Adviesraad voor het
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Time for a KIQ start!

More investment in education and research

I. Let's get moving!

At the end of 2004, the Innovation Platform published its advisory report entitled 'Vitalising the Knowledge-based Economy'. In that report, the platform observes that Dutch investment in knowledge is 'well below the level required to realise our ambition to be among the leaders in the EU. Our priorities and investment efforts are not consistent with our professed ambition.' In order to close the gap between words and actions, the platform advises increasing investment in education and research. The 'Knowledge Investment Quota' (KIQ) must be raised.

In response to this advice, the government carried out a survey of recent developments in public and private investment in knowledge.[1] For this survey, it used a study by the Netherlands Bureau for Economic Policy Analysis (CPB) into the quality of the Dutch knowledge system in an international perspective.[2] Following on from the survey, the Ministers of Economic Affairs (EZ) and Education, Culture and Science (OCW) asked the Advisory Council for Science and Technology (AWT) to give its views on the development of the KIQ.

We are on the right track …

In 2000, the European Council in Lisbon undertook to turn the European Union, within ten years, into 'the most competitive and dynamic knowledge-based economy in the world (…), capable of sustainable economic growth with more and better jobs and greater social cohesion'.[3] Two years later in Barcelona, the Council went on to agree measures to raise expenditure on R&D in the European Union 'with the aim of approaching 3% of GDP by 2010. Two thirds of this new investment should come from the private sector.'[4]

The Dutch government embraced the European ambitions regarding the knowledge-based society straight away. The second Kok government even formulated the additional ambition to have the Netherlands grow to become one of the top three countries within the European Union by 2010. The second Balkenende government has taken up this aim too. In times of major cutbacks, the government has promised to make substantial investment in knowledge and innovation. At the same time, various policy measures have been taken focusing on structural reform and improved operation of the knowledge and innovation system.[5] Moreover, the Innovation Platform was created with members from government, business and knowledge institutions, chaired by the Prime Minister. The mission of the Innovation Platform is 'to strengthen the innovation potential of the Netherlands in order to secure a leading role for this country in the European knowledge economy of 2010'.[6]

The AWT values the government's ambitions and commitment enormously. It has placed knowledge and innovation high on the policy agenda and in economically difficult times has nevertheless succeeded in making energy and funds available for the knowledge-based society.[7]

… but we still have a long way to go!

We are climbing steadily, but it is still a long way to the top. While expressing our appreciation for the government's efforts, the AWT believes that more measures are needed to prepare us for the future. A glance across our national borders makes this clear. Although the Netherlands is

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[1] Ministries of Economic Affairs (EZ) and Education, Culture and Science (OCW), July 2005, A survey of the Knowledge Investment Quota (KIQ) and the overall performance of the knowledge-based economy ('*Een verkenning naar de kennisinvesteringsquote (KIQ) en de prestaties van de kenniseconomie op hoofdlijnen*').
[2] CPB, June 2005, Dutch education and research in an international perspective ('*Nederlands onderwijs en onderzoek in internationaal perspectief*'), CPB Document 88.
[3] European Council of Lisbon, 23 and 24 March 2000, *Conclusions of the Presidency*.
[4] European Council of Barcelona, 15 and 16 March 2002, *Conclusions of the Presidency*.
[5] Countless measures have been taken to tackle energetically all sorts of bottlenecks in education, research and the transfer and use of knowledge. Major initiatives in higher education and research aim to create 'focus and mass', encourage choices for science studies, strengthen scientific excellence and promote better knowledge flows between knowledge institutes and businesses.
[6] Http://www.innovatieplatform.nl/nl/missie/index.html
[7] See, for example, the Coalition Agreement of the second Balkenende government: "Education and research form an essential basis for society and the economy. Despite the difficult financial and economic situation, there will be no cutbacks in education and knowledge. On the contrary, the government will make substantial extra funds available for this policy priority."

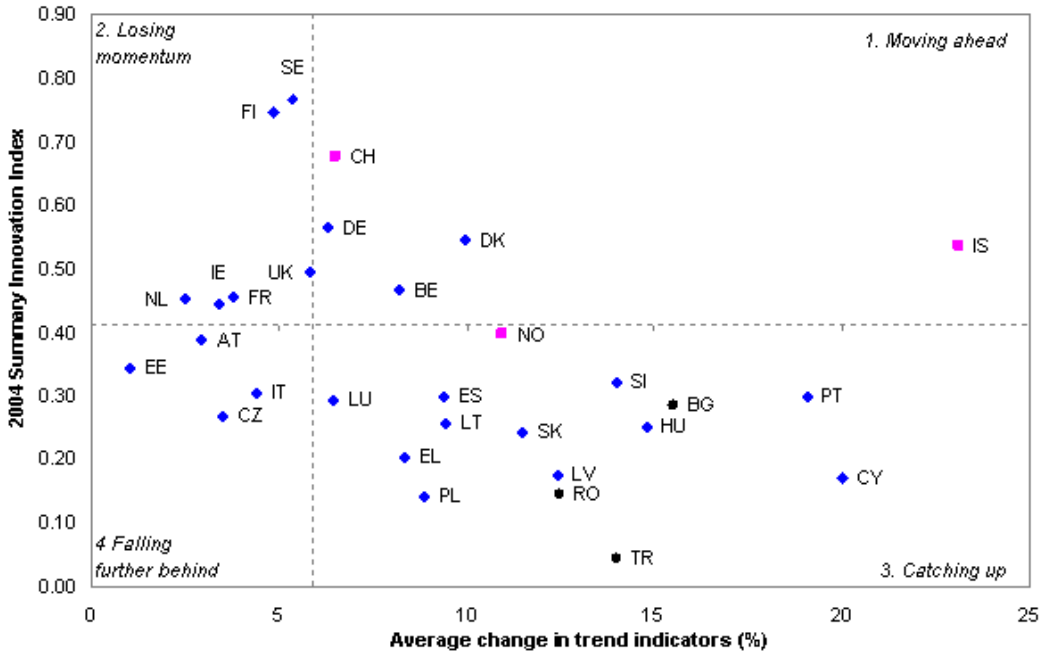
making solid progress, other countries are moving faster. At an international level, there are increasingly obvious signs that we are falling back. The Dutch knowledge-based society is falling behind the group of European leaders to join the main pack: we are losing momentum. This is noticeable not only in terms of input, but also of output, i.e. of performance. Although we are still doing reasonably well in absolute terms, in relative terms we are losing ground. The figure below and the quotes from the European Innovation Scoreboard 2004 (see box) are particularly telling in this regard.[8] The Netherlands shows only average performance in the area of innovation (with the EU average already low due to the relatively low scores of the states that have recently acceded to the EU). We are hovering almost at the very bottom as far as the average change in trend indicators is concerned.

European Innovation Scoreboard 2004

"While Sweden and Finland maintain their leadership positions, they have lost momentum somewhat. Germany and Denmark are performing well above the EU average, with Denmark in particular moving ahead quickly. Other leading countries, such as the Netherlands, Ireland and France, are slowing down. Most of the new EU Member States are catching up, although from relatively low levels.

The EU innovation performance has been relatively constant since 1996, whereas the US and Japan have further improved, thus widening the innovation gap."

Figure II. Average country trend by Summary Innovation Index



Dotted lines show EU25 mean performance.

The "summary innovation index" is a figure calculated based on 20 indicators that together show relative national performance in innovation.

Source: European Innovation Scoreboard 2004

This loss of momentum on the performance side is mirrored on the input side. In the area of investment in knowledge and innovation, too, the Netherlands is clearly lagging behind those countries we like to compare ourselves with. A worrying picture is looming in EU figures: both public and private R&D expenditure are falling as a percentage of our GDP, whereas other coun-

[8] Various other international benchmarks also show that the Netherlands is losing a lot of ground. See, for example, the IMD World Competitiveness index in which the Netherlands has fallen from 4th place in 2000 to 15th place in 2004. Or the World Competitiveness Report in which the Netherlands has fallen as regards growth competitiveness from 3rd in 2000 to 12th in 2004. <mention precise sources?> Although these kinds of benchmarks should be interpreted with the necessary caution, we cannot avoid the conclusion that the results both show the same downward trend.

tries are catching up as far as investment is concerned. This worrying picture is confirmed in the report by the Netherlands Observatory for Science and Technology (NOWT) that will be published in December 2005.

> "[Dutch R&D intensity] has dropped sharply during the last five years [i.e. between 1998 and 2003]. Because Dutch investment in R&D has lagged behind, our country has fallen behind somewhat compared with our neighbours (Belgium, Germany, United Kingdom) and the other reference countries in this study (Finland, Sweden, Switzerland, Canada and Australia). Dutch R&D intensity is now one of the lowest in this group of countries. The Netherlands has had by far the lowest growth in investment, corrected for inflation, during the past five years. The Netherlands is therefore investing relatively little in knowledge development, and as a result would seem to be lagging behind a number of our biggest competitors in the global knowledge economy. Current R&D investments are certainly insufficient to realise the Lisbon ambitions to aim for R&D intensity of 3% of GDP by 2010."

Both public and private investments must increase

The AWT shares the opinion of the Kok High Level Group, the Innovation Platform and the Social and Economic Council of the Netherlands (SER) that more investment is needed to get closer to the Lisbon ambitions. The AWT therefore calls on the Dutch government to increase its efforts in the area of education and research and to encourage private parties to do the same. On average, the Dutch business sector lags behind foreign competition, but this should not be an excuse for the government to point the finger above all at entrepreneurs. On the contrary, this is a reason for extra government effort. After all, the main factor for businesses in deciding whether or not to do (more) R&D in a country, as studies frequently show, is the availability of well-trained workers and an attractive, high-quality knowledge infrastructure. Private knowledge investment thrives in this sense only on a solid basis of public investment. Insufficient public investment is therefore much more serious than private expenditure lagging behind.

More public investment in knowledge and innovation is therefore badly needed, and the government acknowledges this. In the agreements laid down in the Coalition Agreement, the 'Easter Agreement' and the new formula for allocating money from the Economic Structure Enhancing Fund (FES), it has succeeded in spite of difficult times in making energy and funds available for the knowledge-based society. The AWT appreciates this enormously, but wants to draw attention to two major points of concern:

- The additional investment in knowledge and innovation in the past few years has been largely of an ad-hoc nature. Only the extra budget from the so called 'knowledge envelope' was structural in nature. Moreover, these ad-hoc resources have virtually all been used for specific programmes, which has put pressure on the quality of the decision-making about the use of the extra funds and has drawn heavily on the absorption capacity in the field. The AWT is worried about the current approach to allocating FES-money to projects. Decisions about very substantial investments are taken in a rush, using deficient procedures. This does not benefit the quality and effectiveness of these investments.
- At the same time as the extra investment in knowledge and innovation, drastic cutbacks have also been made. These are much less visible in the figures and have received less attention, but they have been very sizeable.

All hands to the plough and let's get moving again …

Even though the Netherlands is not doing badly in absolute terms, in relative terms it has fallen back in relation to the countries against which we would like to be measured. We are losing momentum over time. This is worrying and demands action. By investing too little now in knowledge and innovation, the Netherlands is putting its future at risk. "You have to invest money to make money": the Netherlands cannot afford to wait until the outcomes of the knowledge investment crumble away further, as then it will be too late. Generous investment in education and research is not only necessary to maintain our ability to generate prosperity. It is also important for the proper functioning of our society and the quality of life. The Netherlands cannot allow itself to take big risks through misplaced cutbacks in these areas. Essential policy areas such as these require a 'no-regret' strategy. Time is of the essence.

The Netherlands lacks a structural plan for investment in the knowledge-based society. In order to make this knowledge-based society a success, more is needed than merely ad-hoc investment. The Netherlands needs a structural approach that can rely on broad support among the political establishment and in society.

… but how?

This report deals with the question of how we can increase the KIQ. The fact that the KIQ must increase is patently obvious to the AWT. But how are we going to do it? What is needed? Up to now we have not been able to achieve our aspirations sufficiently with the current effort and use of resources. Some other countries are managing to do so rather better. Why is this? It is not for lack of ambitions and intentions – much has been initiated lately. Evidently there is something in the way we work that is preventing us from investing decisively in education and research. How can we help ourselves? How do we make sure that we *want* to invest considerably more and actually *do* so? This report concentrates on this question.

The AWT believes that the main bottlenecks in the development of the knowledge-based society are the institutional preconditions within which the government, knowledge institutes, businesses, non-profit organisations and other interested parties operate. These preconditions relate to the allocation of responsibilities, control over who should do what and the rules that determine how the various actors deal with each other. These preconditions determine to a very large extent whether we actually want to invest in the knowledge-based society, whether we really do so and whether it produces any results. If the Netherlands is to pursue an effective policy, these institutional preconditions will first have to change. A high KIQ is a necessary condition for realising the targets that we have set ourselves, but it is not sufficient in itself. That is why the AWT focuses in this report on the conditions that must be fulfilled in order to increase the KIQ and for a higher KIQ to produce results.

In this report, the AWT will not embark on a technical discussion of specific policy instruments, the value of the figures or the desired level of the Dutch KIQ. Such discussions do not provide an answer to the question about how far our ambitions should extend. A debate on the figures is doomed to get bogged down and does not get to the heart of the problem.[9] The essence is: we are making progress but not fast enough – how do we pick up speed again? Five years after Lisbon, it is high time that we put a number of preconditions better in order and then accelerate. Putting it off for any longer would leave the knowledge-based society lagging too far behind!

[9] Many notes of caution can be expressed about the accuracy of the measurement of investments (input) and results (output) and the reliability and topicality of these figures. Questions may also be asked about the importance of the KIQ as an indicator and the significance and usefulness of this figure for the policy discussion. In this report, the AWT does not want to get involved in a debate about the significance and value of the figures. Enough has already been written on this subject by others (see, for example, the publications of the CPB and Ministries of EZ and OCW that have been cited).

II. Other countries are taking up the gauntlet

Since the formulation of the Lisbon ambitions in 2000, globalisation has only accelerated. The awareness that the world is becoming a larger and more open playing field and that economic centres are shifting towards Asia is leading to more and more policy competition between Western countries (think, for example, of the corporation tax rates). The AWT has noted that many neighbouring countries are gearing themselves up for an offensive in knowledge and innovation. Here and there, governments are launching initiatives to strengthen their own position in the international arena, and a number would appear to be able to do this more dynamically than the Netherlands. By way of example, the AWT cites three countries in this chapter: Canada, Finland and the United Kingdom. They are extremely active and would seem to be achieving success with their decisiveness.[10] Whereas public expenditure in the Netherlands has hardly increased on balance over the past few years, these countries are pursuing an active investment strategy, as the following initiatives illustrate:

- During the period from 1997 to 2007, Canada will have invested a total of eleven billion Canadian dollars (more than 7.5 billion euros) extra in public research. This will have raised the public research budget at the end of this period by almost two billion dollars (almost one and a half billion euros) per annum, which will have more than doubled the public R&D budget.[11]
- Finland is increasing the budget for publicly funded R&D between 2003 and 2007 by 405 million euros; this is nominally almost 30%.[12]
- The United Kingdom is increasing the budget for public R&D between 2004 and 2007 by 5.7% per annum in real terms.[13]

Whereas Canada, Finland and the United Kingdom are managing to substantially increase their efforts in the area of knowledge and innovation, the Netherlands is unable to do so. The question is why. The developments in Canada, Finland and the United Kingdom show a number of striking similarities. Each of these countries was under threat, or even in crisis, a few years ago. This was most clearly seen in the early 1990s in Finland, whose exports were heavily dependent on the wood and paper industry and the base metal industry. At that time it was confronted by rapidly increasing unemployment as a result of the collapse of export markets with the break-up of the Soviet Union. In Canada and the United Kingdom, too, the 1990s were a time of impending collective malaise. Canada was traditionally a *resource based economy* that was strong in the production of minerals and wood. This proved not to provide an adequate basis to maintain the current level of prosperity in the future. Investment in the knowledge infrastructure and R&D had come under pressure in the 1980s and there was a large-scale brain drain, especially to the USA. During the 1980s the UK was going through a period of economic reorganisation, during which industrial production was reduced by one third. During the 1990s, it derived its competitiveness from the relatively low labour costs. At the same time there were more and more concerns about the sustainability of this competitive advantage and about productivity development and innovation.

In response to these experiences, these three countries placed a great deal of emphasis during the 1990s on the development of the knowledge-based economy. They put in motion processes of policy development, consultation and consensus development that led to a broadly supported conviction that the future development of prosperity and welfare depends on the ability to innovate. In the United Kingdom, these developments were accompanied by the publication of a series of policy memoranda, (also known as white papers), which acted as the starting point for

[10] The list of countries in which interesting policy developments are taking place can be extended to include countries such as France (development of 'pôles de compétitivité'; 6 billion euros extra for research between 2005 and 2007), Germany (2.4 billion euros more each year for research since 1998), Ireland, Denmark, Sweden and Norway. The AWT limits itself here to the three countries mentioned, on the one hand because the knowledge and innovation policy in these countries occupies a prominent place in government policy, and on the other hand because they form useful benchmarks for the Netherlands because of their size and economic structure.
[11] Government of Canada, The Budget Plan 2005, Chapter 4, p.128.
[12] Science and Technology Policy Council of Finland, 2003, 'Knowledge, innovation and internationalisation', p. 42.
[13] UK government, 2004, 'Science & innovation investment framework 2004 – 2014', p. 9.

discussion with the business sector and knowledge institutes.[14] In 2001 in Canada a broad discussion took place with meetings throughout the entire country and the participation of various departments. In Finland, the involvement of various public and private interest groups in forming policy is the most explicitly institutionalised. There, discussions are held within forums such as the *Science and Technology Policy Council* (STPC).

What do the leaders have in common?

The policy processes in Canada, Finland and the United Kingdom have all led to the development of an explicit and all-embracing knowledge and innovation strategy for the public and the private sector. These strategies are now being firmly implemented. The AWT has analysed the process of policy development and implementation in these countries. This led us to consider five elements that are important in moving from ambition to implementation, from words to actions:

- *Vision.* There is a broadly shared vision that knowledge development and innovation are central themes in socio-economic policy. This vision leads to consensus about a knowledge and innovation policy that is characterised by investment and focussed on the long term.
- *Strategy.* There is a plan to strengthen the development and dissemination of knowledge and to strengthen innovativeness. This is an integrated plan that covers the entire process from education to training and the development of skills. It covers public and private, fundamental and applied research. It addresses knowledge transfer and cooperation, and does not limit itself to economic objectives but also includes ecological and social objectives. The plan has been developed in terms of concrete (measurable) aims and instruments.
- *Trust.* People have confidence in their own knowledge institutes and businesses and give them the scope, resources and responsibility to succeed along the road to knowledge and innovation.
- *Commitment.* Government policy is widely supported. The government does not merely rely on regulations and economic incentives to motivate businesses, knowledge institutes and other parties. It also aims to get things moving by holding consultations early on in the policy process, fostering understanding and making agreements.
- *Perseverance.* Provisions have been created that ensure discipline and will guarantee the consistency of knowledge and innovation policy in the long term. These provisions ensure that the planned investments are actually carried out and that long-term objectives are not deviated from for lack of motivation.

[14] Department of Trade and Industry, May 1993, Realising our Potential: A Strategy for Science, Engineering and Technology; Department of Trade and Industry, June 2000, Excellence and opportunity – a science and innovation policy for the 21st century.

III. Recommendations

The government obviously has the task of preparing the Netherlands for the future. In fact, it bears primary responsibility for that preparation. This holds true not only for the future resilience of our collective structures, but also for investment in the capabilities of people and society as a whole. People must be equipped to succeed in the future and to develop from an economic and social point of view, both individually and collectively. This is in our common interest and demands investment by the government in knowledge and innovation - more than it is doing at present!

Too little investment in knowledge development and innovation entails unacceptable risks: a loss of valuable human capital (brain drain), the departure of high-quality production activities and R&D from the Netherlands (offshoring), a worsening of the business climate, a weakening of the international position of Dutch research, and an undermining of the absorption capacity. The quality of society is likely to suffer, and the Netherlands will become a less attractive country to work and live in. There is the tendency to debate endlessly the magnitude of each of these risks, as well as their duration and the severity of any potential damage. How great is the risk that corporate R&D will move out of the Netherlands, how long will that take and how bad is it, what is the yield from investment in knowledge, and how large are the spillovers? There are no firm answers to these types of questions. The AWT believes that whatever the case, it is advisable to pursue a *no-regret* policy. Neither the benefits of investment in knowledge nor the risks of underinvestment are clearly measurable. That is why we must make sure that public knowledge investment is sufficiently generous. The Netherlands cannot afford to miss the boat.

Government, invest more in knowledge and innovation

In this report, the AWT calls on the Dutch government to back up its words with actions: do what you promised in Barcelona. Invest more in knowledge, and in so doing tempt the business sector to do the same. On this latter issue, we have already made a series of recommendations in an earlier report about how to improve the innovation climate and facilitate private R&D. These recommendations are summarised in the box below – each and every one of them continues to be fully relevant. In the present report the AWT goes further. We call on the government not only to make it easier for the business sector to do more, but also and above all to do more *itself*.

AWT Advisory Report 'Just do it!? – Perspective on the Barcelona ambition of '3% GDP for R&D'

In an earlier advisory report, the AWT recommended improving the climate for setting up a business in the Netherlands and encouraging more private efforts in the area of research and development. These recommendations were set out in specific terms under the following headings:

Ensure a stimulating climate for innovation and good conditions for establishing a business:
- Stimulate entrepreneurship, including 'technostarters'.
- Regulate intellectual property relationships.
- Ensure an attractive fiscal climate.
- Increase attention to regional innovation policy.
- Evaluate legislation and regulations as regards their consequences for innovation.
- Deliver tailor-made competition policy.

Facilitate private R&D:
- Ensure sufficient human capital.
- Ensure a high-calibre public-sector research system and effective knowledge circulation.
- Simplify technology subsidies.
- Continue with the Research and Development Allowance (WBSO).

The advisory report ends with the following remark: "One thing is certain: cuts in science and innovation are out of the question. The Netherlands has resolved to grow into one of the most powerful and sustainable knowledge-based economies in the world within eight years. Partly as a consequence of swingeing cuts in the past, there is already a major gap in achieving this objective. Further cuts in science and technology would only widen this gap and effectively put the Lisbon objectives out of reach."

The KIQ must be increased – the crucial question is how

The question is not whether the KIQ must increase, but how we can increase it, preferably soon. The AWT offers a number of leads below that are intended to entice us to be prepared to invest more. In order to achieve higher levels of investment in knowledge, the government must make it more attractive for private parties *and* for itself to actually make these investments. The AWT therefore recommends taking a number of steps and creating a number of arrangements to motivate and mobilise these parties into investing in knowledge.

In its recommendations, the AWT focuses on the government as a whole. In our view, the ambitions for the knowledge-based society should be shared and endorsed across the entire government. In particular we focus on the Ministries of Economic Affairs (EZ), of Education, Culture and Science (OCW) and of Finance. These three ministries may be expected to take the initiative in developing and implementing a knowledge and innovation strategy. It will not come as a surprise that, in line with our analysis, we focus our recommendations on strengthening the five conditions for action already mentioned.

1. Vision

The AWT recommends placing the challenge to develop the knowledge-based society *at the heart of policy development* and *using it as the touchstone for policy*. In order to do this, the government must develop and disseminate an attractive and mobilising vision of the knowledge-based society that can count on broad political and public support for knowledge and innovation policy. This vision must:

- extend beyond narrow economic interests and be embedded in a broader vision of the desired development of society – and thereby extend beyond the confines of the Ministry of OCW and the Ministry of EZ;
- occupy a central place in government policy and be generally used for assessing policy initiatives.

2. Strategy

The AWT recommends developing an all-embracing *national long-term strategy* in dialogue with interested parties for the development of the knowledge-based society. This must:

- focus attention on the entire scope of education, skills development, research and innovation;
- have a time horizon of at least ten years;
- have a clear path to follow and a time frame, concrete spearheads, objectives and measurable targets, tools and indicators;
- result in a *realistic* but *solid investment plan* with a *structural* character.

To achieve this, we urge that lessons be drawn from the experiences of other countries and that those experiences be used to establish relevant benchmarks. Taking account of the specific characteristics of the Netherlands, this approach should be used to draw up a robust plan for the future.

A structural investment plan for the long term as referred to here is not limited to government investments. It also lays down agreements on contributions from the private sector. If we look at the public share of investment in research, the AWT believes that in using these resources, the balance must be restored between strengthening the basic knowledge infrastructure on the one hand, and on the other hand a programme-based use of resources to strengthen focus points (creating focus and mass) or to enhance the transfer and use of knowledge (e.g. as is done through the Decree on Subsidies for Investments in the Knowledge Infrastructure (*Bsik)*).

The development of a long-term strategy and a structural investment plan demands a contribution from all interested parties. The AWT supports the initiative of the Innovation Platform to give shape to the dialogue between the interested parties and to take the first step towards the development of a national long-term strategy.

In this respect, the AWT of course believes that public expenditure on education and research should not be treated as consumer expenditure in the budget system, but as an investment. This expenditure produces knowledge capital of a productive and sustainable nature that is impor-

tant for the future of our country. It is therefore ill-advised with cutbacks to treat public investments in research and education in the same way as government consumption expenditures . The situation during the past few years, in which an intensification of policy and extra investment were largely balanced by generic cutbacks, must be avoided.

3. Trust

The AWT recommends basing the relationship between the government and public knowledge institutes (including institutes of higher education) more on the granting of *autonomy within clear framework conditions*. In this context, the AWT argues for the following:

- Give the public responsibility for the system real content: formulate clear frameworks that make it evident in general terms what the government expects of the Dutch knowledge institutes.
- Challenge knowledge institutes (including universities, universities of professional education, public research institutions) to produce a development strategy themselves. Enter into dialogue with them on this subject, make resources available to them on this basis and hold them accountable ex post.
- Do not give in to the temptation to guide knowledge institutes in the way they use the resources allocated to them through all kinds of ad-hoc policies or by imposing matching obligations.
- Set up a Focus Group on Regulatory Pressure on Knowledge Institutes along the same lines as the Entrepreneurs' Focus Group on Regulatory Pressure (Stevens Committee), comprising managers from the knowledge sector, in order to identify (unnecessary) regulatory pressure and administrative burdens for this sector.

4. Commitment

The AWT recommends involving users and consumers of knowledge – in particular the business sector, but also non-profit organisations such as charities – intensively and promptly in *the development and implementation* of the national knowledge and innovation strategy. There should be three aims:

- *Consult and engage*. Broaden consultations on the knowledge and innovation policy and on the national investment plan in the development phase, in order to arrive at a broader consensus and greater involvement.
- *Appeal and agree.* Intensify consultations with the business sector to achieve greater commitment and more extensive agreements on knowledge development in the Netherlands, not only as part of setting up Leading Technological Institutes (TTIs) or developing intermediate knowledge infrastructure (TNO, DLO, the GTIs), but also as regards investments that companies themselves make in knowledge development, innovation and training.
- *Delegate and authorise.* Set clear framework conditions and delegate part of the responsibility for developing the programme-based details of the innovation policy to the business sector itself, and by doing so bring about a closer match between needs and tools.

5. Perseverance

The AWT recommends setting out a time frame for the national long-term strategy for knowledge development and innovation, and devising a set of indicators to monitor the implementation of the strategy that are reported on each year. It recommends submitting these progress reports each year to the Innovation Platform with a request for advice, and bringing them into the consultation between the government, knowledge institutes and the business sector. It recommends placing the progress report, together with the recommendations of the Innovation Platform and other parties, on the cabinet consultation agenda each year. Where necessary this should lead to a decision being made on further implementation and any necessary adjustments or modifications.

Converting words into actions!

"Solid solutions take time"; these were the words from the 2005 Speech from the Throne that figured on the home page of the Dutch government's website the day after the Queen's Speech. This applies not only to the reforms in social security, the new healthcare system or the integration of minorities, but also to strengthening the knowledge infrastructure and the development

of the knowledge-based society. That is why the AWT calls upon the government to tackle this issue decisively and with the necessary perseverance – and so to regain the lost momentum in the development of society.