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**PUBLIC MEASURES TO SUPPORT THE
CLUSTERING AND NETWORKS OF INNOVATIVE
SMEs**

**REPORT OF EIMS POLICY WORKSHOP
LUXEMBOURG, 6-7 DECEMBER 1993**

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EUROPEAN COMMISSION DG XIII D

**POLICY WORKSHOP ON
PUBLIC MEASURES TO SUPPORT THE CLUSTERING AND NETWORKS OF
INNOVATIVE SMEs**

Presentations and debates

Luxembourg, 6-7 December 1993

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Foreword

Foreword

It is not a new phenomenon that firms which are close to each other geographically, in terms of technology and knowledge sources or because they have similar supply or distribution problems gradually find ways of co-operating. The benefits to such *clusters of firms* depend to a great extent upon the efforts of collaboration which are made by the firms themselves. Also *networks of firms* which are more ad hoc and less structured co-operation forms grow out of the firms' own needs and efforts.

As innovative firms in particular see their market and technology base expand and change at a more rapid pace the interests which bind them together locally become less clear. The small or medium-sized company will have greater difficulties in obtaining long lasting and multifaceted relations with other firms unless they redefine their strategy to include a much wider horizon.

The needs of SMEs to form alliances based on competence and skills thus increasingly extend outside their local and even national base. Though recognised as having a high potential for job creation and growth SMEs are not in the same position as larger firms who more easily establish footholds on new geographical, commercial or technological territory. EU industrial and technological policy initiatives therefore incorporate objectives which highlight the role of those innovative SMEs who in growing numbers are able to operate on a wider scale. This report explores the role of public measures on the basis of national and regional experiences which have been positive in many cases. Are there factors favourable to or barriers against collaboration which justify more efforts at European level?

Government policies of this kind have come to the fore in parallel with the increasing globalization of markets and technology. Moreover the growing awareness of the complex task of turning new technologies into a competitive advantage at the market place has inspired national and EU policies. Actions to help firms help themselves are often initiated by specific, indeed local needs. This report surveys 23 different schemes which target innovative SMEs either to support existing clusters or to promote the formation of networks of previously unrelated firms. It is of note that the schemes tend to be ad hoc combinations of many types of instruments which fit to the local conditions.

The issues which this situation raises for policy makers are many. Although there does not seem to be a 'typical' cluster policy in European Union countries, the schemes all address the common challenges from a changing environment facing especially technology dependent and innovative firms and for which they have to set out new strategies. As reported in the summary of presentations and discussion at the workshop there are advantages of being inside a cluster of network which are of long term nature and which should not be confused with defensive or protectionist advantages which only too quickly are eroded. This must be realized by the firms as well as by policy makers. The implementation of schemes in a successful manner apparently depend on many factors spanning from the correct identification of local strengths on which to build strategies to the crucial role of the network brokers. The workshop was highly effective as a place to share and discuss how common challenges can be met with different policy instruments depending upon the specific strength of firms.

From a European point of view it was remarkable that cross-border networking has as yet aquired rather little prominence in the schemes. This first workshop on how similar problems are tackled in different ways is therefore more than a sharing of experience. It has demonstrated a field worthwhile of further research and exploration which can direct the actions to be taken at regional, national and European level.

**R. MIEGE
Head of Unit
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Report of the presentations and debates

**PUBLIC MEASURES TO SUPPORT THE CLUSTERING AND NETWORKS OF
INNOVATIVE SMEs**

Report of the presentations and debates

**SPRINT/EIMS POLICY EXCHANGE WORKSHOP
Luxembourg, 6-7 December 1993**

**Patricia Boekholt
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INTRODUCTION, SETTING THE SCENE

Mr Miège (chairman, EU) introduced the session drawing the boundaries and setting the scene of its theme. In his view the rationality for public action in this field was to improve the process of innovation and technology transfer in small and medium sized enterprises (SMEs) by linking firms in networks. During the workshop one should distinguish between networked enterprises, such as some of the big companies operating within a worldwide network of subcontractors and a network of enterprises. This workshop concentrated mainly on this second type. The networks of small and medium sized enterprises as discussed in the workshop can be defined as alliances of competence and skills between independent enterprises, with joint objectives based on lasting relations. Networks between firms are not necessarily focused on innovation, they could have a limited goal, for instance on quality improvement. One could further distinguish between networks and clusters of SMEs. In clusters the firms are more tightly associated as a result of a process of historical sedimentation. Usually clusters are embedded in a particular region and often with the same sectoral specialisation, the Italian districts being a good example.

The workshop will concentrate on the discussion of public policies that support both the creation of networks and the revitalisation of clusters, and on regional as well as on national level. One of the key questions for the workshop will be if there is a good model for intervention and, if this is the case, could the model be transferred to other countries and regions?

Mr Fahrenkrog (TNO, NL) presented an overview of public measures to support clustering and networks of innovative SMEs in Europe. The inventory that was made for the workshop showed a great variety of policy measures in the countries and regions of the European Union. However he also stressed that many innovative clusters of firms in Europe never had a policy to support them in their initial formation. Support measures for clusters is a relatively new phenomenon and one in which most regions and countries were only recently experimenting. Hence the great variety of instruments. The inventory also showed that the innovativeness of networks strongly depends on the dynamism of some of the firms integrating the network. Competition within a network is essential. The speaker argued that the inventory showed that policy to support clusters and networks is complex and required fine tuning. From the overview it is not possible to define sharp typologies of schemes since most of the schemes have many modes of intervention and support. However one could distinguish some characteristics of the schemes according to the role of the public authority: The type of link which might be established (formal/ informal). The type of action supported (network brokers/ information service centres). The duration of the linkage. Geographical coverage (local, regional or national). The speaker then reviewed the characteristics of the 22 European schemes identified in the inventory observing that this review did not necessarily cover all the actions since many had a very local nature and thus were difficult to trace (see background paper included in report).

From the review of support measures he suggested several issues for the debate. In his view, the first one was the problem of how competitors can collaborate without distorting competition, since the latter was the driving force behind the dynamism of many clusters. A second point was how and why do public authorities select clusters for support. It might make a difference in the strategy pursued (maintaining employment or increasing competitiveness of SMEs could sometimes be opposing goals). Third point was the exit strategy of public authorities. Fourthly the speaker thought public authorities should look at how to deal with support to clusters which operate in an increasingly open European

economy (networks formed over several regions and even nations such as in the car industry). Finally he mentioned the role which the local culture plays in the design of schemes. Can experiences be transferred?

In the debate that followed one of the participants introduced a useful typology for networks. We can distinguish star-shaped networks with a dominant actor in the middle where other members do not have much contact between them. We can also observe chain shaped networks, where firms have complementary assets in a more equal relation. Government intervention could attempt to reshape the first type into the latter. Finally it was stated that networking is not necessarily a natural development. There are many potential networks in the economic structure, which do not have the attention of policy makers. This could be a policy mission: aid potential clusters to operate as a network. Methods to identify and map these potential clusters are worthwhile analyzing in greater detail.

Mrs P. Magnatti presented a paper by Mr P. Bianchi (Nomisma, I) on the rationale for public action to support clusters and networks. The paper argued that the opening of the EU market required a new set of policies consisting of an industrial strategy promoting market forces and industrial reorganisation embedded in a wider context of economic integration and stabilisation. A strategy to develop SMEs was seen as a crucial aspect of these policies. Success of small firms in Europe is often based on clusters of individually specialised firms, working in a context of complementarity. A key policy concern is thus to stimulate the creation and growth of these clusters in order to allow individual firms to compete on global markets. The presentation called for a new approach to public policy: the traditional approach of protecting industries in a closed national market is no longer valid. On the contrary market dynamics should be sustained to favour industrial co-operation without market collusion. It was argued that the European Union, in particular the Maastricht Treaty has opened the possibilities for this type of policy, but is still finding the right balance between the top-down and bottom-up approach.

In the debate that followed the chairman of the session, Mr Miège, argued that in his view the presentations and the debate so far had shown that this policy area was very complex. It was necessary for policy makers to insure a certain cohesion between the actions taken at different levels. This will necessarily require a constant adjustment and coordination of policy. Another problem was one of avoiding "free-riders" in networks. All participants in networks and clusters must have the feeling that they are sharing the benefits and the burdens of participating in such collaboration. Finally clusters and networks in less favoured regions were more likely to need a technological support infrastructure since the existing universities were usually ill adapted to service the specific needs of clusters.

One of the participants argued that the scale of a network will have implications for the very small companies, since it is not longer enough to support SMEs on the local level. They will experience problems in functioning in groups working on this larger scale. This is reinforced if universities are brought into the network, since they are used to work with larger firms. The collaboration between universities and (very small) SMEs can be troublesome for both sides. At the same time it might be the only way to have access to knowledge.

The networking is managed by network brokers who organize the interaction between the cooperating firms. The recruitment and training of these brokers is a crucial element of the success of the programme.

The evaluation of the scheme has shown that the programme had a large success in terms of the number of networks and firms involved. In the 170 networks assessed 20% of the firms had achieved significant cost reductions within 1 year. 42% booked a significant increase in turnover and 75% argued that they had increased their competitive position.

In the debate that followed the speaker answered several questions relating to the functioning of the scheme. On the question of how much the programme relied on existing infrastructure and the selection criteria for them, the speaker argued that existing RTO organizations participating in the networks have to have a record of working with SMEs on a commercial basis at local and regional level.

On several questions about government finance of the scheme Mr Martinussen argued that it differed in the different phases. In a first phase, where firms had to be motivated to participate, public finance might be higher. As companies relate more intensely and the usefulness of the activities deployed become more evident firms take over the financing of the network themselves.

On how to build up trust between enterprises the speaker said one had to differentiate between two type of situations. In the case where companies already know each other, the trust building phase might be short and the role of the broker is minor. In the case where one company is interested in organizing a network the process will be much longer and the role of the broker is crucial in the identification and trust building phase.

Finally he gave an example of the organization of a network in the textile industry aimed at opening the German market and the introduction of total quality control.

Mr J. Stas presented the PLATO scheme from the Kempen region in Belgium. The scheme is implemented by The Strategic Planning Team for the Kempen, which is responsible for the regional development in that area. The aim of the programme is the transfer of knowledge and experience between large enterprises and SMEs. The PLATO scheme has an approach to brokerage of networks which starts off informally. In the first phase of the scheme a group of SMEs is counselled by a larger company in the region, with a much wider managerial experience. This network of firms provides a platform for transfer of knowledge between the large and smaller companies and an exchange of experience between the SMEs. The final objective is to come to the development of more formal networks of 'allied enterprises' which together explore new business opportunities. An estimated 20 % of the firms engaged in the informal networks will develop their co-operation into a more formal network. Co-operation could vary from developing joint training programmes to joint product development.

The global cost of the PLATO programme is 1 MECU for two years of operation. Funding comes from the government, the EU (Structural Funds) and the SMEs themselves.

To stimulate the progressive approach between firms the PLATO project uses the following instruments: Group sessions of about 15 SMEs counselled by large companies to exchange experiences on specific topics. Individual counselling of an SME by a manager of a big regional enterprise. Seminars and informal group activities. It usually takes two years to create sufficient trust between firms to attempt the creation of a more formal network of allied enterprises. There is no fixed form for these type of networks and they do not constitute legal entities. The Strategic Planning Team acts as a broker to find and select suitable partners.

Responding to some of the questions the speaker argued that there were a number of general conditions necessary to bring together firms in networks. Firms had to be financially sound to be credible to the partners. It was necessary to analyze them before putting them in contact with other firms. Firms should have an input (financially or otherwise) to the network. This improves commitment. As a rule of thumb networks should not have more than 5 partners.

On the question of why should big companies be interested in joining such networks Mr Stas argued that there were two main reasons. First it enhanced the social image of the company and secondly it allowed company staff to get out of their specialised view and see other experiences.

SESSION III: SCHEMES TO RESTRUCTURE AND SUPPORT EXISTING CLUSTERS

Clusters of SMEs are usually historically embedded in a certain region and are organised around a particular industrial sector. The widest experience with this type of clusters and their support can be found in Italy. Mrs L Ligabue (CITER, I) presented one of the first European programmes for cluster support. CITER, founded in 1980 and located in the region of Emilia Romagna, aims at improving the competitiveness and managerial structure of SMEs in the knitwear and clothing industry. It originated in the crisis this industry faced in the seventies due to the severe competition from countries with low labour costs. In 1976 the first action in this region started as a training programme and after four years it developed into what CITER is today. The challenge was to reform the industry from having an imitating quantity-based strategy to a quality and diversification oriented strategy. For this purpose it provides research and business services for its members, the SMEs in the Carpi area. The services target the strategic issues faced by the clothing and knitwear industry: developments in fashion, technology and markets. This includes keeping track of regional, national and international trends for the sector, offering strategic forecasting and information services, and implementing technological innovation projects.

In the field of technology development for instance, CITER designed a graphic computer model which serves as a demonstration project for the use of CAD/CAM in the sector. Recently CITER has promoted this model in other EU countries. Other activities are, management counselling, training courses for management, production and fashion design. On a question from the participants Mrs Ligabue argued that CITER worked in the field of technological development in close collaboration with Italian Research and Technology Organizations (RTOs). This collaborative work had improved the understanding in RTOs of the issues which affect SMEs.

CITER is for 70 % self-financed and receives for 30 % contributions for its research mainly from the regional government. The annual budget is 2 MECU and it employs 18 people as permanent staff and 40 consultants.

Mr McFadzean (SDA, UK) presented a second example of a cluster oriented support programme which covered a much smaller industry: the lace industry concentrated in Ayrshire, Scotland. Enterprise Ayrshire, a part of Scottish Enterprise, took the initiative to launch activities to save what was left of a once thriving industry in Scotland. Although only 7 companies were left a few years ago, the small industry still employed the majority

of workers in the area where all these companies are located. The industry had not innovated their manufacturing and design methods for decades and were fiercely competing with each other on a price basis. There was no differentiation in products and hardly any marketing effort to promote the unique product. With the creation of the Lace Guild, by bringing together the remaining companies, Enterprise Ayrshire attempted to change the attitudes of the firm managers towards more co-operation instead of 'cut-throat' competition. The willingness to change came from the will to survive. The Lace Guild undertook activities such as joint export efforts, joint marketing and branding of their collective product and attracting new customers through publicity campaigns. The Guild has a company driven approach, where initiatives come from the local companies. Enterprise Scotland only assists the Guild for instance to advise on human resource management. The networking activities of the enterprises in the Guild have improved their position on both the national and international markets.

DINNER SPEECH

During the dinner speech, Mr. Niels Nielsen of the Danish Technological Institute, addressed the issue of networking in different countries and the cultural differences between them. He stressed that despite the cultural differences between many western countries, SMEs face the same difficulties everywhere: increased global competition, troublesome access to knowledge and information and so forth. In his experience promoting the Danish network model to apply it in other countries went through different phases. At first it was argued that networking would not work outside the Danish or Italian context. However after first attempts of working with the network concept, acceptance grew since the firms were able to compete better than in isolation. In his view there are no cultural elements in networking, it is sound business-economics, a mechanism that allows firms to compete. However the implementation of the network concept in terms of facilitating institutions *is* culturally and historically determined. Network concepts can not be easily transferred from one country to another. Therefore network policies must be sensitive to these cultural differences.

SESSION IV: POLICY PERSPECTIVES

The second day of the workshop opened with a session discussing the policy perspectives at different policy levels and for different types of countries.

Mr P Cooke (Univ. of Wales, UK) discussed networking and clustering from the regional perspective. In the speakers opinion the regional level is the most important level for policies aimed at supporting networks. Ideally it should be supported by the transnational level. Throughout the EU there are many examples where the regional level is actively involved in policies to support their industries. Often national governments have retreated from this policy area. This certainly applies for the case of Britain, since there is hardly an industrial policy on the national level.

In Wales public network programmes focus on vertical networks and supplier development: identifying and supporting good local supplier firms for foreign companies. The support consisted of marketing efforts towards the foreign investors, and improving the supplier companies' quality standards. It has however turned out to be a very labour

intensive and expensive scheme. Alongside the public efforts there are many private initiatives for networking, which initiate lateral networks rather than vertical ones.

From his experience with networks, the speaker presented the key bottlenecks for the creation and support of networks, the seven i's: incompatibility of firms in a network, isolationism of small firms, lack of information, infidelity, where trust breaks down, incomprehension where firms do not understand the need for networking, impecunity where there is no money for networking activities, and indiscipline where firms are not committed to continue the networking philosophy.

Mr White (Ir), speaking from the perspective of a less favoured country, distinguished three central issues which have to be addressed in public policy:

- a) **access to networks;** For SMEs it is essential to have access to networks, in particular those for R&D, technology transfer and training. If they do not have this access there will be a 'lock-out' effect. Developing networks and providing access to them are the challenges for public policy. In Ireland the SPRINT programme has been an important catalyst for the creation of networks.
- b) **capabilities;** This means having SMEs with confidence. This is an important precondition to gain access to the networks. In Ireland policy programmes are implemented to monitor and enhance these competencies.
- c) **the public enterprise;** governments in less favoured regions should look for new directions to perform better on behalf of the SMEs. They should be an active catalyst to raise the innovative capacity SMEs. Supporting networks and clusters is a part of this activity.

Both presentations stressed the importance of international linkages for the SMEs in their region. The Irish speaker defined the access of local clusters to global traders, with (public) brokers in between them, as "glocal" networks.

A national perspective, was introduced by Mr Peek (MEA, NL), who stated that public policy around clusters and networks, is only recently being developed. The Dutch policy makers use a broad definition: it refers to close cooperation between firms (mainly suppliers and buyers), education and research institutes. In the definition of clusters there is a strong focus on technology: clustering is a means to overcome the increasing costs and risks in R&D. The clusters can combine the strengths of markets and that of public research infrastructure, giving the national economy a competitive advantage. In addition, due to multidisciplinary collaboration, cross-sector technologies which become more and more important can be stimulated. This approach presupposes the creation of a favourable technological climate through several public instruments such as R&D funding programmes for firms and providing a good R&D infrastructure. Clustering can be stimulated within existing instruments, for instance by increasing the funding in cases of collaborative projects.

Another government approach is giving special attention to clusters around big high-tech companies, which have large technological and economic spin-off effects. Special projects are designed around these high-tech clusters following strategic conferences with the large companies and research institutes. The high-tech clusters are provided with extra facilities such as the establishment of centres of excellence. In this way the government hopes to strengthen the roots of these large firms in the national economy.

The Community perspective was presented by Mr D. Janssens (EU). He argued that there were broadly two lines of action on this policy level. The first is the use of Structural Funds in areas of industrial decline and restructuring such as textile, shipbuilding, coal and

steel. This involves mainly the upgrading of traditional clusters to give them added value in their competitive position. The second line is establishing transnational cooperation between SMEs, located in different Member States.

In transnational cooperation the Commission has schemes such as Europartenariate, Business Cooperation Network, which support collaboration on non-technological areas. Technological cooperation is more difficult to establish, and takes a longer time than only commercial collaboration. The EU collaborative R&D programmes such as ESPRIT and BRITE/EURAM can also be considered as transnational collaboration programmes. The Commission is making an effort to improve the participation of SMEs in these programmes. Another important action is the legal structure of European Economic Interest Groupings. This provides the legal structure for transnational collaboration, for instance for the purpose of joint ventures.

The SPRINT networks and Technology Transfer days are explicitly aimed at transnational SME collaboration. A typical SPRINT network consists of a variety of intermediary organisations from different Member States. The network aims to establish transnational cooperation between the client firms of these intermediaries. They exchange information on companies to see if collaboration is possible. So far agreements have taken place in a wide range of sectors, and are mostly technological collaborations.

During the debate that followed it was argued that there were some common threads in the presentations in this session:

- An emphasis on the international dimension of networks and clusters. Networks and clusters should have an international orientation. A good interface between international and regional networks can increase the learning effects of both. The Community schemes in regions have an important function in linking networks to international developments.
- In the many initiatives, the technological dimension is only one side of networking. Supporting innovation is only one policy approach out of many others.
- Networks need participants with a strategic approach. Public support could make this strategic approach more explicit.
- There is a strong cultural dimension to networking: it involves a change in the mind set of enterprises to get them to collaborate.

One of the participants stressed the benefits of a systematic inventory of initiatives of networks and clusters, made on the basis of the criteria presented in the workshop. If a clearer conceptualisation has been made, a follow up workshop could then discuss the ideas as put forward in the debates.

SESSION V: HORIZONTAL ISSUES OF DESIGN, MANAGEMENT AND EVALUATION OF SCHEMES

Workshop A: How do we stimulate the formation of networks of innovative SMEs?

The problem of how to promote the idea of networking to firms is one of the major issues of policy makers in this field in many countries. The firms are individualistic in nature. The main obstacle is the difficulty to convince firms that cooperation, for instance in training,

could benefit them all. It is a matter of "taking the horses to the water and making them drink". A participant argued that the present approach in France is to create networks between the government supported knowledge suppliers such as research centres, universities and the firms. ANVAR and the regional CRITT centres play an intermediary role. There are some private initiatives in France to form firm-to-firm networks such as the Richelieu and CREATI networks, consisting of large and R&D based firms. When firms are confronted with crises situations, and their survival is at stake, they often overcome their aversion to networking, as some French examples have shown. French authorities are engaged in launching pilot projects and developing methodologies to do so. The SPRINT/EIMS workshop is considered as a good opportunity to learn from other experiences.

A representative from the Dutch region of Friesland described experiences with building networks in his region in the dairy and yachtbuilding sectors. The concept of the 'value chain' of which SMEs are a part of, is used to identify possibilities of cooperation .

To come to some conclusions on this workshop, the participants were asked to discuss the key problems related to networking and suggest policy options. In addition the participants expressed their opinion on what policy level, regional, national or Community, is most appropriate for public action.

The main issues highlighted in the debate were:

- Networking implies a *change of attitude* for firms and policy makers alike. The managerial culture, especially of SMEs is a problem: there is a difficulty in understanding where they should compete and where they could cooperate. It was argued that networking is one element of a general problem concerning SMEs: improving their strategic approach to management. Building up a more strategic approach to management is a cumulative learning process which affects the firm behaviour. Forming networks of firms requires a long term vision of management of SMEs. It is the basis on which trust and confidence between firms in the network is build. The government role in this process is to stimulate the learning process.
- The *size of the network*. It was argued that the appropriate size of the network depends on the type of cooperative business the firms are engaged in. The opinions on which is the optimal size of networks differed. Several participants had different experiences on this matter. However there was some consensus that for sophisticated cooperation 5 to 6 firms would be the ideal size.
- It was also stressed that before embarking in any action to form networks it was crucial for public authorities to answer the question of why it was necessary. If one can *identify the key need to cooperate* from the *firm perspective*, it is much easier to formulate the design of a network. Networks should be need driven and have added value to the SMEs in it. Usually several problems need to be addressed at the same time. The broker has a crucial role in identifying them. In the debate it was observed that the examples that had been discussed during this workshop were mostly examples of defensively oriented networks. Threat seems to be a strong motivation to establish networks. However, it was also observed that networks needed to change the outlook quite quickly. The network broker could play an important role in transforming the attitude of the network from a defensive into an offensive one.
- the abilities of the brokers to understand the industry and identify 'champions' was considered as a problem area.

- Identifying the phases in networking helps to adjust the type of support needed. The *cooperation form* can evolve from informal contacts, to joint marketing and finance, to exchange of complementary assets (including technologies), to setting standards and finally establishing joint ventures.
- The *commitment of firms* in the network is essential for their effectiveness. Some participants argue that networks should not start with too high aspirations, it is a process which grows slowly. Too close cooperation at an early stage would require exchange of strategic information which in turn could scare off firms. Some participants argued that benefits for the firms should be evident at a very early stage, since this is what keeps the firms in the network. SMEs usually have limited resources hence they need to perceive very early in the process that networking can save them money. Having a 'godfather' in the network, a firm that triggers the others, helps to keep the network going.

The suggestions made to address these problems can be summarised as follows:

- The *response of public authorities* can range from providing information and awareness building, to facilitating networking and involvement in brokerage. Awareness building was thought to be an essential public role. Access problems to public information and R&D programmes for SMEs was considered as a public area that needs to be improved. Participants expressed the belief that governments should strengthen policy actions in this field.
- There was wide consensus between the participants that all levels of policy (local, regional, national and European) should be involved in an integrated effort to stimulate networking. The actions on the different levels should complement each other. The local/regional level is seen as most appropriate for actions close to the firm such as education and training. The national and EU levels should have an important role in awareness building, dissemination of best practice and improving access of SMEs to R&D programmes.

Workshop B: Schemes to support existing clusters. How do we manage them?

Mr Lorenzen (BMFT,D) argued in his introductory remarks that the problems clusters encounter are multi-faceted and vary between regions, nations and industries. Consequently the policy responses are very different as well. The mainly regional examples presented in this workshop gave a good overview of the type of problems existing clusters can face. In his view there were a number of pitfalls which public authorities should avoid.

Public authorities should be aware that by intervening in the formation of networks they become part of it. However public authorities should be very careful in not taking a leading role in it.

When restructuring declining sectors the government should carefully analyze underlying reasons for the decline. There are problems that can be addressed by networking and there are problems that would have to be solved otherwise. Solving the real problems of firms means that one should look at the needs of the firm from the perspective of the firm.

In the case of international or interregional networks the national or regional government should not discourage the cooperation in the wider framework.

Mr Corriño (IKEL,Sp) in his introductory remarks addressed the question of how to turn existing clusters into innovative networks. In his view a strong research infrastructure was

essential. However the transfer mechanisms evolve over time. The organization model of clusters is a response to the new forms of technology and knowledge transfer.

Participation of competitors in a network causes problems of its own. The growing threat of international competition is a compelling argument for SME's to collaborate. Despite the growing need of SME's to collaborate there is no blueprint to organize networks. However public authorities can define a strategy and rules of the game. One important element in such a strategy is that it creates confidence between the different actors involved in the process.

In the discussion that followed the issue of definition of networks and clusters returned repeatedly. Briefly one could distinguish the following point made in the debate:

- The position of the cluster in the production chain. It strongly defined the relation between the enterprises. The cluster might be organized *vertically* with a limited number of enterprises which relate with an extended network of suppliers. The car industry was mentioned as such an example. The *horizontal* cluster which related competing firms to pool resources to increase competitiveness. The collective resources might be a technological research infrastructure, a market information system, a training programme, etc.
- One speaker argued that one might thus define "star" and "net" shaped clusters.
- In characterizing clusters one could also identify the *strength* of the relation. On the one hand we have isolated enterprises which compete with each other. On the other hand we find enterprises which have established alliance and joint ventures. In between we will find all possible degrees of collaboration.

The role of public authority in supporting the development of clusters and networks was discussed from different perspectives:

- Networks which are created out of a need to defend and restructure a certain group of firms clearly required more government support in achieving this purpose. After some time, once firms have learned to cope with change and innovation, the government can step back. Networks which are created in the normal course of business development would obviously require less or no support at all.
- In clusters where there is no tradition of R&D public authorities might play a role of broker between the R&D infrastructure and the firms of a cluster. Where this infrastructure is not available it might have to be created.
- Public authorities can play an important role in identifying the clusters and define a policy to support them. One participant mentioned recent research done in Finland and the policy instruments being developed to strengthen the national clusters as an example of such a policy.
- In discussing the possible role of the Commission it was argued it should concentrate on the development and diffusion of best practices throughout the EU. It could also contribute in supporting regions in their effort to develop and strengthen clusters of SME's.

PLENARY DEBATE AND CONCLUSIONS

The debate started on the appropriateness of the conceptual model of stages in networking starting from first contacts on the informal level and developing towards sophisticated cooperation such as in technological research. It was commented that to divide forms of cooperations into low level and high level categories does not acknowledge the level of mutual commitment and sophistication possible in any type of cooperation, whether financial, commercial or in research. Some argued that the experiences in for instance the SPRINT networks prove that certain types of collaboration, such as technology transfer or R&D, are more difficult to achieve than commercial agreements.

However, the conceptualisation offers a framework without being a rigid model in which firms should start at one end and develop to the last stage. One should be modest in using these models. The concepts of networks, clusters and cooperation should be more specifically defined, to assure we are all talking about the same things.

It was put forward that this workshop has made clear that there should be an initiative to increase the skills for the facilitators of networking. We should learn the lessons from examples of success as well as examples of failure to see what the critical factors are.

Summarising the main points that came forward from this whole workshop:

- Networking is a global phenomenon with a very strong local aspect. This produces the paradoxical situation that it is necessary to reinforce the local and regional networks in order to be able to compete internationally in a globalizing economy;
- Inter-firm co-operation in networks and clusters is a long term process of acquiring trust between the partners;
- A good starting point of support is an accurate identification of the needs of firms, the threats that face them and the opportunities to be taken;
- There should be a good balance between short term results (concrete projects) and long term vision of the strategic advantages of networks and clusters. Networking can only work if it is part of the strategic vision of the firm managers, which ensures their long term commitment to the network;
- Networking consists of distinctive phases relating to the type of the link - from informal contact to formal contract - and to the business functions involved in the co-operation. Many network activities in the examples discussed by the experts, involve non-technological aspects of innovation. The type of co-operation between the firms has consequence for the complexity of the link. The more strategic information is exchanged, the stronger the need for mutual trust. In a more sophisticated form of co-operation a network of 5 to 6 firms at most is ideal.
- More experience should be acquired in cross-border networking, since many scheme managers have difficulties extending their networks with cross-border partnerships.

An avenue that can be explored in the future is the identification of existing and potential clusters and networks of firms in Europe to be able to define potential policy strategies to follow. This will require some more detailed audits of the industrial structure. A better conceptualisation of what clusters and networks are and what types we can identify should form further building blocks for the future debate.

Background paper

CLUSTERS AND NETWORKS OF INNOVATIVE SME's

Background paper for the policy workshop

December 1993

(rev Feb 1994)

TNO Centre for Technology and Policy Studies

Drs. Patricia Boekholt

Dr. Gustavo Fahrenkrog

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In collaboration with:

Dr. Jeremy Howells

University of Cambridge

1. A SHORT DEFINITION OF CONCEPTS

Co-operation of firms has traditionally been an issue of debate in industrial economics. Especially cartel formation as a form of co-operation of firms aimed at market dominance has attracted much interest. Co-operation of small firms however do not necessarily distort competition. Alfred Marshall already drew the attention to industrial districts in which relatively small firms co-operated in order to be able to compete collectively at the international level. The tension between the potentially positive and negative aspects of intra-firm co-operation is still present in the tensions between industrial and technological policies on the one hand and competition policy on the other. In other words, co-operation between firms continuously moves between two forces: the forces promoting co-operation to *develop* new products and markets at one hand and co-operation to block innovation and 'close' markets at the other.

In the workshop one should concentrate on the first form of - *constructive* - co-operation, and especially between SME's. The main forms of co-operation are:

- horizontal: within the same industry;
- vertical: between firms in different positions in the value added system.

Co-operation can be formal, i.e. with an explicit contract (e.g. a supplier contract, a joint venture), or informal. In the latter case one can think of forms of informal knowledge transfer, relations with 'related' industries (i.e. industries which have no direct horizontal or vertical relationships, but which may share some 'economies of scope', e.g. similar technologies, similar markets).

Before one can discuss the policy relevance of supporting clusters and networks of innovative SMEs it is necessary to clarify some of the ambiguity in those terms. Clusters and networks are often used as synonyms to describe enterprises collaborating and co-operating with each other. However for the purpose of policy actions it might be convenient to differentiate between them.

In general and for the purpose of this workshop, *clusters of firms* will be defined as firms which have established over a longer period of time a relatively high degree of collaboration. They are usually based on local /historical/ sectorial agglomerations of firms which often resulted from having confronted in the past a radical change in production methods and markets. A cluster is based on a traditional sectoral specialisation in which different elements of the system (e.g. specialized suppliers, tool makers, machine builders and services) are present in a relatively restricted geographical area. Policy actions towards clusters of firms are usually incremental and build on the existing patterns of collaboration between firms. Given the high degree of interdependence between firms in a cluster it is difficult for other firms in the same region to operate outside it. The advantages of belonging to a cluster increase the cohesion between the firms and hence also reduces the chances of success of similar firms operating outside the cluster. The Italian industrial districts in the textile industry in the Emilia Romagna region are good examples of clusters.

Clusters may be inward or outward oriented. In the first case they tend to be conservative, with the danger of locking in whole regions in increasingly obsolete technologies and protective practices. In the latter case they will tend to be quite innovative and lead to collective strength in international markets.

Networks of firms point to forms of collaboration which are more ad-hoc and certainly less structural. Firms collaborate to satisfy usually very specific needs (R&D, market information etc.). Networks of firms are less bound to a close communication between the member firms. However, having less firm-to-firm associations does not mean networks might not have relatively strong links with a common institutional base and infrastructure. Although this is not necessary, specialised networks of firms might evolve over time into clusters.

2. THE POLICY RELEVANCE OF CLUSTERS AND NETWORKS

With an increasing globalization of markets and technology, many small and medium sized enterprises (SMEs) have more and more difficulties to face the challenges brought by these changes. Isolated, their resource base is too limited to find and implement the solution to increasing demands of the market. Collaborating with other firms with common problems or working in a similar field of technology or market, can give them the scale or scope to find new opportunities. Therefore public policies to support the networking and clustering of firms can be vital for innovative SMEs to expand their possibilities or even to survive.

The discussion on and study of clusters has regained interest among academics and policy makers. One important source of inspiration was Michael Porter's book "The Competitive Advantage of Nations" which stressed the importance for firms to be embedded in a competitive and innovative network. Some of the conclusions on the policy relevance emerging this and other related studies are:

Establishment of clusters is a long term process

Clusters are not created overnight, it is a long term historical process. Clusters are gradually expanded to involve related industries, suppliers, knowledge sources, distribution channels and so on. Policies aimed at establishing new clusters from scratch will be very difficult to implement.

The adequate geographical scope is often regional

Examples of very strong clusters are often regionally concentrated (Silicon Valley, Emilia Romagna, Baden Württemberg). If a cluster is regionally based local and regional government policies play a crucial role. Especially within regional policies, authorities often try to build clusters around foreign based multinational companies. One should be aware of the danger that these latter companies remain in a footloose position and hardly build on upgraded strengths of the less advanced region involved. How common these types of clusters are with dense inter-firm linkage patterns, is still very much open to debate. A number of recent studies and critiques (see for example Amin and Robins 1992) have sought to emphasise the uniqueness of clusters with dense direct linkage networks. Earlier 'linkage studies' have shown that linkage patterns of SMEs are much more local in orientation than for larger firms. However other studies have indicated that the more technologically sophisticated a firm is, the more likely it is to have a wider non-local linkage pattern, suggesting in turn that a clustering of high technology firms with dense, local network patterns is likely to be rare.

Supporting clusters and networks requires a different government approach

Government's role in supporting clusters possibly requires a different, a more organic approach, one of fine tuning relations instead of one as direct participant or financier. Policies towards clusters can be one of nurturing and reinforcing clusters, based on existing strengths and expertise.

Governments have a tendency to be preoccupied with establishing clusters or networks of high technology firms. However in many cases, innovations and new technologies are created within 'mature' industries. Judgements whether firms are competitive and/or innovative should be made on comparison with their direct competitors, not with other advanced sectors.

Clusters can consist of a mix of firms as to size and technological competence. Existing clusters and networks do not restrict themselves to SMEs since it might not be a priority for innovative SMEs to network with other SMEs.

The quality of the relations in the networks is an essential feature

A crucial element for clusters and networks is the type of linkage established. They can be horizontal, linking firms within the same sector sharing a technological base, a common market, or purchasing channels. Vertical linkages are those of users, suppliers and selected services. Sophisticated buyers need competitive suppliers and vice versa. Governments can stimulate and facilitate the interconnectedness of firms by supporting these co-operation networks. It is however important to have dynamic networks in which firms cooperate in rivalry. Historically many clusters have declined because of their conservatism. Here the discussion initiated by Patrizio Bianchi and Lee Miller (1992) about progressive and regressive coalitions may be helpful. "... progressive coalitions are capable of filtering various stimuli in order to use what they see as most promising and to discard the rest. (...) A regressive coalition does not have this filtering mechanism, which is more costly both in terms of time and human resources."² Although the relationships in the networks should be based on mutual trust, exchange of knowledge and long term commitment, the outlook of the firm should still be the world market.

One way to support vertical networking is through improving relations between contractors and supplying industries. Again this should not lead to clusters and network functioning as 'safe haven', but as a stepping stone for the supplier to improve its competitiveness on the world market. An example of such a policy scheme is the National Linkage Programme in Ireland. Examples of measures to improve horizontal networking are 'Network Brokers' in Denmark.

One of the strengths of clusters is their specialisation in particular products or processes. A more 'hands-on' approach for governments is to invest to create specialised factors in behalf of a cluster. It can provide specialised education and training, technical research centres, specialised infrastructures to improve logistics and so on.

²Patrizio Bianchi, Lee M. Miller, 'Systems of innovation and the EC policy-making approach', working paper International Workshop "Systems of Innovation", Bologna, October 5-6, 1992.

3. PUBLIC MEASURES TO SUPPORT CLUSTERS AND NETWORKS OF SME's

The European policy schemes surveyed and collected for this workshop focus on those which either bring together firms, or support existing networks or clusters of firms, with the purpose of stimulating their orientation towards innovation and performance. The targeted firms are innovative SMEs.

The survey, presented in this report, identified 23 schemes in the member states of the European Union. The identification was done with the aid of several national experts who used the following selection criteria:

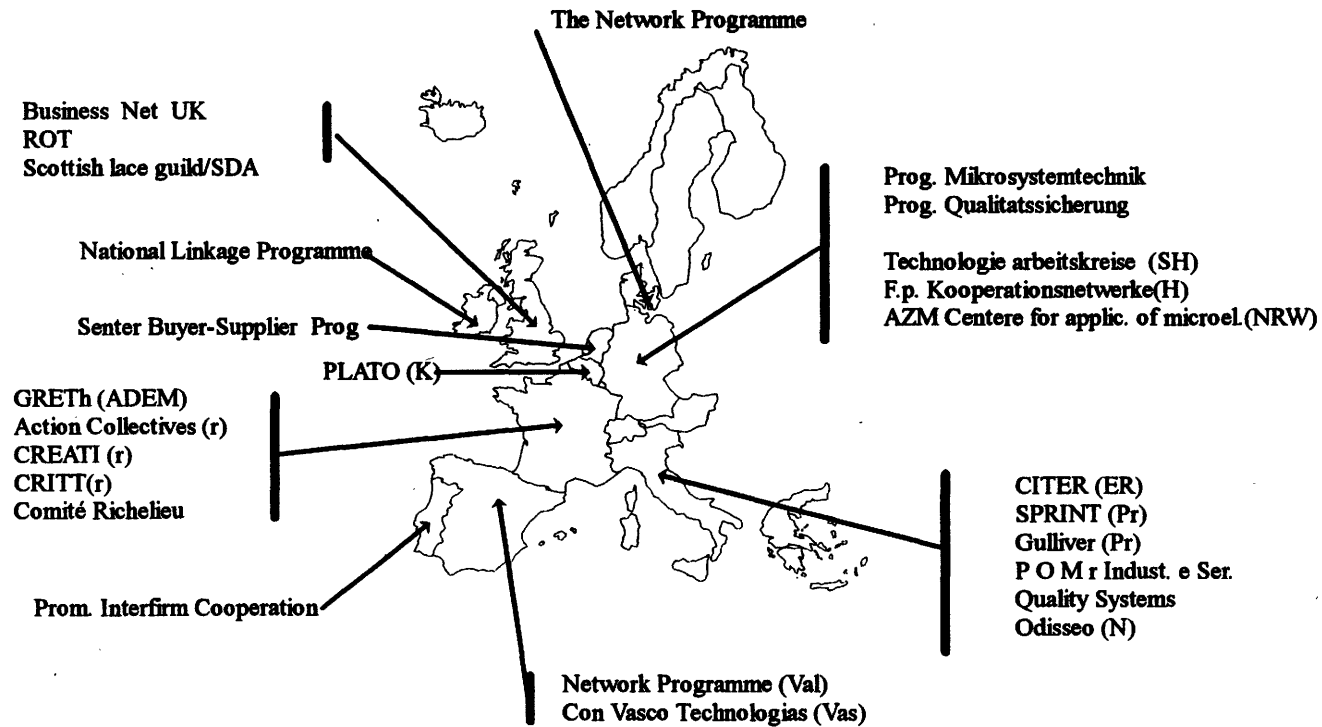
- Schemes should be directed at SMEs with the explicit aim of improving their innovative capacity.
- Schemes should promote the creation of long term relations between firms and between firms and supporting infrastructure.
- The relation can be vertical and /or horizontal.

The figure on the following page gives an overview of the different schemes in member states. The annex to this paper describes succinctly the aims of the schemes and the type of support given.

Reviewing the different policy schemes in the EU one can make the following general comments:

- Many innovative and successful clusters never had a policy to support them; certainly at the origin. Many of the policies aimed at clusters up to now have been started as the clusters already functioned.
- Innovativeness of networks depends on the dynamism of firms. Firms tend to create networks when faced with difficult conditions. The formation of networks and clusters is often the result of a survival strategy. Examples of this type of networks are the Italian textile industry or the German watchmaking industry. In both cases firms were able to survive as independent entities mainly due to networking and clustering.
- There is no such thing as a typical "cluster" policy. Policy to support clusters and networks is usually a very ad-hoc combination of many types of policy instruments. Furthermore policies are very much defined by the local policy making practices, the specific managerial practices of a region or group of firms and the economic environment.
- Since local conditions determine to a great extent the type of policy and local conditions vary, it makes little sense to define sharp typologies of schemes and possibly best practices. That certainly does not mean that one policy making body could not learn from the experience of others. Learning by observing what others do and adapting it to the local conditions, could be the main vehicle of creating best practice in policy-making aimed at the support of clusters and networks of SMEs.

Public measures to support clustering and networks of SMEs



TNO Centre for Technology and Policy Studies

The fact that in our view one can not make a typology of policy instruments does not mean that one can't distinguish different characteristics of public measures. In our overview we identified four.

Role of Public authority

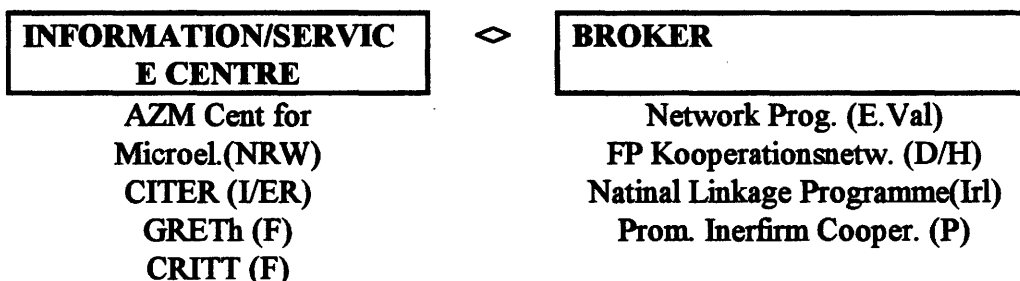
One can distinguish two potential roles for public authorities.

The first one is aimed at supporting existing clusters of firms by providing services:

- guiding the firms in other directions in periods of restructuring and competitive pressure. This could be in the form of assistance in finding new markets, (re-) training and education, differentiating products or innovating production processes.
- creating and maintaining a specialised infrastructure on behalf of a strong cluster, with organisations that perform activities on behalf of the entire cluster involved.

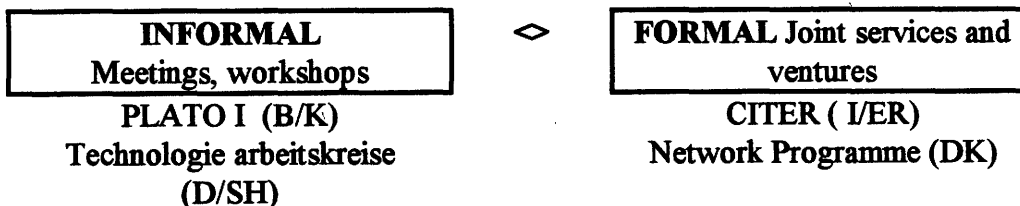
The second role of public authority is to promote the formation of networks of previously unrelated firms: the network broker. The aim of this type of policies is to encourage the formation of binding cooperation between SME's. It includes the development of products, quality management, technology acquisition, etc. It might operate through the direct stimulation of linkages or through the training of brokers.

The following table identifies some of the schemes according to the role of the public authority.



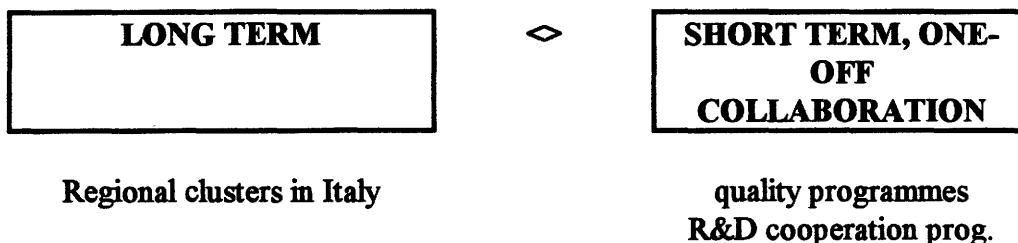
Type of link

The type of link which a policy might aim to establish between firms and of the firms with a service provider might vary from formal to informal. Examples of one and the other are:



Duration of linkages

We can distinguish short and long term collaborations between firms. Examples of one and other are the following:



Geographic coverage

Most of the surveyed schemes have a regional coverage. Some schemes, particularly those supporting networks of enterprises where large and small firms link to each other have a national character. There are very few European or supra-national programmes. In view of the increasing European integration and the creation of some important supra-national clusters in some industries (example: car manufacturing with strong vertical relations) it might be important to consider a stronger support from the EC. Such actions would be very much in line with a more active interpretation of the principle of subsidiarity.

4. POLICY ISSUES FOR DEBATE

One of the issues for debate which public authorities should continuously keep in mind is how to achieve the difficult equilibrium between competition and collaboration in networks and clusters. This issue is particularly complex because clusters of firms change in time and the context in which they operate is a very dynamic one. Clusters, as it was argued, can easily transform into conservative economic agents. Public policy should continuously monitor the dynamism of clusters and adopt the policy measures to promote dynamism and innovation.

The different forms of policies outlined above concentrate either on the creation of new networks or on providing services for firms of existing clusters. The policy issues they generate are, to a certain extent, also different.

Roughly the creation, *support and development of networks* which encourage inter-firm cooperation such as the Danish Network Programme and many others modelled on this experience (Business Net-UK, Valencia Network Programme-SP, Action B.1 Promotion of Inter-firm Cooperation -P), present several issues related to the brokerage and matching activity on which such a policy is based:

- The selection process of firms which might be integrated in the network and the collective services and interests around which they might cooperate. What is the experience of best practice in this field?
- Should the firms be brought together in a formal way or is it better to start the first co-operative activities on an informal basis?

- Should cooperating firms set up collective facilities (joint ventures) or operate through existing facilities and infrastructure and long term programmatic agreements with them?

Regarding the second type of policies directed at *existing clusters of firms* government support develops more "organically" and tailored to the specific circumstances. Questions for debate which arise in those cases could be the following:

- How and why do governments select clusters to support? Is it a useful policy instrument to aid transformation in declining industrial sectors?
- Identification of clusters of firms (regional, national, international?)
- Nature of the collaboration which might be supported and which would allow to strengthen the cluster, its long term development, the opening of new markets, etc. without stifling the inter-firm competition which characterises such clusters.
- Is there a best practice which public authorities could follow in supporting existing clusters of innovative firms or are we confronted with ad-hoc, trial and error processes, in which different levels of government (national and regional) play a (limited) role? In other words are the policy experiences of the above quoted cases reproducible, which are the conditions and what type of instruments could be used.
- Exit strategies: when should governments stop support?
- Policies supporting collaboration between innovative firms can be very different according to the types of firms involved. They might be based on innovative firms in one sector (example the Service Centre for Woman's Hosiery Sector (Castel Goffredo, Italy), shared services for firms operating in different sectors (example Steinbeis Transfer Centre Quality Management in Germany), or firms which form vertical relations of buyers and suppliers. What are the experiences of best practices in this different forms of collaboration.
- Public authority intervention also raises the issue of the (geographical) level of intervention. What is the most adequate level? (regional, national).
- What happens with clusters and networks of firms which operate over different countries (for example the networks of suppliers in the car industry). Should policies be coordinated or should every country support the firms of the cluster which are established in the country? What happens if the forms of support are different and thus produce unequal conditions for firms in a cluster? What can the European Commission do?

**SURVEY OF POLICY MEASURES TO SUPPORT THE CLUSTERING
AND NETWORKS OF INNOVATIVE SMES**

	Name scheme	Aim/ objective	Type of support/budget
B/K	Plato	Bring together SME-entrepreneurs to exchange experience on management under parenthood of entrepreneur from big company	Learning through informal contacts (Plato). 2nd phase of real formal cooperation (Plato Network). 0,5 MECU/year
D	Programm Mikrosystem-technik	to open up potential of innovation of microsystem-technologies for SMEs and improve innovation management: Includes support for pre-competitive R&D cooperation	Allowances for prototype development (417 firms) allowances for 31 cooperation-projects including 181 firms
D	Program Qualitats-sicherung	Introduction of integrated system of quality management through networking	41 working groups established in different industries/regions. Limited financial support (30%) for development of projects ISO 9000 introd.
D/SH	Technologie-arbeitskreise	Joint problem solving of firms in same sector through networks of firms	Through ttz-sh organization of meetings 50.000DM per working group
D/H	Forderungs-programm fur Kooperations-	Strengthen competitiveness of SME's through development of networks	2 year support for network (max50% or 160.000DM) Support for regional innov. centres for

	Name scheme	Aim/ objective	Type of support/budget
	netzwerke		enterprise services
D/NRW	Technologieinitiative Mikroelektronik, AZM Centre for application of Microelectronics	Centre to support development of applications in microelect. through the development of network of firms	Centre is financed 3 years. Firms have to contribute (2-3.000 DM/y). 8 working groups with 10-12 firms have been formed
DK	The Network Programme	Encourage formation of binding cooperation between SME's. Includes development of products, quality management, technology acquisition, etc	DADIT responsible for implementation. Three elements: Information campaign, Network broker training, Grants scheme for feasibility study, setting up (50%) and new business activities
E/Val	The Network Programme (Valencia)	Encourage the formation of networks of SME's to increase competitiveness	IMPIVA responsible for implementation. Information Campaigns, network broker training, grants for feasibility study (80%) and initial running costs (30% max 2 years)
E/Bas	Consejo Vasco de Tecnología	One of its aims is to develop networks of firms in research consortia with research centres, universities and engineering companies	The consortia R&D projects are financially assisted up to 50% of their budget
F	Actions Collecti-	Support common initiatives of various	Annually 100 SME networks are sup-

	Name scheme	Aim/ objective	Type of support/budget
	ves DRIRE	local firms (innovation, training, market, information)	ported. Support max of 30%of project. Annual budget 60MF/year
F	GRETh: Groupement pour la recherche sur les Echangeurs Thermiques. ADEM	Promote technological innovation in the field of heat exchangers through network. GRETh provides customised services on Information, collective research, contract research, testing, etc.	Network includes 90 firms. ADEM/CEA support it (20MF/year)
F	Réseau CREATI	Increase competitiveness of SME's through partnership with large companies	more than 16 (regional) networks provide advise to SME's. Usually no public funds involved
F	CRITT: Centre régional d'Innovation et de Transfer Technologique	To support technological development of SMES. The Centres support SMEs of a particular sector (agroalimentaire, ..) or in a buyer-supplier relation (polimères)	11 CRITT supported 1000 SMEs in 1992
Ir	National Linkage Programme	Develop links between multinational companies located in Ir and potential suppliers	Support and advice on strategic planning operations, market skills, technical competence. Contacts between buyers and suppliers
It/Pr	Gulliver	To develop cooperation among small firms of the textile sector	Gulliver acts as a broker in the textile market for small firms.

	Name scheme	Aim/ objective	Type of support/budget
			It also supports marketing, technology acquisition and managerial organization of SMEs
I/ER	CITER	Information centre with the aim of strengthening the managerial structure and provision of critical marketing (fashion) and technology information to the knitwear and clothing industry	Citer has a budget of 2MECU/year. The activities/services provided are strategic for the industry. 480 firms associated, 70% self-financing, 30% contribution by ERVET for R&D
IT/N	ODISSEO	Information database on networks of SMEs	
It/Pr	SPRINT	To develop networks, to provide services and to promote the revival of SMEs in the textile industry of Prato	Actions and services focus on quality, management, technology, environment, telematics, etc. Expenditure per year: 1.257 Million It.lire
It	Prog. Oper. Multiregionale Industria e Servizi	Development of new SMEs	
It/L	Actions to develop Quality Systems	To introduce Quality Management	
NL	Toeleveren en Uitbesteden	Development of networks of firms to stimulate a tight cooperation between buyers and suppliers in particular for	Senter is the broker (initially trade associations). Buyers and their network can apply for subsidy. Each year 15

	Name scheme	Aim/ objective	Type of support/budget
		technology and product development	projects. Expenditure 3 MECU/ year
P	Promotion of interfirm cooperation (prog 5)	Encourage cooperation among firms in commercialization, distribution, production, quality, etc.	Incentive scheme has four phases: Network identification, feasibility studies, network legal establishment, operation. Different types of support and grants for networks. The programme operates with network brokers

Workshop programme

**PUBLIC MEASURES TO SUPPORT THE CLUSTERING AND
NETWORKS OF INNOVATIVE SMEs**

**SPRINT/EIMS POLICY EXCHANGE
WORKSHOP N° 3**

**Venue : Bâtiment Jean Monnet, Luxembourg
6-7 December 1993**

Provisional Programme

DECEMBER 6

- | | | |
|--------------------|--|--|
| 9.30 h | Chairman :
Welcome and Introduction | R. Miège
DG XIII |
| 9.45 h | SESSION I : Setting the scene | |
| | (1) Clusters and networks : their role and the rationale for public action. | P. Bianchi
Nomisma (I) |
| | (2) Comments and debate | |
| 10.30 h to 11.00 h | Coffee Break | |
| | (3) Public measures to support clustering and networks of innovative SME's : what do we do in Europe ? | G. Fahrenkrog
TNO-STB
(NL) |
| | (4) Comments and debate | |
| 12.30 h | Lunch | |
| 14.00 h | SESSION II : The creation of networks of innovative SMEs | |
| | (5) Public authority as a broker : the Danish experience in prospective | J. Martinussen
P. Seremetis
DTI/DK |
| | (6) The Belgian experience : PLATO | L. Piere
PLATO (B) |
| 15.45 h | Coffee break | |

- 16.00 h **SESSION III Schemes to restructure and support existing clusters**
- (7) Supporting inter-firm cooperation : CITER L. Ligabue (I)
- (8) Networking in traditional firms : the A. McFadzean
experience with the Scottish lace guild (SDA, UK)
- (9) Comments and debate
- 17.45 h **Close**
- 18.30 h **Dinner with presentation**
- (10) Networking in different countries : cultural differences N. Nielsen

DECEMBER 7

9.00 h **SESSION IV : Policy Perspectives**

Introductory statements :

- (11) The Regional Perspective P. Cooke (Univ. of Wales)
- (12) The less favoured countries perspective(IRL)
- (13) The National Perspective J.P.M. Peek (MEA, NL)
- (14) The Community Perspective D. Janssens (DG XIII)

10.30 h **SESSION V : Horizontal issues of design, management and evaluation of schemes :**

Two parallel workshops dealing with the two different types of policy and the horizontal issues they raise. The format will be presentation of two short issue papers followed by a debate.

The result of the debate will be reported back to the plenary session by a rapporteur

Workshop A : How to stimulate the formation of networks of innovative SMEs ?

Chairperson : D. Janssens (DG XIII)

(15, 16) Issue Papers : H. Lories, MRE (F)
(.....)

This presentation will address the following questions : problems in identifying and stimulating the formation of networks of innovative SMEs. How to deal with networks of companies which are competitors / have complementary assets / or are suppliers ? Do the forms of support differ ? Formation of networks across regions/nations ? Consequences for policy.
Rapporteur O'Doherty, EOLAS (IRL)

Workshop B : Schemes to support existing clusters. How do we manage them ?

Chairperson : G. Bräunling (DG XIII)

(17, 18) Issue Papers : H.P. Lorenzen, BMFT (D)
I. Gorriño, IKEI (E)

The presentation deals with the following issues. How do public authorities identify the cluster ? Can existing support infrastructure aid in reinforcing clusters ? Scope of action for public authorities in restructuring declining sectors ? The problems of supporting clusters which operate in different regions/nations ?

Rapporteur : E. Deiacò (DG XIII)

12.30 h Lunch

14.00 h **Presentation of the debate of the two workshops**

Chairman : R. Miège (DG XIII)

(The rapporteurs present the conclusions of both workshops, followed by a debate on horizontal issues, the problems and the perspectives).

15.30 h (19) Closing

15.45 h End of Workshop

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EIMS DOCUMENTS

INNOVATION POLICY	Publication N°
An integrated Approach to European Innovation and Technology Diffusion Policy: a Maastricht Memorandum, 1993	
Public Measures supporting new technology based firms: Workshop Proceedings, 1994	7
Policies to support Tacit knowledge Transfer: Workshop Proceedings, 1993	8
Public Measures to support the Clustering and Networks of Innovative SMEs: Workshop Proceedings, 1995	16
Public Schemes Promoting Active Involvement of Employees in Innovation, 1995 Synthesis Report (10 pages) Study (190 pages)	22 22-S
EMPIRICAL STUDIES	Publication N°
Innovation Activities and Industrial Structure: Industry and R&D in a Comparative Context, 1993	1
Investment, Innovation and Competitiveness: Sectoral Performance within the Triad, 1993	2
Patterns of Innovation in Italian Industry, 1993	3
Innovation Structures and Performance in Nordic Manufacturing Industry, 1993	4
Technological Diffusion, Productivity and Competitiveness: An Empirical Analysis for 10 Countries - Part 1: Technology Diffusion Patterns, 1993	13

INNOVATION IN THE FIRMS	Publication N°
Knowledge-Intensive Business Services. Users, Carriers and Sources of Innovation, 1995	15
Innovation Strategies of Europe's Largest Industrial Firms, June 95	23
FINANCE	Publication N°
European Second-Tier Markets for NTBFs, 1994	ISBN 1-898975-02-7 (*)
Securitisation of Guaranteed SME Loans in Europe and Finance for Innovation, 1995	ISBN 1-898975-04-3 (*)
Potential Market for Initial Public Offerings (IPOs), 1995	
REGIONAL ASPECTS OF INNOVATION	Publication N°
Surveys of Regional Innovation? A Feasibility Study for Europe, 1994	9
Analysis of SME Needs: Methodology in Design, Construction and Operation of Regional Technology Frameworks, 1996	18
Assessment of the Regional Innovation Support Infrastructure: Methodology in Design, Construction and Operation of Regional Technology Frameworks, 1996	19
Means of Obtaining and Exploiting Information on Main Industrial and Technology Trends: Methodology in Design, Construction and Operation of Regional Technology Frameworks, 1996	20
Innovative Regions? A Comparative Review of Methods of Evaluation of Regional Innovation Potential, 1995	21
EVALUATION	Publication N°
Evaluation of the Community Innovation Survey (CIS) - Phase I, 1995	11

<p style="text-align: center;">INNOVATION AND TECHNOLOGY TRANSFER</p> <p style="text-align: center;">SUPPORTING INFRASTRUCTURES</p>	<p style="text-align: center;">Publication N°</p>
<p>Quality Promotion in Europe. A Review of European Community Member States' National and Regional Schemes and Measures in the Field of Quality, 1994</p>	<p style="text-align: center;">ISBN 0-566-07512-1 (*)</p>
<p>Quality Networking in Europe</p>	<p style="text-align: center;">ISBN 1-85972-364-0 (*)</p>
<p>The future of research and technology organisations in Europe: Conference Proceedings, 1994</p>	<p style="text-align: center;">ISBN 92-826-8451-2 (**)</p>
<p>Technology Brokers in Europe, 1995 Vol. 1/3: Technology Brokers in Europe, Summary Vol. 2/3: Technology Brokers in Europe, Summary and Country Reports Vol. 3/3: Directory</p>	<p style="text-align: center;">10</p>
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