



European Clusters Go International

Networks and clusters as instruments for the initiation of international business cooperation

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Executive summary

For an organisation wishing to act globally, contacts across its national borders are a *sine qua non*. Such contacts can be established by enterprises and research institutions themselves. However, they may also profit from a network or cluster which takes responsibility for the internationalisation efforts of its members and assists them in their international orientation of organisations. The internationalisation activities of a network or cluster and of its members can happen more or less by coincidence. It can also be controlled purposefully by becoming firmly entrenched in the strategy of the network/ cluster.

Now, it is interesting to see if such a strategically established international orientation of networks, organisations and firms in the networks is beneficial to competition and increases international visibility.

Therefore, the present study will investigate on the following questions:

- In what form have recent internationalisation efforts of network and cluster organisations affected the business development of affiliated companies, and
- do networks and clusters pursuing an internationalisation strategy clearly have more success in the perception of the international community and, if so, does this have a positive effect on the business development of their members and of companies in particular?

In order to be able to answer these questions, the present study has the following aims:

- To obtain a Europe-wide overview of networks and clusters with regard to their internationalisation experience;
- To compare it with the previous study of 2007 and to derive trends from this¹;
- To differentiate between networks and clusters with or without a strategy with regard to their internationalisation;

- To draw a comparison between networks and clusters which clearly see the responsibility for internationalisation as lying with the coordinating agency, with cluster management and with those who regard the companies affiliated to the clusters as being responsible.

In order to investigate the aforementioned issues, a survey was conducted among 122 leading European network and cluster managers in 2010. The results are presented in detail in the following chapters.

The results show that most of the networks and clusters have made significant progress in initiating international contacts in the interests of their corporate members. However, the degree and extent of their success depends decisively on two factors. On the one hand, the study proves that networks and clusters which have developed and implemented an internationalisation strategy are more successful in initiating international cooperation than those without. On the other hand, it is also clear that players in networks and clusters mainly profit in cases where network and cluster managements have a clear-cut mandate for the internationalisation of players and if the latter support such activities. The results also demonstrate that public programmes that support network and cluster managements financially in the interests of their members in order to initiate international cooperation, are not sustainable and successful. This is especially true in cases where the network and cluster management has no clear mandate for internationalisation from its members.

Generally, the trend is that network and cluster managements increasingly take responsibility for the internationalisation of the players of the respective network and cluster. This is not surprising considering the results of the previous study. As regards to the barriers to internationalisation, there have not been any significant changes since 2007.

¹ Meier zu Köcker, Buhl: Internationalisation of Networks – Barriers and Enablers, on behalf of the Federal Ministry of Economics and Technology (BMWi) 2007, www.kompetenznetze.de

1. Introduction

Since the 1980s, companies continuously face changing political, economic and, above all, technological framework conditions and therefore have been forced to adapt their economic strategy and value creation to changed conditions. This is done in order to secure their sales and corporate profitability as well as their continued network development so as to maintain and/or improve their competitive position. Nevertheless, the extremely successful export strategy that has been primarily pursued in the past, and on which a major part of the institutions and companies acting in the international business environment have concentrated almost exclusively, does not suffice, nor will it in the future, to respond adequately to the changed conditions. This is true of all European countries, especially since the European domestic market must still be regarded as rather fragmented.

On the contrary, internationalisation and internationalisation efforts need to be comprehended as a dynamic process characterised by a multitude of relevant economic measures. Motivated by different goals, the range of activities can, inter alia, cover the following aspects:

- ▶ Expanding in-house/intra-network export business as the most simple and rapid form of international market entry;
- ▶ Reducing the vertical range of manufacture and increasing the import of (intermediate) products, components and also of services within the framework of a globally-oriented supply management;
- ▶ Increased spinning-off of elements of the value-creation process to in-house or cooperating foreign firms;
- ▶ Granting of licences to foreign companies in order to not market one's own products, technologies, patents or trademarks independently worldwide, but to transfer the corresponding trade law rights to economic partners against payment of licence fees;
- ▶ Participating in foreign companies in the form of joint ventures;

- ▶ Taking over or building production facilities abroad to ensure the full exploitation of the success potential of the company-specific know-how and to achieve optimal marketing of local production by adapting products more rapidly and responding to changes in demand, etc.;
- ▶ Developing joint transnational R&D activities and cooperation.

Companies and networks are forced to benchmark against international standards in order to position themselves competitively and stand up to the challenges of the future in markets growing closer together. This is due to advanced globalisation and the resulting overcoming of national frontiers. Additionally the potential stagnation of domestic markets as well as of previous internationalisation efforts by business partners and customers and a logical reaction to market entries by foreign (groups of) companies into the national economic region, have led to this benchmarking.

2. Networks and clusters as instruments for internationalisation

Considerable differences exist in the development of the degree of internationalisation for different-sized companies, since the extent of the international corporate activity of small and medium-sized companies still clearly lags behind that of large-size companies. Only some 35 per cent of European mini- and small enterprises are internationalised as opposed to some 60 per cent of medium-sized companies.²

This “internationalisation lag” of SMEs vis-à-vis big enterprises is primarily caused by the following bottlenecks characteristic of small and medium-sized companies:

- ▶ scarce capitalisation or problems with borrowing money for international activities;
- ▶ lack of internationally experienced personnel and managerial staff;
- ▶ information deficits concerning foreign markets;

- ▶ lack of integration of and access to networks in the target markets;
- ▶ poorly developed corporate planning;
- ▶ missing internationalisation strategy.

Nonetheless, it should be noted here that the barriers to internationalisation depend both on the target markets³ themselves and on the goals pursued with internationalisation. Owing to these restrictions, it is difficult for many SMEs to intensify the degree of their internationalisation efforts and to adapt to new forms of internationalisation, apart from expanding their corporate export strategy. A possible conclusion is that it is necessary for different economic players to strengthen their cooperative efforts in supra-company networks and to determinedly undertake joint internationalisation efforts.

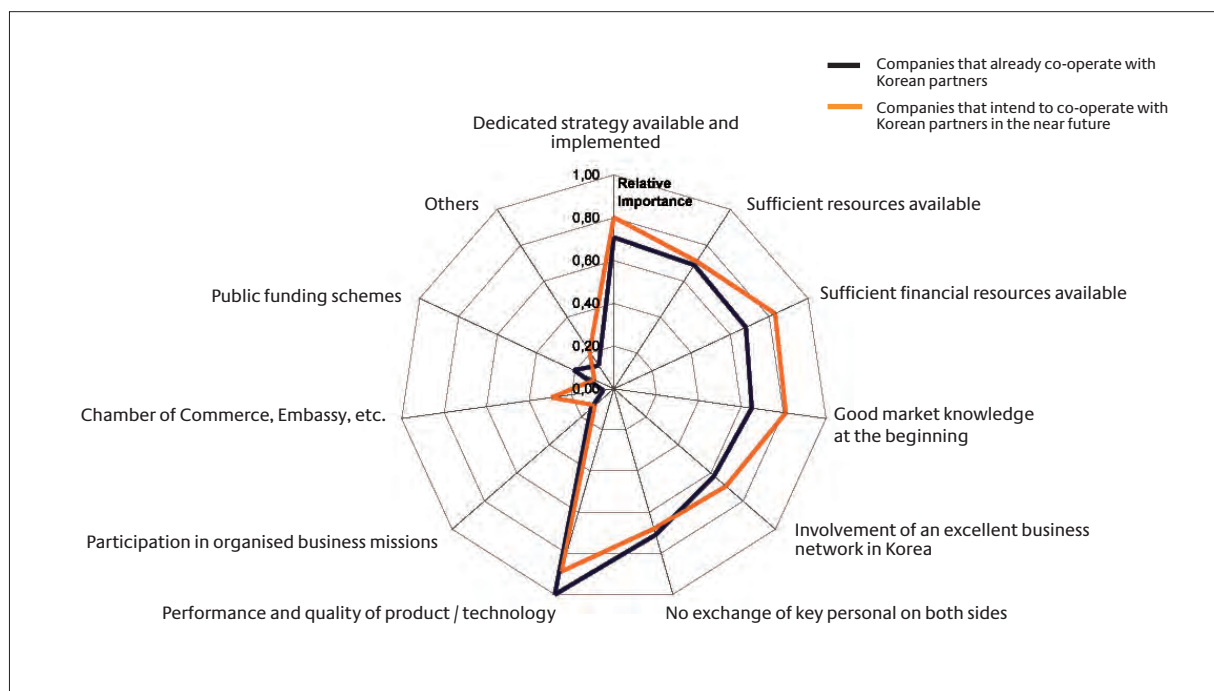


Figure 1: Success factors for cooperation with Korean partners

² ENSR Enterprise Survey 2003

³ Meier zu Köcker, Garnatz, Kergel: Stand und Perspektiven für FuE-Kooperationen innovativer Unternehmen mit der Republik Korea, Innovationsmanager, p. 94ff, No. 10 / 2010

Figure 1, which takes South Korea as an example, shows that companies regard access to networks in the respective target region as an important factor for successful internationalisation. If access to such corporate networks is possible, a higher number of companies will be available for the desired cooperation.

In the past, it has become evident that international cooperation between companies could be facilitated if they were affiliated to a network or cluster.⁴ This is motivated by the aspect of having to reduce the costs caused by internationalisation with regard to the analysis of the intended future field of action and the joint use of resources such as marketing possibilities, transport capacities and sources of supply. Additionally, special emphasis is placed on the aspect of the division of labour within networks and the ensuing concentration of in-house core products and services. Networks and clusters have been able to realise significant added value as regards to internationalisation of their members above all in those cases where the network management had special knowledge about internationalisation and offered a corresponding service for its members. Therefore it is not surprising that a great number of network and clusters managers have become active in this thematic field in recent years.

There are numerous examples that prove in which way a consistent international orientation of regional networks (e.g. Minalogic, BioValley, IVAM, NANOMAT, Logistik-initiative Hamburg or MediconValley) and a network management specialised in this matter have enabled affiliated companies to reach their foreign target markets more easily and successfully than without the assistance of the network.⁵ The study preceding this publication, querying 91 networks and clusters, was able to prove that most of them had international ambitions and had also adopted measures to support their members in the context of internationalisation.⁶ In many cases, network managers have reported of successes achieved there.

As there is ample empirical evidence that companies in networks and clusters find it easier to engage in international cooperation, it is not astonishing that public authorities have devoted increased attention to this subject on an EU, national and regional level. As a consequence, a number of research initiatives have been launched in the last few years for network and cluster managements to assist their affiliated companies in their internationalisation efforts.⁷ Attempting to list all measures of economic assistance would certainly go far beyond the scope of the present study. By way of example, three different approaches that can be considered as highly successful on the Federal Government level should be mentioned here:

- Within the framework of the BMBF Programme “Cluster Insight Reports” about 15 networks and clusters received funds in 2009/2010 in order to establish contacts and business relations with other networks and clusters worldwide. In doing so, the focus was not only placed on the initiation of contacts, but on building relations of trust and concrete cooperation measures. At the same time, detailed information was collected about the 15 foreign networks and clusters, making it available to other interested networks and clusters on the internet. Thus, more clusters and networks besides the 15 funded could benefit from detailed knowledge concerning other foreign networks/clusters.⁸
- The BMBF has provided funding since 2010 for selected companies of three networks that are members of the Kompetenznetze Deutschland Initiative⁹, in the context of adaptive R&D with Korean companies. The contacts were initiated and the partners on the German and the Korean side were selected by competent German and Korean network managers, who were also responsible for the whole process of contact initiation. That measure was accompanied by a Korean cluster study, which described the Korean cluster landscape and benchmarked the degree of interna-

⁴ Note: In this study we do not distinguish between networks and clusters. The important features for identification of both are regional agglomeration of actors and a body for coordination (network and cluster management)

⁵ COM (2008) 652 of 17.10.2008

⁶ Meier zu Köcker, Buhl: Internationalisation of Networks – Barriers and Enablers, on behalf of the Federal Ministry of Economics and Technology (BMWi) 2007, www.kompetenznetze.de

⁷ Huxham, C. & Vangen, S. (2005): Managing to collaborate. London: Sage.

⁸ www.kooperation-international.de/countries/netzwerke/international/clusterlist/

⁹ www.kompetenznetze.de

tionalisation of selected Korean clusters in comparison with Germany.¹⁰

- The Kompetenznetze Deutschland Initiative of the Federal Ministry of Economics and Technology supports its members in the context of internationalisation in many other regards. Besides concrete one to one initiations, e.g., an Information and Communication Technology cluster map with 75 networks and clusters from the field of ICT worldwide was completed with the French Pôles de Compétitivité in 2010. All ICT clusters were asked to identify information that is important to German competence networks. This questioning simultaneously served as a measure of quality assurance.

The European Commission has also funded transboundary cooperation of networks and clusters and their companies within the framework of diverse programmes in the past few years. The table provides a survey of the different instruments of the different directorates general of the European Commission.¹¹ Even though the respective calls or programmes do pursue different goals, they have the common aim of making transboundary network and cluster cooperation eligible for funding. It is also evident that the Directorate-General Regio has the by far largest budget.

DG	Instrument / Programme	EUR bn
ENTR	Competitiveness and Innovation Framework (CIP)	3.6
	Europe INNOVA and PRO INNO (European Cluster Observatory;	0.21
	European Cluster Alliance; European Innovation Platform for Clusters;	
	European Initiative for Excellence of Cluster Organisations; ...)	
	Intelligent Energy Europe	0.73
	LIFE + (DG ENV)	2.14
RTD	7th Framework Programme for Research and Technological Development	53.0
	Regions of Knowledge	0.13
	Marie Curie	4.7
INFSO	parts of FP7 and CIP	unknown
REGIO	Cohesion Policy	347.4
	...of which earmarked for innovation (Structural Funds)	86.0
	European Territorial Cooperation (INTERREG)	7.75
EAC	European Institute of Innovation and Technology (EIT)	0.31
	Knowledge and Innovation Communities (KICs)	0.27
	Leonardo da Vinci (life-long learning)	1.7

Table 1: Financing instruments of the European Commission used by networks and clusters for international cooperation and/or are explicitly aimed at it (source: European Cluster Policy Group).

¹⁰ Meier zu Köcker, Garnatz: Cluster als Instrumente zur Initiierung von FuE-Aktivitäten zwischen Deutschland und Korea, 2010, www.iit-berlin.de

¹¹ The table below summarises the main Commission DGs involved in cluster related programmes, essentially ENTR, RTD and REGIO, and their corresponding principal budget shown in bold. Indents under each DG give the identified policy programmes specifically targeting clusters. The list is not restrictive because policy programmes of a broader nature, notably the sizeable part of Structural Funds earmarked for innovation, indirectly also impact and can support clusters.

3. Aim and methodology applied

The topic of the internationalisation of networks and clusters has been gaining importance throughout Europe for several years. Likewise, a multitude of financial support measures has been carried out at EU, national and regional level in recent years. Interestingly, a number of projects and programmes of financial assistance aimed to internationalise networks and clusters have been and are still being implemented in many European countries. This is done without fundamental analyses of demand or a more accurate knowledge of the needs of the target group. Often such programmes are based on insights and experience of several years. Many of these programmes have been identical for years.

3.1 Aim

It is therefore the aim of the present study to see if and how networks and clusters have been able to improve their internationalisation activities successfully and in what way the affiliated companies have managed to benefit from it. Furthermore, the study tries to answer the question if needs have changed in comparison to 2007. For this reason, chapter 4 of the study compares results with those of the 2007 study. It is expected that needs have changed in the last few years and new trends have emerged that should be recognizable for cluster policy-makers and practitioners at an early point of time to be able to respond adequately.

The study is divided into three thematic priorities:

- ▶ Evaluation of the progress achieved with regard to international cooperation for networks and clusters as well as their affiliated companies;
- ▶ Comparison of motivational factors for and barriers to internationalisation with the 2007 study;
- ▶ Trends and emerging developments in the context of the internationalisation of networks and clusters.

A country-specific evaluation of the results has been planned for a later point of time.

A part of the 18 questions dealt with characterising the participating networks and clusters (e.g. number of members or technology and application fields where they operate). Most of the questions were related directly to internationalisation aspects, developing two different complexes of questions:

1. Motivation for and barriers to international cooperation and strategy development
2. Effects of previous internationalisation efforts on networks and clusters and their players, notably small and medium-sized companies (SMEs).

It was important to formulate identical questions (as was done in the context of the previous study) in the first complex of questions, in order to compare relevant developments and trends since 2007. It was particularly interesting for the other set of questions to identify what progress has been achieved and what the impact of previous efforts at internationalisation has been on the international perception and business development of the companies in the networks and clusters.

3.2 Methodology

In total, 122 network and cluster managers from eleven different European countries participated actively by filling in the respective questionnaires and by being available for in-depth interviews. Table 2 displays the country-specific comparison between the reference group of the current study and the previous one. In view of a continuously changing network and cluster landscape, it has not been possible to use the identical reference group of 2007 as a basis in the current study. The reason for this is that a greater number of networks and clusters did not exist at that time or are not active anymore today. Furthermore, a number of mergers or other changes occurred, which had such a significant influence on network and cluster strategy that although its name was retained, the network/cluster concerned was no longer comparable with that of 2007. Approximately 30 per cent of the participating networks and clusters also participated in the 2007 study.

Country	Number of participants 2007	Number of participants 2010
Belgium	5	0
Denmark	0	9
Germany	15	27
France	22	18
Greece	2	5
Great Britain	5	0
Italy	8	0
Croatia	0	3
Luxemburg	0	1
Austria	0	10
Netherlands	4	0
Norway	0	11
Poland	8	5
Sweden	7	8
Spain	15	15
Hungary	0	10
Sum total	91	122

Table 2: Country-specific distribution of participating networks and clusters (compared to 2007)

As it was no longer possible to use the identical group of networks and clusters from 2007 as a basis for comparison for the current study, the challenge was to identify fully-developed networks and clusters considered to be internationally competitive, so that they could serve as a reference group. In doing so, the authors made use of the existing national network and cluster initiatives in many European countries which concentrate on the most advanced ones in their country. In this context, one can indeed speak of a national labelling of selected networks and clusters. Against this background, it is important to state that primarily those networks and clusters participated in the study which were recommended or proposed by representatives of national network and cluster initiatives (cf. Table 3). It was thus possible to provide a certain degree of quality assurance within the framework of the study, as mainly networks and clusters

participated in the study that were regarded as already being established and experienced in the context of internationalisation. It should be noted here that in the case of Croatia, Poland and Spain, the participating clusters and networks were named by institutions that played a leading role in the network/cluster context in their respective countries. However, they were not responsible for a national cluster initiative.

Country	Partner Institution	Programmes where networks/ clusters have been labelled or funded
Denmark	Reg X - Danish Cluster Academy	Reg X - Danish Cluster Academy
Germany	VDI/VDE-IT	Kompetenznetze Deutschland, Spitzencluster-wettbewerb
France	CDIF-France Clusters	Pôles de Compétitivité
Croatia	The National Center for Clusters (NCC)	
Luxemburg	Luxinnovation	
Austria	Clusterland Oberösterreich, ECOPLUS	
Norway	Innovation Norway	ARENA-Programmes
Poland	Polish Agency for Enterprise Development	
Sweden	VINNOVA, TILLVÄXTVERKET	VINNVÄXT
Spain	Generalitat de Catalunya	
Hungary	POLUS Programme Office	POLUS Programme

Table 3: National initiatives / players who selected the participating networks and clusters

The selected network and cluster managements were polled through an online questionnaire, to which the respective coordinators responded. The network and cluster managers were not contacted directly by the authors, but by the persons responsible for the national

network and cluster initiatives. The questionnaire included a total of 18 items allowing for one or several answers depending on the type of question asked. Network or cluster managers who could not draw on their networks' and clusters' international experience were unable to answer specific questions related to selected aspects of internationalisation.

3.3 Short characteristic of the participating networks and clusters

A total of 122 networks and clusters participated in the survey, 110 of which had experience in the international context. At the same time, the participants covered a very broad range of technologies and users. Most of the participants come from the fields of Life Sciences / Biotechnology, Energy / Environment, New Materials / Manufacturing Technology and Information Technology, as Figure 2 shows.

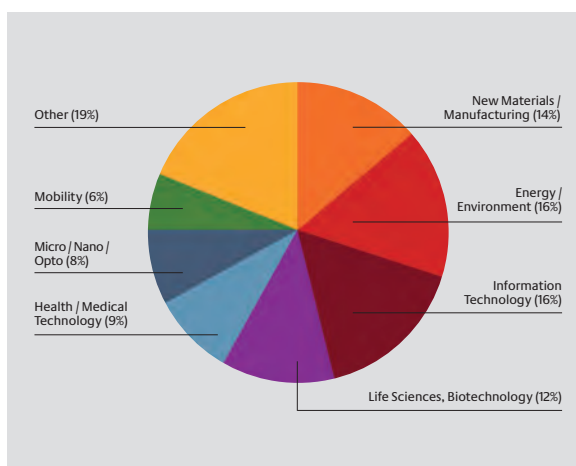


Figure 2: Distribution of participating networks and clusters by technology and application fields

The participants were primarily technology-oriented regional networks and clusters embracing developing and manufacturing companies of any size, research institutions (including universities), basic and further training establishments and other service providers (e.g. Chamber of Industry and Commerce, associations, banks, etc.). It was also important that there was an organisa-

tion which had the mandate to coordinate and control network activity. Networks exclusively engaged in research or training were excluded, as a sufficient number of industrial enterprises was a condition for participation in the survey. Furthermore, the participants were expected to have basic experience in transnational cooperation with other European partners.

As was to be expected, the participating networks and clusters differed greatly in terms of membership. Only those members were considered who had committed to become actively involved in the network or cluster. As Figure 3 shows in its frequency distribution, most of the participating networks and clusters had more than 25 and less than 100 members. Interestingly, the participating networks and clusters from Austria had, on average, the highest number (70 per cent of participating establishments had 100 members or more).

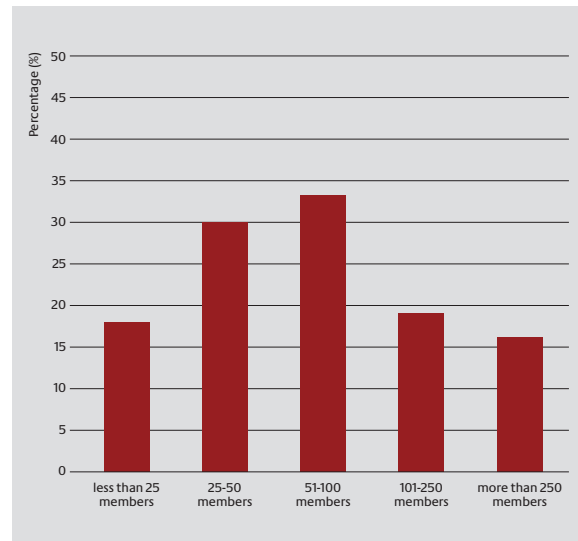


Figure 3: Distribution of committed members of participating networks and clusters

Out of a total of 122 participating networks and clusters, 110 indicated they had an international orientation and experience with initiating international cooperation. Therefore, these 110 networks and clusters were interviewed further.

4. Results

4.1 Strategy, motivation and barriers

Below, we present the answers given by the participating networks and clusters in relation to the part of the questionnaire “Motivation for and barriers to international cooperation as well as strategy development”. Wherever it is possible and makes sense, the results are compared with those of the previous study of 2007.

The responsibility for the internationalisation of networks and clusters generally lies with the net-work or cluster management or with the companies within a network.

Figure 4 exhibits the distribution of responsibilities for internationalisation of network and cluster players. It should be noted here that two answers were allowed, as in many cases responsibility was not clear enough or lay with several groups of players.

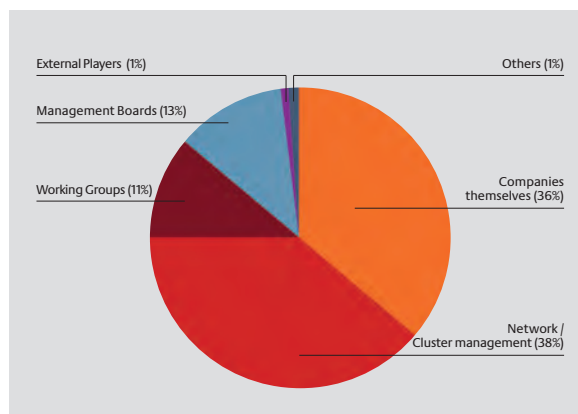


Figure 4: Responsibilities regarding internationalisation within the participating network and clusters

It is evident that in three quarters of all cases the firms themselves feel responsible (36 per cent) or network/cluster management (39 per cent) assumes responsibility for it. Figure 5 displays the results of 2007 and 2010 in comparison. The importance of Management Boards for controlling internationalisation efforts seems to be clearly reduced in comparison with 2007. Nowadays, responsibility lies with network and cluster management or with

the companies themselves. This observation is confirmed by the 30 networks and clusters which participated both in 2007 and 2010, rather than only being based on the two different reference groups. Here too it becomes clear that in many cases the responsibility of Management Boards was transferred to network and cluster management.

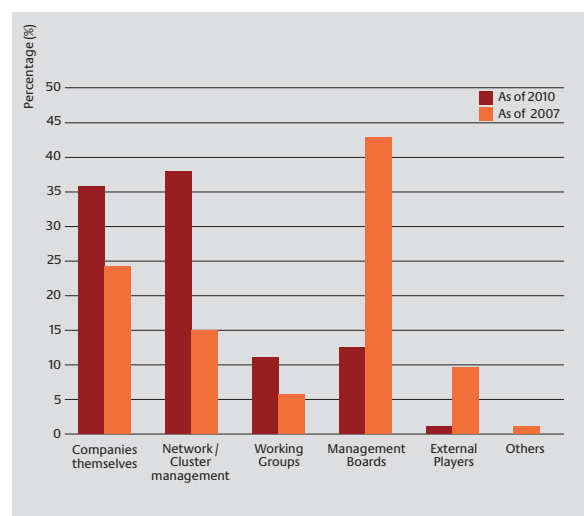


Figure 5: Responsibilities regarding internationalisation in 2007 and 2010 in comparison

Responsibility for internationalisation by network and cluster players becomes even more important in the second part of the presentation of results.

The number of European networks and clusters implementing a strategy for internationalisation has markedly increased in recent years.

In the following it is asked, if networks and clusters acting in international contexts have an adequate strategy. Furthermore, it is asked which of the instruments are the most important for implementing this strategy. The 2007 study showed that only few networks and clusters possessed a specific internationalisation strategy and were able to implement it sustainably. This becomes evident in Figure 6, as in 2007 only approximately 10 per cent of interviewees agreed totally, when asked “Is there a concrete internationalisation strategy and is it also being implemented?”. However, 38 per cent confirmed that parts or elements of an internationalisation strategy existed, but could not be found in a written form.

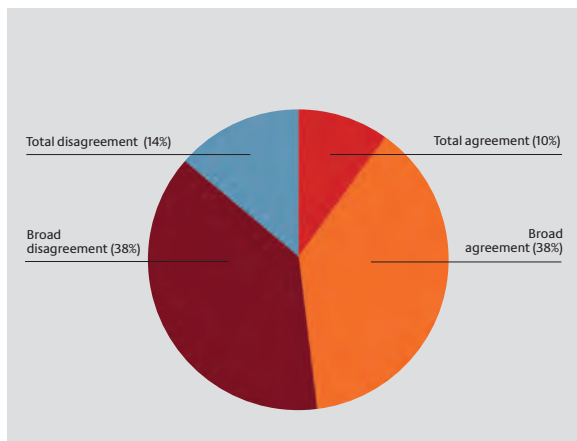


Figure 6: Existence of an internationalisation strategy on the part of the networks and clusters interviewed in 2007

The current survey indicates, however, that now clearly more networks and clusters have a specific internationalisation strategy and have implemented it and defined key elements of such a strategy (Figure 7). After all, approximately one quarter of respondents agreed totally, when asked “Does a concrete internationalisation strategy exist and is it being implemented?”. Some 57 per cent broadly agreed. For the 30 networks and clusters that participated back in 2007, this trend can again be well confirmed although it is not possible to substantiate this statement statistically in view of the rather small number of participants. Many of the 2007 respondents now reported that they too had formulated and implemented a specific internationalisation strategy (in about 30 per cent of all cases) or had worked out major parts of it (about 55 per cent of all cases).

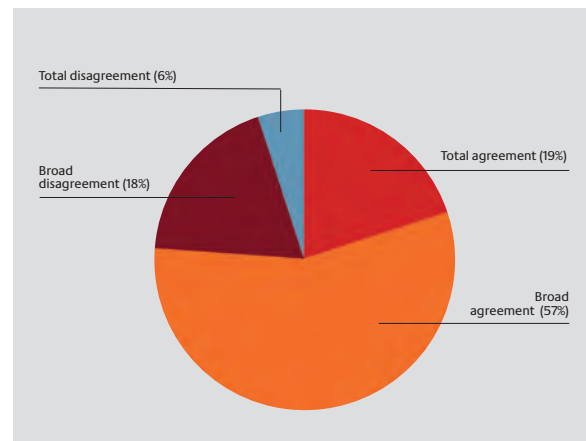


Figure 7: Existence of an internationalisation strategy on the part of the networks and clusters interviewed in 2010 (basis: 110 interviewees responded)

Figure 8 shows the results in the form of a different presentation. In this case, an index value was calculated considering the respective proportion of all four different possibilities for answering the question related to the existence of an internationalisation strategy (total agreement – internationalisation strategy exists in writing and has been implemented; broad agreement – internationalisation strategy exists in essential elements, but not completely in writing and/or has not been fully implemented; broad disagreement – internationalisation strategy exists in some elements, but has not been implemented; and total disagreement – there exists no internationalisation strategy). For all the networks and clusters interviewed, the picture is similar to that described in Figures 6 and 7. The overall index for the current survey of 2010 (index value 0.83) was clearly more positive than for 2007 (index value -0.1).

In Figure 8, two further reference groups, based on the 2010 values, were established: on the one hand a reference group in which the management organisations were primarily responsible for the internationalisation of the networks and clusters, and another group where the companies considered themselves primarily responsible. It becomes evident that networks and clusters where management considers itself responsible for internationalisation achieve a clearly higher index value (index value 1.09) than in those cases where the companies primarily feel responsible for internationalisation (index value 0.41). This must be seen in the context that network

and cluster managements in many cases attempt to define a joint strategy for internationalisation with the players, once they have taken on responsibility. Additionally, they try to find answers to the questions "Why internationalisation" (what are the concrete goals and motivations), "Where" (what are the target markets), "How" (which measures are to be used to address foreign players and markets), "With whom" (are partners needed or can the network and cluster players manage for themselves), or "Financing" (is external financing needed or can the players finance internationalisation activities independently). In contrast to this, the size of networks and clusters appears to have no influence on the existence of an internationalisation strategy. The difference in the index value for these two reference groups is only 0.02 and thus insignificant.

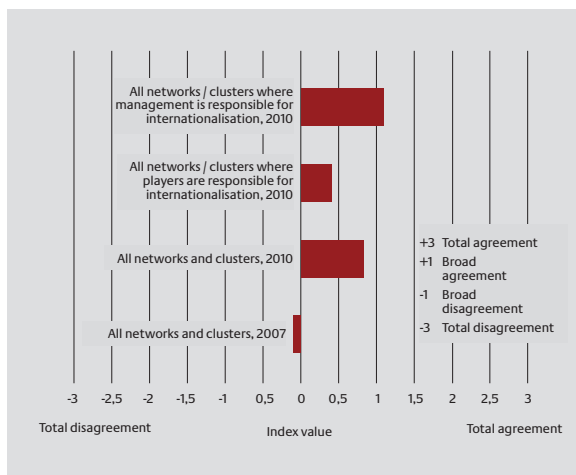


Figure 8: Existence of an internationalisation strategy by interviewed networks and clusters of different reference groups (basis: 105 interviewed responded)¹²

Network and cluster managers are often the first contacts for international cooperation and are therefore indispensable in the context of the internationalisation of the affiliated companies.

Another question was concerned with essential measures to identify appropriate network and cluster partners abroad, irrespective of whether a concrete internationalisation strategy existed or not. Figure 9 shows that in the majority of cases, from the point of view of network and cluster managers, they are primarily interested in a rather non-binding form of contact establishment and networking with foreign partners (number of mentions: almost 40 per cent). Often the important point here is to identify the "right" partner and the first phase of confidence building. Follow-up interviews indicated that this contact establishment is also seen as an important measure to improve international visibility. This means that not every kind of contact initiation or establishment necessarily and directly entails specific measures.

About one quarter of all respondents consider joint R&D or other concrete cooperation projects as an important element of internationalisation efforts in the interests of their members. Apart from specific technical and scientific goals set out in such projects, a number of respondents also see such projects as a welcome source of financing to broaden international cooperation, which would hardly be possible without such projects. This fact is not new and was discussed in the previous study. Rather, delegation and business trips are still regarded as highly important and were mentioned in about one quarter of cases. In contrast, other measures do appear to be of minor importance.

It is a striking fact that the relevance of measures for internationalisation of the respective players appears to depend on the responsibility for internationalisation. Networks and clusters where companies see themselves as being responsible, use delegation and business trips (in 30 per cent of all cases) and contacts with foreign economic development agencies and chambers (15 per cent) much more frequently. In contrast to this, joint R&D and cooperation projects seem to be of rather

¹² Calculation of the index values: percentage of answers "agree completely" multiplied by 3, plus percentage of answers "partially agree" multiplied by 1, less the percentage of answers "partially disagree" multiplied by -1, less the percentage of answers "totally disagree" multiplied by -3. The index values fluctuate between +3 and -3. An index value of 0 indicates that the number of positive answers equals the number of negative answers.

minor importance (in only 11 per cent of all cases). If network and cluster management has taken on responsibility for internationalisation, the elements of the rather non-binding form of contact establishment and networking with foreign partners (in over 40 per cent of all cases) and integration in R&D and cooperation projects (29 per cent) is very much at the top of the list of priorities. In comparison, chambers and economic development agencies abroad are virtually never used (3 per cent).

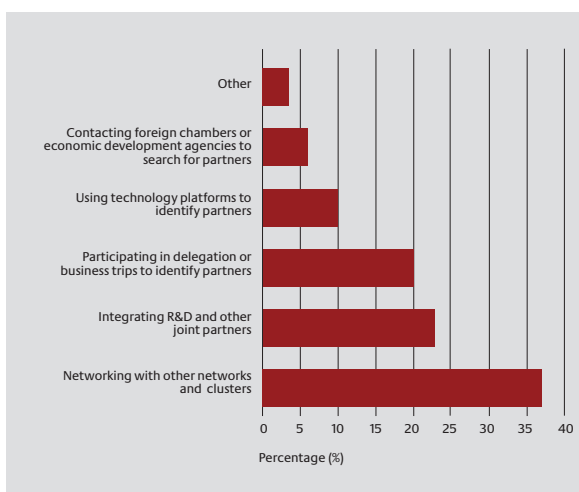


Figure 9: Essential measures for internationalisation by network and cluster players (basis: 105 interviewees responded, max. 2 answers possible, indications in per cent)

International cooperation is still confronted with barriers and therefore not a matter of course for many European networks and clusters.

In the context of a successful internationalisation, it is also important for all the parties involved to identify priority barriers and to address them adequately. The survey conducted in the 2007 study made clear that a lack of trust between the potential partners of the different networks and clusters and the fact that these potential partners were more likely to be regarded as competitors were seen as priority barriers. There was also a rather frequent mention in 2007 of the lack of financing possibilities and of personnel resources. At the same time, it became evident that network and cluster managements that were aware of those barriers were

able to act in a mediating and coordinating capacity, which was often the case in connection with successful initiations of cooperation. To get a feel for the question if the significance of barriers has changed in the past few years, the question was asked again in the current survey. The current results are compared with those of 2007 and presented in Figure 10.

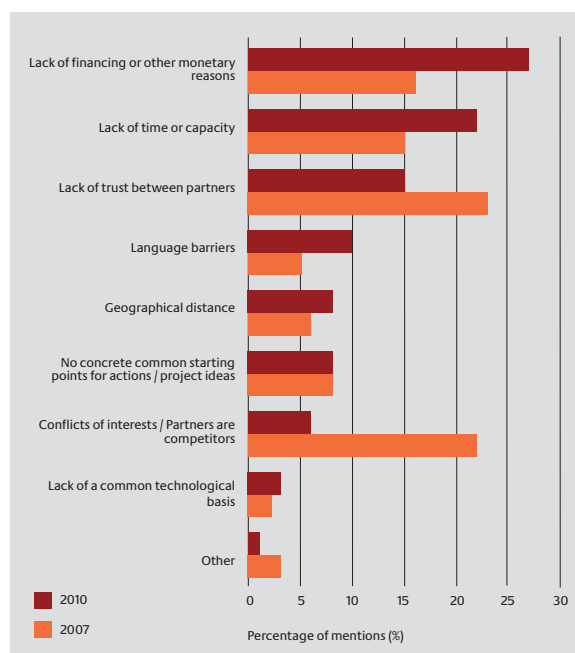


Figure 10: Priority barriers to international cooperation between networks and clusters (basis: 102 networks responded, multiple answers allowed, indications in per cent)

The participants in the current survey often see the barriers to winning new partners abroad in a similar way as the 2007 reference group, although they differed as to the priority to be attached to those barriers. Lack of financing and of personnel are currently being considered to be the biggest obstacles to initiating international cooperation, with the significance of these factors having increased in 2010 over 2007. Lack of trust between the partners is still regarded as an important barrier as well, even though it is no longer regarded as such a priority concern as in 2007. All the other possible barriers are clearly seen as less significant. The problem

connected with the fact that potential cooperation partners are more likely to be seen as competitors than as partners has likewise become less relevant. This trend can be easily recognized for the 30 networks and clusters that participated back in 2007. In this respect, the weighting given to the priority barriers is similar to that of the barriers presented in Figure 10 for the year 2010.

4.2 Perception, visibility and progress achieved

The following chapter deals with the complex of questions related to possible effects of the internationalisation activities of networks and clusters and their players. It is true, in daily practice some positive cases are known where internationalisation efforts have led to concrete business successes for companies of certain networks and clusters;¹³ however so far, it has not been possible to support this statement by relevant statistics. The topic of the internationalisation of networks and clusters has received high attention and political support for a number of years. Therefore, it is of great interest to see what possible results might look like, at least from the point of view of participating networks and clusters in Europe.

Within Europe there is an observable increase in successful cooperation between clusters.

Irrespective of whether a network or cluster has an internationalisation strategy, the main point is the level of positive impact increasing internationalisation of business and their activities has for players (notably companies). Against this background, the next question will have to consider if the respective network and cluster players have been able to establish significant new contacts with other networks and clusters with positive impact on their

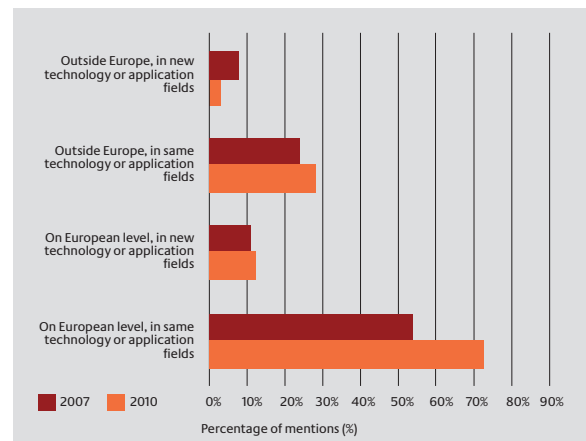


Figure 11: Breakdown of new, successful cooperation achieved in the last three years by regions and application fields (basis: 86 networks responded, multiple mentions allowed, indications in per cent)

core business within the last three years. A differentiation was made in this respect between cooperation already established within and outside of Europe, as well as within the same technology and application field or between different ones. Figure 11 compares the results of the 2007 and 2010 studies.

The current results show, similar to those of 2007, that most of the new cooperation in Europe has been achieved within the same technology and application fields in the last three years. In this regard, the respondents of the 2010 study more frequently report of successful cooperation (in approx. 75 per cent of all cases) than in the 2007 study (52 per cent), which must be seen as a very positive trend. They reported considerably less new cooperation in different technology and application fields within and outside of Europe as well as in the same technology and application fields outside Europe. Here the differences between 2007 and 2010 are minimal. It can thus be stated that significant successes might have been achieved mostly within Europe, which can be traced to the geographical proximity and the fact that the European market is mostly seen as a priority sales market. There is a similar trend for the 30 networks

¹³ Examples for successful clusters that act at international level:

- 1.) Austrian Automotive Cluster: The management of the cluster approached leading OEMs out of Austria and closed some deals that had a positive influence on some of the cluster member organisations.
- 2.) ICT Cluster Bern: a Swiss software company could extend its business contacts to foreign countries with the help of the ICT Cluster Bern.

and clusters that participated in both surveys in 2007 and 2010. The number of new successful cooperation achieved within Europe and in the same technology field increased significantly while in the other cases, new cooperation was rarely reported.

The results also indicate that in cases where network or cluster management was responsible for internationalisation, 80 per cent of respondents reported of new, successful cooperation within Europe in the same technology and application fields, which is higher than the mean value of 75 per cent. This value is quite high and lies considerably above the value of 55 per cent for cases where the firms themselves had assumed responsibility for internationalisation. In all the other cases, there were no significant differences between these two reference groups.

Internationalisation activities also improve all the other business activities of companies within a cluster and of cluster management organisations.

Apart from concrete initiations of cooperation, it is interesting to know if they have also had a positive impact on the business activities of the management organisations. Figure 12 presents the results for the three reference groups (all networks and clusters questioned and/or those where only network and cluster management feels responsible for internationalisation and/or those where only the companies feel responsible for internationalisation).

If all networks and clusters in the survey are considered, some 75 per cent of them come to a positive result, i.e., significant progress has been made in the last three years in the context of the internationalisation of the network and cluster organisations, which had a positive impact on the business activity of the respective management organisations (the index value is 0.92).¹²

This can indeed be seen as positive. In those cases where network and cluster management is responsible for internationalisation, a considerably higher index value is reached with 1.29. Here a total of 89 per cent come to a positive result. One quarter of respondents agreed totally while 68 per cent after all agreed broadly. In cases where the companies felt responsible themselves, the index value was 0.6.

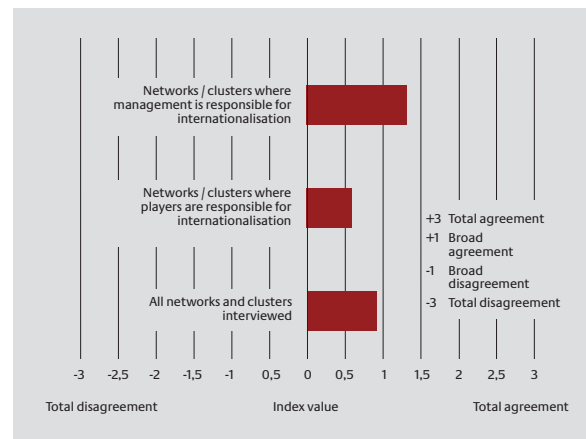


Figure 12: Evaluation of the question: Compared with 2007, network/cluster managements made significant progress with regard to the initiation of international cooperation, with positive impact on the business activity of the respective management organisation (basis: 100 interviewees responded).

The results obtained so far suggest that the network and cluster organisations have made significant progress with regard to internationalisation in recent years. However, in this context the question also arises if this has increased the international level of the awareness/visibility of networks and clusters, as a high level of awareness and/or high international visibility is generally considered as an important prerequisite for worldwide operation. The network and cluster managers were therefore asked if they had noticed an improvement in the level of awareness and/or improved visibility as a result of their internationalisation activities. Figure 13 presents the assessments made by the network and cluster managers questioned, based again on index values. Overall, they are all lower compared with the values shown in Figure 12, i.e., the progress achieved in initiating international cooperation with positive impact on the business activity of the respective management organisations is generally rated as being better than the improved international visibility. Otherwise, a well-known picture presents itself again. In those cases where network or cluster management is responsible for internationalisation, significantly better index values of approx. 0.5 are reached (compared with all networks and clusters questioned, where the index value is 0.06). In those cases where the companies consider themselves responsible for internationalisation, the index value is 0.02.

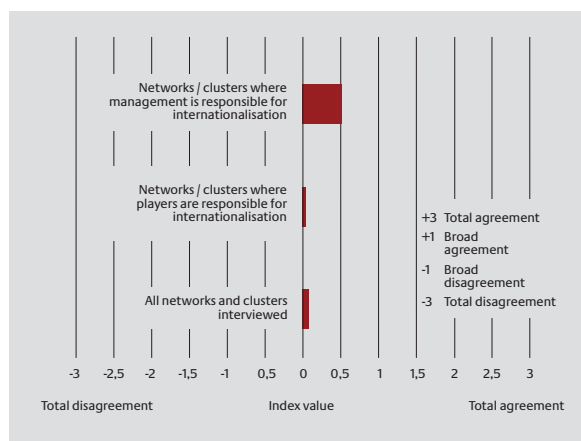


Figure 13: Evaluation of the question: As a result of the internationalisation activities of the network/cluster, the international level of awareness has improved considerably (basis: 100 interviewees responded).

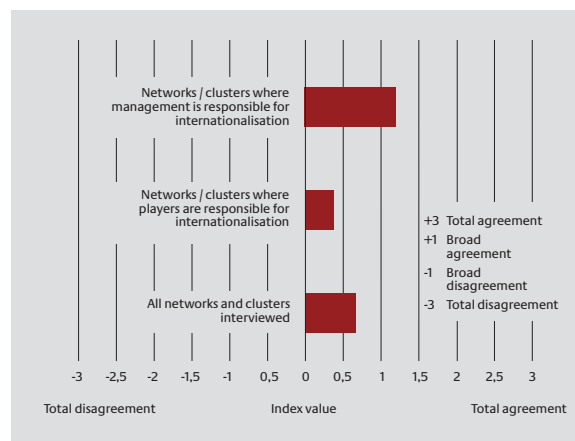


Figure 14: Evaluation of the question: Compared with 2007, the companies in the networks/clusters have made significant progress with regard to internationalisation, with positive impact on the business activity of the companies concerned (basis: 99 interviewees responded).

The next question was of particular importance, focusing primarily on the business development of the companies within the networks and clusters which are the key target group of any internationalisation effort. The question was, if companies in the networks and clusters had made significant progress with regard to internationalisation over 2007, with positive impact on the business activity of the companies concerned. The important point here was that the progress made had also had a positive impact on the companies' business development. Overall, on average approx. 65 per cent of all network and cluster managements reported on a positive impact of internationalisation activities on their companies' business development. The corresponding index values (related to the companies, cf. Figure 14) are below those in relation to the progress made by the network and cluster managements (cf. Figure 12). This means that the effects of the internationalisation efforts on the companies as a whole (from the viewpoint of network and cluster managers) is not seen as equally positive as for the network and cluster organisations themselves. Here too, the best index values – around 1.2 – are achieved in those cases where network and cluster management feels responsible for internationalisation; the lowest index values of 0.36 are reached where the companies themselves felt responsible (Figure 14). Again, the size of the networks and clusters appears to have no significant influence.

Network and cluster management organisations integrated in European programmes for internationalisation benefit much more than the companies themselves.

The different directors general of the European Commission have been supporting transboundary cooperation between network and cluster players for several years. The recipients of such funds are, as a rule, the network and cluster management organisations themselves. In that area there are a great variety of programmes and projects, the budgets of which are shown, by way of example, in Table 1. Previously, there has hardly been any reliable information beyond the evaluation of specific cases stating in how far those projects have had a sustainable success in the context of the internationalisation of the players involved.¹⁴ Such information would, however, be of general interest in order to make a better evaluation of such approaches for economic assistance, which, if they are successful, might be applied to the national or regional level. Recommendations by the European Cluster Policy Group, calling for increased evaluations and impact assessment of such programmes, are going in the same direction.¹⁵

¹⁴ G. Pöchlacker, Internationalisierung von Clustern, FhG-ISI-Conference: Clusterpolitik – Quo Vadis, July 2010

¹⁵ European Cluster Policy Group – Consolidated Set of Policy Recommendations on Four Themes, 2010, www.proinno-europe.eu

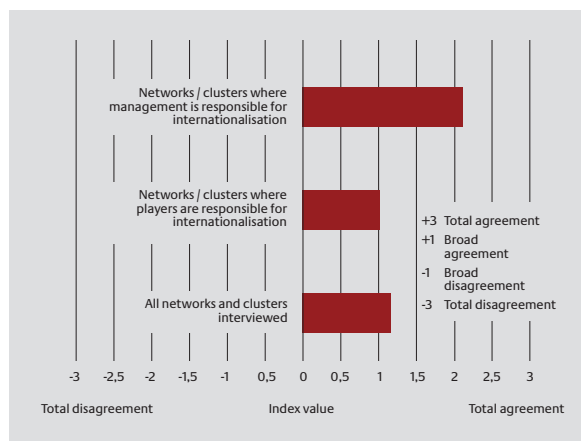


Figure 15: Evaluation of the question: Has the integration in programmes of the European Commission aiming at international network and cluster cooperation¹⁶ had a positive impact on the internationalisation activities of network and cluster managements (basis: 99 interviewees responded).

Figure 15 shows the feedback from the network and cluster managers responding to the question if integration in programmes of the European Commission aimed at initiating transboundary network and cluster cooperation (such as e.g. PRO INNO EUROPE¹⁷, EUROPE INNOVA, INTERREG, Regions of Knowledge, CIP-NET etc., but no R&D projects of the 6th or 7th framework programme) had a positive impact on the internationalisation activities of management organisations. It should be mentioned that about 60 per cent of participants responded (a total of 55 networks and clusters), because experience with such programmes was needed to be able to answer these questions. Overall, the respective index values are very high in comparison; considered across all networks and clusters, the index value is approx. 1.13.

In those cases where network or cluster management was responsible for internationalisation, the corresponding value is even higher than 2.0. In cases where the enterprises primarily feel responsible for internationalisation, network and cluster managements believe that the impact has been quite positive; the index value here is approx. 1.0. In terms of specific figures, this means that generally over 80 per cent of respondents consider integration in such programmes of the European Commission to have very positive or positive effects for themselves as

network and cluster managers. On the one hand, this is certainly a positive result indeed. On the other hand, it can be assumed that the network and cluster managements involved in such programmes consider such participation per se as positive as a first step in regards of their internationalisation efforts, in view of the associated allocation of funds.

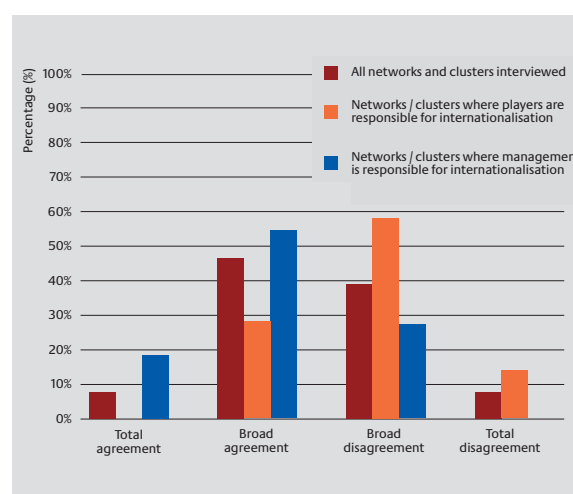


Figure 16a: Evaluation of the question: Has the integration in programmes of the European Commission, aimed at international network and cluster cooperation, had a positive impact on the companies' international business developments (basis: 98 interviewees responded).

Thus, as a consequence, the next question arises if integration in the relevant programmes of the European Commission has also led to positive business developments of the companies in the networks and clusters representing the actual target group for these EU programmes. Network and cluster management is generally supposed to act as a catalyst for initiating international cooperation for companies. Figures 16a and 16b display the results of this question in different forms of presentation. In total, 53 per cent of the network and cluster managements questioned concluded that the integration in the respective international financial assistance programmes of the European Commission has led to sustainable cooperation between companies with a positive influence on their business development. However,

¹⁶ This includes European programmes, such as PRO INNO EUROPE, EUROPE INNOVA, INTERREG, Regions of Knowledge, CIP, but not R&D-projects of the 6th or 7th Framework Programme

¹⁷ www.proinno-europe.eu

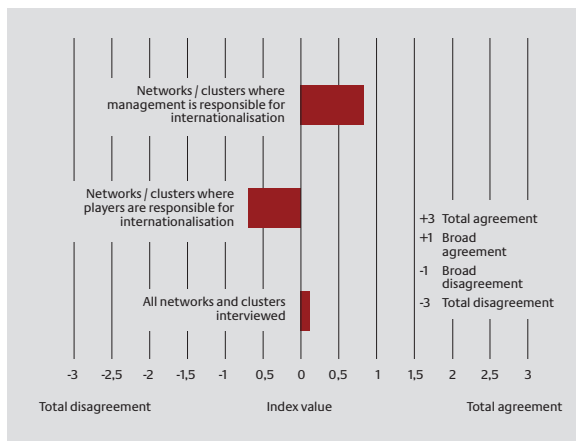


Figure 16b: Evaluation of the question: Has the integration in programmes of the European Commission, aimed at international network and cluster cooperation, had a positive impact on the companies' international business developments (basis: 98 interviewees responded).

the majority agreed rather broadly while only very few interviewees fully agreed with this statement. Again, the result looks better when looking at the reference group, whose network and cluster managements have a mandate for internationalisation activities. Here the value, with a total of 73 per cent of positive answers, is significantly higher; in fact just fewer than 20 per cent of this reference group totally agreed to this statement. The values were low when network and cluster managements were involved in such projects, but did not have a mandate for the internationalisation of the network and cluster companies. Here the value of positive answers is under 30 per cent, with none of the interviewees agreeing totally.

The result looks similar in a presentation based on the index value calculation¹² in Figure 16b. Here the reference group "Companies are themselves responsible for internationalisation" reaches a negative index value of -0.72, which is the worst of all index values in the study at all. In contrast, the index value for the reference group "Network and cluster managements that have a mandate for the internationalisation of players" is clearly more positive at 0.8.

5. Discussion of results

In chapter 4 various results of the interviews were primarily presented descriptively. In the following, we will therefore discuss the most important findings of the study at greater length. To this end, various in-depth interviews were conducted with selected network and cluster managers to receive a better understanding of the possible background to these findings.

Good network and cluster management is capable of systematically reducing part of the barriers to internationalisation.

Regarding the priority barriers in the context of internationalisation, there have been no fundamental changes in recent years. As the survey coincides with the present financial crisis, the circumstance that the financing problem is seen as the biggest barrier is indeed not astonishing, since this was also mentioned as the major barrier back in 2007. The reason behind this is notably the fact that companies are reluctant to act on financial grounds, especially in the starting phase of entry into international cooperation. At this point of time it is hard to assess if they can be a success. As international cooperation becomes more specific, making it more likely to generate successful business from it, the probability increases that companies are again willing to invest their own money.

In addition to this, the lack of personnel continues to be regarded as an urgent problem. Significant differences between various reference groups were not found. Both barriers were considered to be a dominant factor back in 2007 as well. This fact is not astonishing because especially small and medium-sized companies are often unable to draw on suitable and internationally experienced personnel to be deployed for international cooperation.

Interestingly, the significance of the barriers cooperation partners and competitors" and "lack of trust between partners" has decreased notably compared to 2007 (see Figure 10). These two barriers are seen as particularly unimportant where network and cluster management feels responsible for internationalisation. Follow-up interviews have revealed that network and cluster managements select foreign cooperation partners quite specifically in order to reduce the problem of competition from the very start through an appropriate selection. Additionally,

managements often act as neutral moderators / communicators, making it possible to convince network and cluster players of the existence of potentialities rather than possible problems. In this way, the problem resulting from potential cooperation with competitors becomes less important and can be approached sensibly. As would be expected, both barriers are seen as clearly more significant by networks and clusters where the companies themselves feel responsible.

Altogether, for networks and clusters where managements are responsible for internationalisation, clearly fewer barriers are seen than for those where managements are not responsible. Exceptions are the barriers "Financing" and "Personnel resources", where managements find it difficult to overcome them. The classical approaches to the internationalisation of networks and clusters in terms of financial assistance have so far addressed the two barriers insufficiently as well.

Network and cluster managements increasingly see themselves as an efficient instrument for the sustainable internationalisation of their affiliated companies.

A comparison of current results with those of 2007 suggests that network and cluster managements are increasingly assuming responsibility to deal with the internationalisation concerns of companies and especially of small and medium-sized ones. This trend is also confirmed by the 30 or so participants who took part in the two surveys of 2007 and 2010. Likewise, current results show that in approx. 40 per cent of all cases network and cluster managements at least take some measure of responsibility for internationalisation; often they see themselves as the primary driver. About 20 per cent of interviewees regard network and cluster management as being solely responsible, with a rising tendency.

As there are plenty of positive examples where network and cluster managements can initiate international cooperation in the interests of their members, many companies within networks and clusters have become aware that managements are able to generate significant added value in the interests of the companies. Of course, this is only the case if the network or cluster management has the requisite competences.

In case the impetus for the initiation of preparatory measures comes distinctly from network or cluster management on the basis of their needs, the actual advantages that networks or clusters enjoy in the context of internationalisation can easily become effective. Also, such services provided by network and cluster management may very well be presented to members as added value. Against this background, it is not surprising that many of the network and cluster managements interviewed in the recent past have created and implemented innovative services for the internationalisation of their members. These services frequently exceed the scope of conventional support, such as trips by delegations or participation in fairs.

The positive results described in chapter 4.2 in particular, showing in various contexts that small and medium-sized companies profit most of all in cases where their network or cluster management feels it is primarily responsible for internationalisation furnish proof that managements in the context of internationalisation have achieved diverse advantages for their players, which also directly influence business development (Figure 14).

The existence and implementation of a suitable internationalisation strategy is regarded as key to success in the internationalisation of affiliated companies.

The previous study of 2007 made clear that only approx. 10 per cent of all networks and clusters had developed and implemented a specific internationalisation strategy, although all of those interviewed at the time had Europe-wide and world-wide ambitions. This picture seems to have changed in the last few years, as Figure 8 shows. Even though the 2010 reference group was not identical with that of 2007, current values prove (24 per cent of interviewees possess and have also implemented a specific internationalisation strategy; 58 per cent have at least developed and/or implemented essential elements of it) that such strategies have now been developed and implemented much more frequently than before by network and cluster managements. Likewise, many of the respondents of the 2007 study now report that they have formulated and implemented a specific internationalisation strategy or worked out essential elements of it. Awareness in this regard has increased significantly.

The fact that especially those networks and clusters have an internationalisation strategy where the responsibility primarily lies with network or cluster management (in over 90 per cent of all cases there exist at least essential elements of a strategy), makes clear that managements mostly consider it their task to formulate a corresponding strategy jointly with the respective players. Most of the interviewees confirm this assumption and indicate that they initiated and formulated a corresponding strategy process. Above all, this involves small and medium-sized companies that acted as key players in the network and cluster. On the basis of that strategy, the general practice was to establish corresponding measures with a view to their implementation (for network and cluster management).

Networks and clusters with an internationalisation strategy act more successfully on an international scale than those without a strategy.

Having an internationalisation strategy is, without doubt, good and important. However, the question arises if such networks and clusters act more successfully in the international context, if they have a corresponding strategy and implement it consistently. This question needed to receive a dependable answer in the survey. The results show that the proportion of networks and clusters with an internationalisation strategy that have started successful cooperation in Europe in the same technology field in the last three years is clearly higher (close to 80 per cent) than the proportion of those who did not formulate and implement an internationalisation strategy (approx. 55 per cent). Also, the latter were less frequently able to implement new cooperation outside of Europe (in the same technology field) than those networks and clusters who had defined and implemented an internationalisation strategy (Figure 17).

This result per se is not surprising. Internationalisation strategies generally include

- ▶ the identification of priority target markets (internationalizing where),
- ▶ specific economic and scientific goals connected with internationalisation (internationalizing why),

- measures designed to reach goals or to address target markets or target groups (internationalizing how),
- time and action plans (internationalizing when),
- calculations for necessary financial and personnel resources,
- listing of potential partners (network and cluster players, institutions for promoting foreign trade, etc.),
- designation of instruments and measures of financial assistance (e.g. instruments and players for the promotion of foreign trade).

On the basis of such an internationalisation strategy, specific measures can be derived which, as experience shows, lead to considerably better results than in cases where an internationalisation consists of uncoordinated individual measures. This is proven by the results obtained.

Most of the network and cluster managers interviewed indicated that from a certain point of time after the management has implemented the internationalisation strategy, the companies increasingly moved to the centre stage of activities, thus taking on an active part in that process. This occurred most frequently when the supposedly correct partner network or cluster was chosen and initial confidence-building measures were successfully implemented on both sides. At that point of time, it is often also known what a potential cooperation could look like. If these positive prerequisites are given, the relevant companies are brought together on both sides. The better this process was prepared, the higher the probability of success from the viewpoint of interviewees.

Further proof of the fact that networks and clusters with an internationalisation strategy act more successfully worldwide is shown in Figure 14. The managements interviewed rated the positive impact on the business development of the companies involved as a result of the internationalisation efforts as much more significant, if the network or cluster had an internationalisation strategy than in cases in which it did not exist. Or, quoting figures: positive or very positive effects of the internationalisation activities on the business development of the companies involved were reported by as much as 82 percent

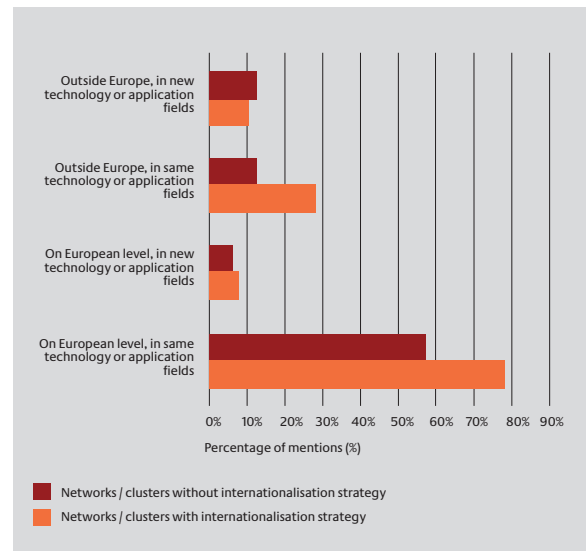


Figure 17: Breakdown of cooperation brought about in the last three years by regions and fields of application (basis: 86 networks responded, multiple mentions allowed, indications in per cent). A comparison was made between networks and clusters with and without an internationalisation strategy.

of all network and cluster managements with an internationalisation strategy, in contrast to less than 50 per cent without an internationalisation strategy. In addition, networks and clusters with an internationalisation strategy indicated much more frequently that their action had resulted in a significant increase in their level of international awareness or international visibility (in approx. 65 per cent of all cases), in contrast to only 11 per cent of all networks and clusters without a corresponding strategy. The results thus prove that the existence and implementation of an internationalisation strategy is indeed no guarantee for success, but an important key to success.

Despite the successes achieved, the international visibility of networks and clusters is frequently still quite low.

Despite the many successes reported, there is still some way to go, which becomes clear by the little progress achieved in terms of the level of international awareness or international visibility of the networks and clusters interviewed (Figure 13). In fact, the progress made on this score is seen much more critically than the progress achieved in initiating cooperation. The respective index

values are clearly below those in respect of other questions. It must be noted in this connection that the initiation of new cooperation in itself is no guarantee for considerably improved international visibility. The latter is usually based on a host of relevant measures, in which concrete international cooperation only has some share. This means that a network or cluster that wishes to become internationally visible has to act differently than one wanting to initiate new cooperation and business contacts mainly in the interests of its members. As only approx. one third of respondents consider an improved international visibility as an important motivating factor for internationalisation efforts, this also seems to be of rather minor importance. From the point of view of network and cluster managers, the initiation of new business contacts, entry into new target markets and/or, if missing, acquiring new know-how (and technologies) seem to be much more important arguments than an improved international visibility.

Nevertheless, it can be proven again that networks and clusters with a relevant internationalisation strategy more frequently report on improved international visibility than those without a strategy (65 percent as against 11 per cent). It was, however, not possible to analyze in which cases an improved international visibility was also an important element in the respective internationalisation strategy.

The effects of the EU programmes on initiating international network and cluster cooperation are deemed to be high for networking cluster managements, but to be rather low for companies.

On the part of the European Commission there have been diverse approaches and financial assistance programmes aimed at the initiation of transnational cooperation between networks and clusters and their players. Even though the programmes and conditions for granting aid, in parts, vary strongly, above all the companies in networks and clusters are expected to benefit from such programmes in the last analysis; network and cluster managements are more often seen as instruments in this

regard. The results reveal a very distinct and, indeed, surprising variation regarding the effectiveness of such programmes for network and cluster players. On average, network and cluster managements believe that in under 50 per cent of all cases companies benefit from such funding projects (see Figure 16a), which at first sight does seem to be acceptable. In those cases where network and cluster managements are not responsible for the internationalisation of network and cluster players however, the value drops to below 30 per cent. The conducted in-depth interviews suggest that the managements given financial aid without a mandate can either act more in line with their own interests, particularly because such projects often serve to co-finance network and cluster management, or because the acceptance of the measures carried out under such projects is generally low on the part of network and cluster players (or does not meet current requirements at all). At the same time, it is very surprising that within the framework of the examination of project applications, such programmes are not sufficiently scrutinized as to whether the applying network and cluster management really possesses the mandate for an internationalisation of cooperation between companies. In future, significant changes should be effected here regarding the process of approval and examination to enhance the sustainability of such EU projects. This was pointed out by the European Cluster Policy Group within the framework of its recommendations.¹⁸ In those cases where network and cluster players are responsible for internationalisation, it became apparent that the different programmes can be very effective in terms of achieving positive effects for network and cluster players. A rate of success of 75 per cent is indeed impressive.

¹⁸ European Cluster Policy Group – Consolidated Set of Policy Recommendations on Four Themes, 2010, www.proinno-europe.eu

6. Recommendations for action

On the basis of the obtained results, it is possible to derive five action recommendations in order to enable interested networks and clusters to internationalize even more efficiently and sustainably and to implement measures of financial assistance more effectively than previously. These recommendations for action are briefly presented and substantiated below.

Future measures of financial assistance for internationalisation activities should primarily be aimed at networks and clusters able to prove they have a mandate and a strategy for such action.

Rationale:

In the past, diverse projects of financial assistance were encouraged on EU, national and regional level aimed to initiate international cooperation between networks/clusters and their players. In doing this, no difference was made regarding the issue whether network and cluster managements had proof of a mandate for internationalisation of their players or whether the planned measures were part and parcel of an internationalisation strategy. The present results show that primarily those programmes were successful and had a sustainable effect on the competitiveness of their players where network and cluster managements boasted a clear-cut mandate.¹⁹ In future, greater heed should be paid to this circumstance in connection with decisions on allocating funds in order to guarantee the sustainability of the projects eligible for such funding.

Network and cluster managements should be encouraged to assume more responsibility for initiating international cooperation in the interests of their members.

Rationale:

The investigations have shown that established networks and clusters are able to make an important contribution to the internationalisation of affiliated companies and, above all, of SMEs. It is therefore recommendable that in future network and cluster managements should increasingly live up to this challenge – especially when this is

done in the interests of their members and if the potential is available for initiating international cooperation. In addition to the requisite professional competence of network and cluster managements, the latter should also be given a clear-cut mandate by their members. This is the only way to establish a commitment on both sides, in order to enable the projects to be successful in the long run.

Networks and clusters interested in international cooperation should develop and implement an internationalisation strategy together with their members.

Rationale:

Empirical evidence shows that notably players of those networks and clusters are successful in the international context where measures and action are grounded in an internationalisation strategy. The latter has to be need-oriented (bottom-up approach) and worked out jointly with players and network and cluster managements, apart from being consistently implemented and controlled. This also includes an adequate financing of the relevant measures.

International benchmarking of networks and clusters facilitates the determination of their present position and the selection of suitable international partners.

Rationale:

A number of barriers still exist in the context of the initiation of international cooperation. Often, there is a lack of specific approaches to international cooperation, even if possible partner clusters are known. Different goals set by the individual players or lacks of experience in the context of internationalisation frequently constitute barriers that were not visible in the beginning. A comparative benchmarking of networks and clusters (also with regard to different internationalisation aspects) makes it easier for the respective network or cluster to determine its position and to get more detailed information about the possible partner cluster. Starting from that basis, goal-oriented initiation or implementation measures can be realised.

¹⁹ See also the recommendations of the ECPG

Development of the competences of network and cluster managers in the context of internationalisation.

Rationale:

Supporting companies in their internationalisation is an enormous challenge to many network and cluster managers. On the one hand, the wishes and expectations of players and their capacity for performance differ greatly. On the other hand, it is difficult for network and cluster managements to clear away many existing barriers. But often managements also find it hard to support their players adequately. The reason for this lies in the lack of adequate competence or experience. It seems to make sense here to reflect on possible action in the context of future measures of financial assistance that could include a development of competences for network and cluster managers.²⁰

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²⁰ Example for trainings model: Cluster-Facilitator-Training-Concept of the Danish Cluster Initiative "Reg X" or of the Austrian cluster landscape "Upper Austria"

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The Institute for Innovation and Technology (iit) is upheld by the VDI/VDE Innovation + Technik GmbH (VDI/VDE-IT). It covers the entire innovation spectrum on a national and transnational level. Its fundamental elements are the provision of assistance, analysis, evaluation, moderation and the accompaniment of innovative systems and clusters. Its seven departments provide the basis for these services and are as follows: Innovation Systems and Clusters, Innovation Support, Predicting Success of Collaborate R&D Projects, Safety and Security Systems, Innovation Life Sciences, Evaluation in the area of technology and innovation policy as well as Technical Education and Training.

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Creating stronger linkages between distant clusters with complementary strengths is one of the most promising ways to get access to the most advanced technologies, best know how or prospective markets. Changes in the global economic environment also make cluster linkages at international level more important. As firms within clusters internationalise in creative ways, it is important that cluster initiatives and cluster organisations internationalise as well.

Most actors that take part in clusters are interested in learning from each other and in developing concrete activities with partners in other geographical locations world-wide. However, there is still a lack of knowledge about the main barriers and drivers for these activities and their development. Future policy measures can only be effective, if the actual demand of the cluster organisations and cluster firms is known.

This paper points out the benefits of the internationalisation of clusters and highlights the key success factors leading to an effective internationalisation strategy of clusters.