Opportunities Through Synergy:
Government and the Emergence of Innovative Clusters in the Private Sector

Letter from the Minister of Economic Affairs

To:
The Speaker of the Second Chamber
of Parliament
Binnenhof 1a
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'Opportunities Through Synergy' letter

As promised during the debate on the 1997 Budget of the Ministry of Economic Affairs, please find enclosed the letter on clustering. While it describes a policy rationale and a system for this area of innovation-oriented industrial policy it also announces new initiatives that will provide a further stimulus for policy on clusters.

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Minister of Economic Affairs

OPPORTUNITIES THROUGH SYNERGY: GOVERNMENT AND THE EMERGENCE OF INNOVATIVE CLUSTERS IN THE PRIVATE SECTOR

1. Intensifying cluster policy

In order to improve innovative capacity and competitiveness many nations have focused their industrial and technology policies over the past few years on the importance of strategic alliances and networking between businesses and research institutes. This letter covers the policy pursued in the Netherlands in this area and primarily describes a market-induced policy as well as a vision of the government's role in clustering. It also provides a systematic review of existing policy, outlining market trends and foreign policy developments. And finally, it sets out several new ways to stimulate the emergence of innovation-oriented alliances.

By intensifying cluster policy the Cabinet aims to improve competitiveness in the private sector. This will ultimately be reflected in sustainable growth and employment. Competitiveness can be improved through the development of new and improved products, services and production processes. An improved rate of return on public and private research efforts is playing an important role in this.

For these reasons, the 1993 'Industry Paper', as well as the paper of the same year entitled 'Competing with Knowledge', devoted a considerable amount of attention to the importance of alliances between companies in general and between companies and technological and scientific research institutions in particular.[1] The 'Knowledge in Action' paper, which set out the main points of innovation-oriented industrial policy in greater detail[2], assigned a key role to the coordination of public and private research. Since then the Business-Oriented Technology schemes have been transformed into instruments which now focus more on promoting technological cooperation and the emergence of innovative clusters and networks. The budget available for promoting technological cooperation has more than doubled during this Cabinet's term of office (from NLG 71 million in 1994 to NLG 169 million in 1997)[3]. A greater emphasis on

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1 Ministry of Economic Affairs, *Industrial Policy in the 1990s*, 24.2.1993, Second Chamber Documents 1992/93, 23031, No. 1. Ministry of Economic Affairs, *Competing with Knowledge*, 21.6.1993, Second Chamber Documents 1992/93, 23206, No. 1.

2 *Knowledge in Action Paper*, Letter from the Ministers of Economic Affairs, of Education, Culture and Science and of Agriculture and Fisheries to the Speaker of the Second Chamber (24299, No. 1), 21 June 1995.

3 This concerns the following instruments: Economy, Ecology and Technology (EET), Indonestec (excluding the Netherlands Maritime Research Institute

cooperation with private parties is also to be seen in how the research networks are being steered, for example with the aid of programme funding for the Netherlands Organisation for Applied Scientific Research (TNO).

Recently, this area of Dutch industrial and technology policy received attention from a different area: in the debates on aid for individual companies in response to the General Chamber of Audit report [4]. Among other things, this debate focused on how the criterion laid down in the 1993 'Industry Paper', that aid may only be given to an individual company if it forms part of a cluster of activities, is interpreted in practice. It is not the intention of this document to discuss aid to individual companies in difficulty; a separate letter dealing with this issue will be sent to the Second Chamber soon.

2. Economic and policy trends: clustering and innovation

2.1 Market trends and the emergence of innovative clusters

Over the past ten years, competitiveness in industry has become more dependent on the ability of businesses to apply new knowledge and technology in their products and production processes. The pace of technological development is accelerating and specialisation has increased. This makes it increasingly difficult for individual companies to have all the appropriate knowledge in-house and to turn new knowledge into products, processes or services in time. In order to avoid excessive risks and to reduce their time-to-market, many companies have started to specialise in their own specific core competencies. This results in them becoming more dependent on outside complementary competencies if they are to innovate successfully. In turn, this sets heavy demands on the ability of a business to organise new alliances of competencies as flexibly as possible. By forming strategic alliances, joint ventures and consortia, and through more flexible organisation and integration of the various links in the production chain (e.g. sub-contracting and outsourcing), businesses are now developing strategies to reverse the increased level of dependence on their surroundings.

Alliances of this kind enable companies to respond more effectively to changing competitive relationships and to the increasingly higher standards set in the market by

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(MARIN)), EUREKA/Business-Oriented Technology Stimulation of International Projects (BTIP), the Innovation-oriented Research Programmes (IOPs), Subsidy Scheme for Maritime Research (SMO), the Business-Oriented Technological Research by Collectivities (BTOC), the Cluster Projects, Subcontracting and Outsourcing (T&U) and the Business-oriented Technological Innovation Projects (BTS).

[4] Report of the General Chamber of Audit, *Financial relationships with major companies*, Second Chamber Documents 1996.97, 25080, Nos. 1-2.

consumers and contractors in terms of quality regarding products, services and the development of production processes. More than ever before must products and services be tailored to the individual customers' requirements. While this process of customizing has been underway in the capital goods industry for some time, we are now seeing the same process being applied with regard to products aimed directly at consumer markets. As a result, the innovation process extends over the entire production chain. The forming of innovation-oriented strategic networks therefore requires a flexible integration of the activities of the different companies throughout the entire value chain.

Outsourcing companies are also making heavier demands on their suppliers to provide them with innovations and more value added at the lowest possible cost. Competing for the favours of a demanding customer accelerates the creation of innovative networks and improves the quality of products, services and production processes throughout the whole value chain. The timely involvement of suppliers can shorten the engineering process and increase the rate of return on research and development (R&D) efforts. This need to integrate value chains has meant that the most innovative networks often cross the conventional boundaries between businesses and sectors simply because new combinations of markets and technologies call for new forms of division of labour. Perfect examples of this are the developments in mechatronics (in the 1970s), optitronics (in the 1980s) and in biochemistry (in the 1990s).

2.2 The cluster concept

All the market processes described above led to the emergence of *clusters*: networks and value chains of suppliers, customers and/or knowledge institutes, with the aim of creating innovative value added. This policy definition of clusters is indicative of the actual focus of the policy: the emergence of innovation-oriented value added through the different parties in the chain benefiting from each other's complementary knowledge and skills.

The emergence of clusters is sometimes restricted to a specific region. In the Netherlands, for instance, the Innovation Centres (ICs), the Institutes for Small and Medium-sized Enterprises (IMKs) and the regional development agencies play an active role in the strategic clustering in certain regions. One example is the Innovation Centres' 'Weaving project', in which an effort is made to bring together partners in certain regions. Clustering also often crosses national borders. Hence private enterprise is also encouraged at international level to take part in the Framework Programmes of the European Union (EU) and the European Research Coordination Agency (EUREKA). The budget allocated to encourage Dutch participation in EUREKA projects has been increased substantially in recent years.

2.3 Trends in industrial and technology policy

The market trends outlined above have led to changes in the industrial and technology policies of many OECD member states. In the coming period, the Netherlands' Ministry of Economic Affairs will develop specific activities to gain a clearer picture of the

existing cluster analysis methods adopted in the various countries and the various policy initiatives they have taken to further develop policy on clusters. Together with the OECD the Ministry will organise an initial workshop in October to obtain a better understanding of the best practices in cluster policy.

An initial review shows that instruments for creating favourable conditions for innovative clustering in the market have already been developed, or are under development in many countries. A number of trends can be identified in this respect:

- dialogue and cooperation by means of setting up special platforms
- a better supply of strategic information
- the institutional modernisation of government policy.

Platforms, in which representatives of the private sector, research institutes and the government both identify and analyse the potential for developing innovative clusters, have been set up in a number of countries with the intention of promoting dialogue and the exchange of knowledge between businesses, research institutes and government agencies. The underlying principle being that initiatives must be borne primarily by the market parties themselves. The structure and scope of these platforms varies from one country to another.

*In the **US**, so-called Focus Groups aim to start up a dialogue to combine the expertise of business and research institutes on a regional level. The emphasis here lies on achieving synergies and developing the growth potential; the government's role being to create favourable conditions.*
*A National Advisory Council has been formed in **Finland** (consisting of government Ministers, experts and senior managers). It provides guidance on technological investment through intensive talks with commercial organisations and research institutes. The Finnish Government recently increased public spending on R&D by 25% (up to a total private and public R&D expenditure of 2.9% of GNP in 1999). At present, innovative cluster projects are being initiated in the areas of telecommunications, transport, food, the environment and forestry, by facilitating cross-sectoral and new forms of cooperation*

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The countries covered in the cluster policy survey (Canada, the US, Denmark and Finland) also invest heavily in gathering and analysing *strategic information* on market and technological developments. This includes benchmark studies on clusters and making them publicly accessible. Canada, for instance, has its own Business Information Website and its own research and expertise centre (STRATEGIS). The information provided by the Danish Central Statistical Office focuses more on the information requirements of the above clusters.

In some countries the emphasis on dialogue and cooperation in industrial and technology policy has also led to *institutional modernisation* and to the government services involved in implementing the policy adopting different working methods. Market trends have created a need to integrate the aspects of government policy that are often functionally organised (e.g. education, trade, fiscal, energy, infrastructural, construction and competition policies). In Canada, Finland and Denmark, there is a clear trend towards realising more synergy in existing policies which to date have always focused on more or less isolated specific subjects. These countries aim to realise an integrated technology and industrial policy, horizontal policies, eliminating traditional boundaries. Canada, for example, is systematically investigating whether and to what extent government legislation and regulations and customary government practices (such as production regulations and tendering methods) hamper or promote innovative clustering.

3. The government's role in market-induced clustering

3.1 Why a role for the government?

Clustering is a process that often takes place spontaneously in the market without much government intervention. Why then should the government play a role in strategic clustering? Surely alliances and the combination of skills should ideally be left to the market. The government should prevent alliances from being formed for the purpose of restricting competition.

The government's role in this field relates primarily to imperfections in the market system that can restrict innovation and clustering and justify a government role. Market imperfections can arise through a lack of information, problems in how alliances are organised or through barriers of another kind. These imperfections prevent businesses from seeking contact with other parties to share their know-how, while this could lead to substantial innovation. For example, many small and medium-sized enterprises (SMEs) are unaware of the opportunities available from collaborating with other businesses or research institutes. Legislation too can also give rise to the development of market imperfections. It is of crucial importance for the competitiveness of the Dutch economy that such imperfections in the market system are eliminated, so that businesses can respond quickly and flexibly to rapidly changing market conditions. Secondly, government efforts are called for due to the positive external effects of R&D efforts, particularly when these occur in alliances. Since the public benefits far exceed the private gains, the government has a task to perform here, for example in relation to energy and the environment, but also in major innovative projects such as the information superhighways. Thirdly, the desire to realise a higher economic rate of return on public research efforts is yet another reason for the government to facilitate the emergence of clusters. After all, an improvement in returns of this kind requires close cooperation with the private sector, as well as effective dissemination of knowledge, particularly to SMEs. Finally, the desire to anchor high-tech business activities in the Netherlands is one of the factors in stimulating clustering. Given their dependence on the

surrounding research network, businesses will be more likely to sustain or expand high-tech activities in the Netherlands.

Although the government has a role to play in market-induced clustering, it must still act with a certain degree of caution. This cautiousness is partly related to the government's limited scope of action: due, among other things, to its limited financial resources and European regulations. On the other hand, market dynamics also represent an important factor. The complexity of the information and coordination issues in the market does not imply that the government should step into the shoes of businesses and independently create clusters which are not founded through developments in the market.

3.2 Three government roles

We can identify three *industrial policy* roles in the practical interpretation of government's role in the field of innovative clustering:

- *Framework policy:* the creation of favourable and stable conditions to enable businesses to increase their competitiveness and innovation potential.
- *Broker policies:* the identification and stimulation of innovative clustering by providing strategic information and by matching supply and demand.
- *A demanding customer when providing public services:* matching a number of public social needs, and actively organising and initiating innovative clustering in that process.

Depending on the type of market, the government will play one or more of these roles in order to promote the development of innovative clusters (see Table 1)

Table 1 Government instruments to promote the realisation of innovative clusters

Framework policy	**Broker policy**	**Demanding customer**
• Competition policy and deregulation • General technology policy • Lowering the tax and labour cost burden • Sound infrastructure	• Provision of strategic information • Organising dialogue and information exchange (independent platform) • Technology instruments that stimulate the emergence of alliances	• Tendering procedures • Infrastructural projects and innovative procurement policies • Assessing regulations which impede innovation
Reason for government action To facilitate dynamic market functioning	*Reason for government action* Externalities, to eliminate market imperfections, the rate of return on public research efforts	*Reason for government action* To meet public needs, in combination with government action taken to promote innovation

Innovative clustering also requires an integrated approach to the different aspects of the innovation process. This implies an integrated approach taken by the different government departments involving joint stimulation of clustering and the mutual reinforcement of the different policy instruments (*'horizontal policies'*: see Section 2). The Ministry of Economic Affairs also aims to achieve an integrated approach of this kind internally. As is already the case in current business practice, the government must create new combinations of knowledge, skills and policy instruments in order to be more effective in meeting the wide range of different needs in private sector clusters.

4. The government's role in terms of creating framework policy

The aim of the Cabinet's framework policy is to further improve the Dutch breeding ground for high-tech business activities. This involves initiatives in the fields of technology, competition-policy and deregulation, tax and labour cost reductions and infrastructural projects. All these initiatives contribute in some way to the competitiveness of Dutch economy. In recent years, the Cabinet has explained its views on these matters in such papers as 'Knowledge in Action' and 'Jobs through Enterprise'. Two parts of the package, competition-policy/deregulation and general technology policy, are discussed in more detail below.

4.1 Competition-policy, deregulation and clustering

If markets function properly then innovation and the development of new combinations is encouraged. Stimulated by competition, businesses will compete for the favours of users by seeking new opportunities in the development of innovative products and services. Hence the new Competition Act[5] will promote innovation-oriented clustering in certain sectors (the construction industry for instance).

Nevertheless, a trade-off could arise between competition policy and cluster policy. After all, private sector alliances could lead to sheltered markets, price agreements or other agreements that restrict competition. However, the fear that giving support to both clustering policy and competition policy will contradict in practice appears to be unfounded: if businesses with complementary competencies work together at a pre-competitive stage there will be little risk of restraints on the dynamic functioning of markets. The same conclusion is reached by the Advisory Council for Science and Technology Policy (AWT) in its advisory report on the impact of legislation on innovation[6]. The Competition Act therefore does provide scope for those kinds of cooperative agreement which are important in clustering.

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5 Act of 22 May 1997, containing new regulations on economic competition (Competition Act), Bulletin of Acts, Orders and Decrees 242.

6 Advisory Report No. 27, published on 27 March 1997 (see p. 55).

Competition Act provides opportunities for innovative clustering
One of the aims of the new Competition Act is to prevent agreements that have an adverse effect on market forces from being made between businesses. This includes agreements on prices, market-sharing, etc. Innovative clusters (which are not affected by such adverse effects) will not normally be subjected to the regime of the Competition Act. In principle, any partnership agreement relating to the joint execution and contracting out of R&D projects are not covered by the Competition Act, nor are agreements that regulate the co-execution of orders, provided that the businesses in question are not competitors. Furthermore - subject to strict conditions - the Act provides for exemptions and dispensation for agreements which do restrict competition, but which also provide certain economic benefits in return. These must be looked at individually by the Competition Authority (NMa), the body responsible for implementing the Competition Act

In many cases, deregulation and institutional renewal can also facilitate clustering. In the above-mentioned advisory report on the impact of legislation on innovation, the AWT calls for innovation to be given special consideration when assessing draft legislation. The AWT takes the view that the built-in flexibility of legislation is often the decisive factor for its effect on innovative capacity, rather than its scope and level of detail[7]. Among other instruments, the Competition-Policy, Deregulation and Quality of Legislation operation (MDW) is allowing this Cabinet to take a closer look at restrictive legislation and it will continue to critically assess any regulations that stand in the way of economic development. The impact of legislation on innovative clustering will therefore continue to receive due consideration in the coming period. In some cases, institutional renewal will be imperative if clustering is to develop to the full. After all, in certain cases, traditional government practice can also obstruct innovation. One example of such practice is to be seen in government procurement practice. This will be discussed in Section 6 of this report.

4.2 General technology policy and innovative clusters

General technology policy encourages businesses to set up innovative alliances. After all, these clusters, in which businesses combine their knowledge and skills, would be difficult to conceive if there were insufficient companies willing to invest in the development of know-how and skills. The ‘Knowledge in Action’ paper helped to intensify the basis for innovation in the Netherlands by introducing or expanding several general instruments. As the Netherlands still lags behind many other countries in terms of R&D investment, it could be questioned whether the available instruments will be adequate for the coming years, partly in view of developments elsewhere.

7 See AWT advisory report No. 27, p. 35.

5. The role of broker

In its role as broker, the government creates a meeting place for businesses, institutions and government agencies and will have a role to play in terms of organising, generating and facilitating. In principle, the parties themselves decide what happens at this meeting place. The government can then learn from the problems that arise in the interaction between the private and the public parties. For example, the signals the government receives could help to influence the public research network structure.

This broker role can be fulfilled in various ways:
- by providing strategic information and dialogue (see Section 5.1);
- by organising businesses and research institute platforms (see Section 5.2);
- by facilitating specific projects, often using technology instruments geared towards the setting up of alliances (see Section 5.3).

The government has been actively involved in realising a considerable number of cluster initiatives by applying a combination of these instruments.

5.1 The provision of strategic information and dialogue

Government's restraint in controlling market processes does not imply that it takes a passive stance towards the private sector. The government can and should instigate debate on the future by providing businesses with strategic information and opening dialogues. The growing importance of multiple-sector clusters means that it will become necessary for the government to focus more on analysing and benchmarking these clusters in the information it provides in the future. This is consistent with practice in several other countries, such as Denmark and Finland. It is a procedure which also calls for an intensive exchange of information and cooperation between experts within government, as well as intensive and regular dialogue between policy-makers, market players and knowledge providers.

The benchmark study performed by Bain & Company for the service sector in 1996 is an example of this working method[8]. This is a study which provides the reader with a picture of the international competitive position of the Dutch service sectors, aiming to identify unused potential, key success factors and threats. The opportunities identified in this report have been discussed with the sectoral organisations and specific points are currently being investigated in more depth.

[8] Bain & Company, *Benchmark Study of the Service Sector*, 1996. This study focuses on the software sector, consulting engineers, road transport and logistics and the wholesale trade.

Another example of this procedure is the study into the supply of and demand for energy research, conducted by Arthur D. Little and the PA Consulting Group in 1996 and 1997.

The initial phase of this study presented a qualitative and quantitative description of the supply of (semi-)public know-how. The institutes spontaneously latched onto the study's conclusions regarding missed opportunities for collaboration: they submitted joint plans ranging from closer coordination to intense cooperation in certain areas of research. The second phase described the match between supply and market demand. Where necessary, the Ministry of Economic Affairs will make an effort to improve the match, partly by encouraging discussions between the various interested parties and partly through links with existing partnerships.

Aided by the knowledge of Dutch experts and foreign foresight studies, a technology foresight study (TechnologyRadar) is currently being conducted with the intention of providing an overview of those technologies that will become strategically important to the Netherlands in the future. This study will also set out the position to be taken by Dutch public and private research networks if they are to (continue to) play a role in these areas. The results of this *TechnologyRadar* will be sent to the Second Chamber in early 1998 and will be widely circulated in the private sector and research networks. During 1998, the Ministry of Economic Affairs also plans to organise workshops with businesses and research institutes on a number of specific themes discussed in the *Radar*. The foresight studies carried out by the Foresight Steering Committee, and their continuation under the responsibility of the AWT, will also play a role here. It is expected that this will give renewed impetus to the dialogue between businesses and research institutes on relevant strategic technologies.

5.2 The government as the organiser of platforms

The initiatives discussed in the foregoing were aimed at the imperfections regarding information in the market. Using its ability to organise, the government can also become involved in clustering in another way. This could be the case if market parties express the wish to cooperate, but need a neutral external party to guide the partnership process. In such cases, the government could play a facilitating role by contributing its organising skills. One example being the programme 'mass individualisation' and 'chain reversal', in which the private sector requested the government to take the lead as an independent third party.

Consumer behaviour is becoming increasingly unpredictable, less stable and more individual. The Mass Individualisation project is based on the idea that responding to different consumer requirements presents Dutch businesses with enormous economic opportunities: demand-driven production (customizing). However, this does require a very different (more flexible) organisation of production, it places heavy demands on the provision of information and it calls for a good network. As a follow-up to the '15 Million Markets' Conference organised by the Ministry of Economic Affairs, the private sector requested the Ministry to help raise awareness of this trend in trade and industrial circles. With the assistance of the Ministry of Economic Affairs and the Ministry of Agriculture and Fisheries, the 'Mass Individualisation Network' was formed in 1996. This network is responsible for the coordination of several specific projects as well as for communications and research activities. Some 50 companies are now involved in the projects. In order to help boost this trend, and to encourage it to be followed in other businesses and sectors, the Network will organise a second Strategic Conference to present the project results at the end of April 1998.

The government played a similar role in relation to the information superhighway. It had already recognised the strategic importance of information superhighways at an early stage, the result being an action programme consisting of the following parts:

- the government creates conditions in which the information superhighway can flourish (liberalising the telecom and media markets, updating privacy regulations);
- government applications are encouraged;
- acceleration of developments in the private sector.

In the third part of this action programme - accelerating developments in the private sector -, at the point when the high level of uncertainty as to the anticipated trends slowed down investments, the government worked intensively with private enterprises. This uncertainty related partly to the growing demand for new telecommunications networks (scale, quality, access, ancillary equipment) and partly to the provision of new interactive multi-media services. Initiated by the Ministry of Economic Affairs, the companies subsequently set up a platform which developed a widely-supported vision for the direction that the Netherlands should take (including the critical success factors). As a result, substantial investments have since been announced by various market players[9].

5.3 Facilitating specific partnership projects

[9] The Second Chamber has already been notified of this: Second Chamber Documents 1996/97, 24565 004, 11 December 1996.

In addition to the efforts put into large-scale developments like the information superhighway, the government has also been actively involved in several specific partnership projects in recent years. These include the 'cluster programmes', of which the Second Chamber was notified in a letter dated 28 December 1994[10]. Annex 2 of this letter includes a report on the 24 cluster projects, which, in view of the sensitive business information it contains, is confidential. In almost every case, these projects have led to an exchange of strategic know-how and long-term partnership agreements. One striking element here is that cooperation in such projects often leads to a cultural swing in the practices of the businesses and research institutes. Indeed, in many cases this has led to a greater awareness of each other's value added.

An example of a cluster programme of this kind is the 'Multi-media on the Information Superhighway' project, involving a consortium of care institutions, companies and research institutes. The aim of this project is to create a framework for the development of new multi-media services. Pilot projects are currently being organised in the fields of tele-education, tele-working, tele-conferencing and tele-consultancy. Because patient information can be communicated interactively, in real time and in accurate detail, the latter application allows medical specialists working in different care institutions to perform joint diagnoses. These new services are being tested in a user-environment and can be adjusted to individual user requirements.

By making regular use of existing technology-oriented instruments the government also played an active role in realising a substantial number of other innovative partnerships. Here too, the basic principle in the activities developed in this framework has always been that it is the market players themselves, not the government, who set up alliances and establish clusters. In those cases where, for example, market imperfections result in clusters either failing to develop at all, or that they develop too slowly or are not large enough, then the government acts as a facilitator and catalyst. How the government realises this in practice depends on the requirements in the market concerned.

Ideally, the clustering process that takes place in the market can be divided into several different stages. Each stage has its own specific features and, if necessary, calls for different kinds of government support. The stages involved in the clustering process are as follows:

- identifying market opportunities (*identification*);
- assessing market opportunities and studying the feasibility of concretising them in development plans (*investigation*);
- organising the parties for a specific project (*organisation*);

[10] Letter from the Minister of Economic Affairs of 28 December 1994 on strategic partnership projects, Second Chamber Documents 1994/95, 23900 XIII, No. 31.

- drawing up the partnership and development agreement, including the terms for financing, risk allocation and property rights etc., (*specification*);
- implementing the project (*implementation*).

This clustering process generally occurs spontaneously without any government intervention whatever. However, in specific cases the government may be requested to act as a catalyst, a role which will vary according to the stage that the project has reached. Table 2 provides an overview.

Table 2: Innovative clustering in the market and the government's role as facilitator in specific projects

Stage of clustering in the market	*Potential role for government*
• Identification	• The provision of information • Identification based on public requirements
• Investigation	• Stimulation based on public requirements • The provision of information and networking • A platform function
• Organisation	• Broking • Process management
• Specification	• A link to financial technology instruments • Process management
• Implementation	

In practice, various strategies to meet these needs have been developed over the past few years. Generally speaking, these relate to the following government activities (see Table 2):

- The identification of market trends and business opportunities for innovative clustering, partly on the basis of strategic information and public requirements (*identification*). This search process, which takes place both within and outside the Ministry, requires an intensive exchange of information and networking with businesses, research institutes and government specialists.
- The identification of specific partnership and development possibilities, in which the government can challenge market players to establish consortia and clusters around the implementation of specific research programmes (*stimulation*).
- Assessing the opportunities for more synergy and/or scale increases (*broker services*) by broadening alliances in the cluster. This can involve identifying partnership opportunities, businesses and research institutes that may have complementary expertise, but which the market parties have not yet included in the process.

- Process management in concretising the projects (*process management*). For example: by virtue of its flanking technology policy the Ministry of Economic Affairs is already working on a publication which will set out those specific points that must be given attention in contracts for technological partnership projects.
- Establishing a link to the procedures embodied in existing instruments, as implemented by Senter, the Netherlands Agency for Energy and Environment (NOVEM), independent institutions, and others (*linking*).

By pursuing these 'public consultancy' activities the government has gradually built up experience with those factors that play a role in the success or failure of facilitating innovative clustering. Experience shows that these consultancy activities have the highest chances of succeeding if:

- the market players have a clear vision of the value added of collaboration and the prospective project;
- the participants have complementary competencies, each making a clear commitment to the project (for instance by taking upon themselves some of the project risks);
- both the market parties and the government display a high level of ambition;
- it involves strategic projects which, above all, are able to strengthen the future competitive position;
- the contractual issues of partnerships (e.g. the ownership of jointly developed know-how, risk allocation and financial terms) are properly regulated.

These success factors will act as a guide in selecting projects in which the Ministry of Economic Affairs invests a great deal of time and energy, often in association with other ministries. Below is a summary of some new, strategic cluster initiatives for the coming period:

- *New transport systems*: these include innovations in public transport, developments relating to 'hectometric' transport and the development of a light rail system, all of which are aimed at more efficient and user-friendly public transport and reducing traffic delays and adverse environmental effects.
- *Electromagnetic capacity technology*: a new area of technology which integrates capacity electronics, electromagnetics and mechanical engineering. Mastery of this breakthrough technology could lead to products and processes with a considerably higher level of energy efficiency.
- *Life Sciences*: the development of an industrial cluster in the knowledge-intensive field of medical, agro-food and environmental biotechnology.
- *Underground construction* of infrastructure (pipelines and roads) and accommodation: partly in response to the development and application of technological innovations, attempts are now under way to make more effective use of the scarcely available space in the Netherlands. The opportunities, problems and potential solutions have already been described in the Environment and Economy Paper.

- *Information and communications technology (ICT)*: in combination with a special venture capital fund for ICT companies, a number of theme-based incubators will be formed, where new and resurrected ICT companies will be provided with accommodation and support in the areas of technology, management, marketing, exports and international contacts.
- *Electronic commerce*: the elimination of technical, legal and economic constraints in order to further strengthen the solid Dutch position in electronic commercial transactions.
- *Production industry networks*: encouraging the modernisation of production networks in the manufacturing industry to ensure the integrated development of new product designs and production processes, with the intensive involvement of and collaboration with suppliers.
- *Product Data Interchange (PDI) in the process industry*: facilitating the ambitious plans of the parties that contract work out and suppliers in the process and energy industry to implement PDI throughout the value chain.

Technology instruments geared towards alliances

The instruments geared towards alliances offer substantial support for broker activities and have a catalysing effect on the realisation of initiatives in the market. Commitment on the part of the market players is essential here. A particular example of this is the realisation of Leading Tchnological Institutes. These are funded by the state, public research institutes and the businesses sector concerned; the latter also having made a commitment on the administrative side. A total of eighteen bids were made in an initial public tender. These were tested against the criteria and assessed in various subsequent rounds. Ultimately, four Leading Technological Institutes were selected in the fields of ICT, foodstuffs, polymers and metals.

Other instruments aimed at boosting cooperation are also used to encourage market parties to actively seek ways to combine their knowledge and skills. This applies for the Business-oriented Technological Cooperation Projects (BTS) for example. As of 1 January 1997 this scheme replaced the Business-Oriented Technology Stimulation Programme (PBTS), the IT scheme, the Business-Oriented Technological Research by Collectivities (BTOC) and the Subcontracting and Outsourcing Programme (T&U). The evaluation of the PBTS scheme, the IT scheme and the cluster projects is appended to this letter. This appendix also contains the results of the first BTS tender.

As well as being aimed at the BTS programme, the Economy, Ecology and Technology Programme (EET) also aims at technological cooperation. This instrument promotes the setting up of partnerships between businesses and research institutes in the field of environmental technology. The Ministry of Economic Affairs and the Ministry of Education, Culture and Science are both responsible for funding the research costs for the 13 projects that were launched in 1997.

One interesting EET project is 'Kitchen Appliances of the Future'. This involves the development of a new generation of intelligent kitchen appliances by a partnership between ATAG, the TNO Institute of Industrial Technology, Delft University of Technology and Gastec. Not only will these appliances be made easier to use, they will also be made so that they consume less energy. The researchers are also investigating whether heat from refrigerator motors can be used to heat tap water. ATAG is aiming to develop an oven of the future that can distinguish a chicken from a cake, for example, and select the most energy-efficient cooking process on the basis of that information. The new generation of extractor hoods will automatically switch on and off if strange odours are monitored. This project entails a combination of different technologies: materials technology, sensors, energy technology and food technology.

All in all, we have seen a strategy gradually develop over recent years which contributes towards clustering and alliances (this section simply provides an overview). As a result, knowledge and expertise has been built up within the government, and this knowledge and expertise can now be applied in order to respond to the market trends described in Section 2. In the coming years, the importance of alliances and innovative clustering for the Dutch economy can only be expected to grow. Consequently, more weight will also be attached to this area of innovation policy in the coming years.

6. The government as a demanding customer

Historically, economic and technological innovation has often been achieved thanks to the presence of a demanding customer: a (potential) customer that sets high, specific demands in terms of quality on the development of future products, technologies or production process. This is based on the expectation that new (public) demands will thus be met. The demands of this market party (this is sometimes the government) stimulate the development of new producer, user and researcher networks; networks which join forces in the search for new solutions.

Given its position as a contractor, regulator or provider of public services, the government has access to specific knowledge which is of key importance to market parties and is thus well able to play this role. This relates in particular to strategic information and knowledge of long-term developments in those areas in which the government, by virtue of its public responsibilities, takes initiatives. For instance, this applies with regard to environmental management, house construction, energy supply, infrastructure, research networks, education and safety. It is precisely in such areas that the government, as a demanding customer, can stimulate strategic clustering and see that major benefits are to be gained in the form of higher quality and lower costs for the services in question, for both the private sector and consumers.

This section will primarily discuss the government's procurement practices and its influence on tenders in socially relevant areas. The government also stimulates innovative clustering in other ways, through its role as regulator for example. This stimulation is often supported by broker activities. For example: if the government sets targets for energy conservation, the result can be that market parties join forces.

This applies with regard to the long-range agreements on energy that the Ministry of Economic Affairs draws up with various sectors. These agreements stipulate the amount of improvement that must be achieved in terms of energy-efficiency in each sector within a specific period. Companies then decide for themselves how to realise these targets in the most economical way. In return, the government makes funds available to stimulate technological solutions that will contribute to the realisation of the agreed targets

Another example is to be found in industrial site layout.

Companies sometimes work together voluntarily at permanent industrial sites to realise sustainable production and/or more efficient use of space at the lowest possible cost. This involves the joint use of facilities (such as an industrial water mains) and closing material cycles through the reuse of residual or by-products. Consideration is given to the possibility of relocating existing companies at existing sites. At new sites, the aim is to achieve optimal clustering and segmentation of businesses, and thus assist the emergence of business combinations that complement each other economically. Actions for promoting sustainable industrial sites were formulated in the Environment and Economy Paper.

When developing policy in the various areas, similar activities can help utilise the opportunities clustering offers in order to achieve the policy targets.

6.1 Government procurement

There are considerable opportunities for clustering in the field of government procurement: public utilities for example. In its role of customer, the government has a major interest here given its responsibility for realising the best possible price-quality ratio in its procurement policy and for continually searching for efficient and high-quality solutions for social needs. This is reinforced by the increasingly complex problems that the government faces, for example in the area of infrastructural facilities. Only by making maximum use of the creativity among the companies in the private sector companies will it be possible to find solutions that will be 'sustainable' in the longer term.

Procurement practices can be designed to stimulate innovative projects among the market players and to facilitate clustering. Practical examples of such procurement procedures can already be found at the Ministry of Transport and Public Works.

A consortium of contractors was responsible for development of the concept, as well as the actual execution process, in the design and construction of the Stormvloedkering Nieuwe Waterweg (flood barrier). The government concluded a 'design and construct' agreement with the contractors, in which they were given responsibility for the entire project. It was partly thanks to this that a high-tech solution was reached.

The government is also successful in achieving better price-quality ratios in other areas, Defence for example, by adopting an innovative approach to procurement policy.

Such an approach, in which clusters of businesses are asked to develop an innovative overall concept, should be possible in yet more fields. Know-how can be combined, technological development can be brought to maturity, and price-quality ratios can be improved by inviting tenders from consortia in which companies with complementary competencies work together. This approach also makes it possible for the companies to seize new opportunities in the world market by using the know-how and experience they have built up together.

The government can encourage its suppliers to actively organise themselves for the purpose of implementing such projects. This can be done by means of an open procurement policy in which, subject to the condition of free competition, the necessary knowledge and skills are mobilised and innovative clustering is encouraged. The European procurement rules form an important framework condition here.

The European procurement rules are designed to ensure fair procurement procedures, in which companies from all Member States have equal opportunities to win (government) orders. The guidelines aim to create these equal opportunities through the requirement of ***transparency*** *(the compulsory publication of proposed orders in the Supplement to the Official Journal of the European Communities) and the requirement that* ***objective assessment criteria*** *are applied. The rules afford considerable scope for tenders aiming to achieve innovative clustering. The desire for innovation can be reflected in the formulation of the order and/or in the award criteria. However, the essential point is that Dutch companies, and companies from other Member States, should all have the same chances*

This implies that foreign companies may tender for such government orders; it is also equally possible that combinations of Dutch and foreign companies will emerge. Such competition from, and alliances with foreign companies is no so much a threat but rather an incentive to improve quality. Foreign competition means that Dutch companies will have to do all they can to keep pace with the high demands of international markets. Forming alliances with foreign companies also enables Dutch companies to benefit from the know-how of their foreign partners.

In developing the approach described above, the government is not only able to draw on successful examples in its own practices, such as the flood barrier operation described above, but it can also seek inspiration from the experiences of foreign governments with new procurement methods. A recent study, commissioned by the Ministry of Economic Affairs and conducted by RAND Europe, into the government's role as a 'launching customer' in a number of different countries, discusses these experiences.

The study shows that instruments have been developed in many countries which governments, in their role as a major customer, put to use in order to stimulate innovation in the private sector. RAND Europe refers to the Private Finance Initiative in the UK, which encourages the government to procure more goods and services, rather than producing them itself. The Channel Tunnel project is mentioned as an example. This was not built under government management but by a private consortium. RAND Europe also describes the many government initiatives in other countries in relation to the 'information society'. In these initiatives the demands of different government services are combined and contact is established with the potential providers of innovative products. By offering providers the prospect of guaranteed sales, innovative products become available.

The experiences of businesses that themselves contract out major projects can also provide interesting insights. During the preparation of this letter, talks were conducted with several major industrial companies on their experiences with contracting out complex and costly projects (i.e. 'non-standard' contracts). This round of consultations showed that these businesses too have achieved successes by allowing their suppliers sufficient scope to present innovative solutions.

6.2 Procurement policy in private companies

In business practice, there is a clear trend towards new procurement methods that meet the wish to save costs in major, complex projects. The search for new procurement methods began in the 1980s in the off-shore sector and has now penetrated other sectors. To date, this search has generated some substantial successes: savings of tens of percentage points on total project costs have sometimes proved possible. These savings are achieved through design competition in conjunction with incentive systems to realise faster delivery and a better price-quality ratio. Often, orders for such projects not only cover design and construction, but also maintenance work.

The trend in procurement described above is clearly in line with the development outlined in Section 2 of this letter, in which businesses increasingly try to make better use of the know-how of their suppliers. It is impossible (and inefficient) for the companies placing the orders to have all the required know-how in-house, which means they will increasingly rely on the capacities of their suppliers.

In many cases, the party procuring will try to combine the know-how of the different parties through partnerships, although the precise nature of these partnerships can vary, depending on the character of the project concerned. Sometimes, an alliance is chosen in which the customer and the suppliers form part of the project team. There are also constructions in which the customer and the other parties work together in the definition phase of the project, after which a structure is chosen for the project in which the suppliers alone form the executive project team.

One particular example of procurement was NAM's Groningen Long Term (GLT) project, aimed at maintaining the pressure of Groningen gas production. For this project, NAM laid down the functional requirements only and not a detailed concept that simply needed implementing, as had always been usual practice in the past. Potential suppliers were asked to form their own consortia. The three best consortia were then invited to process NAM's functional requirements in a conceptual design and bid for the entire project, from engineering to maintenance. Competition for the conceptual design was partly funded by NAM itself, and thus to a certain extent limited the risks for the consortia taking part. In exchange, NAM acquired the right to 'cherry-pick' the attractive elements from the 'losing' bids and include them in the chosen project. By adopting this procedure and making use of alternative and innovative implementing variants, and by making a saving on transaction costs and standardisation benefits, NAM was able to achieve a substantial reduction on the total cost.

The success of projects put out to tender in this or similar ways often calls for a change of mentality among all parties: profits are not realised at the expense of the other parties, as is traditionally the case, but rather through the joint effort to improve efficiency in the project as a whole.

6.3 An opportunity for innovative procurements

It is important for the government to respond to the opportunities that this trend offers in the private sector. It can do this by realising better price-quality ratios itself wherever possible, and at the same time stimulating clustering through different procurement procedures for large, complex projects. Together with the other ministries, the Ministry of Economic Affairs will encourage innovative government procurement in the coming period. In this exploratory stage, the Ministry of Economic Affairs will reserve NLG 10 million in its budget to facilitate innovative tendering by various means. A report will be sent to the Second Chamber at the end of 1998 on the results achieved by then, and on what is possible in this area in subsequent years.

An initial investigation, conducted in association with some of those government departments that play a role as customers or can have a significant influence on procurement procedures, shows that there are opportunities in various areas.

Road construction
In collaboration with the private sector, the possibilities for innovative procurement for the following road construction projects will be investigated: the A2 from Holendrecht to Oudenrijn, the A4 from Dinteloord to Bergen op Zoom and the A5 extension of the Westrandweg. Subject to agreement, the private contractors will also be contracted to work out the plans and/or maintain a section of road for a number of years after it is opened. Conditions will be set that can or must lead to innovation in the design or working methods, and consequently, to faster, smarter or better road construction and road maintenance. In addition to the above three projects, other projects could be considered for this method of procurement, including small-scale underground projects. A draft list has been drawn up for this purpose, and will be regularly updated. Criteria have been drawn up and will be used to monitor the innovative aspects of tendering and implementing projects.

HSL
Experience gained in the private sector with innovative procurement will be used in the planning and contracting of the high-speed rail link (HSL). New forms of contracting will stimulate the creativity of the contractors, and more latitude will be created for early discussions on the various technical alternatives.
Included among the relevant issues are:

- putting out the major engineering projects to tender, such as river crossings and underground sections (drilled underground tunnels in the *Groene Hart* area);
- the method used for realising the envisaged integration of underground and surface construction and the scope for potential future transport modalities, partly through integrated contracting of line sections;
- transport technology relating to the HSL, such as installation technology in connection with the national grid, points operation, the signalling system etc.;
- the choice of security system and inviting tenders for the security systems.

One important point that must be considered is the fact that innovative design development could be restricted if the design specifications are established at an early stage. The influence of planning procedures in the design phase plays an important role here. One solution could be to set functional requirements, whereby the technical details would be developed at a later stage in the procedure. Although this requires a change in planning procedures and/or planning legislation, it makes it possible to meet the needs of the contracting market by setting functional requirements. It will then probably be necessary to still follow a part of the procedure after the choice has been made, via the contractor market, for the final design.

Innovation in the construction cluster

The **Innovation in the Construction Cluster** programme resulted in the identification of the following interesting segments:

- industrial, flexible constructions which can be dismantled
- sustainable construction work
- the application of IT and modern installation techniques
- underground construction ('third dimension techniques').

Together with the Ministry of Housing, Physical Planning and the Environment, the Ministry of Economic Affairs will organise a strategic conference at the end of this year. At this conference, the ministries and several municipal authorities, companies and contractors will look into the possibilities for innovative procurment. These should serve as the basis for selecting a number of larger, specific projects that qualify for such tendering methods. Consortia can then apply their combined know-how and skills to realise innovative solutions for these projects at a lower cost.

Optimal Energy Infrastructure (OEI)

This project also bears close ties with the initiatives in the construction field described above. In the coming decade, some 600,000 to 800,000 new homes, many tens of thousands of square metres of office space and industrial sites covering many hectares will be built as part of the plans laid down in the Fourth Physical Planning Paper Extra (VINEX). Decisions regarding energy supplies for the locations concerned will be made for decades to come. As part of the OEI, a new instrument is being developed to enable comparisons of the performance of different designs for energy supplies in, for example, a new housing estate: the On-Site Energy Performance (EPL) system. By imposing specific requirements for local decision-making procedures and the energy performance of the designs (e.g. the EPL minimum level), the government can promote innovative clustering in this area.

Road-Pricing

Sophisticated new equipment must be developed before Road-Pricing can be introduced. In order to achieve this it will be essential for companies with different competencies to collaborate. For this reason, potential providers are requested to form consortia that can provide a full-service package, and can also submit tenders as consortia, in the preliminary phase of the project.

Hospitals

This particular example is closely related to the issue of innovation in the construction cluster. The construction of new hospitals in the coming years will involve a total investment of NLG 6 to 8 billion. These include investments in medical equipment and in buildings, as well as the necessary installation work. Furthermore, an increased use of modern ICT can be expected in hospitals. Here too substantial savings can be achieved through the use of a new procurement method in which suppliers are given the opportunity to combine their know-how and skills. Although the government is not the customer in this particular case it will encourage hospitals to actually apply the new tendering options, for example through the Hospital Facilities Board. The regulations that must be complied with in the construction of hospitals which might possibly stand in the way of potential innovative solutions (these regulations are often extremely detailed), are an important point that must be given specific consideration.

Urban renewal

The **Urban Renewal** programme led to identification of the following interesting areas:

- sustainable renovation (energy and water conservation, use of materials, sound-proofing);
- installation techniques (security, energy functions);
- a more intense use of space, including the incorporation of (small-scale) business activities;
- the issue of accessibility.

The Ministry of Economic Affairs will organise a strategic conference at the end of this year in collaboration with the Ministry of Housing, Physical Planning and the Environment. At this conference, the ministries and several municipal authorities, companies and contractors will look into the possibilities for innovative procurement. These should serve as the basis for selecting a number of larger, specific projects that qualify for such tendering methods. Consortia can then apply their combined know-how and skills to realise innovative solutions for these projects at a lower cost.

The care complex of the future

This issue bears a clear relationship to the Urban Renewal project described above. Social changes are being made to allow the chronically ill to be nursed at home for longer periods with the help of home care services. This has effects on the construction of nursing homes and on the construction or adaptation of housing (‘intelligent house building’). There is a considerable potential of available possibilities to actually realise innovative solutions in the field of technology for the elderly. If they are challenged to do so, business alliances could realise an integrated package of solutions for nursing homes or housing adjustment.

6.4 Towards an innovative public procurement agenda

The various current and upcoming government initiatives in the field of innovative procurement, which focuses on the opportunities that clustering offers in terms of quality improvement and a saving in costs, call for a more structural approach. Obviously, the initial focus should lie on:

- larger and more complex infrastructural projects;
- with a potential for innovation;
- and a wider market potential for the final product, process or service.

Over the past year, promoting innovation in infrastructure has already been discussed in talks between the ministries most closely involved (the Ministry of Economic Affairs, Ministry of Education, Culture and Science and the Ministry of Housing, Physical Planning and the Environment). The possibilities for increasing the scope for innovative tendering have been discussed, taking the European procurement rules into account. An initial survey has been made of a number of tendering projects for the coming years which are suitable for innovative applications.

Given the considerable amount of influence that the government, as the customer, can exert in this way on innovative clustering in the private sector, it is important that this trend be accelerated and structured further in order to increase the scope for innovative procurement. For this reason, an inter-departmental working group will be assigned to the task of developing a strategic framework for the government's innovative procurement policy and of realising an innovative procurement agenda for the government for the medium term. The innovative procurement agenda will include larger and more complex projects with innovative and wider market potential. It goes without saying that realising an optimal price-quality ratio must continue to take priority. The working group's approach will be a strategic one in which, in line with trends in modern procurement practice, innovative clustering among suppliers is promoted with a view to quality improvement and control of risks and costs. Obviously, the working group will not concern itself with the details of innovation in individual projects.

The working group can draw on lessons from government and private sector projects in which procurement is already addressed in a way that stimulates innovation. The working group will not only look at the procurement procedures themselves, but also at the different forms of contract and liability-agreements used that could be essential if clustering is to be a success. Naturally, the European procurement rules are an important pre-condition here.

Attention will also focus on making the government portfolio of future projects transparent (not only large construction projects, but also proposed trial projects and experiments) and on involving the private sector at an early stage. This will give businesses a chance to take these projects into account in their R&D programmes for

example. Finally, the working group will also devote attention to planning procedures and the potential problems they create for innovative tendering methods.

Design competition between different potential consortia of providers in the preliminary tendering phase is important for stimulating innovation and controlling the risks and costs involved. Some financial recompense must be offered for the costs involved. This means that the costs must be incurred before the benefits can be realised. In practice, these costs are usually more than recovered during implementation of the project through improved control of risks and costs. Furthermore, the government can acquire ownership rights to the different designs; the quality of the final project can also be improved by combining specific elements from the different tenders. To promote the realisation of innovative procurement of projects financed via the Economic Structure Enhancing Fund (ESEF), the working group will consider how an amount can be earmarked in the project budgets to promote design competition (this amount has yet to be fixed). With the aim of improving the price-quality ratio in the investment and/or operational phase, similar recommendations will be made for projects which are not ESEF-funded.

7. Summary and policy proposals

7.1 Background and policy rationales

Clustering - the emergence of supplier, customer and/or research institute networks, aimed at creating innovative value added - has in recent years become more important to the innovation process in our economy. This has been driven by market trends and technological developments. Companies are becoming increasingly dependent on external know-how and skills, responding by entering into strategic alliances with other companies and institutions where there is complementary know-how and skills. This creates synergies that lead to improved innovative and competitive performance for all parties, and ultimately to higher quality in the production structure.

While this trend is clearly visible in the market it is also reflected in the implementation of the government’s innovation-oriented industrial policy. After all, it is the government’s wish to help increase the rate of return on public and private research efforts in order to promote the creation of new products, services and production processes and thus contribute to the competitiveness of businesses. In recent years, the Ministry of Economic Affairs’ budget for promoting private sector and research institute initiatives to enter into partnerships has increased substantially, and Ministry staff have become increasingly involved in supporting specific cluster projects that would otherwise not have been realised or would have been less successful. It goes without saying that the stimulation of innovative clustering is not an end in itself, but rather a means to improve the competitiveness of the private sector and so contribute to welfare and prosperity in the Netherlands.

First and foremost, this letter has outlined a conceptual framework and a policy rationale for cluster policy; it has also set out the available instruments and initiatives in this area. It is a letter which presents knowledge of the clustering process systematically, stating the main success factors.

The rationale for the government's cluster policy is related to:

1. The elimination of bottlenecks in the market (market imperfections) that impede collaboration, such as problems in organisation, information and legislation;
2. positive external effects of R&D efforts, particularly where these are realised through partnerships, for example in the fields of energy and the environment, and also in large-scale innovative projects such as the information superhighway;
3. increasing the rate of return on public R&D expenditure and promoting knowledge dissemination, particularly to SMEs;
4. establishing high-tech business activity and R&D capacity in this country.

Three roles were distinguished in government's fulfilment of its tasks in the field of innovative clustering:

- the role of creating favourable and stable conditions to enable businesses to increase their competitiveness and innovation potential framework policy (*framework policy*);
- the role of identifying and stimulating innovative clustering by providing strategic information and by matching supply and demand (*broker policies*);
- its role as a demanding customer when providing public services.

If Dutch cluster policy is compared with policy practices in other OECD countries we see clearly identifiable similarities with the policy trends outlined (platforms, the provision of strategic information and upgrading policy). However, Dutch policy is implemented with the aid of a mix of instruments tailored to the specific Dutch circumstances. As in other Western economies, free market forces take priority in the Netherlands, and the government's role focuses on those areas where markets function inadequately, and becomes more active when the government itself takes a specific position in the market on the basis of its public duties. A special consideration in an open economy like the Dutch economy is the need to realise, in an era of increasing globalisation, a maximum rate of return on total research expenditure through (international) cooperation.

In the coming period, efforts will be made to obtain a clearer picture on policy trends in other countries. To this end, in association with the OECD, the Ministry of Economic Affairs will organise a first Dutch workshop on cluster policy in the autumn of this year.

7.2 Policy proposals

Within the roles described above, the Cabinet wishes to both deepen and expand cluster policy in the coming years, making it a new dimension in industrial policy. More specifically, the Cabinet has the following policy proposals in mind:

Framework policy

1) Devoting attention to legislation and regulations that either prevent or hamper innovative clustering.

Broker policy

2) Initiatives in the field of providing strategic information, including the publication of technology foresight studies and benchmarking of clusters, aimed at assessing opportunities for innovative clustering. Workshops on these studies will be organised with the private sector.
3) Support for and facilitation of a number of new specific cluster initiatives (e.g. through platforms). Some specific cluster initiatives are listed in Section 5.3. The success factors described will serve as a guide to the selection of such projects.

Procurement policy

4) In the near future, a number of specific initiatives will be taken in close cooperation with other departments for the innovative procurement of eight projects (Road-Pricing, Road Construction, HSL, Innovation in the Construction Industry, Hospitals, Energy, Urban Renewal and the Care Complex of the Future).
5) In the Ministry of Economic Affairs budget a sum of NLG 10 million will be earmarked for facilitating this innovative procurement policy by introducing design competition.
6) In order to start up the new method of procurement, an inter-departemental working group will be set up to develop a strategic framework for innovative procurement policy and prepare an innovative public procurement agenda. This relates to larger infrastructural projects with an innovative and broader market potential in the coming years.

To promote the realisation of innovative procurement for projects funded through the ESEF, the working group will look at how a specific sum can be earmarked in the project budgets to promote design competition (this amount has yet to be fixed). Similar recommendations will be made for projects which are not ESEF-funded. The costs will precede the benefits here since the new method of procurement will bring about an improvement in the price-quality ratio during the investment and/or operational phases.