

**Quality promotion in Europe
The Netherlands**

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QUALITY PROMOTION IN EUROPE

The Netherlands

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Contents

1	Introduction	1
2	The Emergence of Quality as an Issue	1
3	The Quality Infrastructure	5
	3.1 Quality Organisations	5
	3.2 Activities of Organisations	8
4	National Quality Schemes and Initiatives	12
	4.1 Global Schemes	12
	4.2 Sectoral Schemes	20
5	Regional Quality Schemes and Initiatives	21
6	Overview and Outlook	27
7	Inventory of Quality Schemes and Initiatives and Organizations	28

Interviews
References

1. Introduction

This report describes public activities and measures in the field of quality assurance and management in the Netherlands. In addition to reviewing activities at the national level, a number of significant schemes at the regional level are discussed.

2. The Emergence of Quality as an Issue

In the 1970s, there was growing awareness in the Netherlands that the increased penetration of especially Japanese products in the European market was, at least partially, due to the attention Japanese companies devoted to the quality of their products. In 1976, the first concerns regarding 'quality' were expressed. In a memorandum 'Selective Growth 1976', the Ministry of Economic Affairs argued that improved quality control was a necessary prerequisite for the competitiveness of Dutch businesses¹. This marked the starting point of a number of governmental support schemes. The first programme was initiated in 1978 at a sectorial level, followed by programmes with a broader exposure and other target groups.

From 1978, quality improvement has been an essential topic in the industrial policy of the Ministry of Economic Affairs.

Although the emphasis of the quality policy shifted during the years, the introduction of quality, awareness, infrastructure and training have always been a focus. There are two distinct phases in the development of the quality promotion initiatives. These will be dealt with in turn.

1978 - 1987

In 1978, the first national programme in the field of quality, called "Quality Plan", was initiated and supported by the Ministry of Economic Affairs. Quality control, quality assurance and the development of a structure for certification were emphasized. The following activities were undertaken as part of 'Quality Plan':

- the introduction of quality systems in five industries: the graphic, packaging, shoe, furniture and precision engineering industries. The programme concentrated on quality costs studies and testing to norms of quality assurance. 300 companies participated in this experiment.
- the realisation of Dutch series of standards for quality assurance systems by the Dutch Standards Institute 'NNI'².
- the preparation of training materials by KDI³; and

¹ Cf. Horning, M.W., en Pruijt, M.W., 'Het kwaliteitsbeleid van Economische Zaken', ESB, 1989.

² NNI (Nederlands Normalisatie Instituut): Dutch Standards Institute, see chapter 3.

³ KDI Stichting Kwaliteitsdienst, quality organization, see chapter 3.

- the establishment of an umbrella certification organization, the Council for Certification⁴.

The results of the programme were evaluated by the Quality Plan Advisory Group ('*Adviesgroep Kwaliteitsplan*') in 1982. It concluded that the improvement of quality policy should be considered an important condition in reinforcing the economic structure in the Netherlands with respect to international competitiveness. The Group proposed to the Minister of Economic Affairs that a 'Quality Policy' steering group ('*Kwaliteitsbeleid*') be established in order to stimulate quality management in Dutch businesses. At about the same time, an advisory committee to the Ministry of Economic Affairs, "the Wagner Committee"⁵ (which was considering the progress of industrial policy) recommended flexibility, productivity and quality as important elements of governmental industrial policy. On the basis of the advice given by the different advisory groups, the Minister of Economic Affairs (Van Aardenne) decided in 1984 to stimulate the introduction of quality management in Dutch business. Thus quality promotion activities were extended to include quality management. The programme 'Quality Management' ('*Kwaliteitszorg*') was conducted between 1984-1987. The emphasis of this programme was clearly put on awareness and the development of the knowledge infrastructure. The programme was supported by a large national advertising campaign costing about 650,000 ECU. In addition, 20 regional information meetings were organized which were visited by 4,000 persons. The aim of these meetings were to inform participants about quality and to answer their questions in this respect (however, the meetings seemed to evoke more questions than answers).

In summary, the main items of the programme were:

- awareness;
- infrastructural facilities (certification, normalisation, education);
- support of quality projects in collaborating industries; and
- a purchasing policy of the government itself which paid more attention to the quality of suppliers.

The target groups of the programme were all industries, including those in the commercial service sector. Thirty projects were carried out and about 1000 companies were given information about the programme. The programme activities were coordinated by the Ministry of Economic Affairs in conjunction with 'NEHEM'⁶, the Dutch Restructuring Company .

⁴ Raad voor de Certificatie, see chapter 3.

⁵ Advisory Committee Wagner: committee of 14 experts installed in 1981. Chairman of the committee was G.A. Wagner, former c.e.o. of Shell. The task of the committee was to consider the desirability of alterations in the policy of the government with respect to the Dutch industry.

⁶ NEHEM (Nederlandse Herstructurerings Maatschappij), Dutch society for the restructuring of business groups, founded in 1972 under the Ministry of Economic Affairs. NEHEM became an independent consulting firm in 1991.

NEHEM was responsible for project management. The project group 'Quality Policy' ('Kwaliteitsbeleid') was installed by the Minister of Economic Affairs for support and advice with respect to the programme content. Programme realization costs were primarily carried by the business community. The government provided financial support to encourage companies to develop activities in the field of quality and to create a support infrastructure. The estimated government support in the period 1978-1987 was about 4.8 million ECU⁷ (see Table 1). About 1.6 million ECU was used for awareness and information activities; a large number of advertisements, brochures, video tapes and periodicals were developed and distributed to inform businesses about quality. About 2.6 million ECU was spent on collaboration projects involving small and medium-sized companies in the field of quality improvement. A further 600,000 ECU invested in research in order to create and improve the knowledge infrastructure.

Table 1:

Governmental expenditures on quality programmes in the period 1984 - 1987

Activity	amount (ECU)	
- information/awareness activities	1.6	mln.
- collaboration projects	2.6	mln.
- research	0.6	mln.
total*	4.8 million ECU	

Source: Evaluation report "The Netherlands: time for quality!"

* Excluding operation costs of NEHEM

In 1988, an evaluation report, 'The Netherlands: time for quality!' ("*Nederland: hoogste tijd voor kwaliteit!*")⁸) was published with the results and recommendations for the period 1988-1990.

The main conclusion of the advisory group was:

*"Reviewing the matter as a whole, one can determine that much has been started in the last three years, but a lot of work needs still to be done. Quality has still too little momentum in the Netherlands to continue by itself or at a necessary pace. As extra consideration, it may count that large-scale quality schemes have also been set up in nearly all surrounding countries because in these countries quality is also considered as essential weapon in the future"*⁹.

⁷ 1 guilder = 2,30 ECU d.d. 24-03-'92

⁸ Ministerie van Economische Zaken, projectgroep Kwaliteitsbeleid, *Nederland: Hoogste tijd voor Kwaliteit*, Den Haag, 11 november 1987.

⁹ Idem

In summary, the advisory group argued that the promotion of quality should be continued in order to introduce quality on a permanent basis in Dutch businesses. The advisory group advised that the Minister of Economic Affairs continue its quality policy by means of a total programme aimed at awareness, infrastructure, education and demonstration projects.

1988 - 1994

In 1988, a new national programme for the period 1988-1991 was launched by the Ministry of Economic Affairs, called 'Quality & Logistics' ('*Kwaliteit en Logistiek*'). This programme was a conscious continuation as a result of the evaluation report "The Netherlands: time for quality!"¹⁰ already discussed. A budget of 14.7 million ECU was made available by the Ministry for a range of activities. Quality management and logistic management were combined for reasons of efficiency - some similarity being seen in the effect which both have upon the behaviour of the firms. However, in practice, it was difficult to combine the two in individual projects and therefore a clear distinction in quality and logistic activities resulted. Of the 90 projects about 20 projects were directed to logistics and 40 to 50 to quality (it being difficult to assign the remaining projects specifically to one or the other areas).

In 1991, the programme was evaluated¹¹ and prolonged for two more years until 1993. A questionnaire conducted among Dutch businesses for the evaluation found that whereas quality awareness had considerably increased (see Section 4, Table 4), Total Quality Management, was applied or fully developed in only 1% of all businesses (see Table 2).

This seems to be disappointing. More than 80 percent of the interviewees acknowledged the importance of TQM and are preparing or executing plans and projects. However, even though companies are willing to apply TQM, considerable barriers apparently exist in their doing so.

The questionnaire was presented to 500 representative companies. They were asked some 25 questions about their activities and plans concerning quality management. Responses were entered in a computer model which compared actual answers with normative ones. The model classifies every company in one of four phases of quality management. Table 2 presents the results of the model for all companies.

¹⁰ Recommendations reports with regard to logistics: Coopers & Lybrand Associates, *Logistiek in de logistiek, op weg naar integrale logistiek in Nederland*, Rotterdam, 1987; McKinsey & Company, *Resultaatverbetering in het midden en kleinbedrijf door integrale goederenstroombeheersing*, Amsterdam, 1987.

¹¹ Ministerie van Economische Zaken/projectgroep Kwaliteit en Logistiek, *Voortgangsrapportage 1991 Kwaliteit en Logistiek*, Den Haag, 1992.

Table 2:
Quality Management in Dutch Businesses

Phase	%
0. no quality activities	16
1. a first start to put things in order	78
2. internal control, application of instruments	5
3. external orientation, adapt to market needs	1

sample size 500

Source: Progress report 'Kwaliteit en Logistiek' 1991

In the first phase (phase 0) no quality action is undertaken in the company. In phase 1, companies start to 'put things in order'. In phase 2, quality activities are internally developed, i.e. control instruments are applied, like registration of complaints and of quality costs, audits, logistic information systems, all internally oriented. In the last, and the highest phase (phase 3), quality is a structural integrated part of management and is externally oriented; goals and applications of instruments are particularly adapted to the needs of the market (clients, suppliers, competitors).

3. The Quality Infrastructure

3.1 Quality Organisations

Nederlands Normalisatie Instituut (Dutch Standards Institute)

NNI is the national organization responsible for the establishment of standards. The NNI board has its standardization projects delegated to committees. These committees execute standardization activities in specific sectors, e.g. construction, chemistry, agriculture and food, environment etc.

Currently, NNI is reorganized. This reorganization will change the nature of the institute from one that assists in the establishment of norms on demand (of the government, companies etc.) to a service institute that actively provides information to the business community and supports the initiation and implementation of European norms.

Stichting Kwaliteitsdienst KDI (Institution Quality Service)

KDI works with Dutch industry and service industries to:

- improve quality awareness;

- distribute knowledge and methodology of total quality management; and
- promote practical application of quality management.

KDI is by far the largest training institute in the field of quality. In addition to training courses, KDI organizes conferences and gives support and advice with respect to the implementation of quality systems in companies. For the non-industrial sector, KDI has developed the KOAF programme ('Quality on all fronts') and the VSOP programme ('Improve Service and Supporting Processes'). Since 1957 KDI represented the Dutch government and organizations in the Council of the European Organization for Quality (EOQ). KDI fulfills an important function in the international quality network (EOQ, ASQC¹², EFQM, JUSE¹³ etc.)

In 1992, under the national programme Quality and Logistics (see 4.1), KDI opened a Documentation and Information Centre D.I.C. The aim of this centre is to be a national 'one-stop-shop' (knowledge centre) for all documentation and information in the field of total quality management.

NVK (Dutch Association for Quality)

NVK was originally an association of companies in the mechanical and electro-mechanical industries formed with the intention of supporting the affiliated companies in their attempts to introduce and implement of quality management systems. Nowadays the Association covers the entire industrial and transport sectors. NVK promotes also the interests of certification bodies.

MANS (Association Management New Style)

MANS aims to stimulate the Dutch business community to improve the quality of products, production processes, services and of its labour organization (MANS has also become the name of the principles developed by the organization itself) MANS organizes orientation days with respect to its philosophy. Consultants support companies with the introduction of quality systems.

EFQM/NL group

EFQM/NL group is the Dutch department of the European Foundation for Quality Management. The group is becoming increasingly important in the quality infrastructure with respect to the promotion of quality as the fundamental process for continuous improvement within companies.

¹² ASQC: American Centre for Quality.

¹³ JUSE: Japanese Union of Scientists and Engineers.

IMK (Institute for Small and Medium-sized Companies)

IMK was established in 1967 by the Ministry of Economic Affairs and the SME organizations with a dual purpose: on the one hand knowledge transfer to SME; and on the other hand the improvement of the structure and quality of SMEs. IMK has a national network of 40 offices. These offices offer a range of services to companies (in quality related areas activities include the organisation of training courses, workshops and seminars). As part of the programme 'Quality & Logistics' IMK organizes quality workshops for entrepreneurs in the non-industrial sector. The most important target group of IMK is the non-industrial sector (for instance the building and service industries).

Sectoral Associations

In addition, there are a large number of sector associations. These organizations promote the interests of the affiliated companies. Sectoral quality projects are often initiated by the sector association. Originally set up in the industrial sector they are increasingly extending into the non-industrial sector. There were about 40 quality projects carried out by sector associations in 1991.

Regional Organizations

At the regional level the network of eighteen innovation centres (ICs) supports technological innovation in SMEs. The network was established by the Ministry of Economic Affairs in 1989 to bridge the gap between small companies (1 to 100 employees) and knowledge centres (universities, research institutes etc.). The main activity of the centres is technological innovation, but ICs also provides advice in the field of quality. (Specifically the ICs have developed a computer programme, called Q-audit (quality audit), in order to investigate companies with respect to quality). In total there are about 140 advisors who provide practical and direct advice. The primary target group of the innovation centres is the industrial sector. Free advice to companies is given for two days. Long-term advice (with a maximum of 8 days) is offered at a commercial rate. The innovation centres receive a annual subsidy of approximately 17 million ECU of the government.

Also at the regional level there are a number of Quality Centres whose activities concern information, promotion, coordination, advice and training courses in the field of total quality management. Centres help companies in all sectors. Some centres are autonomous and obtain income through their activities, other centres are partly subsidized. For instance, the establishment of South Limburg Quality Centre was realised with the financial support from the European Committee in scope under its EFRO scheme¹⁴ and from the Ministry of Economic Affairs under its PNL scheme.

¹⁴ EFRO: European Fund for Regional Development

Quality Circles

There are twelve regional quality circles. These circles are associations (fora) of companies, institutes and individuals who have as an objective an increase in the quality level of organizations. The circles operate through the mutual exchange of experiences and information in an informal way, and some also provide training in conjunction with the Chamber of Commerce. Circles are private initiatives of local businesses, most often found in the industrial sector.

3.2 Activities of Organisations

Standardization and Certification

As mentioned above, the Dutch Standards Institute (NNI) is the national organisation responsible for the establishment of standards. The NNI Stacek committee (Standard procedures and criteria for the evaluation of quality systems in companies) produced the Dutch version of ISO 9000 norms in the late 1980s. In 1991, the name of the committee was changed to 'Quality Management', and its activities shifted from evaluation of ISO propositions to the more active initiation and development of propositions at the ISO and CEN. NNI is a member of the European standardization organization CEN and the international standardization organization ISO. Similarly, the electrical engineering sectoral body, NEC, is member of CENELEC at European level and of IEC at world-wide level. NNI is subsidized by the government, but has an autonomous status. Most of its revenue is realised through sales of standards licenses.

The development of an accreditation system occurred in parallel. In 1973, a study was carried out by the NNI on behalf of the Ministry of Economic Affairs argued that the different certificates and quality marks varied considerably in the methodology applied and also in terms of reliability. The study resulted in an interim report, - "To Guarantee Quality Certification" in 1974. In this report a method was developed by representatives of all organizations involved¹⁵ to organize the different methods of certification. A committee of NNI helped to establish a Council of Certification (Raad voor de Certificatie). The Council was installed in 1981 and became operational in 1983. The first certification organization was recognized by the Council in 1983. In 1986, the first recognition was given to a foreign organization, Lloyd's Register Quality Assurance Ltd. of the UK. Since 1989, there has been close collaboration with the Belgium NAC-QS in joint accreditation of certification bodies.

The objective of the Council of Certification is to regulate, coordinate and advise in the field of certification in the broadest sense. An important part of the task of the Council is to examine the application of certification bodies and their certification schemes for compatibility with the

¹⁵ Representatives of consumer organizations, certification bodies, businesses, government and universities.

recognition criteria. The recognition criteria are drawn up by a representative group of the parties involved and concern the reliability, expertise and impartiality of the certification bodies. Recognition to certification bodies is given for two years, after which an examination takes place again. In 1987, the Council of Certification, as advisor of the Minister of Economic Affairs, initiated the establishment of an institute for the recognition of laboratories (STERLAB) with responsibility for the certifying laboratories. Also, the institute for recognition of the inspection bodies (STERIN) was established in 1991. With the establishment of STERLAB and STERIN the accreditation structure was complete.

The Council for Certification is financed by contributions from the recognized certification bodies. Since its establishment, the Council has also been subsidized by the Ministry of Economic Affairs. In 1990, the subsidy covered 20% (62,500 ECU) of the exploitation costs. In 1991, the subsidy was reduced to 10% (33,000 ECU). In addition, the Ministry of Economic Affairs provided a subsidy specifically in support of "Europe 1992". In total, over four years, about 422,000 ECU have been provided (107,000 ECU in 1989; 111,000 ECU in 1990; 103,000 ECU in 1991 and 101,000 ECU in 1992. The Council is due to become financially independent of the government in 1992.

The Council collaborates in the international field within the EOTC (European Organization for Testing and Certification) for mutual recognition of certificates. The president of the Council is the national representative in the EOTC. With respect to the EC Directive for CE testing and certification, the Dutch government can present organizations recognized by the Council of Certification as a 'notified body' to the EC.

Products, services, processes and quality systems are the subjects of certification. Annually, about 100 companies are certificated. The number of certificated companies is 600 in all. There are a large number certification organizations of which 28 national and international bodies are recognized by the Council of Certification. Quality assurance systems are nationally certificated by 14 recognized certification organizations. The certification of quality assurance systems is based on NEN/ISO 9000 norms. ISO 9000 norms are presently a central issue in Dutch business. Companies are eager to obtain a certificate based on quality assurance norms particularly in the supplier-subcontractor relationship, where quality system certification is important.

Promotion, Awareness and Consultancy

The market for information and advice in the field of quality is extensive and difficult to distinguish clearly. The organizations undertake different activities. Some organizations only give advice in the orientation phase, some give advice with regard to the implementation of

quality management systems, and other organizations offer a total package of advice and support in the orientation as well as in the implementation phase. There are commercial and non-profit intermediary organizations. Finally, there is a distinction in the primary target group of the different organizations. Soem organizations focus on the industrial sector, some on the non-industrial sector, some have just one specific sector as a target group and others focus on all business sectors.

At a regional level, a network of several organizations exists. These organizations provide information and advice and give support with respect to quality projects to small and medium-sized businesses and the innovation centres. Important organizations in the 'regional' infrastructure are the quality centres, the quality circles, the institutes for SMEs and the innovation centres. The quality centres are intermediary organizations which have been especially established to promote, coordinate and give advice in the field of total quality management, they also provide training courses. The function of the innovation centres and institutes for small and medium-sized companies is the same, but they operate in a broader context, i.e. activities are directed at all management aspects. Quality circles are fora of (quality) managers exchanging experiences in the field of quality. In addition, some Chambers of Commerce are active in the field of quality.

Training and Education

The supply of training in the field of quality has been considerably increased in recent years. In the last five years the availability of training, by means of courses, workshops, seminars on quality, has been doubled¹⁶. Besides courses provided by schools and universities training is offered by private schools, consultancy firms and other service organizations, e.g. KDI, IMK, Quality Centres, Chambres of Commerce etc. The NNI also provides courses with respect to certification of quality systems. As a result of the large number of organizations offering training, the need for certification in the field has risen. Such a need was first recognised in 1982 with a study, "quality policy and organization", carried out in 25 Dutch companies with the objective of determining the situation of quality training in the Netherlands. The situation appeared to be rather disappointing; the general training level of quality managers was low and the training facilities in quality at different levels varied extremely. The Dutch Association for Quality Management (NVvK) tried to improve this situation, e.g. through the preparation of a framework for quality training and the development of a package of teaching material for the training of quality managers. The CERKOOP institute was established in 1989 by NVvK to certify training courses as well as the professional skills of persons trained in quality management.

¹⁶ Kluwer Handboek '*Integrale Kwaliteitszorg Beleid-Methodiek-Toepassing*', Kluwer Technische Boeken B.V., Deventer, 1991.

Information about the situation with respect to education and research is available (however rather dated) thanks to the research project “Total Quality Management in Europe”, carried out in 1988 and 1989 by UMIST¹⁷ (University of Manchester, Instituted of Science and Technology) of the UK and SQMI¹⁸ (Erasmus University), of the Netherlands. The purpose of this project was to establish the “state of the art” in teaching and research in European higher education as a basis for future developments in TQM. The project originated from the European Foundation for Quality Management (EFQM) in September 1988. The EFQM stressed that more attention needed to be given to quality and quality management in Europe and especially to the role of European Universities, Business Schools and Polytechnics in education and the teaching of TQM. 13 questionnaires were completed in the Netherlands by 7 universities and one institute for business economics.

TQM was taught on 7 undergraduate courses, on 10 post-graduate courses and on 3 at the post-experience level. Total Quality Management aspects distinguished in the study were: statistical process control, approaches to TQM, quality costs and cost effectiveness of TQM, customer satisfaction etc. The data indicated that, at graduate level at least, TQM tended to be taught as part of other subjects. At the postgraduate and post-experience levels it tended to feature more prominently. The teaching emphasis was mostly on manufacturing and less on services. The academic background of students was mostly business/economic and in some cases technical.

Since 1991 three chairs of quality management have been established in business economic faculties. The first chair ‘Quality and Certification’ was created at the Erasmus University in Rotterdam (EUR) in 1991 on the initiative of the Council for Certification. The second chair ‘Quality Management’ was established in 1992 at the University of Groningen (RUG) and third chair, also in ‘Quality Management’ has been established at the technical university of Eindhoven (TUE). These chairs have contributed to the number of courses on which TQM is taught. In several Schools of Intermediary and Higher Vocational Education, courses in quality management are offered. Largely as result of the education projects developed within the ‘Quality and Logistic Programme’, the number of courses on which quality management is taught has increased significantly. The Higher Vocational School ‘Midden-Brabant’ in Tilburg currently offers the only undergraduate course specifically in Quality Management.

Research

The previously mentioned research project ‘Total Quality Management in Europe’ questioned the same institutions with regard to research activities. Research was done on a large number of TQM aspects (statistical process control, quality & business strategy, organizational structures for TQM etc.). The study listed about 165 postgraduate theses (masters and doctorates) in the

¹⁷ University of Manchester, Quality Management Centre, Manchester.

¹⁸ Strategic Quality Management Institute, Erasmus University, Rotterdam.

Netherlands on total quality management, in addition to regular research activities. KDI-Rotterdam is setting up an overview of ongoing research activities in the field of TQM in the Netherlands

4. National Quality Schemes and Initiatives

4.1 Global Schemes

Quality and Logistics

At present the only national quality scheme is 'Quality and Logistics' (*Kwaliteit en Logistiek*) Programme initiated by the Ministry of Economic Affairs. The scheme started in May 1989 with the purpose of stimulating the introduction of quality and logistics in management. The intention of the government was not to directly support the development of quality and logistics activities in companies, but to support those organizations, (particularly public and quasi-public - i.e. business group organizations and trade unions) with initiatives already underway. These organizations could ask for a governmental contribution to finance their activities. The programme was originally intended to end in 1991, but has been prolonged until 1993.

Table 3:

Programme budget 'Quality and Logistics' 1988-1991

Topic:	Amount (million ECU)
1988-1991	
Information activities to companies	1.7
Knowledge-infrastructure	5.2
Education improvement	3.0
Demonstration projects	4.8
1991-1993	
Integration of management systems (quality, logistics, environment, software, videos, etc)	1.1
Dissemination of programme-products (methods, handbooks, software, videos, etc)	1.1
Total	16.9 MECU

The programme covers both the industrial and service sectors for the period 1988-1991. A

budget of 14.7 million ECU was made available by the Ministry of Economic Affairs (14.3 million ECU), the Ministry of Social Affairs and Employment and the Ministry of Transport and Communications. In relation to the prolongation of the programme until the end of 1993, this budget was increased in 1991 by the Ministry of Economic Affairs to 16.9 million ECU. Table 3 shows the main topics of the programme, with their budgets.

Clearly, these topics are closely linked and overlap each other. However, each has its own goal, target group and nature of activities.

Information Activities for Companies

The objective of information activities is to stimulate management to develop systematic activities in the field of quality and/or logistics. Target groups are management and employees of companies in the market sector, sector associations, trade unions, professional associations etc.

Special attention is paid to the building and service (especially transport) industries as well as to small and medium-sized companies because these sectors are considered to lag behind other sectors. The information activities (by means of publications in trade journals, reports, manuals etc.) are undertaken by intermediaries and umbrella organizations (chambers of commerce, innovation centres, consultancies, sector associations etc.). A total of 1.7 million ECU has been reserved in the programme for information activities (information has also been an important aspect of the Demonstration Projects - see below).

An example of an information project is the development between 1989 and 1990 of a videodisc by KDI concerning decision-making and implementation of quality projects. The videodisc is now available for companies - distribution and wide application will be realised by means of workshops and a promotion campaign. Total costs of the project were 313,000 ECU. The contribution from Q&L was 150,000 ECU. The remaining costs being paid by KDI.

Knowledge Infrastructure Development

A number of intermediaries play an important role in the knowledge infrastructure. Company familiarity with -and the use of- intermediaries varies significantly. For instance, small companies are quite familiar with the Chamber of Commerce and their business group association, but less so with the Innovation Centre and Institute for Small and Medium-sized Companies. Only 50% of the small companies make use of these advisory organizations. The objective of this programme item of Q&L is to create a structure of knowledge transfer in order to develop, open and spread practice-based knowledge in the field of quality and logistics. Target groups are intermediary organizations. These activities include support for certification and standardization organizations, consultancies, the development of a knowledge information

centre by KDI¹⁹ etc. To date 5.2 million ECU has been made available for this programme item.

An example of a knowledge infrastructure project is the training of advisors and consultants, active in the mechanical and electrotechnical sector, and in addition, the promotion of possibilities of innovation trajectories with respect to production and organization in the sector. The project started in 1989 and will end in 1992. The total costs have been estimated at 740,000 ECU. Q&L provides 304,000 ECU with the remaining costs being financed by the mechanical engineering sector.

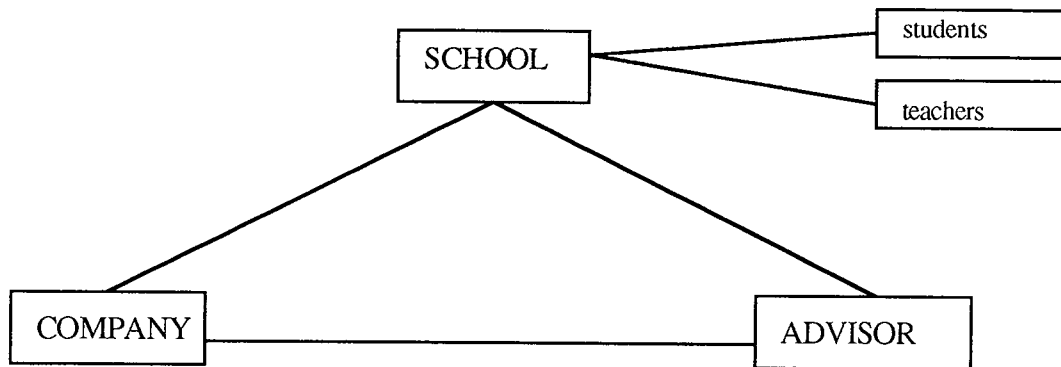
Education Improvement

The aim of these projects is to stimulate education and training activities in the field of quality and logistics through the development of professional skilled management, curriculums, exams, establishment of specialised Schools of Higher Vocational Education etc. The target groups are Schools of Higher and Intermediate Vocational Education (economic, technical and agricultural). An aim of this programme has been to better fit the supply of graduates qualitatively as well as quantitatively with the needs of businesses and a more structural cooperation between education and businesses results. Additionally, a start has been made with certification in the field of quality training. The programme provides 3.0 million ECU for activities in this field together with other subsidies of the Ministry of Economic Affairs and the Ministry of Education.

An example of an education project is 'Total Quality Management Pilot project' of the college of higher education in Enschede. The goal of this project is to increase the knowledge of teachers with respect to total quality management, and also the development of a teaching programme in this respect. The project started in 1989 and is nearly finished. The total costs are 435,000 ECU, with the contribution of Q&L is 217,000 ECU.

Similarly, ten projects have been coordinated by the HBO (Higher Vocational Education) Council. The structure of the projects involved three parties: one school (teachers and students), one company and one advisor (see Fig.1). A company which wanted to improve quality or logistics could call on a school. Students together with their teacher analyzed the company for possibilities to improve quality and/or logistics. The school was supported in this by an advisor of a consulting firm. In this way practical advice was provided to the company.

¹⁹ The knowledge information centre of KDI will be the national centre of the knowledge infrastructure.

Figure 1: Structure of the HBO Quality Projects

The information acquired as a result of the different projects was distributed by the HBO Council to other schools so that these schools could establish learning programmes in the field of quality or logistics. About 2.0 million ECU of the 2.8 million ECU budget for education improvement was spent on these projects.

Demonstration Projects

Demonstration projects are oriented to actual business situations, business groups and sectors, and are set up to provide a good example for other companies and organizations. An important role of the demonstration projects is to improve cooperation between companies in supplier-subcontractor chains. Logistics being important in this relation. In this respect, a direct link exist between the programme Q&L and the “Subcontracting” scheme²⁰ of the Ministry of Economic Affairs.

The general objectives of the demonstration projects are:

- to provide practice-based information which is directly applicable;
- to provide information about quality and logistics; and
- to demonstrate the relation between quality and logistics and other management items.

The target groups are industries and service industries.

The demonstration projects are set up by sector associations in association with companies. The project are of direct interest to participating companies and also other organizations. By means of expert advice the existing business situation is analyzed, solutions and methods of decision making are presented and the actual implementation of quality and logistic management is supported. In this way, practical applied knowledge and new systems are developed. 4.8 million ECU has been made available for the demonstration projects and so far about 25 projects have been started.

For example, within the scope of the ‘MILK’ project, the efficiency and effectivity of the

²⁰ Subsidy scheme “Subcontracting”: for more information see chapter 4.2

integration of environmental protection in quality systems and logistic management is demonstrated in the process industry. The project started in 1990 and will end in 1992. The total costs of the programme are about 326,000 ECU of which the Q&L programme provides 217,000 ECU.

In conclusion, the most important topics are the development of the knowledge infrastructure (5.2 million ECU) and demonstration projects (4.8 million ECU see Table 3). Actually, 1.4 million and 2.0 million ECU were primarily used for knowledge infrastructure improvement and demonstration projects respectively. In total, 4.6 million ECU was used for integrated quality and logistic activities (see Table 4).

Table 4: Realised Programme Budget for 'Quality and Logistics' 1988-1991

Item	total (ECU)	quality	logistics	quality & logistics
Information activities	1.4 mln.	0.8 mln.	0.1 mln.	0.5 mln.
Knowledge infrastructure	4.3 mln.	1.4 mln.	0.7 mln.	2.2 mln.
Education	2.8 mln.	1.4 mln.	1.0 mln.	0.4 mln.
Demonstration projects	4.1 mln.	2.0 mln.	0.9 mln.	1.2 mln.
Total* (ECU)	12.6 mln	5.6 mln.	2.7 mln.	4.3 mln.

Source: Progress report 'Kwaliteit en Logistiek' 1991

* Excluding operation costs of NEHEM (estimated 1.5 million ECU)

Of the 90 projects, about 40-50 projects were directed to quality improvement and 20 projects to logistic management. 40 of the 90 projects were realized in 1991. It is expected that 80 of the 90 projects will be completed at the end of 1992. Projects were selected by NEHEM under the auspices of the Ministry of Economic Affairs. The selection criteria were as follows:

- favourable correspondence between costs and spill-over effects to other companies;
- the project has to be carried out by intermediary organizations or a representative business collaboration;
- all information has to be made available;
- proposed projects have to fit in the programme;
- quality and logistics have to be the principal items in the project.

Programme Evaluation

Intermediary evaluations of Q&L were carried out by the Ministry of Economic Affairs. Progress reports were published in 1989, 1990 and in 1991 containing an overview of the activities carried out and the programme results. The overall programme was evaluated as individual topics²¹.

The evaluation found that the objectives of the information activities have been attained, however, most of the projects were directed to a single business group or industry. It was noted that the final target group, the business community, was not reached at all levels and in all sectors. The programme organization c.q. the Ministry of Economic Affairs has the primary responsibility for the distribution of information. The information and documentation centre of KDI and the recently established steering group 'Dutch Quality' can contribute in the future.

Some projects in the field of knowledge infrastructure were realised with difficulty and results were obtained with considerable effort. The distribution of knowledge to companies often appeared to be a problem. However, there were also a number of very successful projects, e.g. the realization of 16 workshops in the mechanical and electrotechnical industry, instead of the 8 planned workshops.

According to the objectives, a lot of attention has been paid to quality and logistics within the teaching programme of schools of Higher and Intermediate Vocational Education (HBO and MBO). In this respect, ten (speerpunten) projects in HBO schools appeared to be very successful. The benefits of project were many:

- the company was given practical advice in the field of quality or logistics;
- the students were trained in quality/logistics aspects and will enter the labour market as quality or logistic graduates; and,
- the teacher and advisor will become more experienced and specialised in quality/logistics aspects.

In conclusion, the junction between education and businesses with regard to quality has been importantly improved, especially in Higher and Intermediary Vocational Education. However, most universities do not regard quality as a particular discipline at this moment. As a result, projects in universities appeared difficult to realize. This was also the case for schools of Lower Vocational education.

Most demonstration projects have not yet been completed and there are no products available at this moment. The contributions required from companies, financial as well as time, result in a hesitant attitude from potential companies. Most demonstration projects would not have been realised without the financial support of the Q&L programme. The distribution to all industries

²¹ Cf. Ministerie van Economische Zaken/projectgroep Kwaliteit en logistiek, *Voortgangsrappportage 1991 'Kwaliteit en Logistiek'*, Den Haag, 1992.

of knowledge obtained in the demonstration projects needs to continue. Most often, adaptations are needed in order to apply the project results more widely or more specifically to other industries. The programme has been prolonged and an additional budget has been made available for these adaptations.

The next figures give an idea of the total range of the programme. Because advisors, consultants, teachers etc. are involved in several projects, there can be a double count in some cases: About 700 companies have been actively involved in the execution of the 40 realised projects.

In addition, 900 advisors, consultants and teachers have been trained and about 46,000 companies became acquainted with the results of one or more projects thanks to brochures, manuals, videodiscs or computer programmes. Governmental support for all realised and ongoing projects has been circa 13 million ECU by April 1993. The total costs of these projects are expected to be about 26 to 30 million ECU. More recent projects²² will use the remaining 3.9 million ECU.

Effectiveness Study of Q&L:

The results of the programme were determined by means of a questionnaire circulated through the Dutch business community. At the start of the Q&L programme it was found that 78% of the Dutch companies paid attention to quality. More recent measurements in April 1991 showed that, in the period of the programme 84% of the companies regarded quality as a central policy item (see Table 5, next page).

In addition, the development in the certification of quality systems has been positive. In 1989 approx. 80 new certificates were granted while 370 were granted in 1991 according to the Council for Certification. Although quality awareness among Dutch businesses has been considerably increased, Total Quality Management, however, is applied or fully developed in only 1% of all businesses as already indicated in section 2.

Steering group 'Dutch Quality'

Against this background the steering committee 'Dutch Quality' ('*Nederlandse Kwaliteit*') was established by the Ministry of Economic Affairs in december 1991²³ with the financial support of the Q&L programme. The Ministry financed the installation of the steering group and will subsidize its activities for the first three years (1991-1994). The secretariat of the steering group is located at the Dutch Society for Trade and Industry (*Nederlandse Maatschappij voor Nijverheid en Handel*).

²² Most important are the Steering group 'Dutch Quality' and the Knowledge Information Centre of KDI.

²³ Cf. Ministerie van Economische Zaken, *Kwaliteit in Bedrijf*, Snijders/Van Hilten, Baarn, december 1991.

Table 5:
Dutch Companies for which Quality is a Central Policy Issue

Percentage	1989	1990	1991
total	78	78	84
company size:			
100	75	76	80
100-500	82	81	84
+ 500	92	88	96
sector:			
industry	79	80	83
construction	78	74	84
wholesale	70	76	78
retail		86	86
transport	75	71	84
services	86	80	88

Source: Progress report 'Kwaliteit en Logistiek' 1991

The steering committee consists of top managers in the field of TQM from different sectors, profit and non-profit organizations, and a representative of the Ministry of Economic Affairs. These experienced TQM managers willingly exchange their experiences for the benefit of colleagues. The main goal of 'Dutch Quality' is to stimulate and accelerate the introduction of TQM in Dutch organizations in order to maintain and improve international competitiveness. The objective is to implement total quality management in private industries as well as in (semi) public sectors. The target is top management in all private and (semi) public industries with particular focus on small and medium-sized companies.

The steering group supports top management in actively introducing TQM by means of creating interest, providing information, stimulation and advice. The steering group tends to benefit from the existing interest in quality, the numerous organizations developing projects for quality improvement and/or control and the multitude of quality organizations, courses and consultants. The steering group will cooperate with the existing quality organizations in the field of quality, with consultancy firms and institutes and with quality experts of industry organizations,

innovations centres, etc. Activities are primarily directed at the top management of companies and institutions; e.g. seminars, study trips, company visits and information activities. A central activity is the Quality Award (corresponding with the Deming Award (Japan) and the Baldrige Award (USA)) which is expected to stimulate activities in the field of TQM.

Quality Platform

The relationship between the knowledge infrastructure and the steering group is of great interest, because the support and follow-up of activities of the steering group has to be carried by the knowledge infrastructure in order to operate effectively. A proposition has been developed by the steering group to regulate the coordination between the knowledge infrastructure and the steering group in the form of a 'Quality Platform'. The objectives of this Quality Platform are:

- to advise the Steering group with respect to its policy;
- to coordinate activities initiated by the Steering group which depend on assistance of the knowledge infrastructure;
- to improve the effectivity of the knowledge infrastructure by knowledge exchange at national and international level, rejection of market-oriented advice and the realization of collective projects; and
- to organize yearly a quality manifestation.

All Dutch (Intermediary) organisations active in the field of awareness, consulting, training, knowledge development and normalisation/certification concerning Total Quality Management can enter the Platform. The establishment meeting of the Quality Platform was held in June 1992.

4.2 Sectoral Schemes

Several sectoral schemes seemed to be partly encompass quality activities, but it was extremely difficult to collect information about the exact contribution of these schemes to quality projects. In most cases quality was only a minor part of projects carried out within the scope of one of the technological subsidy schemes. Only one subsidy scheme 'Subcontracting 1992' contributes importantly to quality projects. The Ministry of Economic Affairs created this scheme with the purpose of stimulating improved cooperation between suppliers and contractors. Quality assurance and logistics are important in this supplier-contractor relationship. Two types of projects may be supported; improvement projects and technological cooperation projects:

- improvement projects, - feasibility studies of cooperation between suppliers, and management improvement projects in the field of quality, logistics, product innovation, etc.
- technological cooperation projects - aimed at technological research and development work

related to product components or production systems characteristic of the product-market combination.

The aim is to involve 300-500 companies in demonstration projects. Since the start of the programme in 1988, 300 companies have participated. In 1992 seven product-market combinations have been targeted under the initiative:

- the auto industry;
- telecommunication and office machine industry;
- IC industry;
- energy/offshore industry; and
- equipment for process industry and the audio-visual industry.

Funding for the period 1988-1994 is 15.4 million ECU. The subsidy covers the external costs of the improvement project of the company.

A direct link exists between Q&L and the "Subcontracting" scheme. As already mentioned, an important part of the demonstration projects in scope of Q&L is also aimed at the improvement of the supplier-contractor relationship (see the section on Demonstration Projects).

5. Regional Quality Schemes and Initiatives

A large number of regional schemes and initiatives are set up each year, either publicly or privately. Some of these regional schemes are used for projects aimed at quality improvement. However, information about these regional projects is dispersed and difficult to access. Therefore, it is not possible to give a complete and detailed overview of possible quality projects and initiatives, but it is obvious that in nearly all regions quality stimulating projects have been developed.

An inventory of the available information on regional quality projects shows that most projects are directed to small and medium-sized companies in order to stimulate quality awareness and improvement or to introduce quality assurance systems based on ISO-9000 norms. Practically all projects are sectoral and have industries or service industries as a target group. The projects are most often carried out by groups of organizations, and not by individual organizations.

The innovation centres, quality centres and institutes for small and medium-sized companies appear to play an important role in the initiation and support of the regional projects. They often coordinate projects and take care of funding.

The funding of the regional projects is private and/or public. The main stream of privately financed projects is carried by sector associations, although some of these projects may be subsidized as well. There were about 40 business group quality projects²⁴ in 1991. Publicly

²⁴ Source: Institute for Small and Medium-sized Companies, 'Kwaliteitszorg in het MKB, op het goede pad gestuurd', Diemen, 1991.

financed projects are generally covered by contributions from the Province, the Ministry of Economic Affairs and European Community. There are several 'open' regional subsidy schemes of the Ministry of Economic Affairs and European Committee available for quality projects. However, provinces, the Minister of Economic Affairs and European Community can also give individual contributions to projects. In most cases, 50 percent of the total costs of the projects are subsidized, the rest being financed by the companies themselves.

The major regional programmes with respect to quality projects are presented in this chapter. First some global schemes will be discussed. Then, other regional programmes of interest are described.

Structure Reinforcing Programmes

The regional programmes²⁵ are developed within the framework of the regional policy of the government. They are the responsibility of the Ministry of Economic Affairs. The European Community is (financially) involved in these regional programmes as well. It co-finances the programme with the Ministry of Economic Affairs. The overall objective of these programmes is to reinforce the economic structure of seven provinces: i.e. Drenthe, Friesland, Gelderland, Groningen, Limburg, Noord-Brabant and Overijssel. These provinces are considered to be economically underdeveloped in comparison with the western provinces like Noord-Holland, Zuid-Holland and Utrecht. The provinces Zeeland and Flevoland are not taken into consideration in this respect. Study of the regional programmes pointed out that one of the applications of these programmes is quality improvement in companies. These quality programmes are practically always set up in specific sectors. In order to give an idea of the substance of these programmes an overview of the regional programmes is presented. In addition, a typical quality project carried under the regime of each of the programmes is described.

OZL programme

The OZL programme provides a contribution to initiatives aimed at reinforcing the economic structure of East-South Limburg (Oost-Zuid Limburg OZL). These initiatives can encompass education/labour market, technology, tourism, export, infrastructure etc. Contributions are given to persons, companies, institutions and private non-profit organizations in East-South Limburg. Projects are prepared by the province and partly financed by the government. The OZL programme started in 1991 and succeeds the PNL²⁶ programme of 1990 - the contents of the two programmes being identical. For the periode 1991-1994 the budget is about 35 million ECU available, including EFRO co-financing.

²⁵ Source: EVD (Economic Public Relation Service), Ministry of Economic Affairs, Den Haag, 1992.

²⁶ PNL: perspectieven nota Limburg. Funds available for the region South-Limburg in 1990: 18,5 million ECU.

An example of a project carried out within the scope of the PNL programme is the establishment of the Quality Centre South in January 1990. The objective of the establishment of a quality centre was to realise a more definite result of quality awareness by means of quality management activities. Costs of the project were an estimated 405,000 ECU for the first 3 years. The project was financed with PNL funds from the Ministry of Economic Affairs and with EFRO funds from the European Community. Both sets of funds provided 120,000 ECU. Companies contributed the remaining 165,000 ECU. Financial support was provided on the condition that the centre operated autonomously, and that its activities were only developed regionally. The support of large companies is essential in this context.

ISP programme²⁷

The ISP (Integral Structure Plan) programme is a regional development plan for the provinces in the North of the Netherlands: Friesland, Groningen, Drenthe and Overijssel. The programme started in 1982 and will stop in 1994. ISP is particularly aimed at initiation and support of collaborative projects between companies and intermediary organizations. The ISP contributions are not granted to individual companies. Projects are prepared by the provinces and partly financed by the government. At most, only 50% percent of a project is subsidized. For the period 1991-1993 the ISP-IV programme is currently underway. 130 million ECU has been made available by the Ministry of Economic Affairs including EFRO co-financing. In addition the Ministry of Agriculture and Ministry of Education contribute respectively 8.7 million ECU and 326,000 ECU for this period. The ISP-IV programme centres on five fields of related economic activities²⁸. One of these fields is small and medium-sized companies. In this field special attention is paid to management improvement, international business, environmental factors and quality.

The aim of the quality programme is to increase productivity and to improve service. The following items are distinguished in this respect:

- quality assurance systems (ISO/DIN/NEN 9000);
- practical sectoral training on quality improvement;
- management information and coordination systems;
- supply and subcontracting;
- logistic processes.

Certification based on international standards is the overall objective. The ISP budget for small and medium-sized companies is at least 2.2 million ECU a year (3.7 million ECU maximum). Project proposals are evaluated by the Ministry of Economic Affairs.

²⁷ ISP: Integraal Structuur Plan Noorden des Lands.

²⁸ agricultural business, harbour related activities, tourisme and recreation, urban buildings and structure small and medium-sized companies.

An example of a recently developed project within ISP-IV is 'Quality and Certification Project Small and Medium-sized Companies'. The objective of the project is to stimulate about 100 companies annually to obtain certification and to introduce total quality management. The rationale of the project is that only 30 companies are certificated in this region, while more than 60 companies should be certificated based on the national percentage. Target groups are industrial and service organizations with less than 100 employees. The project will be carried out by clusters of companies which work together in one (basic) programme. Each cluster will have one coordinating advisor. The basic programme involves the firms:

- carrying out a quality study, particularly Q-audits based on ISO-9000 norms;
- appointing (quality) advisors for a period of two years;
- making use of junior advisors, trainees of the University of Groningen or schools;
- providing in-company quality training and courses;
- organizing meetings in order to exchange experience.

ISP will cover 50% of the company costs of advice, training, testing etc. (and also the costs of certification in some cases) up to an amount of 17,400 ECU per company. The coordination of the project is carried by the regional quality centre in cooperation with business group organizations and intermediaries (innovation centres, institutes for small and medium-sized companies, Chambers of Commerce etc.)

REP programme

There are three 'regional' (REP) programmes (for the regions Twente, Midden-Gelderland, Noord-Brabant) which are part of the 'structure reinforcing' policy of the government. Initiatives which contribute to reinforcement of the economic structure are considered for REP support. These initiatives have to relate to:

- technology;
- infrastructure;
- small and medium-sized companies;
- tourisme;
- agricultural sector; and
- education/labour market.

The programme started in 1982 and will end in 1993. The amounts available (including EFRO co-financing) are 4.3 million ECU (Twente); 2.6 million ECU (Midden-Gelderland) and 0.9 million ECU (Noord-Brabant) for 1991 and 1992. The target group for the programme are all organizations and private institutions. The size of the subsidy depends on the nature and the interest of the project. Project proposals are evaluated by the Ministry of Economic Affairs. Quality projects can be carried out within the context of the different items.

An example of the application of a quality project is 'Quality in the Goods Traffic Transport in the region Arnhem/Nijmegen'. This project has been proposed to the Ministry of Economic Affairs for approval. The project aims to stimulate the introduction of quality management within the goods traffic transport. The final objective is to obtain ISO-9002 certification. The target group is all traffic transport companies. The project proposal contains three phases: an information campaign; company study and advice; and support for the introduction of quality management. The total costs are estimated at 128,000 ECU. The proposed contributions of the Ministry of Economic Affairs and the Province are: REP (Ministry of EA) 43,500 ECU; Province Gelderland 13,000 ECU; Chambers of Commerce 6,500 ECU, Arnhem/Nijmegen 8,700 ECU. Other contributions will come from the companies involved in the project.

Other Regional Programmes

Stimulation Programme 'Support Market and Innovation Advice South Limburg'²⁹.

The programme is aimed to support small and medium-sized companies in making use of external market and innovation advice. Subsidies (50% of the costs) are provided for advice from market and innovation experts with regard to:

- innovation and product development;
- support of market and strategy studies;
- management support.

Quality improvement projects are part of management support. Target groups are small and medium-sized companies with less than 200 employees and a with an industrial, building or service character, situated in East-South Limburg and the West mine district. The programme is based on the EFRO programme and started in 1989. Total available funding is 870,000 ECU for the period 1989-1993. 435,000 ECU is provided by EFRO and 435,000.00 ECU by the regional authorities of the Province of Limburg. At most 50% of the costs of external advice are covered by the subsidy. The project proposals are selected by IMK Limburg.

An example of a project recently developed in scope of this programme is QUATRO. QUATRO is a regional project directed to 'supply and subcontracting' (: Quality, supply (*Toeleveren*) and Regional entrepreneurship (*Regionaal Ondernemerschap*) QUATRO). The project aims to reinforce the competitive position of the local suppliers in the Limburg province. The rationale is that important changes have taken place with respect to quality and specialisation in the field of supply and subcontracting. This applies especially to the supply of technical services by the regional suppliers to large industrial subcontractors. The QUATRO project is specifically

²⁹ Subsidieregeling 'Ondersteuning Markt en Innovatie-adviezen in Oostelijk Zuid-Limburg, Westelijke Mijnstreek, Vaals en Wittem'.

focussed on regional suppliers to DSM³⁰ and started in 1992. The objectives of the programme are:

- quality improvement of regional suppliers in the field of technical services;
- introduction of quality systems according to the ISO-9000 series; and
- certification of these technical service organizations.

A project coordinator will be appointed and the project will be carried out in several phases. The current situation is analyzed in the first phase by means of a quick scan and an action plan is formulated. The action plan is carried out in the second phase. Finally, the project is evaluated to determine to what extent the objectives have been realised and an action plan is then extended to certify several companies. The project is supported by EFRO, LIOF (Limburg Development Fund) Province of Limburg and the Employers Association of Limburg.

Regional schemes are mainly based on co-financing by EFRO (see European Chapter) to improve the regional infrastructure. In a number of cases, these funds are used for quality improvement purposes. Although the total impact compared to the programmes of the Ministry of Economic Affairs is probably of minor importance, a number of interesting examples could be given. A schematic overview of the different regional programmes is presented in Table 6.

Table 6: Examples of Regional Programmes and Quality Projects

Regional programme	Example of quality improvement	Total costs of programme	Size of Subsidy
OZL-programme	Quality Centre 'South'	405,000	240,000
ISP-programme	'Quality and Certification SMO'	?	17,400 (per company)
REP-programme	'Quality goods traffic sector'	128,000	43,500
'Support Market and Innovation Advice S-Limburg'	QUATRO	?	?

³⁰ DSM: large international chemical company. Head office in Limburg.

6. Overview and Outlook

The approach of the government with regard to the different quality programmes changed in the course of time. One can distinguish roughly three phases in the policy of the government: in the first phase, i.e. the period of the programme 'Quality Plan', the government dictated to companies more or less how to improve quality with the emphasis on quality control and assurance. In the second phase of 'Quality Management' the government supported companies that were eager to improve quality. Quality management was emphasized. The third phase can be considered to be the programme "Quality & Logistics". The rationale behind the programme was to stimulate companies to come up with ideas themselves rather than to provide a package of activities composed by the Ministry of Economic Affairs. Active introduction of quality was the responsibility of the companies themselves. The establishment of the steering group 'Dutch Quality' seems to be a more indirect approach of the government to promote total quality management to companies. The government delegates virtually all the actions for quality to the steering group. Table 7 shows the relationship between these different governmental approaches and the evolution over time of the quality concept itself.

Table 7

Overview of the Evolution of Government Quality Programmes 1978-1993

Programme	Amount (ECU)	Emphasis	Approach
Quality Plan ('78-'82)	?	Quality Control/Assurance	experimental/ guidance
Quality Management ('84-'87)	4.8 million	QM	stimulating
Quality & Logistics ('88-'93)	14.7 million	TQM	facilitating
Steering group 'Dutch Quality' ('92-...) (Quality Platform)	1.1 million	TQM; widening of concept to labour and environment.	delegating

The Future

The quality concept is increasingly being extended to include environmental and labour aspects. Environmental issues in particular are becoming the subject of a increasing number of quality programmes, partly as a result of the increasing pressure for environmental awareness.

7. Inventory of Schemes and Initiatives and Organizations

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STERLAB

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Quality Organizations:

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