



Ministry of Economic Affairs

ENTERPRISE POLICY AT FULL SPEED

Progress report
on enterprise policy 2013

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Enterprise policy at full speed

IN THE PAST FEW YEARS WE HAVE LAID THE BASIS FOR AN ENTERPRISE POLICY AIMED AT ALL BUSINESSES, BUT WITH SPECIAL CONSIDERATION FOR NINE TOP SECTORS. THIS NEW ENTERPRISE POLICY HAS BEEN AT FULL SPEED FOR A GOOD TWO YEARS. THE GOLDEN TRIANGLE OF INDUSTRY, KNOWLEDGE INSTITUTIONS AND GOVERNMENT COOPERATE IN BUILDING INTERNATIONAL COMPETITIVE STRENGTH AND RESPONDING TO CHALLENGES IN DUTCH SOCIETY. MUCH HAS BEEN ACHIEVED IN THE FOREGOING PERIOD: FROM THE ESTABLISHMENT OF THE TOP TEAMS TO THE CONCLUSION OF INNOVATION CONTRACTS AND THE "TECHNOLOGY PACT", THE CREATION OF VARIOUS CENTRES OF EXPERTISE AND CENTRES FOR INNOVATIVE CRAFTSMANSHIP AND THE ORGANISATION OF SEVERAL TRADE MISSIONS FOR THE TOP SECTORS. PUBLIC AND PRIVATE SECTORS PLAYERS ARE INCREASINGLY WORKING TOGETHER, AND ACHIEVING GOOD RESULTS THAT MAKE THE NETHERLANDS STRONGER.

SAMPLE PROJECT

Quantum Technology: first step on the way from theory to practice

Delft University of Technology (TU Delft) has made an exceptionally large contribution to worldwide scientific breakthroughs in quantum technology. The best-known example is the discovery of the Majorana particle, for which Leo Kouwenhoven made world headlines in 2012. From this leading position we are now taking a step towards innovative strength for the IT and High Tech sector with the establishment of the QuTech centre. QuTech will be a centre for education, research and development where super smart technologists will work on 'technology roadmaps' for the next generation of computers.

Working towards a quantum computer

QuTech, in Delft, exploits the peculiar properties of tiny particles. Quantum bits can deliver enormous computing capacity. This is a step towards more secure networks and far more powerful computers. Calculations and simulations of medicines, material structures or soil strata are no longer a thing of the future. This ground-breaking technology is of interest to national and international high-tech companies such as Microsoft and ATOS, and SMEs such as Fox IT. QuTech will work in an international "ecosystem" of knowledge institutions and companies to build a 17 qubit circuit within the space of three to five years, as a step on the way to a fully-fledged quantum computer. The technology involved builds on the competences of Dutch companies.

New enterprise policy started in difficult economic times ...

The new enterprise policy was launched in a difficult economic climate. Europe and the Netherlands are suffering a long-term economic and financial crisis: governments, businesses, banks and households are putting their finances in order. Spending cuts, low economic growth and rising unemployment are creating uncertainty and taking a heavy toll on consumer and business confidence. The challenge of economic stagnation in the short term and global societal challenges in the long term require solutions born of intensive cooperation between governments, the private sector, knowledge institutions and institutions in Dutch society. With confidence and with credible, broadly supported and inspiring prospects for the future, we can strengthen the Netherlands' competitive position in the world and emerge from the crisis with renewed vigour.

The Netherlands can build from a position of strength. We are among the top ten most competitive knowledge economies in the world, fifth in exports, second in agricultural exports and second most productive country in Europe. The Netherlands also enjoys a favourable geographical position with good IT infrastructure and recognised international hubs (Schiphol, the Port of Rotterdam and the South-East Netherlands "Brainport"), strong high-tech sectors, excellent scientists and leading entrepreneurs, creative business instincts and an open, international outlook.

To restore confidence, we need consistency in our economic policy. We will continue with our enterprise policy and strive to ensure there is an adequate supply of well-qualified technologists. We will foster world-leading scientific research and create a fertile climate for

ambitious and innovative entrepreneurs. This government will also strive to strengthen the association between industry and the challenges in society. The great societal challenges offer a future revenue source for the Dutch economy and create demand for clean energy, sustainably produced food, affordable health care, clean drinking water and safe deltas. The Netherlands wants to maintain its leading position in these fields. Because the societal challenges are not unique to the Netherlands, they offer wide scope for exports to the world market. Think for example of Dutch work on water defences in New Orleans, the use of high quality propagation material in developing countries and the Dutch machines used throughout the world in the semiconductor industry. Companies also make a useful contribution to societal solutions in the transition to the biobased economy. The biobased economy contributes to solutions to climate change, energy security and scarce natural resources and leads to new business models, thanks to the excellent knowledge, companies and networks the Netherlands has to build on.

SAMPLE PROJECT

Golden triangle develops thermoplastic aviation materials

Between 2009 and 2013 the Thermoplastic Affordable Primary Aircraft Structures (TAPAS) project improved our knowledge and the production of thermoplastic materials for the aviation industry. These materials are tougher, lighter, easier to repair and ultimately less expensive. The Ministry of Economic Affairs supported this project, with a fifty per cent contribution from the revolving fund of the Civil Aircraft Development Credit scheme (CVO1).

Prime example of public-private partnership

Now it is the turn of TAPAS 2 in the four-year follow up project to prepare a number of Dutch innovations for the next generation of aircraft. The follow-up project will involve cooperation between six SMEs, three knowledge institutions and two large companies. TAPAS is thus a text-book example of public-private partnership. In consultation with each other, and in talks with potential clients, such as Dassault and Europe's largest aircraft manufacturer, Airbus, the project team opted to develop three thermoplastic components: a structural part of the wing that can carry fuel, a suspension frame for the engine and a large rear section.

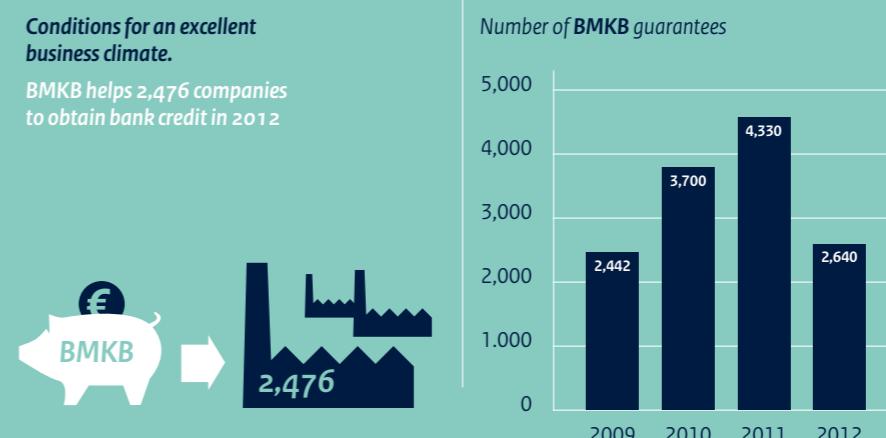
During the Paris Airshow on 19 June 2013 the Dutch consortium and Airbus signed a Letter of Intent aimed at cooperation. Minister Kamp was a co-signatory and expressed his support for the project.

... has already achieved good results ...

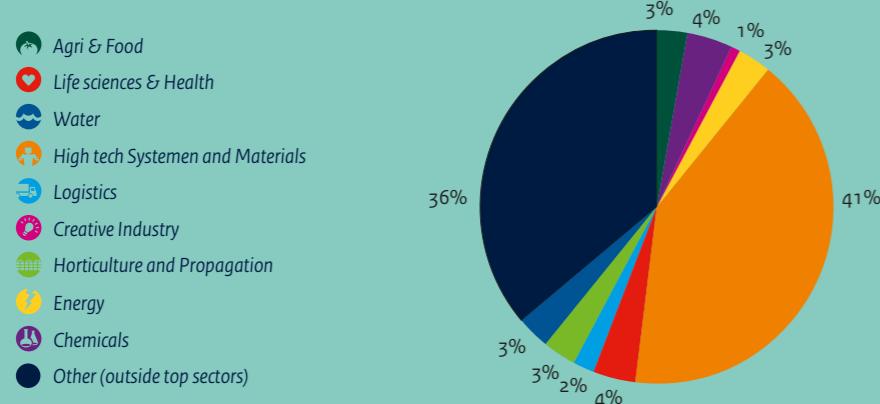
The Netherlands' good starting position forms a solid basis for innovative and sustainable solutions. In our enterprise policy this is expressed in a generic and a top sectors approach. Generic policy addresses the burden of regulation, the need for qualified staff and good interaction between education and the labour market (Technology Pact), funding options for SMEs (BMKB, GO, MKB+-funds and Qredits), IT policy (ten breakthrough projects), a financial incentive system (RDA, WBSO, Innovatiebox) and a level playing field for businesses.

In addition there is policy specifically for innovative sectors in a strong export position: the "top sectors". The Netherlands can make a difference at global level if there is smart cooperation between researchers and entrepreneurs with support from national and regional authorities. After all, it is not today's technology, but the technology of tomorrow and beyond that will determine our future earning capacity. Focused efforts involving the whole chain from research to innovation and valorisation, human capital, internationalisation and reducing red tape will enable us to improve the competitive strength of our top sectors and so of our entire economy.

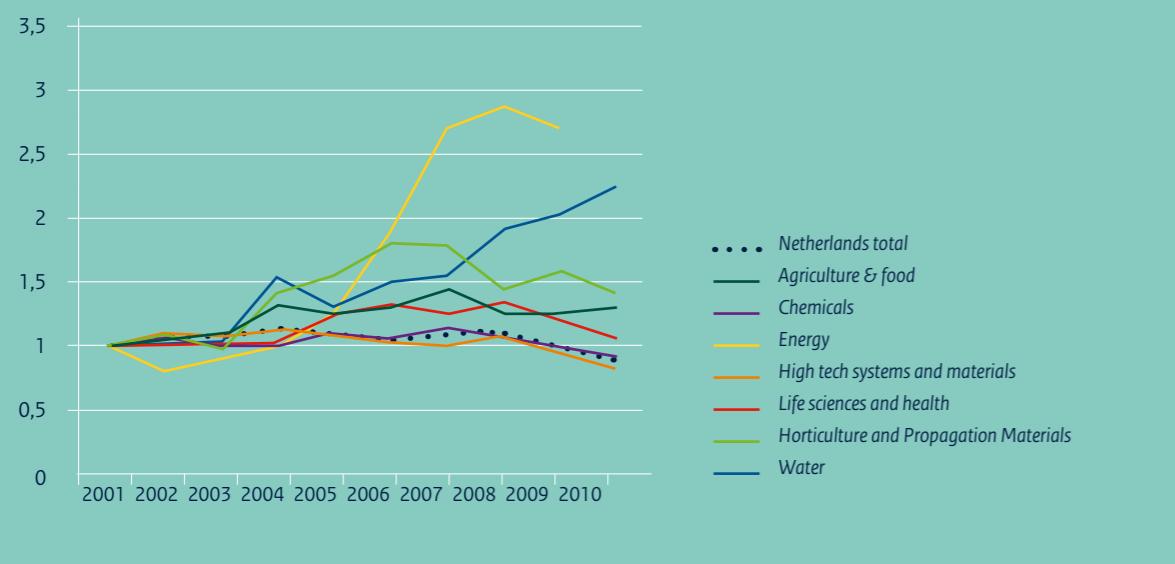
The figures below show a snapshot of the results achieved – with both generic and top sector measures – in two or so years of enterprise policy.



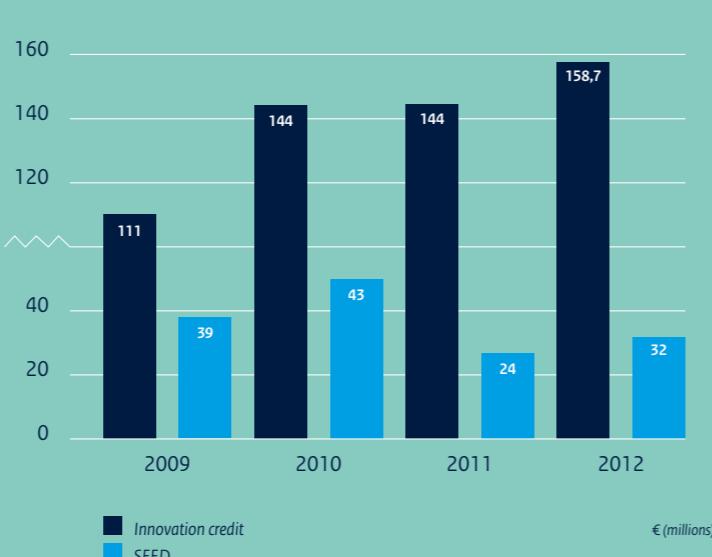
Top sector figures for R&D relief under the WBSO



Trend in patents within the top sectors (base year 2001)



73 companies obtained finance via the SME+ Innovation fund in 2012.



... but there is still room for improvement

Enterprise policy has existed in its current form since 2011. The transition to this modern form of innovation and enterprise policy requires a period of adjustment on the part of all the stakeholders, not least central government as one of the major players in the network. The results show good progress, but enterprise policy is ongoing and there is room for improvement. This also the message from the Advisory Board on Science and Technology Policy (AWT) in its letter: Initial observations from the report 'Top Sectors Results'¹. The AWT recommends continuing vigorous pursuit of the top sectors policy, which proposing improvements. The Government's response to the AWT recommendations is shown on page 9.

The Government will continue to pursue its enterprise policy and, in addition to following the AWT recommendations in consultation with the relevant stakeholders, will take the following steps to improve the policy and reinvigorate the Dutch economy:

- 1 Stronger association with societal challenges.** The association between the top sectors and the societal challenges, which also play a major role in the European Horizon 2020 research and innovation programme, will be reinforced. This will make better use of opportunities in Europe and give better direction to the agendas of the top sectors. Placing attractive and ambitious targets on the horizon produces new energy and focus.
 - The Innovation Contracts, included undertakings from the top sectors and knowledge institutions concerning the research and innovation agendas for the years 2014 and 2015. These represent a total financial commitment of around 1 billion euros per year. The societal challenges are a major factor guiding the agenda. For participation in European programmes the Government is proposing a new co-financing initiative via the NWO (EUR 36m for the 2014 - 2017 period).
 - QuTech is being set up within the high tech top sector. QuTech is a centre dedicated to building a quantum computer and all the associated knowledge and technology. This is an ambitious and practical project with potential for great social impact, building on the scientific strengths and competences of the current high-tech sector. There are also many other initiatives that demonstrate Dutch strengths, for example in the field of smart mobility. The Government wants to explore the possibilities of this type of national project in which the Netherlands seeks solutions to societal challenges through excellent knowledge development and innovative enterprise, which enhance the international standing of the Netherlands. For example, identifying icon projects in accordance with innovation contract procedures and PPP requirements.

- 2 Extending the options for entrepreneurs.** Ambitious enterprise is a key consideration for this government. SMEs are the driving force within and beyond the top sectors and generate innovative ideas to meet the challenges in society. Accessible finance is crucial to their success. Important government measures include:
 - Developing a facility to get start-ups and innovative SMEs through the high-risk early stages of business development. The Government is making a one-off sum of 75 million euros available for this purpose².
 - The 1st band will be extended from € 200,000 to € 250,000, offering innovative SMEs a better chance of survival and growth. A 60% rate has been set for R&D relief (RDA) for 2014, which equates to a corporation tax rate of 25% with a net benefit of 15%.
 - To encourage SMEs to participate in the TKIs, the supplement (government top-up) for the first 20,000 euros contributed by a business will be increased from 25 to 40%. From 2014 onwards businesses will be able contribute the first 20,000 euros in kind.

- 3 Simpler instruments.** The Government is simplifying and harmonising the TKI-supplement and the MIT scheme based on the experience of the top sectors. The options

¹ Initial observations from the report 'Balans van de toppers' (Top Sectors Results). Advisory Letter from the Advisory Board on Science and Technology Policy (WT), 27 September 2013

² <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/09/17/brief-aan-de-tweede-kamer-stimulerings-ondernehemingsfinanciering.html>

for applying for the TKI-supplement will be extended - for health funds, for example. It will also be possible to apply for the supplement for multi-year programmes. The new rules for public private partnerships ensure a clear framework for all concerned. In addition each top sector will reach agreements on how to incorporate successful Technological Top Institute (TTI) functionalities into the new situation.

SAMPLE PROJECT

Sustainable waste water purification with a small footprint

Water purification installations are usually large and the purification process takes a lot of time and energy. TU Delft and Royal Haskoning-DHV developed Nereda, a new technology for waste water purification. In this system the bacteria used for purification are concentrated in granules. These compact sludge granules settle better and faster than the flakes in conventional systems. This means that tall tanks can be used, doing away with the need for circulation pumps, mixers and settlement tanks. The system takes up less space, uses fewer chemicals, causes less odour nuisance and uses up to 20% less energy. This also brings great cost benefits.

The technology was rolled out in cooperation with the water boards. In 2012 the Veluwe Water Board opened the first sewage station in the world using only Nereda technology for purification. Other water boards plan to follow suit. Recently the principle has also been launched internationally: the Brazilian water company Foz/ Odebrecht Ambiental, and Royal Haskoning-DHV have signed a joint agreement to roll out the Nereda technology in Brazil. Foz has planned the construction of at least ten Nereda installations in the coming years to purify the waste water of millions of Brazilians.

AWT advisory letter on the top sectors³

At the request of Minister Kamp, the Advisory Committee on Science and Technology Policy (AWT) formulated a number of observations on the top sectors approach, ahead of the 'Balans van de Topsectoren' report to be published in 2014. The AWT emphasises in its advisory letter that the top sectors policy should continue, but that work is required on five areas for improvement. A brief response is given below.

Improve the organisation

The establishment of rules provides clarity about the way the knowledge institutions and private sector collaborate. In drawing up the rules attention was also paid to the concept of demand-side management. The Government agrees with the AWT that it is not a matter of "you ask and we jump". It is about joint programming in the golden triangle. To improve communication a new top sectors site will be launched in October and further improvement will be undertaken in collaboration with the top sectors.

Improve the involvement of SMEs

Many SMEs already benefit from the top sectors policy, but the Government is still working hard to increase their numbers. We are looking not only at the trendsetters, but at a broader group of SMEs. Different types of instrument have been used, such as the TKI supplement, the MIT scheme launched this year, and the activities of Syntens. Each top sector now has a dedicated SME help desk.

Supra-sectoral and societal issues

The number of cross-sectoral initiatives is increasing, as evidenced by the new innovation contracts. In the coming period the Government will focus on the association of the top sectors with the challenges in society, and particularly on Horizon 2020. This autumn the Government will publish a booklet on the relationship between H2020 and the top sectors, and a letter will be sent to Parliament describing how the relationship can be optimised over the coming years. Linking policy to societal challenges will also increase the commitment of ministries and researchers.

Enter into dialogue with the regions

Since the start of its enterprise policy, harmonisation with regional economic policy has always been a major consideration for the Government, and the subject of continuing dialogue with the regions. The human capital agendas and the Technology Pact provide good examples of this interaction. In the last administrative consultation between EZ and the regions they agreed to accelerate eleven regional innovative energy projects. They also agreed that the State and the regions would redouble their efforts to link national and regional activities and instruments in the field of SME service provision and incentives for innovation.

Facilitate tailored solutions

The Government recognises the need for tailored solutions. The MIT scheme provides for these. This scheme offers a wide range of options, and the sectors can indicate their own preferences. The Government has decided to increase the budget in 2014 to 30 million euros – twice the amount previously envisaged.

³ Advisory letter: Initial observations from the 'Balans van de Topsectoren' (Top sectors results), 27 September 2013

About this document

The letter on industry 'Naar de Top; het bedrijvenbeleid in actie(s)' (To the top: enterprise policy in action) of September 2011 announced that Parliament would be updated annually on developments in enterprise policy. These progress reports describe the development of the policy over the previous year. Different types of progress are distinguished: outcome (social and economic effect), process, and output (projects). For the top sectors component, the approach is based on three principles: public-private partnership (PPP), an integral approach and demand-side management. These are intended to produce tailored solutions for each top sector and this means that the rate of progress may vary from one top sector to another. The results described at project level in these progress reports are an illustration of the intended public-private cooperation within enterprise policy.

The information in the reports is based on a monitoring and impact measurement system set up to measure progress in enterprise policy. The monitoring information makes it possible to adjust actions and instruments in good time. All the monitoring information is available in the annex 'Monitor bedrijvenbeleid' (Enterprise policy Monitor) and on the website www.volginnovatie.nl. The reports also provide a response to a number of parliamentary motions ⁴.

In the second chapter of this report we consider the progress of actions to improve the general business climate. The actions are divided into five themes: the Netherlands as a country of innovation, broad scope for entrepreneurs, talent for industry, sustainable growth and international and regional profiles. Chapter three contains an overview of progress in each top sector.



SAMPLE PROJECT

Steel industry working on global CO₂ reduction

In a European steel industry cooperation project Tata Steel is investigating how CO₂ emissions from steel production can be reduced. One of the subsidiary projects of this Ultra Low CO₂ Steelmaking project (ULCOS) is Hisarna. The Hisarna project team is developing a new technology that can eliminate three steps in the steel production process. The omission of the sinter, pellet and coke production steps will reduce CO₂ emissions by at least twenty per cent.

Green blast furnace technology

Three successful test periods have shown that the basic principle works. Steel has even been made for the first time using Hisarna pig iron. This brings the development of this green blast furnace technology a step closer. If the fourth test period is also successful, the next major phase of the project will begin: design and construction of a test installation which is ten to fifteen times larger than the current test set-up. If those tests are also successful, the process will be scaled up to industrial level and will have to demonstrate that it can compete with existing technology. The Hisarna project team hopes to achieve its goal in around ten years. Then new steel companies will no longer have to build coke, sinter and pellet plants and existing companies will be able to phase out the existing technology.

⁴ The Lucas/Mulder motion on SMEs (Parliamentary Papers 2012-2013, 32637, no. 62) and the Lucas/Mulder motion on the link between enterprise policy and Horizon 2020 (Parliamentary Papers 2012-2013, 32637, no. 63).

A nighttime aerial photograph of a modern city skyline. The sky is a deep blue, transitioning to black at the top. In the foreground, a multi-lane highway with blurred lights from traffic cuts across the frame. To the left, a large, modern office building with many lit windows is visible. In the center, a tall, dark skyscraper with a bright, illuminated sign on top stands out. To the right, several other modern buildings of varying heights are illuminated, with some having green roofs. The overall scene is a mix of urban architecture and natural night sky.

PROGRESS ON **GENERIC ENTERPRISE POLICY**

THE NETHERLANDS AS A COUNTRY OF INNOVATION

MAINTAIN
STRONG POSITION
THROUGH
INNOVATION

INNOVATION IS ESSENTIAL TO INCREASE DUTCH COMPETITIVE STRENGTH AND RESPOND TO PROBLEMS IN SOCIETY. COMPANIES, KNOWLEDGE INSTITUTIONS AND PUBLIC AUTHORITIES NEED TO SUPPORT EACH OTHER IN DEVELOPING THE KNOWLEDGE AND TECHNOLOGY REQUIRED TO EXPLOIT OPPORTUNITIES OFFERED BY GLOBAL CHALLENGES IN FIELDS SUCH AS CARE, NUTRITION AND SUSTAINABLE ENERGY. THIS REQUIRES PUBLIC AND PRIVATE INVESTMENT AND COOPERATION AT EUROPEAN LEVEL.

Key figures

	2008	2010	2012	2013
NL position in WEF GCI	8	7	5	8
R&D expenditure (%GDP)	1.77	2.02	-	-
of which private (%GDP)	0.89	1.13		
Scale of PPP in TKIs (x€m)		n.v.t.	n.v.t.	n.n.b.

Sources: World Economic Forum, CBS, NL Agency

The Government has three goals for enterprise policy:

- 1 To position the Netherlands in the top five knowledge economies in the world (by 2020);
- 2 To raise the Dutch R&D effort to 2.5% of GDP (by 2020);
- 3 To establish Top Consortia for Knowledge and Innovation with more than 500 million euros in public and private funding, and at least 40% funded by the private sector (by 2015).

It is still too early to assess all our efforts in terms of the three main goals of enterprise policy. The recent demotion of the Netherlands on the Global Competitiveness Index (from 5 to 8) is partly due to lower scores on the availability of credit and knowledge workers. The Government recognises these issues and is responding to them. The unfavourable macro-economic and budgetary climate will not make this any easier in the next few years. The Government will ensure that the resources for knowledge and innovation are at least maintained at pre-recession levels and will continue with the current enterprise policy. Within this policy resources for companies will shift significantly from direct funding (expenditure by government departments) to fiscal incentives for R&D.

Key figures

	2008	2010	2012	2013	2014	2016
Fundamental research ⁵	2,975	3,183	3,280	3,282	3,334	3,368
Applied research	512	488	453	407	384	361
Fiscal R&D measures	797	1,497	1,777	1,753	1,765	1,698
From government departments	1,317	1,778	1,545	1,354	1,094	973
Total	5,601	6,946	7,055	6,796	6,504	6,400

Source: National Reform Programme 2013

Fiscal facilities for R&D

Internationally the Netherlands is keeping pace with the European average when it comes to R&D investment, but it is lagging behind the most innovative countries. Despite an increase in recent years, companies in particular are spending less on R&D than their competitors in other countries. In the Netherlands SMEs account for 46% of private R&D investment⁶. The government encourages companies to invest in R&D, mainly through tax schemes such as the WBSO and RDA. In recent years the budget for the WBSO (which aims to lower the wage costs of R&D employees) has increased and the numbers using the scheme have risen. The Research & Development relief scheme (RDA) was also introduced in 2012 for other R&D costs and investments. 13,860 companies used the scheme in its first year.

In the WBSO scheme (for R&D wage costs) the first tranche was extended from €200,000 to €250,000. This measure is important as it improves SMEs' chances for survival and growth. The rate in the first tranche was reduced slightly to 35%. This is in line with the results of the 2012 evaluation, which indicated that higher WBSO-percentages have limited effect. The RDA percentage will increase in 2014 to 60% (up from 54% in 2013 and 40% in 2012). This equates to a net benefit of 15% at a corporation tax rate of 25%⁷.

With a view to the efficacy of fiscal schemes for innovation, and an increasing workload in fiscal innovation policy, we will consider the facility in the WBSO for contract research carried out for companies by knowledge institutions. It transpired during the 2007 and 2012 WBSO evaluations that knowledge institutions were not passing on enough of the benefits to their clients (the companies). In 2007 the Minister of Economic Affairs wrote to the parties concerned, pointing out that the WBSO benefit should be passed on⁸. This did not achieve the desired effect. Therefore in the coming months the Government will look more closely at why the contract research facility failed, and the significance for SMEs.

Key figures

Numbers of private sector participants in PPPs for R&D:

	2008	2010	2012
WBSO	13,450	19,450	22,210
RDA	-	-	13,860
Of which, SMEs			97%
Share of budget for SMEs			73%

Source: NL Agency

SAMPLE PROJECT**Product innovation: seat belts in pregnancy**

Wearing a seat belt can be dangerous if you are pregnant. In an accident great pressure can be exerted on the placenta and foetus. Even braking hard can be harmful. Research has shown that one in six foetuses suffers continuing injury after such an event.

Simply not using a seat belt is not an option. For this reason, the BeSafe company, with assistance from the WBSO has developed a special seat belt for pregnant women: BeSafe Pregnant. The pregnancy belt is a flat cushion with a hook-and-loop fastening strip. The strip passes under the abdomen so that the pelvis absorbs the pressure from the belt. The belt is also more comfortable for pregnant women and is easy to fit to the car seat.

500 million euros for public-private partnership projects

By working together, researchers, businesses and government can address complex social issues and create (future) commercial opportunities for the Netherlands. For this reason the Netherlands hopes to spend 500 million euros on public-private partnership projects (PPS projects) in 2015. These will arise from joint agendas and programming of the KNAW, NWO and applied knowledge institutions with the private sector. The Minister of Economic Affairs asked the applied knowledge institutions to publish on their website draft research programmes to be carried out as part of the top sectors approach⁹. Nine Top Consortia for Knowledge and Innovation (TKIs) were set up in 2012 to implement these agendas. For further information on the TKIs, see the annex *Monitor Bedrijvenbeleid* (Enterprise Policy Monitor).

The Government this year made agreements with knowledge institutions and the private sector to improve and simplify public-private partnership. For example, it is now easier for SMEs to be included in the top sectors thanks to low-threshold forms of collaboration with NWO and the institutes for applied research. In addition the formulated rules provide a good basis for combining and embedding successful working methods from previous formats for PPP emanating from the Technological Top Institutes (TTIs).

Scan and read the parliamentary letter containing the rules.¹⁰

The Government has two instruments to promote cooperation in TKIs in all the top sectors:

- **TKI supplement:** this supplement is aimed at research, valorisation and co-financing of European projects. TKIs receive a supplement (top-up) proportionate to the contributions of companies to public-private projects.
- **Promoting SME Innovation in top sectors (MIT):** the MIT scheme offers SMEs support to participate in a top sector, for example with feasibility studies, knowledge vouchers, the hiring in of knowledge workers and private-private research partnerships. Top teams indicate prior to the opening of the scheme which instruments are best suited to their sector.



⁵ Out of the funds for fundamental research, NWO and KNAW will together use almost 300 million for demand-led fundamental research in the areas of one or more top sectors. The amounts shown for fundamental research in the table are taken from the Totale Onderzoek Financiering (Total Research Funding Statement) 2010 - 2016 of the Rathenau-institute. A current resources statement for enterprise policy (including top sectors) for the period 2013-2017 is included in the 2014 Budget of the Ministry of Economic Affairs.

⁶ Source: Central Statistical Office (CBS) (2013). *ICT, kennis en economie 2013* (IT, knowledge and economy, 2013), Table 7.2.1.

⁷ This takes into account the budget system of this scheme, the RDA percentage may still be adjusted based on developments in 2013. The definitive RDA-percentage for 2014 will be established by decree at the end of 2013.

⁸ Parliamentary Papers II 2006/2007, 30 800 XIII, no. 76, p. 3; Parliamentary Papers II 2006/07, 30 800 XIII, no. 78.

⁹ The Minister of Economic Affairs herewith provides details concerning his undertaking made during the Consultation on Industry Policy in June 2013. The research programmes are established annually in the last quarter, in close consultation with the top teams including the ministries responsible.

¹⁰ <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/06/25/Kamerbrief-over-spelregels-voor-privaat-publieke-samenwerking.html>

Key figures

Numbers of private sector participants in PPPs for R&D

	2010	2011	2012	2013
TTI	700	800	900	not yet known
TKI	-	-	-	1800*

Source: NL Agency (*estimate)

Key figures

Numbers of SMEs using aspects of the MIT scheme in 2013

Knowledge vouchers	280
Feasibility studies	88
Hiring in knowledge workers	1
B2B-R&D-cooperation	190
Network activities	>1000
Innovation broker	140

Source: NL Agency

**Dutch Knowledge and Innovation Contract 2014-2015:
association with Europe and societal challenges**

In 2013 the top teams updated the Innovation Contracts for their own sectors for the period 2014-2015. The estimated private sector contribution to the TKIs in 2014-2015 is around 1 billion euros per year. In updating the contracts the top sectors were asked to look explicitly at the association between the top sectors and European programmes for research and innovation. The Innovation Contracts described the importance of Horizon 2020 in particular, but also of programmes and initiatives like European Innovation Partnerships, Joint Programming Initiatives and European Technology Platforms. For further information see the annex on the Dutch Knowledge and Innovation Contract 2014-2015.

Dutch companies and researchers have good links with European research and innovation programmes, as demonstrated by the fact that Dutch projects take up around 7% of the budget of the 7th European Framework Programme. Dutch organisations score particularly highly in the fields of agrifood, health and the environment. The Netherlands receives around 10% of the European budget for research in these fields. The Netherlands also ranks highly in obtaining funding from the European Research Council (ERC), whereby researchers are paid on the basis of their individual excellence for groundbreaking research. This shows that Dutch scientific research is still of the finest quality, which benefits all sectors. Another example is Eurostars –the joint programme of the European Commission and around 40 countries to increase international R&D cooperation by innovative SMEs – another point on which the Netherlands scores above average. Further information on this subject can be found in the annex on the 2013 Enterprise Policy Monitor.

Horizon 2020 starts on 1 January 2014. This programme brings together the 7th Framework Programme, the European Institute for Innovation and Technology (EIT) and the innovation-related elements of the Competitiveness and Innovation Framework Programme (CIP). Horizon 2020 has three “pillars”:

- excellence in the science base
- boosting competitiveness
- tackling problems in society (the Grand Challenges)

The aim is to maintain the Netherlands' strong position in European research and innovation programmes. We will strive to increase the budget share for businesses to 25 percent compared with FP7, in line with the objectives of Horizon 2020. New figures will soon be available on current Dutch performance under FP7. Parliament will be informed on this in the autumn, with an explanation of how Dutch research and innovation policy connects to Horizon 2020¹¹.

All the pillars of Horizon 2020 are important for the Dutch top sectors, but the clearest connection is with pillars concerning competitiveness and the grand challenges. This can be traced back to the innovation contracts. Top teams indicate in the innovation contracts which societal challenges their research and innovation can help to address. A statement will be sent to Parliament along with the above information.

SAMPLE PROJECT**New generation of cancer treatment**

The Utrecht company, Merus, is developing a new generation of treatments for cancer. For the 7th Framework Programme the pharmaceutical company is working with two foreign partners on multifunctional antibodies that combat cancer cells.

Training antibodies

Merus is developing a technique to prevent the side-effects of current treatments. For example, chemotherapy destroys healthy cells along with the cancerous ones. The new generation therapies use antibodies, for example to combat a virus or infection. By ‘training’ the antibodies they can target a specific form of cancer. Merus' partners are specialists in growing organoids outside the body, on which Merus can test the antibodies.

The consortium has already used the technique in two Eurostars projects, in which Merus developed antibodies for breast cancer and leukaemia.

¹¹ This partly in response to the Lucas/Mulder Motion on guaranteeing the connection with Horizon 2020 (Parliamentary Session 2012-2013, 32637, no. 63).



Addressing small businesses in enterprise policy

SMEs play a major role in renewing and strengthening the economy. There are generic instruments at both national and regional level to promote innovation efforts by SMEs. The national instruments cover the entire knowledge and innovation chain (from fundamental research to valorisation) and are aimed at innovating SMEs. The regional instruments are more concerned with valorisation. Connecting SMEs up to the top sectors means that any knowledge developed is better used, and the economy is renewed with new innovation clusters in the sectors concerned. That is why the Government has taken specific measures aimed at the top sectors.

There are already many provisions in generic enterprise policy that benefit SMEs. There are measures to improve conditions in the sector. There are legal and regulatory measures to address the administrative burden, schemes to facilitate finance, fiscal benefits for R&D, and measures to strengthen international trade relations. Most of the generic innovation resources find their way to the SMEs, both in terms of users (around 95% in 2012) and of budget (around 65% in 2012)¹².

Enterprise policy also focuses on nine top sectors. The Government also wants to include SMEs within the top sectors approach, for example, with the MIT innovation incentive scheme for SMEs in the top sectors, which was developed over the past year. The Government consulted with the SME representatives of the top teams and held feedback sessions with a wider public to ensure that the scheme would be in line with SME business practice. The MIT scheme was opened in April 2013, making 2 million euros available for each top sector and for the cross-sectoral themes of IT and the Biobased Economy. After the opening of the scheme, both NLAGency – which is administering the scheme - and the various top sectors held information sessions for SMEs with Syntens Innovation Centre. The MIT scheme meets a clear need among the top sectors and the SMEs within them. Applications totalling 40 million euros were made to NLAGency. The Government therefore decided to increase the budget for this scheme to 30 million euros in 2014. Any changes to the MIT scheme will be discussed with the top sectors and SME representatives. As further details are worked out various options will be considered for distributing the available budget among the top sectors.

In addition to their participation in the MIT scheme, SMEs also take part in the Top Consortia for Knowledge and Innovation (TKIs). Each TKI has an SME help desk to connect SMEs to research programmes and innovation activities within the TKIs. The Enterprise Policy Monitor annex provides a breakdown of the proposed use of the supplement in 2013 into fundamental research, applied research, innovation and network activities and office costs¹³. Based on experience with the implementation of the TKI supplement scheme, it will be expanded for 2014 and become more demand-led. For example, there will be more opportunities to apply for the supplement. This will create more flexibility in the use of the supplement. The first €20,000 contributed by businesses, either in cash or in kind, will be taken as the basis for the supplement. This makes it easier for SMEs to get involved in the top sectors and TKIs. The Government will also ensure innovation activities are incorporated into the TKI supplement and MIT schemes in a more logical and coordinated way.

To increase SME innovation activities in the regions, the Government and regional authorities together explored better ways to exploit the innovation potential of SMEs. It is estimated that between four and five thousand SMEs are involved in innovation in R&D projects and around 20,000 companies are involved in broader activities such as incubators, campuses, shared facilities and cluster formation. In the consultation meeting with the regions on 4 September this year the Minister agreed to work with the regions to improve transparency and accessibility of SME instruments by streamlining SME services and schemes:

- The Government and local and regional councils will make an inventory of instruments and schemes which lend themselves to harmonisation and/or streamlining. For example, by harmonising conditions, exchanging knowledge and/or joint administration of schemes. These harmonisation and implementation efforts may be aimed at MIT-style schemes, or early-stage funding, SBIR and other instruments. Experience from current initiatives and models can be used. For example, at the moment, businesses that missed out on the MIT scheme due to lack of funds are directed to funding options within their own region. An Agri-Food pilot shows that this can help around 25% more businesses. Following on from this, government and regions are joining forces to involve more innovative SMEs from the regional clusters in the TKI programmes in 2014.
- Government and regions will try to develop a common line on how to improve the connection between national and regional service provision for SMEs, taking account of regional differences and existing responsibilities and structures. The aim is to improve the accessibility and transparency of service provision for (innovative) SMEs.

12 The SME share is an estimate, as no exact data are yet available for the RDA and the Innovatiebox.

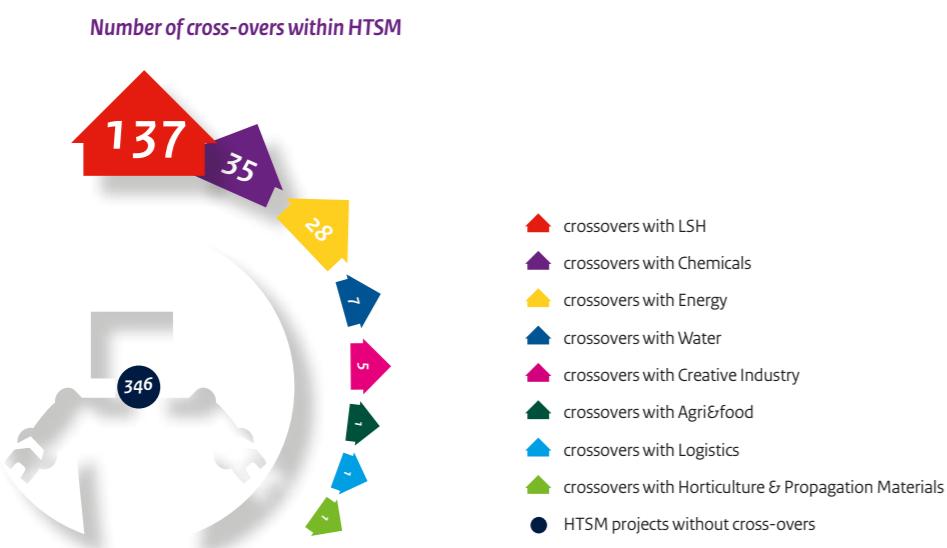
13 This provides the Government response to the Lucas/Mulder motion on SMEs (Parliamentary session 2012-2013, 32637, no. 62)

Cross-overs

The top sectors are organised according to the themes that are the most unifying for particular groups of companies. The examples below indicate that cooperation also arises at the intersection of these themes: the cross-overs. Intensive cooperation between sectors ensures that opportunities offering unexpected links between research and innovation are exploited. Three cross-sectoral themes have been formulated within the top sectors approach: IT and Nanotechnology from HTSM and Biobased Economy from Chemicals. The IT roadmap of HTSM describes cross-sectoral IT innovations, for example in the Top Sectors of Logistics, Creative Industry, Life Sciences & Health, Energy and Horticulture and Propagation Materials. Examples include data systems for health care and IT for smart mobility. The Nanotechnology Roadmap of the HTSM sector cuts across several top sectors and facilitates the step from excellent research to new applications that address societal challenges. The main focus is on technologies, such as sensors, that can be used in many different applications. Within the top sectors approach the Chemical Sector has adopted the theme of the biobased economy. This sector published the innovation contract 'Groene Groei, van biomassa naar business' (Green growth, from biomass to business), in which the top sectors Chemicals, Energy, Agri-Food, Horticulture and Propagation Materials, Logistics and Water joined forces. They aim to convert biomass optimally into valuable resources and materials. Implementation is through the cross-sectoral Top Consortium for Knowledge and Innovation (TKI) on the Biobased Economy.

There are also many other cross-sectoral initiatives. In the past year the top sectors of Agri&Food and Horticulture and Propagation Materials have reached useful agreements about the crossovers. For example, there is joint programming on PPP projects on the themes of sustainable soil, plant health and phytosanitation. The Logistics sector works with other top sectors including Horticulture and Propagation Materials, Chemicals and Life Sciences & Health.

An initial project has been carried out with the STW technology foundation to identify crossovers between the High Tech Systems and Materials (HTSM) sector and other top sectors. This showed that nearly 40 per cent of HTSM projects have a crossover with another top sector, particularly Life Sciences & Health (see figure).



Innovation-based procurement

The Government uses innovation-based procurement as an instrument to address societal problems. We aim to use available resources as efficiently as possible. This can be done if the government and industry work more closely together, starting long before the tendering process. Government procurement budgets are considerable: procurement expenditure by Dutch public authorities totals almost 60 billion euros. The majority - almost 43 billion euros per year - is spent by other public authorities, such as the provinces, municipalities and water boards. That is why the Ministry of Economic Affairs, together with the large state procurement bodies such as Rijkswaterstaat (the state water authority), set up the programme 'Inkoop Innovatie Urgent' (innovation procurement urgent) to encourage all public authorities to procure further innovations from the market. The programme is directed at central government and other public authorities. Particularly in the case of the other authorities there are still many benefits to be gleaned. The aim is to have at least one procurement innovation project in all the regions in the coming years and to have at least six provinces and four water boards in a network of the large towns and cities - the G32. The procurements are aimed at innovation and measured as percentages, as we do not yet know precisely the amounts spent on innovative solutions. Nor is it possible to indicate whether the target percentage of 2.5% was also reached in figures. The monitoring systems will be further developed to gain insight into the relationship between the number of projects and the amount spent on them. Further information on innovation-based procurement can be found in the annex 'innovatiegericht inkopen: innovaties versterken de inkoopkracht van de overheid' (innovation-based procurement: innovations strengthen government buying power).

RESULTS

- In the government-wide programme 'Inkoop innovatie urgent' 27 projects were carried out on eight societal challenges. 23 of these projects produced substantial results and have had the green light to continue. The projects are described on the website www.inkoopinnovatieurgent.nl. Lessons from this and other projects will be taken over into the virtual set of instruments.
- A virtual market place has also been developed, www.innovatiemarkt.nl to bring demand and supply together at an early stage.

SAMPLE PROJECT

Efficient and sustainable bed-cleaning for Erasmus MC

Every year the Erasmus Medical Centre has to clean 70,000 beds. In 2012 it challenged the market players to find more efficient and sustainable solutions for cleaning and disinfecting its beds and mattresses. This gave the market scope to think outside the box and incorporate knowledge from other sectors.

Robot technology combined with steam

In summer 2013 Erasmus MC selected eight candidates who had entered the fray with detailed tenders. IMS Medical came out on top. This company combined robot technology with steam cleaning - a cheaper and more sustainable solution which will shortly be tested in the field.

Petra de Paauw-Romer project leader, Land Remediation, Noord-Brabant



'Research before procurement.'

'On 5 January 2011 there was a huge fire at the Chemie-Pack plant in Moerdijk. This released a cocktail of hazardous substances into the atmosphere. As Chemie-Pack is now bankrupt, the provincial council decided to step in and carry out the remediation. We have since made exhaustive survey of the contamination. For example, we examined the flow of groundwater and determined the biodegradability of the substances. We also involved the market players. We organised three meetings with Rijkswaterstaat at the LEF future center, where we presented our clean-up programme to experts in the market and discussed the risks and requirements with them. This extensive preparation worked really well for us. We now definitely have enough information to put the clean-up out to tender soon.'

SAMPLE PROJECT

Market and government address public lighting

Both large companies and SMEs have developed innovative solutions for the illumination of public spaces, such as more integrated lighting (light from advertising, residential flats, bus shelters), dimming lights during the night and making better use of reflective materials such as asphalt or paving. The Government is looking for more sustainable and flexible solutions to provide options for different types of lighting in a neighbourhood – depending on the situation. For this reason the Ministry of Economic Affairs has organised regional meetings with various local councils and the Innovation Platform on Public Lighting. These meetings produced ideas for concrete projects and everyone could express their views about the future of public lighting. A meeting was held in May in Amsterdam and the next meeting will be in Eindhoven at the beginning of October.





TALENT FOR INDUSTRY

HUMAN CAPITAL FOR THE FUTURE

COMPANIES IN THE TOP DUTCH SECTORS ARE AMONG THE INTERNATIONAL ELITE. MAINTAINING THAT POSITION REQUIRES A WELL-EDUCATED WORKING POPULATION, WITH SUFFICIENT QUALIFIED TECHNICAL AND SCIENTIFIC STAFF. GOOD INTEGRATION BETWEEN EDUCATION AND THE LABOUR MARKET AND STRUCTURAL COOPERATION BETWEEN COMPANIES ARE CRUCIAL HERE.

Key figures

REGISTRATIONS IN SCIENCE AND TECHNOLOGY (X 1000)	2009	2010	2011	2012
Senior vocational	205	208	199	195
Higher vocational	70	72	75	77
Universities	62	65	68	70

Source: Platform Bètatechniek

Technology Pact to counter the shortage of technical staff

Despite steeply rising unemployment, companies are still struggling to find sufficient specialised technicians and skilled professionals. There are still concerns for the coming years about the availability of enough technically trained employees, particularly from vocational education. On 13 May 2013, in anticipation of the shortage, the Government concluded the 2020 National Technology Pact with a broad coalition of employers, employees, regional authorities, education authorities and students. The pact will result in more technically trained people with the skills the market needs. The first signs of change can already be seen. The number of pre-registrations for technical university courses for the 2013-2014 academic year is already 17% up on last year. The same picture can be seen in higher vocational education: an increase of a good 9%. Structural measures in the Technology Pact are intended to ensure this progress continues in the long term.

The Technology Pact contains specific action agreements, such as more attention to science and technology in all primary schools by 2020, an investment fund to promote cooperation between companies and schools/colleges and a thousand grants per year for technical/technology students. The Government is also investing 100 million euros to get more science and technology teachers into secondary schools and to enable primary teachers to give greater attention to technical subjects. The Government is also earmarking 300 million euros in 2014 and 2015 (600 million in total) for extra training and retraining of people interested in technical and engineering subjects. The challenge is to quickly translate the agreements on paper from the pact into tangible results. Recently the Government wrote to Parliament about the working method and work programme of the Technology Pact. The work programme contains 23 actions, including 22 national measures. In addition the regions will elaborate regional and area-specific technical pacts. Scan and read the letter to Parliament about the Technology Pact¹⁴.

¹⁴ <http://www.rijksoverheid.nl/documenten-en-publicaties/convenanten/2013/05/13/nationaal-techniekpact-2020.html>



Scan and read.¹⁴

Human capital agendas for the top sectors

Prior to the Technology Pact each top sector drew up its own human capital agenda. Among other things, these agendas give an analysis of their requirement for technically trained personnel, a common vision on the education required and more detailed agreements about how education and top sector companies can best help to prepare students and pupils for the labour market.

The initial results of the human capital agendas can now be seen. In the past two years 14 Centres for Innovative Craftsmanship have been developed in senior secondary vocational education and 18 Centres of Expertise have been developed in higher vocational education for and with the top sectors. In these centres employers, scientists, teachers and students work together to improve the quality of technical vocational education. The centres help to recruit new students and contribute significantly to launching and accelerating innovations. The number of registrations is also rising at these educational centres.

Key figures

Centres for Innovative Craftsmanship and Centres of Expertise of Top Sectors (as per 31 August 2013)

Number	42 (CiV 18, CoE 24)
Number of participating companies	489
Number of participating educational institutes	96
Funding (€ millions, cumulative to 2015/16)	113
Of which private sector	51

Source: Platform Bètatechniek (provisional figures)

André Kuipers astronaut and ambassador for the Technology Pact



'Show children what their talents can achieve.'

'In primary and secondary education it is important to interest pupils, parents and teachers in science and technology. I would like to see education and industry have more impact on the perception of young people. Industry can support this by showing children, even at primary school age, what they could achieve later on with their talents. That way, children of both sexes are inspired by science, technical subjects and technology from a young age, and find out about the range of training and professional opportunities they offer. This breaks through stereotypical images and prejudices about technical jobs and professions.'

Paul de Krom ex-State Secretary of Social Affairs and Employment and champion of the Technology Pact



'Definitive re-evaluation of technology'

'The Technology Pact marks the definitive re-evaluation of technology. Seen for a long time as part of the "old economy", we now realise that in fact technology is the future. And we need good people for it. The added value of the pact is in the 22 very specific agreements which we have made with dozens of partners – from employers, workers and companies to education. For example, a thousand study grants a year for technical students. We have also placed cooperation between the regions at the centre, as the regions are where it will happen. I think it will be important for the success of the Technology Pact that the participating ministries and politicians have clearly adopted a unified line and given a boost to the sector.'

Overview of Centres for Innovative Craftsmanship and
Centres of Expertise

MBO CENTRA VOOR INNOVATIEF VAKMANSCHAP

Centrum
CIV Maintenance en procestechniek Rijmond
Penvoerder
STC-Group
Deelnemende MBO-instellingen
Albeda College, Zadkine

Centrum
CIV Tuinbouw & Uitgangsmaterialen
Penvoerder
Lentiz onderwijsgroep
Deelnemende MBO-instellingen
Citaverde College, Clusius college, Edudelta
onderwijsgroep, De Groene Welle, Prinsentuin,
Wellantcollege

Centrum
De Logistiek van de Toekomst!
Penvoerder
STC-Group

Centrum
CIVOM
Penvoerder
Zadkine
Deelnemende MBO-instellingen
Albeda College

Centrum
Met Maritieme Techniek naar de top!
Penvoerder
STC-Group
Deelnemende MBO-instellingen
Da Vinci College

Centrum
CIV Water
Penvoerder
Friesland College
Deelnemende MBO-instellingen
Nordwin College

Centrum
CIV Energie-Eemsdelta
Penvoerder
Noorderpoort

Centrum
CIV Passie voor Biobased
Penvoerder
ROC West-Brabant

Centrum
Businessplan van het Centrum voor
Productietechnologie, Teclab Education
and Learning Centre
Penvoerder
Summa College

Centrum
CIV Technologie in de Zorg
Penvoerder
Arcus College
Deelnemende MBO-instellingen
Leeuwenborgh Opleidingen

Centrum
Chemelot Innovation and Learning Labs
Penvoerder
Leeuwenborgh Opleidingen
Deelnemende MBO-instellingen
Arcus College

TOP SECTORS

- Agri & Food
- Chemicals
- Creative industry
- Energy
- High Tech Systems and Materials
- Life Sciences & Health
- Logistics
- Horticulture & Propagation materials
- Water

HBO CENTRES OF EXPERTISE

Centrum
Centre of expertise Watertechnology
Penvoerder
NHL Hogeschool
Andere participerende Hogeschool
Van Hall Larenstein
Toegekend in 2010

Centrum
Energie
Penvoerder
Hanzehogeschool Groningen

Centrum
Healthy ageing
Penvoerder
Hanzehogeschool Groningen
Andere participerende Hogescholen
Stenden, NHL Hogeschool Leeuwarden

Centrum
Creatief/ICT
Penvoerder
Hogeschool van Amsterdam
Andere participerende Hogescholen
Hogeschool InHolland, Amsterdamse
Hogeschool voor de kunsten

Centrum
Logistiek
Penvoerder
Hogeschool van Amsterdam
Andere participerende Hogescholen
Christelijke Hogeschool Windesheim
Zwolle, Hogeschool Rotterdam,
Hogeschool van Arnhem en Nijmegen
Fontys Hogescholen, NHTV

Centrum
Techniekonderwijs
(TSE-CTO)
Penvoerder
SaxionHogescholen
Andere participerende Hogescholen
Hogeschool Edith Stein, Christelijke
Hogeschool Windesheim Zwolle

Centrum
Smart Polymeric Materials
Penvoerder
Stenden Hogeschool Emmen
Andere participerende Hogeschool
Christelijke Hogeschool Windesheim
Zwolle

Centrum
Expertisecentrum HTSM Oost, Echo
Penvoerder
SaxionHogescholen
Andere participerende Hogeschool
Christelijke Hogeschool Windesheim
Zwolle

Centrum
CoE Biobased Economy
Penvoerder
Wageningen University
Andere participerende Hogescholen
Avans Hogeschool, Hogeschool Arnhem
Nijmegen (Biocentre), CAH Dronten, HAS
Hogeschool, Inholland, Van Hall Larenstein

Centrum
Sustainable mainport innovation
Penvoerder
Hogeschool Rotterdam

Centrum
Productietechniek en materialen
Penvoerder
Fontys Hogescholen

Centrum
Duurzame Electrische Energie
Penvoerder
Hogeschool van Arnhem en Nijmegen

Centrum
Automotive Centre of expertise
Penvoerder
Hogeschool van Arnhem en Nijmegen
Andere participerende hogeschool
Fontys
Toegekend in 2010

Centrum
Persoonlijk Meesterschap
Penvoerder
Hogeschool de Kempel
Andere participerende Hogescholen
Katholieke Pabo Zwolle, Marnix
Academie, Iselinge Hogeschool,
Gereformeerde Hogeschool, Hogeschool
Driestar

Centrum
Innovatieve Zorg en Technologie
Penvoerder
Hogeschool Zuid
Andere participerende Hogeschool
Fontys Hogescholen

Centrum
Chemelot Innovation and Learning Labs
Penvoerder
Hogeschool Zuid
Toegekend in 2010

TOP SECTORS

- Agri & Food
- Chemicals
- Creative industry
- Energy
- High Tech Systems and Materials
- Life Sciences & Health
- Logistics
- Horticulture & Propagation materials
- Water

OTHER

- Tourism
- Education

Companies set up a digital portal

Primary and secondary schools can go to the digital help desk at www.techniek-onderwijs.nl if they need help teaching technical subjects or need to find training placements for their science and technology students. Young people can also go to the help desk to find an in-service training or learning placement.

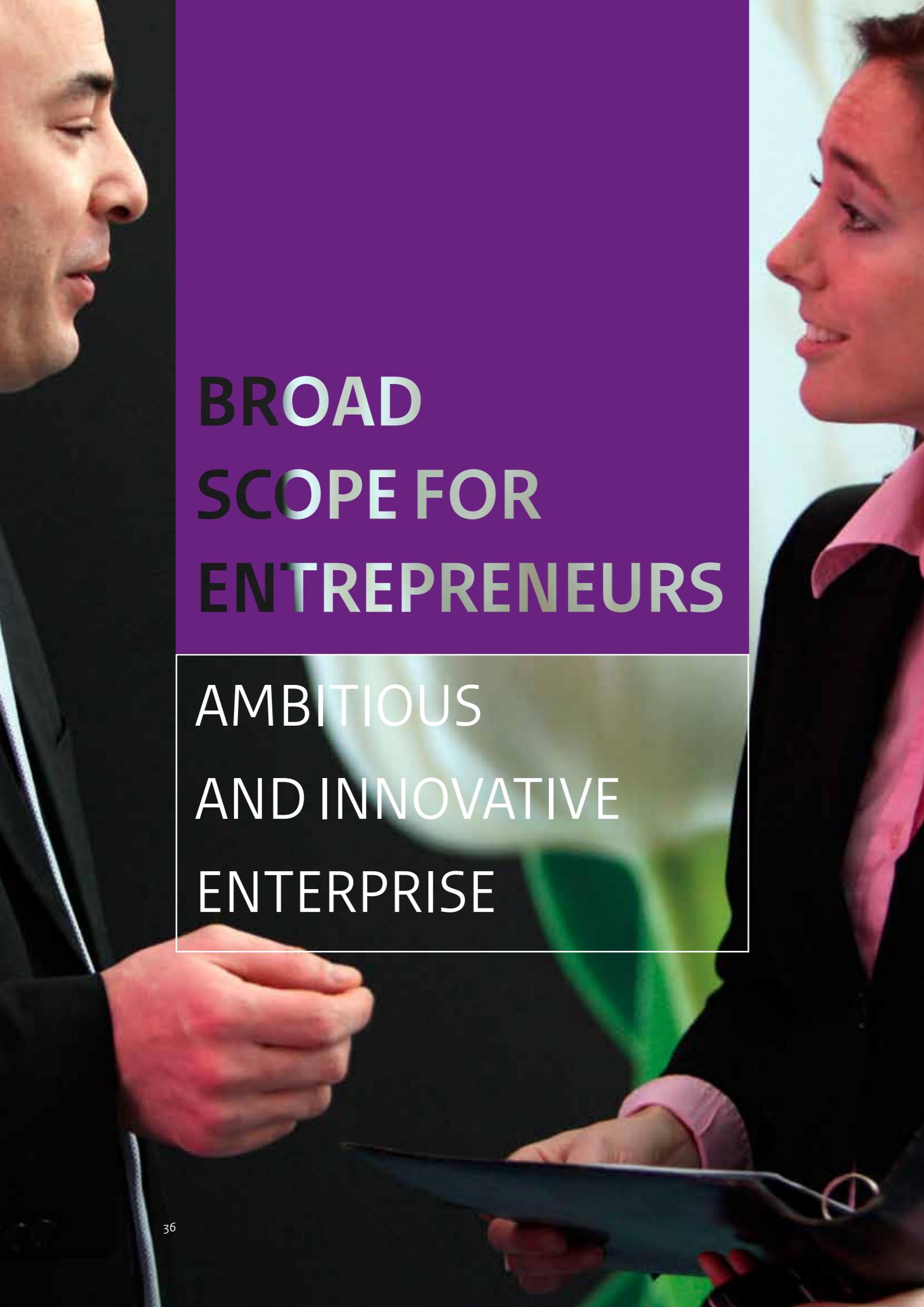
SAMPLE PROJECT

Employment permit rules relaxed for foreign staff in the knowledge industry

Employers cannot currently obtain permits for foreign workers if Dutch workers or workers within the EU could also do the work. These rules are not flexible enough for the knowledge industry and involve unnecessary red tape. The Government has indicated that it is important for the Dutch economy to encourage knowledge-intensive businesses, and on 1 July 2013 launched a pilot project to address this problem. Over the next two years employers in the knowledge industry will not have to apply for employment permits for certain workers from outside the EU.

Easing
 The easing of the rules only applies to activities in which foreign workers will not displace Dutch workers. Employees of foreign clients, for example, who come to the Netherlands to check the goods they have ordered or for training on machines they have bought in the Netherlands. The pilot project applies to all large companies with an annual turnover in excess of 50 million euros or orders of more than 5 million euros. It is these large companies that have the most difficulty with the current rules.





BROAD SCOPE FOR ENTREPRENEURS

AMBITIOUS
AND INNOVATIVE
ENTERPRISE

PROGRESSIVE ENTREPRENEURS OFTEN RUN INTO RULES THAT HAMPER INNOVATION. THIS IS COSTLY AND DISCOURSES INNOVATIVE ENTERPRISE. IN ADDITION, INNOVATIVE SMES FIND IT DIFFICULT TO ACCESS FINANCE. THE GOVERNMENT IS WORKING TO REMOVE THESE BARRIERS TO MAKE WAY FOR AMBITIOUS AND INNOVATIVE ENTREPRENEURS.

Key figures

Investment facilitated by the SME Innovation Fund and SME Guarantee Scheme (bmkb) (in € millions).

FINANCE	2009	2010	2011	2012
Innovation credit	111	144	144	159
SEED scheme	39	43	24	32
BMKB (taken up)	556	742	909	486

Source: NLAGency

Access to finance

Companies need finance to grow, but at the moment they are applying for fewer loans than usual. This is not surprising during a recession, as businesses put off investing in expansion. For those companies that do seek finance, it is not always easy to get it, especially in the case of SMEs. Due to the current economic climate and tighter conditions, banks and financiers, such as investment companies and venture capitalists, are more reluctant to extend credit.

The Ministry of Economic Affairs (EZ) supports businesses that have a good business plan with micro-credit, guarantees for SMEs, loan guarantees and risk capital. Companies wishing to innovate can apply for finance from the SME+ Innovation Fund, which was set up in collaboration with the European Investment Fund (EIF). EZ has extended around seven billion euros in credits under various schemes.

Diverse new forms of finance are springing up, which are intended to increase access to finance, such as crowd funding, credit unions and SME bonds. However many businesses are not readily finding their way to alternatives to bank finance. EZ is supporting various initiatives and bringing them to the attention of SMEs, partly through promotional activities and the removal of regulatory barriers. The Government has also announced an instrument for early stage financing and investment in young and small companies by informal investors. This supports the early stages of business growth when finance is hard to obtain for innovative start-ups and ambitious existing SMEs. A Dutch Investment Institution (NII) is being set up along with market partners. It will be a front line intermediary which can broker supply and demand for (long-term) finance for institutional investors. For further information see the Finance Letter of 17 September 2013.



Scan and read more ¹⁵

The regional development companies play an important role in extending risk capital to entrepreneurs. In 2012 it provided 47 per cent of all venture capital investments in the Netherlands. It is desirable to have Regional Development Organizations (RDOs) throughout the country, so the Province of South Holland, Rotterdam, The Hague, Delft, Leiden, Westland, three universities and university hospitals have joined forces with the Ministry of Economic Affairs to set up a regional development company, "ROM Zuidvleugel" to the south of the Randstad. EZ contributes 10 million euros to the holding company. The subsidy relationship with the RDOs has been extended in a multi-year agreement to the end of 2016, because of the unifying role they play in the implementation of central government and regional policy, aimed at the top sectors and in support of innovative SMEs.

EVALUATION OF INNOVATION CREDIT

The evaluation of the 2006-2011 Innovation Credit and Challenger's Credit was recently completed and presented to Parliament. The evaluation was carried out in line with the report "Durf te meten" (Dare to measure) by the expert working group on impact measurement, with the aim of further improving policy evaluations. (Parliamentary Session 2012-2013, 32 637, no. 44).

Scan and read more about Durf te meten and the government response.¹⁶

The main outcomes of the evaluation:

- Innovation credit is effective and efficient. The research agency recommends extending the scheme.
- Receiving a euro in innovation credit results in 1.82 euros extra R&D expenditure at company level. This is without taking account of the fact that part of the loans are repaid in due course and lent out again. At a 50 percent repayment rate, for example, the impact on R&D expenditure is almost twice as great.
- Opinion polls indicate that users of innovation credit more often started the innovation project, were more often successful, obtained more patents and showed more growth in employment (FTEs) than the group of companies that were refused credit.

Scan and read the letter to Parliament on the evaluation of innovation credit.¹⁷



Reducing red tape for entrepreneurs

In recent years we have achieved a sharp reduction in the administrative burden on businesses amounting to 845 million euros in the period 2011-2012. For the period up to 2017 the Government hopes to achieve a further reduction of 2.5 billion euros.

The Government hopes to reduce the burden of regulation partly by using IT and digital service provision and removing some tiers of supervision. With tiered supervision several supervisory bodies can ask businesses for the same information every year. The Government is addressing the burden of supervision and striving for better cooperation and information exchange between supervisory bodies.

¹⁵ <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/09/17/brief-aan-de-tweede-kamer-stimulerings-onderneemersfinanciering.html>

¹⁶ <http://www.rijksoverheid.nl/documenten-en-publicaties/rapporten/2012/11/23/durf-te-meten-eindrapport-expertwerkgroep-effectmeting.html>

¹⁷ <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/08/23/aanbieding-eindrapport-evaluatie-innovatiekrediet-uitdagerskrediet-2006-2011.html>

Tailored approach for heavily regulated domains

The Government is adopting a tailored approach to supplement its generic approach to the burden of regulation. This approach is aimed at specific domains in which entrepreneurs are beset by layers of regulation and excessive interference from various public authorities. In the first tranche of the new approach government and industry will look into the burden of regulation in four top sectors (Chemicals, Logistics, Agri&Food and Life Sciences & Health). The aim is to remove problems associated with the regulatory burden and regulatory barriers to innovation. For each of the four named sectors there will be an action plan by 2014 at the latest, with concrete measures which tie in with the regulatory burden agendas of the top sectors. The approach is described in the programme letter 'Goed Geregelde' (well regulated), a responsible reduction in the burden of regulation 2012-2017.



Scan and read the programme letter¹⁸

Key figures

REGULATORY BURDEN	2011-2012
Reduction in regulatory burden	€ 845 million

Networked readiness index, WEF

ICT	2009	2011	2013
NL position	9	11	4

Global Entrepreneurship Monitor

ENTREPRENEURSHIP	2008	2010	2012
NL position in TEA-index (innovation driven economies)	14	4	3

Sources: Ministry of Economic Affairs, World Economic Forum, GEM Consortium

Smarter working with efficient use of IT

Economic development is partly determined by the use of IT. IT facilitates innovation in products and services and increases productivity, including labour productivity. Smart IT applications can also contribute to solving problems in society. By way of support, the Government has adopted a multi-track IT policy from the Digital Implementation Agenda for Smarter Working, involving fast and open IT infrastructure, security and confidence and knowledge that works (IT Roadmap for Top Sectors).

The work done on IT is paying off: in 2013 the Netherlands rose from sixth to fourth position in the Networked Readiness Index (2013 Global Information Technology Report of the World Economic Forum). This index shows how well countries perform on the contribution of IT to international competitive strength. Despite our good performance, we must not stand still. The Government is therefore giving an extra boost to the uptake of IT with ten IT breakthrough projects. Based on public-private cooperation, these projects will remove

¹⁸ <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/04/24/kamerbrief-goed-geregelde-een-verantwoorde-vermindering-van-regeldruk-2012-2017.html>

barriers to SME use of IT applications in a number of top sectors (for example, precision agriculture based on open geodata), education (digital teaching material) and long-term care (distance provision). The current state of affairs is reported in the policy letter 'Doorbraken met IT - het benutten van de economische kansen van IT' (Breakthroughs with IT – exploiting the economic opportunities offered by IT), of 12 July 2013.

*Scan and read*¹⁹



Free passage for ambitious entrepreneurs

The Netherlands is continuing to rise through the ranks of international enterprise (see key figures). That is good for dynamics in the economy: new companies bring in new products and services. They exploit opportunities arising from new knowledge, technology and other developments in society. They also spur existing companies on to innovate. For the Dutch economy this enterprising spirit offers prospects for growth in employment and productivity.

However, start-ups are initially less productive than established companies. This has to do with the extra time and energy required for exploring the market, network building and the development of new products and services. Lower productivity can also be linked to the small scale of the business (disadvantages of scale). The economic potential of enterprise is thus only realised if sufficient entrepreneurs survive the initial process of growth.

One of the first measures the Government has taken in this regard is to adjust the WBSO tax incentive scheme for R&D. It has made the scheme more attractive to innovative growing businesses by extending the first band, which gives them an extra advantage. The Government is also looking into options for introducing a profit box on the income tax form, to boost growth in turnover.

To raise its profile with ambitious entrepreneurs even further, the Government is creating a package that is pro growth, pro risk investment and pro-enterprise. It will include measures aimed at lowering the information costs and risks faced by entrepreneurs who want to grow their business at home and abroad. The measures could, for example, help them to find knowledge partners or recruit staff. Reducing the burden of regulation and ensuring sufficient venture capital are also important in this context. Under its policy on ambitious enterprise, the Government also wants to boost quality in business education and the development of talent, and promote networking and lead customership. It is also broadening opportunities to attract and bind innovative entrepreneurs to the Netherlands, not least by making it easier for international innovative start-ups to set up shop in the Netherlands.

Willem Vermeend former MP, State Secretary and Minister, and driving force behind an IT breakthrough project aimed at SMEs



'Keep innovating!'

'Companies that want to survive have to innovate in a smart way. That is especially true of small businesses. The Netherlands can score highly by working on innovations such as 3D printing, big data analysis and 'the internet of things'. In the breakthrough project 'Ambitious SMEs innovate with IT' we see what barriers can be removed to promote innovation in SMEs. Think, say, of laws and regulations, exchange of knowledge between business and research institutions, and access to finance. Of course we explicitly invite SMEs to contribute their own ideas as well. So I appeal to small businesses to see what opportunities there are and to keep innovating, as innovation is the solution for the future.'

SAMPLE PROJECT

Digital business links

The local Chambers of Commerce, the National Chamber of Commerce and Syntens Innovation Centre will be merged on 1 January 2014 into a single new, modern organisation, ultimately responsible to the Ministry of Economic Affairs. The Chamber of Commerce is also the director and manager of the new form of service provision to entrepreneurs: the Digital Business Links. These online business portals are a good example of the use of IT by public authorities to benefit entrepreneurs. Where possible services will be provided online, and supplemented by telephone and limited physical service provision. The new Chamber of Commerce will have nineteen physical locations, of which five will be front offices and five will be larger sites. Various players will collaborate in the digital business links, including the Tax Service, and municipal business help desks. The digital business link, Ondernemersplein.nl, will be the one-stop shop to give businesses digital access to government, with government and business information and advice on enterprise and innovation. The beta version is already operational and provides information from various government partners. The website will be officially launched in Autumn 2013.

¹⁹ <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/07/12/Kamerbrief-over-doorbraken-met-ict-het-benutten-van-de-economische-kansen-van-ict.html>



SUSTAINABLE GROWTH

DUTCH COMPANIES
WORKING ON
SOCIETAL
CHALLENGES

INNOVATIVE ENTREPRENEURS AND BUSINESSES ARE RESPONDING TO THE GROWTH MARKET OF THE FUTURE WITH SUSTAINABLE PRODUCTS AND SERVICES. THEY ARE UNIQUELY EQUIPPED TO ACHIEVE THE TRANSITION TO A SUSTAINABLE ECONOMY BY USING SMART INNOVATIONS TO CREATE ECONOMIC, ECOLOGICAL AND SOCIAL VALUE. THE GOVERNMENT SUPPORTS THIS TREND, AMONG OTHER THINGS THROUGH ITS GREEN GROWTH APPROACH, CORPORATE SOCIAL RESPONSIBILITY AND GREEN DEALS.

Companies working on Green Growth

The Government wrote to Parliament in March 2013 explaining its ambitions for green growth. The Government seeks to increase the Netherlands' competitive strength whilst at the same time reducing environmental damage and our dependency on fossil fuels. The Government's green growth approach is aimed at market incentives, legislative reform and innovation, with government acting as a network partner. The Government has identified eight promising areas in which greenness and growth can be mutually beneficial: energy, biobased economy, climate, waste, construction, food, mobility and water. The biobased economy is also a cross-sectoral theme of the top sectors approach.

Scan and read the letter to Parliament.²⁰

BioBased Economy: new products from the land

The BioBased Economy (BBE) uses green resources in materials, chemicals, fuel for transport and energy. Efforts on this theme are a good example of the way the Government works with knowledge institutions and businesses to deal with societal challenges and incorporate them into various agendas. In 2012 the Government sketched out the main lines of its strategy for green growth. The biobased economy is well integrated into enterprise policy via the top sectors of Chemicals, Energy and Agri-Food, Water and Horticulture & Propagation Materials. Nearly 200 companies have committed to the BBE Innovation Contract and the BBE TKI.

Market development of biobased materials is proceeding rapidly worldwide. Current global production of bioplastics is 725,000 tonnes (26.8 per cent produced in the EU) and is expected to rise to 1.7 megatonnes (more than double the amount) by 2015 (18.3 per cent produced in the EU). This trend is expected to continue to 2020, according to the Nova Institute.

²⁰ <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/03/28/Kamerbrief-groene-groei-voor-een-sterke-duurzame-economie.html>

RESULTS

- In 2012 the TKI BBE allocated an innovation budget of 42 million euros to 11 projects that began in 2013. It has a budget of nearly 25 million euros for 2013.
- Biobased small businesses can apply for subsidy via the joint Top Sector SME Innovation scheme (MIT) for Chemicals, Energy and the Biobased Economy.
- The Ministry of Economic Affairs set up the valorisation network 'Top Chemie Δ' with the Top Sector of Chemicals. This provides a point of contact in the region for businesses to ask questions and obtain suitable answers about such things as biopolymers and process innovations. This creates the desired link between the TKIs and SMEs.
- Various Dutch regions have biobased programmes, such as biobased Delta/ Zuidvleugel and the Green Chemistry Campus in Noord-Brabant. Knowledge, experience and ideas are shared through the biobased economy transition network.
- The European Commission named the biobased economy as a key theme for Horizon 2020, the European finance programme for research and innovation. It also supports the BRIDGE-programme: an initiative of biobased companies in Europe representing a value of 3.8 billion euros for joint programming of research and innovation.

Corporate social responsibility

With innovative and sustainable business models, companies can help to solve problems in society. A growing number of companies sees corporate social responsibility (CSR) as a positive business case. These include the multinationals associated in the Dutch Sustainable Growth Coalition, and the growing number of companies and sectoral organisations that are partners in CSR Nederland. CSR policy contributes to the growing awareness of companies in relation to the challenges facing society, and promoting sustainable economic growth. The policy document 'Maatschappelijk Verantwoord Ondernemen loont' (CSR pays) was sent to Parliament in June. It explains Government efforts to promote CSR further.

Scan and read the letter to Parliament on CSR ²¹



Key figures

CSR IN THE NETHERLANDS	2010	2011	2012
Affiliated sector organisations	45	55	65
Partners (paying)	1,333	1,814	2004
Members of Big Business netwerk	34	57	57*
Average company score on EZ transparency benchmark	69	92	104
Number of Dutch NL supersector leaders in Dow Jones sustainability index	5	3	4

Sources: MVO Nederland, Ministry of Economic Affairs

RESULTS

- The initiative of the social partners in the SEC to promote international CSR has been evaluated and extended. Social partners are continuing with CSR activities and with publicising the reformed OECD Guidelines.
- In spring the European Commission proposed legislative measures to improve social reporting by large companies. To promote more and better reporting by some 500 of the largest Dutch companies, the criteria and target group for the Transparency Benchmark will be updated in the course of the year in line with the Commission's proposal.
- ISO26000 self declaration – the international private guideline for implementation of CSR, developed by NEN itself with support from the Ministry of Economic Affairs – has aroused international interest. We will see whether an international version of the declaration can be developed.

Green deals

With its Green Deal approach the Government is providing scope for innovative initiatives to accelerate the transition to a sustainable economy. In taking on sustainable initiatives companies, public authorities and groups of citizens can run into barriers. The Green Deal approach is there to remove such barriers. The role of government varies according to the initiative: from removing stumbling blocks in rules and legislation and easing access to networks to supporting access to the capital market. Green Deals generally have a lead time of two to three years. The themes are energy, food, water, raw materials, biodiversity, mobility, biobased economy, climate and construction. Green Deals ideally also inspire others and clear the way for new sustainable initiatives. Nearly 150 Green Deals have been made since 2011, with more than 440 parties.

A complete overview of Green Deals can be found via: ²²



SAMPLE PROJECT

Biobased economy park Cuijk gets more from green raw materials

The largest biomass plant in the Netherlands operated in Cuijk from 1999 to 2009. It ran entirely on wood chips. When the subsidy ended in 2010, the business case was no longer profitable and the plant was closed down. Essent wants to reopen the plant, and is looking into the feasibility of a biobased economy park (BBE-park).

In the BBE-park Essent uses the biomass from businesses in the immediate vicinity, such as paper sludge and sawdust, to generate its energy. This process releases heat which the nearby businesses can use in their production processes or to heat their premises. This heat passes through a network of pipes in the form of steam to the industries in the area.

Essent is also developing an innovative digester in the BBE-park which produces green gas from manure. By drying the wet waste using heat from the power plant, it can also produce dry fertiliser pellets that are suitable for export.

SAMPLE PROJECT

Green deal on the Biobased economy and Avantium

A year and a half ago the industrial sectors agri, paper and chemicals (APC) made a Green Deal to add detail to the biobased economy. A biobased economy uses green resources for its energy and materials. By the end of 2013 six business cases should be rolled out of the Green Deal. Two are already out. All the cases will be further developed within the Topconsortia for Knowledge and Innovation (TKI) for the Biobased Economy and Agri&Food.

In the meantime one of the completed business cases has obtained a TKI subsidy. The project is about extracting sugars from used paper. It is done by separating the woody material (the 'lignocellulose') from the rest of the paper and breaking it down. Gert-Jan Gruter, technical director of technology company, Avantium, one of the partners in the project, calls this a challenge. 'On top of that, we have to compete with conventional sugar-extraction methods. But our business case shows that it can be done.'

The sugars from used paper can be used to produce PEF bottles -, the biobased equivalent of the PET bottle currently used for soft drinks. Avantium already has two experimental plants and is now working on the design for the first commercial plant. Gruter: 'But that is still based on first-generation sugars. There is already a lot of interest in the second generation, like getting sugars from used paper, not least because you no longer have to compete with food production for your raw materials.'



INTERNATIONAL AND REGIONAL PROFILE

GREATER IMPACT
THANKS TO
INTERNATIONAL
PROFILING AND
REGIONAL
COOPERATION

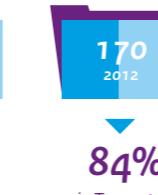
TO GIVE ENTERPRISE POLICY MORE IMPACT AT HOME AND ABROAD IT IS IMPORTANT THAT DUTCH GOVERNMENT EFFORTS ARE AS WELL ALIGNED AS POSSIBLE WITH THE INTERNATIONAL PROFILING AMBITIONS OF THE TOP SECTORS. SO REPRESENTATIVES OF THE PRIVATE SECTOR, KNOWLEDGE INSTITUTIONS AND AUTHORITIES ARE WORKING TOGETHER AS MUCH AS POSSIBLE. REGIONAL TIE-INS ARE IMPORTANT TOO, SO THE REGIONS ALSO MAKE AN IMPORTANT CONTRIBUTION TO ENTERPRISE POLICY.

International top sector policy

The key to our international top sector policy is to align it as far as possible with needs of the top sectors and with the Dutch government's foreign activities in the priority areas. The top sectors have indicated the countries they want to prioritise and have indicated in their marketing strategy plans what they want to do in these countries.

Foreign investments

Investment projects



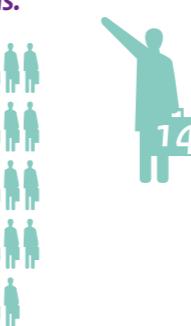
Jobs created



Additional: Largest investor: United States;
Largest sector: IT; Main activity: Company
headquarters

Foreign missions:

477 participants
in missions



14 total number of ministers accompanying missions.

SAMPLE PROJECT

Minister Schippers' successful mission to China offers opportunities for industry and knowledge institutions

With a population of over 1.3 billion, China is facing the enormous challenge of providing good and sustainable health care. The Chinese market for medical devices, pharmaceutical products, hospital construction, hospital care and rehabilitation is currently growing two to three times as fast as their GDP. That makes health care the fastest growing sector in the Chinese economy.

From 8 to 13 September 2013 Minister Schippers led a Life Sciences and Health mission to Beijing, Shanghai and Chengdu. The mission included 44 representatives of 28 companies and knowledge institutions, including Philips, DSM and Erasmus MC, but also specialist SMEs in the fields of medical and biotechnology, hospital management e-design, e-health solutions, rehabilitation and cardiovascular technology.

Minister Schippers signed a collaborative agreement with her Chinese counterpart, Minister Li Bin, of the Chinese Health and Family Planning Commission. Minister Zhang Yong of the China Food and Drug Administration (CFDA) expressed an interest in further cooperation with the Netherlands. Sino – Dutch seminars, work visits and matchmaking programmes have helped to create a platform for further cooperation.

Nine agreements were signed during the mission between Dutch companies and knowledge institutions and Chinese partners.

The top sectors' marketing strategy plans give direction to the work of ambassadors in the countries relevant to the top sectors. The Partners for International Business programme, for example, helps groups of companies to gain a foothold in new markets. The marketing strategy plans are also important when deciding on the selection and content of government economic missions. Lower levels of government are also involved. In collaboration with the government, the top sectors showcase their wares annually in the Holland Pavilion at two world fairs. Ministerial visits also support the top sectors at these fairs: on 19 June, for example, Minister Kamp visited the Paris Air Show, where he witnessed the Dutch aviation industry signing contracts worth several million euros.

Beyond the top sectors

In addition to the activities aimed specifically at the internationalisation of the top sectors, there are many activities underway that generally promote the internationalisation of industry. The Government works with the top sectors and other parties on a strategy to promote the internationalisation of SMEs. This strategy is aimed at Dutch companies with unrealised international potential. Such companies are made aware of the potential for internationalisation and the help available to them to realise that potential.

The Government has also set up the Dutch Good Growth Fund, with input from the top sectors, such as the Water sector's High Level Group on Export Financing. The fund promotes economic activities which are extremely valuable for the development of low and middle-income countries and create opportunities for all to participate fully in the economy and society. Dutch companies and knowledge institutions have extensive knowledge and skills relevant to the issues facing these countries. This creates opportunities in terms of trade, investment and development cooperation both for Dutch industry (particularly the top sectors) and for industry in the countries concerned.



Scan and read the letter on the Dutch Good Growth Fund

It is also important to put industrial knowledge and skills to better use in economic diplomacy, whether it is a matter of convincing foreign partners of the special qualities of the Dutch offering (for example in the field of water management) or of recruiting foreign investors that can strengthen the top sectors in the Netherlands. Opportunities for further public-private cooperation are now being explored.

International partners for innovation

The Dutch Government assists researchers and entrepreneurs in finding partners for innovation cooperation in other countries, partly via the network of Innovation Attachés and through outward and inward technology missions (see map). In June a group of Taiwanese researchers, entrepreneurs and government officials visited The Hague and Eindhoven to set up partnerships concerned with 3D-printing. In the annex 'Enterprise Policy Monitor' there is an overview of the main activities undertaken in various countries in the preceding quarter.

Creating opportunities through the European Union

In the long-term strategy, Europa 2020, the European Commission and the Member States seek to increase competitive strength in Europe. A central aim of the strategy is to promote more and better employment, research and development, green economic growth, education and social inclusion. Industry plays a central role here, so there is also a European enterprise policy. The top sectors, central and regional governments and many other parties work and collaborate to influence the action agenda, which will run from 2014 to 2020, so that the opportunities for the Netherlands can be exploited. The agenda incorporates incentive schemes and programmes, such as Horizon 2020, COSME and the European Regional Development Fund (ERDF).

RESULTS

- The top sector selected priority countries. Marketing strategy plans were drawn up for these countries. Actions were formulated with ambassadors to implement the plans.
- World showcases in the Holland Pavilion at two world fairs per top sector.
- Based on preferences expressed by the Top Teams, a strategic travel agenda was drawn up for the Government. Fourteen economic missions from the travel agenda were completed in the first half of 2013.
- The top sectors benefit from business programmes for development cooperation.

Enterprise policy in the regions

Regions make a strong contribution to enterprise policy. Cooperation between business, knowledge institutions and state and local authorities creates strong economic clusters, such as those around the “mainports and brainport”. Each has its own remit and agenda, but they are informed by common perspectives and a common ambition to strengthen the Dutch economy.

Various provinces respond to the particular capital market requirement of SMEs by setting up funds. Regional players also greatly help to improve links between education and the labour market. Central government and regions are working together to streamline the tangle of innovation instruments to make them as simple as possible for businesses to negotiate. The Regional Development Companies (RDCs) play an important role in this process. The RDCs provide EZ and the provinces with an effective and efficient instrument to link enterprise policy to regional economic policy.

Cooperation between state and regions logically recurs in the European programmes they carry out together. The joint effort is to use the ERDF programmes both nationally and across borders to strengthen innovative capacity, make the transition to a low fossil fuel economy and strengthen SMEs.

RESULTS

- Dutch provinces –including Noord-Brabant, Gelderland, Overijssel and Limburg – set up funds for investment in innovative SME in the top sectors.
- Embedding implementation of the Technology Pact in the regions. This approach ensures tailored solutions and integrates local requirements and initiatives.
- Regions to fund additional Centres of Expertise and Centres for Innovative Craftsmanship. Vocational colleges and higher education play an important role with government and regional industry in linking education and innovation.
- Initiatives to improve and connect provincial and state instruments, such as those for early stage funding for SMEs and parts of the MIT scheme.
- A Regional Development Company for the Zuidvleugel represents another step towards a country-wide network of RDCs to support innovative SME.
- Extra effort by the RDCs to the end of 2016 to support innovative SME in the top sectors.

Bert Pauli Noord-Brabant Provincial Executive, responsible for Economic Affairs and Administration

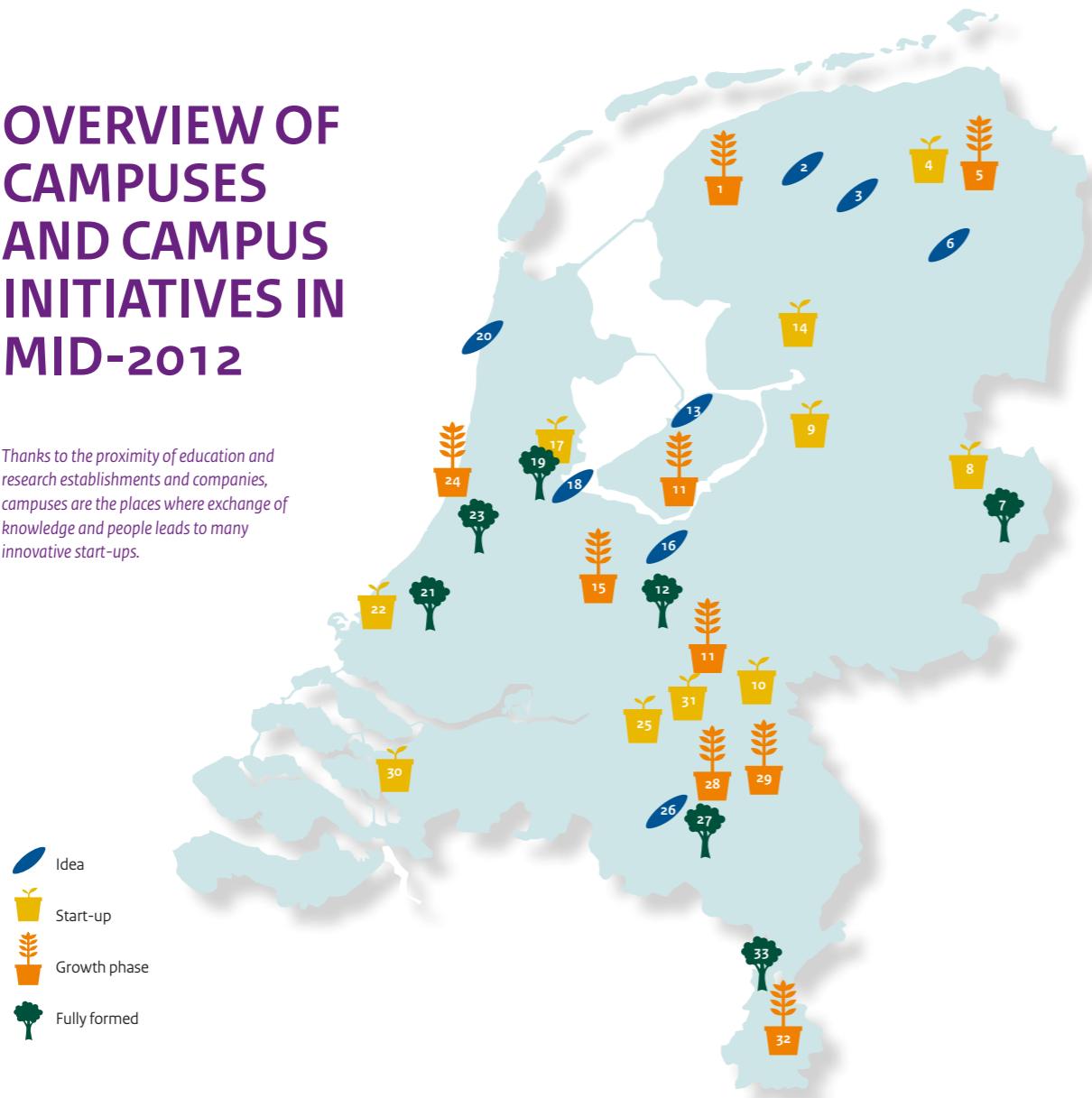


'Together we can increase our innovative strength'

'The State, regions and top teams increasingly work together to strengthen our economic structure and innovative capacity. Sometimes through a joint approach, sometimes by seeking good harmonisation. There is already specific collaboration in a number of areas, such as the Valorisation programmes in which knowledge from education and research establishments is used to benefit the regional economy, the Technology Pact and the credit funds for SMEs, start-ups and growing businesses. We are also looking at ways of promoting innovation in SMEs and at how we can help the intermediary organisations that support SMEs in the process'.

OVERVIEW OF CAMPUSES AND CAMPUS INITIATIVES IN MID-2012

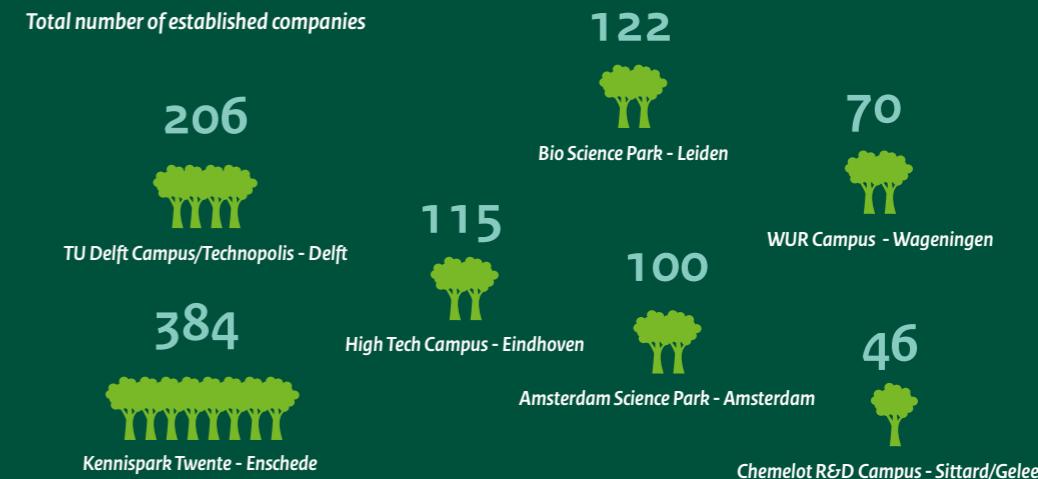
Thanks to the proximity of education and research establishments and companies, campuses are the places where exchange of knowledge and people leads to many innovative start-ups.



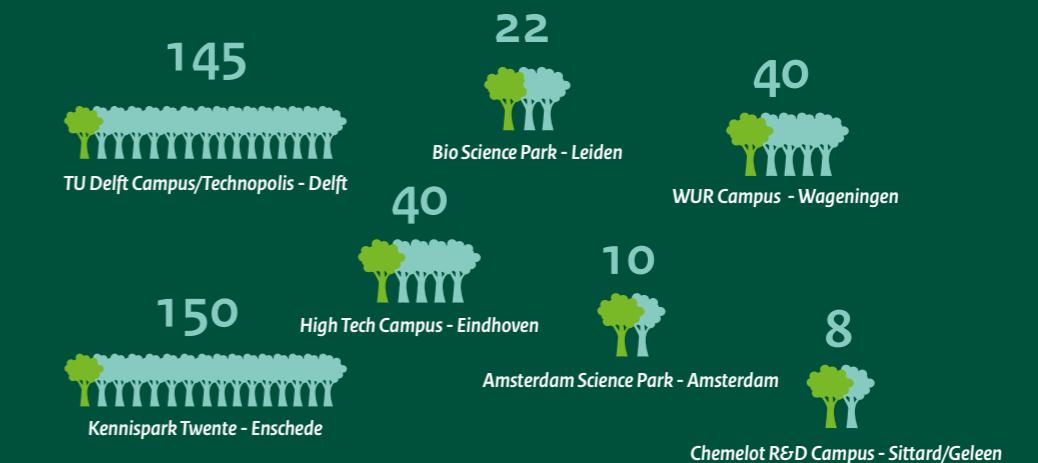
- 1 Wetsus/Watercampus - Leeuwarden
- 2 Dairy Campus – Leeuwarden
- 3 High Tech Campus – Drachten
- 4 Healthy Ageing Campus – Groningen
- 5 Zernike Science Park – Groningen
- 6 Kennispark Sendortchnologie - Assen
- 7 Kennispark Twente - Enschede
- 8 Thales High Tech Campus – Hengelo
- 9 Polymer Science Park - Zwolle
- 10 NovioTech Campus - Nijmegen
- 11 Mercator Science Park - Nijmegen
- 12 Wageningen UR Campus - Wageningen
- 13 Emerging Disease Campus – Lelystad
- 14 Geomatics Business Park - Marknesse
- 15 Science Park Utrecht – Utrecht
- 16 Life Science Campus – Bilthoven
- 17 AMC Medical Business Park – Amsterdam
- 18 VU Campus- Amsterdam
- 19 Amsterdam Science Park – Amsterdam
- 20 ECN Petten - Petten
- 21 TU Delft/Technopolis (TIC Delft) - Delft
- 22 Biotech Campus – Delft (TIC Delft)
- 23 Bio Science Park - Leiden
- 24 Space Business Park – Noordwijk
- 25 Food & Health Campus - Den Bosch
- 26 Brainport Innovation Campus – Eindhoven
- 27 High Tech Campus - Eindhoven
- 28 Tue Campus - Eindhoven
- 29 High Tech Automotive Campus – Helmond
- 30 Green Chemistry Campus – Bergen op Zoom
- 31 Life Sciences Park - Oss
- 32 Health Campus - Maastricht
- 33 Chemelot – Sittard - Geleen

FULLY FORMED

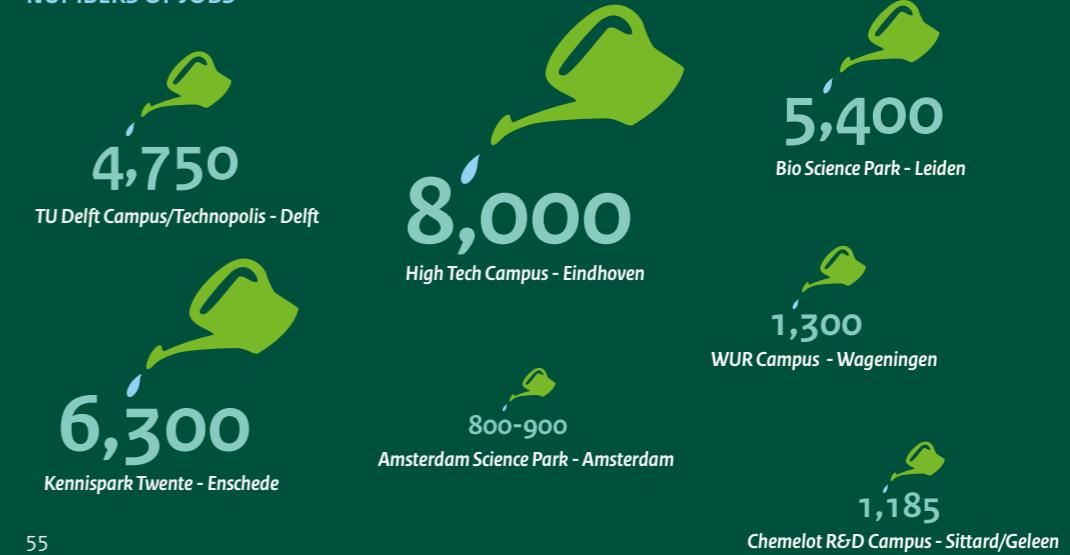
Total number of established companies



NUMBERS OF SPIN-OFFS



NUMBERS OF JOBS





Progress in the **top sectors**





AGRI & FOOD

WORLD LEADER
IN INNOVATION
AND
PRODUCTIVITY

THE AGRI&FOOD SECTOR HAS A CENTRAL PLACE IN THE DUTCH ECONOMY. IT PROVIDES ALMOST 10 PER CENT OF OUR NATIONAL REVENUE AND EMPLOYMENT. THE NETHERLANDS IS ALSO THE PREFERRED WORLD-WIDE SUPPLIER OF MOST SUCCESSFUL AND INNOVATIVE AGRI-FOOD BUSINESSES AND KNOWLEDGE INSTITUTIONS. THE INCREASING WORLD POPULATION MAKES THE SECTOR EVEN MORE IMPORTANT, BUT ALSO SETS GREAT CHALLENGES IN AREAS SUCH SUSTAINABILITY, HEALTH AND FOOD SECURITY. THE SECTOR TAKES UP THE CHALLENGE TO RAISE SOCIAL SUPPORT FOR AGRICULTURAL PRODUCTION AND PROCESSING IN THE NETHERLANDS TO A NEW LEVEL.

Key figures

AGRI & FOOD CHAIN, 2012	Euro millions	Share in The Netherlands (%)
Added value	37311	7.1
Number of jobs (fte x 1000)	616	9.2
Exports	48312	13.0
Innovation expenditure	1429	10.9
Investment	3300	8.2

Source: CBS (2012) Monitor top sectors

Agri&Food focuses on innovation in sustainable food systems to produce high quality food using fewer resources. The top sector aims to promote a varied and healthy diet, partly with new products that meet the wishes of consumers. SMEs play a crucial role in all these innovations, particularly when it comes to applying new knowledge. Agri&Food also looks beyond national borders. The sector wants to strengthen the Netherlands' leading position on the world export market by offering expertise and technology, as well as food, to areas with under-developed agriculture and food production. To achieve these ambitions the sector needs sufficient qualified professionals and innovative entrepreneurs. Therefore the sector turns to young people – the professionals and entrepreneurs of the future – to give direction to the changes. Being perceived as a good employer is essential to attract more people into a career in Agri&Food.

TOP SECTOR AGRI & FOOD

Facts and figures

- The 2013 Agri&Food Summit brought together 350 people from the sector around the theme of "more with less".
- Joint public-private research planning was successfully taken up:
 - Within the framework of demand-side management of DLO and TNO research capacity, over 200 public-private partnership proposals were received, and 100 million euros of private funding was committed.
 - Of the 87 detailed proposals 48 PPPs were accepted.
 - 183 parties participated in these PPPs: 7 commodity boards, 73 large and 57 small SMEs, 12 knowledge institutions and 34 foundations and associations.
 - Now some 60% of the available DLO (€34 m) and TNO (€10.9 m) capacity has been filled by the PPPs in response to demand.
 - In total the PPPs generated €32 million in private investment with a TKI supplement of €8.6 million.
 - Increasing cooperation with NWO led to 4 calls for proposals in 2012
- The SME help desk of the Agri&Food TKI can call on a network of 16 regional Agri-Food clusters and Syntens.
- In the SME valorisation pilot project, 20 projects were accepted involving 42 companies. The scale of the projects was €8.3 m (60% from the private sector). This pilot projects helped to shape the MIT scheme for all the top sectors.
- (Strategic) trade fairs in China and Russia, 15 Agri&Food projects in nine focus countries: Brazil, Mexico, China, Russia, Nigeria, Bangladesh, Romania, Turkey and South-Africa. Around 60 SMEs were involved in the projects.
- 4 studies on social support for the Agri&Food sector.
- 29 projects approved in the field of trade and development cooperation, with a subsidy of €85m and €95m in contributions from (Dutch) companies, knowledge institutions and NGOs.



TOP SECTOR AGRI & FOOD

Looking ahead: key points

- SMEs largely innovate in their own region. It is therefore important for the development of the Agri&Food sector to make better use of the power of the regional private and public initiatives through greater cooperation and harmonisation. The network of regional clusters plays a central role in this context. The aim for 2014 is to make specific agreements with various regional authorities about the package of valorisation instruments and a complementary input from national and regional activities. Effective pooling of resources is important, because the funds available for SME valorisation are limited. The sector is expecting to sign the first cooperation agreement with Limburg this year. This includes agreements about joint support for SME valorisation in the province.
- Continuing private contribution to research and innovation is an important consideration for Agri&Food due to the closure of the commodity and industry boards. The TKI Agri&Food has worked out that the closure of the public-law industrial regulatory bodies (PBOs) will result in the loss of around 30 per cent of inputs compared to what the PBOs currently deliver to the approved PPPs. The private sector is currently exploring alternative sources of finance for the PPPs that have already started up.
- Agri&Food has far-reaching international ambitions in respect of the new Horizon 2020 programme. The Netherlands aims to further strengthen its role in Europe as an international knowledge and innovation hub. In the new innovation contract Agri-Food has included a coherent international strategy aimed at Horizon 2020, the European Innovation Partnership for Sustainable and Productive Agriculture and the Agri-Food Knowledge and Innovation Centre (KIC), which has been selected by the EU as one of six new KICs. The sector has also included Joint Programming Initiatives (JPIs) Healthy Diet for a Healthy Life, Food Security, Agriculture, Climate Change and European Research Area Networks (ERA-NETs). This gives Agri&Food strong links to the grand societal challenges of the European Union.

TOP SECTOR AGRI & FOOD

Main outcomes

- Forty-eight 48 PPS projects started up with DLO and TNO that tie in with the themes of the 2012-2015 Innovation Contract and cover a wide range of subjects. Next year consortia will be working on improving the sustainability of animal feed flows and an integrated approach to healthy and sustainable land use. They are also looking for opportunities to obtain valuable materials from small-scale biorefineries, producing building blocks for sustainable packing materials and investigating how to increase the protein intake of the elderly.
- The ambition of the Agri-Food sector is to raise the proportion of SMEs actively involved in innovation to 20%. To support SMEs in this endeavour the top sector and the Ministry of Economic Affairs have set up an SME pilot programme, in which twenty projects have since been approved, with 42 separate companies collaborating on innovation. For example they are developing a new generation of airline meals and an improved meat substitute. In addition, Agri&Food, along with sixteen regional Agri&Food clusters, has set up a country-wide network and the sector has set up an SME desk for SMEs looking for support = for example, information about available subsidies, bonuses and assistance in finding partners.
- To strengthen the Netherlands' leading position in the world export market for Agri&Food, companies must maintain their export position and focus on the opportunities for growth offered by exporting knowledge and innovation for local production in growth markets such as Asia, Africa and South America. Many multinationals have already taken this step, but SMEs often need some extra financial incentive. They can also benefit from support in business development and the creation of consortia. There are currently fifteen projects running in nine countries involving more than sixty companies. For example, they are helping to set up entire chains in Russia, establishing Agriparks for knowledge sharing in Mexico and starting up joint ventures in Nigeria. Furthermore in the first call for proposals for the Sustainable Enterprise and Food Security Funds (BZ development cooperation budget) 29 projects were approved in the area of trade and development cooperation.
- To gain wider public support for agricultural production in the Netherlands, the top team is working on stronger links between farmer and community (at local level) and between sector and society (at sectoral level). This autumn will see the start of a project to develop a "toolkit" for structured and professional local dialogue.

Medy van der Laan former state secretary of the Ministry of Education, Culture and Science and standard bearer for the Human Capital Agenda (HCA) of the Agri&Food sector:



'We operate from the perspective and experience of young people'

'The perspective of young people is central to the HCA. We focus on the question of how companies in our sector can make themselves attractive to the next generation. This is no simple matter for companies; times are changing, old principles of organisation and recruitment methods are being overtaken. For example, young people do not want hierarchy, and consider it important to take responsibility themselves. We are therefore addressing the attractiveness of the Agri&Food sector. We deploy young people themselves as agents of change for educational establishments and employers. It is down to them to make the sector change. The first pilot projects have started. As a standard bearer I see it as my most important task to make companies understand that they have to take young people seriously and – especially if they want to recruit the best talent – have to respond to their needs and ways of working. After all, they are the workforce of the future.'

SAMPLE PROJECT

Building blocks for sustainable packaging materials

Food & Biobased Research, part of Wageningen UR, together with Cosun, Refresco, Arkema and NorthSeaweed is developing pre-competitive bio refinery and conversion technology to extract sugar acids from agricultural by-products, such as sugar beet pulp, chicory beet pulp and fruit waste. Later the consortium will also use the technology to obtain sugar acids from new crops such as seaweeds.

Optimised biorefinery process

The project began in January 2013 and will run for three years. By the end of the project the consortium hopes to have developed an optimised bio refinery process on a scale of 50 to 100 kilogrammes to convert agricultural by products into biobased packing materials. These materials ensure better keeping qualities in food products such as soft drinks and fruit juices. To achieve this goal, Food & Biobased Research is developing the necessary knowledge at lab level, to a maximum scale of 5 to 10 kilogrammes. Cosun, Arkema and Refresco will scale up the technology to a pre-competitive demo of 50 to 100 kilogrammes (max). A socio-economic evaluation (life cycle analysis) of the technology will also be carried out to demonstrate that the new technology really is sustainable.





LIFE SCIENCES & HEALTH

INVESTING IN R&D
AND THE EARLY
DEVELOPMENT
PHASE

THE TOP SECTOR LIFE SCIENCES & HEALTH (LSH) IS DEVELOPING PRODUCTS AND TECHNOLOGIES TO DETECT, PREVENT AND TREAT DISEASES. LSH ENCOMPASSES THAT BROAD FIELD OF MEDICAL TECHNOLOGY, (BIO)PHARMACY AND REGENERATIVE MEDICINE AND CONTRIBUTES AROUND 2.5 PER CENT TO THE GROSS NATIONAL PRODUCT (GNP). THE LIFE SCIENCES & HEALTH SECTOR IS FACING GREAT CHALLENGES: TO DELIVER CARE SOLUTIONS THAT IMPROVE THE QUALITY OF LIFE AND ENSURE THE ACCESSIBILITY AND AFFORDABILITY OF CARE. AT THE SAME TIME, THERE ARE MASSIVE OPPORTUNITIES. THE NETHERLANDS HAS AN EXCELLENT INTERNATIONAL REPUTATION FOR RESEARCH INTO DRUGS, MEDICAL TECHNOLOGY AND NEW KINDS OF CARE, AND AS SUCH IS A MAJOR INTERNATIONAL PLAYER.

Key figures

LIFE SCIENCES & HEALTH, 2012	Euro (millions)	Share in the Netherlands (%)
Added value	2768	0.5
Number of jobs	39302	0.5
Exports	6784	1.6
Innovation expenditure (2010)	1121	8.5

Source: Added value, employment and exports based on Prognos Panteia/EIM, Innovation expenditure and investment based on CBS (2012) Monitor top sectors.

The LSH sector is one of the most R&D-intensive sectors: a good quarter of the added value that the sector delivers is invested in Research & Development. The Dutch sector is responsible for 6 per cent of all world trade and is therefore a major international player. Both large and small companies play a role in the sector, together with (academic) hospitals, universities and other knowledge institutions, various different authorities, health insurers and healthcare funds. The LSH sector is working to build a strong knowledge and innovation infrastructure and adequate capital, sufficient properly qualified personnel, better regulation and legislation, while forging contacts in the Netherlands, partly to help showcase the sector abroad.

TOP SECTOR LIFESCIENCES & HEALTH

Facts and figures

- There are **a good 2000 LSH companies** in the sector (CBS 2012) with an innovative nucleus of **over 300 businesses**. Almost three quarters of the companies in the LSH sector work in the field of medical instruments, and are predominantly SMEs.
- TKI LSH Plaza has issued two calls in the past year, one of them involving the health funds, with a budget of **€24 million** for which applications to the value of **€31 million** were submitted.
- Many applications were submitted for the LSH-MIT scheme for **feasibility studies and R&D projects**.
- In the area of human capital, three **Centres of Expertise** (Healthy ageing, Innovative care and technology and Genomics) and two **Centres for Innovative Craftsmanship** were created (Leiden Instrument-makers school and Technology in care).
- Internationally, there were **successful joint trade missions**, led by Minister Schippers (VWS) and others, to China, India and Russia. The Netherlands was also showcased at major trade fairs for the sector: the Medica in Germany and the BIO International Convention in the United States.
- The sector addresses both the societal and economic dimensions (and combinations of the two):
 - quality of life (longer, healthier life)
 - productive working population
 - national and international economic activity
 - sustainable care (suppressing growth in cost of care)



TOP SECTOR LIFESCIENCES & HEALTH

Main outcomes

- The sector **set up the TKI LSH Plaza**, in which various players joined forces in the field of research and innovation. The Plaza issued two calls last year using the TKI supplement. The Impulse call was run jointly with the health funds: the total budget is €24 million, but proposals were submitted to the value of €31 million. The LSH-MIT scheme for SMEs was launched (with a budget of 2 million euros), which attracted a lot of applications for feasibility studies and R&D projects.
- In the action plan, LSH EU-Connect, the content of the **innovation contract was linked to the health themes of the EU Horizon2020 programme** and five themes: Healthy ageing, Medical devices, Personalized nutrition, E-health and Personalized medicines were prioritised for the Dutch input into European programmes. The link to the necessary overarching research infrastructure (ESFRI) was also included. In addition to this programming, better harmonisation and division of responsibilities was achieved between the different parties. Partly thanks to the European Innovative Partnership on Active and Healthy Aging, strong regional public-private consortia were formed, which are well integrated with each other. This cooperation led among other things to the approval of five Reference sites by the European Commission: a high score for the Netherlands. Two of the five sites were even accorded the highest quality rating of three stars.
- There was **improved cooperation between the different branches of the sector ("LSH-alliance")** focusing on strong joint international profiling. For example, the sector – including the regional LSH clusters – was showcased at the BIO International Convention, a major trade fair in the United States. The cooperating branches and the government also worked on the **action programme addressing problems in legislation and regulation**, which will be followed up in Autumn 2013.
- In the past year **five LSH meetings have been held in the regions** with representatives of companies, knowledge institutions and authorities. These brought together the top team/management group and the regional LSH Networks, Healthy Aging (North), Health Valley (East), MUMC+ (South), LSH Noordvleugel (Amsterdam-Utrecht-Flevoland) and Medical Delta (Leiden-Delft-Rotterdam). The aim of the meetings was to further harmonise the national and regional approach within the LSH sector.

TOP SECTOR LIFESCIENCES & HEALTH

Looking ahead: key points

- Funding of the early development phase** is crucial to innovation. In the LSH-sector the costs of translating a laboratory proof-of-concept, via clinical studies, to an actual medical product are relatively high. Often the risk is too great for private investors to join in at this early, *pre-seed* stage. By setting up a revolving fund the Government seeks to reduce the gap between research and the markets.
- As well as using the TKI supplement, LSH Plaza is responsible for the **joint public-private research programming** of the sector. It links the content of the innovation contract to the financial contributions or capacity input of the different parties. It is important for the LSH sector to show that new medical innovations not only contribute to more and better care, but also to the societal challenges facing health care, such as controlling the rising care costs. A test-bed design is used to bring together different groups, such as patients, professionals, researchers, companies and health insurers. **Within the test bed set-up they examine whether a care solution really is better and leads to a saving on costs**, after which the solution can be rolled out on a broad scale.
- For 2014 funds have been released within the Foreign Trade and Development Cooperation budget for a **Life Sciences and Health for Development Fund** for innovative projects on sexual and reproductive health and rights, or to control poverty-related diseases in developing countries. The sector can also contribute to care solutions in developing countries through the Dutch Good Growth Fund (DGGF) for trade and development cooperation.



Tom Oostrom general director of the Dutch Kidney Foundation and chair of the collaborative health funds (SGF):



'Building for the future with a smart payment scheme'

'There have been a lot of cutbacks in the Netherlands due to the economic crisis, including cuts in research and innovation in the top sector of Life Sciences & Health. That is a concern, but we must keep going. We will need to be creative and pooling our resources. After all we can achieve far more together than we can alone. The LSH Impulse Call is a good example: a payment scheme for collaborative projects including at least one healthcare fund, one company and one knowledge institution. In a joint project of this type each party need only contribute a third to the minimum 1.2 million euros each project costs. And thanks to this multiplier effect even small establishments can continue to work on research and innovation'.

SAMPLE PROJECT

Patients treated longer at home thanks to ECG Necklace & Body Area Network

Health care is changing. We focus more on prevention and where possible are substituting home care for in-patient treatments. One way of keeping people at home longer is offered by the ECG Necklace & Body Area Network developed by Maastricht Instruments. This small wireless device measures patient signals such as heartbeat, activity, temperature or muscle activity. It analyses the data and converts it into information the care provider can monitor from a distance, using an app on a smart phone or tablet.

Data visualisation

The Body Area Network can be linked for further examination to IDEEQ, the data visualisation and analysis software package of Maastricht Instruments. This software enables the care provider to install the measuring equipment, visualise signals, and store and process data. The care provider can then export the collected data to more mainstream software packages such as Matlab or Excel.





THE WATER SECTOR BRINGS TOGETHER THE BEST THE NETHERLANDS HAS TO OFFER IN THE FIELD OF WATER: DELTA, MARITIME AND WATER TECHNOLOGY. THESE THREE CLUSTERS TOGETHER ARE MADE UP OF JUST 3,000 COMPANIES. THE AMBITION OF THE SECTOR IS TO DOUBLE ITS ADDED VALUE BETWEEN 2010 AND 2020, PARTICULARLY BY EXPORTING WATER KNOWLEDGE AND PRODUCTS.

Key figures

WATER, 2012	Euro millions	share in the Netherlands (%)
Added value	8647	1.6
Number of jobs	81120	1.0
Exports	4098	1.0
Innovation expenditure (2010)	468	3.5

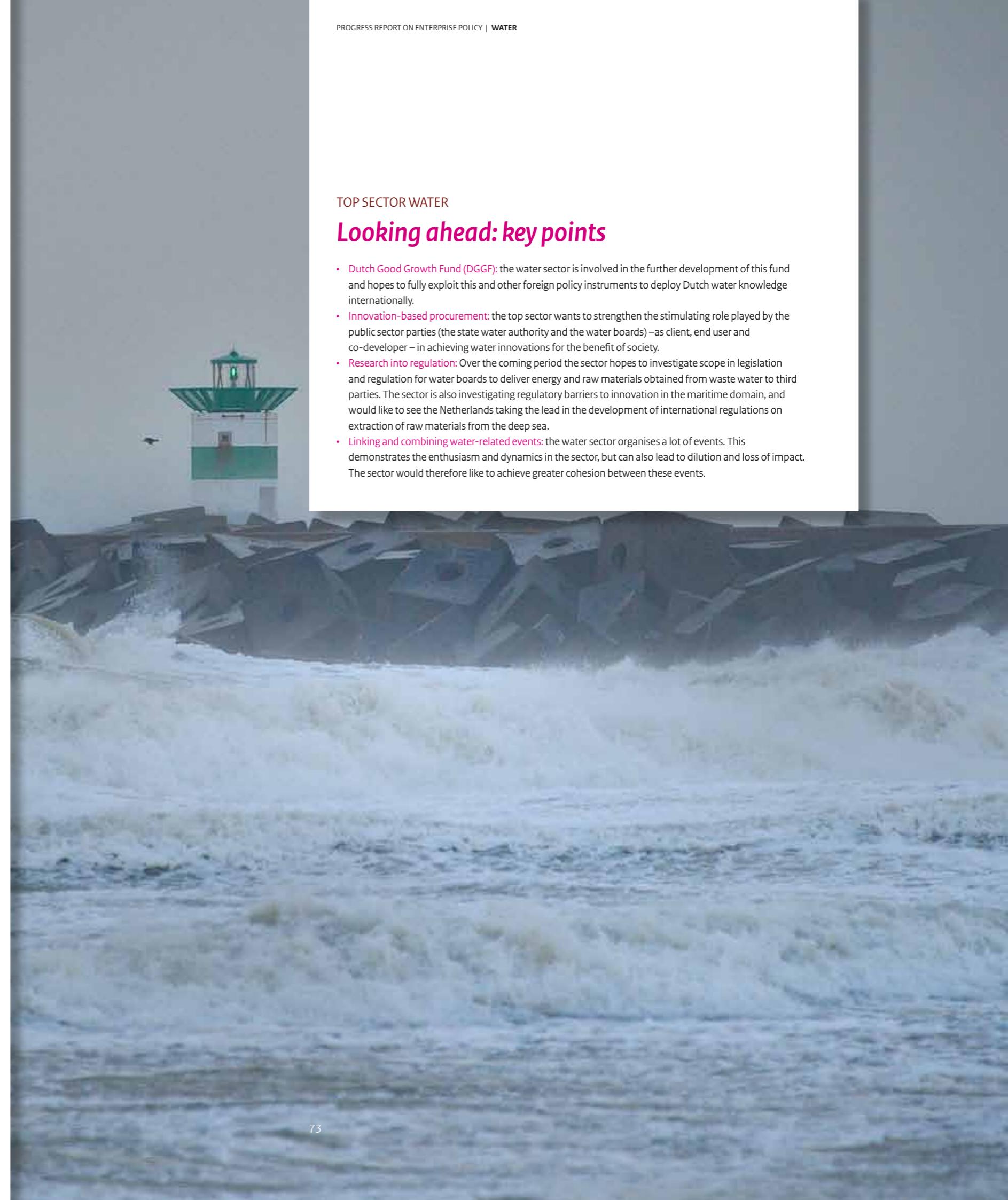
Source: Added value, employment and exports based on Prognos Panteia/EIM, Innovation expenditure and investment based on CBS (2012) Monitor top sectors

The knowledge and skill of the three water clusters are among the best in the world. Delta technology enables us to live in low-lying delta regions like the Netherlands. The construction of Maasvlakte 2 and the sand engine showcase Dutch expertise to the world. The maritime cluster stands out due to its multi-faceted and specialised manufacturing industry and offshore services, a great and diverse fleets of ships and the world's greatest port capacity. Dutch water technology provides clean drinking water and best-quality water for industry and has a wealth of expertise on purification and re-use of waste water. Companies, knowledge institutions and authorities work together to sell all these Dutch water solutions abroad. Thus societal challenges are linked to Dutch earning capacity. The top sector works to make the Netherlands the test bed for significant water innovations in fields such as water and energy, water and IT and water and food. The golden triangle in the Water sector invests heavily in R&D to maintain the Dutch knowledge advantage and achieve new innovations.

TOP SECTOR WATER

Facts and figures

- Innovation contract /TKIs:
 - In 2013 the water sector generated **over 45 million euros** in private funding for joint R&D in the three TKIs with a total of **433 private parties**, (more than any other top sector).
 - The sector works structurally with the research world: NWO/STW, universities and institutes like Marin, Deltares, Wetius, NIOZ, Imares and Alterra. And with major public clients such as the Ministry of Infrastructure and Environment, the state water authority, water boards and the Ministry of Defence.
 - In 2012-2013 there were **joint research calls** for maritime (with Marin, TNO and STW); delta (with NWO and Deltares); and water technology (with Wetius and KWR). In 2014 the Water sector will issue a substantial top-sector-wide call for proposals.
- SME:
 - The Water Sector TKIs each have an **SME desk** with important first-line advice provided by Syntens and sector organisations able to offer tailored solutions.
 - Water sector SMEs make intensive use of instruments for international and innovative cooperation, partly through the TKIs and the MIT scheme. They are also closely involved in the design of new instruments such as the **Dutch Good Growth Fund**.
- International activities:
 - The sector is making progress internationally with joint initiatives in Burma, Vietnam, Thailand, the United States (post-Sandy) and Germany
 - In 2012 the sector was involved in **foreign missions** with 60 companies making it the second largest sector for private participation.
- Human capital:
 - In 2013 **two Centres for Innovative Craftsmanship** and **two Centres of Expertise** were established to train future water sector workers.
 - The sector will contribute to the implementation of the Technology Pact by attending **at least 150 trade fairs** between now and 2015.
 - There was a successful record attempt in guest lectures on Water with **more than 700 lectures and presentations** and a range of over 20,000 young people.
 - During the 2013 World Port Days (*Wereldhavendagen*) **1,000 pupils and 1,000 students** attended the top sector's WaterXperience and the World Water College.



TOP SECTOR WATER

Looking ahead: key points

- **Dutch Good Growth Fund (DGGF):** the water sector is involved in the further development of this fund and hopes to fully exploit this and other foreign policy instruments to deploy Dutch water knowledge internationally.
- **Innovation-based procurement:** the top sector wants to strengthen the stimulating role played by the public sector parties (the state water authority and the water boards) –as client, end user and co-developer – in achieving water innovations for the benefit of society.
- **Research into regulation:** Over the coming period the sector hopes to investigate scope in legislation and regulation for water boards to deliver energy and raw materials obtained from waste water to third parties. The sector is also investigating regulatory barriers to innovation in the maritime domain, and would like to see the Netherlands taking the lead in the development of international regulations on extraction of raw materials from the deep sea.
- **Linking and combining water-related events:** the water sector organises a lot of events. This demonstrates the enthusiasm and dynamics in the sector, but can also lead to dilution and loss of impact. The sector would therefore like to achieve greater cohesion between these events.

TOP SECTOR WATER

Main outcomes

- There is **structural cooperation** between companies, research organisations and authorities in the water sector's Top Consortia for Knowledge and Innovation (TKIs), **on the basis of the Water Innovation Contract**. Various calls were issued in collaboration with NWO/STW and others for maritime, delta and water technology research.
- The Water sector took part in the initiative for the **Dutch Disaster Risk Reduction Facility**. This facility enables Dutch experts to publish free advice at the request of foreign governments concerning potential water disasters, so that companies have advance warning of follow-up contracts. The facility benefits from both public and private (rate reduction) funds.
- The **first call of the Sustainable Water Fund** was completed in April 2013. Of the 81 proposals submitted, 13 were ultimately approved. These proposals will account for 45 million euros in subsidy, while applicants and partners have mobilised around 50 million euros as their contribution. All but one of the applicants are Dutch, and 15 Dutch companies are involved. Dutch knowledge institutions, NGOs and water boards also play a major role.
- **Water workers and smart water bosses of the future:** the top sector organised a successful series of guest lectures on water: in twenty weeks water professionals delivered over 732 guest lectures throughout the country, reaching 20,000 young people. The water sector also actively contributes to the Technology Pact, partly by providing study grants to students seeking to work in the sector (target: 150 grants in 2015). During the World Port Festival the "Great, not to be missed World Water College" accommodated 1000 pupils and 1000 students.

Willem Buijs Director of Hatenboer-Water and member of the Water Top Team



'Progressing together in knowledge development.'

'For me the added value of the top sectors policy is in pooling our strengths: in the different parts of the water sector and in the links between large and small businesses, authorities and knowledge institutions. Thanks to the water sector's common agenda we can make progress on areas such as joint knowledge development and sharing and marketing our water knowledge with and in foreign countries. The water sector offers numerous opportunities for SMEs: access to research results via the TKIs and the MIT scheme, and specific instruments for development cooperation and international enterprise. Hopefully the new Dutch Good Growth Fund will offer even more opportunities.'

SAMPLE PROJECT

O-foil: from propeller to dolphin tail

The young Rotterdam company, O-foil, has developed a new propulsion system for ships inspired by the swimming movements of dolphins. This 'dolphin tail' replaces the traditional ship's propeller. It can save up to 50 percent on the vessels' diesel costs and also reduce their CO₂ emissions. By promoting this form of transport, every vessel could reduce road transport by an average 25 lorries.

First vessel in service

The first sea-river vessel with the new propulsion system – the MS Triade – has been in service since the beginning of 2013. O-foil converted the MS Triade with assistance from TKI Maritime and the MIT scheme, subsidy from NL Agency and contributions from Stichting DOEN, Rotterdam Port Management and the NISS Fund. The company won a number of prizes for innovation in SMEs, including the 2012 VNSI Wim Timmers prize, and took seventh place in the 2013 SME Innovation Top 100.





HIGH TECH SYSTEMS AND MATERIALS

THE NETHERLANDS
EVEN STRONGER IN
THE NICHES OF THE
HIGH-TECH SECTOR

THE TOP SECTOR HIGH TECH SYSTEMS AND MATERIALS (HTSM) ENCOMPASSES MACHINERY AND SYSTEMS, THE AUTOMOTIVE INDUSTRY, AVIATION AND SPACE TRAVEL, AND MATERIALS, INCLUDING STEEL. THE NETHERLANDS HAS A STRONG POSITION IN SPECIFIC NICHE MARKETS IN THE HIGH-TECH SECTOR, FOR EXAMPLE IN LITHOGRAPHY AND MEDICAL APPARATUS, AND SEEKS TO BUILD ON THIS POSITION. TO ACHIEVE THE NECESSARY GROWTH THE GOVERNMENT IS JOINING WITH COMPANIES AND KNOWLEDGE INSTITUTIONS IN INVESTING IN THE HTSM SECTOR.

Key figures

HIGH TECH SYSTEMEN AND MATERIALS, 2012	Euro (millions)	Share in the Netherlands (%)
Added value	34141	6.5
Number of jobs	472741	5.6
Exports	46477	11.3
Innovation expenditure (2010)	4190	31.9
Investment (2010)	2430	6.0

Source: Added value, employment and exports based on Prognose Panteia/EIM, Innovation expenditure and investment based on CBS (2012) Monitor, top sectors.

The HTSM wants to strengthen and further improve its position as a major Dutch export engine for the Netherlands. The development of new technologies however demands not only specialist knowledge, but is often also expensive. And in the early stages it often far from sure whether the technology will succeed. Partly for these reasons it is important to have a good strategy based on cooperation between different players.

TOP SECTOR HIGH TECH SYSTEMS AND MATERIALS

Facts and figures

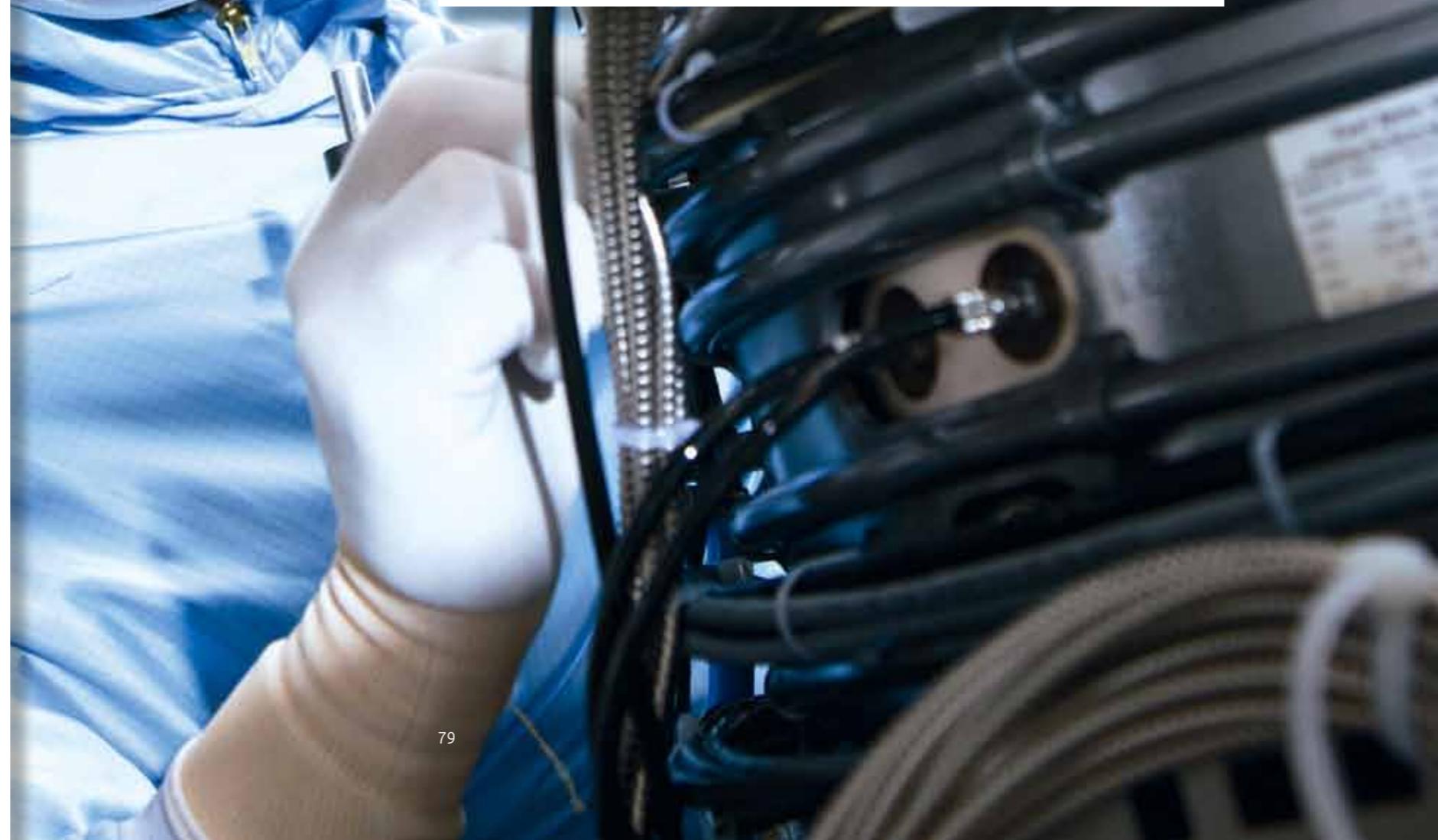
- One TKI for the entire HTSM sector: [17 roadmaps](#) (including nano, IT and space).
- Private cash contribution to public-private partnership of €104 m, producing a [TKI supplement of €28.1m](#). In addition more extensive private contributions in kind to PPP.
- Various calls for proposals were issued: for [HTSM/STW](#) (€11-13m, across all roadmaps, dozens of projects), [High Tech Material and Cybersecurity](#).
- SMEs used the €qm from the MIT scheme for [HTSM/IT](#) entirely for R&D cooperation projects. At the end of 2012 the first SME desk was opened in cooperation with Syntens. SMEs take an active part in the calls referred to above.
- An [international branding campaign "Holland High Tech"](#) has been launched in which HTSM is promoted through trade fairs and missions. Target countries are: Germany, United States, China (Taiwan), South Korea, United States and France. HTSM was represented at the Hannover Messe, Paris Air Show and JEC Europe (composites). The sector was also present at the royal visit to Southern Germany. Missions are planned for autumn 2013 to China (Taiwan) and South Korea. Last but not least: in 2014 the Netherlands will become a partner country in one of the most renowned technology trade fairs, the Hannover Messe.
- Co financing of European R&D programmes (Catrene, Artemis, Eniac): structural budget [€40 m per year](#), largely intended for HTSM themes.
- Human Capital: Serious shortage of people qualified in natural sciences and engineering, so Human Capital Agendas are running in the Brainport region, Twente and Zuid-Holland. Technology Pact: commitment for [250 HTSM Top grants](#). 3 CoEs and 2 CIVs were set up in the Brainport and Twente regions.



TOP SECTOR HIGH TECH SYSTEMS AND MATERIALS

Looking ahead: key points

- [Linking HTSM to the European Horizon 2020 programme](#) will require good preparation to make the most of the associated R&D budgets. Therefore HTSM held a conference in Den Bosch on 11 September 2013 with workshops on creating links with Horizon 2020.
- The Government aims to carry out 2.5% of all procurements based on innovation. This will require focused effort – particularly in a time of cutbacks. The Government is investigating in which fields [government goals can be reached effectively by using new technologies](#) and is consulting with the private sector. Several large projects are to be started in this area, such as [Connected Car / Dynamic Traffic Management](#), [Smart cities/building](#) and [e-ID](#). These will involve various ministries, provinces and municipalities.
 - [Connected Car / Dynamic Traffic Management](#) is about designing infrastructure and cars for forms of smart mobility. Cars are then connected with traffic management systems and with each other, to make better use of the road network and reduce traffic jams. The Netherlands excels in developing these technologies.
 - The [Smart cities/building](#) project will investigate how innovative and IT solutions can solve urban and societal problems. For example, low-energy street lighting, or energy-efficient building design.
 - [e-ID](#) is about the development of smartcards to replace the current passports and other identity cards while offering better privacy protection.
 - The Government is working in collaboration with the private sector and knowledge institutions on [a new vision for future policy on space](#). This will be presented to Parliament in Spring 2014, partly in anticipation of the ESA summit planned for the autumn of 2014.



Marc Hendrikse top team member and standard bearer for international HTSM



'The Netherlands shows excellence in technology'.

'The Netherlands stands out from other countries through its technological excellence and is among the world leaders in the niche markets of the high tech sector. However, research indicates that our reputation for excellence has not reached other countries. To change this, the HTSM top team is initiating the Holland High Tech branding activities and ensuring a focused and concerted effort, targeting the most important countries for Dutch exports. HTSM currently has six target countries in its sights. This approach helps companies – particularly SMEs, which cannot do these things for themselves. Our reputation is also important in terms of attracting talented scientists and engineers from those countries, because we have too few in the Netherlands. Recruitment is also an issue for the larger HTSM companies, so they will also throw their weight behind the Holland High Tech branding activities.'

SAMPLE PROJECT

HTSM expertise centre

On 17 June 2013 Centres of Expertise officially opened in Overijssel: TechYourFuture, the Centre of Expertise for Technical Education, and TechForFuture, the Centre of Expertise for High Tech Systems and Materials (HTSM) East. These centres of expertise make an important contribution to the focus on technology in the East Netherlands.

Cross-fertilisation

Cooperation in Centres of Expertise benefits both knowledge institutions and regional industry. On the one hand the higher education establishments, Saxion and Windesheim, expand their practical knowledge thanks to experience from industry, on the other hand the market benefits from the higher education establishments through process and product innovations. So far six research themes have been announced for the expertise centre. One research projects is for at further development of a silicone 'lab-on-chip' which analyses and medicates blood in the body in real time. Other research programmes concern robotics in care and wellbeing, industrial process optimisation, digital printing and medical sensors.





LOGISTIEK

INVESTING IN
MAINTAINING AND
STRENGTHENING
OUR INTERNATIONAL
COMPETITIVE
POSITION

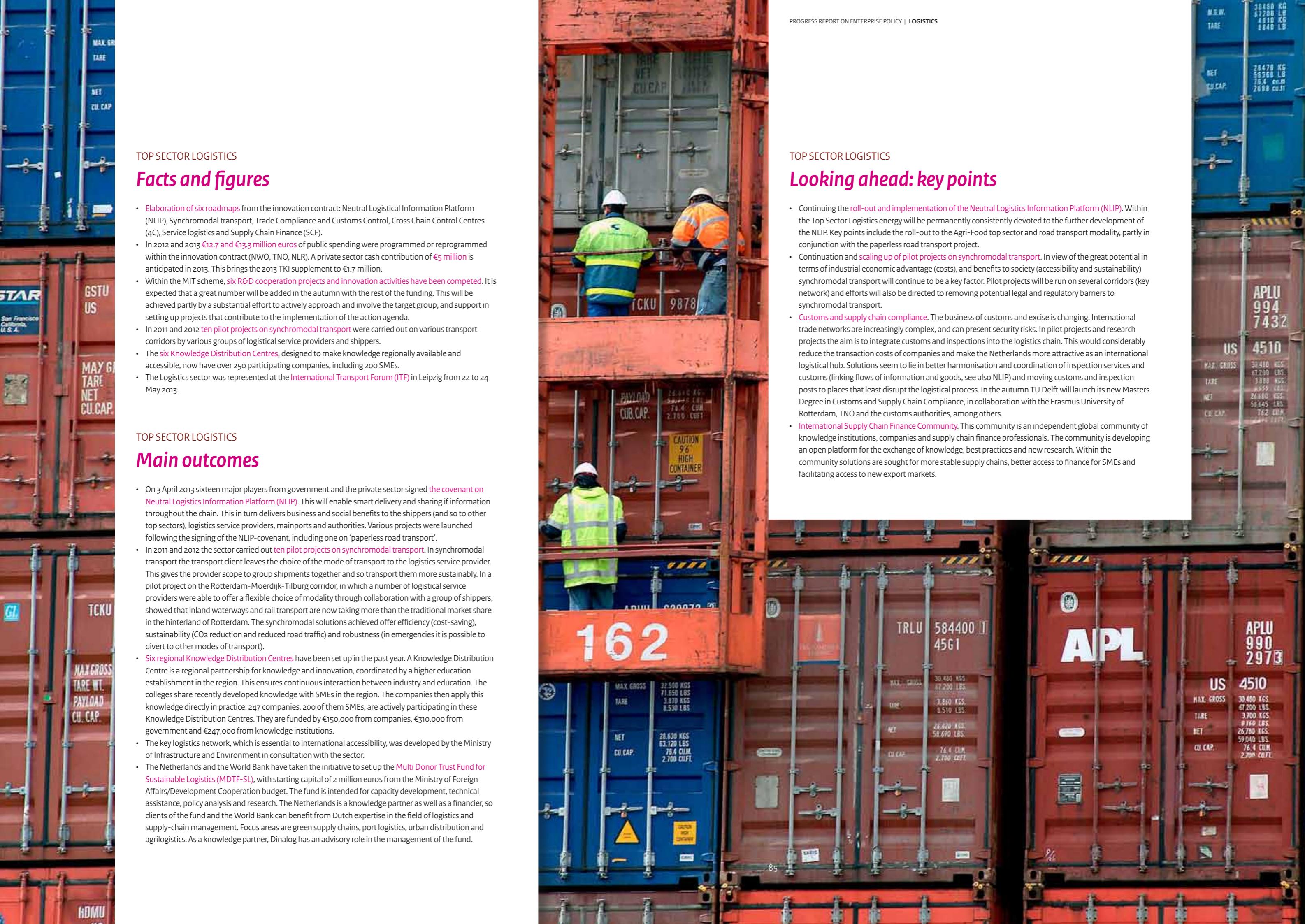
MANY PEOPLE COLLABORATE IN THE LOGISTICS SECTOR, SUCH AS SHIPPERS, LOGISTICAL SERVICE PROVIDERS, TRANSPORT COMPANIES, KNOWLEDGE INSTITUTIONS AND GOVERNMENT. THE ACTIVITIES THEY UNDERTAKE CONTRIBUTE SIGNIFICANTLY TO THE NETHERLANDS' STRONG INTERNATIONAL POSITION. WITH JUST 0.25 PER CENT OF THE WORLD POPULATION AND 1 PER CENT OF WORLD PRODUCTION THE NETHERLANDS IS STILL RESPONSIBLE FOR 3.7 PER CENT OF WORLD TRADE. THE LOGISTICS SECTOR IS FACING THE CHALLENGE OF ACCOMMODATING THE ANTICIPATED GROWTH IN THE MOVEMENT OF GOODS IN A SUSTAINABLE WAY. THE SECTOR WANTS TO HELP TO IMPROVE ACCESSIBILITY AND REDUCE ENVIRONMENTAL EMISSIONS, PARTLY THROUGH OPTIMAL USE OF ALL FORMS OF TRANSPORT AND MODALITIES.

Key figures

LOGISTICS, 2012	Euro millions	Share in the Netherlands (%)
Added value	55028	10.4
Number of jobs (FTEs)	813000	12.1

Source: Logistics figures are based on the functional approach. See: CBS, Monitor top sectors. Uitkomsten eerste meting (First measurement outcomes), 2012 and supplementary research in CBS Monitor Logistics and Supply Chain Management' (BCI/TNO,

Logistics includes all the knowledge required to plan, organise, implement and manage flows of goods and information, from raw material to end product. With an added value of 55 billion euros per year and 813,000 jobs, logistics is hugely important to the economy. The sector also has an enabling function for other sectors. Logistics facilitates exports and goods transport and is thus a major factor in the attractive business climate of our country. This is another reason why the Netherlands wants to maintain and extend its leading international position when it comes to the flow of goods: as the director of the chain of national and international logistical activities and as a country with an attractive innovation and business climate for shipping and logistics companies.



TOP SECTOR LOGISTICS

Facts and figures

- Elaboration of six roadmaps from the innovation contract: Neutral Logistical Information Platform (NLIP), Synchromodal transport, Trade Compliance and Customs Control, Cross Chain Control Centres (4C), Service logistics and Supply Chain Finance (SCF).
- In 2012 and 2013 €12.7 and €13.3 million euros of public spending were programmed or reprogrammed within the innovation contract (NWO, TNO, NLR). A private sector cash contribution of €5 million is anticipated in 2013. This brings the 2013 TKI supplement to €1.7 million.
- Within the MIT scheme, six R&D cooperation projects and innovation activities have been competed. It is expected that a great number will be added in the autumn with the rest of the funding. This will be achieved partly by a substantial effort to actively approach and involve the target group, and support in setting up projects that contribute to the implementation of the action agenda.
- In 2011 and 2012 ten pilot projects on synchromodal transport were carried out on various transport corridors by various groups of logistical service providers and shippers.
- The six Knowledge Distribution Centres, designed to make knowledge regionally available and accessible, now have over 250 participating companies, including 200 SMEs.
- The Logistics sector was represented at the International Transport Forum (ITF) in Leipzig from 22 to 24 May 2013.

TOP SECTOR LOGISTICS

Main outcomes

- On 3 April 2013 sixteen major players from government and the private sector signed the covenant on Neutral Logistics Information Platform (NLIP). This will enable smart delivery and sharing of information throughout the chain. This in turn delivers business and social benefits to the shippers (and so to other top sectors), logistics service providers, mainports and authorities. Various projects were launched following the signing of the NLIP-covenant, including one on 'paperless road transport'.
- In 2011 and 2012 the sector carried out ten pilot projects on synchromodal transport. In synchromodal transport the transport client leaves the choice of the mode of transport to the logistics service provider. This gives the provider scope to group shipments together and so transport them more sustainably. In a pilot project on the Rotterdam-Moerdijk-Tilburg corridor, in which a number of logistical service providers were able to offer a flexible choice of modality through collaboration with a group of shippers, showed that inland waterways and rail transport are now taking more than the traditional market share in the hinterland of Rotterdam. The synchromodal solutions achieved offer efficiency (cost-saving), sustainability (CO₂ reduction and reduced road traffic) and robustness (in emergencies it is possible to divert to other modes of transport).
- Six regional Knowledge Distribution Centres have been set up in the past year. A Knowledge Distribution Centre is a regional partnership for knowledge and innovation, coordinated by a higher education establishment in the region. This ensures continuous interaction between industry and education. The colleges share recently developed knowledge with SMEs in the region. The companies then apply this knowledge directly in practice. 247 companies, 200 of them SMEs, are actively participating in these Knowledge Distribution Centres. They are funded by €150,000 from companies, €310,000 from government and €247,000 from knowledge institutions.
- The key logistics network, which is essential to international accessibility, was developed by the Ministry of Infrastructure and Environment in consultation with the sector.
- The Netherlands and the World Bank have taken the initiative to set up the Multi Donor Trust Fund for Sustainable Logistics (MDTF-SL), with starting capital of 2 million euros from the Ministry of Foreign Affairs/Development Cooperation budget. The fund is intended for capacity development, technical assistance, policy analysis and research. The Netherlands is a knowledge partner as well as a financier, so clients of the fund and the World Bank can benefit from Dutch expertise in the field of logistics and supply-chain management. Focus areas are green supply chains, port logistics, urban distribution and agrilogistics. As a knowledge partner, Dinalog has an advisory role in the management of the fund.

TOP SECTOR LOGISTICS

Looking ahead: key points

- Continuing the roll-out and implementation of the Neutral Logistics Information Platform (NLIP). Within the Top Sector Logistics energy will be permanently consistently devoted to the further development of the NLIP. Key points include the roll-out to the Agri-Food top sector and road transport modality, partly in conjunction with the paperless road transport project.
- Continuation and scaling up of pilot projects on synchromodal transport. In view of the great potential in terms of industrial economic advantage (costs), and benefits to society (accessibility and sustainability) synchromodal transport will continue to be a key factor. Pilot projects will be run on several corridors (key network) and efforts will also be directed to removing potential legal and regulatory barriers to synchromodal transport.
- Customs and supply chain compliance. The business of customs and excise is changing. International trade networks are increasingly complex, and can present security risks. In pilot projects and research projects the aim is to integrate customs and inspections into the logistics chain. This would considerably reduce the transaction costs of companies and make the Netherlands more attractive as an international logistical hub. Solutions seem to lie in better harmonisation and coordination of inspection services and customs (linking flows of information and goods, see also NLIP) and moving customs and inspection posts to places that least disrupt the logistical process. In the autumn TU Delft will launch its new Masters Degree in Customs and Supply Chain Compliance, in collaboration with the Erasmus University of Rotterdam, TNO and the customs authorities, among others.
- International Supply Chain Finance Community. This community is an independent global community of knowledge institutions, companies and supply chain finance professionals. The community is developing an open platform for the exchange of knowledge, best practices and new research. Within the community solutions are sought for more stable supply chains, better access to finance for SMEs and facilitating access to new export markets.

Rutger van Slobbe Strategic Platform on Logistics and member of the Top Team Logistics



'Good information exchange is crucial'.

'In logistics everything revolves around planning. It can only work if you have good information exchange. The open IT environment of the Neutral Logistics Information Platform (NLIP) makes this possible. This will bring many benefits to the top sector. Only consider that 50 per cent of lorries return empty from deliveries. That wastes time and money and is an unnecessary burden on the environment. If logistical information is available in real time to all the relevant parties, a user can make a choice between different modes of transport, based his own priorities in terms of speed, reliability, lead time, sustainability and costs. Sharing all relevant data in the NLIP is crucial for the Netherlands' position in European logistics.'

SAMPLE PROJECT

Cross Chain Control Centre

Many shippers are considering how to improve cooperation in the chain, for example by grouping flows of goods together with those of other shippers. The top sector has responded to this need by introducing the Cross Chain Control Centre (4C). A 4C is a control centre that coordinates and controls several complex European and global supply chains, either within a sector or between sectors.

Benefits of a 4C

A 4C groups together not only physical flows of goods, but also flows of information, finance and data management. This delivers economies in the supply chain, reduces pressure on the environment, leads to new economic activity with more jobs, makes the Netherlands more attractive to foreign companies and delivers new knowledge. Calculations show that bundling flows of goods could save almost 30 percent of journeys. In the Netherlands this equates to around 4 billion vehicular kilometres.

New research projects started

Thanks to the knowledge in higher education concerning logistics and supply chain management, and because various large shipping companies in the Netherlands are switching to centralised international chain control, the Netherlands is in a good initial position to achieve the necessary innovations for the introduction of 4C. Various new research projects have already started.





CREATIVE INDUSTRY

THE NETHERLANDS
AS THE MOST
CREATIVE ECONOMY
IN EUROPE

THE TOP SECTOR CREATIVE INDUSTRY IS A VERY DIVERSE SECTOR COMPRISING ACTIVITIES SUCH AS ARCHITECTURE, DESIGN, FASHION, MEDIA & IT, GAMING, CULTURAL HERITAGE, MUSIC AND FILM. THE SECTOR PLAYS AN IMPORTANT ROLE IN DRIVING INNOVATION IN OTHER SECTORS AND IN RESPONDING TO SOCIETAL CHALLENGES IN AREAS SUCH AS CARE, SECURITY AND ENERGY. THE VISION OF THE CREATIVE INDUSTRY TOP TEAM FOR 2020 IS A CREATIVE SECTOR THAT MAKES THE BEST POSSIBLE USE OF ITS UNIQUE TALENTS – THE VALUE OF CREATIVITY, INNOVATION METHODS, ADAPTABILITY ACHIEVE THROUGH SMALLNESS OF SCALE AND FLEXIBILITY – RIGHT ACROSS THE ECONOMY AND SOCIETY. THE AIM IS FOR THE NETHERLANDS TO BECOME THE MOST CREATIVE ECONOMY IN THE EU BY 2020.

Key figures

CREATIVE INDUSTRY, 2012	Euro millions	Share in the Netherlands (%)
Added value	9579	1.8
Number of jobs	204604	2.4
Exports	695	0.2
Innovation expenditure (2010)	233	1.8
Investment (2010)	unknown	unknown

Sources: Added value, number of jobs and exports based on Prognos Panteia/EIM, Innovation expenditure and Investment: CBS (2012) Monitor top sectors.

The Creative Industry Sector consists of around 100,000 companies, predominantly SMEs. It is a very dynamic top sector. The dynamism is due largely to the large number of start-ups, the impact of technological developments and the high level of innovation. Thanks to internationally active companies such as Endemol, OMA, Spil Games, G-star and Droog Design, Dutch Creative Industry is in the world top ten. The Netherlands is also the third largest exporter of television content in the world.

TOP SECTOR CREATIVE INDUSTRY

Facts and figures

- The **Top Consortium for Knowledge and Innovation (TKI)** of the creative industry sector was launched in September 2012. The launch meeting of the TKI, known as CLICKNL, brought together 400 interested parties to demonstrate the strength and potential of research for and by the creative industry.
- Regional authorities**, specifically Eindhoven, Amsterdam, Arnhem, Rotterdam, Hilversum, Utrecht and the Provinces of Utrecht and Gelderland all participate in the implementation of CLICKNL.
- Within **CLICKNL** a strategic research and innovation agenda has been drawn up. A joint call for proposals was issued by NWO and TNO on the basis of this agenda. A total of 7.7 million euros has been made available for **21 new public-private research projects** (19 NWO and 2 TNO projects). The research is subdivided into three categories: strategic research, embedded research and TNO research.
- CLICKNL works with Syntens to provide an **SME help desk** for all questions from businesses about research cooperation with the seven underlying innovation networks of CLICKNL.
- In the first tranche of the **2013 MIT scheme**, AgentschapNL issued 63 vouchers and subsidy was awarded to 10 R&D cooperation projects. These are projects that fall within the strategic research and innovation agenda.
- In 2013 two new **2 Centres of Expertise (CoE)** started up in Utrecht and Amsterdam respectively. These CoEs link higher education, research and businesses in the creative industry. These initiatives tie in well with the Human Capital Agenda of the Creative Industry Top Team.
- In 2012 various interested parties from the creative industry took part in a **successful trade mission to Brazil** with the then Prince Willem Alexander and Princess Máxima.

TOP SECTOR CREATIVE INDUSTRY

Main outcomes

- CLICKNL**, the **Top Consortium for Knowledge and Innovation (TKI)** for the Creative Industry Sector started in 2012 on the initiative of the Top Team. CLICKNL consists of a central CLICKNL office and seven thematic CLICK Networks on architecture and the built environment, business innovation, cultural heritage, design, (serious) gaming, media & IT and fashion. It is an innovation network with strong regional ties bringing together creativity, knowledge, resources and enterprise. CLICKNL promotes these regional ties, both in the value chain (knowledge-skill-checkout) and in the knowledge chain (from basic research to innovation).
- The **Dutch Creative Council** was set up as an independent strategic advisory board for and by the Creative Industry, started up. The members (including the Creative Industry top team) sit on the Council in their personal capacity and have won their spurs in the sector. The Council is a point of contact and partner in dialogue for the other leading economic sectors and the Government. The Council also has a coordinating role in the implementation of the agenda of the Creative Industry top team. The Council's areas of interest include knowledge and innovation, talent and enterprise and internationalisation.
- The Dutch Design Fashion & Architecture (DutchDFA) internationalisation programme for the Creative Industry has been completed. At the insistence of the top team there will be a **follow-up programme for internationalisation of the design sector**, from 2013 to 2016. This will be carried out by the Creative Industry Promotion Fund. The Ministries of Education, Culture and Science, Foreign Affairs and Economic Affairs jointly made 6 millions euros available for the programme.



TOP SECTOR CREATIVE INDUSTRY

Looking ahead: key points

- Because of the current crisis, businesses, particularly SMEs, can find it increasingly difficult to obtain finance. The characteristics of the Creative Industry - its highly innovative nature, limited collateral and sectoral dynamics reinforce this effect. The top team seeks to **improve conditions for financing for the Creative Industry** by encouraging other forms of finance, increasing the availability of early stage finance and transparency in financial instruments and finance initiatives. It is now working on a proposal to provide better support for young entrepreneurs in the Dance sector.
- The Creative Industry **has ambitions for international growth and innovation**. The opportunities for this lie increasingly in the emerging markets such as China, India, Brazil and Turkey. The top team has a role to play in exploring these markets – for example by initiating market scans – and in the positioning of Dutch creative companies in these markets, for example by flagging up strategically important trade fairs. The dynamic and small-scale character of this sector is both strength and a challenge here. In the coming years the focus will mainly be on matching existing programmes and resources to the specific requirements of the sector.

José Teunissen Lector Modevormgeving ArtEZ and standard bearer for Next Fashion at ClickNL



'Pooling strengths and expertise.'

'Thanks to the top sector policy the fashion industry now has better access to knowledge institutions and the latest technology. Consider for example an urgent issue like sustainability: there is massive over-production in the fashion industry. The stock turnover of clothes is massive – every six weeks there is something new on the rails, and 40 per cent of the textiles are thrown away unused. We need to take action. And we can only act effectively if we pool our strengths and resources. The network can bring people into contact who never worked together before. Small niche companies, for example, have easier access to research establishments or big fashion houses. By working together in teams, everyone can contribute something from their own background to solve a common problem. This way we are keeping up with the times and the sector gets a new burst of energy.'

SAMPLE PROJECT

Virtual reality therapy

It is estimated that 1.2 million Dutch people suffer from post-traumatic stress syndrome (PTSS). This often involves them reliving the painful events. Treatment for PTSS is relatively expensive and does not always provide a solution for the patients. A consortium of ten partners, including TU Delft, CleVR and Erasmus University Rotterdam, is developing virtual e-coaching and narrative technology for the treatment of post-traumatic stress. This internet-based support makes use of gaming technology and a virtual coach. The consortium hopes that the virtual therapy will save money, reduce therapeutic hours and facilitate treatment at home at a time best suited to the patient.

Gaming technology helps to process trauma

An important component of the treatment of PTSS is gradual exposure to the painful memories of the PTSS patients. *Virtual reality* can help them in this process. The patients use gaming technology to reconstruct the events, for example creating the *virtual reality* of a room in which sexual abuse took place.





HORTICULTURE AND PROPAGATION- MATERIALS

ROBUST, SUSTAINABLE
AND INTERNATIONAL
HORTICULTURE
CLUSTER

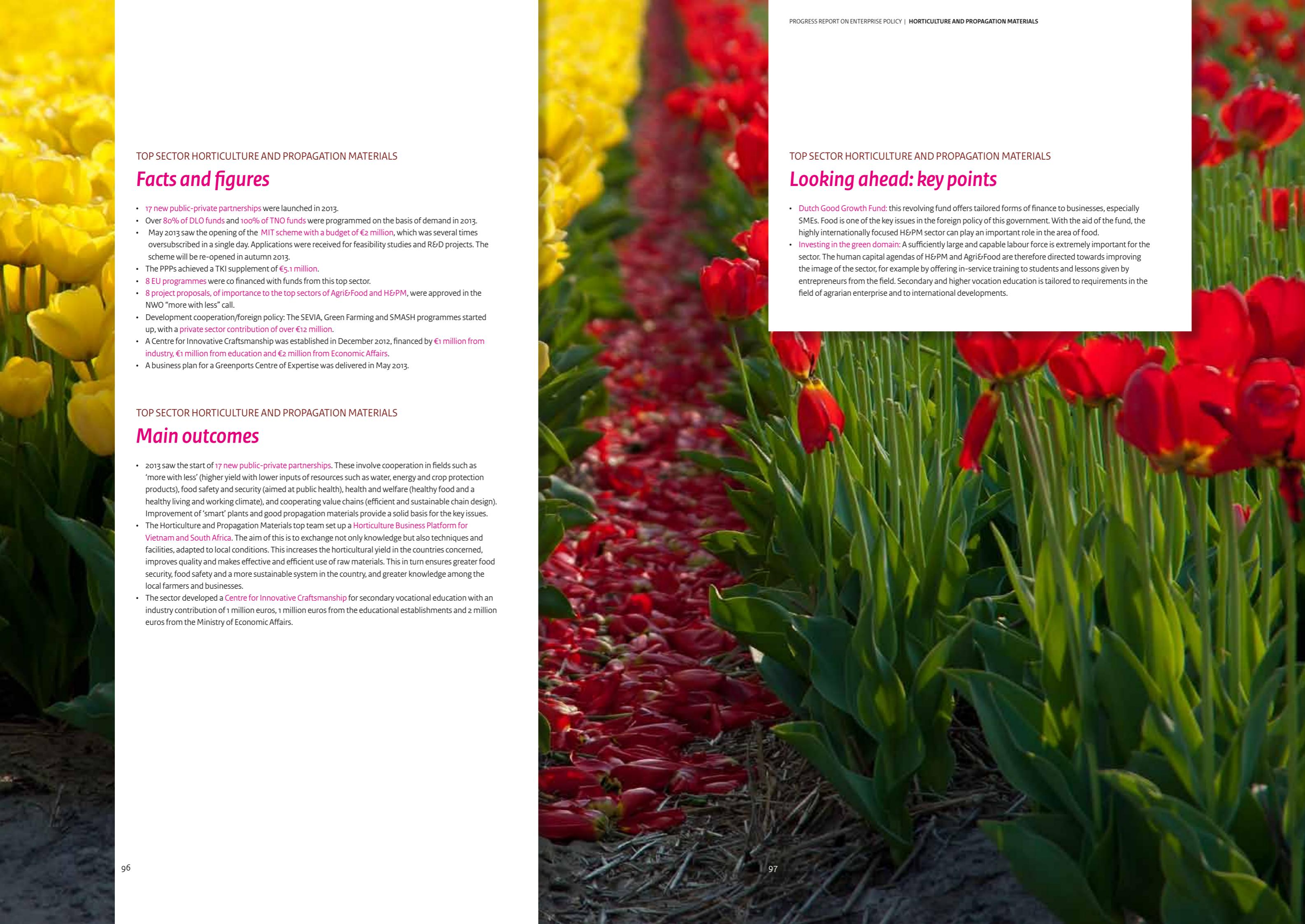
THE HORTICULTURE AND PROPAGATION MATERIALS SECTOR (H&PM) IS A BROAD SECTOR COVERING ALL PLANT-BASED CHAINS. THUS IT INCLUDES PRIMARY SECTORS, THE PROPAGATION MATERIALS SECTOR – INCLUDING PLANTS, SEEDS AND SEEDLINGS – AND THE COMPANIES THAT CARRY OUT THE PROCESSING, DELIVERY, TRADE AND DISTRIBUTION. THE DUTCH H&PM SECTOR IS AMONG THE WORLD LEADERS IN THE FIELD AND IS ADMIREN INTERNATIONALLY FOR ITS EXPERTISE, ENTERPRISE, INNOVATIVE STRENGTH AND LEVEL OF KNOWLEDGE. THE NETHERLANDS IS THE WORLD'S LARGEST EXPORTER OF ORNAMENTALS, FLOWER BULBS AND PROPAGATION MATERIALS, AND THIRD IN THE WORLD IN FOOD CROPS.

Kerncijfers

HORTICULTURE AND PROPAGATION MATERIALS, 2010	Euro millions	Share in the Netherlands (%)
Added value	8773	1.7
Number of jobs (FTEs)	118	1.8
Exports	14149	3.8

Source: H&PM figures are based on the functional approach. See: CBS, Monitor top sectors, Uitkomsten eerste meting (First measurement outcomes), 2012 en aanvullend onderzoek 'Kengetallen Tuinbouw en uitgangsmaterialen voor 2009 en 2010'

This top sector seeks to further improve the competitive strength of the innovative and sustainable Dutch horticulture cluster, by working on a good infrastructure and cooperation between businesses and knowledge institutions, not least in the regional economic clusters: the “Greenports”. The sector plays an important role in the field of sustainability, for example, through sustainable use of water and energy. There are many opportunities on international markets, where the sector's successful formula is applied. This has attracted widespread interest, as evidenced by various international trade missions to the Netherlands to learn about the sector and its approach.



TOP SECTOR HORTICULTURE AND PROPAGATION MATERIALS

Facts and figures

- 17 new public-private partnerships were launched in 2013.
- Over 80% of DLO funds and 100% of TNO funds were programmed on the basis of demand in 2013.
- May 2013 saw the opening of the MIT scheme with a budget of €2 million, which was several times oversubscribed in a single day. Applications were received for feasibility studies and R&D projects. The scheme will be re-opened in autumn 2013.
- The PPPs achieved a TKI supplement of €5.1 million.
- 8 EU programmes were co-financed with funds from this top sector.
- 8 project proposals, of importance to the top sectors of Agri&Food and H&PM, were approved in the NWO "more with less" call.
- Development cooperation/foreign policy: The SEVIA, Green Farming and SMASH programmes started up, with a private sector contribution of over €12 million.
- A Centre for Innovative Craftsmanship was established in December 2012, financed by €1 million from industry, €1 million from education and €2 million from Economic Affairs.
- A business plan for a Greenports Centre of Expertise was delivered in May 2013.

TOP SECTOR HORTICULTURE AND PROPAGATION MATERIALS

Main outcomes

- 2013 saw the start of 17 new public-private partnerships. These involve cooperation in fields such as 'more with less' (higher yield with lower inputs of resources such as water, energy and crop protection products), food safety and security (aimed at public health), health and welfare (healthy food and a healthy living and working climate), and cooperating value chains (efficient and sustainable chain design). Improvement of 'smart' plants and good propagation materials provide a solid basis for the key issues.
- The Horticulture and Propagation Materials top team set up a Horticulture Business Platform for Vietnam and South Africa. The aim of this is to exchange not only knowledge but also techniques and facilities, adapted to local conditions. This increases the horticultural yield in the countries concerned, improves quality and makes effective and efficient use of raw materials. This in turn ensures greater food security, food safety and a more sustainable system in the country, and greater knowledge among the local farmers and businesses.
- The sector developed a Centre for Innovative Craftsmanship for secondary vocational education with an industry contribution of 1 million euros, 1 million euros from the educational establishments and 2 million euros from the Ministry of Economic Affairs.

TOP SECTOR HORTICULTURE AND PROPAGATION MATERIALS

Looking ahead: key points

- Dutch Good Growth Fund: this revolving fund offers tailored forms of finance to businesses, especially SMEs. Food is one of the key issues in the foreign policy of this government. With the aid of the fund, the highly internationally focused H&PM sector can play an important role in the area of food.
- Investing in the green domain: A sufficiently large and capable labour force is extremely important for the sector. The human capital agendas of H&PM and Agri&Food are therefore directed towards improving the image of the sector, for example by offering in-service training to students and lessons given by entrepreneurs from the field. Secondary and higher vocation education is tailored to requirements in the field of agrarian enterprise and to international developments.

Frank van Kleef Directeur of Royal Pride, Entrepreneur in the Top Sector of Horticulture and Propagation Materials



'Pass on knowledge and enthusiasm to young people.'

'Passing on your practical experience is the best lesson you can give our future colleagues. I know from my own experience. Entrepreneurs in front of the class, not just at higher vocational level but at secondary level too. So I am glad that the competence scheme has been sorted out. I do however think that things like this, that facilitate enterprise and strengthen the economy take far too long to have a real impact in practice. Less policy and more scope for enterprise. That should become a demonstrable benefit of the top sector policy. We are on the way. The sector is not running away from its own responsibilities and is counting on focused help from government. For example, we set up the Horticultural Business School on our own initiative. With the BoereGoud Volkskas initiative we pass on our knowledge and enthusiasm to the very youngest children, just because that's the way it should be.'

SAMPLE PROJECT

Seed 2 Feed

In April 2013 Rabobank Westland staged an international food conference called "Seed 2 Feed". Dutch and African policy-makers, knowledge institutions and companies exchanged knowledge, technologies and ideas and examined opportunities for joint investment. It came out during the conference that Africa offers a wealth of opportunities for Dutch horticulture. Our greenhouse horticulture is the world's most efficient food industry. With our knowledge of crop and seed improvement, modern IT applications and sustainable cultures we can make a valuable contribution to ensuring sufficient and varied food in the future. Public-private partnerships in horticulture and the knowledge sector are an essential element in this process. The people attending the conference not only shared ideas, they also took more concrete steps. For example, Rabo Development formed a consortium with Wageningen University & Research, Alliance for a Green Revolution in Africa (AGRA) and Greenport Holland. The aim of the consortium is to professionalise the value chain from cultivation to consumption of vegetables in Africa. The consortium will select a number of model projects in different target regions with specific involvement of Dutch companies and an appropriate public-private finance model. It also emerged from the conference that a number of important themes, such as the position of women and the role of IT, financing, cooperatives and training, should be an ongoing thread running through future projects.





ENERGY

EMPOWERING
THE NEW ECONOMY



THE ENERGY SECTOR CONSISTS OF SEVEN TOPCONSORTIA OF KNOWLEDGE AND INNOVATION (TKIS) WITHIN WHICH THE INDUSTRY, KNOWLEDGE INSTITUTIONS AND GOVERNMENT WORK TOGETHER ON SUSTAINABLE GROWTH: COMPETITIVE STRENGTH AND CO₂ REDUCTION. CURRENTLY 383 PUBLIC AND PRIVATE ORGANISATIONS HAVE A FINANCIAL INVOLVEMENT IN THE ENERGY SECTOR, NEARLY HALF OF THEM SMES.

Key figures

ENERGY, 2012	Euro millions	Share in the Netherlands (%)
Added value	25001	4.7
Number of jobs	44949	0.5
Exports	15465	3.7
Innovation expenditure (2010)	859	6.5
Investment (2010)	4887	12.1

Source: Added value, employment and exports based on Prognose Panteia/EIM, Innovation expenditure and investment based on CBS (2012) Monitor top sectors.

The Energy sector TKIs are Offshore wind power, Gas, Switch2smartgrids, EnerGO, Solar Energy and – in conjunction with the Chemicals sector– Biobased Economy and ISPT (sustainable process technology). There were two budget allocations in 2013, the call for proposals for the second allocation in September 2013 has now closed.

TOP SECTOR ENERGY

Facts and figures

- There are [383 organisations](#) with a financial share in the energy sector TKIs, nearly half of them SMEs.
- The EZ energy innovation resources and the SME+-innovation resources for the TKI participants [totalled 120 million euros](#) in 2012. The Government is also making a total of [23.2 million euros](#) available through ECN and TNO. The Energy sector TKIs have also been awarded a TKI supplement of [8.2 million euros](#), and part of the TKI supplement for TKI Chemicals (11.7 million euros) will benefit the Energy sector. [Around 43% of the programmes are financed](#) by the private sector.
- With the aid of the [programme funding](#) ECN is able to use its expertise on 5 of the 7 Energy sector themes (solar, wind, biobased economy, energy-saving in industry and (green) gas). TNO is active in 4 energy themes (smart grids, energy-saving in the built environment, gas and solar).
- The MIT scheme budget is exhausted for R&D partnership projects for energy (€1.1 m) and technical feasibility studies (€0.5 m). [11 feasibility studies](#) and [8 R&D partnership projects](#) were approved.
- [Trade missions](#) were organised in October 2012, and February, May and June 2013 to Bavaria, the United States and Germany again to make and build contacts.
- The Energy sector will have be represented at the [Singapore International Energy Week](#) in Oct 2013.
- The sector has set a target for companies within the sector to offer [150 national or international top sector grants](#) in 3 years for courses relevant to the sector.

TOP SECTOR ENERGY

Main outcomes

- The first years of the energy industry's designation as a top sector were used to mobilise partners and establish the organisation. This led to the creation of seven TKIs with a [solid organisational base](#) and [383 participating organisations](#) investing in the sector's TKI projects. That improved the overall organisation of the sector and countered fragmentation.
- The ambitions of companies and knowledge institutions are translated within the TKIs into programme threads and detailed research programmes, rapidly creating an [innovation portfolio of hundreds of projects](#). This improves the administration in the research chain for translation from research to application. Dynamic portfolio management encourages the sector to respond flexibly to market opportunities. The projects are at various stages of development.
- The establishment of the [STEM programme](#) encourages investment in the field of social innovation within the Energy Sector. In this programme companies and scientists work together on non-technological innovation challenges to future-proof energy supplies.
- Small businesses in the Netherlands play an important role in innovation and in strengthening the economy. The Energy and Chemical sectors set up a [joint SME innovation incentive scheme](#) (MIT) in 2013 to provide a better service to entrepreneurs.



TOP SECTOR ENERGY

Looking ahead: key points

- One consideration is to strengthen the ties between the top sector Energy and SMEs. An [SME enterprise plan](#) has been set up specifically to address this. With separate help desks at the TKIs, the access threshold for SME participation has been lowered as far as possible.
- A key point is the [internationalisation agenda](#) to enhance and extend the position of Dutch energy-related industry in the world. Part of this is to tie in well with the European Horizon 2020 programme.
- The Energy Top Team hopes that local and regional authorities will find common ground with the relevant TKIs and cooperate within them. That is the thinking behind the new project on '[The Power of the Region in the Energy Sector](#)'. The project will renew cooperation between central government and regions. The idea is that central government and the regions will tackle suitable energy-related projects together and so speed them up. In the consultative meeting between the Minister of Economic Affairs and the regions on 4 September 2013 a decision was taken to start immediately on eleven projects.
- The [SER Energy Agreement](#) was signed on 6 September. It requires the Energy Top Team to appoint a trailblazer to ensure that the activities described in pillars 8 and 9 (Human capital and Innovation) are carried out. The top team aims to organise the programming and guarantee completion of the agreed tasks by the beginning of 2014.



Marcel van Hest TKI board member and US matchmaking mission delegate



'Opportunities in America worth billions.'

'Like us, the Americans are busy developing Smart Grids. But they come from a different angle. Whereas we are always concerned with sustainability, reliability and efficiency, the US gives top priority to reliability. The Department of Energy is looking for systems to control natural disasters such as hurricanes. So it is a positive point that the Netherlands has the network with the fewest outage minutes in Europe. Our water management system also helps us to develop risk scenarios for hurricanes. A partnership between the top sectors of water and energy is therefore attractive to the Americans. There are opportunities in the United States worth billions in this and other areas. The mission was a good introduction to encourage cooperation.'

SAMPLE PROJECT

Lightweight solar panels for pitched roofs

TULiPPS Solar is working with a consortium of partners to develop flexible and lightweight solar panels to fit various types of roof or even entirely cover roofs. More than ten parties are involved in this Lightweight Rooftop BIPV System (LiRoB). The consortium has adopted an innovation construction design, a "Building Integrated Photo Voltaics-system" (BIPV) for frameless solar panel construction elements. This makes the system flexible so that the panels can be applied to all sorts of roofs. Even pitched roofs or roofs with varying dimensions or obstacles. The lightness of the BIPV panels limits the load on the roof, so the whole roof can be covered.

Glazed roof

The 'glazed roof system' not only looks good, it is also affordable and simple to fit. Contractors can use the BIPV system in renovation projects as well as new-build. The first prototypes are currently under test, and the collaborating partners hope to go into large-scale production in 2014.





CHEMICALS

CHEMICALS ARE
EVERYWHERE



106

107

CHEMICALS ARE EVERYWHERE: THANKS TO THE PRODUCTION OF USEFUL, EFFICIENT AND SUSTAINABLE MATERIALS IMPROVEMENTS IN EFFICIENCY AND SUSTAINABILITY CAN BE ACHIEVED IN COUNTLESS SALES MARKET OUTLETS. THE TOP SECTOR CHEMICALS CONTRIBUTES 2.5 TO GNP AND ANNUALLY PROVIDES AROUND

Key figures

CHEMICALS, 2012	Euro millions	Share in the Netherlands (%)
Added value	15247	2.9
Number of jobs	77909	0.9
Exports	32211	7.8
Innovation expenditure	1325	10.1
Investment (2010)	1656	4.1

Source: Added value, employment and exports based on Prognose Panteia/EIM, Innovation expenditure and investment based on CBS (2012) Monitor top sectors

By 2050 the Netherlands will be recognised worldwide as the go-to place for green chemicals. Through its position at the start of the production chain, and as intermediate supplier or as maker of the end product, the chemicals sector can and will make an important contribution to the transition to a biobased economy. Dutch knowledge institutions have an excellent international reputation for chemical research, thanks to the expertise of Dutch chemists, both in industry and knowledge institutions.

TOP SECTOR CHEMICALS

Facts and figures

- There are 4 TKIs within the Chemicals sector. In 2013 a total of €11.7 million was awarded in TKI supplements. Part of this is shared with the Energy sector.
- The Chemicals sector is making the transition to a biobased economy.
- The success of Chemicals sector grants for secondary and higher vocational education students serves as an example to the other top sectors. Last year 45 students received grants, next year 50 chemistry grants will be awarded.
- Five Centres for Innovative Craftsmanship (secondary vocational education) and five Centres of Expertise (higher vocational education) have been set up. This puts Chemicals ahead of the other top sectors.
- The MIT-budget for R&D partnership projects (€1 million) and feasibility studies (€0.4 million) within the Chemicals sector is exhausted. 8 R&D partnership projects and 8 feasibility studies have received funding. A large proportion of the budgets for hiring in highly qualified staff (€0.1 million) and knowledge vouchers (€0.2 million) has not yet been appropriated.
- SME help desk: The start of the valorisation network, **Top Chemie Δ**, is a significant milestone for the sector. Through this network it will be easier for businesses and researchers to connect with the top sector to help them to achieve their innovation. This gives a significant boost to enterprise in the sector.
- Internationally: This July the **prime ministers of the Netherlands and Flanders** made a successful visit to Texas in the United States. The visit concerned investment and developments in the chemical and petrochemical industries in the United States.

TOP SECTOR CHEMICALS

Main outcomes

- To hold its own in a highly competitive world, the Chemicals sector is actively **recruiting national and international talent and knowledge workers**. The Centres for Open Chemical Innovation (COClIs) are a good example of recruiting talent at an early stage. These centres link start-up entrepreneurs to large chemical companies.
- The **Valorisation Network** was set up for contacts with the regions, which actively represents the Chemicals sector TKIs. The Valorisation Network makes contact with campuses, innovation labs, development companies and other regional players with ambitions in field of chemicals. It also helps businesses to set up partnerships and fills training gaps, for example by training lecturers for higher vocational education.
- The Chemical sector worked with the Energy sector to set up an **SME innovation incentive scheme for the top sectors (MIT)** to improve services to enterprises. Many applications were received for R&D partnership projects and feasibility studies. The sector hopes to use the same instruments for any second round of applications under the scheme.
- The Chemicals sector has a **Human Capital Agenda** with the aim of matching the supply to the demand for talent by 2020. In concrete terms this has led to **study grants for chemistry** as well as a Centre for Innovative Craftsmanship and a Centre of Expertise. In the pilot phase 45 grants were awarded to promising senior secondary and higher vocation education and university students to encourage them into chemistry courses. They were given student grants with no requirement to repay them. The success of the pilot project mean that the top sector grants have been included in the Technology Pact and will be rolled out in the other top sectors.



Bert Weckhuysen top scientist and member of Top Team Chemicals



'Use of shale gas has a huge impact.'

'As a scientist in the chemical industry I am often confronted by fascinating issues. Think of catalysts that don't work or the debate about shale gas. I do not want to give my opinion as a scientist about whether or not the use of shale gas is a good thing, but whatever the case it will have huge consequences. Unlike mineral oil, shale gas hardly delivers any raw materials to make synthetic rubber or PET bottles. The raw materials thus have to be sourced elsewhere - perhaps from biomass from non-edible parts of plants, such as the stems. With the right catalysts that should be possible, so we are trying hard to find them.'

SAMPLE PROJECT

Building aircraft with biobased plastics

Dutch knowledge institutions and companies are working in a unique partnership to develop new biobased plastics. These environmentally-friendly plastics based on plant material are a sustainable alternative to current plastics based on oil.

Great opportunities for the Netherlands

Materials such as packaging, bottles and computer components are already made on a small scale from biobased plastics. Thanks to research, in the future the industry will also be able to make powder coatings and larger materials, such as car, train and aircraft components, from environmentally friendly plastics. There are great market opportunities for the Netherlands, but scaling up will require support from the Dutch government.

Fierce competition

Under the direction of Wageningen UR Food & Biobased Research, four knowledge institutions and thirty national and international companies in the field of Biobased Performance Materials are working to improve the properties of biobased plastics. These plastics will compete on technical properties with oil-based plastics. However, they are more expensive, so will require large scale production and further research.





Glossary

4C Cross-Chain Control Centre: control centre that coordinates and administers several complex European and worldwide supply chains.

A&F Agri-Food: one of the 9 top sectors.

AgNL AgentschapNL NLAGency: division of government offering services to entrepreneurs with sustainable, innovative or international ambitions. E.g. subsidies, knowledge and finding partners.

AGRA Alliance for a Green Revolution in Africa

AWT Advisory Board on Science and Technology Policy: The AWT advises the government and parliament –ad hoc or on request – on policy on scientific research, technological development and innovation.

BBE Biobased Economy: Economy in which crops and waste products from agriculture and the food industry are used for non-food purposes. Green raw materials or biomass are used as materials, chemicals, transport fuel and energy (electricity and heat).

B2B Business-to-business: companies that do business with other companies.

BMKB Borgstelling MKB kredieten: SME credit guarantee fund whereby the government guarantees business loans up to €1 million for companies with no more than 250 employees and an annual turnover of up to €50 million or total assets of up to €43 million.

BNP Bruto National Product: Gross National Product

BRIDGE Biobased and Renewable Industries for Development and Growth in Europe: European Public Private Partnership (in a Joint Technology Initiative) for biobased and renewable industries. From 2014 Bridge will be part of Horizon 2020.

BZ Buitenlandse Zaken: (Minister of) Foreign Affairs

CIV Centrum voor Innovatief Vakmanschap Centre for Innovative Craftsmanship: a collaboration between industry and education at secondary vocational level

CIP Competitiveness and Innovation Programme: European programme aimed at SMEs in Europe, divided into IT policy support programme, intelligent energy Europe and eco-innovation.

COClIs Centres for Open Chemical Innovation in which start-up businesses are linked to large chemical companies and recruit talent at an early stage.

CoE Centre of Expertise: a collaboration between industry and education at higher vocational level

COSME: programme for the Competitiveness of Enterprises and SMEs that facilitates SME access to finance, creates an environment for enterprise, growth and an entrepreneurial culture, increases sustainable competitiveness of EU companies and helps SMEs gain access to markets and do business outside their home country.

DGGF Dutch Good Growth Fund: revolving fund promoting economic activities which are highly valuable for the development of low and middle-income countries and create opportunities for all to participate fully in the economy and society.

DLO Dienst Landbouwkundig Onderzoek: Non-profit organisation comprising nine institutes for agricultural research which form part of Wageningen University and Research Centre: separate entities which collaborate in expert groups in various fields.

DutchDFA Dutch Design Fashion & Architecture: Dutch internationalisation programme for the Creative Industry (now finished)

ERDP European Regional Development Fund: European structural fund that funds programmes for the development and structural adjustment of disadvantaged regions and conversion of industrial regions in decline. In developed regions of the EU the fund aims to strengthen regional competitiveness and increase employment.

EIF European Investment Fund: part of the European Investment Bank specialising in risk finance to benefit SMEs in Europe.

EIP Entrepreneurship and Innovation Programme: specific programme under CIP that aims to support innovation and SMEs in the EU (with access to finance, business and innovation service centres, support in improving innovation policy, pilot project and test set-ups).

EIT European Institute of Innovation & Technology: part of the European Union to promote sustainable European growth and competition using the innovation capacity of the EU and facilitating transitions (from idea to product, from lab to market, from student to entrepreneur).

ERC European Research Council: supports the very best and most visionary scientists, both young and more experienced, with subsidies (such as an individual grant) for largely fundamental research.

ESA European Space Agency: pooling European skill, investments and developments in the field of space.

ETP European Technology Platform: Companies and research institutes draw up a joint strategic research agenda for a specific area of technology, usually on the initiative of the industry.

EU European Union

EZ Economische Zaken: (Ministry of) Economic Affairs

GO Garantie Ondernemingsfinanciering: Company finance guarantee scheme giving banks a 50% state guarantee for medium and large loans. This broadens the banks' scope to lend to businesses in need of finance.

JPI Joint Programming Initiative: aims to harmonise national and European research agendas with a particular societal or other theme to access more research results and make better use of budgets.

ICT Informatie- en CommunicatieTechnologie: IT Information (and Communications) Technology

HTSM High Tech Systems and Materials: one of the 9 top sectors.

KIC Knowledge and Innovation Community: bringing together higher education, research and business, to promote innovation in areas where there is a major societal challenge such as climate change, IT and sustainable energy.

KNAW Koninklijke Nederlandse Akademie van Wetenschappen: Royal Netherlands Academy of Arts and Sciences: the forum, conscience and voice of the science that promotes the quality and interests of science and strives for an optimal contribution from Dutch science to the cultural, social and economic development of society.

FP7 Seventh Framework Programme: large and ambitious European programme with various research areas and calls for proposals on matters including 'cooperation', 'people' and 'capacities'.

KvK Kamer van Koophandel: Chamber of Commerce: informs and supports businesses from start-up to finding a successor. The Chamber also manages the Register of Companies.

KWR Kiwa Water Research: Watercycle Research Institute By creating knowledge through excellent research, bridging gaps between science, industry and society, and promoting social innovation with the best available knowledge, KWR helps to design the best possible water cycle and so fulfil two basic needs in society: safe, healthy drinking water and a clean environment.

LSH Life Sciences & Health: one of the 9 top sectors.

MIT Mkb-Innovatiestimulering-Topsectoren-regeling Top Sectors: SME innovation incentive scheme to help integrate SMEs into innovation activities within the top sectors. Each top sector chooses the mix on instruments it wishes to use to involve SMEs (options are: feasibility studies, R&D partnership projects, Innovation Performance Contracts, Knowledge vouchers, hiring in of highly qualified staff from a research organisation or large company). There are also two SME instruments for use by TKIs: Network activities and Innovation brokers.

MKB SME(s): small and medium sized enterprise(s) With a view to the European internal market, the following European definition is used: micro, small and medium-sized enterprises

(SMEs) which employ fewer than 10, 50, or 250 persons respectively and which have an annual turnover not exceeding 2, 10, or 50 million euros respectively, and/or an annual balance sheet total not exceeding 2, 10 or 43 million euros respectively.

MVO Maatschappelijk Verantwoord Ondernemen: CSR (Corporate Social Responsibility) whereby an enterprise directs its activities to adding value to people, planet and profit. The balance is continually and carefully reviewed, there is active and transparent accounting and open dialogue with stakeholders.

MDTF-SL Multi Donor Trust Fund for Sustainable Logistics: of the Ministry of Foreign Affairs for capacity building, technical assistance, policy analysis and research in the field of logistics and supply chain management.

NGO Non-Governmental Organisation: organisation independent of government serving a perceived societal interest.

NII Nederlandse InvesteringenInstelling Dutch Investment Institution: government together with pension funds, insurers and large investors join forces in suitable investment projects in field such as care, energy, school buildings and infrastructure (announced in the 2013 Budget Memorandum).

NIOZ Koninklijk Nederlands Instituut voor Onderzoek der Zee: oceanographic institute carrying out both fundamental and applied scientific research to amass knowledge on estuaries, seas and oceans. The institute supports education and research in the maritime disciplines in the Netherlands and in Europe.

NLIP Neutraal Logistiek Informatie Platform Neural Logistics: Information Platform smart hub for collection and distribution of information across the entire logistic chain.

NLR Nationaal Lucht- en ruimtevaart Laboratorium: National Aerospace Laboratory: Knowledge enterprise concerned with Aerospace in the Netherlands.

NWO Nederlandse organisatie voor Wetenschappelijk Onderzoek: Netherlands Organisation for Scientific Research: finances leading researchers, runs programmes that inform the Dutch scientific agenda and manages national and international knowledge infrastructure.

OCW Onderwijs, Cultuur en Wetenschappen. (Ministry of) Education, Culture and Science
PIB Partners for International Business: programme aimed at groups of companies (and possibly knowledge institutions) wishing to enter foreign markets together, based on an agreed strategy rather than separate activities such as government economic diplomacy, promotion and matchmaking, government-to-government cooperation and knowledge exchange programmes.

PBO Publiekrechtelijke BedrijfsOrganisatie: public-law industrial regulatory body. Government approved trade and commodity boards for cooperation between industry and employees on regulation in specific sectors.

PBT platform betatechniek: a platform to ensure availability of people with a background in technical and scientific education for the benefit of the Dutch knowledge economy.

PPS publieke-private samenwerking PPP: public-private partnership

PTTS post-traumatic stress syndrome

R&D Research and Development

RDA Research and Development Aftrek: Research and Development Allowance/Relief: Companies can use the WBSO and RDA to offset the costs of R&D projects. Both schemes promote technical innovations in every industrial sector. The RDA is a tax relief for project costs and expenditure other than wage costs (e.g. research equipment or prototypes).

ROM Regionale OntwikkelingsMaatschappij: Regional Development Company (RDC) designed to strengthen regional economic structure by promoting investment (attracting and holding on to the right companies in the Netherlands), promoting development and innovation, participation and management, and restructuring and development of business parks.

SCFC Supply Chain Finance Community: independent world-wide community of knowledge institutions, companies and supply chain finance professionals developing an open platform for knowledge exchange, best practices and new research, working on solutions for more stable supply chains, better SME access to finance and facilitating access to new export markets.

SDE Stimulering Duurzame Energieproductie SDE: is a programme to promote sustainable energy generation and is aimed at businesses and (non-profit) institutions. Sustainable (or renewable) energy is generated from clean, renewable resources.

SER Sociaal-Economische Raad: SEC Social and Economic Council; advises government and parliament on major areas of social and economic policy. The SEC also performs administrative and supervisory tasks. Independent crown-appointed members work with employers and employees in the SEC.

SRGR Seksuele en Reproductieve Gezondheid en Rechten: Sexual and reproductive health and rights: a focus area of the Ministry of Foreign Affairs and Development Cooperation.

STEM Samenwerken Top sector Energie en Maatschappij: programme for cooperation between the Energy Sector and society whereby investment in social innovation is promoted in the Top Sector Energy.

STW Stichting Technische Wetenschappen: science and technology foundation that transfers knowledge between technical sciences and users by funding excellent scientific and technical research and bringing researchers and users together in each project.

TNO organisations for applied scientific research: independent research organisation that contributes, through research and expertise, to the competitive strength of companies and organisations, to the economy and to the overall quality of society.

TTI Technological Top Institute: runs research programmes to develop knowledge on specific themes. The studies answer fundamental strategic questions from industry and are internationally outstanding. Funded by public-private partnerships and financial commitments from various sources.

TKI Top Consortium for Knowledge and Innovation: TKIs bring parties together in excellent public-private partnerships for research and innovation remits from the top sectors. This stimulates synergy and cohesion of research and innovation activities in key economic and social areas.

TKI supplement: a scheme to stimulate public-private cooperation within the TKI programmes by providing an incentive for private contributions. TKIs can trigger the TKI supplement by running cooperative projects (which form the basis for the supplement). The supplement can then be used for new activities.

T&U Tuinbouw en Uitgangsmaterialen: H&PM Horticulture and Propagation Materials: one of the 9 top sectors.

Corporation tax: tax payable on the profits of private and limited liability companies.

VWS Volksgezondheid, Welzijn en Sport (Ministry of) Health, Welfare and Sport
WBSO Wet Bevordering Speur- en Ontwikkelingswerk Research and Development (Promotion) Act: Companies can use the WBSO and RDA facilities to reduce the cost of R&D projects. Both schemes promote technical innovations in every sector. The WBSO is a tax relief on wage costs.

WEF World Economic Forum: independent international organisation concerned with business, politics, science and society, established to influence global, regional and industrial agendas (for example through various rankings) and improve the state of the world.

Sources: NLAgency (regulations), websites of the listed organisations



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