

2012

ANNUAL REPORT 2012

3	THE TNO STORY
4	REPORT OF THE TNO BOARD OF MANAGEMENT
9	KEY FIGURES
10	MEMBERSHIP OF THE BOARDS
13	TNO PROFILE 2012
14	REPORT OF THE TNO SUPERVISORY BOARD
15	FINANCE AND OPERATIONS
16	CORPORATE GOVERNANCE 2012
18	PEOPLE AND SOCIETY
18	- TNO AND SUSTAINABILITY
22	- EMPLOYEES MAKE THE DIFFERENCE
26	- SUSTAINABILITY IN OUR OWN ORGANIZATION
30	INDEPENDENT ASSURANCE REPORT
32	REPORT OF THE COUNCIL FOR DEFENCE RESEARCH
34	CONSOLIDATED FINANCIAL STATEMENTS
59	FINANCIAL STATEMENTS OF THE TNO ORGANISATION
72	OTHER INFORMATION
74	W FOR SUSTAINABILITY REPORTS
83	ACKNOWLEDGEMENTS

THE TNO STORY



REPORT OF THE TNO BOARD OF MANAGEMENT



EIGHTY YEARS OF IMPACTFUL INNOVATION. EIGHTY YEARS OF INNOVATION FOR LIFE!

TNO stands for working and co-operating on real solutions for social and economic issues. These are the issues related to the Grand Challenges and problems facing the Dutch business community. Issues of modernisation and innovation. This is why TNO was set up eighty years ago, in 1932. At that time, following the First World War, there were shortages of raw materials and manufacturing resources. Innovation was, therefore, badly needed in a wide range of areas. There was a particular need to translate fundamental research, which the Netherlands has always been good at, into concrete applications for industry or society in general. This led to TNO being set up on the initiative of the Royal Netherlands Academy of Arts and Sciences and it worked on innovations in many areas: from health and nutrition to security and new materials. Today there are still a wide range of issues: shortages of energy, water and raw materials, climate change, an aging population, urbanisation and security, with cyber security as a recent example. What was true eighty years ago, is still true today: times of crisis not only require austerity and reform but also investment in innovation. TNO's innovations help. TNO connects people and knowledge and that knowledge combines in surprising and well-considered ways to deliver meaningful added value. TNO believes that it is precisely in times of financial stringency and economic contraction that innovation is the way to overcome the crisis. Working together with our employees and with our partners.

HEALTHY BUSINESS

TNO in fact performed well in 2012 despite the financial loss. After all, the value of our organisation is not just expressed in its financial results but actually through our impact on Dutch society. We were aiming for a small profit of €1 million in 2012 but adverse market prospects for Holland Metrology (one of the companies in TNO Companies) and, in particular, Euroloop made recognition of impairment necessary, leading to a non-recurring write down. We considered this decision in the light of sound financial policy and looked at the technological benefits offered by Euroloop. As well as the financial result, we paid additional attention to the governance of TNO Companies during the past year as it has a greater role in achieving TNO's strategy in the 2011-2014 Strategic Plan. A reduction in the number of

supervisory structures and a direct focus on line management has been started.

The impairment led to a loss of €9.6 million for the year. TNO nevertheless managed to grow its gross revenue slightly in 2012, exceeding €600 million, despite the effects of austerities. This was achieved mainly through an increase in revenue from EU projects and international activities. This growth in revenue and the further transition of the organisation confirm that TNO can safeguard its continuity and stability. Keeping the organisation healthy requires a good overview of risks and related action and so the Board of Management started implementing structured risk management in the past year.

GRAND CHALLENGES



PRIDE IN OUR PEOPLE AND TALENT

We are proud of our employees, their expertise and their passion. Their knowledge and enthusiasm are crucial to achieving our mission. This is particularly the case with our younger employees, who we encourage in part through our annual 'young excellent researcher' award. The nominees for 2012 were Lobke Gierman, Hamed Sadeghian, Rudolf Strijkers and Goedele Geuskens: four young people at the beginning of their careers who are driven by wanting to see the results of their research help make a better and more sustainable world. The winner was Hamed Sadeghian, who saw and used the clear links between fundamental knowledge and high-tech applications.

The qualities of our employees were also noticed outside TNO. For example, Guus Roeselers was selected as 'Young Professional of the Year 2012'. The jury noted that, 'This TNO researcher presented his message and vision clearly and with passion.' Guus wants to contribute as a researcher to the ecological challenges posed by an increasing world population which is putting ever greater pressures on natural resources.

On the theme of our attractiveness as an employer, TNO candidate René Willemars was selected as Best Graduate 2012.

After various heats TNO nominated René for the final, where he competed with eleven other candidates.

The test for TNO is to link employees' individual opportunities, challenges and freedoms as closely as possible to the collective, strategic targets while also finding the right balance. To monitor this, we again held our regular employee engagement survey in 2012. Compared with the last survey at the end of 2010, the results were better in almost every area.

KNOWLEDGE AND QUALITY

Our knowledge encompasses an extensive technology portfolio, organised into seven themes and three expertise centres. Every day, our work delivers social impact and creates added value for our customers. Regular surveys show that customers put a high value on our knowledge and the projects we undertake for them.



We measure customer satisfaction continuously. Once a project has been handed over, we engage an external bureau to survey the customer's opinion. The results for 2012 showed that the response is growing but that our customer focus was rated less well than in the previous year. The results of these surveys always give rise to improvements, as satisfied customers are essential if TNO is to achieve the social impact it is aiming for.

TNO has undertaken knowledge audits for many years and in 2012 we started a new round of Knowledge Position Audits (KPAs). The KPA committees comprise external experts of international standing and they put forward findings and recommendations for technologies we need to focus on in relation to TNO's ambition as set out in the current Strategic Plan. Two KPAs were performed in 2012, on the Technical Sciences and Behavioural and Societal Sciences



expertise centres. The committees were very enthusiastic about the engagement of the TNO staff and in their opinion the level of all expertise areas is good to very good.

TNO has set up Strategic Advisory councils for each of the seven themes in order to achieve the best possible focus for our knowledge and expertise. These councils, which include external specialists, advise the boards of the themes on their priorities and substantive options. The Strategic Advisory councils highlight and regularly discuss external developments for each theme.

INNOVATION POLICY

2012 was the second year of our current 2011-2014 Strategic Plan and we have been applying the strategy to solutions for social and economic issues for two years. Internal and external developments lead to changes that force us to tighten the ongoing strategy. For example, the market opportunities in 'upstream space' seemed to deteriorate so much in the past year that we considered stopping with this activity but, after talking to our stakeholders, we decided to continue this area of work in view of the importance of this expertise and as a result of a number of developments in the outside world which enhanced opportunities for Space.

We have also identified four 'flagships': 'Smart Cities', 'Cyber Security', 'Health Innovation' and 'Applied Gaming'. These are cross-sector subjects of great social and economic significance. Working with external partners we are developing a vision for these complex subjects and incorporating it into specific projects. With this aim in mind we organised the TNO Round Tables on 'Cyber Security' and 'Serious Gaming' this year. These let us draw a range of parties into the development of our flagships and knowledge.

CO-OPERATIVE INNOVATION PAYS

Part of TNO's mission is to keep looking for strategic alliances focused on achieving impact for society and the business community. For example, the Dutch diabetes fund, businesses and TNO started innovative joint research in the Van 't Hoff Programme in 2012. This programme aims to use light technology for painless blood sugar measurements and to trace 'dormant' insulin-producing cells. This is bringing less intrusive monitoring closer and so is a stimulus to curing diabetes.

A major priority for us is to intensify our alliances with small and medium-sized enterprises as shown not only by the strengthened co-operation with the FME and MKB-Nederland business organisations and the increasing number

of projects for and with SMEs, but also by our annual Small Business Innovation Research event Technologie zoekt Ondernemer and the annual SME Round Tables. Twenty promising innovations based on TNO patents were offered during the well-attended SBIR event this year to over five hundred SME entrepreneurs, 54 of whom have shown specific interest in working on these product ideas. Twelve of these proposals were granted financial and technological support, and so TNO is contributing its application-based knowledge directly to the competitive and innovative strength of entrepreneurs who want to make a difference.

INNOVATION IN THE GOLDEN TRIANGLE

Innovation is a high priority for the government, as shown by the Top Sector policy it inaugurated in 2011. TNO has taken an active part in developing this policy from the outset: substantively by letting our research programmes form part of the roadmaps of the top sectors



and organisationally by setting up links between researchers, government and business. This forms an excellent basis for the development of application-based knowledge, benefiting society and businesses. TNO takes an active part in the management and on the committees of the top sectors, helping to detail policy. In addition, TNO decided to host the former top Embedded Systems Institute in 2012, thanks to additional contributions from businesses and the government.

The continuation of the Top Sector policy by the new government secures an ongoing innovation strategy. Participants in the knowledge infrastructure, including applied research organisations, universities and employers' organisations, are working together to maintain this policy and it was reinforced in a joint manifesto offered to the politicians involved in the formation of the new government. The current coalition agreement lists the same subjects as set

VAN 'T HOF PROGRAMMA

out in this manifesto and offers a number of stimulus measures.

The balance between fundamental and applied research requires permanent attention. There is the threat of a skewed relationship between the government's efforts in applied research at TNO and other leading technological institutions and efforts in fundamental research via NWO and universities. During the past year we again made a strong case for the proper appreciation of applied research.

We made a substantive contribution to the international debate on innovation in the Netherlands when we published the report 'The State of the Netherlands, the Innovator 2012' and with TNO's related Innovation 2020 initiative. This report was prompted by the urgent need for a structural monitor to provide coherent, deeper and more detailed insight into innovation in the Netherlands. It sets out specific recommendations for new impulses that the Netherlands requires now. The 'Innovation 2020' initiative group, which includes KNAW, NWO, USNU, VNO NCW, MKB-Nederland and ASML, met a number of times during the past year, under the chairmanship of the then ministry of Economic Affairs, Agriculture & Innovation, to formulate action to supplement the top sectors in strengthening the Netherlands' competitive position.



FASTER COMMERCIALISATION OF RESEARCH

Since 1987, pioneering applied science developed at TNO but not immediately taken up by businesses has been launched on the market through TNO Companies. We do this by spinning off knowledge into companies and alliances with other entrepreneurs with the aim of putting innovations on the market more quickly. For example, Triskelion was created from TNO's analysis groups in 2012 and employs 250 people who specialise in nutrition, chemistry and pharma. Having been spun off, Triskelion is now a commercial party focusing on promising innovations in this market and has developed needle-free vaccinations as a product and is studying potential medicines that can be used without an extensive range of expensive toxicity studies.

INTERNATIONAL PLAYING FIELD

Borders are disappearing. Governments,

companies and organisations operate on a global playing field. TNO was quick to recognise this trend and is focusing more specifically on international operations. In Europe we are concentrating successfully on participating in high-impact EU projects, increasingly in alliances with other European Research & Technology Organisations (RTOs). These come together in the European Association of Research & Technology Organisations (EARTO), of which Jan Mengelers, chairman of the TNO Board of Management, has been president since 2012. The alliance within EARTO is leading to greater influence in Brussels as shown, for example when, on its behalf, Mr Mengelers put forward a weighty counterargument to the new Rules of Participation drawn up for Horizon 2020 during a hearing of the European Parliament. Horizon 2020 is the European funding tool for research and innovation in the period 2014-2020 under the Europe 2020 strategy. The reimbursement of costs in the Rules of Participation are unacceptable to RTOs and universities as they work with a 'properly-recorded' full costing' model. This action led to the European Parliament submitting an amendment against the proposal to revise the reimbursement of costs, which is expected to be decided in March 2013.

We are also setting up more and more joint projects within EARTO, such as the

joint venture (TRI4CSS) with IFP (France) and SINTEF (Norway) for carbon capture and storage. We are, therefore, very pleased to report that the foundation of EARTO has increased co-operation among RTOs and led to visible results. These developments are important for Dutch businesses and society.

Globally, TNO has much to offer as shown by the success of the new branch offices in Qatar and Aruba. In Aruba we play a crucial role assisting the government to achieve its target of making the island completely carbon neutral by 2020 and this is perfectly in line with the 'Carbon War Room' initiated by Richard Branson. Our area of operations in Qatar has expanded rapidly and as well as innovative methods for extracting oil and gas, TNO is now also contributing to the safety of production plants. Successes such as these have prompted work on an ambitious internationalisation policy, focused on the BRIC countries, the United States and Germany.

OUR FUTURE

This Annual Report looks back on 2012—the year in which we celebrated our eightieth anniversary. We are proud of what we have achieved in those eighty years and are sure that in the next eighty we will continue to make an impact that contributes to a better and more sustainable world. The past year

reinforced our view that we can innovate our way out of the crisis. We see huge opportunities in the present government's innovation policy and the agreed funding. One point of attention, however, is the cut in spending on applied research that will erode the innovative strength of the Netherlands over the longer term. This is in contrast to the innovation policy in neighbouring countries which are actually increasing investment in knowledge and innovation.

In 2013 TNO will be preparing its new strategy for the period from 2015 to 2018 in which we will be looking more explicitly for substantive links for our seven social themes with the nine top sectors and the European 'Grand Challenges'. We will also continue to work closely with our partners in the national and international knowledge infrastructure. Co-operation on all fronts is vital if innovation is to deliver real added value.

We are convinced that we can only achieve our mission of 'Innovation for Life' with a clear understanding of sustainability. This is a common theme running through our research and consultative work. Sustainability is an integral part of our current activities. We are also working on making the TNO organisation more sustainable and in 2012 we started tightening our corporate social responsibility (CSR) policy. We

encourage our employees to contribute actively on CRS, towards making the organisation more sustainable and on TNO's active role as innovator of sustainable development in society. This vision drives our work with and for businesses and government towards a more sustainable world.

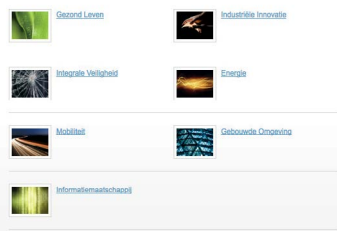
Our applied research once again made a significant contribution to the welfare of society as a whole and to the competitive strength of businesses in 2012. We take pride in this and thank our employees and partners for their contribution. This is how we work with each other to achieve our mission of 'Innovation for Life'.

TNO | Innovation for Life

TNO Board of Management

Jan Mengelers
Tini Hooymans
Jan Willem Kelder

THEMA'S



9 TOPSECTOREN

KEY FIGURES

TNO: (TNO ORGANISATION INCLUDING GROUP COMPANIES)

(in millions of euros)

	2012	2011	2010
Result			
Operating income	606.0	598.9	584.7
of which revenue	587.0	577.0	563.8
of which other operating income	19.0	21.9	20.9
Breakdown of revenue			
market revenue	394.7	388.1	369.0
demand-driven research (government funded)	192.3	188.9	194.8
Net result			
Net result	-9.6	0.4	2.4
Revenue per employee (thousands of euros) ¹⁾	134.7	133.6	127.9
Cash flow ²⁾			
Cash flow ²⁾	31.6	38.0	43.6
Expenses			
Operating expenses	617.4	599.0	581.9
of which employee expenses	379.2	372.3	364.3
Impairment	9.0	-	-
Capital			
Capital employed ³⁾	251.1	270.7	284.9
Equity	180.5	190.0	189.6
Solvency ⁴⁾ (%)	0.44	0.42	0.40
Assets			
Property, plant and equipment	197.1	220.7	244.8
Additions to property, plant and equipment	21.9	21.6	27.9
Employees			
Average number of employees	3,892	3,932	4,189

1) Revenue per employee = revenue divided by total workforce

2) Cash flow = result + amortisation and depreciation + impairment + movement in investment grant equalisation account

3) Capital employed = total assets - current liabilities

4) Solvency = equity divided by total capital

MEMBERSHIP OF THE BOARDS

TNO SUPERVISORY BOARD

AS OF 1 APRIL 2012

Dr. C.A. Linse, chairman

SINCE 1 MARCH 2011

Chairman of the Supervisory Board of Mn Services NV; member of the Supervisory Board of AKZO Nobel Nederland BV; director of MRC Global Inc., Houston; member of the Board of Technologiestichting STW.

I.H.J. Vanden Berghe

SINCE 1 FEBRUARY 2011

Administrator general of the National Geographic Institute (Belgium).

Various executive positions including: president of Eurogeographics; first Belgian delegate to EuroSDR-OEEPE; founding member and member of the Management Board of EuroSDR; chairman of the council of Administrators General of semi-government organisations; chairman of the inter-semi-governmental internship committee; visiting professor at KU Leuven; member of the Board of VITO (Flemish Institute for Technological Research).

Prof. J.M. Bensing

SINCE 1 SEPTEMBER 2008

Honorary Research Fellow of the Netherlands Institute for Health Services Research (NIVEL). Professor of Health Psychology at Utrecht University.

Various executive and supervisory positions including: member of the Royal Netherlands Academy of Arts and Sciences (KNAW),

- *KNAW Committee on Scientific Integrity in Datahandling (Schuyt Committee)*

- *KNAW Committee on Quality Indicators for the Social and Behavioural Sciences (chairman).*

Member of the Health Council of the Netherlands; vice-chairman of the Supervisory Board of Jeroen Bosch hospital; member of the Supervisory Board of the Consumer Association, member of the Supervisory Board of Flevoziekenhuis hospital; member of the Supervisory Board for the National Initiative Brain & Cognition.

I.G.C. Faber MBA

SINCE 1 OCTOBER 2009

Chief Executive Officer of Faber Halbertsma Group

Various executive and supervisory positions including: member of the Supervisory Board of Jaarbeurs N.V. (Utrecht Exhibition Centre); member of the Supervisory Board of Rova Zwolle (waste processing); member of the board of the National Register of Supervisory Directors and Regulators.

H.W. Broeders

SINCE 1 JULY 2006

Member of the Executive Committee of Capgemini Nederland. Member of the Board of ICT-Office.

Various executive and supervisory positions including: non-executive director of Forrester Research; chairman of the Supervisory Board of Jaarbeurs N.V. (Utrecht Exhibition Centre); member of the Executive Board of the Confederation of Netherlands Industry and Employers VNO-NCW; member of the governing board of the Netherlands Study Centre for Technology Trends; member of the Social and Economic Council (SER); chairman of Stichting ZZP-Erkend; member of the Supervisory Board of the Central Agency for the Reception of Asylum Seekers.

C. van Dijkhuizen, MA

SINCE 1 NOVEMBER 2009

Vice-chairman and Chief Financial Officer of NIBC Bank N.V. Various executive and supervisory positions including: member of the Board of Trustees of Museum Meermanno; chairman of the Advisory Committee on the Revision of Personal Income Tax; chairman of the Government Committee on Export, Import and Investment Guarantees; chairman of the Supervision Committee of the Dutch Banking Association.

Prof. Dr. Ir. P.P.C.C. Verbeek

SINCE 1 MAY 2012

Professor of philosophy of technology at the University of Twente.
Part-time Socrates chair at Delft University of Technology.
Chairman of the ‘Young Academy’ (part of the Royal Netherlands Academy of Arts and Sciences); member of the KNAW Science, Ethics and Integrity Committee; member of the Dutch Council for the Humanities; member of the board of the Society for Philosophy and Technology; editor of Tijdschrift voor Filosofie, De Academische Boekengids and SATS. Journal for Northern Philosophy; member of the scientific advisory board of Philosophy & Technology.

E.I.V. van den Hengel, secretary

SINCE 1 AUGUST 2012

Dr. E. Veltkamp

TO 1 MAY 2012

Former Senior Vice-president Research and Development at Unilever N.V.
Various executive and supervisory positions including: member of the Supervisory Board of ENZA B.V.

S.J. Vlaar, MA, secretary

TO 1 AUGUST 2012

TNO BOARD OF MANAGEMENT

AT 1 APRIL 2012

J.H.J. Mengelers. voorzitter

SINCE 1 APRIL 2008

Various executive and supervisory positions, including: president of the Executive Board of EARTO; chairman of the Supervisory Board of RAI Holding B.V.; member of the Executive Board of Joanneum Research Forschungsgesellschaft mbH; member of the Innovation Council (Ministry of Infrastructure and the Environment); member of the Executive Board of De Maatschappij; member of the Executive Committee of Point-One; member of the Board of SIA (Stichting Innovatie Alliantie); member of the Board of SKO (Stichting Kennisontwikkeling HBO); member of the Board of STT (Stichting Toekomstbeeld der Techniek); member of the Board of Stichting Brainport.

Dr. C.M. Hooymans

SINCE 1 OCTOBER 2002

Various executive and supervisory positions, including: member of the Supervisory Board of Koninklijke KPN N.V.; member of the Supervisory Board of Rabobank Vallei-en-Rijn; member of the Advisory Council for Science and Technology of the Ministries of Education, Culture and Science and of Economic Affairs (to 31 December 2012); member of the Board of the Radboud Foundation (Radboud University and Radboud University Medical Centre); member of the Board of the Koning Willem I Foundation for the selection of the biennial entrepreneurial award; member of Central Commission for Statistics.

Vice-Admiral (Retd) J.W. Kelder

SINCE 1 JANUARY 2009

Various executive and supervisory positions, including: member of the Board of the Indonesian Remembrance Centre at Bronbeek Arnhem; member of the Supervisory Board of the Netherlands Historical Shipping Museum; member of the Board of the Netherlands Industries for Defence and Security (NIDV); member of the Board of the Dutch Maritime Network Foundation (NML); member of the Life-Saving Council of Clipper Stad Amsterdam; commissioner of The Hague Centre for Strategic Studies (HCSS); chairman of the Board of the Maritime Knowledge Centre Foundation(MKC).

Total consolidated revenue rose by €10 million in 2012 to €587 million (see Chart 1). A third of this (€192 million) was government funding for developing new knowledge, including €23 million available for 'knowledge as power across themes' (development not linked directly to demand from society or government departments). The distribution of knowledge developed in demand-driven government programmes is shown in Chart 2.

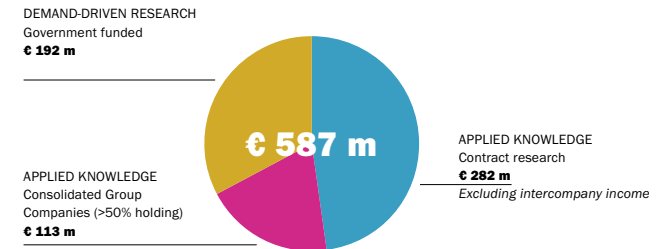
Market revenue of €395 million includes €289 million from contracts through themes and expertise centres: this applied knowledge is based on the distinctive position built up by the themes in demand-driven research (knowledge development). Chart 3 shows the shares of market revenue generated by Dutch industry (36%), International (39%) and Dutch government (25%).

€113 million of total market revenue related to the knowledge commercialised by the 45 or so companies within TNO Bedrijven B.V. This is the consolidated revenue of the group companies in which TNO has a holding of more than 50%. These activities receive no government funding and so they are undertaken in separate company structures. These companies tend to emerge as 'spin-offs' or 'spin-outs' from activities at TNO.

Total international revenue of the themes, expertise centres and TNO Bedrijven B.V. grew to €153 million in 2012.

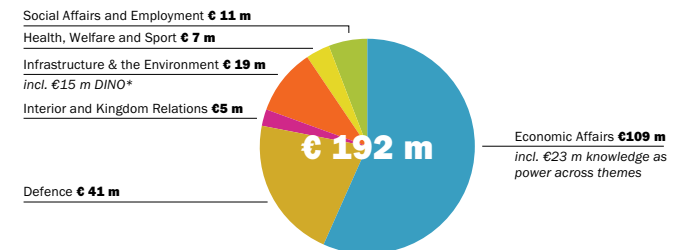
1. TNO'S CONSOLIDATED REVENUE FOR 2012 [€ 587 million]

incl. revenue of TNO Group Companies



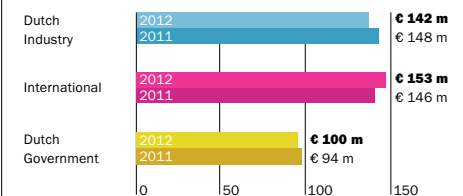
2. GOVERNMENT-FUNDED DEMAND-DRIVEN PROGRAMMES IN 2012 (€ 192 million)

*Knowledge as power within themes
Knowledge as power across themes
Policy-based and application-related knowledge investment*



** Data and Information of the Dutch Subsurface (Geological Survey of the Netherlands)*

3. CONSOLIDATED MARKET REVENUE FOR 2012 [€ 395 million]



REPORT OF THE TNO SUPERVISORY BOARD

TNO was established by statute in 1932 as an autonomous organisation with the object of using applied research for the public good. This placed greater emphasis on the economic significance of innovation within TNO, a focus that is no less relevant today. TNO plays a vital role in achieving the government's ambitions for the Dutch knowledge economy. Innovation policy is shaped in the Top Sectors structure, led by the Ministry of Economic Affairs. Top Consortia for Knowledge and Innovation have been formed within the Top Sectors and TNO has an active role in managing various key consortia. It is also contributing to the related administrative structures by examining how temporary funding can be allocated more structurally at TNO. The Supervisory Board is paying direct attention to the consequences of such restructuring. TNO has taken over the Embedded Systems Institute, partly as a result of shifts within the innovation structure in the Netherlands.

In these times of austerity, restraint and strict government regulation, it is important that the independent role and responsibilities of TNO remain guaranteed as a bridge between scientific knowledge and applications. Although TNO is receiving less government subsidy, it has nevertheless managed to increase the volume of direct work and maintained a constant workflow. Contacts with the European Union have also improved. Nevertheless, the organisation is feeling the economic and social pressure. For example, being able to offer our local and foreign employees attractive career prospects continues to be a challenge, and since TNO's success is achieved by the people who work here, this is an ongoing priority for the Supervisory Board.

The Supervisory Board actively focused on TNO Companies in 2012. The commercial performance of Holland Metrology and, in particular Euroloop, was such that impairment had to be recognised. The Supervisory Board had to strike a careful balance between a financially prudent policy and the technological benefits of the installation. This also led the Supervisory Board to critically review the governance of TNO Companies, which needed fewer supervisory structures and a more direct focus on line management. Measures to achieve

this have been implemented. The Supervisory Board also took the initial steps towards more structured risk management for the organisation as a whole.

The membership of the Supervisory Board changed in 2012 when Dr E. Veltkamp reached the end of his second term of office. The Supervisory Board thanks Dr Veltkamp for his efforts and engagement. We are pleased to have found a worthy successor in Prof P.P.C.C. Verbeek.

The Supervisory Board held meetings during working visits at various TNO sites during 2012. The Supervisory Board places great value on these site visits and will continue them in the future to stay in touch with TNO staff and their enthusiasm.

TNO has existed for eighty years. The Supervisory Board enjoyed attending the commemoration of this anniversary at the Van Nelle Factory in Rotterdam. The dynamism of the organisation and the enthusiasm of TNO's staff are always inspiring and so we can look forward to the future with confidence.

Dr C.A. Linse, chairman of the TNO Supervisory Board.

TNO closed 2012 with a loss of €9.6 million which was mainly attributable to non-cash impairment of €9.0 million recognised on technical plant at one of TNO's participating interests. Ignoring this non-recurring item, the loss for 2012 was €0.6 million, which was €2.8 million below the target for the year; it was also lower than the result for 2011 (€0.4 million profit). This deterioration was explained in part by an increase of €6.9 million in employee expenses, other operating expenses rising by €4.3 million and a fall in other operating income of €2.9 million. Against this, net revenue was up by €8.6 million and depreciation and amortisation (excluding impairment) were down by €3.2 million. The business plan for 2013 forecasts a small profit of €1.3 million.

REVENUE

TNO's revenue (TNO Organisation including group companies) increased by €10.0 million compared with 2011 to €587.0 million. Revenue of the TNO Organisation rose by €3.9 million to €482.0 million and its net revenue rose by €5.1 million to €399.8 million compared with 2011. Revenue of group companies (wholly-owned by TNO Companies) rose from €110.7 million in 2011 to €113.1 million in 2012.

Government funding was up by €3.4 million compared with 2011 to €192.3 million (€188.9 million). €6.6 million of this increase was attributable to the expenditure in 2012 of funds not used at year-end 2011; if this item is ignored, government funding fell by €3.2 million, as a result of the budget reductions. The fall in 2011 was €5.9 million.

TNO's market revenue rose by €6.6 million to €394.7 million (2011: €388.1 million) and, as in 2011, represented 67% of total revenue.

Domestic revenue (industry and government) fell slightly compared with 2011 by €0.7 million to €241.3 million. Foreign revenue, including TNO group companies, rose by 5.1% to €153.5 million.

OPERATING EXPENSES

Employee expenses rose by €6.9 million, chiefly because social security charges were €4.0 million higher and costs for temporary staff went up by €5.5 million. Against this, the addition to employee provisions was down by €2.5 million. Other operating expenses rose by €4.3 million compared with 2011, largely because of an increase of €2.9 million in the costs of subcontracted work.

Depreciation and amortisation were €5.8 million higher than in 2011 including €9.0 million of impairment at one of TNO's participating interests in 2012. Other amortisation and depreciation fell by €3.2 million.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents were €120.5 million at year-end 2012, down €19.5 million compared with year-end 2011. The fall is attributable to the cash outflow of €22.2 million on investing activities and a cash outflow of €0.5 million on financing activities. There was a cash inflow of €3.2 million on operating activities.

Corporate Governance means the sound and efficient management of an organisation that acts honestly, responsibly and transparently under proper supervision. TNO subscribes to and applies these principles as is demonstrated by the availability and use of a code of conduct, a complaints procedure, regulations and a whistle-blower scheme. TNO continued working to optimise its corporate governance during 2012.

THE BOARD OF MANAGEMENT

The role of the TNO Board of Management is to manage the organisation, including responsibility for defining and achieving the associated objectives, policy, strategy and results. The Board of Management is collectively accountable for this.

MEMBERSHIP OF THE BOARD OF MANAGEMENT

The Board of Management has three members. There were no changes in the membership in 2012.

THE SUPERVISORY BOARD

The duty of the TNO Supervisory Board is to supervise the policies of the Board of Management. In this respect, supervision covers the achievement of objectives, strategy, financial reporting and compliance with legislation and regulations. The Supervisory Board also assists the Board of Management by offering advice.

The Supervisory Board may appoint committees from among its members and delegate specific tasks to them. The Selection and Remuneration Committee and the Audit Committee, which were set up and merged in 2011, were reappointed in 2012. Through the Audit Committee, the Supervisory Board can exercise its supervisory responsibility over TNO's finances and strengthen its risk management. The Selection and Remuneration Committee develops HR subjects for the Supervisory Board. Regulations have been drawn up for both committees and the TNO Supervisory Board Regulations refer to them.

The Supervisory Board held five scheduled meetings during 2012, including three held at TNO locations other than the head office. Certain members of the Supervisory Board also attended two meetings with the Works Council. There were also five closed meetings of the Supervisory Board. Both the Selection and Remuneration Committee and the Audit Committee held three scheduled meetings and various informal meetings.

On 21 March 2012, the Supervisory Board approved the 2011 financial statements and discharged the Board of Management from liability for its management activities and policies in 2011. During its meeting on 12 December 2012, the Supervisory Board discussed its own functioning and that of the Board of Management.

MEMBERSHIP OF THE SUPERVISORY BOARD

The Supervisory Board has seven members. Prof P.P.C.C. Verbeek was appointed to succeed Dr E. Veltkamp on 1 May 2012.

ORGANISATIONAL REGULATIONS

Along with the Mandate Regulations, the regulations of the Board of Management, Supervisory Board and strategic advisory councils comprise TNO's Organisational Regulations. The Mandate Regulations precisely define authorities in order to safeguard the system of checks and balances. They also state that the auditor will examine compliance with the mandate each year (starting in 2012). TNO and the authorised officers (up to and including the second echelon as specified by the Mandate Regulations) are of course registered at the Chamber of Commerce.

ACCOUNTABILITY

Pursuant to the TNO Act, the Board of Management accounts for the government funding in advance by presenting a four-year Strategic Plan and the budget for the coming year to the Minister of Economic Affairs. Under the Act, the Board of Management subsequently accounts to the minister by submitting both the Annual Report and the financial statements for the previous calendar year. The Supervisory Board has to approve these documents.

An auditor appointed by the Supervisory Board issues a report on the true and fair view presented by the financial statements. The Supervisory Board also discusses the report with the auditor without the Board of Management being present. KPMG will audit the financial statements for five years from 2011 with two options for renewal of one year each. The auditor also performs a separate audit on the legitimacy of receipts and expenditure using the audit protocol agreed in the past between TNO and the Ministry of Education, Culture and Science.

DELFT, 20 MARCH 2013

On behalf of the TNO Supervisory Board
Dr C.A. Linse, chairman

TNO AND SUSTAINABILITY

Corporate Social Responsibility (CSR) is a way of doing business that suits TNO: it fits seamlessly into our strategy and mission and the social task we were set when TNO was founded. CSR helps us recruit talent and, moreover, customers expect TNO to do business in a socially responsible way. The diagram below shows the key CSR issues for TNO and its stakeholders. Our stakeholders are our employees, ministries, industry (large companies and SMEs) and society as a whole. The ministries we have most contact with are Education, Culture and Science, Economic Affairs and Defence. The main elements have not changed since 2011, but integrity in research has been added as this was a source of public disquiet in the past year and prompted us to clarify our views on integrity. We explain these priorities and the HR policy in this and the next two sections.

This section sets out TNO's vision on sustainability, our role in sustainability, CSR management, the code of conduct and arrangements on integrity, controversial subjects and our work for and with developing countries. We are making progress step by step on the sustainability of our own operations to create a better balance between people, planet and profit. Employees have a crucial role in this. Our ambition is for a distinctive level of world-class knowledge and this demands inspired and engaged employees. In the 'Employees make the difference' section, we explain how we are working on this. The environmental footprint, energy saving and sustainable purchasing are described in the 'Sustainability in our own organisation' section.

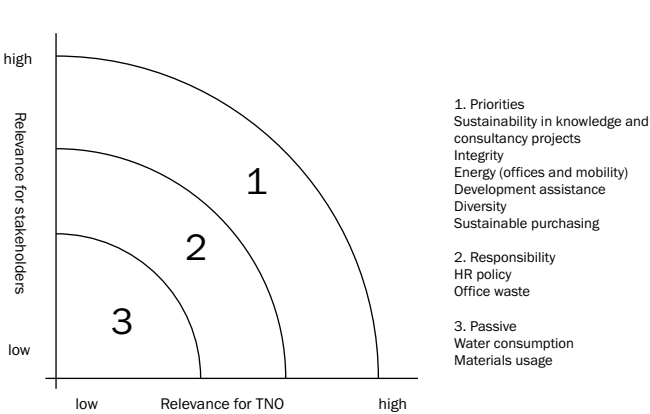
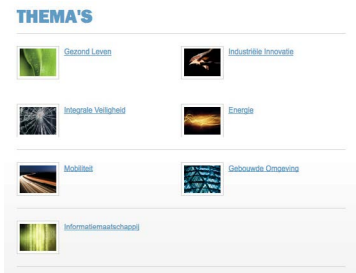


Figure 1 Main subjects

1.1 VISION ON SUSTAINABILITY AND TNO'S ROLE

Our society faces a number of major issues, such as good, affordable healthcare; clean, safe and reliable energy supplies; limiting fossil fuel consumption and CO2 emissions, and a socially and physically safe environment for living and working. Two worldwide trends underlie these issues: globalisation, which is contributing to the spread of a consumer culture, and a growing world population. The way society's needs are being met is not sustainable. Developments such as the ageing population, urbanisation, regional contraction and the new style of working bring new requirements. These are complex issues which challenge us all. They are the responsibility of knowledge institutions, the government, industry and every individual. Cooperation is crucial.



TNO believes that innovations and connecting people and knowledge are needed to offer solutions for these issues. TNO works on innovative solutions with other parties in seven social themes, including Energy, Built Environment and Healthy Living. The film below presents examples in all areas of the seven themes and there are other examples, such as projects on sustainable mobility, scarce materials and health, on the TNO website at www.tno.nl.



1.2 MANAGEMENT AND REPORTING

TNO has a CSR officer to shape its CSR policy. This is managed by a steering group of three directors which met on one occasion in 2012. In June 2012, supervision of the CSR officer was transferred to the Director of Marketing and Communications, the current CSR portfolio holder.

We have started reassessing the current programme and developing a new CSR vision more suited to TNO and this will allow us to give sound direction and content to our sustainability ambitions for the organisation, employees and society. We will detail this policy in 2013. The CSR Network of employees and other interested TNO staff were asked to comment on the new plans. In December we held two internal sessions for a TNO-wide discussion on ambition and priorities in the overall CSR approach. In defining the priorities we want to better anticipate the values of key stakeholders. We will ensure broadly-based, active involvement of employees when specifying our ambitions and targets to further shape the vision. In early 2013 we organised a dialogue with external stakeholders and we will sit around the table with the Board of Management to finalise the new vision. We are also forming a new steering group adapted to this new vision.

The Corporate Social Responsibility policy statement explains how TNO deals with people, planet and profit in terms of ethics, working conditions, health, safety and the environment. As in earlier annual reports, developments in 2012 are described using the GRI G3.1 guidelines. These are set out at the back of this Annual Report. The sections that specifically address corporate social responsibility ('Sustainability and TNO', 'Employees make the difference' and 'Sustainability in our own organisation') focus on the TNO organisation (TNO Companies is not included). In 2012, TNO took part for the first time in the Transparency Benchmark for social reporting organised by the Ministry of Economic Affairs. We can now draw lessons on entering into a more structural external dialogue, defining specific targets and better securing CSR internally when forming the new CSR vision.

INVOLVING EMPLOYEES IN CSR

TNO employees are key stakeholders for CSR. The choices they make every day help determine TNO's environmental and social impact. We have a CSR Network of employees in all locations and we actively involve them in and inform them about CSR. Part of the introductory course for new employees is a presentation on CSR and the development assistance programme. In 2012, 216 employees attended these presentations.

In the past year, we held a campaign to involve employees actively in CSR. We wanted more TNO staff to be aware of the work we do to make our organisation more sustainable. In addition we offer them concrete support to make their own active contribution. Working with Kairos Tools, TNO ran the online Treemagotchi tool for eight weeks and 278 employees took part. The subjects covered ranged from energy consumption and video conferencing to work satisfaction and sustainability in customer projects. 78% of the active participants said they had obtained additional knowledge about CSR and sustainability.

1.3 CODE OF CONDUCT AND ARRANGEMENTS ON INTEGRITY

We want conduct that ensures a cohesive, professional culture at TNO in which every employee feels safe. To this end, in 2012 we organised management workshops on TNO's core values and the way TNO works. The new code of conduct will be published in 2013. The core values are integrity, independence, professionalism and social involvement. Subjects given greater attention in the new code are research ethics and the use of social media. The new code makes responsibilities clearer too. Unlike the old code, it also addresses arrangements on integrity and clarifies a number of values. Individual employees and their superior are responsible for

meeting TNO's standards and values. We will make it possible to discuss the issues and dilemmas in the organisation in a different, more up-to-date and interactive way. If a difficult situation or dilemma arises, the manager is the first contact for a solution. If the employee has no confidence in this, he or she can always contact a counsellor. In addition, a contact desk has been set up where suspicions of irregularities can be reported and we have an integrity committee which discusses TNO-wide dilemmas and incorporates them in a policy that the Board of Management can approve. One complaint, on the proper treatment of intellectual property, was dealt with in 2012. There were otherwise no complaints or reports involving other forms of scientific integrity. Every new employee had to follow the 'professional integrity' course in 2012 as a way of properly embedding TNO's values and standards. One expertise centre now uses a Good Research Practice Code.

Integrity of the work is very important at a research organisation such as TNO. Partly as a result of media publicity on fraud, there was an internal dialogue at TNO which led to the creation of the Scientific Integrity working group. This group is carefully considering the issue of how scientific integrity can be better ensured in the organisation and will, therefore, place a great deal of attention on

implementation. In 2012 it was decided to appoint an integrity officer who started work on 1 January 2013, making a preventive contribution to promoting and ensuring the integrity of employees and managers and the organisation as a whole. He will use tools to reinforce employees' awareness that they must act in line with core values, advise on practical integrity issues that face people in their work and further professionalise the organisation of integrity.

1.4 CONTROVERSIAL ISSUES IN SOCIETY

As well as fraud in research, we also face other issues in our knowledge and advisory projects that can be controversial in society. An example is research within the Defence, Safety and Security theme. This focuses in particular on the safety and protection of the Dutch armed forces, but also on security issues in society. For this reason, part of this research has to be kept secret. The research programme for the Ministry of Defence is set up in close cooperation between the ministry and TNO. There is more information in the report of the Council for Defence Research.

TNO undertakes research that involves animal testing. TNO wants to contribute to better predicting people's social, scientific and economic requirements for the safety and efficacy of foods,

medicines and other chemicals. Animal testing is unavoidable when finding answers to certain research questions (for example, on food quality and the safety of medicines). TNO is committed to refining, reducing and replacing animal testing and we work with statisticians to calculate the most appropriate design that will ensure the quality of animal tests and reporting on the results. This has led to a 15% to 20% reduction in animals tested in some studies. A completely new facility was taken into use in 2012 to best facilitate the provision of test animals and the performance of animal testing. The old facility was closed. International accreditation with high standards for animal welfare (AAALAC) has been requested for the new facility. In 2012 innovative 3R (replace, reduce and refine) models were improved to give better forecasts of how the results of tests would apply in people. This is contributing to our goal of developing at least ten alternative methods by 2014, with at least six in use by third parties and at least one accepted by regulators. Society is demanding greater transparency and openness on animal testing. TNO contributes to this by taking part in the public debate on animal testing and alternatives, talking to stakeholders and assessing its communications on animal testing with social organisations. More information on our animal testing policy, the animal testing annual report

and the alternatives we are developing is available on: www.dierproeven.tno.nl.

Nanotechnology has huge technical potential but this is accompanied by possible health risks as a result of the particle size. Nanotechnology research at TNO focuses mainly on developing new nanoscale materials and technologies. This offers innovations such as stronger materials and new separation technologies (based on nanotags) that promote the reuse of material. Given the potential health hazards, TNO also focuses on the safety of innovative materials and technologies in the working environment by developing methods to assess risks promptly and quickly.

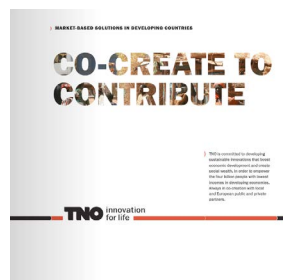
1.5 DEVELOPMENT ASSISTANCE

We are proud of our projects for developing countries. How do you run a household on less than two dollars a day? How will we cope with 70% higher demand for food in the next 40 years? These are questions facing the people of Madagascar, Ghana and many other developing nations every day. TNO's response is to develop sustainable innovations. These are relevant because our world population will have risen to nine billion people by 2040, increasing consumption and leading to shortages of natural materials. The challenge for the world in the 21st century is to develop strategies for sustainable growth and

livelihoods. Sustainable innovation with a special focus on development is key to meeting this challenge. Businesses, knowledge institutes, governments and NGOs in developing and industrialised countries will have to work together to contribute to sustainable development. Emerging economies can in theory use the enormous economic and social potential of four billion people with the lowest incomes. TNO believes it has a duty to develop sustainable innovations that offer economic development and greater welfare. This demands a combination of applied technical innovations with the related business models and the right transition management. TNO foresees a world in which poverty in developing countries is solved by and with local people. In the Innovation for Development Programme, we are developing high-tech solutions, such as the biogas socket in Bangladesh, and low-tech innovations, such as hand tools in Ghana. All these solutions are affordable and appropriate and they encourage enterprise. All our projects are embedded in the core business. Eighty TNO employees work on the Innovation for Development Programme, mainly part-time. They are all inspired by being able to make a contribution to solving global problems such as poverty. They learn a lot about complex system innovations and the international playing field. Project managers are specially trained

on innovation in developing countries, looking at culture, ethics and safety. Before travelling to developing countries they are trained in how to conduct themselves safely and ethically.

TNO makes its own investments, supplemented by financial contributions from donors and investors. In 2012 the budget was some €2.5 million, of which €1 million was invested by TNO and the remainder by market parties. This year we developed a method for analysing and influencing the 'inclusive innovation' system. This knowledge is translated in a public tool, to be published in an academic paper. Our projects are described on the website www.tno.nl/I4D.



EMPLOYEES MAKE THE DIFFERENCE

TNO marked its eightieth anniversary in 2012 by looking back with our employees on the organisation's impact on society and industry over that period. We are proud of our employees and the results they have achieved in those eighty years. We know that employees make the difference: their qualities and expertise make the impact possible and so TNO does all it can to encourage their development; with our employees we are shaping our ambition to be a breeding ground for talent.

Number of TNO employees	31 Dec. 2012	31 Dec. 2011	31 Dec. 2010
Workforce	3,409	3,403	3,776
Permanent	3,051	3,063	3,379
Fixed-term contracts	358	340	397

704 employees (21% of the total) worked part-time (less than 36 hours a week) in 2012.

Table 1 Number of employees

2.1 EMPLOYEE ENGAGEMENT SURVEY

Our employees are our greatest asset and so we periodically survey how satisfied they are with their work. In 2012, all employees took part in an employee engagement survey. Compared with the previous survey at the end of 2010, the results were better in almost all areas. One exception was Corporate Services and this was clearly related to the reorganisations and cutbacks under way or about to start. The highest scores were awarded for 'opportunities and challenges' and 'degrees of freedom'. These have a major influence on overall satisfaction and it is important to encourage and maintain them as far as possible. The challenge for TNO is to reach the right balance when creating the best possible links between significant individual opportunities, challenges and degrees of freedom to the collective, strategic targets.

The greatest potential for improvement is in cooperation and customer focus. These were identified as central themes for improvement for 2012. Work on them is underway at various levels in the organisation and will continue in 2013. To promote cooperation, we held four workshops where management

discussed the matrix organisation introduced in 2011 and the associated problems. The latest obstacles were identified then resolved. The culture TNO is aiming for was also closely examined and clarified by incorporating specific examples developed during the workshops in the core values and outlining a broader cultural image put forward by the participants. We also practised the skills for smarter collaboration. The follow up to these workshops consists of line management and a leadership project for the third layer of management.

Survey reports were tailored specifically to individual departments so that managers and employees could enter into a specific dialogue. In management meetings and TNO-wide development projects, we are working on the two selected themes of cooperation and customer-focus.

2.2 OCCUPATIONAL HEALTH AND SAFETY

VISION OF VITALITY

TNO subscribes to the statement that "Vitality includes the dimensions of energy, motivation and resilience, in which energy is characterised by feeling energetic, motivation by setting up targets

and taking the trouble to achieve them, and resilience by having the strength to face day-to-day problems and challenges” (as defined by TNO’s Jorien Strijk et al., Life Style, BSS Leiden). We do not believe that we can achieve our mission and strategy without vitality in our employees and so in 2012 we established a vision on vitality that we will develop into policy in 2013.

Vitality is initially the responsibility of the employees themselves. Managers and project managers have a major role in identification and encouragement. Prevention is a significant element of the vitality policy; after all, it is better than cure.

Vitality policy is dynamic and will be adapted constantly to current circumstances.

FITNESS CONTRACT WITH INTENZ GEZONDHEIDSPLAN

TNO entered into a contract with Intenz Gezondheidsplan on 1 February 2012 designed to promote the vitality of employees (and that of the organisation) and to encourage employees to exercise more. Employees are able to join company keep-fit sessions at nineteen sports centres throughout the country. Employees can also register for a personal health page which uses Insight, Knowledge, Action and Motivation to show how to live a healthier life.

HAPPY@WORK

TNO gives employees the opportunity to take part in the Happy@Work survey, an online course for employees who are searching for balance. It lets them regain control of their life and pleasure in doing things. The effectiveness of the course is being examined by the Body@Work research centre, an alliance between VU University Amsterdam, VU University Medical Center and TNO.

RESEARCH INTO STRESS AT WORK AMONG NEW STAFF

In the final quarter of 2012, research was undertaken into negative work pressure (stress) among new employees up to 35 years of age in TNO’s expertise centres. Sick leave and stress are among the areas of attention in the vitality policy. We are using the information obtained from this research on the experience of stress and its possible causes to draw up policy and deploy interventions closely aligned with the real experience of this target group. The research is being carried out by an HRM graduate at The Hague University of Applied Sciences. This is a win-win situation: TNO is allowing students in practice to graduate in a subject relevant to TNO.

SICK LEAVE

These measures are designed to reduce or at least stabilise the length and frequency of sick leave, which was 3.56% at the TNO organisation in 2012. This is

a slight reduction compared with 2011 (3.79%).

2.3 EMPLOYMENT CONDITIONS

In 2012 TNO and the Works Council reached agreement on employment conditions. On 1 April 2012 salaries, including holiday pay and the 13th month, were raised by 1%. On 1 July 2012 the budget for the life-course savings scheme was increased by 0.8% bringing it to 5.58%. At the same time, it was converted into a flex budget. As well as contributing to the life-course savings scheme, employees may use this sum for other purposes, which they can choose using the FlexDirect employment conditions options program. All employees with a contract of employment with TNO are covered by TNO’s employment conditions. In principle, employees with a temporary or part-time contract have the same employment conditions as those with a permanent contract. In a limited number of cases, the employment conditions may differ slightly if the employment is for a short period compared with permanent employees.

2.4 TRAINING AND DEVELOPMENT

We believe that undertaking challenging projects is the greatest encouragement to personal development at TNO. To create and maintain excellence at TNO, we always try to balance the need to deploy the person most suited to a project

with deploying someone because the project challenges and stimulates his or her development. This ensures short- and long-term excellence which, via the springboard concept, becomes available to the Dutch economy. A ‘Stepping Stone’ pilot was run in 2012 to encourage the involvement of people in projects outside their immediate area. It is a tool in which managers (project managers, business line managers, etc.) can post a project and where employees themselves can set out their skills and describe the type of projects they would like to work on. This tool is available throughout TNO.

TNO supports employees’ development with career-related interventions such as appraisal interviews, coaching, mobility and training. It is important that we share experience and expertise and so internal coaches follow a two-day course to further hone their professionalism. Result and career-development interviews were held with 56% of employees. Several elements of the TNO Academy training courses have been revised, for example, there is a programme teaching researchers how to achieve greater impact in the outside world. This programme comprises modules for staff from higher vocational students to prospective Principal Scientists. The pilot programme for consultants proved successful and is now a standard part of the Academy. The introduction programme for new

employees includes a professional integrity module.

We believe it is important that there is a good outcome for employees who for some reason no longer fit in the organisation and so we set up the Career Development Centre some years ago. In 2012, the centre held 91 career interviews. These led to referrals to an external bureau in 47 cases and the others were given a brief recommendation by TNO career advisers. Since 2012 most of these advisers have also had a recruiter background and so they can give people concrete advice on the labour market and CVs. Self-service tools are also available for employees to use when thinking about their careers and preparing for the appraisal interview with their manager.

TNO slightly raised its profile in the labour market in 2012 by starting to use social media more efficiently and pro-actively to approach groups of people we need, so that many difficult vacancies were filled. The selection of new staff was altered in 2012. TNO now uses two profiles: future top technologists who will have fundamental specialisations and achieve substantive innovation and excellence at TNO, and the 'broad profile' for people with a wider range of skills who ensure a multi-disciplinary approach at TNO. Candidates in both groups are assessed by an external bureau as part

of the selection procedure. We offer starters faster development along two routes which were integrated further in 2012: a talent development programme (with training and progression) and a traineeship.

Project management was further professionalised in 2012. Processes were clarified and a selection mechanism was introduced to match the right manager to a project of the appropriate complexity. In addition, the top of the project management line was selected: TNO has appointed two principal project managers and various distinct senior project managers. They have the specific task of leading the very demanding IPMA C and IPMA B projects.

2.5 DIVERSITY

TNO's diversity policy was refined further in 2012. TNO remains convinced of the added value of diversity in teams. Research shows that mixed teams are more innovative and create more value for the customer and also suggests that a diversity policy and specific action are needed to get female talent to the top. In view of the current asymmetry in this respect, TNO has decided to invest in actions that will boost female participation.

In 2012, the Diversity steering group, which has been in place since the end of 2010, set itself the target of

really embedding diversity in the TNO organisation. Since much research has shown that a successful diversity policy can only succeed with credible and effective action at 'the top', it involves top management in this.

TARGETS AND RESULTS

In April 2012, the Board of Management formulated new diversity targets tailored to specific groups. The targets for the end of 2014 and the interim results are set out below.

Female participation is below target in particular in the third level of management and at Principal Scientist level. Raising awareness in the second and third echelons is, therefore, on the agenda for 2013.

AWARENESS PROGRAMME

In the autumn of 2012 an external bureau specialising in diversity policy

interviewed some twenty TNO staff about the contribution a more mixed population could make to targets at TNO. This research delivered interesting insights. At the end of November, the Board of Management held a session, led by the bureau, which addressed the feedback and awareness of differences among people. As a result, each director was asked to formulate three priorities for diversity in his or her area of the business. This is the first time that we have made concrete plans and set targets by business unit at TNO.

WOMEN'S NETWORK W@T & OTHER ACTIVITIES

The first steps for a TNO-wide women's network were taken in 2011. A number of enthusiastic female professionals progressed this further in 2012 by organising a kick-off meeting on the theme of 'mind bugs' attended by some forty interested women and a number of

Grade	actual 2010	actual 2011	actual 2012	target 2014
Top (Bd of Mgt, Sup Bd, 1 st , 2 nd echelon)	28.3%	30.8%	28.2%	30%
Sub-top (3 rd echelon)	14.5%	15.8%	15.5%	30%
Principal scientist	N/A	11.5%	8.0%	30%
LD potential	N/A	36.4%	39.4%	40%
Total TNO	33.0%	30.0%	30.7%	

Tabel 2 Diversity, targets and actual

men. Since 2012 the women's network has also been part of the Diversity steering group so that their input can influence its plans as far as possible. The women's network has three priorities: greater awareness, empowerment of women and signals to the 'inner-group champions' (senior people in the organisation who set a good example and take action on diversity). The network directly reaches a large number of women.

WOMEN BIG BUSINESS EVENT

On 30 May 2012, TNO and five other companies organised the Women Big Business Event, which was designed to create awareness of diversity in an attractive, interactive way. This event was an ideal networking opportunity for the different organisations and was much appreciated by the participants.

ACTION IN 2013

The 2013 diversity targets follow from the priorities that the directors have set for their business units. The focus in 2013 is mainly on tailoring them for each business unit. The awareness process will be further encouraged among managers in the second and third echelons. The focus on gender diversity will then be extended to other areas.

2.6 EDUCATION AND INSPIRATION FOR YOUNG PEOPLE

In general TNO staff enjoy sharing their

knowledge with young people, who might join us as employees in the future. In recent years TNO has tried to interest this group in research and technology, for example by offering talented starters the opportunity and scope to develop through a traineeship or the Talent Development Programme. TNO now employs twenty trainees who work for three eight-month periods in different departments in a range of themes at TNO. This allows them to gain a broad overview of the organisation, share their insights and form links where possible.

TNO organised another winter school, following the one in 2011, in its search for top talent with a passion for technology or life sciences and with commercial drive. Forty-one Master's and PhD students took part in the school, which was run by five young TNO staff. The participants entered the world of TNO for three days of surprising speakers, useful workshops and an exciting team competition for the title 'Winter school winners 2012'.

TNO organised a Masterclass for Excellent Academics in the autumn as part of 'Eerst de klas' (First, the class), an expert programme for young academics developed by government, education and business. The participants teach four days a week and work on a commercial project for the other day. The aim was to give these academics an exciting view of TNO

with the idea that they could soon swap education for business, possibly seeing TNO as a future employer. As well as the programme, each year TNO also offers an assignment that academics can sign up for.

'Do you have an innovation that will mean something to Dutch society over the next eighty years?' TNO posed this question in its anniversary year to encourage young researchers between the ages of 16 and 30 to submit their ideas or innovations and take part in the online Not Invented Yet competition - a great opportunity for this group to learn about our multi-disciplinary organisation and the chance to win an attractive prize.

In 2012 we also renewed our alliance with Jet-Net (Youth and Technology Network Netherlands), which aims to give secondary education students a realistic picture of science and technology and to interest them in studying science. During Geoweeek, the Geological Survey of the Netherlands, which is part of TNO, took students in group 8 (11-12 year olds) on a field trip where they did tests, measured groundwater and took soil samples to discover the wonderful subterranean world. Do-it-yourself was key.

SUSTAINABILITY IN OUR OWN ORGANISATION

Corporate social responsibility must of course address the consequences of our own actions on the environment. To gain insight into our environmental impact, we first established our environmental footprint at the beginning of 2008 and this has been done each year since. The environmental policy is geared to improving this footprint and has four priority areas: energy and buildings, mobility, sustainable purchasing, and energy and ICT. Each priority has a significant effect on TNO's environmental footprint. Where possible we also embed measures to boost TNO's environmental performance in each priority area; for instance, sustainable purchasing is taken up by the purchasing organisation while ICT services make energy savings through ICT.

3.1 ENVIRONMENTAL FOOTPRINT IN 2012

In 2012 an environmental footprint was drawn up for TNO's entire production chain of energy, transport and purchased products and services.¹ The approach and method for determining the environmental footprint is described in the 'Toelichting Milieuvoetafdruk' background document at www.tno.nl/mvo. The footprint is broken down into various categories. For instance, the 'Lab and desk research' category includes all the environmental impact caused by the production of paper, computers, copiers and printers as well as the use of the internet and telecommunications. The different environmental effects due to emissions from production, travel or energy generation are added up using shadow prices (based on emission reduction costs).

Energy used in TNO's buildings contributes around a fifth of the total environmental footprint. Production generates about three-quarters of the environmental impact and the remainder is from business travel and commuting. Uncertainties in the calculation of the environmental profiles affect the relative contribution of the categories².

3.1.1 AN OVERVIEW: ENVIRONMENTAL KEY FIGURES

- **Energy:** in 2012 TNO used about 45 million kWh of electricity and 4.3 million m3 of gas. Compared with 2011 electricity consumption was up by 0.6 million kWh, while gas consumption fell by 0.8 million m3. TNO's gas consumption resulted in 11.4 kilotons of direct CO2 emissions in 2012. The fall in

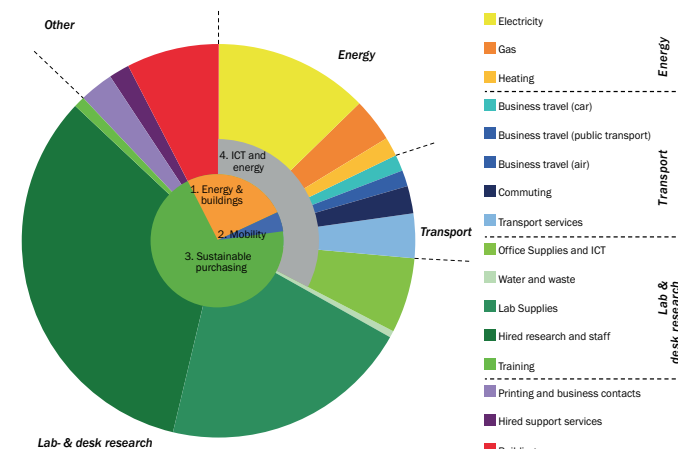


Figure 2 TNO's environmental footprint 2012

¹ The method of calculating the environmental impact is similar to that used to determine 'embodied energy' or a scope 3 CO₂ footprint but is broader since it incorporates several environmental effects such as the greenhouse gas effect, acidification, over-fertilisation and toxicity. The environmental impact of energy, commuting and business travel is determined from 'physical' consumption: traveller kilometres, kWh of electricity, m3 of natural gas, etc. The environmental impact of the other categories is determined from the purchase value and mean environmental impact per euro.

² The uncertainty factor for the environmental profiles for energy and travel is about 1.5. The uncertainty factor for the environmental profiles for goods and services purchased is larger and estimated at 2.5. To ensure that changes over time are properly monitored, the environmental profiles per unit of product or service are kept the same for all years.

gas consumption was partly due to an administrative error (incorrect figure for 2011) and partly due to warmer weather in 2012 compared with 2011 (fewer degree days).

- Since 2010 TNO has purchased green energy, which has a much lower environmental footprint compared with electricity generated from fossil fuels. The environmental benefit of green energy is not incorporated in TNO's environmental footprint to avoid an over-hasty interpretation that TNO does not use any electricity.
- Transport: business travel in 2012 was 14.6 million kilometres by car (2011: 13.5 million) and about 23 million kilometres by air (same as 2011). Car commuting in 2012 was 20.8 million kilometres. Overall, the transport of goods and employees amounted to 8.5% of TNO's environmental footprint in 2012.
- Paper: in 2012 TNO used 45 tonnes of paper, a reduction of about 20% compared with 2011 as a result of the use of multi-functionals, abandonment of local printers and more digital working.
- Energy consumption, transport and purchases of products and services in 2012 represented 'embodied energy' usage of 3.4 PJ and 204,000 tonnes of CO2-equivalent greenhouse gas emissions. 'Embodied energy' usage thus rose by about 7% and CO2 equivalents by about 8% compared with 2011.
- TNO's environmental impact in 2012

rose in relative terms (per euro of revenue) compared with 2011 because the slight increase in revenue could not offset the greater environmental impact.

3.2 WORKING ON A SMALLER FOOTPRINT

Despite our ambition to reduce our environmental footprint, we are unfortunately seeing an upward trend. The following sections set out the steps taken in the past year on buildings and energy, sustainable purchasing, ICT and energy, and mobility. Our conclusions are that the measures have not led to a net reduction in the environmental footprint and the way we calculate the environmental impact means the efforts for reduction are not visible. Our conclusions on this and the tasks for 2013 are explained in the following sections.

3.2.1 BUILDINGS AND ENERGY

An improvement plan to cut energy consumption in TNO's buildings was started in 2010 and implemented as part of the major maintenance programme. After studying the use of LED technology for office lighting in 2011, we concluded that large-scale replacement of fluorescent tubes by LED lamps was not sensible at the moment. Instead GreenFox was engaged to replace the old t18 lighting with t15 lighting in current fittings at the pilot location in

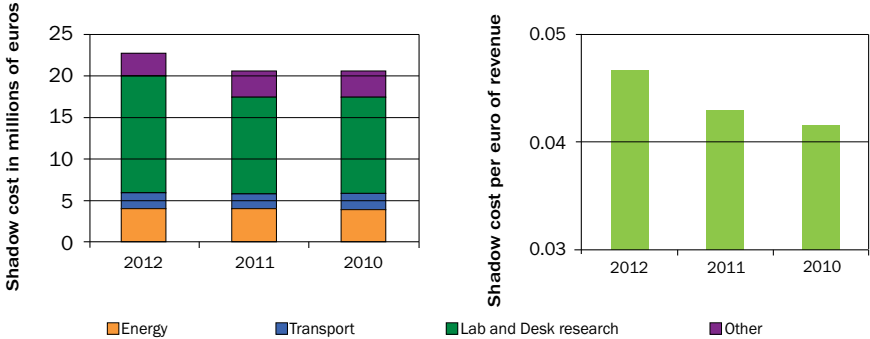


Table 3 TNO's absolute and relative environmental footprint

Soesterberg. This replacement was undertaken by staff from a sheltered work enterprise. In 2013 we will replace about 10,000 old fittings in this way. The target is to make savings of about 15% in electricity consumption.

A considerable proportion of the old control systems at the Utrechtseweg Zeist and Zernikedreef Leiden sites were replaced by modern ones as part of the major maintenance programme and this is expected to give savings of about 5% in gas consumption at these sites.

A further reduction of energy consumption at the rented and owner-occupied locations within two years was agreed with the two day-to-day maintenance contractors at the end of 2011. The contractors have to report energy consumption monthly. This effectively highlighted the unbalanced air

conditioning system at the Soesterberg pilot site. A further roll-out of monitoring equipment to give a better idea of the energy used in various parts of buildings and laboratories is planned for 2013 and will lead to an improvement programme for the building management systems.

TNO develops innovative business models designed to cut CO2 emissions. An example is the Energy Service Company (ESCO) energy pay-back model in which the operator also has an interest in energy saving measures. This means we make the best use of the benefits of a long-term contract (up to ten years). TNO intends to apply this innovation itself and we are looking to bring it into line with current European research programmes of the TNO Building and Infrastructure department.

The current improvement programmes will be revised in 2013. We are examining the feasibility of using solar panels and in view of actual yields we will add them to the improvement programme.

TNO also believes it is important that employees are aware of their energy consumption and make their own decisions on effective action. We are, therefore, developing a display to give users and visitors information on energy consumption using the information from sensors. This will increase the involvement of users in energy saving. In early 2013, we mounted an energy display at the pilot site in Soesterberg. Two pilots using plugwise monitoring equipment were deployed in 2012 to analyse and influence the energy behaviour of users at the work site.

3.2.2 SUSTAINABLE PURCHASING

Sustainable purchasing is fully integrated in all TNO-wide purchase procedures and processes. Sustainability criteria (based on the recommendations of NL Agency) are important when drawing up functional and technical specifications. Sustainability is a prominent selection and purchase criterion and, for example, the contract switching purchases to a sustainable range of office supplies started on 1 January 2013. TNO only purchases green electricity. Gas sustainability is achieved by offsetting gas

consumption: Gold Standard certificates are purchased from sustainable energy projects in developing countries carried out by the Fair Climate Fund. This too started on 1 January 2013.

TNO has signed the Verantwoord Marktgedrag covenant which requires both purchasers and suppliers in the cleaning industry to be socially aware and have a good social policy for employees.

More attention has to be given to making sustainability results visible when contracts are executed and suppliers will be asked to play a role in this.

3.2.3 ICT AND ENERGY

TNO purchases sustainable hardware for workstations and specifies, for example, that PCs, laptops and monitors must meet EPEAT gold (www.epeat.net) and/or Energy Star 5 (www.energystar.gov) or an equivalent standard. Publications from the supplier show that improvements in batteries and chipsets are making machines ever more energy efficient. For standard office use, such as MS Office and email, the DELL Latitude E6530 (the highest spec laptop in the standard range) is almost 40% more efficient than the previous model.

TNO supports Viafrica's PC donation programme when disposing of old hardware (after removal of data carriers).

This organisation, named by Computable magazine as the most socially engaged ICT company in 2012, carries out social projects and supplies services in Africa using ICT. Viafrica sells the hardware (recycled or otherwise) and uses the proceeds to support its objective of contributing to good ICT education in Africa. Since the start of the alliance in mid-2011, we have handed over more than 1,300 machines that have raised almost €17,000 for Viafrica. For more information on what the money is used for, see www.viafrica.org.

We are currently examining the possibility of using a similar construction to donate empty toner cartridges and discarded telephones to a good cause.

DATA CENTRES

The cut in energy consumption achieved at the main data centre in Delft in 2011 continued in 2012. There was a 28% fall in 2011 followed by 11% in 2012 (363 to 323 amperes). A traditional data centre such as Delft uses almost as much power for cooling as for supplying the equipment, and so the cooling capacity required has also fallen by about 11%.

The computer room at the Hoofddorp site was dismantled and the cooling system was disconnected. The network facilities at Churchilllaan Utrecht were run down when the site was vacated. These facilities

were already in place at the Soesterberg site. As a result, the power consumption at the Churchilllaan site was cut down and capacity at the Soesterberg site is being used better.

2012 also saw a start on purchasing the accommodation for the central data centre. CSR criteria such as PUE (Power Usage Effectiveness) played a role in selecting and acquiring this plot of land. In due course this will mean a considerable reduction in power consumption.

PRINTERS

In 2012 the whole of TNO was linked to the central Follow-Me print facility. This means that employees in the Eindhoven, Helmond and Stieltjesweg Delft sites can now also collect output using a pass. This is leading to less printing and so to a reduction in power and paper consumption.

3.2.4 MOBILITY

TNO wants to reduce the environmental impact of transport and mobility by favourably influencing the amount and way employees travel. Employees can use company bicycles and NS business travel cards to use public transport for business travel.

TNO is party to the Accessible Haaglanden mobility covenant and the 'Smart Work, Smart Travel' platform. The latter aims

to reduce traffic congestion by arranging different ways of working and travelling and has a goal of two million people working and travelling smarter in 2015. TNO plays an active role in the B50 (the 50 leading companies involved in this platform), providing knowledge and expertise, and applying the New Way of Working and video-conferencing options to achieve this goal. The communications functionality of computers was strongly improved in 2012. We remind our employees to make greater use of flex workstations at other locations or to work at home with the aim of reducing travel. TNO staff at various sites have taken part in a pilot with the online 'Van 5 naar 4' (From 5 to 4) tool to cut car use. The intention is that the New Way of Working will gain further ground at TNO.

A project to structurally encourage cycling was run at a site in Delft during the autumn. Working with the Netherlands Institute for Sport and Physical Activity (NISB), TNO staff with expertise in this area set up various campaigns and examined whether these led to an increase in the kilometres cycled. Ten bikes for use by TNO staff were bought from a sheltered work enterprise. Some of them are based at railway stations. Employees were able to prepare their bicycles for the winter and could try out electric bikes. Despite many positive reactions and the staff's enthusiasm, the

target of a 10% increase in kilometres by bike was not achieved. We will hold a final survey in June 2013. It is expected that more favourable weather conditions in the spring will have a positive effect on the results.

3.3 AIMS FOR THE COMING YEAR

The aim of reducing the environmental footprint was not achieved. The measures delivered relatively small improvements, but not enough to show a net result. There were also results which were not expressed in the environmental footprint because of the specific calculation method. The new CSR vision, which will be finalised in 2013, will be designed to set specific targets, with associated Key Performance Indicators, and to embed them in the organisation in such a way that TNO's environmental impact declines demonstrably.

2012 was, therefore, the last year in which TNO measured its environmental footprint in the current way. This measurement method had a place in the early years of CSR at TNO because its overall nature made it possible to prioritise

environmental objectives, but TNO's total environmental footprint is fairly insensitive to relatively small reported changes. And changes from purchasing more sustainably (such as green office supplies instead of ordinary ones) do not show up in the current calculation method, as it is based on financial purchasing information (see the *Toelichting Milieuvoetafdruk* background document on www.tno.nl/mvo). The method is now over five years old and due for an update. Instead of investing in the environmental footprint method, we prefer to formulate appealing reduction targets for TNO, with associated Key Performance Indicators. These are necessary to turn the upward trend into a real reduction in TNO's environmental impact.



INDEPENDENT ASSURANCE REPORT

To the readers of the 2012 Annual Report of the Netherlands Organisation for Applied Scientific Research TNO

We were engaged by the Board of Management of the Netherlands Organisation for Applied Scientific Research TNO (Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek TNO) to provide assurance on the information in the 'People and Society' section of the 2012 Annual Report ('the CSR section'). The Board of Management is responsible for the preparation of the CSR section, including the identification of material issues. Our responsibility is to issue an assurance report on the CSR section based on our assurance engagement as outlined below.

SCOPE

Our assurance engagement was designed to provide a limited level of assurance on whether the CSR section is presented fairly, in all material respects, in accordance with the GRI G3.1 reporting criteria. Procedures performed to obtain a limited level of assurance are aimed at determining the plausibility of information and are less extensive than those needed for a reasonable level of assurance. We provide no assurance on the feasibility of the goals, expectations and aims of TNO.

REPORTING CRITERIA USED BY TNO

TNO applied the Sustainability Reporting Guidelines (G3.1) of the Global Reporting Initiative (GRI), supported by internally developed guidelines when preparing the CSR section, as described in the TNO and Sustainability and GRI Guidelines for Sustainability Reports sections.

ASSURANCE STANDARD

We conducted our engagement in accordance with Standard 3410N 'Assurance Engagements relating to Sustainability Reports' issued by the Netherlands Institute of Chartered Accountants. This Standard includes requirements that the assurance team possesses the specific knowledge, skills and professional competencies needed to understand the information in the CSR section and to be able to identify and collect assurance information required and that they comply with the requirements of the Code of Ethics for Professional Accountants of the International Federation of Accountants to ensure their independence.

WORK PERFORMED

Our procedures to provide a limited level of assurance on the CSR section included:

- Performing a media and internet analysis of environmental, safety and social issues for TNO to deepen our insight into the relevant sustainability topics and issues during the reporting period;
- Interviewing members of the CSR steering group responsible for setting the CSR strategy and employees responsible for implementing the CRS policy and supplying the information in the CSR section;
- Assessing the design and implementation of systems and processes for gathering and processing information, including the aggregation of data into information in the CSR sections;
- Evaluating internal and external documentation on the basis of sample observations to determine whether the information in the CSR section is sufficiently supported;
- Establishing the consistency of the information in the CSR section with the other information in the TNO 2012 Annual Report.

During the assurance process, we discussed changes to the various drafts of the CSR section with TNO and reviewed the final version to ensure that it reflected these changes.

CONCLUSION

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the information in the CSR section is not fairly presented, in all material respects, in accordance with the G3.1 Guidelines of the Global Reporting Initiative.

COMPARATIVE INFORMATION NOT EXAMINED

No assurance engagement was performed on the comparative information for 2011 presented in the CSR section and so we offer no assurance on that information supplied for comparative purposes.

COMMENT

Without qualifying our assurance report, we draw attention to the following:

TNO started revising its vision on CSR in 2012. We recommend that TNO revises its environmental footprint model and makes its targets and KPIs more specific so that progress can be monitored.

Rotterdam, 20 March 2013

KPMG Accountants N.V.
T.A. Kalmár

REPORT OF THE COUNCIL FOR DEFENCE RESEARCH

The TNO Council for Defence Research (RDO) establishes TNO's defence research policy. The strategic partnership in various areas of defence-specific expertise is the cornerstone of the relationship between the Ministry of Defence and TNO. Foreign and domestic security are becoming more and more interwoven and this is also true for defence and security research at TNO and increasingly for the Ministries of Defence and Security and Justice.

The Ministry of Defence is carrying out a major reorganisation (and making large spending cuts) following the Policy Paper of April 2011 subtitled *Een kleinere krijgsmacht in een onrustige wereld* (Smaller armed forces in an unstable world). A perspective for the future armed forces is currently being prepared for the new government. During the year, the Ministry of Security and Justice drew up its innovation agenda and full preparations were made for the introduction of the new national police force. The impending separation of the control centre organisation between the police and the civil defence regions is also a relevant development. At the same time, progress on the structure of the Top Sectors created great dynamism in the research landscape. A feature of the 'golden triangle' of government, knowledge institutions and companies is that the government is both director and user in defence and security. In the meantime, market parties are feeling the effects of the economic crisis and the market is changing. Nevertheless, despite all the shifts in the project portfolio, TNO's defence section actually saw a rise in sales and built on relationships for the future.

The RDO reorganised the management of defence research as part of the transition to the new TNO organisation in early 2011 and, after two years, this is being evaluated. The first knowledge position audits carried out in a number of departments in the defence section show that the quality of their technology position is retaining its high level. Following the decision to keep the facilities in Rijswijk and Ypenburg, plans are now being developed to renovate the location in The Hague to make it

suitable for about 500 FTEs. In due course, certain laboratory activities in Rijswijk will be relocated to Ypenburg and some office activities to The Hague.

"Wish you successful meeting and much productive work in future". With this telegram, the inspector-general of the Royal Netherlands Army, HRH Prince Bernhard, congratulated the board of the 'National defence organisation T.N.O.' on the inauguration of this "exceptional organisation" which embedded Dutch defence research at TNO. This happened 65 years ago on 12 July 1947, since when TNO's expertise in defence and security has advanced considerably and acquired a leading international position. This has created ever more links not only with the Ministry of Defence but also with the defence industry, foreign knowledge institutions, governments and social organisations. Sixty-five years of TNO research for the Ministry of Defence was celebrated at a major meeting which presented many examples of innovations originated at TNO. Speaking on behalf of the Minister, the acting secretary-general of the Ministry



of Defence summed up with the words “TNO’s contribution to knowledge and innovation makes a real difference to the success of the Dutch armed forces” and “also the affordability of the Ministry of Defence”.

This is exemplified by the new navy patrol vessels handed over by Damen Schelde Naval Shipbuilding. The first of these, HNLMS Holland, won the prestigious ‘Ship of the Year’ award in 2012 for the most innovative vessel designed and built in the Netherlands. TNO was involved from the initial concept. Its contributions range from the integrated sensor mast to the on-board wireless network and the layout of the operations rooms; and from the ship’s self-defence capabilities to many other measures to enhance survivability. TNO designed specialised computer chipsets for the radars in the sensor mast and addressed sensor management and the integration of sensor data. This is a perfect example of co-operation within the ‘golden triangle’, in this case of the Ministry of Defence, Thales Nederland and TNO. Another unique factor is that the 108-meter patrol vessel can operate with a crew of only 55, with all the associated cost benefits. TNO analysed operations on board and, working with the navy, developed a new structure and way of working for the combined bridge and command centre. Protection for the crew against terrorist attacks was of course also looked at. As well as ballistic protection, the ship has innovative blast-proof bulkheads and ‘membrane



hatches’ from TNO. The navy designs its new ships itself and these patrol vessels show how many years of know-how built up at TNO and collaboration with industry bore fruit in the form of high-quality Dutch products.

While the ‘65 years of TNO research for the Ministry of Defence’ meeting looked a long way back, the ‘Innovation in Defence 2012’ event, at which the Ministry of Defence and TNO presented the results of fourteen research programmes, focused entirely on today. The event was held in The Hague and was attended by over 300 people who throughout the day were able to discover what our accumulated experience means in practice for modern innovative armed forces in the extensive ‘demo plaza’. Concluding a large number of programmes together created a successful cross-selling event that attracted users and decision-makers from the defence and security sectors.

There were also many developments in security. These culminated in the Trend Dialogue on Innovation in Security organised by TNO in the Nieuwspoort Press Centre in December when the Minister of Security and Justice was presented with the first copy of *Veiligheid schreeuwt om innovatie* (Security calls for innovation). A meaningful quote from the minister’s foreword to this book reads, “Continued investment in knowledge, innovation and enterprise is necessary to make our society safer”. The Netherlands faces major security issues and in that context innovation is not a luxury but a necessity. This book is designed to inspire with developments in vision, practical examples and interviews and it includes enthusiastic contributions by a number of leading partners in the security domain.

CONSOLIDATED BALANCE SHEET

AT 31 DECEMBER 2012

After treatment of the loss

(in thousands of euros)

			31 DEC. 2012		31 DEC. 2011
Non-current assets					
Intangible assets	1	3,633		1,948	
Property, plant and equipment	2	197,112		220,698	
Financial assets	3	7,113		6,541	
			207,858		229,187
Current assets					
Inventories		1,562		1,152	
Receivables	4	81,977		86,787	
Cash and cash equivalents	5	120,536		140,069	
			204,075		228,008
Total			411,933		457,195
Equity:					
- General reserve	6	104,140		122,979	
- Appropriated reserves	7	76,332		67,051	
			180,472		190,030
Non-controlling interests			602		898
Investment grant equalisation account	8		34,759		39,374
Provisions	9		15,815		19,306
Long-term liabilities	10		19,482		21,047
Current liabilities	11		160,803		186,540
Total			411,933		457,195

CONSOLIDATED INCOME STATEMENT FOR 2012

(in thousands of euros)

			2012		2011
Revenue	12	587,020		577,009	
Other operating income	13	19,024		21,947	
Operating income			606,044		598,956
Direct project costs	14	-89,078		-87,650	
Employee expenses	15	-379,183		-372,274	
Amortisation		-778		-444	
Depreciation	16	-27,551		-31,133	
Impairment of property, plant and equipment	17	-9,000		-	
Other operating expenses	18	-111,835		-107,542	
Operating expenses			-617,425		-599,043
Operating loss			-11,381		-87
Interest income			2,670		2,187
Interest expense			-1,256		-1,265
Result on ordinary activities before tax			-9,967		835
Tax			-244		-409
Result of participating interests	19		706		244
Result on ordinary activities after tax			-9,505		670
Non-controlling interests			-56		-239
Net result			-9,561		431

		2012		2011
Treatment of the loss:				
Net result		-9,561		431
Addition to:				
- appropriated reserve for civil operating risks	-		-	
- appropriated reserve for defence operating risks	-		-	
- appropriated reserve for Defence buildings	-10,349		-4,456	
		-10,349		-4,456
Withdrawn from:				
- appropriated reserve for civil operating risks	-		-	
- appropriated reserve for defence operating risks	-		-	
- appropriated reserve for Defence buildings	1,068		1,161	
		1,068		1,161
Result after movements in appropriated reserves		-18,842		-2,864
Movement in general reserve		18,842		2,864
		-		-

CONSOLIDATED CASH FLOW STATEMENT AND STATEMENT OF OVERALL RESULT FOR 2012

CONSOLIDATED CASH FLOW STATEMENT

(in thousands of euros)

	2012	2011
Net result	-9,561	431
Non-controlling interests' share in the result	56	239
Group result	-9,505	670
Depreciation and amortisation	28,329	30,949
Impairment of property, plant and equipment	9,000	-
Results of participating interests included in the result	-46	895
Gains and losses on disposals of property, plant and equipment	-413	641
Movement in provisions	-3,491	-4,217
Movement in working capital excluding cash and cash equivalents	-20,947	-3,851
Dividends received	200	192
Cash flow from operating activities	3,127	25,279
Investment in intangible assets	-2,652	-1,402
Investment in property, plant and equipment	-21,910	-21,587
Investment in financial assets	-1,210	-964
Disposals of intangible assets	228	-
Disposals of property, plant and equipment	2,237	9,482
Sale of participating interests and repayments received	1,163	2,719
Cash flow from investing activities	-22,144	-11,752
Investment grants received/repaid	1,436	-5,386
Borrowings	-	495
Repayment of borrowings	-1,955	-1,248
Cash flow from financing activities	-519	-6,139
Cash flow for the financial year	-19,536	7,388
Cash and cash equivalents at 1 January	140,069	132,646
Cash flow for the financial year	-19,536	7,388
Exchange gains and losses	3	35
Cash and cash equivalents at 31 December	120,536	140,069
STATEMENT OF OVERALL RESULT	2012	2011
Consolidated net result after tax	-9,561	431
Translation differences reserve	3	35
Overall result	-9,558	466

NOTES TO THE 2012 CONSOLIDATED FINANCIAL STATEMENTS

ACCOUNTING POLICIES

1.1 GENERAL

TNO connects people and knowledge to create innovations that boost the sustainable competitive strength of industry and the well-being of society. TNO's registered office is in Delft.

Reporting period

These financial statements have been prepared for a reporting period of a calendar year.

Standards used

TNO's financial statements have been prepared in accordance with the Guidelines for Financial Reporting for TNO issued by the Minister of Education, Culture and Science. These guidelines are based on Part 9 of Book 2 of the Netherlands Civil Code. The Minister of Education, Culture and Science issued a supplementary order that Dutch Accounting Standard RJ 271 "Employee benefits" does not apply to TNO.

The accounting policies are based on the historical cost convention.

Comparative figures

The figures for 2011 have been restated where necessary to improve comparison with the figures for 2012.

1.2 ACCOUNTING POLICIES

Unless stated otherwise, assets and liabilities are recognised at face value.

An asset is recognised in the balance sheet when it is probable that future economic benefits will flow to the entity and their value can be measured reliably. A liability is recognised in the balance sheet if it is probable that its settlement will result in an outflow of resources from the entity and their value can be measured reliably.

Income is recognised in the income statement if there has been an increase in economic potential related to an increase in an asset or a decrease in a liability that can be measured reliably. Expenses are recognised if there has been a decrease of the economic potential related to a decrease in an asset or an increase in a liability that can be measured reliably.

If a transaction leads to all or substantially all future economic rewards in an asset or all or substantially all economic risks in a liability being transferred to a third party, that asset or liability is no longer recognised in the balance sheet. Furthermore, assets and liabilities are no longer recognised in the balance sheet from the time that they do not comply with the conditions on the probability of future economic benefits and reliability of measurement.

Costs are attributed to the period to which they relate.

The financial statements are presented in euros, the functional currency of the entity. All financial information in euros is rounded to the nearest thousand.

In preparing the financial statements, management used judgements, estimates and assumptions which affect the application of the accounting policies and the reported amounts of assets and liabilities, and of income and expenses. The actual results could differ from these estimates. The estimates and underlying assumptions are constantly reviewed. Changes in estimates are recognised in the period in which the estimate is revised. If the revision also affects future periods, the change is made prospectively in the relevant periods.

1.3 BASIS OF CONSOLIDATION

The consolidated financial statements incorporate the financial information of the TNO Organisation, its group companies and

other legal entities over which it exercises control or central management. Group companies are participating interests in which the organisation has a majority interest or where it can otherwise exercise significant influence over policy. Potential voting rights in financial instruments which can be exercised immediately are also taken into account when determining whether significant influence exists. Participating interests held for disposal are not consolidated.

Newly-acquired participating interests are recognised from the date on which significant influence can be exercised. Participating interests that have been disposed of are consolidated until the date on which that influence no longer exists. Intercompany payables, receivables and transactions are eliminated in the consolidated financial statements. Group companies are fully consolidated and non-controlling interests are disclosed separately.

A list of consolidated group companies and non-consolidated participating interests is presented in the notes to the separate financial statements on pages 69 to 71.

Certain majority-owned participating interests (TNO International Agencies B.V., ConsumersVoice B.V., TNO Science & Technology Consultation Co. Ltd and

NMI UK Ltd) are not consolidated as their operations are not material.

1.4 FOREIGN CURRENCY TRANSLATION Transactions in foreign currencies

Transactions denominated in foreign currencies are translated into the functional currency of the group company at the exchange rate prevailing on the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rate prevailing on the reporting date. Foreign currency exchange differences that arise on translation are recognised through the income statement.

Operations in other countries

Assets and liabilities arising on operations abroad, including goodwill and fair value adjustments arising on consolidation, are translated into euros at the exchange rate prevailing on the reporting date. Income and expenditure from foreign operations are translated at the average exchange rate for the reporting period.

Foreign currency exchange differences are recognised through the translation differences reserve. If all or part of a foreign operation is sold, the related amount is transferred from the translation differences reserve to the income statement.

1.5 FINANCIAL INSTRUMENTS

Financial instruments are initially recognised at fair value and subsequently measured as described below.

Loans receivable, other receivables, borrowings, creditors and other payables

These financial instruments are measured at amortised cost using the effective interest method. The effect of discounting short-term receivables and liabilities where no explicit interest rate is calculated and which have a short maturity is generally insignificant. Face value is used as amortised cost for these items.

Derivative financial instruments

Derivative instruments are measured at the lower of cost and market value unless hedge accounting using the cost hedge model is applied.

TNO makes only limited use of forward exchange transactions to hedge currency risks related to purchase and sale transactions. Cost hedge accounting is applied if currency contracts are taken out to hedge monetary assets and liabilities. Hedge accounting is applied to ensure that results recognised on the translation of monetary items through the income statement are offset by changes in value on the currency contracts at the spot rate on the reporting date. The difference between the spot rate on the closing date

of the forward exchange contract and the forward rate is amortised through the income statement over the term of the currency forward contracts.

One TNO group company uses interest rate swaps to hedge interest rate risks from changes in interest rates on long-term loans. Cost hedge accounting is applied if interest rate swaps are taken out to hedge interest rate risks to ensure that the net interest expense recognised in the income statement is not subject to changes in interest rates. The recognised interest expense, therefore, comprises the net amount of the interest paid to financiers, and the gains and losses on the interest rate swaps taken out.

If cost hedge accounting is applied, initial recognition is at fair value. The derivative is not remeasured while it relates to hedging the specific risk in a forecast transaction. As soon as the forecast transaction results in recognition through the income statement, the gain or loss associated with the derivative instrument is recognised through the income statement. If the hedged position of a forecast transaction results in recognition of a non-financial asset in the balance sheet, the entity brings the cost of this asset into line with the hedging results not recognised through the income statement. A percentage loss greater than the amount of the derivative instrument

compared with the hedged position is recognised directly in the income statement at the lower of cost and market value.

If a derivative instrument expires or is sold, the hedging relationships are terminated. The cumulative gain or loss not recognised in the income statement up to that time is recognised as an accrual or prepayment in the balance sheet until the hedged transactions occur. If the transactions do not occur as expected, the cumulative gain or loss is transferred for recognition through the income statement.

TNO documents the hedge relationships in specific hedge documentation and periodically assesses their effectiveness by establishing that there is no over-hedging.

1.6 INTANGIBLE ASSETS

Goodwill is the excess of the acquisition price for a participating interest over the TNO Organisation's share in the net fair value of the acquiree's identifiable assets and liabilities, less accumulated amortisation and impairment. Goodwill is amortised over the expected economic life of the acquired participating interest, which does not generally exceed five years.

Other intangible assets are know-how purchased from third parties or costs

paid to third parties for research and development, licence rights and software programs. These items are only capitalised if it can be reasonably expected that they will be covered by future income and they are measured at cost. Amortisation is in proportion to the expected income but over a maximum period of five years.

1.7 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is measured at the cost of acquisition or, if produced in-house, at the cost of manufacture less accumulated depreciation based on the expected economic life and impairment.

Depreciation is calculated as a percentage of cost using the straight-line method over the economic life of the asset. Land, assets under construction and prepayments on property, plant and equipment are not depreciated.

1.8 FINANCIAL ASSETS

Participating interests where significant influence can be exercised over commercial and financial policy are measured using the equity method based on net asset value determined using the accounting policies of the TNO Organisation. Participating interests with an equity deficit are recognised at nil. A provision is formed if the entity has guaranteed the liabilities of the participating interest, charged initially

against amounts receivable from that participating interest and subsequently against provisions to an amount equivalent to the share of the losses incurred by the participating interest or the payments the TNO Organisation expects to make on its behalf. Participating interests where no significant influence can be exercised are recognised at the lower of cost and recoverable amount.

Loans to non-consolidated participating interests are recognised at amortised cost using the effective interest method less impairment.

Dividends are recognised in the period in which they become payable. Interest income is recognised in the period to which it relates using the effective interest rate for the asset. Gains or losses are recognised as financial income and expense.

1.9 IMPAIRMENT

Non-current assets with a long life are tested for impairment if changes or circumstances occur that suggest that the asset's carrying amount will not be recovered.

The recoverability of assets in use is determined by comparing an asset's carrying amount with the estimated present value of the future net cash flows it is expected to generate. If an

asset's carrying amount exceeds the estimated present value of future cash flows, impairment is recognised for the difference between the carrying amount and recoverable value.

1.10 INVENTORIES

Raw materials and consumables are recognised at the lower of cost and net realisable value, less any decreases in value at the reporting date.

1.11 WORK IN PROGRESS

Work in progress relates to assignments and is measured at the direct cost of the assignment (such as the costs for employees working directly on the assignment and costs of raw materials and consumables), overheads relating to assignment activities and attributed to the assignment and other costs that can be attributed to the customer under the contract. Expenditure related to the assignment costs that lead to work performed after the reporting date are recognised as assets if it is probable that they will generate income in a subsequent period. A provision is formed for expected losses on work in progress. Work in progress is recognised less instalments invoiced.

1.12 RECEIVABLES

The accounting policies for the measurement of receivables are described in the financial instruments section.

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 expense in the income statement.

Appropriated reserves

Pursuant to Section 22 of the TNO Act and Articles 4 and 5 of the Guidelines for Financial Reporting for TNO, appropriated reserves can be formed for future expenditure or costs or to cover economic and technical risks. Withdrawals are charged to appropriated reserves in the appropriation of the result and may only be made if they correspond with the object of the reserve.

The appropriated reserve for civil operating risks is to cover economic and technical risks. When appropriating the result each year, the TNO Board of Management designates a percentage of both government and third-party funding and assignments to be added to the reserve until the reserve reaches its maximum amount. A maximum of €9.1 million has been agreed with the government.

The appropriated reserve for defence operating risks is based on specific agreements with the Ministry of Defence and is to cover risks related to executing additional funded defence assignments. A maximum of €2.5 million has been agreed with the Ministry of Defence. The TNO Board of Management consults with the TNO Council for Defence Research on the amount to be added to the reserve each year when appropriating the result of the Defence, Safety and Security theme until the maximum amount of the reserve is reached.

The appropriated reserve for Defence buildings is to cover future investment in renovation and/or new building projects. Additions to and withdrawals from this reserve are made annually in the appropriation of the result on the basis of specific agreements with the Ministry of Defence.

1.14 NON-CONTROLLING INTERESTS

Non-controlling interests are measured at the share of third parties in the net asset value determined using the accounting policies of the TNO Organisation.

1.15 INVESTMENT GRANT EQUALISATION ACCOUNT

Funds provided by the government or third parties to compensate the TNO Organisation for investing in an asset are recognised as a liability in the balance

sheet and released systematically to the income statement over the period in which the asset is in use.

1.16 PROVISIONS

A provision is recognised in the balance sheet if:

- there is a present legal or constructive obligation as a result of past events;
- of which a reliable estimate can be made; and
- an outflow of funds is likely to be needed to settle that obligation.

Provisions are measured at the face value of the expenditure expected to be required in order to settle the liabilities and losses or the present value of the expenditure.

The provision for social commitments covers benefits in payment and agreed future benefits to current and former employees of the TNO Organisation under TNO's employment conditions. The part that relates to pensions already in payment is based on actuarial calculations at a discount rate of 4%.

The claims provision is formed for possible liabilities from legal proceedings.

The restructuring provision is formed for the costs related to existing and pending reorganisations.

The redundancy provision is formed for the expected costs of proposed terminations of employment contracts.

The provision for major maintenance is to smooth the cost of major maintenance on assets owned by the TNO Organisation and its group companies based on a long-term maintenance plan.

1.17 EMPLOYEE BENEFITS/PENSIONS

TNO has several pension schemes. The main one is a defined-benefit plan administered by Stichting Pensioenfondsen TNO.

The Minister of Education, Culture and Science has issued an order that Dutch Accounting Standard RJ 271 "Employee benefits" does not apply to the TNO Organisation and accordingly the liabilities for pension scheme contributions are recognised as an expense in the income statement in the period in which they become payable. It is assumed that the pension charge for the reporting period is equal to the pension contributions payable to the pension fund. A liability is formed for any contributions payable at the reporting date. If the contributions already paid at the reporting date exceed the amount owed, a prepayment is recognised to the extent to which they will be refunded or settled by the fund against future contributions.

A provision is also formed at the reporting date for existing additional obligations towards the fund or employees if an outflow of funds is likely to be needed to settle those obligations and a reliable estimate can be made of them. The existence of additional obligations is assessed from the administration agreement with the fund, the pension agreement with employees and other (explicit or implicit) commitments to employees. The provision is measured at the best estimate of the present value of the amounts needed to settle the obligations at the reporting date.

A receivable is recognised for a surplus in the pension fund at the reporting date if the surplus is at the disposal of the company, if it is likely to accrue to the company and if the receivable can be reliably measured.

1.18 CURRENT LIABILITIES

The measurement of current liabilities is explained in the section on financial instruments.

1.19 REVENUE RECOGNITION

Revenue is the total of:

- revenue from assignments;
- government funding.

Revenue from assignments is amounts invoiced for work performed, less any value added tax, and the movement in work in progress.

As there is a regular flow of projects spread evenly throughout the year and as they are generally completed within a year, profit on work in progress is recognised on completion.

Government funding is broken down into knowledge as power within the themes, knowledge as power across the themes and policy-based and application-related knowledge investment. This funding is recognised as revenue in proportion to the work performed.

Direct project costs are the cost of materials (including subcontracted work) that can be directly attributed to a project.

1.20 GOVERNMENT GRANTS

Government grants are initially recognised in the balance sheet as income received in advance once there is reasonable assurance that a grant will be received and that the TNO Organisation will comply with the conditions attaching to it. Grants to offset costs incurred by the TNO Organisation are recognised systematically as income in the income statement in the same period in which the costs are incurred.

See 'Investment grant equalisation account' for the accounting policies on grants for capital expenditure.

1.21 SHARE OF THE RESULT OF PARTICIPATING INTERESTS

The share of the result of participating interests relates to the TNO Organisation's share of the results of its participating interests. Results on transactions in which assets and liabilities are transferred between the TNO Organisation and non-consolidated participating interests and between non-consolidated participating interests are not recognised if they are not considered as realised.

The results of participating interests acquired or disposed of during the reporting period are recognised in the result of the TNO Organisation from or up to the date of acquisition or disposal.

1.22 TAX

TNO, TNO Bedrijven B.V. and its wholly-owned Dutch subsidiaries are not subject to corporate income tax pursuant to Section 2.7 of the Corporate Income Tax Act. TNO Bedrijven B.V. owns 99% of TNO Deelnemingen B.V., which, along with all its Dutch subsidiaries, is subject to corporate income tax. In addition, subsidiaries registered abroad are subject to profits tax in the country of registration.

Tax is the taxes on profit and deferred taxes payable and recoverable in the reporting period. Tax is recognised in the income statement, except where it relates to items recognised directly

through equity, in which case the tax is recognised through equity. The tax due and recoverable for the reporting period is the tax expected to be payable on the taxable profit for the reporting period calculated using tax rates enacted or substantively enacted on the reporting date along with any adjustments to the tax owed in previous years.

A provision for deferred taxes is formed for temporary differences between the carrying amount of an asset or liability and its tax base. A deferred tax asset is only recognised to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised. Deferred tax assets are reviewed at each reporting date and reduced if it is not probable that the related tax benefit will be realised.

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 for the period.

1.24 FAIR VALUE

Various accounting policies and notes to TNO's financial statements require the fair value of financial and non-financial assets and liabilities to be determined. Fair value is determined as follows for measurement and information purposes.

Receivables

The fair value of trade and other receivables is estimated at the present value of the future cash flows.

Derivatives

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

Non-derivative financial liabilities

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

If applicable, further information on the criteria for determining fair value is presented in the specific note to the asset or liability concerned.

NOTES TO THE CONSOLIDATED BALANCE SHEET

AT 31 DECEMBER 2012

1 INTANGIBLE ASSETS

(in thousands of euros)

Movements in intangible assets in 2012:

	Goodwill	Software	Total
Balance at 31 Dec. 2011			
Cost	625	6,754	7,379
Accumulated amortisation and impairment	-153	-5,278	-5,431
Carrying amount	472	1,476	1,948
Movement in carrying amount			
Additions	168	2,484	2,652
Change in consolidation	39	-	39
Disposals	-231	3	-228
Amortisation	-77	-701	-778
	-101	1,786	1,685
Balance at 31 Dec. 2012			
Cost	556	9,095	9,651
Accumulated amortisation and impairment	-185	-5,833	-6,018
Carrying amount	371	3,262	3,633

2 PROPERTY, PLANT AND EQUIPMENT

Movements in property, plant and equipment in 2012:

	Land and buildings	Technical plant	Technical equipment	Fixtures and fittings	Total
Balance at 31 Dec. 2011					
Cost	218,952	155,105	211,258	19,843	605,158
Accumulated depreciation and impairment	-127,922	-88,589	-155,614	-13,992	-386,117
Assets under construction and in development	-	1,251	406	-	1,657
Carrying amount	91,030	67,767	56,050	5,851	220,698

Movements in carrying amount

Additions	26	2,205	16,049	698	18,978
Change in consolidation	-	-	-670	-48	-718
Disposals	-138	-659	-1,372	-7	-2,176
Reclassification	-	-2,022	2,022	-	-
Impairment	-	-	-9,000	-	-9,000
Depreciation	-3,800	-11,394	-17,027	-1,381	-33,602
Assets under construction and in development	-	1,049	1,883	-	2,932
	-3,912	-10,821	-8,115	-738	-23,586

Balance at 31 Dec. 2012

Cost	218,557	149,497	196,249	17,709	582,012
Accumulated depreciation and impairment	-131,439	-94,851	-150,603	-12,596	-389,489
Assets under construction and in development	-	2,300	2,289	-	4,589
Carrying amount	87,118	56,946	47,935	5,113	197,112

The depreciation charge in the income statement includes the release from the investment grant equalisation account. The carrying amount of the property, plant and equipment at 31 December 2012 includes land and buildings and technical plant of €25.3 million (2011: €29.2 million) of which TNO is only the beneficial owner.

PROPERTY, PLANT AND EQUIPMENT

Depreciation rates (%)	2012	2011
Land	nil	nil
Buildings	2½	2½
Technical plant	6⅔	6⅔
Renovations	6⅔	6⅔
Computer equipment	33⅓	33⅓
Technical equipment	20	20
Fixtures and fittings	10	10

3 FINANCIAL ASSETS

	Non-consolidated participating interests		Other loans	Total
	Share in equity	Loans		
Balance at 31 Dec. 2011	4,539	1,847	155	6,541
Movements:				
Additions and loans granted	934	276	-	1,210
Disposals and repayments	-543	-300	-	-843
Changes in value	359	-	-	359
Result of participating interests	46	-	-	46
Dividend	-200	-	-	-200
Balance at 31 Dec. 2012	5,135	1,823	155	7,113

Participating interests include the participating interests of TNO and TNO Bedrijven B.V. Loans of €1.8 million mature in more than one year. €0.2 million of the other loans mature in more than one year. The list of participating interests in which TNO has a direct or indirect holding is presented on pages 69 to 71.

4 RECEIVABLES

	31 Dec. 2012	31 Dec. 2011
Receivables relating to assignments	62,682	69,402
Amounts owed by participating interests	956	639
Deferred tax assets	-	-
Other receivables	12,416	10,704
Prepayments and accrued income	5,923	6,042
Total	81,977	86,787

Receivables of €0.8 million (2011: €1.1 million) fall due in more than one year.

5 CASH AND CASH EQUIVALENTS

Cash and cash equivalents include deposits of €44.0 million (2011: €65.0 million) which mature in tranches in 2013. The other cash and cash equivalents are available on demand.

6 GENERAL RESERVE

	2012	2011
Balance at 1 January	122,979	125,808
Translation differences reserve	3	35
Treatment of the loss	-18,842	-2,864
Balance at 31 December	104,140	122,979

7 APPROPRIATED RESERVES

	Balance at 31 Dec. 2011	Withdrawals in 2012	Additions in 2012	Balance at 31 Dec. 2012
Civil operating risks	9,075	-	-	9,075
Defence operating risks	2,500	-	-	2,500
Defence buildings	55,476	1,068	10,349	64,757
Total	67,051	1,068	10,349	76,332

8 INVESTMENT GRANT EQUALISATION ACCOUNT

	2012	2011
Balance at 1 January	39,374	47,944
Net funds granted/repaid in respect of property, plant and equipment	1,436	-5,386
	40,810	42,558
Release to the result	-6,051	-3,184
Balance at 31 December	34,759	39,374

9 PROVISIONS

	Balance at 31 Dec. 2011	Withdrawals in 2012	Additions in 2012	Release in 2012	Balance at 31 Dec. 2012
Social commitments	1,863	360	59	-	1,562
Claims	800	-	-	-	800
Restructuring	5,600	3,379	2,478	1,331	3,368
Redundancy	1,840	1,273	1,792	133	2,226
Loans to participating interests	138	-	-	-	138
Major maintenance	1,962	2,869	3,271	-	2,364
Other	7,103	1,855	223	114	5,357
Total	19,306	9,736	7,823	1,578	15,815

Some €6.4 million of the provisions are of a long-term nature (2011: €9.1 million). The provision for social commitments relates to redundancy costs, supplements to disability (WAO) benefits and future payments for past-service pension entitlements not funded elsewhere. The claims provision was formed for the estimated liabilities for expected and actual claims which have not yet been settled. A provision is calculated at the estimated future expenditure for each claim including external costs. The restructuring provisions relate chiefly to agreed severance payments to former employees. The redundancy provision relates to the expected cost of the proposed termination of employment contracts. The provision for major maintenance at year-end 2012 was based on maintenance to be performed in accordance with the 2010-2013 maintenance plan.

10 LONG-TERM LIABILITIES

	31 Dec. 2012	31 Dec. 2011
Borrowings:		
Loans from credit institutions	19,162	20,614
Medium-term bank credit	-	433
Other borrowings	320	-
Total	19,482	21,047

€6.0 million of the long-term liabilities mature in more than one year but within five years. The remaining €13.5 million has a term of more than five years.

Holland Metrology N.V. has a 20-year straight-line mortgage (from ABN AMRO Bank) of €13 million which was taken out to finance construction/renovation work in Delft. Holland Metrology N.V. repaid €5.6 million in the period from 2005 to 2012. The current portion of the loan is €0.7 million and is presented in current liabilities (bank loans). The interest rate is 4.58% - 5.7%. A condition imposed by ABN AMRO Bank is that Holland Metrology N.V. (and its subsidiary NMI Nederland B.V.) may only pay dividends and repay the loan granted by TNO (which is subordinated to the bank) if it has solvency of at least 35%. The loan granted by TNO is treated as part of the liability capital. In addition to the solvency requirement, the following security has been agreed:

- a first mortgage on real estate at Thijsseweg 11, Delft, and the Dordrecht building;
- a pledge of receivables;
- joint and several liability of NMI Certin B.V. and Verispect B.V. towards the bank.

Holland Metrology N.V. has a 2-year straight-line mortgage (from ABN AMRO Bank) of €12 million which was taken out to finance construction of Euroloop in Europoort. The interest rate is 3-month Euribor plus a mark-up of 2.4%. €1,200,000 was repaid in 2011-2012. Holland Metrology N.V. may renew up to €10,800,000 of the loan with a maximum term of 18 years on the then-applicable terms and conditions. The bank has a first mortgage on real estate and other property at Petroleumweg 8A in Vondelingenplaat, Rotterdam. Agreements have been made on an update of the loan agreement for two years.

APP Beheer B.V. drew a new mortgage loan of €2,300,000 (from Rabobank) at year-end 2008 with a term of 20 years to finance land and buildings in the Moerdijk industrial estate in Klundert. The interest rate is 3-month Euribor plus a mark-up of 1.3%. Security provided is a mortgage on business premises in Klundert and a pledge of inventories, fixtures and fittings and receivables. APP repaid a total of €441,600 in the period from 2008 to 2012. The current portion of the loan is €115,200 and is presented in current liabilities.

APP Beheer B.V. drew a new mortgage loan of €725,000 (from Rabobank) during 2010 with a term of 20 years to finance land and buildings in the Moerdijk industrial estate in Klundert. The interest rate is 3-month Euribor plus a mark-up of 1.85%. Security provided is a mortgage on business premises in Klundert and a pledge of inventories, fixtures and fittings and receivables. APP repaid €170,000 in the period from 2010 to 2012. The current portion of the loan is €36,000 and is presented in current liabilities.

In 2010, Vitens N.V. granted a level-repayment loan of €461,796 to Ducares B.V. with a term of 10 years, for the renovation and equipping of laboratories. The interest rate is 6%. Ducares repaid €100,950 in the period from 2010 to 2012. The current portion of the loan is €41,007 and is presented in current liabilities.

The medium-term bank credit at year-end 2011 was a liability of a consolidated company which was deconsolidated during 2012.

11 CURRENT LIABILITIES

	31-12-2012	31-12-2011
Bank loans	1,592	1,982
Creditors	21,703	32,624
Amounts owed to participating interests	17	66
Tax and social security contributions	16,390	15,220
Pensions	89	43
Holiday pay	9,203	9,492
Outstanding holiday days	18,939	20,898
Other liabilities	37,138	32,727
Accruals and deferred income	45,823	39,155
Work in progress	9,909	34,333
Total	160,803	186,540
Work in progress	31-12-2012	31-12-2011
Accumulated costs less provisions for losses and risks	508,683	425,667
less: Accumulated instalments billed	-518,592	-460,000
Total work in progress	-9,909	-34,333
Net work in progress > 0	122,827	80,473
Net work in progress < 0	-132,736	-114,806
Total work in progress	-9,909	-34,333

Accruals and deferred income are chiefly advances received for specific research projects and accrued government funding.

FINANCIAL INSTRUMENTS**General**

In the course of normal operations, TNO uses a wide range of financial instruments that expose it to market and/or credit risks. These are financial instruments recognised in the balance sheet and currency forward contracts to hedge future transactions and cash flows. TNO does not trade in these financial derivatives and has procedures and codes of conduct to limit the size of the credit risk for every party or market. In the event of a default by a counterparty on amounts owed to TNO, any resultant losses would be limited to the market value of the instruments concerned. The contract value or notional principal sum of the financial instruments is only an indication of the extent to which such financial instruments are used and not the amount of the credit or market risk.

Interest rate risk

Interest rate risk is limited to any changes in the market value of loans receivable or borrowings, which are preferably made at a fixed interest rate for their entire term. If a loan is not at a fixed interest rate, TNO's policy is to use derivative financial instruments to manage interest rate movements. Loans are held until maturity.

Credit risk

TNO runs credit risk on transactions in respect of the loss that could arise if a counterparty were to default. This risk is limited by the number and diversity of debtors. The only concentration of credit risk is in respect of the geographical distribution of the outstanding receivables, which are concentrated in the Netherlands.

Market value

The market value of most of the financial instruments (including loans receivable, receivables, cash, creditors and other payables) recognised in the balance sheet approximates their carrying amount. The market value of other financial instruments recognised in the balance sheet is as follows:

The market value of amounts owed by participating interests cannot be determined sufficiently reliably; see note 3.

Long-term loans are measured at face value. The fair value of the loans may be different from the face value but this cannot be determined sufficiently reliably.

The market value of the outstanding US dollar and pound sterling currency forward contracts is €1.6 million and the contract value is €1.6 million.

Holland Metrology N.V. has entered into a total of €18.2 million of interest rate swaps with maturities ranging from 1 December 2018 (€2.0 million and €5.4 million) to 1 July 2025 (€10.8 million) to hedge the interest rate risk on the long-term mortgage loan of €18.2 million. The interest rate swap of €2.0 million has a fixed coupon rate of 3.73%, the interest rate swap of €5.4 million has a fixed coupon rate of 4.85% and the interest rate swap of €10.8 million has a fixed coupon rate of 4.73%, all against 3-month Euribor. The principal sums of the interest rate swap contracts are synchronous with the agreed repayment schedules of the related loans. The market value of these three contracts at year-end 2012 was €3.9 million negative.

Assets and liabilities not recognised in the balance sheet

At 31 December 2012, total liabilities under operating leases for the period from 2013 to 2017 were some €8.8 million (2011: €7.7 million), of which €3.6 million falls due in 2013 (2011: €3.5 million) and €5.2 million (2011: €4.3 million) falls due after one but within five years.

Total rental liabilities were €86.0 million (2011: €103.9 million), of which €16.5 million (2011: €18.8 million) falls due within one year, €39.3 million (2011: €46.4 million) between one and five years and €30.2 million (2011: €38.7 million) after five years.

The total bank guarantees issued were €6.1 million (2011: €8.0 million).

At 31 December 2012, total liabilities for investment in property, plant and equipment were €10.0 million (2011: €5.4 million).

The total credit and bank guarantee facilities were €42.8 million (2011: €46.4 million) and €11.0 million (2011: €11.0 million) respectively.

Other security and stipulations for the total credit facilities are:

- Negative pledge/pari passu and cross-default statement;
- Positive/negative mortgage statement on the real estate in Eindhoven.

The total suretyships at year-end 2012 were €2.8 million (2011: €2.9 million).

TNO is involved in a number of disputes and legal proceedings connected to normal operations. TNO does not expect the total liabilities arising from these proceedings to materially affect on the financial position. Provisions have been formed for all disputes and legal proceedings based on the face value of the expenditure expected to be required to settle the liabilities and losses.

NOTES TO THE CONSOLIDATED INCOME STATEMENT FOR 2012

12 REVENUE

(in thousands of euros)

	2012	2011
Revenue from assignments	394,754	388,087
Knowledge as power:		
Within themes	49,291	44,806
Across themes	23,161	26,983
Policy-based and application-related knowledge investment	119,814	117,133
Total	587,020	577,009

Revenue includes the increase movement in work in progress of €24.4 million (2011: €0.4 million).

Revenue by theme/expertise centre:

	2012	2011
Healthy Living	71,706	74,790
Industrial Innovation	91,051	86,480
Defence, Safety and Security	101,523	96,782
Built Environment	50,654	48,622
Information Society	45,826	47,565
Energy	57,429	53,567
Transport and Mobility	37,584	40,987
Technical Sciences	11,171	7,761
Behavioural and Societal Sciences	4,230	4,260
Earth, Environmental and Life Sciences	7,930	9,564
Other TNO revenue	5,062	7,727
Revenue of TNO Bedrijven B.V. and its group companies	113,124	110,721
Intergroup revenue	-10,270	-11,817
Total	587,020	577,009

ASSIGNMENTS

	2012		2011	
Revenue from assignments by category:				
Domestic				
Government	99,671		94,400	
Industry	141,592		147,615	
Total domestic		241,263		242,015
Foreign				
International organisations	43,123		37,663	
Other	110,368		108,409	
Total foreign		153,491		146,072
Total		394,754		388,087

13 OTHER OPERATING INCOME

	2012		2011	
Result on disposals of property, plant and equipment	61		-1,152	
Other income	18,963		23,099	
Total		19,024		21,947

Other income includes income from licences and patents, non-project-related income and expenses recharged externally.

14 DIRECT PROJECT COSTS

	2012	2011
Accommodation and energy	698	235
Materials	17,645	13,341
Use of technical assets	4,624	3,926
General administrative expenses	14,033	13,181
Subcontracted work	46,511	47,101
Other expenses	5,567	9,866
Total	89,078	87,650

15 EMPLOYEE EXPENSES

	2012	2011
Wages and salaries	243,932	248,707
Pension expenses	33,239	33,611
Other social security expenses	33,081	29,078
Other employee expenses	72,819	63,907
Movement in liability for outstanding holiday days	-1,743	334
Use of provisions:		
– social commitments	-360	-468
– redundancy	-1,406	-1,540
– restructuring	-4,710	-8,156
– pensions	-	-53
	374,852	365,420
Additions to provisions:		
– social commitments	59	127
– restructuring	2,478	4,984
– redundancy	1,792	1,743
– pensions	2	-
Total	379,183	372,274

The average effective number of employees in 2012 was 3,892 of whom 58 were outside the Netherlands (2011: 3,932 and 58). The remuneration of the TNO Board of Management including pension contributions was €1.0 million (2011: €0.9 million), excluding €0.1 million for the crisis levy. The total amount reserved for the crisis levy was €0.1 million. The remuneration of the TNO Supervisory Board members was €0.1 million (2011: €0.1 million).

Stichting Pensioenfonds TNO's funding ratio (market value of the plan assets as a percentage of the provision for pension obligations on DNB's principles) was provisionally calculated at 104.7% per 31 December 2012. The calculation reflects an additional provision of some 1.2% for the rise in longevity. According to DNB, the minimum capital requirement (funding ratio) for the TNO pension fund is 104.2%. The funding ratio continues to be above the minimum set in the recovery plan submitted to DNB and so the pension fund does not require a reduction in pensions. The minimum capital requirement, based on the current mix of plan assets, is approximately 115%.

16 DEPRECIATION

	2012	2011
Depreciation of:		
- buildings	3,800	4,729
- technical plant	11,394	9,422
- technical equipment	17,027	18,080
- fixtures and fittings	1,381	1,458
	33,602	33,689
Book loss on assets	-	628
Release from:		
- investment grant equalisation account	-6,051	-3,184
Total	27,551	31,133

17 IMPAIRMENT

The impairment of €9.0 million was applied on technical equipment at one of TNO's participating interests.

18 OTHER OPERATING EXPENSES

	2012	2011
Accommodation	47,272	46,577
Materials	5,323	3,735
Use of technical assets	14,659	14,687
General administrative expenses	31,671	30,601
Subcontracted work	10,099	7,214
Movements in provisions	-1,746	-849
Other expenses	3,471	4,740
Contributions	1,086	837
Total	111,835	107,542

19 RESULT OF PARTICIPATING INTERESTS

This is the result of non-consolidated participating interests and the result on sales of participating interests.

Related parties

Transactions with related parties occur if there is a relationship with the entity, its participating interests and their directors and senior executives. In the course of its normal operations, TNO provides and receives services from various related parties in which TNO has an interest of 50% or less. These transactions are generally conducted on arm's length terms comparable with those for transactions with third parties.

BALANCE SHEET OF THE TNO ORGANISATION

AT 31 DECEMBER 2012

after treatment of the loss

(in thousands of euros)

			31 Dec. 2012		31 Dec. 2011
Non-current assets					
Property, plant and equipment	1	154,841		167,688	
Financial assets	2	44,189		53,505	
			199,030		221,193
Current assets					
Inventories		297		317	
Receivables	3	64,146		70,696	
Cash and cash equivalents		98,410		117,033	
			162,853		188,046
Total			361,883		409,239
Equity					
- General reserve		104,140		122,979	
- Appropriated reserves		76,332		67,051	
			180,472		190,030
Investment grant equalisation account			34,759		39,374
Provisions	4		14,161		15,313
Long-term liabilities	5		-		26
Current liabilities	6		132,491		164,496
Total			361,883		409,239

INCOME STATEMENT OF THE TNO ORGANISATION FOR 2012

(in thousands of euros)

		2012	2011	
Revenue from domestic and foreign assignments		211,397	218,855	
Revenue from government assignments		78,351	70,329	
Market revenue			289,748	289,184
Knowledge as power:				
Within themes		49,291	44,806	
Across themes		23,161	26,983	
Policy-based and application-related knowledge investment		119,814	117,133	
Government funding			192,266	188,922
Revenue	7		482,014	478,106
Other operating income			23,642	22,795
Operating income			505,656	500,901
Direct project costs		-82,212	-83,406	
Employee expenses	8	-316,684	-302,604	
Depreciation		-19,924	-23,034	
Impairment		-	-	
Other operating expenses		-90,449	-92,074	
Operating expenses			-509,269	-501,118
Operating loss			-3,613	-217
Interest income			2,636	2,090
Interest expense			-46	-32
Result on ordinary activities before tax			-1,023	1,841
Tax			-	-
Result of participating interests			-8,538	-1,410
Net result			-9,561	431

CASH FLOW STATEMENT OF THE TNO ORGANISATION FOR 2012

(in thousands of euros)

CASH FLOW STATEMENT OF THE TNO ORGANISATION	2012	2011
Net result	-9,561	431
Non-controlling interests' share in the result	-	-
Group result	-9,561	431
Depreciation and amortisation	19,924	22,406
Results of participating interests included in the result	8,535	1,475
Gains and losses on disposals of property, plant and equipment	-61	1,780
Movement in provisions	-1,152	-6,536
Movement in working capital excluding cash and cash equivalents	-25,435	-8,782
Dividends received	-	-
Cash flow from operating activities	-7,750	10,774
Investment in intangible assets	-	-
Investment in property, plant and equipment	-15,285	-12,023
Investment in financial assets	-2,568	-4,000
Disposals of intangible assets	-	-
Disposals of property, plant and equipment	2,218	9,592
Sale of participating interests and repayments received	3,349	2,953
Cash flow from investing activities	-12,286	-3,478
Investment grants received/repaid	1,436	-5,386
Borrowings	-	-
Repayment of borrowings	-26	-
Cash flow from financing activities	1,410	-5,386
Cash flow for the financial year	-18,626	1,910
Cash and cash equivalents at 1 January	117,033	115,088
Cash flow for the financial year	-18,626	1,910
Exchange gains and losses	3	35
Cash and cash equivalents at 31 December	98,410	117,033

ACCOUNTING POLICIES

General

See the notes to the consolidated financial statements for the accounting policies and items not presented separately below.

NOTES TO THE BALANCE SHEET

AT 31 DECEMBER 2012

1 PROPERTY, PLANT AND EQUIPMENT

Movements in property, plant and equipment in 2012

	Land and buildings	Technical plant	Technical equipment	Fixtures and fittings	Total
Balance at 31 Dec. 2011					
Cost	190,225	154,510	126,274	17,874	488,883
Accumulated depreciation and impairment	-119,881	-88,445	-101,324	-13,203	-322,853
Assets under construction and in development	-	1,252	406	-	1,658
Carrying amount	70,344	67,317	25,356	4,671	167,688
Movement in carrying amount					
Additions	-	2,205	9,663	486	12,354
Disposals	-138	-652	-1,366	-1	-2,157
Reclassification	-	-2,022	2,022	-	-
Depreciation	-2,811	-11,332	-10,630	-1,202	-25,975
Assets under construction and in development	-	1,048	1,883	-	2,931
	-2,949	-10,753	1,572	-717	-12,847
Balance at 31 Dec. 2012					
Cost	189,804	148,910	106,027	15,596	460,337
Accumulated depreciation and impairment	-122,409	-94,646	-81,388	-11,642	-310,085
Assets under construction and in development	-	2,300	2,289	-	4,589
Carrying amount	67,395	56,564	26,928	3,954	154,841

The depreciation charge in the income statement includes the release from the investment grant equalisation account. The carrying amount of the property, plant and equipment at 31 December 2012 includes land and buildings and technical plant of €25.3 million (2011: €29.2 million) of which TNO is only the beneficial owner.

2 FINANCIAL ASSETS

	Group companies Share of equity	Participating interests Share of equity	Loans	Total
Balance at 31 Dec. 2011	39,556	323	13,626	53,505
Movements:				
Additions and loans granted	-	-	2,568	2,568
Disposals and repayments	-	-	-3,349	-3,349
Result of participating interests	-8,538	-	-	-8,538
Translation differences reserve	3	-	-	3
Balance at 31 Dec. 2012	31,021	323	12,845	44,189

Group companies include the wholly-owned participating interest in TNO Bedrijven B.V. Loans of €10.4 million mature in more than one year.

3 RECEIVABLES

	31 Dec. 2012	31 Dec. 2011
Receivables relating to assignments	47,830	55,207
Amounts owed by group companies	3,609	5,113
Amounts owed by participating interests	956	639
Other receivables	5,831	3,694
Prepayments and accrued income	5,920	6,043
Total	64,146	70,696

Receivables of €0.8 million fall due in more than one year.

4 PROVISIONS

	Balance at 31 Dec. 2011	Withdrawals in 2012	Additions in 2012	Release in 2012	Balance at 31 Dec. 2012
Social commitments	1,862	360	59	-	1,561
Claims	800	-	-	-	800
Restructuring	3,161	1,125	2,428	1,321	3,143
Redundancy	1,840	1,273	1,792	133	2,226
Major maintenance	1,956	2,863	3,271	-	2,364
Other	5,694	1,627	-	-	4,067
Total	15,313	7,248	7,550	1,454	14,161

Some €5.2 million of the provisions are of a long-term nature (2011: €7.7 million). The provision for social commitments relates to redundancy costs, supplements to disability (WAO) benefits and future payments for past-service pension entitlements not funded elsewhere. The claims provision was formed for the estimated liabilities for expected and actual claims which have not yet been settled. A provision is calculated at the estimated future expenditure for each claim including external costs. The restructuring provisions relate chiefly to agreed severance payments to former employees. The redundancy provision relates to the expected cost of the proposed termination of employment contracts. The provision for major maintenance at year-end 2012 was based on maintenance to be performed in accordance with the 2010-2013 maintenance plan.

5 LONG-TERM LIABILITIES

	31 Dec. 2012	31 Dec. 2011
Other loans	-	26
Total		26

6 CURRENT LIABILITIES

	31 Dec. 2012	31 Dec. 2011
Creditors	16,649	29,156
Amounts owed to group companies	496	5,171
Amounts owed to participating interests	17	66
Tax and social security contributions	13,099	12,485
Holiday pay	7,749	7,853
Outstanding holiday days	16,488	18,243
Other liabilities	24,797	21,204
Accruals and deferred income	45,823	39,194
Work in progress	7,373	31,124
Total	132,491	164,496

Work in progress	31 Dec. 2012	31 Dec. 2011
Accumulated costs less provisions for losses and risks	435,977	366,921
less: Accumulated instalments billed	-443,350	-398,045
Total work in progress	-7,373	-31,124

Net work in progress > 0	115,698	70,951
Net work in progress < 0	-123,071	-102,075
Total work in progress	-7,373	-31,124

Accruals and deferred income are chiefly advances received for specific research projects and accrued government funding.

NOTES TO THE INCOME STATEMENT FOR 2012

7 REVENUE

(in EUR x duizend)

		2012	2011
Assignments for industry		109,339	119,840
Assignments for international organisations	39,499		34,562
Other foreign assignments	62,559		64,453
		102,058	99,015
Government assignments		78,351	70,329
Market revenue		289,748	289,184
Knowledge as power:			
Within themes	49,291		44,806
Across themes	23,161		26,983
Policy-based and application-related knowledge investment	119,814		117,133
Revenue from government funding		192,266	188,922
Total		482,014	478,106

8 EMPLOYEE EXPENSES

		2012	2011
Wages and salaries		197,997	198,092
Pension expenses		27,566	27,644
Other social security expenses		27,135	23,384
Other employee expenses		65,660	58,203
Movement in liability for outstanding holiday days		-1,741	332
Movements in provisions		67	-5,051
Total		316,684	302,604

The fees below were charged to the TNO Organisation, its subsidiaries and other consolidated companies by KPMG Accountants N.V. pursuant to Section 2:382a of the Netherlands Civil Code.

9 AUDITOR'S FEES*(in thousands of euros)*

	2012	2011
Audit of the financial statements	458	398
Other audit engagements	550	385
Consultancy services	424	305
Total	1,432	1,088

PARTICIPATION INTERESTS

AT 31 DECEMBER 2012, TNO HAD DIRECT OR INDIRECT HOLDINGS IN THE FOLLOWING COMPANIES:

Name	Registered office	Holding (%)
TNO Bedrijven B.V.	Delft	100
TNO Real Estate Holding B.V.	Delft	100
TNO Deelnemingen B.V.	Delft	99
TNO Technostarters B.V.	Delft	100
TNO Management Consultants B.V.	Apeldoorn	100
– Investors in People Nederland B.V.	Eindhoven	100
CBO BV	Apeldoorn	100
Dutcheer B.V.	Delft	100
TNO Automotive International B.V.	Delft	100
– TNO Automotive Safety Solutions B.V.	Delft	100
– TNO Madymo B.V.	Delft	100
– TNO Madymo North America Inc.	Delaware, USA	100
– TNO Automotive Japan K.K.	Yokohama, Japan	100
– TNO Automotive Germany GmbH	Stuttgart, Germany	100
– TNO Automotive China Co. Ltd.	Shanghai, China	100
– TNO Automotive Korea Ltd.	Seoul, South Korea	100
– European Electric Mobility Center B.V. *	Helmond	100
– AFB Driving Guidance Lab B.V. *	Helmond	100
– TNO Homologations B.V.	Helmond	100
TNO UK Holding Ltd.	London, UK	100
– Delft Carshalton Ltd.	Carshalton, UK	100
Den Haag Centrum voor Strategische Studies B.V.	The Hague	80
Holland Metrology N.V.	Delft	100
– Nmi Nederland B.V.	Delft	100
– Verispect B.V.	Delft	100
– Nmi Certin B.V.	Delft	100
– VSL B.V.	Delft	100
– Nmi Italia S.R.L.	Padua, Italy	70
– Keuren en Kalibreren B.V. *	Hengelo	100
– Euroloop B.V. *	Rotterdam	100
TNO Diana B.V.	Delft	70
– Femsys Ltd.	Leicester, UK	100
– TNO Diana UK Ltd.	Leicester, UK	100
– TNO Diana NA Inc.	Delaware, USA	100
TNO Heimolen B.V.	Bergen op Zoom	100
DUCARES B.V.	Zeist	100
SU Biomedicine B.V.	Zeist	70
Delft Patents B.V.	Delft	90
APP Beheer B.V.	Bergen op Zoom	100
– Aerospace Propulsion Products B.V.	Hoogerheide	100

Name	Registered office	Holding (%)
– APP Onroerend Goed B.V.	Klundert	100
TNO Triskelion B.V.	Zeist	100
CelSian Glass & Solar B.V. *	Eindhoven	100
ProQares B.V.	Rijswijk	100
– ProQares USA Inc.	Washington, VS	100

*) consolidation from 2012

THE FOLLOWING COMPANIES ARE NOT CONSOLIDATED:

Name	Registered office	Holding (%)
Mestcorp Inc.	Lake Oswego, VS	6
BG Medicine Inc.	Waltham, VS	0
Transport & Mobility Leuven N.V.	Leuven, België	50
Prime Vision B.V.	Delft	40
GnTel B.V.	Groningen	34
WTCW N.V.	Amsterdam	6
Kestrel Displays Ltd	Portsmouth, GB	20
Noord Tech Ventures C.V.	Groningen	3
Delbia B.V.	Beverwijk	24
Dyadic International Inc.	Jupiter, VS	0,1
TNO International Agencies B.V.	Delft	100
NMi UK Ltd.	Bangor	51
Sino-Euro Biomedicine Co. Ltd.	Chengdu Sichuan	50
Delft Sense B.V.	Delft	50
ConsumersVoice B.V.	Groningen	90
Dariuz B.V.	Eindhoven	30
Cropwatch Holding B.V.	Oosterbeek	33
– Cropwatch B.V.	Oosterbeek	90
Efectis Holding SAS	St.Remy les Chevreuse	50
– Efectis France SAS	St.Remy les Chevreuse	100
– Efectis Nederland B.V.	Delft	100
– Efectis Investment NL B.V.	Rijswijk	100
– Efectis Real Estate Company B.V.	Rijswijk	100
– Efectis Ibérica S.L.	Madrid, Spanje	54
– Efectis Eurasia A.S.	Istanbul	100
– Efectis Era Avrasya A.S.	Istanbul	66
TÜV Rheinland TNO Automotive International B.V.	Helmond	50
SoLayTec B.V.	Eindhoven	30
Automotive Facilities Brainport Holding N.V.	Helmond	24
BATAVIA Bioservices B.V.	Leiden	35

PARTICIPATION INTERESTS

Name	Registered office	Holding (%)
– BATAVIA Holdings Inc.	Delaware, VS	100
– BATAVIA Bioservices Inc.	Delaware, VS	100
White Dolphins B.V.	Doorn	50
Disposals/closed during 2012		
LEGYON B.V.	Leeuwarden	40
Beijing Building Technology Development Center Ltd.	Beijing, China	30
TNO Science & Technology Consultation Co. Ltd.	Chengdu, China	100
TNO Interim Management B.V.	Apeldoorn	100
TNO MC Customer Management B.V.	Apeldoorn	60

STATEMENT OF THE TNO BOARD OF MANAGEMENT

The consolidated and company balance sheet as at 31 December 2012 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 2012.

Our auditors issued an unqualified opinion on these financial statements in their auditor's report, dated March 20, 2013. This auditor's report, as a part of the Dutch Annual Audit, Can be obtained from TNO.

GRI GUIDELINES FOR SUSTAINABILITY REPORTS

We used the G3 Guidelines for Sustainability Reports issued by the Global Reporting Initiative (GRI) when preparing this report. The Guidelines have been applied at level B+ (see the GRI statement). We have selected at least twenty economic, social and environmental indicators in addition to the mandatory information (categories 1.1 to 4.17 and the policy statements).

The GRI index chart shows the GRI indicators that can be found in the Annual Report and where.

GRI component	Section	Page	Comments
STRATEGIE EN ANALYSE			
1.1 Statement of the CEO	Report of the Board of Management	4-8	
1.2 Impacts, risks and opportunities	Report of the Board of Management	4-8	
Organisation profile			
2.1 Name of organisation		This chart	The business name TNO stands for Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek (Netherlands Organisation for Applied Scientific Research).
2.2 Brands, products and/or services		This chart	TNO is a research and technology organisation that performs applied research and creates innovations for and with industrial and governmental customers, nationally and internationally. We work on the basis of social themes.
2.3 Operational structure of the organisation	Corporate Governance; Report of the Board of Management	16-17 4-8	
2.4 Location of headquarters		This chart	TNO's registered office is in Delft.
2.5 Countries of operation		This chart	TNO has its registered office in the Netherlands and holdings in companies in countries stated in the list of participating interests. The full list is available on www.tno.nl/locaties .
2.6 Ownership and legal form	Corporate Governance	16-17	
2.7 Markets served	Report of the Board of Management; Knowledge and quality; Innovation policy; Notes to the consolidated income statement	5-6 53	The distribution of activities across the different stakeholders is disclosed in the financial statements.
2.8 Scale of the entity	Consolidated income statement, balance sheet and notes	34-36 45-59	
2.9 Significant changes during the reporting period	Report of the Board of Management; Healthy business	4-5	
2.10 Awards received in the reporting period	Report of the Board of Management; Pride in our people and talent	5	

GRI component	Section	Page	Comments
Report parameters			
3.1 Reporting period	Consolidated balance sheet	34 and this chart	The reporting period runs from 1 January 2012 to 31 December 2012.
3.2 Previous review		This chart	The 2011 annual report was published in May 2012. The standard and CSR components formed an integral part of the report.
3.3 Reporting cycle		This chart	This report is published annually.
3.4 Contact(s)	Acknowledgements	83	
3.5 Process for defining the content of the report		18 and this chart	TNO's stakeholders are its employees, ministries, industry (large companies and SMEs) and society as a whole. Most contact is with the ministries of Education, Culture and Science, Economic Affairs and Defence. The main elements have not changed since 2011, but integrity in research has been added as this was a source of public disquiet in the past year and prompted TNO to clarify its handling of integrity. The Board of Management is ultimately responsible for the contents.
3.6 Boundary of the report		This chart	This annual report covers TNO, differentiating between the TNO Organisation and the participating interests.
3.7 Limitations on the scope or boundary of the report	People and Society; Management and reporting	19	The 'Employees make the difference' and 'Corporate social responsibility' sections cover the TNO Organisation only and not the participating interests.
3.8 Basis for reporting on alliances	Notes to the 2012 consolidated financial statements	43, 53 69-71	
3.9 Basis of calculation	Notes to the consolidated financial statements; TNO's environmental footprint	38-44, 26 and this chart	The accounting policies are disclosed in detail from p 37; the basis of calculating the environmental footprint is explained on p 26 and in the Toelichting milieuvoetafdruk background document which can be found at www.tno.nl/mvo .
3.10 Restatements		This chart	There have been no restatements
3.11 Changes in reporting		This chart	No significant changes occurred during the reporting period that are relevant to this report.
3.12 Standard disclosures		This chart	
3.13 External assurance	Assurance report	30	
Governance, commitment and engagement			
4.1 Governance structure	Corporate Governance	16-17	
4.2 Chairman of the highest governance body	Membership of Boards	10-11	

GRI component	Section	Page	Comments
4.3 Highest independent governance body	Report of the Supervisory Board; Corporate Governance	14, 16-17	
4.4 Mechanisms for shareholders and employees to provide recommendations to highest governance body	Employees make the difference	22	
4.5 Linkage between compensation for members of highest governance body and the organisation's performance	Report of the Supervisory Board; Notes to the consolidated income statement	14, 56	
4.6 Processes in place for the highest governance body to ensure conflicts of interest are avoided	Corporate Governance	16-17 and this chart	The Corporate Governance section describes how TNO applies the Code of good governance in public organisations, which includes conflict prevention.
4.7 Process for determining the qualifications of the members of the Board of Management for overseeing the strategy in terms of social, economic and environmental topics	Corporate Governance; Employees make the difference; Diversity	16-17, 24, 25	
4.8 Internally developed mission statements and codes of conduct relevant to CSR performance	People and Society; Management and Reporting	19	
4.9 Procedures of the Board of Management for assessing, adjusting and managing sustainability performance	People and Society; Management and Reporting	19	
4.10 Processes for evaluating the Board of Management's own performance	Corporate Governance; Supervisory Board; People and Society; Management and Reporting	16, 19	
4.11 Explanation of application of the precautionary principle		This chart	TNO's general terms and conditions are based on limited liability in connection with the nature of the work it performs. TNO has insurance cover for the part of its work which falls under limited liability. TNO exercises its responsibility in respect of fraud prevention through the administrative organisation, internal controls, the code of conduct and the whistle-blower scheme.

GRI component	Section	Page	Comments
4.12 Externally developed initiatives to which the organisation subscribes	People and Society, Management and Reporting; Sustainability in our own organisation; Sustainable purchasing	19, 28, 29	
4.13 Membership of associations and interest groups	Report of the Board of Management; Innovation in the golden triangle, international playing field	6, 7	TNO is a member of many organisations. Strategic international co-operation through EARTO (European Association of Research & Technology Organisations) and nationally with the TO2 federation. Jan Mengelers (chairman of the Board of Management) has been president of EARTO since 2011.
4.14 List of stakeholder groups engaged by the organisation	Report of the Board of Management; Knowledge and quality	5	Key stakeholders for TNO: employees, ministries, industry (large companies and SMEs) and society.
4.15 Basis for selection of stakeholders		This chart	TNO embraces a wide range of stakeholders in the seven themes. There is an extensive account in the 2011-2014 Strategic Plan for the long list of stakeholders for each theme (available on www.tno.nl/downloads/tno_strategisch_plan_2011_2014.pdf and pages 40, 50, 60, 70, 78, 86, 94).
4.16 Approaches to stakeholder engagement	Report of the Board of Management; Knowledge and quality		The 2011-2014 Strategic Plan involved extensive consultations with stakeholders.
4.17 Response of the organisation to the topics discussed through stakeholder engagement	Report of the Board of Management; Knowledge and quality; Innovation in the golden triangle; Innovation policy; Employees make the difference; Employee engagement survey	5-7, 22	

GRI component	Section	Page	Comments
Policy statements			
- DMA EC Economic performance:	Report of the Board of Management; Finance and operations report	4, 5, 15	
- DMA EC Indirect economic impact	Report of the Board of Management	4-8	TNO aims for 'Impact' (the 2011- 2014 Strategic Plan is entitled 'Innovate with impact') and works to achieve this in partnership with other parties and through a focus on the seven social themes.
DMA EN Policy statement: Environment (Aspects: Materials, Energy, Emissions and waste, Products and services, Transport, Overall)	TNO and Sustainability; Management and Reporting; Sustainability in our own organisation	19, 26-29	This is described in the CSR Policy Statement. The relevant aspects are considered in the 'TNO environmental footprint' section of this annual report. There is a cohesive policy on the internal operations of each of the aspects stated.
DMA LA Policy statement: Employees (Aspects: Employment, employee/ management relations, health and safety, training and diversity)	Employees make the difference	22-25, 19	Development of employment conditions, working conditions, training and diversity. All TNO employees are covered by a collective labour agreement. Also described in the CSR Policy Statement.
DMA HR Policy statement: Human rights (aspects: investment and purchasing policy, non-discrimination)	TNO and Sustainability; Development assistance; Employees make the difference; Training and development	19, 21, 23, 24	This is described in the CSR Policy Statement. TNO adheres to Dutch legislation and regulations and so there is no need for supplementary policy in this field. Employees working in development assistance receive special training in ethics in developing countries.
DMA SO Policy statement: Society - aspect of Corruption - aspect of Public policy - aspect of Anti-competitive behaviour	Report of the Supervisory Board; Corporate Governance; TNO and Sustainability; Code of Conduct and arrangements for integrity	19, 14-17, 19, 20	This is described in the CSR Policy Statement. The Supervisory Board ensures correct execution of the TNO Act, as disclosed in the Corporate Governance; independence and avoidance of unfair competition are central. Integrity plays a key role as set out in the code of conduct, which is discussed with all new employees.
DMA PR Policy statement: Product Responsibility (aspects: Product and service labelling and Compliance)	Report of the Board of Management; Knowledge and quality	5	TNO's mission is to create innovations and a report is generally issued on the completion of a project. Quality is improved using the results of customer satisfaction surveys

GRI component	Section	Page	Comments
Economic indicators			
EC 1 Direct economic value	Consolidated balance sheet, financial statements and notes	34-36, 38-59	
EC 2 Financial implications of climate change	Report of the Board of Management	4-8	
EC 4 Financial support from the government	Consolidated balance sheet, financial statements and notes	9, 13, 15, 42, 43, 55, 61, 67	
EC 8 Services and investments for public benefit	TNO and Sustainability; Development assistance	21	Investment in development assistance is a clear sign of TNO's social investments.
EC 9 Description of indirect economic impact	Report of the Board of Management	4-8	Innovation for Life is key at TNO and specifically within the 2011-2014 Strategic Plan.
Environmental indicators			
EN 2 Materials used from recycled sources	Sustainability in own organisation; Energy and ICT	28, 29	
EN 3 Direct primary energy consumption	Corporate social responsibility; list of environmental indices	26, 27	
EN 4 Indirect energy consumption	Corporate social responsibility; list of environmental indices	26, 27	
EN 5 Energy saving	Sustainability in own organisation; list of environmental indices	26, 27	The change in energy consumption is part of the environmental footprint.
EN 6 Initiatives to provide energy-efficient products or services and the related fall in energy consumption	TNO and sustainability	18-19	Sustainability and scarcity are a common thread through the themes; consequences for energy consumption have not yet been calculated.
EN 7 Initiatives to reduce indirect energy consumption	Sustainability in own organisation	26-29	
EN 8 Total water consumption	Sustainability in own organisation	26	

GRI component	Section	Page	Comments
EN 16 Emission of greenhouse gases	Sustainability in own organisation	26, 27 and this chart	Toelichting milieuvoetafdruk background document on www.tno.nl/mvo ; The IPCC method for GWP (Global Warming Potential) 100a is used to calculate greenhouse gas equivalents for direct emissions and scope 3 level.
EN 17 Other indirect emission of greenhouse gases	Sustainability in own organisation	26, 27	
EN 18 Initiatives to reduce indirect greenhouse gases	Sustainability in own organisation	27-29	
EN 26 Initiatives to reduce environmental harm	Sustainability in own organisation	27-29	
EN 29 Environmental impact of the transport of goods and employees	Sustainability in own organisation	26-27	
EN 30 Investments in and spending on environmental protection	Sustainability in own organisation	26-29	
Social indicators			
LA 1 Profile of workforce	Employees make the difference; Diversity	22, 25	
LA 3 Employee benefits not provided to part-time or temporary employees	Employees make the difference; Employment conditions	23	
LA 4 Percentage of employees covered by a collective labour agreement	Employees make the difference	23 and this chart	TNO's employment conditions apply to all its employees; each employee has an individual labour contract.
LA 6 Percentage of workforce represented in health and safety committees		This chart	Responsibility for occupational health and safety is explicitly set out in the line organisation of expertise centres, themes, corporate services and TNO Companies. The introduction of TNO's own management model means that employees and their managers have shared responsibility for preventing and tackling absence. A substantial proportion of employees are involved in occupational health and safety, with 350 company first aiders, 60 safety assistants, 4 bio-hazard officers, 15 radiation experts and about 400 room supervisors.
LA 7 Injury rates, occupational diseases, days lost and absenteeism, number of work-related fatalities by region	Employees make the difference; Health and safety	23	
LA 11 Programmes for skills management and lifelong learning	Employees make the difference	23, 24	

GRI component	Section	Page	Comments
LA 12 Percentage of employees receiving performance and career development appraisal interviews	Employees make the difference; training and development	23, 24	
LA 13 Diversity	Membership of Boards; Employees make the difference; Diversity	10-12, 25	TNO focuses on gender diversity
LA 14 Relationship between basic salaries between men and women	Employees make the difference	23 and this chart	TNO employment conditions apply to all TNO's employees; each employee has an individual labour contract and, of course, there is no gender discrimination.
HR 2 Key suppliers screened for compliance with human rights		This chart	TNO adheres to Dutch legislation and regulations and so there is no need for supplementary policy in this field.
HR 3 Training in the area of human rights	TNO and sustainability; Development assistance	21	
HR 4 Discrimination		This chart	No instances of discrimination were reported at TNO in 2012 .
SO 3 Training in anti-corruption policy	TNO and sustainability; code of conduct and arrangements on integrity	19, 20	Integrity is a core TNO value and is part of the introduction course that all new TNO employees (216 = 6% of the workforce) followed in 2012.
SO 4 Action taken in response to incidents of corruption		This chart	There were no known cases of corruption at TNO in 2012.
SO 6 Contributions to political parties		This chart	TNO makes no financial contribution to political parties
SO 7 Penalties for anti-competitive activities		This chart	No sanctions were imposed in respect of anti-competitive or associated activities in 2012.
SO 8 Monetary value of significant penalties		This chart	No penalties or other measures were imposed as a consequence of non-compliance with legislation or regulations in 2012 .
PR 5 Customer satisfaction	Report of the Board of Management; Knowledge and quality	5	
PR 9 Monetary value of significant penalties		This chart	No penalties were imposed on TNO in 2012

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INFORMATION SOCIETY



A CONNECTED SOCIETY

TNO STUDIES THE IMPACT OF THE INFORMATION SOCIETY AND ENCOURAGES THE INTRODUCTION OF NEW SERVICES, APPLICATIONS AND POLICY BASED ON THE LATEST ICT, MEDIA AND SPACE TECHNOLOGY.



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ENERGY



SUSTAINABLE ENERGY SUPPLIES

TNO CONTRIBUTES TO A SUSTAINABLE, EFFICIENT AND GUARANTEED SUPPLY OF ENERGY THROUGH INNOVATION.



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INDUSTRIAL INNOVATION



STRUCTURAL INDUSTRIAL COMPETITIVENESS

TNO STRENGTHENS THE INNOVATIVE POWER OF INDUSTRY BY CREATING GROUND-BREAKING PRODUCTS AND PROCESSES WITH A STRONG FOCUS ON SUSTAINABILITY.



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DEFENCE, SAFETY & SECURITY



A SECURE SOCIETY

TNO FOCUSES ON A SECURE SOCIETY BY CREATING INNOVATIONS TO ASSIST THE WORK OF PEOPLE IN DEFENCE, THE POLICE, EMERGENCY SERVICES AND INDUSTRY.



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BUILT ENVIRONMENT



DYNAMIC URBAN ENVIRONMENT

TNO WORKS ON TRANSITIONS AND INNOVATIONS THAT CONTRIBUTE TO THE SUSTAINABLE DEVELOPMENT AND DESIGN OF THE AVAILABLE SPACE TO ENABLE COMFORTABLE LIVING IN A DENSELY POPULATED COUNTRY.



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TRANSPORT & MOBILITY



SMARTER MOBILITY ACCELERATES PROGRESS

TNO ACCELERATES PROGRESS BY COMBINING TECHNOLOGICAL INNOVATION, INFLUENCING HUMAN BEHAVIOUR AND SMARTER ORGANISATION TO MAKE MOBILITY CLEANER, QUIETER AND SAFER.



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HEALTHY LIVING



VITALITY FOR LIFE

TNO INITIATES TECHNOLOGICAL AND SOCIAL INNOVATION TO
ENABLE OUR LIVES TO BE HEALTHY AND CREATE VITALITY FOR LIFE.



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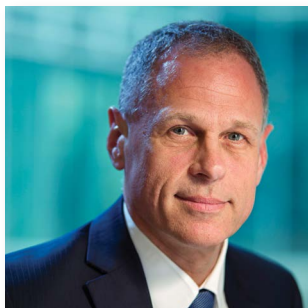
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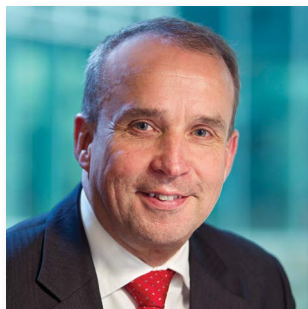
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TNO COMPANIES BV

TNO COMPANIES (TNO BEDRIJVEN BV) COMMERCIALISES KNOWLEDGE DEVELOPED BY TNO BUT WHICH IS NOT IMMEDIATELY TAKEN UP BY THE MARKET. WE WORK WITH INDUSTRY AND INVESTORS TO ACCELERATE THE COMMERCIALISATION PROCESS. TNO COMPANIES IS ALSO RESPONSIBLE FOR SETTING UP SPIN-OFF COMPANIES FOR TNO ACTIVITIES.



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