

An aerial photograph of a wide river, likely the Rhine, with a multi-lane highway running parallel to its left bank. The landscape includes green fields, a bridge in the distance, and several large cargo ships on the water. The sky is overcast with grey clouds. The year '2014' is written in large, white, sans-serif font across the upper half of the image.

2014

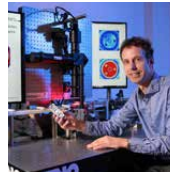
TNO innovation
for life

ANNUAL REPORT

ANNUAL REPORT 2014

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› This Annual Report includes six feature articles in which members of staff describe how TNO innovations help to solve the social and economic challenges facing today's world. We hope you find their words inspiring.



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REPORT OF THE TNO BOARD OF MANAGEMENT

› From research into ‘cooperative driving’ to the recipe for healthier bread. The topics which occupied the attention of the media, the general public and TNO in 2014 were extremely wide-ranging. As the new Board of Management, we were able to experience the full breadth of TNO.

Once again, the report year provided ample evidence that our knowledge helps government and the private sector to solve very complex issues. Our colleague Erik Ham appeared in twelve episodes of the television programme De Ondernemersclub, presenting TNO technologies which have been adopted by commercial companies and successfully brought to market. It is clear that our work enjoys great interest among the small and medium-sized enterprise sector, as demonstrated by the tenth Technology seeks entrepreneur ‘matching’ event held in Bussum. No fewer than 160 companies requested further information about one or more of TNO’s product ideas and applied to take part in the Small Business Innovation Research (SBIR) programme. Forty companies went on to submit a formal proposal. Having taken advice from the Technology Foundation STW, we invited nine applicants to conduct a full feasibility study.

In March, we attracted worldwide media attention with the launch of the first ‘SolaRoad’ cycle path, in the province of Noord-Holland. This is an innovative energy harvesting concept in which solar cells are incorporated into the road surface (see article on page 26). In November, the Minister of Economic Affairs, Mr Henk Kamp, announced that the QuTech Advanced Research Centre has been designated a ‘National Icon’. QuTech is a joint undertaking by TNO and TU Delft which seeks to involve high-tech industrial partners in the development of quantum computing. The report year also marked an important milestone: TNO has been contributing to innovative aerospace research for precisely fifty years.



Despite some market turbulence, we can state that 2014 was a financially successful year for TNO. Our clients were also positive, with satisfaction ratings even higher than in the preceding year.

In 2013, we established three spearheads of policy. The first was to reduce costs while increasing effectiveness. Measures were implemented almost immediately and were further refined or extended as necessary in 2014. These measures were seen as essential in order to compensate for the reduction in government funding and the decline in revenue from contract research. Wherever possible, modifications to operational procedures and other key aspects were made within the frameworks provided by the Strategic Plan 2015-2018. Unfortunately, a reduction in staff numbers was unavoidable. A key objective was to restore profitability following the loss recorded in 2013. We are pleased to report that the TNO organization, including its operating companies, closed 2014 with a positive result of 8.8 million euros.



Our second spearhead was to establish an efficient, functional organizational structure. This would entail optimizing methods and procedures, while also preparing to adopt a new strategic course based on five key themes or 'transitions'. The new organizational structure was formally implemented on 1 September 2014. All existing processes and procedures were subject to careful scrutiny, whereupon action has been taken to increase the efficiency and effectiveness of the organization yet further. The relevant activities fall within the scope of the TNO-wide 'Process Simplification' programme and will continue throughout 2015.

A system of 'team coaching' has been introduced with a view to achieving an immediate improvement in operational processes. The approach enjoys wide support within the organization. It has strengthened contact and communication between staff, inspiring us to pursue further improvements in 2015.

Our third spearhead involved the formulation of a new Strategic Plan for TNO to cover the period 2015-2018. Dialogue with various external stakeholders confirmed that the work which TNO performs to resolve major societal challenges is seen as extremely relevant. It is in this sphere that TNO, alongside its various public and private sector parties, can make a real difference. Accordingly, we consider it appropriate to maintain our focus on five social transitions, which therefore form the main themes of our strategy and activities:

- INDUSTRY: from economic stagnation to growth in high-tech industry
- HEALTHY LIVING: from disease and care to health and lifestyle
- DEFENCE, SAFETY AND SECURITY: from diverse threats to manageable risks
- BUILT ENVIRONMENT: from the problems caused by urbanization to vital city regions
- ENERGY: from conventional fossil fuels to sustainable energy systems based on renewables.

We achieve even greater focus by selecting between three and six specific topics within each transition, giving a total of 22 topics. We are now developing a 'roadmap' for each topic which will state ambitions and set out the general course by which they are to be attained. As the ambitions are refined, it will become possible to formulate the activities required during the strategy period.

In mid-2014, the strategic plan Trends, Transitions, TNO was submitted to the Minister of Economic Affairs. In his initial response, the minister endorsed the choices made and noted with satisfaction that the plan is entirely in keeping with the strategic framework of the TO2 federation which he had received some weeks earlier. In this document, the TO2 partners (NLR, DLO, Deltares, ECN, Marin and TNO) state the intention of intensifying their cooperation and presenting 'a united front'.

TNO's most important asset is its personnel. We strive to maintain a vital staffing establishment, in which inflow, throughflow and outflow are in balance. We consider it important to recruit and retain staff of the right calibre, whereby there must be opportunities and incentives for personal development. One of the means by which we show appreciation for top talent is the 'TNO Excellent Researcher' award, presented annually to a young member of staff who has been responsible for noteworthy achievements in his or her discipline. In 2014, we were proud to present the award to Karin van Thienen-Visser in recognition of her extremely relevant research in seismology. We were also able to strengthen our knowledge position yet further with the appointment of five new professors. Partly as a result of the new organizational structure, the report year saw many staff taking up new positions within the organization. This 'throughflow' allows employees to pursue their career ambitions, while also creating opportunities for change in the interests of efficiency and effectiveness. Even the 'outflow' of staff represents personal opportunity. During the report year, a number of our colleagues opted to continue their research within another



public or private sector organization. Others chose the route of enterprise and established their own companies, some with the assistance of TNO Bedrijven B.V. but all with the benefit of TNO knowledge.

We are proud to report that HM King Willem-Alexander of the Netherlands has been pleased to invest our colleague Frank van den Bogaart as a Knight in the Order of Oranje-Nassau. Frank received this prestigious honour for 'services to defence' and in particular his work in radar research.

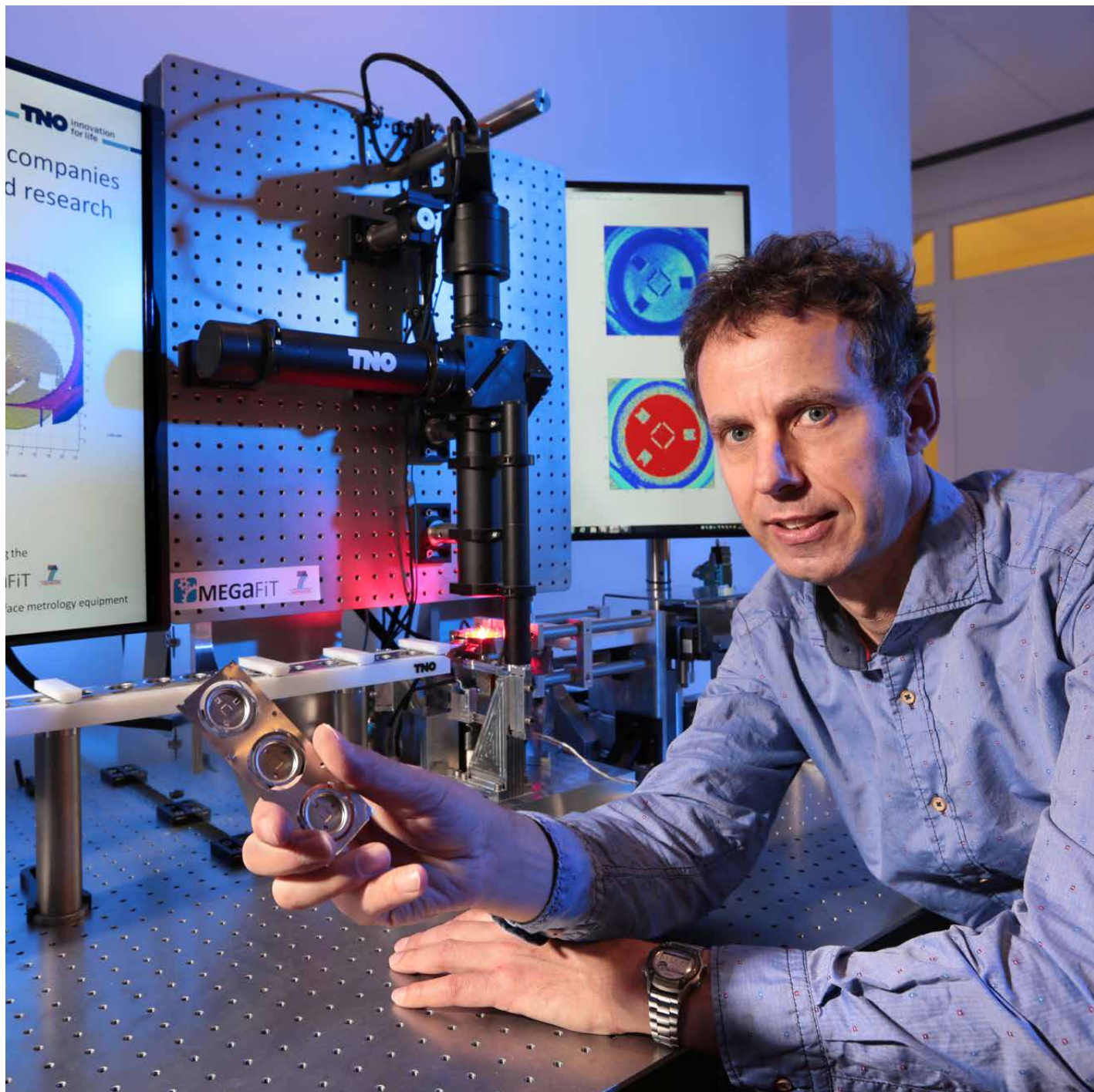
Following the departure of Jan Mengelers as Chair of the Board of Management in early 2014, we were extremely pleased that Jan Willem Kelder agreed to postpone his planned retirement in order to safeguard the continuity of the Board until the new

members had familiarized themselves with the organization. He eventually passed the chairman's gavel to Paul de Krom on 1 March 2015. We wish to thank Jan Willem for having filled the role in such an engaged and constructive manner.

As we have come to know TNO and its partners during the past year, we have learned about the valuable contribution that this organization has made to society over the course of many decades. It continued to do so in 2014 and we wish to acknowledge the sterling efforts of everyone concerned. TNO is an organization in which we can all take pride. The Board of Management therefore intends to devote much energy to strengthening TNO's position as a prominent feature of the 'innovation landscape' in which partnerships grow and flourish, and results with real impact are harvested.



From left to right: Wim Nagtegaal, Jos Keurentjes, Paul de Krom (Chair, Board of Management per 1 March 2015), Cis Marring, Jan Willem Kelder (Chair, Board of Management until 1 March 2015).



3D-SENSOR ENSURES ERROR- FREE PRODUCTION

'I am always excited to see a TNO innovation with real impact. That is certainly true of our 3D sensor, which maximizes the efficiency of production processes and virtually eliminates wastage.' System engineer Rob Snel has played a key role in the development of the 3D sensor. It is one of the products of the European MEGaFIT project, on which fifteen partners including Philips and Siemens worked from 2012 until the end of 2014.

MEGafIT stands for "Manufacturing Error-free Goods at First Time". 'It's all about completing the quality cycle,' Rob explains, 'whereby we apply a feedback system to reduce the wastage when die-cutting products or components from metal sheets. The 3D-sensor is essential to the project. It can measure two components a second to an accuracy of one micrometre: the thousandth part of a millimetre. The data is immediately fed back to the die-cutting machine. Any errors are corrected immediately so that the next components are guaranteed to be within extremely fine tolerances. This avoids the need for "reworks" and eliminates unnecessary wastage.'

The 3D sensor is roughly the size of a 1.5-litre bottle. It is fitted 'in line' to the die-cutting machine itself and despite the vibrations can measure components with astonishing accuracy, doing so a thousand times more quickly than the systems it will replace.

Rob Snel is now in talks with a Dutch company interested in producing the 3D sensor on a commercial basis. 'They will also undertake the marketing and maintenance programme. Our sensor is not a standard product but can be customized for various industrial processes. In partnership with the prospective manufacturer, we have already approached various companies in the automotive, steel and semi-conductor industries, as well as manufacturers of consumer articles and medical products.'

The 3D sensor and the entire MEGaFIT project are part of the "Smart Industry" programme. 'Full details of the programme can be found at the website www.smartindustry.nl,' Rob continues, 'but in a nutshell it aims to strengthen Dutch industry and the national economy by applying state-of-the-art IT and sensor technology wherever possible. This will enhance efficiency, flexibility and quality, and will allowing manufacturers to offer 'tailor-made' products. Now do you understand why I am so excited about the 3D sensor?'

REPORT OF THE TNO SUPERVISORY BOARD

TNO is a semi-public organization established by Act of Parliament. As such, it is expected to maintain an independent position while bringing knowledge and people together. Applying an objective approach, TNO develops practical innovations which will benefit society, industry and the economy.

TNO is an organization established by Act of Parliament. As such, it is expected to maintain an independent position while bringing knowledge and people together. Applying an objective approach, TNO seeks and develops practical innovations which will benefit society, industry and the national economy. The Dutch government's innovation policy is given form and substance by the Top Sector structure, overseen by the Ministry of Economic Affairs. Within the various 'top sectors' – those identified as being of particular significance to the national economy – various Top Consortia for Knowledge and Innovation (TKIs) have been formed. TNO takes an active role in administering several important TKIs.

The TNO Strategic Plan 2015-2018, as ratified by the Supervisory Board, was submitted to the Minister of Economic Affairs in March 2014. In July, the Strategic Plan was formally approved by the minister and passed to the House of Representatives for information and comment. The plan establishes the framework for TNO's innovative research during the four-year period concerned, whereby the organization acts as the 'connecting tissue' of the innovation ecosystem. The government acknowledges that both the level and sources of TNO's income are changing, and has therefore called upon the organization to establish certain priorities within its research portfolio. The Supervisory Board holds regular discussions with the Board of Management, and has provided all possible assistance in making the choices made necessary by the implementation of the Strategic Plan, whereby the organizational structure of TNO must be adapted accordingly.

In 2014, TNO received less direct government funding than in preceding years. Partly due to the global economic situation, TNO's market revenue (from contract research) did not fully compensate for this reduction. In view of the current difficult situation, the Supervisory Board has devoted considerable attention to the organization's financial performance and measures have been implemented to establish a stronger financial footing. Attention was also devoted to quality assurance in the primary processes and to risk management. The initial steps towards the implementation of an audit function have been made. The Supervisory Board is gratified to note that both the financial manageability of the organization and reporting procedures have been greatly improved.

Kees van Dijkhuizen stepped down from the Supervisory Board during the report year and was succeeded by Jolanda Lamse-Minderhoud. We are extremely grateful to Kees for his acute insight and expert financial advice, and we consider ourselves most fortunate to be able to call upon the financial expertise and vast experience of Ms Lamse-Minderhoud. Ingrid Faber was reappointed to the Supervisory Board for a second term. The Board is very pleased that she will be able to contribute her practical knowledge and skills for a further five years.

The Supervisory Board also welcomes the appointment of Paul de Krom as chair of the Board of Management, following an extensive search and recruitment process. The members of the Board of Management are appointed on the basis of

their background and expertise in various spheres, such as commerce and strategy, scientific research, financial management and operational management. Paul de Krom assumed the chair on 1 March 2015, succeeding Jan Willem Kelder who had been acting chairman since 1 March 2014. We are extremely grateful to Mr Kelder for having filled the position in a manner which engendered such support and unity of purpose.

The performance of both the Supervisory Board and the Board of Management is subject to annual appraisal.

The Supervisory Board likes to hold each of its meetings at a different TNO location. During our visits to the various units and divisions in 2014, we were once again able to view some extremely diverse and inspiring innovations, from a satellite climate observation instrument to a new type of road surfacing material. We wish to record our admiration for the expertise and commitment of all TNO staff, whose passion for their work continues to strengthen the role and position of the organization.

Kees Linse,
Chairman of the Supervisory Board

REPORT OF THE TNO COUNCIL FOR DEFENCE RESEARCH

› The Council for Defence Research (RDO) determines policy for all defence-related activities undertaken by TNO. The cornerstone of that policy is the strategic partnership between TNO and the Ministry of Defence. To achieve its ambition of having an effective and efficient security presence, the ministry must be able to apply technological innovation to support the armed forces and create adequate military capacity.

This demands scientific support in a wide range of knowledge and technology disciplines. Some disciplines are so specific to defence that it falls to the ministry itself to ensure that the necessary knowledge is available. In the interests of synergy and efficiency, however, most defence-related research is conducted by TNO in close collaboration with government, the private sector and other research institutes: the so-called 'golden triangle'. TNO's involvement dates back to 1947. Our work for other clients in the domain of defence and security broadens and deepens our knowledge base, whereupon our expertise remains affordable for the government. Defence, national security and public safety are closely interrelated areas: TNO straddles them all.

The events of 2014 once again demonstrated that the world faces many threats, some closer to home than many had thought possible. The importance of maintaining a defence capability is widely acknowledged. Our country needs professional service personnel with a full range of skills and competences, who can be deployed on missions of various types, and who are able to respond effectively to unpredictable conflict situations (as described in the government's most recent Defence Policy Memorandum). In the realm of national security, maintaining a safe and stable society is one of the 'grand societal challenges' formulated at European level. TNO helps to rise to this challenge by contributing knowledge, technology and innovation. As partner to the Ministry of Defence, we are constantly examining ways in which research

and innovation can help those who protect society to address emerging threats.

The organizational and management structure of TNO's defence activities was modified in 2014. By bringing the relevant departments together in two clusters, we have pooled our expertise more effectively. The result is a stronger organization which is able to meet our stakeholders' requirements. Two departments - Structural Dynamics and Information Security - no longer form part of the TNO defence arm but their work for the Ministry of Defence will continue uninterrupted.

One of the recommendations of the 2013 evaluation of governance and management arrangements was that the consultation structure between TNO and the government, and in particular the Ministry of Defence, should be streamlined. In the new structure designed by the RDO, the Council itself has fewer members but will of course maintain all statutory rights and responsibilities as assigned by the TNO Act. At the same time, the Strategic Advisory Council on Defence and Security has been expanded to include representatives of the Ministry of Defence, and will in future advise the RDO on matters of a practical nature.

The accommodation plans for the defence division premises in Rijswijk, Ypenburg and The Hague, finalized in December 2013, are now being implemented and good progress is being made. The programme includes construction and renovation work with a total value of 42 million euros. Our new premises within the

Hague Security Delta (HSD) complex will include a 'cyberlab' for security-related research, complementing the defence lab in Waalsdorp. Rijswijk's status as a 'designated lab' of the Organization for the Prohibition of Chemical Weapons OPBW has been renewed.

Numerous innovative, high-impact projects were undertaken in 2014. The current long-term research programmes are sowing the seeds for future impact, while the strategic knowledge investments of the past provide the basis for today's applied research projects. Projects concerned with defence and security are conducted in association with the Ministry of Defence, the Ministry of Security and Justice and private sector organizations. Many are part of flourishing international cooperation programmes, or are undertaken as contract research projects for government and private sector clients at home and abroad. Examples include the investigation of the MH17 air disaster, the development of a revolutionary new inertial navigation system, the development of a 'virtual pilot' in association with the National Aerospace Laboratory (NLR), and research into materials which can protect vehicles against roadside IEDs (improvised explosive devices).

Much of our research is notable for its direct operational relevance to the armed services or security forces. The topics covered are extremely varied, from long-term absenteeism among police officers to terrain simulations for the peace-keeping mission in Mali. We provide support during large-scale training exercises, and TNO staff have been deployed to the United States as members of the F-35 fighter aircraft test team. We have developed systems which allow security officers at Schiphol Airport to identify suspicious behaviour, and a tool which allows the navy to simulate shooting exercises at sea. We have worked on a 'smart vest' for ground forces, a sonar training system, and a costing model for psychosocial care for personnel returning from overseas deployment. The award recently presented to TNO by the Chief of the Defence Staff as 'Reservist

Employer of the Year 2013' symbolizes our close connection with operational practice.

The Council for Defence Research
Wim Nagtegaal, Chair

› The term corporate governance refers to the structure and management of an organization, whereby there must be effective direction and supervision to ensure that all activities are conducted in a responsible, accountable and transparent manner. With a view to ensuring integrity and transparency, TNO has a Code of Conduct, a formal complaints procedure and a 'whistleblower' scheme.

THE TNO BOARD OF MANAGEMENT

The Board of Management is responsible for the day-to-day management of the TNO organization, and for defining and pursuing the corporate objectives, policy, strategy and results. As stipulated by the TNO Act, the Board works according to a set management model whereby the members have joint and collective responsibility for the Board's decisions and actions. In addition, each member has a specific area of individual responsibility: commercial, strategic, scientific, operational or financial.

MEMBERSHIP OF THE TNO BOARD OF MANAGEMENT

The Board of Management comprises four members who are appointed by the Crown. Ms Cis Marring, Mr Jos Keurentjes and Mr Wim Nagtegaal took up their current appointments with effect from 1 February 2014. Mr Jan Mengelers relinquished the chairmanship of the Board with effect from 1 March 2014 and was succeeded by Jan Willem Kelder (as acting chairman). Having completed the selection procedure for a new chairman as prescribed by the TNO Act, and following due consultation with the Works Council, the Supervisory Board submitted its nomination of Mr Paul de Krom to the Minister of Economic Affairs on 1 December 2014. A Royal Decree confirming this appointment was passed with effect from 1 March 2015, on which date Jan Willem Kelder was granted discharge.

THE TNO SUPERVISORY BOARD

The Supervisory Board oversees the policy and performance of the Board of Management, to which it provides advice

as appropriate or necessary. Its supervision relates to the achievement of the objectives and Key Performance Indicators, strategy, production and adherence to the Annual Plan (including investments), financial reporting and compliance with all extant legislation. The TNO Act establishes the Board of Management decisions which require the approval or consent of the Supervisory Board. The performance of the Board of Management is subject to annual appraisal by the Supervisory Board, as is that of the Supervisory Board itself.

The Supervisory Board has established two committees: the Selection and Remuneration Committee and the Audit Committee, both of which are formed from among its own number and are charged with responsibilities defined by the Supervisory Board itself. The Selection and Remuneration Committee is concerned with matters of Human Resources, while the Audit Commission allows the Supervisory Board to discharge its statutory responsibility for financial management and to strengthen risk management procedures. Standing Orders have been produced for both committees, which are also referred to within the Standing Orders of the Supervisory Board.

The Supervisory Board held five regular meetings during 2014, each at a different TNO location. There were an additional five closed meetings and on two occasions members of the Board attended Works Council meetings. The Supervisory Board convened twice to discuss the Strategic Plan 2015-2018. The Selection and Remuneration Committee held two scheduled meetings. The Audit Committee held two scheduled meetings and a further extraordinary meeting to discuss the organizational structure and the appointment of a new chairman

of the Board of Management. Committee members maintained contact at other times, as necessary.

The Supervisory Board approved the 2013 financial statements on 19 March 2014, formally discharging the Board of Management for its management and policy in 2013.

MEMBERSHIP OF THE SUPERVISORY BOARD

The Supervisory Board comprises seven members. Kees van Dijkhuizen's second and final term of office expired on 1 November 2014. Jolanda Lamse-Minderhoud was appointed to the Board on the same date. Ingrid Faber's first term of office expired on 1 October 2014 whereupon she was reappointed for a further five years.

STANDING ORDERS

The Standing Orders of the Board of Management, Supervisory Board and Strategic Advice Councils, together with the Mandate document, form the statutes of the TNO organization, referred to elsewhere as the 'TNO Regulation'. The Mandate document defines the authority of the various officers in order to ensure that an effective system of 'checks and balances' is in place. It further requires the external auditor to assess compliance with the mandate on an annual basis. TNO applies a risk inventory system based on a risk matrix. TNO holds full ISO 9001 certification. TNO and its designated governance officers are registered with the Chamber of Commerce, as required by law.

ACCOUNTABILITY

In accordance with the provisions of the TNO Act, the Board of Management is required to account for the organization's use of government funding before the resources are allocated, doing so in the Strategic Plan (covering a period of four years) and the annual budget presented to the Minister of Economic Affairs. Under the Act, the Board of Management must also provide accountability to the minister by submitting the Annual Report and financial statements for the preceding calendar year. All documents are subject to approval by the Supervisory Board.

The Strategic Plan 2015-2018 was submitted to the Minister of Economic Affairs in March 2014. In July, the government's positive response was forwarded to the House of Representatives. Since May 2014, TNO has been subject to the Rules of Conduct for T02 Organizations, as stated in the government policy document, Visie op het toegepaste onderzoek ('Vision on Applied Research').

TNO is the sole (100%) shareholder in TNO Bedrijven B.V., the holding company under which various operating companies fall. To ensure an effective separation of interests between TNO and TNO Bedrijven B.V., their governance arrangements and operations have been brought under different legal entities. The status of TNO Bedrijven B.V. as a 'two-tier' limited liability company with its own Supervisory Board means that TNO's influence as shareholder is limited. For this reason, the following remarks refer solely to the TNO organization itself and exclude TNO Bedrijven B.V. It should however be noted that TNO, as majority shareholder in TNO Bedrijven B.V., produces a consolidated balance sheet.

The financial statements are accompanied by an auditor's statement verifying their accuracy and reliability, issued by an external accountant appointed by the Supervisory Board. The accountant, KPMG, was retained in 2011 for a period of five years, with the option of two one-year-extensions. The accountant also performs a separate audit to ascertain the legitimacy of claims to government funding and the use of such funding, in accordance with the audit protocol agreed between TNO and the Ministry of Economic Affairs.

The Hague, 18 March 2015
for the TNO Supervisory Board,
Kees Linse, Chair



HOW HARD ARE THE BUILDINGS SHAKING?

‘The province of Groningen has experienced several earth tremors in recent years. Both the frequency and intensity of the tremors are increasing’. According to mechanical engineer Marc Hamburg, senior project manager on TNO’s NAM Monitoring Network project, the effects of the tremors on homes and other buildings remain largely unknown. ‘How hard does a house actually shake during a tremor? How much damage is caused, if any? We can gauge the effects by placing vibration sensors close to the foundations of the houses, and by monitoring their physical state of repair.’

The tremors are the result of subsidence caused by gas extraction activities. The company responsible for those activities is NAM, which commissioned TNO to begin installing the sensor network in early 2014. ‘We have now placed sensors under 180 houses and twenty public buildings within a radius of fifteen kilometres around Loppersum, together with the specially designed IT infrastructure. The readings from the sensors are automatically transmitted to our data centre, and we also inform residents of the findings. They can then see for themselves what effects an earth tremor has had on their property.’

If there is a tremor measuring 2.5 on the Richter scale anywhere in the region, a TNO employee will visit every building which has been subject to vibrations exceeding the threshold value at which physical damage is likely to occur. He then inspects and carefully records any damage to the property. Four earth tremors were recorded between the start of the project and mid-January 2015.

Homeowners take part on a voluntary basis. ‘They attach much importance to TNO’s independence and impartiality. We communicate as openly as possible and try to give as much information as we can. We also listen to what people tell us – that is very important. So far we have held two information meetings and of course we had close contact with residents while we were installing the sensors. We intend to remain in close contact to maintain support for the monitoring project.’

KEY FIGURES

TNO's total consolidated revenue in 2013 was 526 million euros, of which approximately one third (171m) was in the form of direct government funding to support the development of new knowledge (see Figure 1). The allocation of this amount between Cooperative Research (SMO), Enabling Technology Programmes (ETP) and Task Financing is shown in Figure 2.

The market revenue of 355 million euros represents income of 253 million from contract research by the TNO organization, whereby knowledge is based on the distinctive position that TNO has been able to establish further to its demand-led research programmes. Figure 3 shows the relative importance of the sources of market revenue: Dutch industry (33%), international (43%) and the Dutch government (24%). The remainder of the market revenue, 113 million euros, was derived through knowledge exploitation by the operating companies of TNO Bedrijven B.V., of which there are approximately forty. This is therefore the consolidated revenue of all group companies in which TNO holds a majority shareholding of over 50%. Knowledge exploitation activities are not eligible for government funding and have therefore been brought within a separate legal entity with limited liability status. Most operating companies were formed as a 'spin-off' or 'spin-out' of TNO's research activities.

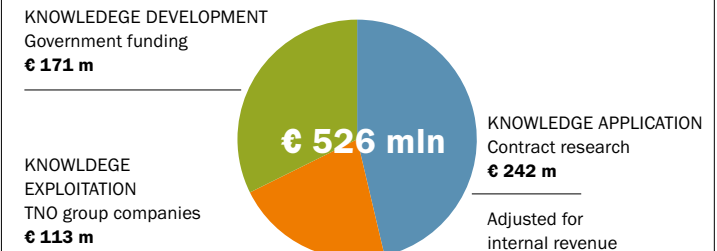
The consolidated international revenue of the TNO organization and TNO Bedrijven B.V. fell to 151 million euros in 2014.

1. GECONSOLIDATED REVENUE TNO 2014 (€ 526 miljoen)

incl. TNO group companies

Consolidated revenue of group companies (>50% holding)

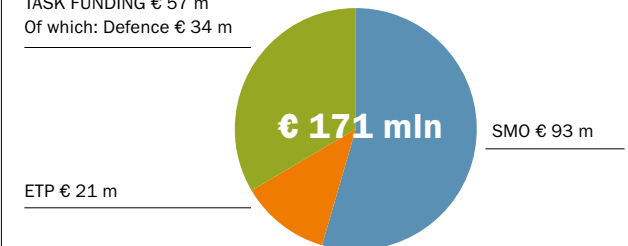
2014 = € 113 million



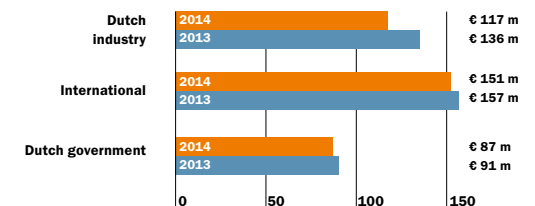
2. ALLOCATION OF GOVERNMENT FUNDING (€ 171 million)

TASK FUNDING € 57 m

Of which: Defence € 34 m



3. CONSOLIDATED MARKET REVENUE 2014 (€ 355 million)





REPLACING THE F-16

'It's something that happens only once in your working life, says Dolf Bos. 'After over fifteen years of deliberation, the government has decided that the F-16 is to be decommissioned and replaced by the American F-35 fighter.' Bos was project leader of TNO's 'Support in the replacement of the F-16' project. He and his 'wingman' Bram Visser have recently been seconded to the Royal Netherlands Air Force and are now in southern California, where two F-35s purchased by the RAAF are stationed at Edwards Airbase. Four Dutch pilots trained in America will test both aircraft over a period of five years.

For several years, TNO has supported the Ministry of Defence in its preparations for the replacement of the F-16. 'We have conducted two large-scale comparisons of the various alternative aircraft, as well as environmental noise assessments for a scenario in which the engines are tested following maintenance. We also produced a full lifetime costs analysis for the F-35.'

A new back office is being set up at TNO in The Hague. Its staff will provide support to the first operational tests in America and will eventually assist the RAAF's in its adoption of the F-35. Two simulation environments are under development. One will provide support in logistics and maintenance, while the other is concerned with matters of tactics and procedures. Missions can be planned and practised in advance. 'So far, the F-35 has only been tested by the manufacturer. The RAAF must determine whether the weapons system meets all its operational requirements. By taking part in the tests in America, we can refine the mission scenarios and ensure that the simulations are up to date.'

Dolf Bos and Bram Visser will assist the RAAF during the operational testing at Edwards Airbase. 'The F-35 is the most advanced fighter aircraft in the skies,' says Bos. 'As an aviation engineer, I really want to be involved.'

ORGANIZATION AND SETTING

- › TNO connects people and knowledge to create innovations which will ensure the competitive strength of industry and the wellbeing of society. That is our mission, one which has enabled us to forge close ties with over three thousand like-minded organizations at home and abroad.

MISSION AND STATUTORY TASKS

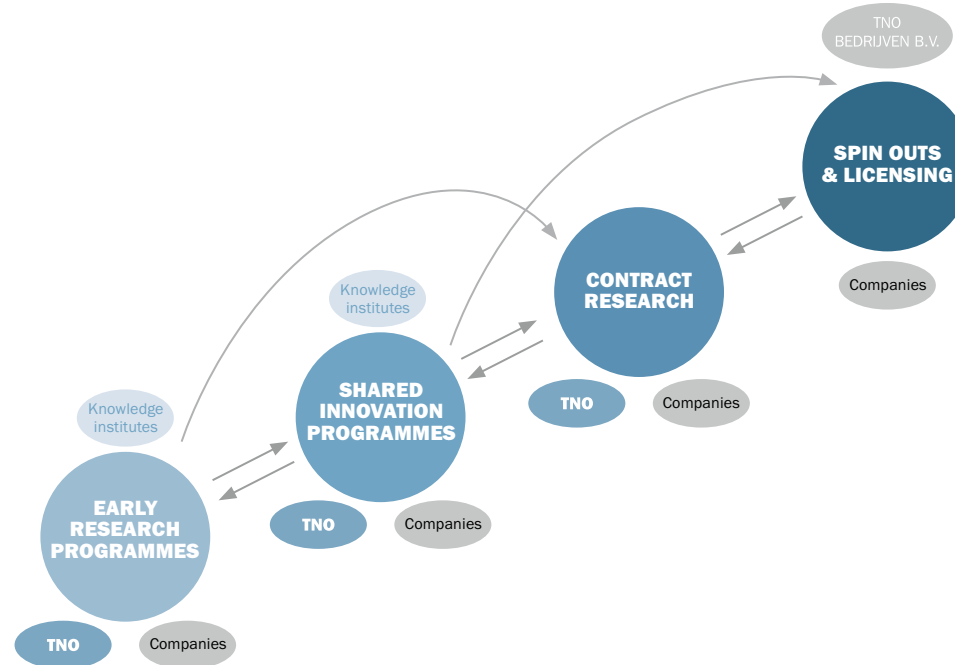
From knowledge development to valorization, from early research funded entirely by the government, through research alongside partners ('shared innovation') to contract research financed clients, and finally valorization by means of spin-outs and licences. See figure below.

We have developed special activities and programmes for the small and medium-sized enterprise sector (SME), since it is here that greatest growth in employment opportunity and innovation is likely to be seen. We address the needs of the developing countries within our TNO4AID programme.

The government delegates certain knowledge-intensive tasks to TNO, whereby the relevant activities are undertaken further to consultation with the Council for Defence Research, the Ministry of Economic Affairs and the Ministry of Social Affairs and Employment.

THE INNOVATION LANDSCAPE

On 2 July 2014, the Minister of Economic Affairs submitted the government's response to the TO2 strategic framework to the House of Representatives. TO2 is the federation of six Dutch knowledge organizations which specialize in applied research. They have combined their strengths to offer even greater added value. The main purpose of the strategic framework is to demonstrate the contribution that the knowledge institutes can make by using open innovation models in partnership with the private sector, government and the societal midfield. In its response, the government congratulates the TO2 federation for having produced the joint strategic framework. The government acknowledges the important role that the TO2 organizations play as providers of multidisciplinary solutions to address the challenges facing society, and which strengthen the innovative ability of industry. In 2014, the Ministry of Education, Culture and Science (OCW) issued the policy document 'Science Vision 2025' which sets out the course to be taken by Dutch knowledge institutes over the years ahead. It further announces



the production of a National Research Agenda, a process in which TNO will be closely involved alongside the other T02 partners.

EUROPE

In December 2013, the European Commission opened the first calls for the new Horizon 2020 framework programme, under which a total of 78 billion euros in research funding is to be made available over a seven-year period. Of this, approximately €15 billion is to be allocated to cover the period 2014/2015. The programme has a number of focal points: pure and applied research ('science for science'), various societal challenges ('science for society') and industrial leadership ('science for competitiveness'). TNO has set the objective of maintaining its significant contribution to the European research programme, despite increasing competition, and therefore welcomes the matching arrangements announced by government. The European Institute of Innovation and Technology (EIT) has now announced the winners of the 2014 Calls for Knowledge and Innovation Communities (KICs) in Health and Raw Materials. TNO is represented in both successful consortia, whereby we are the only European knowledge institute to be taking part in all five KICs¹ formed thus far. We see this as illustrative of our ability to innovate and connect.

¹ Climate; ICT-labs; Inno Energy; Health; Raw Materials



The 5 themes and 22 roadmaps

PREPARATIONS FOR THE STRATEGY PERIOD 2015-2018

The production of a strategic plan entails the periodic reassessment and refinement of the knowledge portfolio. During the most recent strategy period, TNO saw a decrease in its direct government funding. The assessment made in 2014 therefore prompted a reduction in the number of key themes, from seven to five.

In each theme, between three and six 'roadmaps' have been developed, giving a total of 22 roadmaps which set out the challenges, ambitions and activities involved. They allow us to set 'a point on the horizon', describing the route by

knowledge investments required and the potential partners who can help us on the way. The roadmaps reflect a clear need for new solutions in a world in which TNO can offer significant impact. They are not 'set in stone'. The roadmaps are living documents which have been produced in consultation with our stakeholders and which can be adapted in line with changing circumstances. The new strategy places a strong emphasis on cooperation. The complexity of the societal challenges demands long-term collaboration with various public and private parties, including the T02 partners, industry, government and universities.

STAKEHOLDERS

Many of our external stakeholders are represented on the Strategic Advisory Councils. Each theme has its own Strategic Advisory Council, made up of prominent figures from industry, government and the knowledge infrastructure. Members are appointed by the Board of Management on the recommendation of the theme directors. The input of external stakeholders is relevant for several reasons. A full list of the councils and their members can be found on page 87. In addition to our ongoing contact with representatives of industry, in 2014 we held talks with many national and local politicians, including members of

parliament and their faction leaders, as well as representatives of the Ministry of Economic Affairs and the Ministry of Education, Culture and Science. These talks were concerned with a wide range of topics, including our activities for the SME sector and potential solutions to various national and regional societal challenges. We further engaged in discussions with numerous organizations within the (applied) knowledge domain, including the TO2 partners, universities, the Scientific Council for Government Policy (WRR), the Rathenau Institute, the Royal Netherlands Academy of Arts and Sciences (KNAW), the Association of Universities in the Netherlands (VSNU), the Netherlands Organization for Scientific Research (NWO), the Confederation of Netherlands Industry and Employers (VNO-NCW) and the Netherlands Association of Universities of Applied Sciences.

QUALITY MANAGEMENT

The TNO quality policy focuses on five key aspects:

1. Satisfied clients, assessed using surveys and audits, the results of which are discussed by the Board of Management and Supervisory Board.
2. Satisfied staff, assessed by means of the regular Staff Satisfaction and Engagement Survey.
3. Excellent knowledge position, assessed using Knowledge Position Audits (KPA's).
4. Healthy operations, assessed

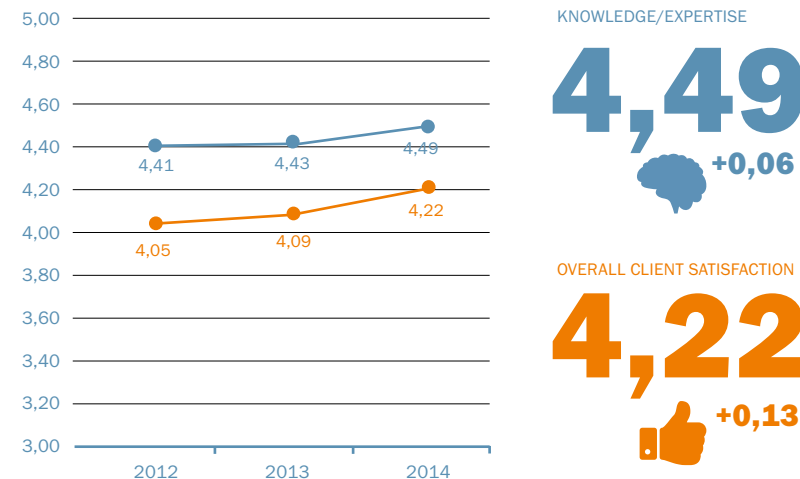
using the Impact Score Card method, with results discussed at senior management level on a quarterly basis.

5. Ongoing improvement of organizational performance, assessed by means of management assessments, the regularly updated TNO-wide risk analysis matrix, and performance management activities designed to promote personal and professional development.

TNO has held full ISO 9001 certification for several years, while certain departments and activities are subject to additional quality regimes (e.g. AQAP-2110 and ISO 17025) to ensure compliance with clients' specific wishes and requirements.

SAFETY IN THE WORKPLACE

In 2012, we commenced the process of integrating Health & Safety and Environmental Management policy in order to standardize methods and procedures throughout the TNO organization. This is seen as necessary in view of the enormous diversity of the research projects. An annual audit is undertaken to ascertain compliance in terms of quality, working conditions and environmental management. Any shortcomings will prompt immediate action, such as the production of standard instructions for the storage and administration of chemicals. The Risk Inventory and Evaluations (RI&E) for most locations were updated in 2014; this process will continue in 2015.



Since 2012, the portfolio of licences and permits for all TNO locations has been administered centrally. The tasks and responsibilities with regard to permits were reviewed and refined in 2014, and again this process will continue in 2015. Several locations now have an ADR safety advisor who is responsible for overseeing the receipt, transport, storage and handling of hazardous (waste) materials. A registration system for hazardous substances was implemented throughout the TNO organization in 2014, as was a new system for safe handling and disposal of chemical and biomedical waste. The crisis management system and procedures have been standardized, and all staff have been given training to ensure an adequate response in any emergency situation. Ongoing training is also used to promote safety awareness among staff, including the location managers and

prevention officers.

In 2014, over half (60%) of key personnel completed training courses in the registration of chemicals, 90% in the new waste management system, and 95% in the transport of (hazardous) substances. Training in the registration and assessment of CMR substances (carcinogenic, mutagenic or toxic for reproduction) commenced in 2014 and will continue in 2015.

1. SATISFIED CLIENTS

Our clients' satisfaction with regard to the projects we conducted in 2014 shows an increase in all areas, with overall satisfaction rising from 4.09 to 4.22 (on a scale of 0 to 5).

The client satisfaction survey is conducted by an external agency which contacts randomly selected clients by telephone soon after the completion of the project

in question. The response rate is high: most clients are willing to answer the questions. If a client is not (completely) satisfied, we take immediate remedial action.

2. SATISFIED STAFF

Staff satisfaction and engagement are measured every other year by means of a survey conducted by an external agency. The results are transparent at team level and form the basis for improvement action where possible and appropriate. Fostering staff engagement is seen as an important aspect of TNO's operations and management approach.

12

VAN DE 20 GROEPEN WERKEN
LEIDEND OP INTERNATIONAAL
NIVEAU.



Expertisecluster	Expertise group	KPA score
Building Engineering & Civil Engineering	Structural Dynamics	7,5
Building Engineering & Civil Engineering	Structural Reliability	8
Fluid Mechanics, Chemistry & Energetics	Power Trains	7,5
Fluid Mechanics, Chemistry & Energetics	Fluid Dynamics	8,5
Fluid Mechanics, Chemistry & Energetics	Process and Instrumentation Development	7,5
Mechatronics, Mechanics and Materials	Integrated Safety	7
Physics & Electronics	Radar technology	8,5
Physics & Electronics	Intelligent Imaging	7,5
Physics & Electronics	Electronic Defence	7
Physics & Electronics	Acoustics and Sonar	8,5
Earth and Environment	Geomodelling	8
Earth and Environment	Sustainable Geo Energy	8,5
Earth and Environment	Petroleum Geosciences	8,5
Earth and Environment	Advisory Group for Economic Affairs	7
Earth and Environment	DINO	8
Organisation	Networked Organisations	8
Organisation	Human Behaviour & Organisational Innovation	8
Organisation	Work & Health	8
Organisation	Sustainable Productivity	8
Organisation	Safe & Healthy Business	7

3. EXCELLENT KNOWLEDGE POSITION

The knowledge positions of twenty expertise groups were assessed by external review boards in 2014. The results show that twelve of these twenty groups can be classed as international leaders. The remaining eight groups also operate at the international level. As autonomous entities they have significant influence but are not (yet) in a leading position.

The review boards were chaired by:

1. Prof. Theun Baller, Dean of Mechanical Engineering and Maritime Technology, TU Delft.
2. Prof. Philip Sutton CBE FREng, visiting professor of Science, Engineering & Technology Strategy, Department of Electrical & Electronic Engineering, Imperial College, London.
3. Prof. Jacob Fokkema, professor emeritus of Applied Physics, TU Delft.
4. Prof. Paul Schnabel, Utrecht University, former director of the Netherlands Institute for Social Research.



FIVE NEW PROFESSORS

Our knowledge position has been further strengthened by the appointment of five new professors. They are:

1. Jan van Erp, professor of Tangible User Interaction, TU Twente
2. Frans van Geer, professor of Methods for Soil and Groundwater Monitoring, Utrecht University
3. Gerwin Gelinck, professor of Large Area Flexible Electronics, TU Eindhoven
4. Annelies Huygen, professor of Regulating Energy Markets, University of Amsterdam
5. Marieke Martens, professor of Human Factors and Intelligent Transport Systems, TU Twente

4. ONGOING IMPROVEMENT OF ORGANIZATIONAL PERFORMANCE

TNO wishes to be a 'continuous learning organization' and the annual planning cycle devotes much attention to ongoing improvement. Input is provided by internal and external developments,

stakeholders, the results of staff satisfaction and engagement surveys, process monitoring (including internal audits), the TNO-wide risk analysis, etc.

Progress is monitored by means of business reviews and the annual assessments by senior management. In addition to the ongoing improvement process, individual projects are undertaken by 'improvement teams' or 'taskforces' formed to resolve problems which have been identified or to pursue new policy ambitions.

The aspects to which specific attention was devoted in 2014 include:

- implementation of the new TNO Code
- professionalization of project management
- increasing the efficiency and effectiveness of the sales process
- reducing work-related stress and absenteeism through illness (sick leave)
- strengthening the crisis management organization.

5. 'IN CONTROL' STATEMENT

The Board of Management regards the internal risk management system as an important component of the organization's operational effectiveness.

Risk management framework

TNO produces a strategic plan every four years. The strategy is re-examined annually to ensure that it remains current and appropriate. An Annual Plan and budget are produced each year. Progress in the

achievement of the stated aims is subject to monthly assessment. Various Key Performance Indicators are monitored, with performance assessed against norms and targets.

The administrative organization and financial processes are included in the external accountant's annual audit. Senior management is informed of the findings by means of a management letter. Improvement action is then taken as necessary. An annual risk analysis is also conducted. Changes in the nature or severity of risks are monitored on an ongoing basis, whereupon the analysis is updated as necessary. Risk management activities, including the updating of the analysis, are subject to regular discussion with the Supervisory Board's Audit Committee.

All staff work in accordance with the TNO Management System, which describes the primary, support, management and improvement processes by which TNO pursues its mission and objective, and the resultant division of tasks, rights and responsibilities. In particular, the Management System establishes protocols and procedures for mandating, information security, risk analysis and the risk management of projects, the compilation and administration of project dossiers, IP policy and knowledge development.

The Operational Excellence & Quality department performs regular compliance audits for all agreed procedures. Almost

all research groups will be subject to such an audit each year. There are also periodic external audits for the purposes of ISO certification and external reviews to ascertain the knowledge level of the various research groups.

Responsibilities and assessments

The Board of Management is responsible for the form, continuity and operational effectiveness of the internal risk management systems, the purpose of which is to ensure that the attainment of all operational and financial objectives is safeguarded to the greatest extent possible. However, the risk management system cannot guarantee the attainment of all objectives, and neither can it preclude all risks of material significance, such as loss, fraud or malfeasance.

Conclusion

The Board of Management is of the opinion that the risk management systems and procedures were adequately designed and implemented throughout 2014, and that they proved effective in practice. No incidents or indications which would undermine this opinion were noted during the report year.

› The mission of TNO Bedrijven B.V. is ‘impact and value creation through the valorization of TNO knowledge’, whereby this aim is pursued only where others are unable or unwilling to do so unaided.

The mission is based on the belief that innovations can only represent value when actually applied in practice, whether in the public or private sectors. Value creation is a time-consuming and difficult process. The preconditions of successful enterprise are proximity to the market, clear vision, perseverance and capital. The initiatives which are developed under the auspices of TNO Bedrijven B.V. fall into three categories: ‘Accelerators’, ‘Autonomous Companies’ and ‘Starters’. Accelerators are initiatives which link TNO knowledge directly with external commercial enterprise through innovation and development with a view to rapid valorization, i.e. they seek to ‘accelerate’ the time to market. Such initiatives represent long-term strategic added value, whereupon short-term maximization of profit is not a priority.

TNO Bedrijven B.V. creates an independent basis for TNO activities which have an element of commercial enterprise. The ‘Autonomous Companies’ focus on achieving robust operational capacity, financial stability and growth. Their strategy and management are geared towards maximizing revenue and profitability, whereby attention is devoted to planning the most opportune moment for sale to a third party. The ‘Starters’ are initiatives in which staff showing entrepreneurial talent are given the opportunity to set up in business using the intellectual property of TNO. Most Starters involve some cooperation with a market party, and in particular Yes!Delft in which TNO Bedrijven B.V. holds a participating interest.

The TNO Bedrijven B.V. companies which maintain a link with the five TNO transitions are listed on the right.

INDUSTRY

- CelSian Glass & Solar
- SoLayTec
- LDI Systems

HEALTHY LIVING

- CBO
- BATAVIA Bioservices
- Dariuz
- DUCARES
- SU Biomedicine
- TNO Management Consultants
- TNO Triskelion
- Value2Share
- Innoser Laboratories

DEFENSE, SAFETY & SECURITY

- APP
- HCSS
- ProQares

ENERGY

- EuroLoop
- Triple E Consulting
- Biodentify

BUILT ENVIRONMENT

- Delft Patents
- Efectis
- Prime Data
- TASS International
(and subsidiaries)
- TNO Diana
- Transport & Mobiliteit Leuven

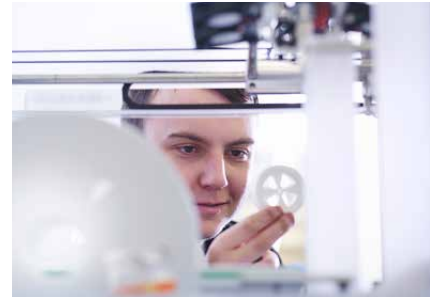
› Our impact can be seen within the five selected transitions.

DEFENSE, SAFETY & SECURITY



We work to create a safer society by developing innovations which will support the day-to-day work of service personnel, the police, emergency services and other security organizations, public and private.

INDUSTRY



We strengthen the competitive ability of industry with innovations in IT, products, processes and value chains, and by working alongside others to develop new and sustainable machines, instruments and concepts.

BUILT ENVIRONMENT



We contribute to innovations which will create and maintain a vital built environment. We work alongside various partners to solve the issues of today and create opportunities for tomorrow in terms of the liveability, accessibility and competitive ability of the urban regions.

HEALTHY LIVING



We initiate technological and social innovations which will promote a healthy lifestyle and create a vital society.

ENERGY



We support the energy transition through innovations which will ensure the sustainability, efficiency and security of energy provision.

INDUSTRY

The Netherlands has a strong industrial sector with many successful companies of all sizes. It also has an excellent IT infrastructure. This combination creates many opportunities. TNO helps the private sector to innovate by providing advanced knowledge in areas such as IT, sensor technology and robotics.

The past year was notable for the 'Smart Industry' programme, an initiative enjoying widespread support in which TNO worked closely alongside the FME business federation, the Ministry of Economic Affairs, VNO-NCW and the national Chamber of Commerce to make Dutch industry 'fit for the future'. We shall continue to strengthen the private sector by promoting the use of the latest technological developments to enhance efficiency, flexibility and quality. Robotics, sensor technology and 3D printing herald the dawn of the fourth industrial revolution. Dutch companies of all sizes are in an excellent position from which to become world leaders, thus achieving growth and creating employment opportunity.

Given the close interrelationship between ICT and 'smart' industry, expertise in Networked Information becomes part of the Industry theme within our

new strategy. Networked Information embraces aspects such as 'big data', the Internet of Things, and complex systems or equipment which form the interface between the physical and the virtual worlds.

In November 2014, we presented the Smart Industry Action Plan to the Minister of Economic Affairs. It sets out what must be done if the Netherlands is to take full advantage of the opportunities created by the ongoing integration of ICT and production processes. Our ambition is to strengthen industry, allowing it to achieve further growth and to create new jobs.

'Field labs' play a prominent role in the Smart Industry Action Plan. TNO is involved in the ten field labs now being set up in various sectors and in various parts of the country. Here, companies and knowledge institutes work closely together to develop, test and implement state-of-the-art solutions. We are moving towards the 'smart factory' with intelligent, efficient, clean and error-free production processes. TNO has already gained valuable experience working with fellow knowledge institutes and private sector companies in two field labs: Holst (polymer electronics) and Solliance (solar energy).

A significant milestone was reached in 2014: TNO has been contributing innovative knowledge to the aerospace sector for precisely fifty years. We do

so in close cooperation with the Dutch manufacturing industry. Satellites orbiting the planet carry precision instruments to monitor air pollution and climate change with extreme accuracy. Those instruments are the product of TNO knowledge and innovation.

HEALTHY LIVING

As the average age of the population rises, so does demand for health care services. Prevention, quality and affordability are the main challenges facing our health care system. A new approach is needed, in which the focus is on participation, health and wellbeing rather than on illness or disability. Technological and social innovations will allow people to live independently for longer.

TNO is responsible for a broad range of innovations intended to promote and protect the health of young and old alike. The emphasis is on prevention and participation. Following extensive research, for example, we have determined how weight loss in breastfed infants may be a risk indicator, and have devised a simple measurement system to prevent adverse health impact. We have developed user-friendly apps which enable parents and professionals to identify any abnormalities in a child's

height, weight or BMI at an early stage. Alongside partners in the health care sector, we have developed initiatives to provide oral care for children as young as six months, while also improving the dental and oral health of their parents.

TNO brings together various partners in order to implement or accelerate innovations. We have achieved good results in projects such as 'Physical Activity in the Neighbourhood', 'One Family One Plan' (1G1P) and 'From Healthy Kids to Fit Adults'. Our work has helped to promote vitality and healthy eating habits. It has countered bullying at school, and has allowed the elderly and infirm to live independently in their own homes for longer.

During the report year we made significant progress in developing food production techniques using 3D printing technology. This work involves a unique collaboration between the industrial experts, microbiologists and nutritional experts of TNO and their counterparts in the private sector. In association with the national Diabetes Fund, we have developed a unique, non-intrusive method of monitoring blood glucose levels. Sore fingers from pricking blood several times a day will soon be a thing of the past.

Many health problems can be prevented by maintaining good intestinal microbiota, or 'gut flora'. We have

developed a model for microbiota research, based on a technique devised by the Hubrecht Institute in Utrecht known as 'mini-guts'. The model will enable the food industry to develop innovative products to which prebiotics and probiotics are added to promote health, doing so more quickly and more cost-effectively. It will also enable the pharmaceutical industry to develop more effective drugs. Moreover, in vivo animal testing is no longer necessary.

DEFENSE, SAFETY & SECURITY

Today's world faces many threats, from ISIS to Ebola and from incidents such as the MH17 disaster to cybercrime. TNO works alongside many partners and clients, including the Ministry of Defence, police forces, fire services and industry, to ensure the safety and security of society. We develop the knowledge that underpins various innovations, both physical and digital. By combining our expertise in technology, organization and behavioural science, we create solutions of international significance.

One notable example is the 'serious game' which world leaders played during the Nuclear Security Summit (NSS) held in The Hague in March 2014. As experts in applied gaming, TNO contributed

important knowledge in both the technological and behavioural aspects. At the NSS, politicians played this 'war game' to determine how they would and should respond to a situation in which a weapon of mass destruction has fallen into the hands of terrorists. The Ministry of Defence now has a new 'cyber commando unit' to defend our digital environment. TNO's contribution to its development included serious gaming, an instrument which combines simulation and training in an extremely realistic virtual environment. This approach brings together research, cooperation and training to spawn further innovation. We work closely alongside the Dutch government in the National Cyber Security Centre (NCSC) and the High Tech Crime Team (THTC) of the central police organization. We also work alongside private sector parties to anticipate and protect against cyber-attacks which could paralyse vital sectors.

In 2014, we collaborated with SME company Re-Lion to develop a simulator which trains defence personnel in 'situational awareness'. Good preparation is essential to the success of peace-keeping missions such as the Dutch deployment in Mali. TNO helps the Ministry of Defence to recreate the conditions on the ground within an extremely realistic 3D virtual environment. TNO is currently conducting qualitative

research into new maintenance concepts for the F-35, also known as the Joint Strike Fighter (JSF). TNO staff are part of the international F-35 team in the USA. We are also involved in the investigation of the MH17 air disaster in Ukraine, run under the auspices of the Dutch Safety Board (OVV).

BUILT ENVIRONMENT

The accessibility, 'liveability' and competitive strength of urban regions are under strain. TNO works to develop innovative solutions to challenges in spatial planning, mobility, infrastructure, building design and construction, and environmental management. Alongside our public and private sector partners, we apply our knowledge to create a better, more sustainable human environment.

In preparation for the implementation of the new Strategic Plan, we have brought together our knowledge and skills in mobility and the built environment. The multifunctionality of a modern city, with its mix of housing, business premises, transport infrastructure and public amenities, calls for cohesive and fully integrated solutions. Rotterdam, for example, wishes to introduce emission-free goods transport throughout the city centre within five years. To achieve

this ambitious aim, we have formed a Public-Private Partnership with seven regional transport operators. Together, we shall implement the 'Green Deal 010 Zero Emission Urban Logistics Programme' which combines various solutions such as greater use of electric vehicles (for which a charging infrastructure must be put in place), smart logistic processes, night-time distribution and the streamlining of the existing transport infrastructure. The city authority is facilitating the programme which will serve as a demonstration project: an example for other cities in the Netherlands and elsewhere to emulate. TNO has already exported its integrated approach to infrastructure, mobility, construction, environment, economics and technology to the city of Shenzhen in southern China. Shenzhen is experiencing significant growth; its population has increased from twenty thousand to over fifteen million in just three decades. How can this growth be sustained without adverse environmental impact such as serious air pollution? TNO has designed and built a sensor network which monitors CO₂ and fine particulates in real time, around the clock. Our models ensure that the city has all necessary data at its fingertips and can take prompt action when necessary. By identifying the causal factors and their interrelationships using smart technology, it becomes possible to make appropriate planning decisions which

ensure optimum use of the available space.

Road safety has greatly improved and the number of casualties has been falling consistently for several decades. There is one exception: accidents involving cyclists remain all too common. Special attention is therefore being devoted to this aspect. During the report year, we began preparations for trials of an 'intelligent road junction' in Helmond. Bicycles, cars and traffic lights are fitted with sensors so that motorists are aware of cyclists even before they enter their field of vision. Accidents can then be avoided.

ENERGY

An area to which TNO devotes much attention is the 'energy transition': the process of reducing reliance on conventional fossil fuels and adopting sustainable, renewable alternatives. Both public and private sector parties make extensive use of our knowledge and technology. The stakes are high and TNO is keen to play its part. The reserves of fossil fuels are rapidly depleting; exploration and retrieval are rapidly becoming economically unviable, while the use of oil, coal and gas has a serious adverse environmental impact, not least in terms of global warming. While

fully sustainable energy provision is still some way off, we are working to create a transitional situation based on hybrid energy systems in which fossil fuels are used alongside renewables.

TNO has devoted much attention to the development of sustainable, 'smart' energy systems. New technologies such as the TNO 'Powermatcher' enable supply to be closely aligned to demand. One problem with, say, wind energy is that output is inconsistent and unpredictable. Our technologies enable the available supply to be used as efficiently as possible. TNO is also developing innovative applications in the field of solar energy, such as the 'SolaRoad', a revolutionary road surfacing design in which sunlight is converted into electricity.

In partnership with TU Delft, we are developing innovative methods for gas and oil exploration. We are also working on ways to reduce CO₂ emissions, such as 'carbon capture and storage' (CCS) technologies which separate carbon dioxide from sources such as flue gases for storage underground. TNO is a member of the CATO consortium, which brings together all national knowledge in this field to support a long-term research programme.

The Geological Survey of the Netherlands (GDN, a division of TNO) is responsible for the challenging process of mapping the form and ownership structure of our country's subsoil in three dimensions

(or four dimensions when changes over time are included). The resultant, unique knowledge is made available to the world markets. As advisors to the Dutch government, TNO is researching the effects of earth tremors caused by gas extraction.

Much of the energy used in the Netherlands is derived from gas and oil platforms in the North Sea and from offshore windfarms. TNO works to improve the safety, sustainability, life expectancy and affordability of these complex installations.

TNO Energy's international activities continue to expand. We are currently involved in projects in north-western Europe, the Middle East, Latin America and the Caribbean region. Our permanent locations in Qatar and Aruba have achieved substantial growth and clearly demonstrate the international dimension of our innovative ability.



SOLAROAD:

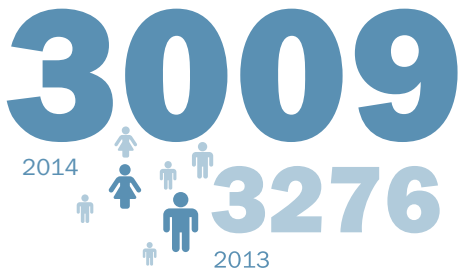
SUSTAINABLE ENERGY FROM A 'SMART' ROAD SURFACE

It is not often that TNO attracts quite so much attention from the regional, national and even international media as it did with the opening of the first 'SolaRoad' on 12th November 2014. The man responsible, Sten de Wit, is delighted. His idea met with some scepticism when first proposed in 2009. It is now a reality: a 70-metre section of a cycle path that generates electricity from solar panels embedded in the road surface. 'There has been a lot of interest from America,' says Stefan. 'That's a "double whammy". Our tiny country was already known for its many green cycle paths, and now one of them produces electricity!'

The SolaRoad has a translucent glass surface which protects the fragile solar cells below. The surface is textured to provide good grip, even in wet conditions. 'The transparent coating is the innovative part,' explains Sten de Wit. 'The solar cells produce direct current which is then converted to alternating current by an inverter, and then fed into the national grid.'

A consortium was formed for the project, comprising the Province of Noord-Holland (which owns and manages the road infrastructure), Ooms Civiel (manufacturer of the surface material and responsible for construction), Imtech (electrical installations) and TNO (project initiator, knowledge and overall project management). The partners jointly funded the project. De Wit: 'The TNO SolaRoad project team was led by my colleague Wim van der Poel. He forged a very strong group which drew on the expertise of some forty TNO staff members at various times. SolaRoad illustrates a key strength of our organization: multidisciplinarity. We bring together knowledge in road construction, materials science, solar energy, grid technology and many other areas to arrive at innovations like this.'

The response from cyclists has been overwhelmingly positive. The SolaRoad provides a safe and comfortable surface, with the added benefit of producing electricity. 'The project results are in line with expectations,' De Wit states. 'We have encountered only a few teething problems. A section of the translucent surface became detached due to winter frost, for example. We made temporary repairs and will implement a more permanent solution before long. SolaRoad is a true innovation project. Eventually, we hope that much of the national road network, a total of 140,000 kilometres, will generate electricity in this way. That's more than the total surface area of all the roofs on which solar panels could be installed!'



› TNO’s staff are its most important asset. We consider it important that they should be healthy, vital, inspired and engaged. We attach much importance to diversity. We invest in our human capital by providing ongoing training, personal development and career development programmes.

TNO has developed a number of instruments to identify development opportunities and requirements, including the Strategic Personnel Plan (SPP) and the Leadership Development Framework. With a view to recruiting talented young professionals, we have a comprehensive trainee programme. We host ‘Best Graduate Days’ and organize the ‘Excellent Researcher of the Year’ competition.

ENGAGED STAFF

TNO holds an employee satisfaction and engagement survey every other year, the most recent being conducted in late 2014. The ambition was to achieve at least the same, preferably better, results as in 2012. Unfortunately, this was not the case. Overall satisfaction had fallen by 0.2 points to 6.7. We see this as a sign that we must do more to foster employees’ confidence in management. The survey findings will be discussed by the

relevant teams, giving rise to improvement action at both team and corporate level in 2015.

WORKING CONDITIONS: HEALTH & SAFETY

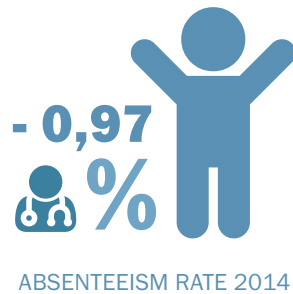
In 2014, the spearheads of policy addressing health and vitality were to reduce absenteeism (long-term incapacity and sick leave), to reduce work-related stress (particularly among junior staff), and to create a sound basis for further improvements.

REDUCTION OF ABSENTEEISM

In 2014, we engaged a new Health & Safety advisor, ArboUnie, with whom we have made agreements about an active approach which will reduce the absenteeism rate to no more than 3.3% (compared to the previous level of 3.85%). In the event, the actual absenteeism rate in 2014 was 2.88%. It would appear that the prevention measures and the action plan to tackle

Staff establishment (personnel employed) at 31 December 2014

	2012		2013		2014	
	Number	%	Number	%	Number	%
Total on payroll	3409		3276		3009	
Permanent	3051	89,5	2978	90,9	2776	92,3
Fixed-term	358	11,8	298	9,1	233	7,7
Part-time (< 100)	978	28,7	946	28,9	918	30,5
Part-time (< 90)	704	20,7	673	20,5	653	21,7
Absenteeism through illness		4,1		3,9		2,9



long-term, complex incapacity are now bearing fruit. In 2015, we shall focus on maintaining these achievements and on a further reduction of incidental, short-term sick leave.

Reduction of work-related stress

Meetings were held at the Soesterberg and Rijswijk locations to identify and resolve the causal factors of work-related stress, particularly among 'starters' (staff aged under 35 with less than five years' service with TNO). These meetings were attended by some 35 employees, including both starters and senior staff, (line) managers and HRM experts. An advisory report which included suggested solutions was submitted to the Board of Management. We intend to implement the proposals in 2015, thus reducing work-related stress among all staff. The key recommendations are better supervision and coaching, greater appreciation for the input of junior staff, and improved project planning.

Establishing a foundation for the future

A section devoted to health and vitality has been added to the TNO intranet. Here, staff and managers can find tips and instruments which can be used to maintain and improve health and vitality. All line managers are required to attend a workshop on absenteeism and recognizing the signs of work-related stress. Almost half (46%) did so in 2014 and the programme is to be continued.

Training and development

The professional development of TNO staff relies mainly on their practical involvement in innovative projects, i.e. 'on the job' training. It is essential that all staff maintain the highest level of knowledge in order to make their contribution to innovation within a particularly dynamic setting. TNO further supports personal and professional development by means of coaching and more formal training opportunities, carefully designed to meet the requirements of various target groups. Knowledge development takes place in the context of the projects

themselves and in the Early Technology Programmes (ETP's)¹. In 2014, TNO's total investment in staff training was EUR 1,971K, of which approximately half was channelled through the TNO Academy, our internal training organization. The expertise groups accounted for 72% of total training and education expenditure, the transitions (themes) for 9% and the Corporate Governance Bodies for the remaining 19%. In 2014, TNO's total investment in (formal) training courses was 39% lower than in the preceding year. Stricter criteria were applied when assessing the cost-effectiveness of such courses. In many cases it was felt that development needs could better be met by means of less formal approaches such as coaching, peer supervision and private study. The investment in introduction programmes for new staff and the Talent Development Programme fell to from over half of the total training expenditure to approximately one third due to the lower recruitment level in 2014.

Corporate training opportunities were expanded in 2014 to include several new programmes such as the Business Innovation Bootcamp, the Potential Programme and 'Selling Innovation', an ongoing training programme for all commercial staff. Four modules covering basic skills and knowledge were available in 2014. In 2015, more advanced modules in negotiating skills, Public-Private Partnerships and Business Models will follow.

During the Business Innovation Bootcamp, staff from various TNO divisions work as a team to develop promising ideas into realistic business plans, with coaching and knowledge provided by Vlerick Business School. The new Leadership Potential Programme includes various modules dealing with personal leadership skills and strategy. It is offered to staff showing leadership potential, i.e. the managers of the future.

The training programme will be further revised and updated in 2015. The emphasis will be on the development of the new and

¹ Long-term knowledge development takes place in the ETPs.

complex competences required to implement the TNO strategy effectively, such as coalition forming and alliance management. We shall also pursue the implementation of principles which support a positive learning environment, with even greater emphasis on the less formal forms of knowledge transfer.

TERMS AND CONDITIONS OF EMPLOYMENT

In April 2014, TNO reached agreement with the Works Council with regard to the (contractual) terms and conditions of employment for 2014. The main points of that agreement are:

- The general salary increase for 2014 is set at 0%.
- Individual salary increases from 1 April 2014 will be implemented in accordance with the existing grade structure and Relative Salary Position table (RSP).
- From 15 October 2014, the last date on which the FlexDirect options can be exercised, the rate at which salary can be relinquished in return for leave entitlement is to be amended whereby the 'cost' of time off will rise by 30.55%. The rate at which unclaimed leave entitlement can be converted into salary remains unaltered.
- In preparation for the 2015 negotiations, and with the full knowledge and consent of the Works Council, TNO conducted a benchmark survey examining the terms and conditions of employment offered by comparable organizations. It was further agreed that the reduction of the collective holiday entitlement by one day would be open to discussion.

The benchmark study leads us to conclude that, overall, TNO offers higher salaries than comparable public sector organizations and the universities. Salaries are largely in line with those of the other TO2 institutes and a large number of private sector R&D and engineering consultancies.

In October 2014, TNO reached agreement with the Works Council regarding the terms and conditions of employment for 2015. The main points of this agreement are:


1. From 1 January 2015, all staff will receive a general salary increase of 0.5%. In 2015, Good Friday will not be included in the paid holiday entitlement. As compensation, all staff

will receive a salary increase of 0.5% from 1 January 2015, bringing the total increase to 1%.

2. In November 2014, the negotiating delegations began discussions about amendments to the Relative Salary Position Table (RSP) to take effect in 2016. The intention is to reduce the costs of the individual salary increases based on the RSP.

DIVERSITY

Throughout 2014, TNO continue to pursue its existing diversity policy which devotes specific attention to the 'gender split'. This was a guiding factor when restructuring the organization, with the new teams reflecting appropriate diversity in experience, background and gender. Achieving equal opportunity for men and women will continue to be a key objective in the years ahead. We have set a target of having at least 30% female representation within the organization as a whole and in each of the various grades.

51,4
%


OF LD POTENTIALS ARE FEMALE



Level	2011	2012	2013	2014
Senior management (Governance boards, 1st and 2nd echelons)	30,8%	28,2%	29,4%	26,9%
3rd echelon	15,8%	15,5%	16,7%	20,8%
Principals	11,5%	8,0%	7,7%	7,3%
LD Potential	36,4%	39,4%	40,4%	51,4%
Total	30,0%	30,7%	30,6%	30,3%

Results by year: percentage of female staff by grade

RECRUITMENT

Recruitment is a strategic activity for TNO. In 2014, we continued efforts to recruit junior and senior staff from the networks of managers, and began to professionalize the process of identifying and approaching the target groups in which staff are in short supply.

PREFERRED EMPLOYER

TNO is proud of the high rankings it achieves in various employer surveys. According to Randstad, for example, we are the 'favourite' employer in the non-profit sector. We were also highly placed in the Intermediair ranking and were voted favourite employer in the Technology category.

PERSONNEL AND INTEGRITY

TNO has appointed an Integrity Officer and an Integrity Committee.² The report year saw the implementation of the revised and updated TNO Code, which sets out the TNO procedures and provides rules and guidelines with respect to integrity and business ethics. Line managers discussed the Code with their staff, and workshops on commercial integrity were attended by all 130 Business Developers. Workshops

on scientific integrity and quality are organized for the staff of the research departments and have been attended by 130 employees to date. The implementation of the new Code will continue in 2015.

During the report year, we also produced a set of 'contracting principles' for Business Developers to ensure that all contracts entered into on behalf of the organization comply with our policy. The contracting principles have been actively brought to the attention to the relevant staff by means of flyers, posters and digital communications.

The workshops in professional integrity for new staff, provided by Nyenrode Business University, were continued. We introduced more comprehensive regulations governing outside activities (work for third parties, paid or unpaid) which will be further refined during the year ahead.

The Integrity Committee convened on four occasions during the report year. No reports requiring action on the part of the Committee were received further to the whistleblower scheme. The network of 'confidants' took a more prominent position, giving presentations at departmental meetings for example. In late 2014, the Scientific Integrity Taskforce (an internal committee formed in November 2012) produced an advisory report on measures to safeguard scientific integrity. The Board of Management endorsed its recommendations and has instructed the Scientific Integrity Committee to implement the proposed measures and to monitor progress.

² The Integrity Committee was chaired throughout 2014 by the CSO, Prof. Jos Keurentjes. Its membership comprises one theme director, two expertise group directors, the Director of Marketing & Communications, the Director of Human Resources, and representatives of the general council and Works Council. Mr Wim Nagtegaal (COO) will assume the chair in 2015.

COMPLAINTS

Two complaints were received further to the external complaints procedure. One related to the formulation (wording) of a TNO report. The report was amended and the complainant informed accordingly. The other complaint called for disciplinary measures to be taken against a member of staff who was alleged to have abused his position. Following due investigation, TNO dismissed this complaint as ungrounded.



GAMING BRINGS ARITHMETIC LESSONS TO SUDAN

'I still get goose bumps when I see a video of children playing our game with such concentration,' says educational scientist Hester Stubbé-Alberts, 'especially when I see the progress in their numeracy skills. We really are making a difference.' Stubbé, a member of TNO staff, was responsible for the design of the game in question. Since 2012, she has been coordinating a project in which children in remote villages in Sudan learn basic arithmetic by playing a Dutch computer game. 'Many villages have no school. You can't expect young children to trudge two hours through the sweltering desert to reach one that does!'

Stubbé is greatly enjoying the project. 'The cooperation between all the various partners has been excellent.' Those partners are War Child, Afhad University for Women (Khartoum) and games developer Flavour (Amsterdam). 'We have also enjoyed much support from the Sudanese Ministry of Education and from Unicef,' Hester Stubbé adds. Following a small-scale experiment in 2012-2013, a pilot project involving six hundred children in 19 villages began in October 2014. Each village has a morning group and an evening group. 'The children find the graphic design very appealing. Playing the computer game teaches them basic arithmetic. The objective is to build a hut for Mohammed, a character in the game. Every time a child enters the correct answer to a sum, another piece of the hut is added. This really motivates the children, because helping others is the highest ideal for Sudanese people of all ages.'

Each village has a local facilitator who looks after the tablet computers and can provide basic technical support. He or she has been given a mobile phone and is in daily contact with the project managers in Khartoum. The costs of the calls are reimbursed. The villages have no electricity, but War Child has installed a solar panel in each village so that the tablets can be charged. 'In late 2014, Unicef selected our e-learning method as a showcase project in the Innovations in Education programme,' Stubbé proudly states. 'That is international recognition for our approach. Our partnership has produced a game which is absolutely ideal for the target group. The research undertaken by TNO gives War Child the evidence base it needs to upscale the idea. Within a year, at least one million children could be using this game to learn for a better future.'

› Sustainability is a very important component of all TNO's work. It is central to our mission and our transitions. For many staff, sustainability is the prime motivator.

CONTRIBUTING TO SUSTAINABILITY WITH KNOWLEDGE AND INNOVATION

TNO's mission is to help resolve the major societal and economic challenges of our age. Six examples of how we are doing so are included in this Annual Report. In feature articles, staff proudly write about their work in protecting national security, producing healthier food, ensuring the continuity of energy provision and encouraging more responsible use of natural resources. There is also an example of how TNO is helping people in the developing countries: a computer game which helps children in remote Sudanese villages to learn numeracy skills. We not only develop innovations which provide new and sustainable solutions, we provide the scientific evidence base which supports the discussion about sustainability.

TNO and its partners have developed an instrument which can be used to assess the degree to which an organization promotes social inclusion by employing people with a disability or other limitations. The House of Representatives has adopted a motion requesting the government to explore whether the approach will be a useful adjunct to existing methods of assessing a company's compliance with legislation (the 'Participation Act'). In the field of energy, we are researching ways in which to increase the share of renewables in the energy mix, while ensuring that energy provision remains reliable and affordable. One important question is how to gain the support and involvement of the general public. Our research examining local initiatives and the obstacles they encounter has given rise to a

game which supports the transition to local generation. Our research supports the European Union in its efforts to reduce the use of plastic carrier bags, and we have advised the Dutch government about PET recycling following the abolition of the refundable deposit on plastic bottles. During the report year, we made many other contributions to the societal debate about sustainability.

TNO has an internal Corporate Social Responsibility (CSR) policy which provides clear direction as we strive to achieve a sustainable society, ensure the engagement and vitality of our staff, and apply our knowledge about all aspects of sustainability within our own operations and activities.

MANAGEMENT AND REPORTING

In 2014, we further refined the CSR policy for 2013-2018. TNO has a CSR Officer who implements internal policy in close consultation with the Director of Marketing & Communications (M&C), the formal CSR portfolio holder. Activities and progress are monitored by the CSR Steering Group¹, which convened six times in 2014.

The topics which are to be covered in the CSR reports have been defined with input from the CSR Steering Group: They are: using knowledge and innovation to resolve the societal challenges; stakeholder engagement; reducing absenteeism; staff training

¹ To promote staff engagement and support from the higher echelons, the Steering Group is chaired by the Director of M&C and further comprises the Director of HR, The Director of Health, Prevention and Work, the Director of Sustainable Chemical Technology, the Principal Business Developer of the Smart Mobility division, and the Managing Director of the ELLS Expertise Group.

and development; integrity; diversity; reducing the carbon footprint (buildings and vehicles); Health and Safety in the workplace, and international development cooperation. These topics form the framework for the relevant sections of this report: Organization and Setting, Personnel and Sustainable Impact.

The CSR policy was submitted to the new Board of Management and the Director of M&C discussed CSR topics with the Board on several occasions. Corporate Social Responsibility is also a recurring point on the agenda of the Supervisory Board. Talks with MVO Nederland, the national centre of expertise in CSR, led to several new insights.

The Corporate Social Responsibility policy sets out how TNO approaches people, planet and profit in terms of ethics and integrity, working conditions, Health & Safety and environmental management. As in previous editions, this Annual Report describes the developments of 2014 in accordance with the guidelines of the Global Reporting Initiative (GRI)². The aspects covered are shown in the GRI Index at the rear of the report, with references to the relevant sections and page numbers.

As in previous years, TNO submitted its Annual Report 2013 for assessment under the Transparency Benchmark for Social Responsibility Reporting, a scheme run by the Ministry of Economic Affairs. Once again, we were ranked second in the category 'Universities and Knowledge Institutes'.

CSR TOOL FOR PROJECT MANAGERS

A CSR tool for project managers was developed in 2013 to reveal the impact of TNO's activities in terms of the major societal challenges. In 2014, the Smart Mobility expertise group ran a pilot project in which some twenty project managers applied the tool in one or more of their projects. The general conclusion was that it is very useful in allowing the impact and potential risks of a project to be identified at an early stage. In 2015, we intend to adopt the use of the tool in at least one of

the transitions (themes).

THE INNOVATION FOR DEVELOPMENT PROGRAMME

Through its innovations, TNO helps to promote enterprise in the developing countries and the emerging economies, notably those of Africa and Asia. Working under a Public-Private Partnership (PPP) construction, we set up commercially viable and sustainable projects which will reduce poverty elsewhere in the world while also creating opportunities for the Dutch private sector.

The Innovation for Development programme involves some sixty members of staff from all parts of the TNO organization. A core team of four people is responsible for establishing strategy and monitoring progress. In 2014, the organization reserved a budget of one million euros for this programme, and launched nine new projects in Bangladesh, Ghana, Kenya, Congo and Suriname. Almost all projects involve close cooperation with local knowledge institutes, NGOs and companies, as well as the Dutch embassy in the country concerned. In many cases, private sector companies in the Netherlands also take part. The total value of the new projects is almost four million euros, representing revenue of 1.9 million euros for TNO. Seventeen projects commenced in previous years are still ongoing.

² TNO has opted to exclude the commercial spin-off and sin-out activities from the CSR policy, since they operate independently of the main TNO organization.

CONCRETE RESULTS
OF THE INNOVATION
FOR DEVELOPMENT
PROGRAMME

50 →
4000

Fifty farmers in Kenya and Uganda are now breeding crickets for human consumption. This generates additional income for their families and provides access to a healthy source of protein for some three hundred people. The initiative is to be upscaled to approximately four thousand cricket farms within the years ahead.



In Bangladesh, the Dutch Minister for Development Cooperation, Ms Lilian Ploumen, opened an expertise centre for the textile sector. TNO contributes knowledge in clean production methods. By becoming more economical in their use of water, producers will improve business efficiency and significantly reduce pollution in the surrounding villages.



TNO was among the partners responsible for the design of a new early warning system in Bangladesh. Mobile phone technology is used to alert vulnerable communities to the risk of flooding. In 2014, some three hundred people were able to move their families and harvests to safety in time.

60

TNO has developed an arithmetic-based game for tablet computers, which is now used by children in South Sudan who have no access to regular education. The project will be shortly expanded to include many more children. (See article elsewhere in this report).

TNO'S CARBON FOOTPRINT

In 2008, we began to monitor the environmental impact of the TNO organization on an annual basis. Initially, we applied the 'environmental footprint' method which takes into account factors such as the contribution to the greenhouse effect, acidification and toxicity. In 2013 it was decided to adopt the CO₂ footprint methodology, which not only provides a good proxy indicator of all such effects but allows comparison with other organizations. The CO₂ footprint is calculated for the entire production chain, including energy consumption, mobility and procured products and services³. A full account of the methodology can be found at www.tno.nl/mvo.

Table 1 shows the CO₂ emissions per scope. The calculation of Scopes 1 and 2 is in accordance with the SKAO guidelines.

³ The CO₂ emissions further to energy consumption are calculated according to actual usage, i.e. mileage driven, kWh electricity, cubic metres of gas and so forth. The CO₂ emissions in other categories are calculated on the basis of cost price and average emissions per euro.

Scope 1 (direct emissions) relates to emissions for which the TNO organization itself is responsible (buildings and vehicles). Our consumption of gas is equivalent to 108 terajoules (TJ) and that of motor fuel (petrol and diesel) equivalent to 19 TJ. The total direct, non-renewable energy consumption is therefore 126 TJ. Scope 2 (indirect emissions) relates to emissions during the generation of the energy purchased by TNO and those from using public transport (including air travel). All other indirect emissions are included in Scope 3.

Scope	2010	2011	2012	2013	2014
1	11	11	10	9	8
2	25	26	27	24	24
3	134	135	150	120	116
Total	171	172	186	153	147

Table 1, CO₂-emissions in kiloton per scope

TNO's total CO₂ emissions were 3.9% lower in 2014 than in the preceding year. The reduction is largely to be seen in Scope 3 (other indirect emissions). In Scope 3, the increased impact of the 'Buildings' category (up by approximately 5 tons) is due to the rental and occupation of several new buildings. However, this is compensated by the decrease in impact (approximately 12 tons CO₂) in the category 'Insourcing of personnel and research'.

In relative terms (per euro revenue), TNO's environmental impact increased slightly from 0.33 kg per euro in 2013 to 0.34 kg per euro in 2014.

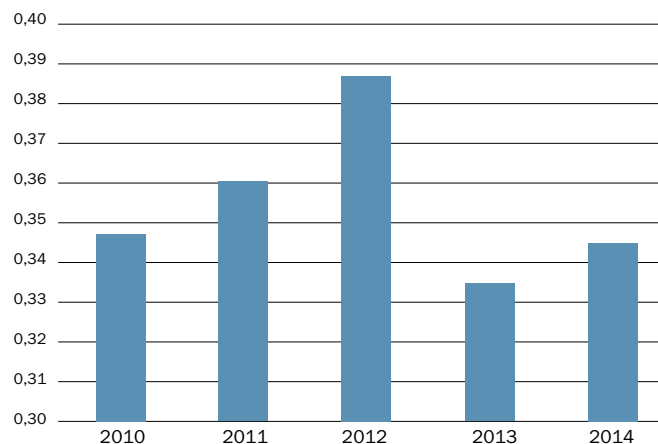


Figure 1, Relative emissions in kg CO₂ per euro revenue

As shown in Figure 1, relative emissions are rising. In 2014, revenue was some 6% lower than in the preceding year, but the reduction in CO₂ emissions was only 3.9%. This may be due to the reduction in staff numbers which served to reduce revenue but can—not be expected to have a similar effect on CO₂ emissions in the short term. It is possible that emissions will eventually fall further to the changes in building occupancy and usage. The following paragraphs explain this phenomenon in greater

detail and the measures we have taken to reduce environmental impact.

Energy and buildings

We wish to reduce the CO₂ emissions caused by energy consumption in our buildings by 20%, compared to the 2012 level. In 2014, TNO's electricity consumption was approximately 39 million kWh and its gas consumption was 3.4 million cubic metres. These figures are lower than in 2013 (a reduction of 0.3 million kWh and 0.7 million cubic metres respectively). Our use of gas resulted in 6.2 kilotons of direct CO₂ emissions. The reduction in electricity consumption can be explained in part by the adoption of more energy-efficient lighting.

Since 2010, TNO has purchased sustainable 'green' electricity, guaranteed to have been generated (at least in part) from renewable sources. The environmental benefits of green electricity have not been taken into account when calculating the CO₂ footprint in order to draw a clear distinction between the reduction in emissions achieved by reducing consumption and those which derive from the use of green energy. In fact, emissions from green electricity (from wind and water) are lower than those of standard 'grey' electricity by a factor of thirty. If we take this into consideration, TNO's indirect CO₂ emissions further to electricity consumption (Scope 2) are 17.1 kilotons, approximately 11% of the total.

Since 2013, TNO has compensated for the emissions caused by its gas consumption by means of carbon trading certificates. In 2014 we purchased Gold Standard VER certificates to cover emissions of 5,265 tons. This amount has not been deducted from the total shown in the figures, for the reason given above. If we were to include the offset in Scope 1, emissions would be 2.6 kilotons rather than 8.

TNO Real Estate Management actively works to increase sustainability by disposing of obsolete locations and implementing energy-efficient measures elsewhere. In 2014, the Leiden (Wassenaarseweg) and Hoofddorp locations were merged and relocated to a modern building in Leiden, which has a 'B' energy

label. During the second quarter of 2015 we take occupancy of new offices on Anna van Buerenplein in The Hague (part of the Central Station/New Babylon complex) which has an 'A' energy label. Staff will move here from the Schoemakerstraat and Brassersplein locations in Delft. The consolidation reduces the number of square metres we occupy by over half. Moreover, the two new locations are both close to large rail stations, which makes us more accessible by public transport.

In 2013, we began to replace the fluorescent tube lighting in corridors and frequently used areas with modern and energy-efficient LED lighting. The project, part of which was outsourced to organizations which provide employment for people with disabilities, was completed in 2014. During the past two years, all TNO locations have been subject to an energy audit conducted in association with Cofely Energy Systems. The findings have prompted new agreements with maintenance providers and building managers. We are replacing the rapidly obsolescent control technology and devote ongoing attention to energy awareness on the part of laboratory staff. In anticipation of the more stringent European regulations governing the use of HCFC refrigerants, in 2015 we shall begin to replace older refrigerators, freezers and air-conditioning units.

Mobility

On 20 November, the Director of HR was presented with the 'Lean & Green Award' in recognition of TNO's plan to reduce CO₂ emissions from staff mobility by twenty per cent. The plan sets out six measures, including a more restrictive lease car policy, greater flexibility in the use of transport modalities, greater use of (video) conference calls rather than face-to-face meetings, and greater use of public transport. Attention is also to be devoted to health (physical activity), the use of our own innovations and cost-awareness.

In 2014, TNO staff travelled a total of 12.6 million kilometres by car in the course of their work (2013: 13.2 million) and approximately 27 million kilometres by air (2013: 26 million). Commuting between home and workplace accounted for 31.3 million

kilometres. Overall, the transport of staff and goods represented 12% of the total CO₂ footprint in 2014.

Sustainable procurement

Projects which had a positive impact on sustainability in 2014 include:

- office furniture; more efficient and biodegradable packaging, reduced transport movements.
- printers/copiers: reduced energy consumption and environmental impact based on 'Energy Star' compliance; toner free from hazardous substances
- gas consumption: impact offset by purchase of 5,265 tons emission Standard VER certificates supporting the Basa Magogo project in South Africa
- electricity consumption: impact offset by purchasing electricity with a Guarantee of Origin.

Viafrica

When disposing of computer hardware (having first removed any data storage devices), TNO supports Viafrica and its PC Donation programme. Viafrica is a non-profit IT service provider which is involved in various social projects in Africa, largely in the field of education. It collects, refurbishes and resells computer peripherals, with all proceeds used to fund its charitable objectives. The revenue earned in 2014 supports the CLASSworks project, in which Viafrica supplies schools in Africa with a 'total package' of IT resources including administration services. From its local offices in Tanzania and Kenya, it helps train teachers, supplies course materials and organizes seminars. In 2014, TNO donated 4,425 items with which Viafrica raised a total of €6,294.52. See also: www.viafrica.org.

FEWER ANIMAL EXPERIMENTS

TNO wishes to be able to establish the safety of food products and chemical agents with greater reliability, and to determine the precise mechanism and effect of pharmaceuticals. Finding the answer to some research questions relies on animal test-

ing. TNO's scientific focus extends across the entire breadth of prevention, the promotion of a healthy lifestyle and the development of individualized medicines. We are constantly developing new innovative models which can refine, reduce or replace in vivo experiments: the three Rs. In anticipation of forthcoming amendments to the Wet op de Dierproeven (Animal Testing Act 1977), TNO has for some time acted in the spirit of the new legislation. Since 2010, we have applied the stricter guidelines governing the conditions in which live animals are kept, and since 2013 we have applied a system of ethical assessment. The two animal testing locations (including that of TNO Triskelion) have full AAALAC accreditation, confirming that they meet the highest standards of animal welfare and staff safety (see www.aaalac.org).

Since 2014, we have joined over ten organizations in conducting joint audits of the suppliers of the animals used for in vivo tests. To safeguard quality, all TNO publications which describe experiments on animals are assessed against the international ARRIVE guidelines (www.nc3rs.org.uk/page.asp?id=1357). Statisticians are involved in designing each experiment to ensure that the absolute minimum number of animal subjects will be used. Third parties wishing to apply the same method can use the 'Calculator' which has been published online.

TNO actively contributes to the societal dialogue about animal experimentation by (co-) organizing stakeholder meetings such as the 9th World Congress on Alternatives and Animal Use in the Life Sciences, held in Prague in August 2014 (<http://www.innovativetesting.nl/slim>).

Further information about our animal testing policy and our search for alternatives can be found at www.tno.nl/en/about-tno/tno-and-its-social-role/animal-testing-policy.

some research is classified as secret. The research programme for the Ministry of Defence is determined in close consultation between TNO and the ministry. Further information can be found in the report of the TNO Defence Research Council on page 9.

DEFENCE RESEARCH

TNO's defence research is primarily concerned with the safety and effectiveness of the Netherlands' armed forces, but also considers the safety and security of society at large. Accordingly,



HEALTHBREAD: WHITE BREAD WITH THE NUTRITIONAL VALUE OF WHOLEGRAIN

'The nice thing about the HealthBread project is that, through our knowledge and expertise, consumers in Italy, Germany and Austria can now buy a much healthier product.' Food technologist Martijn Noort was TNO's project manager on the European 'HealthBread' project (2012-2014). TNO devised and designed the project, which built upon the earlier EU HealthGrain project (2005-2010), intended to find ways of increasing the nutritional value of processed cereals. The coordinator of the entire EU project was also a member of TNO staff: Jan-Willem van der Kamp, recently voted Bakery Personality of the Year 2014.

The objective of HealthBread is to develop a product which has the same flavour and texture as white bread, but all the healthy, natural ingredients and nutritional value of wholegrain products. 'In southern Europe, consumers prefer white bread. The Dutch and Germans buy darker products, including multigrain varieties. Many are not true wholegrain, however. They are made using refined flour with some colouring and a few grains or seeds added to the mix.'

TNO's partners in the HealthBread consortium included its Finnish counterpart VTT and eight commercial bakeries, including two Dutch companies: Kamstra of Wolvega and Uljee of Rotterdam. The project refined and built upon the knowledge gained in HealthGrain, which was applied to develop a dough mix with a precise grain content. The baking process was also adapted to include a longer 'proving' (rising) period. 'The result is bread that not only has greater nutritional value but also tastes good, with a good colour, texture and volume,' states Martijn Noort. 'The next step will be for bakeries to develop and market commercial products based on our knowledge. We have therefore joined forces with the Netherlands Bakery Centre to produce a communications handbook.'

Following the 'roll' out in Germany, Italy and Austria, the HealthBread concept will soon be introduced in France, Turkey, the United States and... the Netherlands! 'Kamstra and Uljee are very enthusiastic about HealthBread and, together with TNO, wish to press ahead and make a good product even better. Innovation never stops, and if they succeed I for one will be extremely happy,' says Noort.

› The TNO Organization, including its group companies, closed 2014 with a positive result of 8.8 million euros representing an improvement of 23.3 million on the negative result of 14.5 million euros recorded in 2013.

CONSOLIDATED TNO RESULT

Revenue fell from 564.1 million euros in 2013 to 526.4 million euros in 2014, a difference of 37.7 million euros. This decrease is attributable to both a fall in the volume of contract research and a reduction in direct government funding of 9.3 million euros. Total operating expenses fell by 59.8 million euros, with personnel costs reduced by 45.9 million euros. This is largely due to the decrease in the staff establishment and lower contributions to personnel provisions. Direct project costs fell by 7.5 million euros, while other operating expenses were reduced by 7.2 million euros.

TNO ORGANIZATION

Result

The TNO Organization – excluding the group companies – achieved a positive result of 5.7 million euros. This represents an improvement of 23.1 million euros compared to 2013, and is 11.5 million higher than budgeted. The result was achieved further to the reduction in the staffing level by 261 FTE, in line with falling revenue, as well as effective cost reduction measures. Part of the reduction in operating expenses was incidental, there being lower reorganization costs and pension liabilities in 2014 than in the preceding year.

Revenue

The reduction in gross revenue in the form of direct government funding (9.3. million euros) and gross market revenue (23.0

million euros) was offset by the 7.3 million euros reduction in direct project costs (outsourcing). The year-on-year net effect of the decrease in revenue (revenue minus direct project costs) was 25.0 million euros, or 6.4 % of total net revenue. Direct government funding was 9.3 million euros lower in 2014 than in the preceding year. This decrease is further to the multi-year government budget cuts, whereby revenue from government funding has fallen from 192.3 million euros in 2012 to 171.1 million euros in 2014. The planned budget reductions are to continue until the end of 2018. The government announced that the decrease in revenue would be offset by means of ‘transition funding’ for the private sector and knowledge institutes, to be channelled through the Technology Top Institutes. To date, this undertaking has been only partially met.

Market revenue was 23.0 million euros lower in 2014 than in the preceding year. The decrease was seen in the following sectors:

- industry: 11.9 million euros
- international organizations: 8.3 million euros
- government contracts: 2.8 million euros

The ratio (multiplier) of market revenue to direct government funding has remained stable for several years at approximately 1.5, i.e. for every euro in government funding we generate 1.5 euros in market revenue. This reflects TNO’s position as a ‘precompetitive’ research institute. The consequence of a reduction in government funding while the multiplier remains constant is that the TNO Organization has seen significant

downsizing: approximately 25% since 2008.

Operating expenses excluding direct project costs

Further to the reduction in government funding, which was known in advance, and the related fall in market revenue, action was begun in 2013 to ensure that operating expenses would remain in line with total revenue. One consequence of the policy adopted was a downsizing of the staff establishment, with the loss of 261 FTEs between 31 December 2013 and 31 December 2014. This resulted in a decrease in salary costs of 14.5 million euros. The costs of engaging temporary staff were reduced by 6.8 million euros, and other personnel costs were cut by 6.6 million euros.

The reduction in pension costs is further to the positive development in the funding ratio (cover rate) of the TNO Pension Fund noted in 2013, whereupon the contribution requirement for 2014 was approximately 5 million euros lower than in 2013. The downsizing of the staff establishment gave rise to 12.8 million euros in reorganization costs in 2013. In 2014, and despite the reduction by 261 FTE, these costs could be limited to 5.2 million euros, largely by taking advantage of natural wastage (resignations and retirements). Other operating expenses fell by 5.1 million euros, due to the cost reduction measures implemented in 2013. The main areas in which reductions were achieved were accommodation (lower energy consumption and less expenditure on major maintenance) and reductions in outgoings for general administration, travel and external consultancy.

Depreciation charges fell by 1.3 million euros, which reflects the increasing age of some assets. Our intention is to reverse this undesirable trend in 2015, whereby investments in research facilities and resources will be given priority.

Development in revenue and operating expenses

Although net revenue showed a year-on-year decrease of 25 million euros, this was more than offset by the 48.0 million reduction in operating expenses, of which 30.8 million may be

considered structural and the remaining 17.2 million euros as incidental (contributions, release of provisions, lower pension premiums). TNO therefore recorded a positive result of 5.7 million euros for 2014, compared to a loss of 17.4 million euros in 2013.

Cash and cash equivalents

At the close of 2014, the balance of cash and cash equivalents stood at 94.1 million euros, 3 million euros lower than at the end of 2013. Efforts to manage working capital more effectively led to an improvement of 10.8 million euros in the position of work in progress, while, as noted above, the TNO Organization achieved a positive result of 5.7 million euros. Lower short-term liabilities and expenditure in respect of historic provisions resulted in a cash flow of 22.8 million euros, of which 7 million euros was invested in the modernization of the defence research locations. This investment was financed from the reserves. The Defence Buildings Reserve is included in the balance sheet under Equity (appropriated reserves).

KEY FIGURES

TNO (INCLUDING GROUP COMPANIES)

(in EUR x million)

	2014	2013	2012
Result			
Operating income	540,6	579,2	606,0
of which revenue	526,4	564,1	587,0
of which other operating income	14,2	15,1	19,0
Breakdown of revenue			
Market revenue	355,2	383,6	394,7
Government funding re. programme research	171,2	180,5	192,3
Expenditure			
Operating expenses	533,6	593,4	617,4
of which personnel expenses	335,8	381,7	379,2
of which extraordinary depreciations	-	-	9,0
Net result	8,8	-14,5	-9,6
Revenue per employee (EUR x 1000) ¹	137,2	134,3	134,7
Cash flow for financial year	-5,3	-1,8	-19,5
Capital			
Capital employed ²	228,2	235,9	251,1
Equity	174,6	165,9	180,4
Solvency rate ³	0,46	0,41	0,44
Assets			
Property, plant and equipment	186,0	191,1	197,1
Investments in property, plant and equipment	29,2	25,5	21,9
Personnel			
Average number of employees	3.599	3.895	3.892

1) Revenue per employee = total revenue divided by average number of employees during the year, including insourced staff

2) Capital employed = total assets minus current short-term liabilities

3) Solvency rate = equity divided by total capital

CONSOLIDATED FINANCIAL STATEMENTS 2014

CONSOLIDATED BALANCE SHEET AT
31 DECEMBER 2014

After allocation of profit

(in EUR x 1000)

			31-12-2014		31-12-2013
Fixed assets					
Intangible assets	1	4.809		4.808	
Property, plant and equipment	2	185.966		191.064	
Financial assets	3	8.164		6.807	
			198.939		202.679
Current assets					
Inventories		534		1.308	
Work in progress	4	-		2.016	
Receivables	5	65.553		76.612	
Cash and cash equivalents	6	113.287		118.677	
			179.374		198.613
Total			378.313		401.292
Equity					
General reserve	7	89.067		77.832	
Statutory reserve	8	10.471		9.249	
Appropriated reserves	9	75.043		78.863	
			174.581		165.944
Non-controlling interests					
			696		685
Investment grant equalization account	10		26.900		31.009
Provisions	11		11.843		20.278
Long-term liabilities	12		14.227		17.976
Current liabilities	13		150.066		165.400
Total			378.313		401.292

CONSOLIDATED INCOME STATEMENT 2014

(in EUR x 1000)

			2014	2013
Revenue	14	526.408	564.125	
Other operating income ¹⁾	15	14.145	15.083	
Operating income			540.553	579.208
Direct project costs	16	-66.336	-73.825	
Personnel expenses	17	-335.771	-381.667	
Amortization		-3.240	-1.921	
Depreciation	18	-24.712	-25.192	
Impairment of property, plant and equipment		-	-	
Other operating expenses	19	-103.525	-110.748	
Operating expenses			-533.584	-593.353
Operating profit			6.969	-14.145
Interest income ¹⁾	20		-13	302
Result from ordinary activities before tax			6.956	-13.843
Tax paid			-385	-30
Result of participating interests	21		2.351	-324
Result from ordinary activities after tax			8.922	-14.197
Non-controlling interests			-161	-269
Net result			8.761	-14.466
1) Interest rate income and expenses were stated separately in 2013. To facilitate comparison, they have here been reclassified as (net) interest income.				
Allocation of profit				
Net result			8.761	-14.466
Additions to:				
- appropriated reserve for civil operating risks		-3.600	-	
- appropriated reserve for defence operating risks		-	-	
- statutory reserve		-1.222	-1.477	
- appropriated reserve for Defence buildings		-3.271	-3.163	
			-8.093	-4.640
Withdrawals from:				
- appropriated reserve for civil operating risks		3.600	-	
- appropriated reserve for defence operating risks		-	-	
- statutory reserve		-	-	
- appropriated reserve for Defence buildings		7.091	632	
			10.691	632
Result after movements in appropriated reserves			11.359	-18.474
Movement in general reserve			-11.359	18.474
			-	-

CONSOLIDATED CASH FLOW STATEMENT AND STATEMENT OF OVERALL RESULT 2014

CONSOLIDATED CASH FLOW STATEMENT

(in EUR x 1000)

	2014	2013
Group result	6.969	-14.145
Amortization and depreciations	27.952	27.113
Results on disposals of fixed assets	85	322
Movement in provisions	-9.118	4.463
Movement in working capital excl. cash and cash equivalents	-3.164	8.297
Cash flow from operating activities	22.724	26.050
Interest received	1.050	1.771
Interest paid	-1.222	-1.310
Dividends received	190	272
Tax paid	-385	-30
Cash flow from operational activities	22.357	26.753
Investments in intangible assets	-3.540	-3.100
Investments in Property, plant and equipment	-29.241	-25.466
Investments in financial assets	-362	-1.336
Disinvestments in intangible asset	260	4
Disinvestments in Property, plant and equipment	1.929	911
Sale of participating interests and repayments received	6.304	798
Cash flow from investment activities	-24.650	-28.189
Investment grants received	516	1.339
Repayment of borrowings	-1.339	-1.603
Cash flow from financing activities	-823	-264
Cash flow for financial year	-3.116	-1.700
Cash and cash equivalents at 1 January 2014	118.677	120.536
Cash flow for financial year	-3.116	-1.700
Deconsolidation	-2.433	-
Exchange gains and losses	159	-159
Cash and cash equivalents at 31 December 2014	113.287	118.677

STATEMENT OF OVERALL RESULT

	2014	2013
Consolidated net result after tax	8.761	-14.466
Translation differences reserve	-124	-62
Overall result	8.637	-14.528

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS 2014

ACCOUNTING POLICIES

1.1 GENERAL

TNO connects people and knowledge to create innovations which will strengthen the competitive ability of industry and promote the sustainable well-being of society.

TNO has registered offices in Delft, the Netherlands.

Reporting period

The financial statements relate to a reporting period of one calendar year, 1 January 2014 to 31 December 2014.

Applicable standards

The financial statements and accompanying information have been produced in accordance with the TNO Guidelines for Financial Reporting, as issued by the Minister of Education, Culture and Science (OCW). These guidelines implement the statutory provisions of Part 9, Book 2 of the Netherlands Civil Code. A supplementary order issued by the Minister of OCW exempts TNO from the provisions of Dutch Accounting Standard no. 271, which relates to employee remuneration and benefits.

The accounting policies applied are based on the historical costs convention.

Legislation (Wet Normering Topinkomens 2013; WNT) restricts the remuneration payable to the directors and other senior officials of (semi-) governmental

organizations. To ensure compliance, TNO applies the WNT Policy Regulations, which provide the reference framework for the relevant sections of the financial statements.

Comparative figures

Where necessary and appropriate, the figures for 2013 have been restated to facilitate comparison with those for 2014.

1.2 ACCOUNTING POLICIES

Except where stated otherwise, assets and liabilities are recognized at face value.

An asset is included on the balance sheet if and insofar as it is likely to represent an economic benefit to the organization at some future date, and the value of such benefit can be assessed with a reasonable degree of accuracy. A liability is included in the balance sheet if and insofar as its settlement will result in an outflow of resources, again where the amount concerned can be assessed with a reasonable degree of accuracy. Income is recognized in the balance sheet if and insofar as there has been an increase in economic potential further to the increase in value of an asset, or the decrease in value of a liability, whereby the effect can be quantified with a reasonable degree of accuracy. Expenses are included if and insofar as there has been a decrease in economic potential, further to the fall in value of an asset

or an increase in the value of a liability, again where the effect can be quantified with a reasonable degree of accuracy. Where any transaction has the effect of transferring all or the greater part of future economic advantage or risks represented by an asset or liability to a third party, the asset or liability concerned is not included in the balance sheet. Assets and liabilities are also excluded from the balance sheet if the condition of probable future economic effect is no longer met or if the value of that effect can no longer be quantified with a reasonable degree of accuracy. Costs are entered against the period in which they are incurred. All financial statements are presented in euros, being the functional currency of the organization, whereby figures are rounded off to the nearest one thousand. Production of the financial statements requires management to apply judgement and to arrive at estimates and assumptions which may influence the precise application of the accounting policies, thus affecting the reported value of assets and liabilities as well as income and expenses. The actual results may differ from these estimates. The estimates and their underlying assumptions are subject to ongoing review. Any revision of the estimates is applied to the period in which that revision takes place, as well as the subsequent periods in which the effects of the revision are relevant.

1.3 CONSOLIDATION PRINCIPLES

The consolidated financial statements present the financial information of the TNO Organization as a whole, including its group companies and other legal entities over which it exercises control or central management. Group companies are participating interests in which the organization holds a majority interest or can otherwise exercise significant influence. To determine whether there is indeed 'significant influence', the existence of financial instruments which include potential voting rights is taken into consideration. Participating interests which are currently held with a view to short-term disposal are not consolidated. Newly acquired interests are included in the consolidation from the date on which significant influence can be exercised. Participating interests which are divested are excluded from the consolidation from the date on which significant influence can no longer be exercised.

Inter-company liabilities, receivables and transactions are excluded from the consolidated financial statements. Group companies are fully consolidated, whereby non-controlling interests are disclosed separately. A list of the consolidated group companies and non-consolidated participating interests is included in the notes to the relevant financial statements.

There is one participating interest – Soliqz B.V. – in which TNO does maintain a majority shareholding but which has been excluded from the consolidation due to the relatively small scope and value of its business activities.

1.4 FOREIGN CURRENCY TRANSLATION

Transactions in foreign currencies

Transactions in foreign currencies are translated (converted) into the functional currency of the relevant group company at the exchange rate applicable on the transaction date. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rate applicable on the reporting date, i.e. 31 December 2014. Exchange rate differences which arise further to the conversion are included in the income statement.

Operations in countries other than the Netherlands

Assets and liabilities which relate to operations in countries other than the Netherlands, including goodwill and any material value corrections upon consolidation, are translated into euros at the exchange rate applicable on the reporting date. The income and expenses which arise from operations in other countries are translated into euros at the average exchange rate for the entire reporting period, which generally provides

a close approximation of translation at the exchange rate on the date of transaction.

Exchange rate differences are recognized by means of the translation reserve.

When an overseas activity is wholly or partly divested, the relevant amount is transferred from this reserve to the income statement.

1.5 FINANCIAL INSTRUMENTS

Financial instruments comprise receivables, funds, loans and other financing obligations, trade debts and other payables. Financial instruments further include contracts with closed derivatives that are separated by the company from the basic contract and accounted separately: if the economic benefits and risks of the basic contract and its closed derivative are not closely related; if a separate instrument with the same conditions as the contract would meet the standard definition of a derivative, and if the combined instrument is not valued at the actual current value when processing value changes in the income statement. Financial instruments, including those derivatives which are separated from the underlying contracts, are at actual value upon the first entry, whereupon the premium or discount and directly attributable transaction costs are incorporated. If in a subsequent valuation the instruments are not valued at actual value, with value differences

processed within the income statement, directly attributable transaction costs are included in the initial valuation.

Closed financial instruments which are not separated from the underlying contract are processed in accordance with the requirements stated in that contract.

Following the first entry, financial instruments are valued in the manner described below.

Loans, other receivables, borrowings and other payables

Loans, (other) receivables, as well as borrowings and other liabilities are valued at the amortized cost price, based on the effective interest method. The effect of discounting short-term receivables and liabilities which are not subject to interest will generally be insignificant and are therefore entered at face value. In the case of loans extended and (other) receivables, the valuation is adjusted as necessary to reflect any extraordinary depreciation losses.

Derivative financial instruments

Derivatives are at cost price or current market value, whichever is the lower, except where the cost hedge model is applied. TNO makes only limited use of forward exchange transactions in order to hedge exchange rate risks further to either sales or purchase transactions. Where currency contracts are indeed entered into to protect monetary assets

and liabilities, the hedge accounting method is applied to ensure that the results upon translation are not adversely affected by exchange rate fluctuations on the reporting date itself. The difference between the 'spot' exchange rate on the closing date of the forward exchange contract and the forward rate itself is amortized over the entire term of the forward contract.

There is one TNO group company which uses interest rate swaps to hedge interest rate risks on long-term loans. Here too, the cost hedge accounting method is applied to ensure that the net interest costs on the income statement are not subject to exchange rate fluctuations. The stated interest costs therefore represent the amount of interest paid to financiers, adjusted by the amount of gains or losses which accrue on the rent swaps.

Where cost hedge accounting is applied, the initial valuation is based on the 'fair' value. No adjustment is made provided the derivative concerned is intended solely to hedge the risk of a future transaction which is expected to take place at some time in the future. When that transaction is to be included in the income statement, the loss or gain associated with the derivative instrument becomes accountable. Where the hedged position of a forecast transaction results in the entry on the balance sheet of a non-financial asset, the cost price of that asset is adjusted by the value of the

hedging results which have not yet been included in the income statement.

A percentage loss greater than the amount which is hedged by the derivative instrument is entered at cost price or current market value, whichever is the lower. Hedging arrangements terminate immediately upon expiry or sale of the derivative instrument. Any cumulative gains or losses which have not yet been entered onto the balance sheet will be entered as an accrual or prepayment until the transactions concerned are concluded. If it appears unlikely that the transactions will take place at all, the cumulative gains or losses are transferred to the income statement. TNO monitors all hedging arrangements using a dedicated registration system, and regularly reassesses their effectiveness by ensuring that there is no over-hedging.

1.6 INTANGIBLE ASSETS

Goodwill is defined and calculated as the difference between the acquisition price of a participating interest and TNO's share of the net fair value of the identifiable assets and liabilities of the entity concerned, less cumulative amortization and impairment. Goodwill is amortized over the expected economic life term of the participating interest, which in principle is limited to five years. Other intangible assets relate to past development costs and are capitalized

if and when the resultant product is deemed commercially viable. The asset can be fulfilled if it is technically feasible to complete development, if the company concerned has the intention of doing so and then to exploit the product (whereby there must be adequate financial, technical and other resources), if the company has the ability to do so, the product will generate adequate economic returns, and expenditure during the development process can be assessed with a reasonable degree of accuracy. Development costs are valued at the manufacturing price less accumulated depreciation and extraordinary value depreciation. The primary costs are the salaries of the research and development staff and any external expertise, together with licensing rights and software. At the culmination of the development phase, the capitalized costs are amortized over the duration of the expected usage period of the product, which in principle will not exceed five years. Depreciation is linear. Capitalization will only occur if there is a reasonable likelihood that the costs will be covered by future income.

1.7 PROPERTY, PLANT AND EQUIPMENT

Tangible fixed assets comprise property, plant and equipment and are valued at the cost price of acquisition, or if produced by the organization itself, at the cost of manufacture, less accumulated depreciations based on expected economic life and any extraordinary

depreciations.

Depreciation is calculated as a percentage of cost using the linear method over the entire economic life term of the asset in question. Land, buildings under construction and prepayments on buildings, plant or equipment are not subject to amortization.

1.8 FINANCIAL ASSETS

Participating interests in which TNO can exert significant influence over the commercial and financial strategy are valued according to the equity method, based on net asset value as determined using the accounting policies of the TNO Organization. Participating interests with negative equity are valued at zero. Where TNO acts as guarantor for the liabilities of the interest, a separate provision is made. Amounts receivable from the interest are initially charged against this provision and thereafter against provisions to an amount equivalent to TNO's share of the losses incurred by the interest, or to the payments which TNO expects to make on its behalf. Participating interests in which TNO is not able to exert significant interest are valued at acquisition price or at current market value, whichever is the lower. Loans made to non-consolidated participations are entered at amortized cost price, calculated using the effective interest method, less any impairment. Dividends are booked against the period

in which they become payable. Interest income is recognized in the period to which it relates, based on the effective interest rate. Gains or losses are entered under financial income and expenses.

1.9 IMPAIRMENT

Non-current assets with a longer life term are tested for impairment if there is any indication that the asset's carrying amount will not be recovered. The recoverability of current (in use) assets is assessed by comparing the carrying amount (book value) against the estimated cash value of the new cash flows which the asset will generate. If the carrying amount of an asset is higher than the cash value of the cash flows it will generate, impairment is applied to the amount of the difference between carrying amount and recoverable value.

1.10 INVENTORIES

Raw materials and consumables are valued at cost price or net realizable resale value, whichever is the lower. The valuation takes account of any depreciation at the reporting date.

1.11 WORK IN PROGRESS

Work in progress refers to contract research projects which have yet to be completed, whereby their value is calculated on the basis of direct project costs (such as staff salaries and the costs of raw materials), overheads, and

other costs which can be charged to the client under the terms of the contract. Project costs which relate to work undertaken after the reporting date are recognized as assets if it is likely that they will generate revenue at some later date. Where necessary, a provision is formed against which project losses can be charged. The value of work in progress is reduced by the cumulative amounts already invoiced to clients.

1.12 RECEIVABLES

The accounting policies which apply to receivables are described in Section 1.5 above.

1.13 EQUITY

Financial instruments considered in terms of economic reality to be equity instruments are presented under Equity. Financial instruments considered in terms of economic reality to be a financial liability are presented under Payables. Gains and losses on these financial instruments are recognised as income or expenditure on the income statement.

Statutory reserve

The statutory reserve relates to intangible assets and non-distributable profits of participating interests in group companies which are recognized at their intrinsic value.

Appropriated reserves

Further to Article 22 of the TNO Act and Articles 4 and 5 of the Financial Reporting Guidelines for TNO, appropriated reserves may be formed to allow for future expenditure or costs, or to cover economic or technical risks. Withdrawals may only be made in accordance with the designated purpose of the reserve. The appropriated reserve for 'Civil operating risks' is intended to cover both economic and technical risks. When allocating the result each year, the TNO Board of Management designates a percentage of both government funding and market research revenue to the reserve, the maximum amount of which has been set by the government at 9.1 million euros. The appropriated reserve for 'Defence operating risks' is based on specific agreements with the Ministry of Defence and is intended to cover risks further to the performance of defence-related assignments. The TNO Board of Management consults with the TNO Council for Defence Research to determine the amount to be added to the reserve each year when appropriating the result of the Defence, Safety and Security theme. Additions may be made annually until the maximum reserve of 2.5 million euros, as agreed with the Ministry of Defence, has been reached. The appropriated reserve for 'Defence buildings' has been formed to cover future investments in construction and/or renovation projects in support of

defence-related activities. Additions to the reserve are made annually when allocating the result, subject to specific agreements with the Ministry of Defence.

1.14 NON-CONTROLLING INTERESTS

Non-controlling interests are recognized in the financial statements as the proportional value of third party holdings in the net asset value, determined in accordance with the TNO accounting policies.

1.15 INVESTMENT GRANT EQUALIZATION ACCOUNT

Funding provided by the government or third parties in respect of TNO's investment in an asset are recognized as a liability and are transferred to the income statement in instalments over the life period of that asset.

1.16 PROVISIONS

A provision is included in the balance sheet where:

- there is a current constructive or legal obligation created by some past event
- of which a reliable estimate of value can be made, and:
- an outflow of funds is likely to be required in settlement of that obligation.

Provisions are valued at the face value of the expected expenditure necessary to discharge the obligation and any accompanying losses, or the current value of the expenditure.

The provision for social obligations relates to current benefits and agreed future benefits payable to current and former employees of the TNO Organization further to the contractual terms and conditions of their employment. The component of the provision relating to current pension entitlements is valued according to actuarial calculations with a discount rate of four per cent (4%). The claims provision relates to potential liabilities arising from legal proceedings. The restructuring provision relates to costs which accrue further to current and planned reorganization processes. The redundancy (severance) provision relates to the expected costs further to the termination of current contracts of employment. The provision for major maintenance is intended to spread the costs relating to the upkeep of buildings which are in the ownership of the TNO Organization and its group companies, based on a long-term maintenance plan.

1.17 EMPLOYEE REMUNERATION AND PENSIONS

TNO has a number of pension schemes, of which the most significant is a defined-benefit plan administered by Stichting Pensioenfondsen TNO. An order issued by the Minister of Education, Culture and Science stipulates that Dutch Accounting Standard RJ271 ('Employee benefits') does not apply to the TNO Organization,

whereby liabilities in respect of pension contributions are recognized as an 'expense' to be shown on the income statement in the period in which they fall due. Insofar as the pension obligations at the reporting date have not been discharged in full a liability is formed. If the contributions already paid at the reporting date exceed the amount of the obligation, a prepayment entry is made to the value of the amount which is to be refunded by the pension fund or offset against future obligations. A provision is formed at the reporting date for any existing additional obligations to the fund or to employees if an outflow of funds is expected to be required to discharge those obligations and the amount concerned can be ascertained with reasonable accuracy. The possible existence of additional obligations is determined on the basis of the administration agreement with the pension fund the pension agreements with employees and any other express or implicit agreements with employees. The provision is valued at the best estimate of the current value of the amount needed to discharge the obligations at the reporting date.

Any surplus in the pension fund at the reporting date is recognized as a receivable if that surplus is or may be expected to accrue to the organization as disposable assets, and the value of the surplus can be ascertained with a

reasonable degree of accuracy.

1.18 CURRENT (SHORT-TERM) LIABILITIES

The valuation of current (short-term) liabilities is explained in the section on Financial Instruments.

1.19 REVENUE RECOGNITION

For the purposes of the financial statements, revenue is defined as the total of:

- market revenue (further to contract research assignments)
- government funding.

Market revenue is made up of the invoiced amounts for activities conducted on behalf of clients, excluding Value Added Tax where applicable, and the movement in the value of work in progress. Because there is a regular flow of projects throughout the year, and most are completed within a year, profits derived from work in progress are recognized upon the completion of the project.

The government provides direct funding to support the demand-led 'programme' research for the benefit of the Top Sectors and in the societal transition themes. The resources are accounted as revenue pro rata the activities conducted. The direct project costs entry relates to material costs (including those of outsourced or subcontracted work) which are incurred in the performance of the project activities.

1.20 GOVERNMENT GRANTS AND SUBSIDIES

Government grants and subsidies are initially recognized on the balance sheet as revenue received in advance once there is a reasonable assurance that the grant or subsidy will be made and that the TNO Organization will be able to fulfil the conditions which attach to its payment. Grants made to reimburse or offset costs incurred by the TNO Organization are recognized on the income statement during the period in which the costs are actually incurred. The accounting policies which apply to grants on capital expenditure are explained in Section 1.15 above.

1.21 SHARE IN THE RESULT OF PARTICIPATING INTERESTS

The entry 'share in the result of participating interests' relates solely to the TNO Organization's share in the profit or loss made by a company, stated in proportion to the organization's holding in that company. Results on transactions which involve a transfer of assets or liabilities between the TNO Organization and non-consolidated companies, or between two or more non-consolidated companies, are excluded from the statement unless and until they are deemed to have been realized. The results of participating interests which are acquired during the reporting period are included in the result of the TNO Organization from the date of acquisition,

and those which are divested during the reporting period are excluded from the result from the date of divestment.

1.22 TAXATION

Further to the provisions of Article 2.7 of the Wet op de Venootschapsbelasting (Corporation Tax Act 1969 and amendments), TNO, TNO Bedrijven B.V. and all wholly-owned subsidiaries registered in the Netherlands are exempt from corporation tax liability. TNO Bedrijven B.V. has a 99% participating interest in TNO Deelnemingen B.V., which together with all subsidiaries registered in the Netherlands is indeed subject to corporation tax. Subsidiaries registered in other tax jurisdictions are subject to the relevant taxation regime.

The taxation amounts shown in the financial statements relate to taxes on profits and deferred taxes which are payable or recoverable during the reporting period. Tax is recognized on the income statement except where it relates to items which can be recognized directly through equity, in which case the amount concerned is booked to or charged against equity.

Tax due or recoverable during the reporting period is calculated according to the rates applicable at the reporting date, whereby adjustment is made for any underpayments or overpayments in previous periods.

If there is any temporary difference

between the current book value of assets or liabilities for reporting purposes and their fiscal value, a provision for deferred tax liability is made. Where the temporary differences will result in reduced tax liability, forward loss compensation is applied and a provision for a deferred tax claim is made, insofar as it may be assumed that there will be future taxable profits against which the adjustment can be made.

Deferred tax assets are reviewed at each reporting date and are reduced should it appear unlikely that the related benefits will be realized.

1.23 CASH FLOW STATEMENT

The Cash Flow Statement is prepared using the indirect method. Cash flows in foreign currencies are translated into euros at the average exchange rate over the entire reporting period.

1.24 FAIR VALUE

Various accounting policies and notes to the financial statements require an assessment of the 'fair' value of assets and liabilities, both financial and non-financial. The method used to do so is as follows.

Receivables

The fair value of trade and other receivables is estimated according the current value of the future cash flows.

Derivatives

The fair value of currency forward contracts and interest rate swaps is based on listed market prices, where available. In the absence of listed market prices, fair value is determined by discounting expected cash flows to their present value using current interest rates to which a risk premium is applied.

Non-derivative financial instruments

The fair value of non-derivative financial liabilities (borrowings) is determined for information purposes only, and is calculated using the present value of future repayments, including interest discounted at the market interest rate at the reporting date.

Further information about the criteria on which fair value is assessed is given in the notes to the specific asset or liability concerned, where applicable.

1.25 ESTIMATES

The production of the annual financial statements requires management to apply judgement and to arrive at estimates and assumptions which may influence the precise application of the accounting policies, thus affecting the reported value of assets and liabilities as well as income and expenses. The actual results may differ from these estimates.

The estimates and their underlying assumptions are subject to ongoing review. Any revision of the estimates is applied to the period in which that

revision takes place, as well as the subsequent periods in which the effects of the revision are relevant.

1.26 RELATED PARTIES

Transactions with related parties occur if there is a relationship with the entity concerned, its participating interests and/or their directors and senior executives. In the course of its normal operations, TNO provides and receives services to and from various related parties in which TNO has an interest of 50% or less. These transactions are generally conducted 'at arm's length', i.e. under terms and conditions comparable to those which apply to third parties with whom no relationship exists.

NOTES TO THE CONSOLIDATED BALANCE SHEET AT 31 DECEMBER 2014

1 INTANGIBLE ASSETS

(in EUR x 1000)

Movements in intangible assets in 2014:

	Goodwill	Software	Totaal
Balance at 31-12-2013			
Cost	636	8.785	9.421
Cumulative amortization and impairment	-378	-4.235	-4.613
Carrying amount	258	4.550	4.808
Movement in carrying amount			
Investments	-	3.540	3.540
Disinvestments	-	-299	-299
Amortization	-46	-3.194	-3.240
	-46	47	1
Balance at 31-12-2014			
Cost	636	12.026	12.662
Cumulative amortization and impairment	-424	-7.429	-7.853
Carrying amount	212	4.597	4.809

2 PROPERTY, PLANT AND EQUIPMENT

Movements in Property, plant and equipment in 2014:

	Land and buildings	Technical plant	Technical equipment	Inventories, fixtures and fittings	Total
Balance at 31-12-2013					
Cost	219.000	151.819	194.007	16.916	581.742
Cumulative amortization and impairment	-134.393	-104.676	-148.024	-12.548	-399.641
Assets under construction or development	3.834	4.333	796	-	8.963
Carrying amount	88.441	51.476	46.779	4.368	191.064
Movements in carrying amount					
Investments	3.215	10.034	13.389	1.200	27.838
Disinvestments	-2.771	-554	-1.587	-90	-5.002
Reclassification	-	-	-	-	-
Extraordinary impairment -	-	-	-	-	-
Depreciation	-3.681	-9.877	-14.731	-1.048	-29.337
Assets under construction/development Activated during report period	-3.285	-9.310	-754	-	-13.349
Assets under construction/development new in 2014	602	13.348	802	-	14.752
	-5.920	3.641	-2.881	62	-5.098

Balance at 31-12-2014

Cost	206.251	152.063	174.203	12.125	544.642
Cumulative amortization and impairment	-124.881	-105.317	-131.149	-7.695	-369.042
Assets under construction/development	1.151	8.371	844	-	10.366
Carrying amount	82.521	55.117	43.898	4.430	185.966

The depreciation charge shown on the income statement includes the release of funds from the investment grant equalization account. The carrying value of fixed assets at 31 December 2014 includes land, buildings and technical plant with a total value of 25.3 million euros (2013: 22.4 million) of which TNO is sole beneficial owner.

Depreciation in years

	2014	2013
Land	0	0
Buildings	40	40
Technical plant	15	15
Renovations	4-15	4-15
Computer equipment	3-5	3-5
Technical equipment	5	5
Inventory, fixtures and fittings	10	10

3 FINANCIAL ASSETS

	Non-consolidated participating interests		Other loans	Total
	Share in equity	Loans		
Balance at 31-12-2013	6.652	-	155	6.807
Movements:				
Investments and extended loans	162	112	-	274
Disinvestments and repayments	-323	88	-	-235
Changes in value	1.277	-200	-	1.077
Result of participating interests	431	-	-	431
Dividend	-190	-	-	-190
Balance at 31-12-2014	8.009	-	155	8.164

Participating interests are those companies in which TNO and/or TNO Bedrijven B.V have a shareholding. A list of all direct and indirect participations is included in the notes to the non-consolidated financial statements.

4 WORK IN PROGRESS

	31-12-2014	31-12-2013
Cumulative costs less provisions for losses and risks	-	260.746
Less: invoiced amounts	-	-258.730
Total work in progress	-	2.016
Net work in progress > 0	-	82.840
Net work in progress < 0	-	-80.824
Total work in progress	-	2.016

5 RECEIVABLES

	31-12-2014	31-12-2013
Receivables from projects	48.774	59.653
Receivables from participations	243	156
Other receivables	11.795	9.322
Prepayments and accrued income	4.741	7.481
Total	65.553	76.612

Receivables totalling 1.3 million euros fall due in more than one year (2013: 1.5 million). All others have a period of less than one year.

6 CASH AND CASH EQUIVALENTS

The value of cash and cash equivalents at year-end 2014 exceeded that of the appropriated reserves in respect of operating risks, defence and defence buildings (see Para. 9). Cash and cash equivalents to a value of 111.9 million euros are freely available with no withdrawal restrictions.

7 GENERAL RESERVE

	2014	2013
Balance at 1 January	77.832	96.368
Translation differences reserve	-124	-62
Result allocation	11.359	-18.474
Balance at 31 December	89.067	77.832

8 STATUTORY RESERVE

	2014	2013
Balance at 1 January	9.249	7.772
Movement	1.222	1.477
Balance at 31 December	10.471	9.249

The statutory reserve relates to the intangible assets and non-apportionable profits of group companies.

9 APPROPRIATED RESERVES

	Balance at 31-12-2013	Withdrawals in 2014	Additions in 2014	Balance at 31-12-2014
Civil operating risks	9.075	3.600	3.600	9.075
Defence operating risks	2.500	-	-	2.500
Defence buildings	67.288	7.091	3.271	63.468
Total	78.863	10.691	6.871	75.043

10 INVESTMENT GRANT EQUALIZATION ACCOUNT

	2014	2013
Balance at 1 January	31.009	34.759
Net funds granted/repaid in respect of property, plant and equipment	516	1.339
	31.525	36.098
Release to the result	-4.625	-5.089
Balance per 31 December	26.900	31.009

11 PROVISIONS

	Balance at 31-12-2013	Withdrawals in 2014	Additions in 2014	Release in 2014	Balance at 31-12-2014
Social commitments	1.249	289	-1	93	866
Claims	800	-	-	-	800
Restructuring	9.369	8.383	5.104	1.588	4.502
Redundancy	1.304	1.096	238	1	445
Loans to participating interests	161	-	16	-	177
Major maintenance	2.065	3.185	3.270	1.043	1.107
Other	5.330	2.138	818	64	3.946
Total	20.278	16.134	9.445	1.746	11.843

Provisions to a total value of approximately 3.4 million euros are long-term in nature (2013: 3.3 million euros).

Further information about the provisions can be found in the accounting policies section.

12 LONG-TERM LIABILITIES

	31-12-2014	31-12-2013
Borrowings:		
Loans from credit institutions	13.925	17.711
Medium-term bank credit	70	-
Other borrowings	232	265
Total	14.227	17.976

Of the long-term liabilities, 11.8 million euros are of a term greater than one year but shorter than five years. The remainder (2.5 million euros) have a term longer than five years.

Holland Metrology N.V. holds a 20-year linear mortgage loan (ABN AMRO Bank), the original principle sum of which was 13 million euros. This loan was taken out to finance the construction and renovation of premises in Delft. During the period 2005-2014 Holland Metrology N.V. made repayments totalling 7.0 million euros. The short-term component of the loan has a value of 0.7 million euros and is included in the balance sheet under 'current liabilities (bank loans). The interest on this loan is 4.08% - 5,2% (swap rate + surcharge).

Holland Metrology N.V. further holds a linear mortgage loan (ABN AMRO Bank) with an original principle sum of 12 million euros, taken out to finance the construction of the Euroloop premises. The interest rate is 6.77% (swap rate + surcharge). During the period 2011-2014, repayments totalling 2.4 million euros were made. A repayment of 0.6 million euros is to be made in 2015, and this is presented on the balance sheet under current liabilities. In principle, the expiry date of the loan is 1 January, at or before which time ABN AMRO Bank will determine whether the term is to be extended and, if so, under what terms and conditions. We are assured that ABN AMRO has the intention of extending the loan period unless unforeseen circumstances present themselves, subject to the fulfilment of certain conditions with regard to ratios and prognoses.

The bank has stipulated that Holland Metrology N.V. may not allocate profits for any purpose other than the payment of dividends and repayment of loans extended by TNO Deelnemingen B.V. (which are subordinated to the bank), unless certain conditions are met. Those conditions include a solvency rate of no less than 30% and satisfactory debt/EBITDA ratios). The loan provided by TNO Deelnemingen B.V. is included in the liability capital.

In addition to these requirements, security on the loan is required in the form of:

- A first mortgage charge on property in Delft, Dordrecht and Rotterdam;
- A lien on intellectual property rights, office equipment and contents, inventories (except that of VSL B.V.), stocks and receivables;
- joint and several liability to the bank on the part of NMI Certin B.V., Verispect B.V., VSL B.V. and EuroLoop B.V.

In 2010, Vitens N.V. extended an annuity loan of 461,796 euros with a period of ten years to Ducares B.V. to finance the construction and fitting-out of laboratories. The interest rate is equivalent to 6%. During the period 2010 to 2014, Ducares B.V. made repayments totalling 185,481 euros. The short-term component of the loan is in the amount of 46,194 euros and is presented on the balance sheet under current liabilities.

13 CURRENT LIABILITIES

	31-12-2014	31-12-2013
Bank loans	1.719	1.495
Creditors	13.736	19.958
Amounts owed to participating interests	-	2
Tax and social security contributions	16.890	19.323
Pensions	18	3.837
Holiday pay	9.388	9.360
Outstanding leave entitlement	14.731	17.624
Other liabilities	40.615	37.410
Accruals and deferred income	43.997	56.391
Work in progress	8.972	-
Total	150.066	165.400

The accruals and deferred income entry relates predominately to advance payments made in respect of specific research projects, as well as accrued government funding. Of this amount, 8.4 million euros falls due after more than one year.

Work in progress	31-12-2014	31-12-2013
Cumulative costs less provisions for losses and risks	324.993	-
Less: amounts invoiced	-333.965	-
Total work in progress	-8.972	-
Net work in progress >0	76.705	-
Net work in progress <0	-85.677	-
Total work in progress	-8.972	-

FINANCIAL INSTRUMENTS**GENERAL**

In the course of its regular business operations, TNO uses a wide range of financial instruments which expose the organization to market and/or credit risks. The financial instruments are recognized in the balance sheet, together with currency forward contracts and interest rate swaps to protect future transactions, cash flows and interest rate risks. TNO does not trade in these financial derivatives. It applies procedures and guidelines intended to restrict the credit risks of each market or individual party. Should any counterparty default on payments which are due to TNO, the losses thus sustained are limited to the market value of the instruments concerned. The contract value or notional principal sum of the financial instruments is no more than an indication of the degree to which they are used, rather than the actual amount of the credit or market risk.

INTEREST RATE RISK

The interest rate risk is limited to any fluctuations in the market value of loans receivable or borrowings. It is preferable for all loans to have a fixed interest rate throughout their term. Where this is not the case, the policy of TNO is to use derivative financial instruments to manage (interim) interest rate fluctuations. Loans are held until maturity.

CREDIT RISK

TNO is exposed to credit risks further to certain transactions where losses could occur if a counterparty were to default on payment. The level of risk is limited due to the sheer number and diversity of debtors. There is only a concentration of credit risk in terms of geographic distribution, since most clients and contracting parties are registered and active in the Netherlands.

MARKET VALUE

The market value of most financial instruments recognized on the balance sheet, including extended loans, receivables,

cash and cash equivalents and short-term liabilities, is broadly equivalent to the carrying amount (book value). However, it is not possible to determine the market value of amounts owed by participating interests with a reasonable degree of accuracy (see Section 3). Long-term liabilities are entered at face value. The fair and current value of loans may differ from the face value, but again it is not possible to determine the difference with a reasonable degree of accuracy. Outstanding forward contracts in US dollars have a market value of 5.5 million euros and a contract value of 5.3 million euros. To cover the interest rate risk further to the long-term mortgage loan of 15.6 million euros (drawn), Holland Metrology N.V. has entered into interest rate swaps totalling the same amount and with terms ranging from 1 December 2018 (two contracts totalling 6 million euros) to 1 July 2025 (9.6 million euros). The former contracts (6 million euros) have a fixed coupon of 3.73% - 4.85% while the latter (9.6 million euros) has a fixed coupon rate of 4.37%, all at three-month Euribor. The principal amount of the interest rate swap contracts runs synchronous with the agreed repayment schedules of the relevant loans. At 31 December 2014, the market value of the three contracts was minus 3.5 million euros (2013: - 2.9 million euros).

ASSETS AND LIABILITIES NOT INCLUDED ON THE BALANCE SHEET

At 31 December 2014, the total of "operational lease" liabilities over the period 2015 to 2019 (inclusive) was approximately 6.5 million euros (2013: 7.5 million euros), of which approximately 3.0 million euros falls due in 2015 (2013: 3.3 million euro) and 3.5 million euros (2013: 4.2 million euros) within one to five years.

Total rental liabilities were 108.3 million euros at year end (2013: 95.3 million euros), of which 15.2 million euros (2013: 16.3 million euros) falls due within one year, 50.3 million euros (2013: 42.5 million euros) in between five years, and 42.9 million euros (2013: 36.5 million euros) in five or more years. Bank guarantees issued totalled 7.1 million euros (2013: 6.5 million euros).

At 31 December 2014, investment liabilities in Property, plant and equipment totalled 2.6 million euros (2013: 2.6 million euros).

The total of credit facilities was 15.1 million euros (2013: 19.5 million euros) and that of bank guarantee facilities was 11.0 million euros (2013: 11.0 million euros.).

Other securities and stipulations for the credit facilities are:

- negative pledge/pari passu and cross default statement
- positive/negative mortgage statement on property held in Eindhoven;
- joint account and co-liability agreement (CJMO), security type RC plus one party.

The total in sureties at year-end 2014 was 2.8 million euros (2013: 1.4 million euros). TNO is currently a litigant in various legal proceedings in connection with its regular business activities. The liabilities arising from these proceedings are not expected to be of material significance to the financial position. Provisions have been formed for all disputes and proceedings based on the face value of expenditure likely to arise in settlement of liabilities and losses in a 'worst case scenario'.

NOTES TO THE CONSOLIDATED INCOME STATEMENT

14 REVENUE

(in EUR x 1000)

	2014	2013
Revenue from contract research	355.236	383.646
Government funding re. programme research	171.172	180.479
Total	526.408	564.125

The stated revenue includes the movement in work in progress of minus 10.3 million euros (2013: 11.9 million euros).

Revenue by transition/theme/ expertise centre:

	2014	2013
Healthy Living	59.591	66.012
Industrial Innovation	85.666	94.092
Defence, Safety and Security	91.809	94.386
Built Environment	45.864	43.333
Information Society	24.656	41.932
Energy	63.477	54.655
Transport and Mobility	34.799	35.221
Technical Sciences	10.570	10.340
Earth, Life and Social Sciences	11.316	11.843
Other TNO revenue	-3.229	6.528
Revenue of TNO Bedrijven B.V. and its group companies	112.882	115.603
Intergroup revenue	-10.993	-9.820
Total	526.408	564.125

CONTRACTS

	2014	2013
Revenue from contract research by category:		
Domestic		
Government	86.883	91.211
Industry	116.946	135.931
Total domestic	203.829	227.142
International		
International organizations	37.300	44.909
Other	114.107	111.595
Total international	151.407	156.504
Total	355.236	383.646

15 OTHER OPERATING INCOME

	2014	2013
Result from disposals of Property, plant and equipment	-85	-322
Other income	14.230	15.405
Total	14.145	15.083

The stated 'other income' includes that from licences and patents, non-project-related income and costs charged on to external parties.

16 DIRECT PROJECT COSTS

	2014	2013
Accommodation and energy	596	1.654
Materials	13.895	14.659
Use of technical assets	2.298	3.296
General administrative expenses	10.455	9.939
Subcontracted work	33.930	43.131
Other expenses	5.162	1.146
Total	66.336	73.825

17 PERSONNEL COSTS

	2014	2013
Wages and salaries	232.258	248.425
Pension expenses	27.052	33.484
Other social security expenses	33.757	33.357
Other personnel costs	49.073	63.119
Movement in liability re. unclaimed leave entitlement	-254	-1.445
Use of provisions:		
– social commitments	-382	-346
– redundancy	-1.097	-1.869
– restructuring	-9.971	-7.626
– pensions	-6	-39
	330.430	367.060
Additions to provisions:		
– social commitments	-1	33
– restructuring	5.104	13.627
– redundancy	238	947
– pensions	-	-
Total	335.771	381.667

The average effective number of employees over the reporting year was 3,599, of whom 55.9 outside the Netherlands (2013: 3,896 / 63.3).

Remuneration paid to the TNO Board of Management (including pension premiums) totalled 0.8 million euros (2013: 0.8 million euros). Remuneration paid to the members of the TNO Supervisory Board totalled 0.1 million euros (2013: 0.1 million euros).

At 31 December 2014, the funding ratio ('cover rate') of Stichting Pensioenfonds TNO (being the market value of investments expressed as a percentage of the provision for future pension obligations calculated according to the principles of DNB) was 114%, subject to confirmation. This is regarded as more than adequate, whereupon the additional deposit of 2% as per the agreed short-term recovery schedule need not be made in 2015. In December 2014, the Trustees set the premium at 17% (in line with the former arrangements).

18 DEPRECIATION

	2014	2013
Depreciation of:		
- buildings	3.681	3.516
- technical plant	9.877	10.293
- technical equipment	14.731	15.332
- inventory, fixtures and fittings	1.048	1.140
	29.337	30.281
Release from:		
- investment grant equalisation account	-4.625	-5.089
Total	24.712	25.192

19 OTHER OPERATING EXPENSES

	2014	2013
Accommodation	44.469	47.623
Materials	3.446	4.254
Use of technical assets	13.162	13.737
General administrative expenses	27.069	29.763
Subcontracted work	9.978	10.397
Movements in provisions	-1.366	35
Other expenses	5.849	4.043
Contributions	918	896
Total	103.525	110.748

20 FINANCIAL INCOME AND EXPENDITURE

	2014	2013
Interest gains	1.050	1.771
Interest expenses	-1.222	-1.310
Exchange rate differences	159	-159
Total	-13	302

21 RESULT OF PARTICIPATING INTERESTS

This entry relates to the result of non-consolidated participated interests and that from the disposal or divestment of participations.

22 AUDITOR'S FEES

The fees paid to KPMG Accountants N.V. are charged against the TNO Organization, its subsidiaries and other consolidated companies further to the provisions of Section 2:382a of the Netherlands Civil Code.

	2014	2013
Audit of the financial statements	452	429
Other auditing activities	390	561
Consultancy	-	32
Total	842	1.022

FINANCIAL STATEMENTS OF THE TNO ORGANIZATION 2014

BALANCE SHEET OF THE TNO ORGANIZATION
AT 31 DECEMBER 2014

After allocation of profit

(in EUR x 1000)

			31-12-2014		31-12-2013
Non-current assets					
Property, plant and equipment	1	144.097		145.762	
Financial assets	2	46.522		46.203	
			190.619		191.965
Current assets					
Inventories		422		381	
Work in progress	3	-		4.942	
Receivables	4	52.597		58.844	
Cash and cash equivalents		94.147		97.102	
			147.166		161.269
Total			337.785		353.234
Equity					
- General reserve		89.067		77.832	
- Statutory reserve		10.471		9.249	
- Appropriated reserves		75.043		78.863	
			174.581		165.944
Investment grant equalization account					
			26.900		31.009
Provisions	5		10.368		18.781
Current liabilities	6		125.936		137.500
Total			337.785		353.234

BALANCE SHEET OF THE TNO ORGANIZATION 2014

(in EUR x 1000)

		2014	2013
Revenue contract research (domestic and international)		182.505	202.713
Revenue government contracts		70.515	73.351
Market revenue		253.020	276.064
Government funding re. programme research		171.172	180.479
Revenue	7	424.192	456.543
Other operating income ¹⁾		22.827	22.026
Operating income		447.019	478.569
Direct project costs		-61.667	-69.064
Personnel expenses	8	-276.321	-318.034
Depreciation		-18.038	-19.260
Other operating expenses		-86.273	-91.373
Operating expenses		-442.299	-497.731
Operating result		4.720	-19.162
Financial gains and expenses ¹⁾	9	989	1.677
Result from ordinary operations before tax		5.709	-17.485
Tax paid		-	-
Result from participating interests		3.052	3.019
Net result		8.761	-14.466

1) To facilitate comparison, the result from exchange rate differences (shown under other operating income in 2013) is now entered under financial costs and expenses.

CASH FLOW STATEMENT OF THE TNO ORGANIZATION

CASH FLOW STATEMENT OF THE TNO ORGANIZATION

(in EUR x 1000)

	2014	2013
Operating result	4.720	-19.162
Depreciation	18.038	19.260
Movement in provisions	-8.413	4.620
Movement in working capital (excl. cash and cash equivalents)	-416	5.285
Cash flow from operations	13.929	10.003
Interest received	1.025	1.699
Interest paid	-30	-17
Cash flow from operational activities	14.924	11.685
Investments in Property, plant and equipment	-22.838	-16.369
Investments in financial assets	-1.781	-4.925
Disinvestments in Property, plant and equipment	1.840	1.099
Disposal of participating interests and repayments received	4.390	5.868
Cash flow from investment activities	-18.389	-14.327
Investment grants received	516	1.339
Cash flow from financing activities	516	1.339
Cash flow for reporting year	-2.949	-1.303
Cash and cash equivalents at 1 January	97.102	98.410
Cash flow for reporting year	-2.949	-1.303
Exchange rate differences	-6	-5
Cash and cash equivalents at 31 December	94.147	97.102

ACCOUNTING POLICIES

General

Accounting policies which are not listed separately below are given in the notes to the consolidated financial statements.

NOTES TO THE FINANCIAL STATEMENTS OF THE TNO ORGANIZATION

NOTES TO THE BALANCE SHEET

1 PROPERTY, PLANT AND EQUIPMENT

(in EUR x duizend)

Movements in Property, plant and equipment in 2014

	Land and buildings	Technical plant	Technical equipment	Inventories, fixtures and fittings	Total
Balance at 31-12-2013					
Cost	190.085	151.232	92.020	14.482	447.819
Cumulative depreciation and impairment	-125.028	-104.231	-69.724	-11.203	-310.186
Assets under construction or development	3.000	4.333	796	-	8.129
Carrying amount	68.057	51.334	23.092	3.279	145.762
Movement in carrying amount					
Investments	3.023	10.025	7.879	825	21.752
Disinvestments	-100	-557	-1.134	-49	-1.840
Reclassification	-	-	-	-	-
Reclassification cumulative	-	-	-	-	-
Extraordinary impairments	-	-	-	-	-
Depreciation	-2.930	-9.832	-9.081	-820	-22.663
Assets under construction or development Activated during reporting year	-3.023	-9.310	-754	-	-13.087
Assets under construction or development New in 2014	23	13.348	802	-	14.173
	-3.007	3.674	-2.288	-44	-1.665
Balance at 31-12-2014					
Cost	182.346	151.467	84.637	9.627	428.077
Cumulative depreciation and impairment	-117.296	-104.830	-64.677	-6.392	-293.195
Assets under construction or development	-	8.371	844	-	9.215
Carrying value	65.050	55.008	20.804	3.235	144.097

The income statement entry 'depreciation of Property, plant and equipment' includes the release from the investment grant equalization account. The carrying value of Property, plant and equipment at 31 December 2014 includes assets to a value of 25.3 million euros (2013: 22.4 million euros) of which TNO has sole beneficial ownership.

2 FINANCIAL ASSETS

	Group companies	Participating interests	Loans	Total
	Share of equity	Share of equity		
Balance at 31-12-2013	37.301	323	8.579	46.203
Movements:				
Investments and loans extended	-	-	1.781	1.781
Disinvestments and repayments received	-	-323	-4.067	-4.390
Result from participating interests	3.052	-	-	3.052
Translation differences reserve	-124	-	-	-124
Balance at 31-12-2014	40.229	-	6.293	46.522

Group companies include the wholly-owned participating interest in TNO Bedrijven B.V.

Loans totalling 4.9 million euros have a remaining term greater than one year.

3 WORK IN PROGRESS

	31-12-2014	31-12-2013
Work in progress		
Cumulative costs less provisions for losses and risks	-	199.768
Less: cumulative amounts invoiced	-	-194.826
Total work in progress	-	4.942
Net work in progress > 0	-	77.981
Net work in progress < 0	-	-73.039
Total work in progress	-	4.942

4 RECEIVABLES

	31-12-2014	31-12-2013
Receivables from contract research	37.858	43.943
Amounts owed by group companies	7.746	5.106
Amounts owed by participating interests	243	157
Other receivables	1.789	2.157
Prepayments and accrued income	4.961	7.481
Total	52.597	58.844

Receivables totalling 1.3 million euros have a term of one year or greater. Prepayments and accrued income all have a term less than one year.

5 PROVISIONS

	Balance at 31-12-2013	Withdrawals in 2014	Additions in 2014	Release in 2014	Balance at 31-12-2014
Social commitments	1.248	289	-	93	866
Claims	800	-	-	-	800
Restructuring	8.524	7.695	4.957	1.567	4.219
Redundancy	1.304	1.096	238	1	445
Major maintenance	2.065	3.185	3.270	1.043	1.107
Other	4.840	1.845	-	64	2.931
Total	18.781	14.110	8.465	2.768	10.368

Approximately 2.3 million euros of the provision amounts are long-term in nature (2013: 2.7 million euros).

The 'social commitments' entry relates to redundancy costs, the statutory employer's differential ('top-up' payments) on incapacity (WAO) benefits, and future pension entitlements not funded from other sources.

The claims provision is formed in respect of the estimated value of current or potential claims which have yet to be settled. The likely future expenditure further to each claim is assessed separately, to include external costs.

The restructuring provision is formed to cover costs arising from current and future reorganization processes.

The redundancy provision relates to the expected costs of terminating contracts of employment further to the regular staffing level review.

The provision for major maintenance is based on the estimated costs of the work specified in the long-term maintenance plan which had yet to be completed at 31 December.

6 CURRENT LIABILITIES

	31-12-2014	31-12-2013
Creditors	10.993	14.167
Amounts owed to group companies	2.781	795
Amounts owed to participating interests	-	2
Taxes and social security premiums	13.877	16.499
Holiday pay	7.021	7.679
Unclaimed leave entitlement	14.731	15.035
Other liabilities	26.244	26.544
Accruals and deferred income	44.399	56.779
Work in progress	5.890	-
Total	125.936	137.500

The accruals and deferred income entry relates predominantly to prepayments made in respect of specific research projects and to accrued government grants and subsidies. Of the total, 8.4 million euros falls due in over one year.

WORK IN PROGRESS

	31-12-2014	31-12-2013
Work in progress		
Cumulative costs less provisions for losses and risks	284.856	-
Less: cumulative amounts invoiced	-290.746	-
Total work in progress	-5.890	-
Net work in progress > 0	71.067	-
Net work in progress < 0	-76.957	-
Total work in progress	-5.890	-

NOTES TO THE INCOME STATEMENT 2014

7 REVENUE

(in EUR x 1000)

	2014	2013
Domestic private sector	92.516	103.453
International organizations	31.958	40.217
Other international	58.031	59.043
	89.989	99.260
Government	70.515	73.351
Market revenue	253.020	276.064
Government funding re. programme research	171.172	180.479
Total	424.192	456.543

8 PERSONNEL EXPENSES

	2014	2013
Wages and salaries	187.256	201.752
Pension expenses	22.242	27.657
Other social costs	27.217	27.163
Other personnel expenses	45.406	58.758
Movement in unclaimed leave entitlement	-254	-1.442
Movement in provisions	-5.546	4.146
Total	276.321	318.034

The average effective number of employees in 2014 was 2,819, of whom 4 outside the Netherlands (2013: 3.097 / 10.7).

9 FINANCIAL GAINS AND EXPENSES*(in EUR x 1000)*

	2014	2013
Interest rate gains	1.025	1.699
Interest rate expenses	-30	-17
Exchange rate differences	-6	-5
Total	989	1.677

STATUTORY ACCOUNTABILITY (REMUNERATION)

COMPLIANCE STATEMENT: STANDARDIZATION OF REMUNERATION (WNT)

Legislation came into effect on 1 January 2013 which limits the amount of remuneration payable to directors and members of the governance boards of public and semi-public organizations (Wet Normering Topinkomens; WNT). This compliance statement has been prepared in accordance with the requirements of the Act insofar as they are applicable to the Netherlands Organization for Applied Scientific Research, and in accordance with the remuneration schedule current during the reporting year.

According to the schedule, the maximum remuneration payable to any officer of the organization in 2014 was 230,474 euros. The salaries and emoluments payable to each individual are to be calculated pro rata according to the contracted hours committed to the organization (and in the case of senior officers the duration of contract), whereby an appointment can never exceed 1.0 FTE (full time equivalent). In the case of the members of a Supervisory Board, the emoluments payable to the chairman are not to exceed 7.5% of the schedule maximum and those paid to other members must not exceed 5% of the schedule maximum.

SENIOR EXECUTIVE OFFICERS OF THE TNO ORGANIZATION

	J.H.J. Mengelers	J.W. Kelder	Prof. J.T.F. Keurentjes	F. Marring	W. Nagtegaal	Dr C.M. Hooymans
Appointment(s)	Member, Board of Management (Chair)	Member, Board of Management (Chair from 1-3-2014)	Member, Board of Management	Member, Board of Management	Member, Board of Management	Former member, Board of Management
Term of office in 2014	1/1 -28/2	1/1 - 31/12	1/2 - 31/12	1/2 - 31/12	13/1 - 31/12	1/1 - 31/12
Commitment (FTE)	1	1	1	1	1	1
Former senior official?	no	no	no	no	no	yes
Employment relationship?	yes	yes	yes	yes	yes	yes
If not, active for more than six months within the past 18 months?						
Remuneration (Amounts in euros)						
Fixed salary	51.767,00	197.122,00	171.240,00	175.878,00	105.037,00	207.080,00
Taxable expenses allowance	3.828,00	4.080,00	11.705,00	11.465,00	2.330,00	11.843,00
Deferred payments and benefits	3.395,00	8.357,00	14.694,00	13.857,00	10.489,00	16.752,00
Total remuneration	58.990,00	209.559,00	197.639,00	201.200,00	117.856,00	235.675,00
Applicable maximum under WNT	37.255,00	230.474,00	210.899,00	210.899,00	222.897,00	230.474,00
Reason for payment in excess of max. (where applicable: see notes)	1					1 and 2

1. Transition arrangements per Art. 7.3 WNT.

2. Payment of accrued holiday pay entitlement over the period 1 June to 31 December 2014.

NON-EXECUTIVE (SUPERVISORY) OFFICERS OF THE TNO ORGANIZATION

	Dr C.A. Linse	Prof. J.M. Bensing	I.G.C. Faber MBA	I.H.J. Vanden Berghe	C. van Dijkhuizen	Prof. P.P.C.C. Verbeek	H.W. Broeders
Appointment(s)	Member, Supervisory Board (Chair)	Member, Supervisory Board	Member, Supervisory Board	Member, Supervisory Board	Member, Supervisory Board	Member, Supervisory Board	Member, Supervisory Board
Term of office in 2014	1/1 - 31/12	1/1 - 31/12	1/1 - 31/12	1/1 - 31/12	1/1 - 31/10	1/1 - 31/12	1/1 - 31/12
Remuneration (in euros)							
Emoluments	24.996,00	9.516,00	15.879,00	18.000,00	15.000,00	18.000,00	18.000,00
Taxable expenses allowance	2.004,00	2.004,00	2.004,00	2.004,00	1.670,00	2.004,00	2.004,00
Deferred benefits	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Total remuneration	27.000,00	11.520,00	17.883,00	20.004,00	16.670,00	20.004,00	20.004,00
Applicable maximum per WNT	17.286,00	11.524,00	11.524,00	11.524,00	9.603,00	11.524,00	11.524,00
Reason for payment exceeding maximum (where applicable: see notes)	1		1	1	1	1	1

1. Transition arrangements per Art. 7.3 WNT.

	J.D. Lamse- Minderhoud RA
Appointment(s)	Member, Supervisory Board
Term of office in 2014	1/11 - 31/12
Remuneration (in euros)	
Emoluments	1.586,00
Taxable expenses allowance	334,00
Deferred benefits	0,00
Total remuneration	1.920,00
Applicable maximum per WNT	1.921,00
Reason for payment exceeding maximum (where applicable: see notes)	

REMUNERATION OR SEVERANCE PAYMENTS PAID TO NON-SENIOR PERSONNEL (1)

Position(s)	researcher	director
Service in 2014	1/1 - 31/1	1/1 - 30/11
FTE	1	1

Remuneration (in euros)

Salary	22.182,00	225.176,00
Taxable expenses allowance	0,00	10.496,00
Deferred benefits	768,00	15.582,00
Total remuneration	22.950,00	251.254,00
Applicable maximum per WNT	19.575,00	210.899,00
Reason for payment exceeding maximum (where applicable: see notes)	1	1

PAYMENTS MADE IN 2014 FURTHER TO TERMINATION OF EMPLOYMENT

Position (s)	researcher	director
Total of severance payments	226.505,00	-
Applicable maximum per WNT	230.474,00	-

REQUIRED INFORMATION 2013

Position (s)	researcher	director
Total of severance payments	1/1 - 31/12	1/1 - 31/12
Applicable maximum per WNT	1	1

Remuneration (in euros)

Salary	89.655,00	201.413,00
Taxable expenses allowance	0,00	11.450,00
Deferred benefits	10.617,00	19.840,00
Total remuneration	100.272,00	232.703,00

1. The WNT maximums do not apply to personnel in these grades. The act does however require the publication of the above information.

REMUNERATION OF SEVERANCE PAYMENTS PAID TO NON-SENIOR PERSONNEL (2) *)

Position(s)	Empl. staff and support	Senior Scient. Specialist	Senior Scient. Specialist	Senior consultant
Service in 2014	nvt	nvt	nvt	nvt
FTE	1	1	1	1
Remuneration (in euros)				
Salary	12.575,00	1.072,00	10.420,00	59.921,00
Taxable expenses allowance	0,00	0,00	18,00	0,00
Deferred benefits	-305,00	-351,00	-356,00	-369,00
Total remuneration	12.270,00	721,00	10.082,00	59.552,00
Applicable maximum per WNT	0,00	0,00	0,00	0,00
Reason for payment exceeding maximum (where applicable: see notes)	3	3	3	3

PAYMENTS MADE IN 2014 FURTHER TO TERMINATION OF EMPLOYMENT

Total severance payments	251.208,00	299.262,00	265.245,00	346.800,00
Applicable maximum per WNT	228.559,00	228.559,00	228.559,00	228.559,00
Reason for payment exceeding maximum (where applicable: see notes)	1	1	1	1

REQUIRED INFORMATION 2013

Position(s)	Empl. staff and support	Senior Scient. Specialist	Senior Scient. Specialist	Senior consultant
Service in 2013	1/1 - 20/12	1/1 - 20/12	1/1 - 20/12	1/1 - 20/12
FTE	1	1	1	1
Remuneration (in euros)				
Salary	81.040,00	86.913,00	103.019,00	110.765,00
Taxable expenses allowance	0,00	0,00	3.376,00	0,00
Deferred benefits	10.056,00	9.801,00	11.721,00	12.191,00
Total remuneration	91.096,00	96.714,00	118.116,00	122.956,00

1. The WNT schedule maximums do not apply to personnel in these grades. The Act does however require the publication of the above information.

*) The information regarding these employees was already shown in the 2013 WNT report, according to the then applicable law.

3. The employment of these persons was formally terminated on 31 December 2013. The amounts of the severance payments were (re)calculated to make allowance for holiday pay entitlement, unclaimed leave, etc. based on the contracted terms and conditions of employment.

WNT REPORT 2014

Based on current legislation, the clarification of the legal definition of a 'senior officer' (as provided by the amending articles 2014) and the recent restructuring further to the TNO governance decision of 24 June 2014, all members of the Board of Management and the Supervisory Board qualify as 'senior officers' in the meaning intended by the WNT. Pursuant to Article 1.1b of said Act, the members of these governance bodies are the only persons within organization who do so.

Although listed as such in the Annual Report 2013, persons occupying positions at the next highest management level of the current organizational structure are not recognized as 'senior officers' in the meaning and intent of the WNT, and are therefore not categorized as such in the current annual report.

PARTICIPATING INTERESTS

AT 31 DECEMBER 2014, TNO HELD A DIRECT OR INDIRECT PARTICIPATING INTEREST IN THE FOLLOWING ENTITIES:

Name	Principle location	%
TNO Bedrijven B.V.	Delft	100
TNO Deelnemingen B.V.	Delft	99
TNO Technostarters B.V.	Delft	100
TNO Management Consultants B.V.	Apeldoorn	100
CBO B.V.	Apeldoorn	100
Dutcheer B.V.	Delft	100
TASS International B.V. (v/h TAIN)	Delft	100
- TASS International Software and Services B.V. (v/h TNO Automotive Safety Solutions B.V.)	Delft	100
- TASS International Software B.V. (v/h TNO Madymo B.V.)	Delft	100
- TASS International Inc. (v/h TNO Madymo North America Inc.)	Delaware, USA	100
- TASS International K.K.(v/h TNO Automotive Japan K.K.)	Yokohama, Japan	100
- TASS International GmbH (v/h TASS Germany GmbH)	Stuttgart, Germany	100
- TASS International Co. Ltd. (v/h TNO Automotive Shanghai Co. Ltd.)	Shanghai, China	100
- TASS International Co. Ltd. (v/h TNO Automotive Korea Ltd.)	Seoul, South Korea	100
- TASS International Homologations B.V. (v/h TNO Homologations B.V.)	Helmond	100
- TASS International Powertrain Center B.V. (v/h European Electric Mobility Center B.V.)	Helmond	100
- TASS International Mobility Center (v/h AFB Driving Guidance Lab)	Helmond	100
- TASS International Safety Center B.V. (v/h TTAI)	Helmond	100
Den Haag Centrum voor Strategische Studies B.V.	The Hague	80
Holland Metrology N.V.	Delft	100
- Verispect B.V.	Delft	100
- NMI Certin B.V.	Delft	100
- NMI Italia S.R.L.	Padua, Italy	85
- VSL B.V.	Delft	100
- Euroloop B.V.	Rotterdam	100
TNO Diana B.V.	Delft	70
- Femsys Ltd.	Leicester, UK	100
- TNO Diana NA Inc.	Delaware, USA	100
DUCARES B.V.	Zeist	100
SU Biomedicine B.V.	Zeist	70
Delft Patents B.V.	Delft	80
TNO Triskelion B.V.	Zeist	100
ProQares B.V.	Rijswijk	100
- ProQares USA Inc.	Washington, USA	100
CelSian Glass & Solar B.V.	Eindhoven	100
TNO Heimolen B.V.	Bergen op Zoom	100
TNO International Agencies B.V.	Delft	100
Prime Data B.V.	Delft	100
LDI Systems B.V.	Delft	100
ENDURES B.V.	Den Helder	100
Value2Share B.V.	Amsterdam	85

THE FOLLOWING ENTITIES ARE NOT CONSOLIDATED:

Name	Principle location	%
MEST Corp. Inc.	Lake Oswego, USA	6
Beyond Genomics Medicine Inc.	Waltham, USA	0
Transport & Mobility Leuven N.V.	Leuven, Belgium	50
Prime Vision B.V.	Delft	40
- Scapeye B.V.	Delft	50
GnTel B.V.	Groningen	34
Kestrel Displays Ltd.	Portsmouth, USA	20
Noord Tech Venture C.V.	Groningen	3
Delbia B.V.	Beverwijk	24
Dyadic International, Inc.	Jupiter, USA	0,1
NMI UK Ltd.	Bangor, UK	51
GluGreen	Helmond	20
Dariuz B.V.	Eindhoven	30
Efectis Holding SAS	St. Remy les Chevreuse, France	50
- Efectis France SAS	St. Remy les Chevreuse, France	100
- Efectis Ibérica S.L.	Madrid, Spain	27
- Efectis Investment NL B.V.	Rijswijk	100
- Efectis Nederland B.V.	Delft	100
- Efectis Ibérica S.L.	Madrid, Spain	27
- Efectis Real Estate Company B.V.	Rijswijk	100
- Efectis Eurasia A.S.	Istanbul, Turkey	100
- Efectis Era Avrasya A.S.	Istanbul, Turkey	66
SoLayTec B.V.	Eindhoven	27
BATAVIA Bioservices B.V.	Leiden	25
- BATAVIA Holdings Inc.	Delaware, USA	100
- BATAVIA Bioservices Inc.	Delaware, USA	100
Triple E Consulting - Energy, Environment & Economics B.V.	Rotterdam	25
YES!Delft B.V.	Delft	20
Soliqz B.V.	Delft	100
Automotive Facilities Brainport Holding N.V.	Helmond	24
APP Beheer B.V.*)	Bergen op Zoom	30
- Aerospace Propulsion Products B.V.	Hoogerheide	100
- APP Onroerend Goed B.V.	Klundert	100
Cosanta B.V.	Bergen op Zoom	46
Biodentify B.V.	Zeist	95
Innoser Laboratories B.V.	Leiden	50
ConsumersVoice B.V.	Groningen	90

*) From June 2014.

PARTICIPATING INTERESTS

DIVESTED/DISCONTINUED IN 2014:

Name	Principle location	%
TNO Diana (UK) Ltd.	Leicester, UK	100
Investors in People Nederland B.V.	Eindhoven	100
WTCW N.V.	Amsterdam	6
Delft Sense B.V.	Delft	50
Sino-Euro Biomedicine Co. Ltd.	Chengdu Sichuan, China	50

STATEMENT OF THE TNO BOARD OF MANAGEMENT

The consolidated and company balance sheet as at 31 December 2014 and the consolidated and company profit and loss account for the year then ended have been derived from the financial statements of TNO for the year 2014.

Our auditors issued an unqualified opinion on these financial statements in their auditor's report, dated March 23, 2015. This auditor's report, as a part of the Dutch Annual Audit, Can be obtained from TNO.

MEMBERSHIP OF BOARDS AND COUNCILS

Dr C.A. Linse

Chair Since 1 March 2011

- Chairman, Supervisory Board of MN Services NV
- Supervisory director of AKZO Nobel Nederland BV
- Supervisory director of MRC Global Inc. Houston
- Member of the governing board of Technology Foundation STW
- Chairman of Netherlands Commission for Environmental Assessment

I.H.J. Vanden Berghe

Since 1 February 2011

– Administrator General of the National Geographic Institute

Various executive positions, including:

- President of Eurogeographics
- Principle Belgian delegate to EuroSDR-OEEPE
- (Founding) Director of EuroSDR.
- Member of the Council of Administrators General of the Parastatal Institutions
- Chairman of the Interparastatal Internship Committee
- Visiting professor at the University of Leuven
- Member of the board of the Flemish Institute for Technological Research (VITO)

Prof. J.M. Bensing

Since 1 September 2008

- Honorary Research Fellow, Netherlands Institute for Health Services Research (NIVEL)
- Professor of Health Psychology at Utrecht University
- Member of the Royal Netherlands Academy of Arts and Sciences (KNAW)

Various executive and non-executive appointments including:

- Supervisory director, Dutch Consumer Association
- Supervisory director, Flevoziekenhuis (hospital)
- Supervisory director, Medisch Spectrum Twente
- Supervisory director, De Hoogstraat Revalidation Centre
- Member, NWO Vici assessment committee.

I.G.C. Faber MBA

Since 1 October 2009

– Chief Executive Officer, FHG

Various executive and non-executive appointments, including:

- Supervisory director, Jaarbeurs Conference and Exhibition Centre, Utrecht
- Supervisory director, Rova Zwolle (waste processing)
- Board member, National Register of Supervisory Directors
- Supervisory director, Probos (sustainable forestry)

H.W. Broeders

Since 1 July 2006

Various executive and non-executive appointments, including:

- Non executive director, Forrester Research
- President of the Executive Board, Jaarbeurs Conference and Exhibition Centre, Utrecht
- Supervisory director, Triple-P N.V. (information technology)
- Chairman of the Trustees of Hilversum Museum Foundation
- President, Netherlands International Chamber of Commerce Nederland
- Trustee, International Liszt Piano Competition Foundation
- Chair, Economic Board Utrecht

J.D. Lamse-Minderhoud RA

Since 1 November 2014

- Director and Assurance Partner, PricewaterhouseCoopers Nederland (PwC), COO with responsibility for Human Capital (No other appointments)

C. van Dijkhuizen

1 November 2009 to 31 October 2014

– Director, ABN AMRO Bank N.V.

Various executive and non-executive appointments, including:

- Supervisory director, Meermanno Museum of Literature and Illustration, The Hague
- President of the National Commission on Export, Import and Investment Guarantees
- President of the Supervisory Board of NVB.
- Member of the Capital Markets Committee, Authority Financial Markets
- Governor, Duisenberg School of Finance

Prof. P.P.C.C. Verbeek

Since 1 May 2012

- Professor of Philosophy of Man and Technology, University of Twente
- Chair of the Department of Philosophy, University of Twente
- President of the Society for Philosophy and Technology.
- Member of the Netherlands Council for the Humanities
- Member of the editorial boards of Tijdschrift voor Filosofie, SATS, the Journal for Northern Philosophy and Philosophy & Technology.

Dr E.I.V. van den Hengel

1 August 2012 to 14 October 2014

- Secretary

J. Hoegge

Since 15 October 2014

- Secretary

Vice Admiral (retd) J.W. Kelder

Acting chair, TNO Board of Management from 1 March 2014 to 1 March 2015

Since 1 January 2009

Various executive and non-executive appointments including:

- Trustee, Indonesian Remembrance Centre, Bronbeek
- Member of advisory board, Stad Amsterdam (historic sailing ship used for adventure training).

P. de Krom

Chairman, TNO Board of Management since 1 March 2015

Various executive and non-executive appointments, including:

- President of the Supervisory Board of Utrecht University of Applied Sciences
- Supervisory director, HTM Personen Vervoer NV/ HTM Beheer B.V. (public transport).

Vice Admiral (retd) W. Nagtegaal

Since 1 February 2014

Various executive and non-executive appointments, including:

- Supervisory director, National Maritime Museum
- Board member, Netherlands Industry for Defence and Security (NIDV)
- Board member, Nederland Maritiemland (NML)
- Supervisory director, The Hague Centre for Strategic Studies (HCSS)
- Chairman of the Board of Trustees, Maritime Knowledge Centre Foundation (MKC).

F. Marring

Since 1 February 2014

Various executive and non-executive appointments, including:

- Supervisory director and chair of the Audit Committee, Oasen N.V.
- Supervisory director and chair of the Audit Committee, Novac B.V.

Prof. J.T.F. Keurentjes

Since 1 February 2014

Various executive and non-executive appointments, including:

- Professor, Eindhoven University of Technology
- Managing director, Keke Beheer B.V.
- Director, TKI Bio-Based Economy (until 1 October 2014)
- Supervisory director, TKI Bio-Based Economy (from 1 December 2014)
- Member of management board, TKI HTSM
- Chair of VNCI Innovation Policy Group
- Member, NWO-NCI Programme Council
- Member, VNO NCW Technology and Innovation Committee
- Member of editorial board, Chemical Engineering Processing (Elsevier)
- Member of Executive Board, Joanneum Research Forschungsgesellschaft mbH (1 March 2014 to 18 December 2014)
- Member of National Steering Committee for Applied Research (NRPO-SIA)
- Trustee, Future of Technology Foundation (STT; from October 2014).

J.H.J. Mengelers

Chairman, TNO Board of Management from 1 April 2008 to 1 March 2014

Various executive and non-executive appointments, including:

- President of the Executive Board, EARTO
- Chairman of the Supervisory Board,
- Member of the Executive Board, Joanneum Research Forschungsgesellschaft mbH
- Member, Innovation Council (Ministry of Infrastructure and the Environment)
- Member of Board of SIA (Stichting Innovatie Alliantie)
- Member of Board of SKO (Stichting Kennisontwikkeling HBO)
- Member of Board of STT (Stichting Toekomstbeeld der Techniek)
- Member of Board of Stichting Brainport

Each theme of the Strategy Plan has its own advisory council, the members of which convene several times each year to advise the theme directors and reflect on progress to date.

MOBILITY

K.M.H. Peijs, chair
H.C.A. Goddijn, TomTom
R. Paul, Port of Rotterdam Authority
A.P.J.M. Rutten, Schiphol Amsterdam Airport
Prof. B. van Arem, TU Delft
S. Riedstra, Ministry of Infrastructure and the Environment
G.H.N.L. van Woerkom, ANWB
H. Schippers, DAF Trucks N.V.
R. Koornstra, Tendris

INNOVATION IN INDUSTRY

R. Willems, chair
Prof. C.J. van Duijn, TU Eindhoven
L. Deferm PhD, IMEC Leuven
M.H. Hendrikse, NTS Group
H. Borggreve, ASML
H. van Muijen, MTI Holland B.V.
Dr H. van Houten, Philips Research
Dr B.J. Lommerts, Latexfalt B.V.
M. Lubben, DSM
Dr B. Leeftink, Ministry of Economic Affairs

ENERGY

J.G.M. Alders, EnergieNed, chair
G.J. Lankhorst, Gasterra
P. van Riel, FUGRO N.V.
R. Bemer
P.C. Molengraaf, Alliander
Prof. T.H.J.J. van der Hagen, TU Delft
E.J. de Vries, Ministry of Economic Affairs
Prof. G.J. van der Zwaan, Utrecht University
A.F. van der Touw, Siemens Nederland
J.F. de Haas, Eneco
J.D. Bokhoven, Energie Beheer Nederland B.V.
G.J.M. Schotman, Shell Nederland
T. Klip-Martin, Vallei and Veluwe Water
L.E.C. van der Leemput, NAM B.V.
B.J. Krouwel
C.B.F. Kuijpers, Ministry of Infrastructure and the Environment

BUILT ENVIRONMENT

S.M. Dekker, chair
M. Demmers, Royal Haskoning DHV
J.H. Dronkers, Ministry of Infrastructure and the Environment
M.M. Frequin, Ministry of the Interior and Kingdom Relations
Prof. R. van Kempen, Utrecht University
L.H. Keijts, Stichting Portaal
N.J. de Vries, Koninklijke BAM N.V.
A-M. Rakhorst, Search B.V.

DEFENCE, SAFETY AND SECURITY

Gen. (retd) A.C.J. Besselink, chair
Gen. (retd.) E. Oliemans
H.J.J. Lenferink, Mayor of Leiden
H. van Zwam, KLPD
G. van Klaveren, Commandant, Limburg-Zuid Regional Fire Service (Maastricht)
M.A. Geurtsen
C. van Vliet, NIDV
Prof. B.J.M. Ale
F.J. Abbink
K.W. Bogers, Siemens Nederland N.V.
M.G.M. Koning ter Heege, Thales Nederland
Mr Roffel

INFORMATION SOCIETY

A.H. Lundqvist, SURF Foundation, chair
E.H.M. Hoving, KPN
Prof. B.P.F. Jacobs, University of Nijmegen
Prof. W. Jonker, EIT ICT labs
G.J. Buitendijk, Ministry of the Interior and Kingdom Relations

HEALTHY LIVING

Prof. E.C. Klasen, Leiden University Medical Center, chair
Dr R.W. van Leen, MBA, DSM Innovation Center
Prof. E.M.M. Meijer, Friesland Campina Corporate Centre
Prof. M. de Visser, AMC
C. Oudshoorn, VNO-NCW

› This report is structured according to the G3.1 guidelines for Sustainability Reporting, part of the Global Reporting Initiative (GRI). The guidelines have been applied at Level B (see the GRI Statement for clarification). In addition to the required information (categories 1.1 to 4.17 and the policy statements) we have included selected economic, social and environmental indicators, in accordance with the recommendation that there should be no fewer than twenty such indicators. The table below provides references to the sections and page numbers of the relevant information in the main body of this Annual Report.



GRI components	Section	Page	Remarks
STRATEGY AND ANALYSIS			
1.1 CEO's statement	Report of the TNO Board of Management 2014	4-6	
1.2 Consequences, risks and opportunities	Report of the TNO Board of Management 2014; Sustainable Impact	4-6; 33-38	
Organization profile			
2.1 Name of organization		This table	TNO stands for Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek. The standard English translation used in all communications is [the] Netherlands Organization for Applied Scientific Research.
2.2 Brands, products and/or services	Innovate with Impact	22-25	
2.3 Operational structure of the organization	Corporate governance 2014; Organization and setting	11-12; 16-17	
2.4 Location of headquarters		This table	TNO has registered offices in Delft, the Netherlands.
2.5 Countries in which permanently represented		This table	TNO holds a participating interest in various companies, the registered locations of which are listed at www.tno.nl/locaties .
2.6 Ownership structure and legal form		11-12	
2.7 Sales markets	Organization and Setting; Mission and Statutory Tasks; Innovation Landscape; Notes to the consolidated financial statements	16-17; 62-63	The apportionment of activities and revenue by stakeholder group is shown in the financial statements.
2.8 Size of organization	Personnel	27	
2.9 Organizational changes during reporting period	Organization and Setting; Innovation Landscape; Preparations for strategic period 2015-2018	16-17; 62-63	
2.10 Prizes, awards and achievements during reporting period	Report of the TNO Board of Management 2014; Personnel: Preferred Employer; Sustainable Impact; Mobility: Lean & Green Personal Mobility Award	4-6; 30, 37	
Report parameters			
3.1 Reporting period	Consolidated financial statements	46 and this table	The reporting period is the calendar year, i.e. 1 January 2014 to 31 January 2014 inclusive.
3.2 Previous report		This table	The Annual Report 2013 was published in March 2014. The CSR component is the chapter headed 'Responsible and Vital'.
3.3 Reporting cycle		This table	This report is produced annually.
3.4 Contact person(s)	Acknowledgements and contact information	95	

GRI components	Section	Page	Remarks
3.5 Process for determining contents of report	Sustainable Impact: Management and Reporting	33 en deze tabel	The material topic for CSR reporting is 'Solving societal challenges through knowledge and innovation', which is most relevant to clients, partners and employees. TNO's stakeholders are its employees (at all levels), central, regional and local government, the private sector (large industry and SME), universities, TO2 institutes and the societal midfield (NGOs and CSOs). The contents of this Annual Report have been compiled in consultation with the Board of Management.
3.6 Scope and applicability of report	Sustainable Impact: Management and Reporting	34	This Annual Report draws a distinction between the TNO (research) Organization and the operating companies in which it holds a participating interest. The calculation of the CO ₂ footprint excludes locations with fewer than twelve employees.
3.7 Restrictions re. scope and applicability	Sustainable Impact: Management and Reporting	34	
3.8 Basis for reporting on joint ventures and alliances	Notes to consolidated financial statements	46-51	
3.9 Calculation principles	Sustainable Impact: Reducing environmental impact; Notes to consolidated financial statements	35, 46 and this table	The accounting policies used in the production of the financial statements are described in detail on page 46 ff. The principles used to calculate the CO ₂ footprint are summarized on page 35, with a more comprehensive account available at www.tno.nl/MVO .
3.10 Restatements		This table	Not applicable.
3.11 Changes in reporting procedures		This table	Not applicable.
3.12 Standard disclosures		This table	
3.13 External assurance		This table	No external assurance report has been produced this year, it having been decided to allocate the budget to other CSR activities which will increase our positive impact on people and planet.
Governance, rights, responsibilities and engagement			
4.1 Governance structure	Corporate governance	11-12	
4.2 Chair of the highest governing body	Membership of boards and councils	85-86	
4.3 Independence of highest governing body	Report of the TNO Supervisory Board; Corporate governance	8; 11-12	
4.4 Mechanisms for shareholders and employees to influence the highest governing body	Report of the TNO Board of Management 2014; Organization and Setting; Preparations for strategic period 2015-2018, Stakeholders; Personnel: engaged staff	4-6; 17-18, 27	
4.5 Link between remuneration of senior governance body and organizational performance	Notes to the consolidated income statement 2014; WNT accountability 2014	75; 77	
4.6 Processes whereby the senior governance body precludes conflicts of interests	Corporate Governance 2014; Organization and Setting; Personnel: Integrity	11-12; 16, 30	

GRI components	Section	Page	Remarks
4.7 Process for determining the composition, qualifications and expertise of members of the Board of Management, including considerations re. gender and other diversity indicators	Corporate governance 2014; Personnel: Diversity	11-12; 29-30	
4.8 Mission statements and Code(s) of Conduct which have been developed by the organization itself and which are relevant to CSR performance	Sustainable Impact; Personnel	33-34; 27-29	
4.9 Board of Management procedures for evaluating, adjusting and managing sustainability performance	Organization and setting: Quality management Sustainable Impact: management and reporting	18,33,34	
4.10 Procedures for evaluating the performance of the Board of Management, with particular reference to economic, environmental and social aspects	Report of the TNO Supervisory Board; Sustainable Impact: management and reporting	8,33,34	
4.11 Account of manner in which the precautionary principle is applied	Personnel: Integrity	30	
4.12 External initiatives endorsed by the organization	Sustainable Impact	34, 37	-Transparency benchmark -Lean & Green Personal Mobility
4.13 Membership of associations, federations, etc.		This table	TNO is an active member of numerous federations, associations and networks. At the strategic international level, we are affiliated with EARTO (European Association of Research and Technology Organizations), and at the national level we are a member of the TO2 federation.
4.14 List of relevant stakeholder groups	Report of the TNO Board of Management 2014; Organization and setting: Stakeholders; Quality management	4-6; 17, 18	
4.15 Basis for selection of stakeholders	Organization and setting: Stakeholders, Satisfied clients, Satisfied staff, Excellent knowledge position	17-20	
4.16 Contact with stakeholders	Report of the TNO Board of Management 2014; Organization and setting	4-6; 17	The development of the Strategic Plan 2015-2018 involved close consultation and cooperation with external stakeholders.
4.17 Organization's response to matters raised by stakeholders	Personnel: Engaged staff	27 and this table	MVO Nederland was invited to reflect on TNO's CSR policy. The primary processes devote significant attention to CSR which has become an important spearhead for 2015. An interesting observation in 2014 was the growing number of potential clients who impose requirements with regard to Social Return. This is particularly true of public sector clients. Social Return has therefore been given even greater priority on the HR agenda.
Policy statements			
- DMA EC: Economic performance	Report of the TNO Board of Management 2014; Finance; Key Figures	4-6; 14	
- DMA EC Indirect economic impact	Report of the TNO Board of Management 2014	4-6	TNO strives to make a tangible contribution to the resolution of societal challenges, doing so in association with various partners and with a focus on five selected societal transitions.

GRI components	Section	Page	Remarks
DMA EN Policy Statement: Environment (materials, energy, emissions, waste, products and services, transport and overall)	Sustainable Impact: Reducing environmental impact	33	These aspects are included in the Policy Statement on Corporate Social Responsibility. In this report, all aspects are covered in the section on Sustainable Impact.
DMA LA Policy statement: Personnel (employment opportunity, employee relations, Health & Safety, training and diversity)	Personnel	27-31	
DMA HR Policy statement: Human rights (investment and procurement policy, non-discrimination)	Personnel: Integrity	30	These aspects are included in the Policy Statement on Corporate Social Responsibility. TNO complies with all national legislation, whereupon supplementary policy in this area is superfluous.
DMA SO Policy Statement on Social Accountability: • corruption • public policy • unfair competition	Report of the TNO Board of Management; Corporate Governance 2014; Personnel: Integrity	4-6; 11-12; 30	These aspects are included in the Policy Statement on Corporate Social Responsibility. The Supervisory Board ensures compliance with the TNO Act, as described in the section on Corporate Governance 2014. Independence and the avoidance of unfair competition are key considerations. Integrity is also important, and rules are established by the Code of Conduct which is actively discussed with all new employees.
DMA PR Policy Statement: Product Responsibility (labelling and compliance)	Organization and Setting: Excellent knowledge position, Innovating with Impact	19; 22-25	TNO's mission is to create innovations and, as a general rule, all projects culminate in the production of a final report. Action to improve quality is taken as necessary, further to the findings of the client satisfaction surveys.
Economic indicators			
EC 1 Direct economic value	Financial key figures; Key Figures	14, 42	
EC 4 Financial support from government	Financial key figures	14	
EC 8 Service provision and investment with respect for societal interests	Sustainable Impact: the Innovation for Development programme	34-35	Investments in development cooperation are a clear indication of TNO's investments with a view to promoting societal interests.
EC 9 Indirect economic impact	Report of the TNO Board of Management; Personnel, Training and Development	4-6; 27, 28	A key theme of the Strategic Plan 2011- 2014 was 'Innovation for Life'. The Strategic Plan 2015-2018 centres on five transitions which address the ambitions of the Top Sectors, as well as societal themes and challenges at both national and European level.
Environmental indicators			
EN 2 Pre-used materials from external sources	Sustainable Impact; Environmental footprint, Viafrica	35-37	
	Duurzame Impact: Milieu-voetafdruk TNO, Energie en gebouwen	35-36	
EN 3 Direct primary energy consumption	Sustainable Impact: Environmental footprint, Energy and buildings	35-36	
EN 4 Indirect energy consumption	Sustainable Impact: Environmental footprint, Energy and buildings	35-36	
EN 5 Energy efficiency	Sustainable Impact: Environmental footprint, Energy and buildings, Mobility	35-37	

GRI components	Section	Page	Remarks
EN 6 Initiatives to make energy-efficient products or services available, with quantification of reduction in energy consumption	Showcase projects, as described throughout the Annual Report; Sustainable Impact: CSR tool	26, 33-34	Sustainability and the scarcity of resources are common themes of the transitions. The actual consequences in terms of energy consumption have yet to be quantified. With a view to expanding and professionalizing the CSR policy, a pilot project intended to reveal the organization's impact on sustainability (People, Planet, Profit) has been undertaken.
EN 7 Initiatives to reduce indirect energy consumption	Sustainable Impact: Environmental footprint, Energy and buildings, Mobility	35-36	
EN 16 Emissions of greenhouse gases	Sustainable Impact: Environmental footprint,	35-36	
EN 17 Other indirect emissions of greenhouse gases	Sustainable Impact: Environmental footprint,	35-36	
EN 18 Initiatives to reduce indirect emissions of greenhouse gases	Sustainable Impact: Environmental footprint,	35-36	
EN 26 Initiatives to reduce adverse environmental impact	Sustainable Impact	35-37	
EN 29 Environmental impact of the transport of goods and employees	Sustainable Impact: Environmental footprint, Energy and buildings, Mobility	37	
EN 30 Investments in, and expenditure on, environmental protection	Sustainable Impact	33-37	
Social indicators			
LA 1 Profile of staffing establishment	Personnel: Table showing break-down, Diversity	27, 30	Of the total of 3,009 employees, 913 are female. Of the 2,276 employees with a permanent, full-time contract, 826 are female. There are 918 employees who work part-time (< 100%) of whom 393 are female. There are four employees who are permanently or indefinitely working outside the Netherlands. All four are male.
LA 3 Employee benefits which are not extended to those holding temporary or part-time contracts of employment	Personnel: Terms and Conditions of Employment	29	
LA 4 Percentage of employees covered by a collective labour agreement	Personnel: Terms and Conditions of Employment	29 and this table	The standard TNO Terms and Conditions of Employment apply to all persons having a formal employment relationship, whereby an individual Contract of Employment is signed with each employee.
LA 6 Percentage of employees represented in Health & Safety committees	Organization and setting: Safety in the workplace	18 and this table	A significant number of employees are actively involved in Health & Safety matters: 275 members of the emergency response teams, 52 prevention officers, 6 bio-safety officers, 20 radiation experts, 25 ergonomics coaches, 5 laser safety experts, one animal testing advisor and some 300 room supervisors.
LA 7 Injuries, work-related illness, sick leave rate and work-related fatalities	Personnel: Working conditions, Terms and Conditions of Employment	27-29	
LA 10 Average number of training hours per employee per year	Personnel: Training and development	28-29	This information is not monitored at the central level.
LA 11 Programmes for competence management and lifelong learning	Personnel: Training and development	28-29	
LA 13 Diversity	Personnel: Diversity	29-30	TNO's current focus is on achieving gender diversity.

GRI components	Section	Page	Remarks
LA 14 Relationship between basic salaries of men and women		This table	The standard TNO Terms and Conditions of employment apply to all persons with a formal employment relationship, whereby an individual Contract of Employment is entered into with every employee. Absolutely no distinction is made based on gender alone.
HR 2 Evaluation of main suppliers' human rights compliance		This table	TNO complies with all national legislation, whereupon supplementary policy in this aspect is superfluous.
HR 3 Training addressing human rights	Sustainable Impact: the Innovation for Development programme	34-35	All members of the Development Cooperation team receive training in ethical practices in developing regions.
HR 4 Discrimination		This table	No cases of discrimination were reported or observed during 2014.
SO 3 Training in anti-corruption policy	Personnel: Integrity	30	Integrity is one of TNO's core values and is actively addressed during the introduction programme for new employees.
SO 4 Measures in cases of (suspected) corruption		This table	No reports of (suspected) corruption were made in 2014.
SO 6 Donations to political parties		This table	TNO does not donate to, or otherwise support, any political party.
SO 7 Sanctions for anti-competitive practices	Personnel: Complaints	31	TNO was not subject to any sanctions further to anti-competitive or similar practices in 2014.
SO 8 Monetary value of significant penalties (fines) and number of non-monetary sanctions		This table	TNO was not subject to any penalties, fines or other measures further to non-compliance with legislation in 2014.
PR 5 Client satisfaction	Organization and Setting: Client satisfaction	18	
PR 9 Monetary value of significant penalties (fines)		This table	TNO was not subject to any penalties or fines, significant or otherwise, in 2014.

ACKNOWLEDGEMENTS AND CONTACT INFORMATION

› For further information about TNO, or if you have any questions or suggestions further to this report, please contact infodesk@tno.nl

TEXT AND PRODUCTION
Marketing & Communications

DESIGN
SKOLNIK, THE HAGUE

PHOTOS
NFP Photography, Hans Oostrum Fotografie, Hollandse Hoogte

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The Board of Management at the Van Leeuwenhoek Laboratory in Delft, where TNO and TU Delft conduct joint nanotechnology research.

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TNO innovation
for life

ANNUAL REPORT 2014