

## **Summary of advisory report 53**

### **Backing winners. From generic technology policy to active innovation policy**

This advisory report calls for changes in the government's policy towards innovation. The context in which this report appears is not a good one, as the Netherlands is slipping back into the bunch in terms of international competitiveness. The current weakness of the economy is only one of the reasons. There are also structural factors. The recipe for growth at the end of the last century – moderating wage costs and increasing participation in the labour force – will only provide a little extra breathing space to work on improving the basic structure of the economy. The Netherlands will have to shift to forms of business activity that achieve higher productivity by increasing added value: to a knowledge-intensive, innovation-driven economy. The key to this transformation is an improvement in the innovative capacity of the Dutch business community, supported by an active and progressive government policy.

#### **Changes in innovation in companies**

An effective innovation policy should reflect what is actually happening in practice in the corporate world in the area of innovation. That practice is changing. Large companies have reduced their own R&D activities and increasingly outsource the work. Because of their lack of scale small companies are by definition less able to carry innovation programmes through to completion. Consequently, innovation by networks of companies and research institutes or of companies alone is growing in importance. Non-technological aspects, such as the design of equipment and the structuring of information are increasingly important for the success of an innovation. What is needed, therefore, is an integrated perspective on innovation, which treats technical and non-technical aspects as a single entity. The success of an innovation also depends to a large extent on the activities after the groundbreaking research. Here too success depends on an integrated approach and innovation policy must not focus solely on the acquisition of knowledge but on the entire innovation process. A final point to be mentioned is that the structure of the Dutch economy has changed significantly. The services sector now accounts for around two-thirds of the country's employment. The patterns of innovation in the services sector are different to those in manufacturing industry and call for different incentives.

#### **Recommendations**

This advisory opinion of the Advisory Council for Science and Technology Policy (AWT) addresses the points of departure for the government's innovation policy, and in particular that of the Ministry of Economic Affairs. The Council feels that the Ministry of Economic Affairs should respond even more to the changes in the practice of innovation in companies. In its policy the Ministry of Economic Affairs should highlight more clearly the switch from technology policy to innovation policy. The emphasis has to change from the development of knowledge and technology per se – the front end of the innovation process – to an integrated perception of innovation, including the process following knowledge development. The AWT also calls for a proactive approach that does not focus solely on removing obstacles but also on exploiting opportunities arising from the strengths of the business and science community. The recommendations concentrate on five essential elements of innovation policy in the near future.

- Create a fertile breeding ground for innovation: High-quality education

and research, across the full spectrum of disciplines, forms the basis for innovation and determines the 'attractiveness for knowledge-intensive companies. The Council feels that constant investment in a high-class knowledge infrastructure is very important, while at the same time maintaining a proper balance between (a) a broad basis, (b) excellence in a number of key areas and (c) scope for innovative research. The primary responsibility for a good public research system rests with the Ministry of Education, Culture and Science. The Ministry of Economic Affairs should concentrate on strengthening the business community so that it can produce innovations by exploiting knowledge. The ministries should jointly provide a good structure for the interface between knowledge institutes and companies.

- A sharper focus in the stimulation of business activity: The globalisation of knowledge acquisition and business activity is intensifying. A national innovation strategy is particularly important against that background. The Netherlands cannot be a leader in every area. The wide dispersion of funds that are available to stimulate innovation has little effect. The Council recommends that a substantial share of the incentives for innovation should be devoted to a limited number of specific areas, with a clear focus, in order to create the momentum to exploit the opportunities arising from a number of (existing and potential) strengths.
- Bind companies to innovation hot spots: Whatever happens, there has to be a sharper focus in stimulating business activities. The AWT wants to go a step further: use intensive focussing to produce a lock in effect for companies in areas where the Netherlands is or can be strong. In selected areas the innovative climate must be so attractive that companies already based in the Netherlands will not consider leaving and new companies will want to locate here.

That calls for an innovative climate with unique selling points: an excellent supply of knowledge, a highly educated workforce, stimulating laws and regulations, supporting infrastructure, adequate financing and an adequate pool of suppliers. The Council recommends the creation in selected areas of an environment (innovation hot spots) that binds companies.

- Adopt an integrated approach: Innovation processes consist of more than just knowledge or technology. The post-knowledge development process– the conversion of that knowledge into new products, processes or services that can be profitably marketed– largely determines the success of an innovation. Non-technical aspects are increasingly decisive in this respect. To start with, in the services sector the key to innovation is often not technology-driven. The Council recommends adopting an integrated approach in innovation policy, which takes into account non-technical aspects and the entire innovation process.
- The government as a player in the network: For the innovation system to work properly it is essential for the various parties– the business community, scientists and government – to work closely together. The government must not assume the role of the other parties, nor should it be too remote. An active approach should be the point of departure. Almost inevitable pitfalls in this context are thinking in terms of general bottlenecks in the system and 'extrapolation' from existing instruments. The AWT calls for a change of attitude. Problems and opportunities differ from one type of business activity to another. Innovation policy must therefore be customised. The Council advises the government to play an active role the network. The government must provide innovative customisation in supporting policy in close consultation with the other parties.

The context in which this advisory report is published, one of disappointing performance by the

Dutch economy, is not positive. On the other hand, it has to be realised that the Netherlands possesses definite strengths: excellence in science and strength in both manufacturing activity and the services sector. There is therefore cause for concern, but not for pessimism.

However, it will take time to improve the climate for innovation in the Netherlands. Action is urgently needed. With an active approach, close cooperation between the government, scientists and the business community and by building on existing and potential strengths, genuine progress can be made. It is time for Backing winners.

