% of the most important partners in cooperation with InnoRegio participants are themselves taking part in the InnoRegio initiative, and about 90% of them are domiciled in the region. Extreme deviations from this pattern are the exception: three networks had very weak cooperative relations outside the region during the period surveyed and two had none at all.

A full complement of the necessary competences

The composition of the networks cannot be assessed generally. On the contrary, the 'optimal' structure probably depends mainly on the objective and strategy of the individual projects, besides the suitability of the individual partners. The views of the network partners will probably give the best indication of how complete the networks are. On average, four-fifths of the participants state that in their view their network is complete. In four, more than 90% of the participants say the composition is complete; in nine, on the other hand, at least a quarter of all the participants are still looking for partners. The first named networks were classified as rela-

Figure 2
**Estimate of Companies' Competitiveness in
 their Markets in 2001**

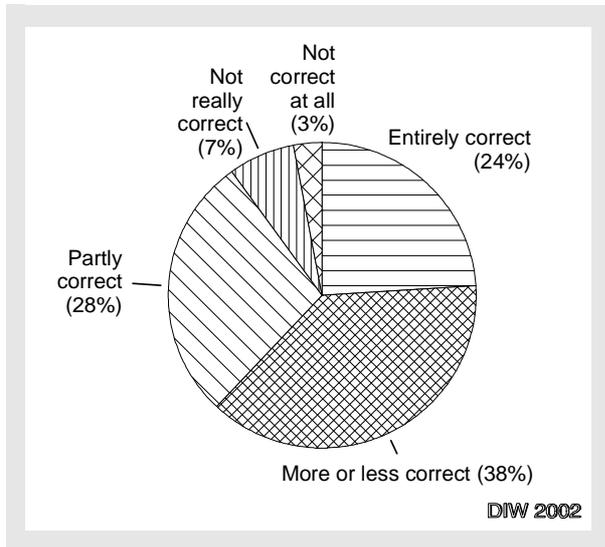
Companies classify themselves as ...
 compared with their competitors



Source: DIW Berlin and partners, written survey of summer 2001.

Figure 3
Participant's Estimate of the Climate of Confidence in the Networks 2001

'There is confidence and fairness between the partners in the network'



Source: DIW Berlin and partners, written survey of summer 2001.

tively complete; the others are greatly in need of more members. Of these, the need is for one-third producing companies and one third services companies; in about 20% of the cases universities were desired as partners.

A climate of confidence

In forms of cooperation where innovation is the objective sensitive technological or corporate information frequently has to be released. Contracts can offer some security by laying down rules for the cooperation, but they offer only limited protection against abuse. Confidence is therefore an essential basis for any cooperation. For an assessment of the climate of confidence here, again we have to rely on the views expressed by the network partners (cf. figure 3). Most say that the necessary basis of confidence is established in their network, either entirely or very largely. Only just under one tenth of those who responded to the survey complained of the climate of confidence. However, these views varied greatly from one network to another.

Network management and organisational structure

If a network is to be successful it must have an efficient management and an efficient organisation for the exchange of information and decision-making. In the initial phase the management is of crucial importance for the InnoRegio concept. The evaluation of the manage-

ment and the organisation structure therefore offers a further criterion for the assessment of the state of development. Here, too, it can be said that what is appropriate must be judged by the particular features of the network. Again, because of the lack of objectively measurable indicators, the views of the network participants have been used. The managements were evaluated by the criteria 'positive influence on the network', 'management competence' and 'confidence in the management'. Most of the participants take a positive view of the management by these criteria, and only a few are dissatisfied (cf. figure 4).

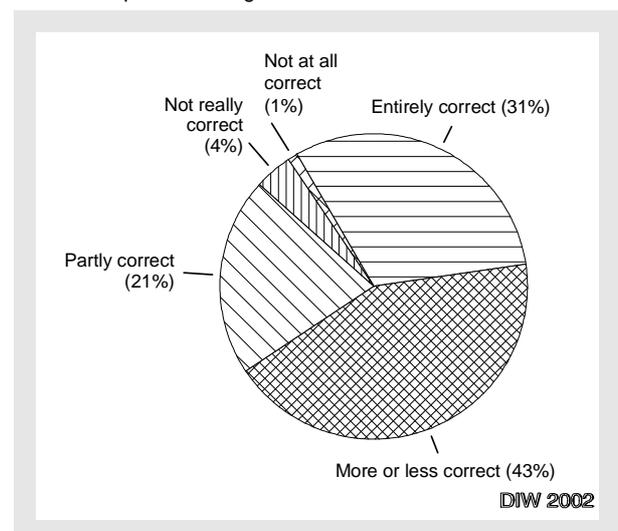
The organisation was assessed in the same way. Most of the participants say that their networks have a clear, manageable organisation structure, and only a few are explicitly dissatisfied (cf. figure 5).

Final assessment

To assess the state of development of the networks a simple indicator was formed, namely the average of the placings by the five indicators 'completeness', 'degree of integration', 'climate of confidence', 'quality of management', and 'transparency of the internal organisation'. By these criteria five networks can be regarded as already well developed, while seven still have evident shortcomings.

Figure 4
Participants' Estimates of the Network Management 2001

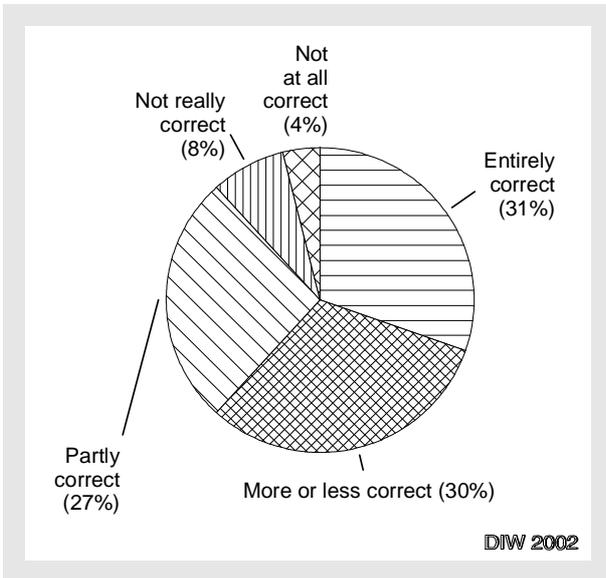
'The management's achievement for the network and its competence are good'



Source: DIW Berlin and partners, written survey of summer 2001.

Figure 5
Participants' Estimate of the Organisation in the Networks 2001

'The organisation is clear and manageable'



Source: DIW Berlin and partners, written survey of summer 2001.

At the present point in time this assessment of the networks can only be an interim result. The indicators shown here are still relatively rough, and they are based

partly on incomplete information. Nevertheless, a comparison with the experience gained in the complementary research in which the circumstances in individual cases were taken into account shows that this classification does provide an initial orientation.

Implementing the promotional concept: the development, its assessment and the status of approvals

The formulation of ideas for projects that would be eligible for funding was hesitant at first, partly because of problems with the regulations for promotion and partly because the applicants lacked the necessary experience. To accelerate this process special consultancy routines were established, and here the promotion management team deserves special mention. It consists of consultants from the project sponsor entrusted with handling the programme and InnoRegio participants. Joint meetings with the applicants helped to clear up doubts about the modalities of the promotion more quickly and speed up decision-making. Despite the initial problems, most participants took a positive view of the promotional concept and the individual benefits of InnoRegio (cf. table 1).³

³ Compared with the previous year's survey the number of positive replies has actually increased.

Table 1
Participants' Assessment of Their Membership of an InnoRegio Network 2001

As %

Participants have ...	The statement is ...					Total
	not at all correct	not really correct	partly correct	more or less correct	entirely correct	
Started/planned projects that would not have been possible otherwise	14	7	22	22	35	100
Started/planned projects that would otherwise have been smaller	22	7	26	20	25	100
Built up new contacts with ...						
local universities and technical universities	22	7	26	17	28	100
local further training facilities	43	15	19	11	12	100
the labour offices	57	16	16	6	5	100
companies in the region	7	5	25	27	35	100
proatgonists outside of the region	24	9	25	18	22	100
Obtained new customers	44	15	24	7	10	100
Found new suppliers	58	15	17	5	5	100
Found new partners for joint ventures...						
research and development	14	8	23	26	29	100
production	51	10	16	13	10	100
basic and further training	40	12	22	13	12	100
Conclusion: Membership of the InnoRegio Programme has already benefited participants	10	13	39	21	17	100

Source: DIW Berlin and partners, written survey of summer 2001.

Table 2

Project Applications Approved and the Amount of Promotional Funds Approved and Reserved for the InnoRegio Initiative by InnoRegio Networks¹

InnoRegio Network	Applications for funding	Amount approved		Reserved amount
	Number	Euro million	Euro million in % of reserved amount	Euro million
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
No-barriers Model Region	2	0.6	9.1	7.2
INPROSYS	2	0.5	10.4	5.1
Musicon-Valley	14	2.2	24.3	9.2
Central Saxony Textile Region	20	5.1	32.1	15.9
InnoSachs	43	7.1	39.5	17.9
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
Of which:				
project applications from				
Commercial firms	143	32.1	x	x
Associations (including gGmbH)	61	22.3	x	x
Universities	31	8.6	x	x
Research establishments	22	5.7	x	x
The project is				
The network agency	23	11.6	x	x
An individual project	80	32.7	x	x
An association project	154	24.3	x	x

¹ As per 20 March 2002.
Source: BMBF

Judging by the survey and the interviews during the complementary research, and by the statements from the project sponsor, clear differences between the networks became apparent during the process of project approvals. They were reflected in the number of projects approved by the middle of the year. Of the 19 InnoRegio networks classified as eligible for promotion, four had received approvals for their first projects at an early stage; six took longer to reach this stage and nine were still in the initial phase of implementation.

There are many reasons for these differences. One was simply the fact that not all the applications could be

handled simultaneously. In fact, in the later part of the year 2001 a considerable queue of applications for promotion had built up. It has now been cleared. By the end of March 2002 just under 260 applications for a total of euro 68 millions of promotional funding had been approved (cf. table 2).⁴ That is nearly one-quarter of the total amount of funding, euro 321 million, earmarked for all the InnoRegio networks.

⁴ The project sponsor provided this data in advance for the complementary research, while observing the regulations on data protection. Data on project approvals can also be downloaded from the joint promotion list of BMBF and BMWi (<http://www.bmbf.de>).

A good start to the InnoRegio Initiative after early difficulties

The differences in the tempo of project approvals are, however, probably also due to particular factors in the individual regions. In many the number, size and nature of the projects had not been fixed at the start of the period considered here. Often new decisions had to be taken over the time sequence of the projects; some participants left, and new ones joined.

In addition to these factors the objectives of the networks or the participant's experience with promotion could also have influenced the tempo of the development of projects to the approvals stage. The following considerations are concerned with the possible importance of network-specific factors in this process.

The relation between the stage of development of the networks and the progress in project approvals

As already shown, the networks differ in their objectives, structure of participants and stage of development, and not least also in the stage of project approval. These factors are obviously related. The objective of the network, for example, will certainly influence the structure of the participants and possibly also their number. The structure and size of the network in turn can affect the tempo of the development of projects to the approvals stage through the efficiency of the participants or their experience with projects. The breadth and preci-

sion of the network's objectives are also of importance here, as is, not least, the competence of its management and the willingness of the participants to cooperate. In view of the complexity of the interaction and the small number of cases a statistical evaluation of these interrelations has not been attempted here. However, an assessment using selected factors suggests that the InnoRegio networks that are functionally and structurally further developed have also made faster progress in implementing their projects. Individual interrelated factors are described below.

The composition of the networks

Research and producer networks evidently had comparatively few problems in submitting applications for approval (cf. table 3). In the case of the research networks this is probably also due to the fact that the applicants had more experience with the requirements and the qualitative criteria for R&D funding. The producer networks made good progress in implementation particularly when most of the participants in the network were efficient companies with experience in innovation. Otherwise problems occurred, e.g. in financing companies' own share and in providing security. Services networks, on the other hand, made only slow progress on the whole. Here it appears to be of importance that these were mainly 'social services' or areas of business that are being almost completely built up from zero, so that it is relatively difficult to prove that the projects will be profitable.

Table 3
InnoRegio Networks by Type of Network and Project Development Stage 2001

	Networks that started implementing			Total
	Early	After overcoming initial difficulties	Only at a late date	
Research networks	3	0	2	5
Producer networks	1	1	2	4
Services networks	0	1	2	3
Networks with no clear structure of participants	0	4	3	7
Total	4	6	9	19

Source: DIW Berlin and partners, written survey of summer 2001.

Table 4
InnoRegio Networks by Size and Project Development Stage in 2001

	Networks that started implementing			Total
	Early	After overcoming initial difficulties	Only at a late date	
Large	2	0	1	3
Medium-sized	1	5	5	11
Small	1	1	3	5
Total	4	6	9	19

Source: DIW Berlin and partners, written survey of summer 2001.

The size of the networks

Differences in the size of the networks appear to have had a considerable influence on the implementation of the concepts and the projects, for, judging by the projects already approved, the small networks made only slow progress (cf. table 4) compared with the medium-sized and big networks. That is at first surprising, for the small networks have advantages in reaching agreement on the objectives and in coping with processes that need coordinating. But the fact that the pool of actors and competences is more limited in smaller networks appears to weigh more heavily.

The efficiency of the companies

There is a relatively clear relation between the implementation of the projects and the share of efficient companies in the network. That is particularly evident from a consideration of the relations between the speed of implementation and the share of innovative companies in the networks. Networks with a far above-average share of innovative companies tended to be able to advance their projects to the approvals stage more quickly than networks with a far under-average share (cf. table 5).

It is particularly striking here that networks with a relatively low share of efficient companies could almost without exception only start implementing their projects at a late date. This is assumed to be because companies that are intensively engaged in research are both more professional and more purposeful in implementing inno-

vative projects than companies with little experience in research. Hence their projects probably also have a degree of maturity that makes it easier for them to obtain funding.

The climate of confidence, organisation and network management

The climate of confidence is seen here as an indicator of the internal cohesion of the networks. It might be assumed that strong cohesion between participants will help the development of the projects; however, rather the opposite appears to be the case. Participants both in networks that started early and in networks with initial difficulties gave a rather worse assessment of the basis of confidence in their network than participants in networks that only started implementing late (cf. table 6).

The state of the organisation of the network appears to be of greater importance. It is assessed as good more frequently in networks with an early start than in those with a later start (cf. table 7). Finally, it might be assumed that the quality of the network management also has a positive influence on the progress of the project. However, such a relation is not evident in the available data (cf. table 8).

Table 5
InnoRegio Networks by Efficiency of Companies and Project Development Stage in 2001

	Networks that started implementing			Total
	Early	After overcoming initial difficulties	Only at a late date	
The share of efficient companies is				
Far above average	–	4	2	6
Rather average	4	–	2	6
Far below average	–	2	5	7
Total	4	6	9	19

Source: DIW Berlin and partners, written survey of summer 2001.

Table 6
InnoRegio Networks by Climate of Confidence and Project Development Stage in 2001

	Networks that started implementing			Total
	Early	After overcoming initial difficulties	Only at a late date	
Confidence between partners is				
Great	0	1	2	3
Average	2	3	6	11
Small	2	2	1	5
Total	4	6	9	19

Source: DIW Berlin and partners, written survey of summer 2001.

Table 8
InnoRegio Networks by Assessment of the Management Performance and Project Development Stage in 2001

	Networks that started implementing			Total
	Early	After overcoming initial difficulties	Only at a late date	
The network management is regarded as				
Good	1	3	2	6
Average	2	3	4	9
Poor	1	–	3	4
Total	4	6	9	19

Source: DIW Berlin and partners, written survey of summer 2001.

To sum up

The assumption that there is a connection between the status of development of the networks and their ability to develop the planned projects to approvals stage is prima facie plausible. Admittedly, the above findings

only partly substantiate this. But that is probably also partly because the indicators are necessarily still rough. To strengthen the network formation it is certainly advisable to devote even more attention to the network properties examined here.

Table 7
InnoRegio Networks by Assessment of the Organisation and Project Development Stage in 2001

	Networks that started implementing			Total
	Early	After overcoming initial difficulties	Only at a late date	
The organisation is assessed as rather				
Good	2	2	1	5
Average	1	3	5	9
Poor	1	1	3	5
Total	4	6	9	19

Source: DIW Berlin and partners, written survey of summer 2001.

Conclusion and Outlook

Entry into the third phase of the InnoRegio promotional programme brought some initial difficulties. The participants complain in particular that the approvals process is too complicated and takes too long. These problems were mainly due to the complexity of the promotional approach, to which all involved first had to adjust. Some measures introduced during the implementation particularly helped to accelerate the procedure, e. g. more intensive consultancy for applicants and close cooperation of all involved in the promotion management team. By the end of March this year nearly 260 projects, for a total volume of euro 69 million in promotional funds, had been started.

With the approval of projects the InnoRegio networks have entered a new phase of development. Only in the further course of the programme will it become clear what impetus to innovation has come from the promotion and what benefit the participants have derived from their cooperation and participation in a network. Finally, it will also be of interest whether measurable commercial success results for the participants and not least for the region.

That will probably only come in the longer term. This will also require a constellation in the network that remains stable over the medium term. Each network is an association of partners with common interests but with some divergent interests as well. The possibility cannot be excluded that participants will leave the network when promotion of their project comes to an end. Securing the continued existence of the network in such a situation will be another challenge for the future.

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