

TNO CODE



15 May 2019

TNO innovation
for life

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INTRODUCTION

TNO CREATES IMPACTFUL INNOVATIONS FOR THE SUSTAINABLE WELLBEING AND PROSPERITY OF SOCIETY. WE SET OURSELVES HIGH STANDARDS IN TERMS OF CONDUCTING INDEPENDENT RESEARCH, INNOVATION AND CONTRIBUTING TO ECONOMIC GROWTH. OUR PROFESSIONALS USE THEIR EXPERTISE, INSPIRATION AND CUSTOMER FOCUS TO IDENTIFY SOLUTIONS FOR THE ISSUES FACING TODAY'S SOCIETY. THE WAY IN WHICH WE CARRY OUT OUR CORE ACTIVITIES REFLECTS THE HIGH STANDARDS EXPECTED OF US. THIS SAFEGUARDS THE QUALITY OF OUR RESEARCH AND ENSURES IT IS VALUED BY SATISFIED PARTNERS AND CLIENTS.

Much of our success is based on the culture that unites us. We are fully aware that people apply different standards and values to their thoughts and actions. This is why we consider it important to make clear choices about how we interact with each other and with the outside world. In doing so, our approach is ingenious and well-considered. For TNO, it is essential to continue to improve the integrity of our organisation and to make carefully-considered decisions. We base this on our own ethical convictions, those of our colleagues, and on the core values on which TNO was founded. In addition, we are alert to what is happening in wider society.

This corporate code establishes what we stand for and serves as a guide for employees and managers. It is also a document that has legal consequences. People may be held accountable for their actions, based on the contents of this document. It also aims to show that there are standards that we aspire to meet and on which, where reasonable, we may be called to account. Principles and standards for scientific research are set out in the Dutch code of conduct for research integrity (NGWI), to which TNO subscribes with the implementation of this TNO code.

Because the organisation is constantly changing, the various components of this corporate code are constantly developing. For this reason each year TNO employees are asked to endorse this code. At this time, any amendments made to the code are drawn to their attention so that they are acquainted with them. They are also asked each year whether they have submitted an up-to-date list of their ancillary activities.

TNO Executive Board

May 2019

THE FOUNDATIONS OF TNO

THE OBJECTIVE, VISION, MISSION AND STRATEGY OF TNO FORM THE BASIS FOR OUR CORE VALUES: INTEGRITY, INDEPENDENCE, PROFESSIONALISM AND ENGAGEMENT WITH SOCIETY. THESE CORE VALUES ARE ALL INTERCONNECTED AND PLAY AN INSTRUMENTAL ROLE IN THE ORGANISATION'S SUCCESS. IN ORDER TO ENSURE CLARITY FOR EVERYONE CONCERNED, THIS CODE DESCRIBES THESE VALUES AND PLACES THEM IN AN OPERATIONAL CONTEXT.



THE 4 CORE VALUES OF TNO

CORE VALUE: INTEGRITY

TNO is an organisation staffed by people whose actions are based on integrity. TNO has built a good reputation on this basis. For TNO, integrity means that the organisation is led based on a value-driven vision and that the employees act on the basis of the core values. All decision-making is based on information that is as accurate as possible. Where desirable, TNO is transparent. Reliability and respectful conduct lie at the heart of our open culture. This creates space for the discussion of difficult issues and dilemmas, which reinforces the integrity of TNO. TNO responds effectively to wrongdoing and protects honest individuals who report it.

CORE VALUE: INDEPENDENCE

TNO conducts objective research, provides impartial advice to businesses and organizations and acts as a neutral rapporteur in disputes and legal cases. Our success is based on our independence. Results are achieved without any inappropriate influence from commercial or other interests.

CORE VALUE: PROFESSIONALISM

Professional conduct through the application of clearly-defined working processes within the limits set by time and money ultimately leads to the best results. TNO works on state-of-the-art expertise in a range of areas and combines this in order to identify new solutions for the issues of our times. This means that it is important for us to challenge each other and share ideas. This promotes quality and creativity. Other key factors that promote this include evaluation, reflection, openness with regard to legal, safety and environmental risks and calling each other to account in the event of inappropriate conduct.

CORE VALUE: ENGAGEMENT WITH SOCIETY

TNO plays an important role in society: connecting people and expertise to create innovations that make businesses more competitive and contribute to a sustainable and healthy society. Sustainability and health have our special attention, in both our research and our business operations. This is evident in our corporate social responsibility policy and our efforts to create a fit and healthy organisation.

Alongside the core values that formed the basis for TNO, there are several additional core values that serve as important guides for all of our activities at TNO and in achieving our strategic objectives:

CLIENT- AND IMPACT-LED

TNO is both client- and impact-led and is therefore always in search of the best results for its customers. It is essential to engage in discussion with them from the outset in order to identify the real need and determine the best way forward. We then look across the whole of TNO in order to identify where the right expertise can be found. We invest a lot in the way in which we work on projects and in expertise that fulfils the needs of the market and the client. These investments are linked to our mission and social objectives. Where necessary, we will also deploy additional expertise from third parties.

INNOVATION

TNO aims to explore the limits of what is possible in terms of innovations. TNO catalyses new ideas and encourages employees to cooperate with colleagues, customers and third parties in exploring the periphery of their own specialist area, combining expertise with a view to innovation and creating breakthroughs.

CONNECTION & INSPIRATION

TNO's strength lies in the combination of various disciplines and expertise, which enables innovative solutions to be developed for customers. In order to ensure that this strength is fully exploited, cooperation is a basic precondition, both internally and externally. Developing innovative solutions is ultimately what inspires us. We encourage and create space for each other, enabling each individual to make a contribution based on their own strengths. This makes us proud to work at TNO.

The world around us is in a state of constant change. For this reason, we are constantly adapting the way we act and the way we work. This code embeds our values on the basis of current expectations from society and within the organisation. In practice, there will be challenges and problems for which this code does not always provide a solution. The dilemma database (dilemmabank) can be used to submit dilemmas to be used for learning purposes, where appropriate.

OUR GOAL, VISION, MISSION AND STRATEGY

GOAL

TNO was established by law in order to contribute to ensuring that applied technological and scientific research – and associated applied research in the social sciences and other areas – can effectively serve the general interest and any subsidiary interests within it.

MISSION

Creating impactful innovations for the sustainable wellbeing and prosperity of society.

VISION

Innovation is crucial in realizing a secure, sustainable, healthy and digital society...

As we navigate the first half of the 21st century, we encounter several significant challenges. To shape a better future, society must limit climate change while also adapting to it. Our economy needs to foster innovation and competitiveness, while embracing sustainability, including circular practices. Our population is ageing, and we all want to lead longer, more prosperous, healthy lives – at work and at home. In a changing geopolitical landscape, marked by rising military conflicts and a greater emphasis on strategic autonomy, people are seeking greater security. Simultaneously, as societies grow more complex, there is a growing demand for reliable information to inform evidence-based policymaking and effective governance. We must harness the full potential of digitalisation and information technology to achieve these goals.

Technical novelties and scientific insights only have a significant impact on society and economic development if they are used, at scale, in the real world. Not every ingenious invention or insight meets a significant need or can feasibly be produced or adopted on a large scale. Therefore, a keen understanding of customer needs, international supply chains, and the broader landscape of national, European, and global market trends is vital. As global investments in research and development (R&D) surge, and value chains span multiple borders, the innovation arena is transcending national boundaries. It is increasingly becoming a fiercely competitive landscape, in which TNO has to articulate its right to play in each of the fields in which it is active. Just like any other region, country, or organisation, the Netherlands in general, and TNO in particular, must amplify their collective innovation efforts. This means leveraging our unique strengths in specific fields—those that hold the most promise—to secure sustainable competitive advantages and establish strategic footholds (control points) within global value chains.

... With TNO as leading innovator

TNO, as a trusted, independent, and pioneering applied science and technology organisation, plays a multifaceted role. We innovate, investigate, and orchestrate, collaborating closely with governments, universities and the private sector. We inform government on policies and empower evidence-based decision-making through rigorous investigations, cutting-edge scientific insights, and reliable measurements. By building national and international consortia and ecosystems, we drive technological and methodological breakthroughs that help to realise a secure, sustainable, healthy, and digital society, and strengthen the earning power of the Dutch economy.

TNO aims to help elevate the cumulative innovation effort in the Netherlands towards R&D investment of at least 3% of GDP, an increase of 30% (more than € 6.7 billion) compared to 2022, mainly from private contributions. Therefore, we also have to increase TNO's innovation effort, as a core part of the Dutch innovation ecosystem. To maximise the impact of our innovative efforts, we concentrate on fields where we truly excel—where we lead the way in innovation—and where our contributions therefore have the most impact. We base our decisions in this regard on a thorough grasp of societal and market needs, a realistic assessment of emerging value chains and industrial hubs in the Netherlands, as well as the international competitive landscape. These factors co-determine the success or failure of an innovative effort. We remain committed until technical and social inventions evolve into successful innovations.

Together, we will forge a more focused and responsive organisation: one that thrives on collaboration and agility, where our employees can flourish, and where they feel empowered to create truly impactful innovations that contribute to the sustainable well-being and prosperity of society.

QUESTIONS WE ASK OURSELVES WHEN WE FACE A DILEMMA

On a regular basis, we are confronted with dilemmas regarding conduct where we are forced to make a choice between our core values. In this situation, it is important to engage in discussion with each other and to reflect and then to take responsibility for what can sometimes be difficult choices. We make our choices based on the best long-term impact.

If there is any doubt about the right course of action for oneself or someone else, we consult with a line-manager. They work proactively to create a working environment in which people can operate safely and with integrity. If that is impossible or if you feel genuinely uncomfortable, it is possible to discuss the situation with a confidential counsellor. In such cases, managers should contact the central confidential counsellor.

Below are a number of questions that we ask ourselves before making a choice in the event of dilemmas involving our conduct. The aim is to be able to say yes to all of the questions below.

- Do I have sufficient information in order to make a balanced judgement or on which to base my conduct and actions?
- Can I face myself in view of this conduct?
- Would I consider it acceptable if a colleague were to do this?
- Have I discussed this sufficiently with others and/or involved the right people in my decision?
- Is it justified in the light of the confidence entrusted in me and TNO and our reputation?

We always take responsibility for our conduct. This code and the core values and standards it includes provide guidance for our conduct but do not take away our own responsibility for making a balanced decision or reaching a carefully-considered strategy for dealing with the situation.



A. LAWS AND REGULATIONS

TNO TAKES ITS RESPONSIBILITIES EXTREMELY SERIOUSLY AND CAN ALWAYS BE HELD ACCOUNTABLE WITH RESPECT TO THEM. WE ABIDE BY ALL TREATIES AND CONVENTIONS, LAWS AND REGULATIONS THAT APPLY TO US. IN THIS, WE COMPLY BOTH WITH THE LETTER AND SPIRIT OF THE LAW. THIS IS WHY IT IS IMPORTANT FOR EMPLOYEES TO BECOME ACQUAINTED WITH THE LEGISLATION, REGULATIONS, TREATIES AND CONVENTIONS THAT ARE RELEVANT TO THEM AND TO ABIDE BY THEM. TNO SUPPORTS ITS EMPLOYEES IN THIS BY DRAWING ATTENTION TO RELEVANT ISSUES.



1. WE RESPECT HUMAN RIGHTS AND INTERNATIONAL TREATIES AND CONVENTIONS

2. WE COMPLY WITH ALL LEGISLATION, REGULATIONS AND CODES THAT APPLY TO US

Where, in view of our position, it is expected of us, we also abide by the unwritten rules and standards accepted by society.

3. WE APPLY EXPERTISE IN ORDER TO ENHANCE THE EXPERTISE POSITION OF THE NETHERLANDS AND DISSEMINATE THIS EXPERTISE

As widely as possible, in line with the objectives of the TNO Act (TNO-wet).

4. WE ARE OPPOSED TO ACTIVE AND PASSIVE CORRUPTION AND ALERT TO CONFLICTS OF INTEREST

TNO acts in accordance with the anti-corruption rules that are relevant to us in the countries in which we are active. TNO employees only accept and make payments, gifts and favours that are appropriate, not in breach of the law and not intended to influence a decision by TNO or by another party. Nor do we promise to do such things or provide permission for them. Equally, we do not give any appearance of potential corruption or the appearance that our independence and impartiality may be influenced.

5. WE DO NOT ACT WITH PRIOR EXPERTISE IN ORDER TO MAKE PROFIT OR PERSONAL GAIN

Based on its professional approach towards its clients and awareness that it is forbidden by law, TNO prohibits its employees from exercising any influence on share transactions. This means that we will never share important, non-public information that we may have at our disposal.

6. WE DO NOT COMMIT FRAUD

We do not engage in fraud in our work. This means, among other things, that we present information accurately and do not mislead in order to gain an economic or other advantage. We are careful in making expense claims and do not commit plagiarism or forgery.

7. WE COMPLY WITH THE RULES GOVERNING HEALTH, SAFETY, SECURITY, THE ENVIRONMENT AND WORKING CONDITIONS

TNO is committed to protecting our environment and our safety. We provide a healthy, safe working environment and good working conditions for employees and persons who are dependent on TNO.

8. WE PROTECT (INTELLECTUAL) PROPERTY RIGHTS

Our property rights are important for the organisation. The protection of (intellectual) property rights and know-how is a prerequisite for innovation. For this reason, TNO places great value on this. This means that we also take care when dealing with goods and materials placed at our disposal. We demand of others that they respect our rights, just as we respect the rights of others.

9. WE RESPECT PERSONAL DATA AND ACT IN ACCORDANCE WITH DATA PROTECTION REGULATIONS

We ensure that when working with personal data, the confidentiality and legally required protection of that data is safeguarded, regardless of whether the data is TNO's own or that of a third party. We adhere to TNO's own regulations regarding data protection.

B. DOING BUSINESS

WE ARE ALERT TO THE INTERESTS OF TNO AND TO THOSE OF OUR COLLEAGUES AND BUSINESS AND OTHER PARTNERS. WE OFFER AND EXPECT AN INDEPENDENT ATTITUDE, INCLUDING FROM THE INTERMEDIARIES AND TEMPORARY STAFF ON WHOM WE CALL.

OUR CORE VALUES FORM THE BASIS FOR OUR CONDUCT AND OUR EFFORTS TO ACHIEVE QUALITY, TRANSPARENCY, SERVICE-FOCUS, PROFESSIONALISM, CLARITY AND BALANCE.



1. CONSIDERATE TO THE INTERESTS OF OTHERS

We have a close relationship with our clients, partners and society as a whole. We do justice to their interests, taking account of our own values, for example by communicating transparently with clients, partners and the media. We keep our word and if we are unable to meet contractual obligations, we will search for a suitable solution. It can be expected of TNO that its communication with employees, clients, partners and the media will be as open as possible.

2. RELIABLE

We are careful, reliable and verifiable in the way in which we conduct our administration, documentation and reporting. In accordance with legislation and regulations, we record financial transactions and do not keep clandestine accounts. TNO uses the resources, financial or otherwise, placed at its disposal for the purposes for which they are intended. In the event that there are deviations from this, TNO will inform the provider of the resources. The intended resources will be used responsibly and proper financial management will be conducted.

3. PROFESSIONAL AND CLIENT-FOCUSED

We ensure that we always remain focused on the client's goal. We ensure that we act in the interests of TNO. We know what our clients are thinking and doing and ensure that it is clear to the client what TNO can mean to them. We make clear-cut agreements that we keep to and respond quickly and appropriately to requests from potential and existing clients. We ensure that we are understandable to our clients and regularly reassess with them whether the chosen course and planned results still match their requirements. We consult with the client to determine the appropriate mix of result, quality and costs.

4. WITH RELIABLE PARTNERS

TNO is committed to doing business with reliable partners. This means that we will not work with parties that do not meet our requirements with regard to reliability. In this, we base our assessment of reliability on widely accepted notions of what constitutes reliability in the world of business and government.

5. LEGAL REPRESENTATION

In a professional organisation, responsibilities are clearly assigned and described. For this reason, TNO has mandate regulations. Legally, TNO can only be represented by employees who are authorised to do so in accordance with these regulations. In the event of any doubt, it is up to employees themselves to check that they can take responsibility.

6. INDEPENDENT ATTITUDE IN BUSINESS

When providing authoritative advice, an independent and businesslike approach is appropriate. TNO staff are aware of this. In order to maintain and enhance TNO's reputation, they do not shy away from calling each other to account on this.

This means that when accepting a commission or participating in a cooperation, clear agreements are made on the publication by TNO of the research in order to prevent any conflicts of interest. They take account of the wishes and preferences of clients with regard to reporting on the work, without undermining the objectivity and prudence of such reporting.

7. DEALING WITH CONFLICTS OF INTEREST

Of course, maximum efforts must be made to prevent any conflict of interest or the impression thereof.

We achieve this by applying as strict as possible a separation between private interests and those of our organisation, partners or clients. We therefore do not commission work from or via organizations or people with whom we have a close personal relationship (privately). TNO employees do not commission work in any circumstance where they maintain a close personal relationship with the employee involved or owner of the company (the intended contractor).

In the event of a conflict of interest, or the risk thereof, the employee must immediately report it to his or her line-manager.

8. CONTRIBUTING TO POLITICAL ORGANIZATIONS AND PEOPLE

If employees wish to make a substantial contribution to political organizations, they must report this to their line-manager and the HR business partner.

Any contributions from TNO to political organizations in the Netherlands or abroad are possible only with the explicit permission of the Executive Board.

9. ANCILLARY ACTIVITIES

Generally, ancillary activities do not constitute a problem. Employees who wish to carry out such activities on behalf of TNO must first obtain written permission from their line-manager and the HR business partner.

For certain ancillary positions, the Executive Board has sole authority to provide permission. For other ancillary activities that may be of a sensitive nature and where the interests of TNO may be or are at stake, there will be further consultations with the line-manager and the HR business partner. TNO is entitled to prohibit specific ancillary activities or positions or to impose certain conditions. Any income from ancillary activities that take place on behalf of TNO will in principle be credited to TNO.

10. DEALING WITH ENTERPRISES AFFILIATED WITH TNO

TNO is an impartial organisation. For this reason, we do not distinguish between TNO's participating interests and other companies. When TNO activities become an independent organisation, when a TNO spin-off becomes part of a TNO participating interest or another party and where valorization activities are involved, sufficient distance must be maintained and goods and services always supplied in accordance with market conditions.

11. RULES OF CONDUCT IMPOSED BY THE MINISTRY OF ECONOMIC AFFAIRS

TNO adheres to rules of conduct drawn up in consultation with the Ministry of Economic Affairs regarding publicly funded research, contract research and the lease of facilities, the handling of intellectual property and spin-off and spin-out companies and for the prevention and handling of complaints.

12. OFFERING AND ACCEPTING GIFTS, SERVICES, ENTERTAINMENT AND PROMISES

Small favours help maintain friendships and are part of business life. We therefore accept occasional smaller gifts (up to the value of € 50), if it is appropriate.

We cannot accept larger gifts or favours. This would lead to (the impression of) undue influence and raise certain expectations. In exceptional cases where the refusal of a gift may be seen to be inappropriate, the gift can be placed at the disposal of a senior line-manager who will deal with it appropriately.

For any work that is part of their job description, employees will not accept additional payment or favours if no arrangements about such matters have been agreed with TNO.

TNO employees do not offer goods or services to their colleagues on a professional basis for personal gain.

In negotiations or contracts with TNO's customers and suppliers, TNO employees will not stipulate any fees for personal gain nor accept gifts, services, entertainment and/or promises.

13. INVITATIONS TO EVENTS, ETC.

Invitations from business associates are seen in a business context. We consider the importance and nature of the relationship and whether there is a possibility of reciprocity. Invitations are dealt with in all openness and reported to the line-manager. If the value of the event is clear, but attendance or participation could affect the independence of the TNO employee, TNO will consider funding the costs from its own resources.

14. INFORMATION AND CONFIDENTIALITY

Information that we obtain directly or indirectly from our work is never used for personal purposes. We are aware that certain information is confidential and we therefore handle it with due care.

Employees who work with or are exposed to sensitive information as a result of their work for the Ministry of Defence or in Safety and Security (Integrale Veiligheid) projects take account of additional safeguards in accordance with the Security policy.

15. LOBBYING

If we use lobbyists we will reveal this when asked. The lobbyists will make it clear that they are working for TNO when they are doing so. We also keep in mind our core values in any lobbying activities.

16. MEDIA

Contacts with the media about potentially sensitive issues must first be cleared with our line-manager and the Marketing & Communications department. If we are active in the media, including social media, we must apply a strict separation between private communications and communications made as employees of TNO.

There are certain activities in the private sphere that may be considered to be socially sensitive or inappropriate. TNO employees are vigilant in ensuring that activities in their private sphere do not damage the interests of TNO.

17. ENTERTAINMENT, EXPENSES AND BUSINESS TRAVEL

Modesty becomes us. For this reason, any entertainment expenditure is always responsible and appropriate. For business trips, we ensure that participants have a clear professional interest in participating. Business trips offer an opportunity to represent TNO in a positive way. On such occasions, we conduct ourselves in a professional manner and avoid any unnecessary risks (to reputation), both within and outside working hours. In this, we take account of possible cultural differences.

18. TNO PROPERTY AND MATERIALS

We feel responsible for TNO's property and deal with it carefully. Occasionally, limited private use of resources may be possible, but only after permission has been granted or if there is an established agreement concerning such use. We do not leave TNO property or data unattended and we take measures to prevent theft or loss. f, despite this, materials of substantial value or (potentially) sensitive information is stolen or lost, we report this immediately to the Security Manager.



C. SCIENTIFIC RESEARCH

BOTH FUNDAMENTAL, APPLIED AND FIELD RESEARCH ARE QUALIFIED AS SCIENTIFIC RESEARCH. THIS COMPRISES ALL ACTIVITIES CONNECTED TO THE PRACTICE OF RESEARCH: DRAFTING APPLICATIONS, STRUCTURE AND EXECUTION OF THE RESEARCH, ASSESSMENT AND PEER REVIEW, ACTING AS INTRINSIC EXPERT, REPORTING, ACCOUNTABILITY AND PUBLICITY.

SOLID RESEARCH, BASED ON STRONG FOUNDATIONS: THIS IS WHAT TNO AIMS TO BE PROUD OF. IT IS A CENTRAL FACTOR IN THE ORGANISATION OF OUR WORK. THIS IS WHY WE ONLY START RESEARCH IF THE RESEARCH BRIEF IS COMPLETELY CLEAR AND HAS BEEN REALISED WITH INTEGRITY. WE ENSURE THAT THE RIGHT EXPERTISE IS DEPLOYED AT THE RIGHT TIME. OF COURSE, ALL OF THE METHODS, MODELS AND RESOURCES USED ARE CAREFULLY CHOSEN AND RELIABLE. WE GUARANTEE THE TRACEABILITY OF ALL DATA IN ORDER TO ENABLE THE RECONSTRUCTION OR REPLICATION OF THE RESEARCH, IF NECESSARY. IN ALL OUR ACTIVITIES, OUR WORK IS BASED ON PRINCIPLES OF INTEGRITY, INDEPENDENCE AND QUALITY.

WHATEVER WE DELIVER, A REPORT, AN ADVICE, A METHOD, MODEL OR COMPUTER PROGRAMME, OUR RESULTS WILL ONLY BE PUBLISHED WHEN WE ARE CONVINCED OF THEIR QUALITY AND INTEGRITY. EVERY TNO EMPLOYEE ENSURES THAT THE RESEARCH IS CONDUCTED HONESTLY, CAREFULLY, TRANSPARENTLY, IMPARTIALLY AND RESPONSIBLY. WE ARE CONSTANTLY ALERT TO THE POSSIBILITY THAT WE CAN DO OUR WORK EVEN BETTER.

FOUNDED ON THE NETHERLANDS CODE FOR RESEARCH INTEGRITY

TNO employees maintain the principles and standards as described in the Netherlands code for research integrity 2018 (hereafter NGWI). For researchers and those who exercise an influence on the research chapters 3 and 4 of the NGWI are vital.

These standards can be found [here](#) or via the TNO website and are also underwritten by KNAW, NFW, NWO, TO2-federation, the Association of Universities of Applied Sciences and VSNU.



D. SOCIETY AND ETHICS

1. TNO AND ITS MISSION IN SOCIETY

TNO contributes to the future by working on the solution to general social and sometimes global issues. TNO is committed to a safer, healthier and more sustainable world. This approach is based on a realistic view of the world. TNO attempts where possible to support sustainable and socially responsible initiatives. Innovative possibilities, developed by TNO, are brought to the attention of national and international bodies.

Based on our mission, we focus on the following themes:

- Defence, Safety & Security
- Industry
- Traffic & Transport
- Healthy Living
- Buildings, Infrastructures & Maritime
- Circular Economy & Environment
- Information & Communication Technology
- Strategic Analysis & Policy
- ECN part of TNO

The major issues of our time come together in the Sustainable Development Goals of the United Nations and in the EU's programmes: Grand Societal Challenges, Key Enabling Technologies (KET) and Leadership in Enabling Industrial Technologies (LEIT). The combination of societal and technological challenges, trends and developments will determine the shape of tomorrow's

world and is therefore a guiding force in shaping TNO's knowledge portfolio and programme choices.

TNO has expertise and experience that touches on a number of areas in which there is debate within society. Possessing such expertise, and handling queries relating to it, can pose real dilemmas for TNO. In these types of dilemmas, TNO bases its position as far as possible on (widely-supported) facts and circumstances and attempts to be as independent as the frameworks of the obligations set for it by government allow. TNO makes ethical choices as carefully as possible, doing justice to relevant social interests. TNO communicates and discusses these ethical choices internally on a proactive basis and provides accountability for them in the outside world on request, while always remaining in dialogue with its relevant community partners.

TNO employees ensure that they make an ethical check where necessary and take account of the societal and ethical consequences of their work and act accordingly. They contribute to this by publishing about it, contributing to new standards, moving the discussion forward, demonstrating exemplary conduct and in their choice of collaborative partners.

2. SUSTAINABILITY

Sustainability is about bring balance to people, planet, profit.

In their work, TNO employees attempt to contribute towards a sustainable society, both in the primary process towards the client and in internal operations. In this, the long-term effect is taken into account.

In the business operations attention is paid to the following subjects:

- Good research
- Healthy employees
- Reducing the energy impact – Society and community

We work with fit and healthy employees who are inspired, engaged and creative in their search for sustainable solutions. We therefore endeavour to be a good employer to all our employees in the Netherlands and farther afield.

TNO is transparent in terms of the goals to be achieved and results gained, and reports on such matters in the annual report.

3. INNOVATION IN EMERGING COUNTRIES (I4D)

With its Innovation for Development Programme (I4D), TNO puts its engagement in innovation in emerging countries into action. Products and services that are in line with the wishes and purchasing power of the poorest people in the world are developed and local production and distribution of these is strengthened.

4. RESEARCH USING TEST SUBJECTS AND ANIMAL TESTING

TNO conducts research involving people. We ensure that we observe maximum possible care with participants, in accordance with regulations and generally-accepted social standards. This includes protecting participants/test subjects against accidents and medical risks, obtaining permission from participants/test subjects through informed consent, participation in research on a voluntary basis and observing care when dealing with persons incapable of giving consent. Data that originates from people and is used for research is stored securely. A database is accessible only to authorised employees. Research in which people participate or which incorporates data traceable to the individual is assessed in an independent manner. Research subject to the Medical Research (Human Subjects) Act (WMO) is assessed by an external METC; research that is not subject to this Act is assessed by an internal committee.

Research can sometimes also involve animal testing. TNO takes the view that the use of animal testing is acceptable only if no suitable alternative is available and if the objective for society outweighs any discomfort for

the animals. In this, TNO endeavours at all times to use as few animals as possible for animal testing and cause as little possible discomfort, whilst maintaining scientific integrity. The TNO requirements with regard to the ethical handling of animal tests, as laid down in the TNO animal testing policy, are therefore stricter than the statutory requirements on a number of points. TNO actively contributes to the development and application of alternatives to animal testing and makes financial resources available for this purpose. Any research involving animal testing will only be permitted on the basis of a licence issued by the Central Animal Experiments Committee (DCC).

E. PEOPLE AND THE ORGANISATION

1. EMPLOYER AND EMPLOYEE

TNO conducts itself as a good employer towards its employees. In this, TNO ensures it provides a safe working environment, promoting individual development and appropriate working conditions. Employees are expected, where reasonable, to be informed of relevant legislation and regulations as well as internal regulations and to act accordingly. We call each other to account on this.

Employees are free in their choice to do work. There is no element of compulsion in this. TNO abides by the rules relating to working times. Overtime is not carried out on a permanent basis. We enable employees to achieve a healthy balance between work and their private lives and encourage healthy working and living.

2. SAFE WORKING ENVIRONMENT

Safety first: this definitely applies at TNO. We make it a priority to identify safety risks as quickly as possible and continue to search for safe ways of doing our work. Of course, we abide by all of the safety rules and call colleagues to account who fail to do so. Unsafe or unhealthy working situations and (near) accidents are reported to the line-manager immediately.

3. SECURITY

The TNO Security department develops policy that contributes to the security of people, goods and information. TNO employees always take relevant threats announced by such authorities as the information and security services seriously and abide by the relevant legislation and regulations, the security policy, instructions, plans and procedures. Events that could have a negative effect on security and operational processes at TNO must be reported immediately to the security officer and, where possible, independent action should be taken in order to prevent or limit damage.

4. MANAGEMENT DRIVEN BY QUALITY AND COMPETENCIES

Employees are appointed on the basis of quality and the potential for development and subsequently appraised in terms of their performance according to clear guidelines. Employees are personally responsible for their own development and career and are encouraged and facilitated in this by TNO.

5. TREATING EACH OTHER WITH RESPECT

We aim to be well mannered and courteous in what we do and what we say, and to appear to be so. Integrity starts with respect for others. Any utterance that does not show respect is inappropriate and unacceptable.

TNO employees refrain from any type of conduct that may be seen as an affront to personal integrity, such as sexual harassment¹, aggression, violence and bullying², not only towards one's own colleagues, but equally towards third parties.

6. INSPIRATION AND CONNECTION

We do our utmost to inspire ourselves, our colleagues and others. We do this through our work and the way in which we do it. We involve others in our work and, if desired, involve our clients' customers in the projects. We also aim to connect people and expertise by actively looking for collaboration beyond the boundaries of our own subject areas. We promote this by eliminating or adapting inhibitive procedures or rules.

7. PRIDE

We are proud to work for TNO and openly communicate our good reputation and that of our colleagues.

8. COOPERATIVE AND CONSTRUCTIVE

Employees work together on a respectful and equal basis. This means that there is always room for discussion, or room is created for it. However, if a decision is made by the right person or authority, we act accordingly unless it is clearly unreasonable. In the latter case, the employee will make this known to his or her (senior) line-manager(s). If that fails to solve the issue, a complaint can be lodged.

We contribute to the communal result and give priority to that over our own results. We share relevant information at the right time and act proactively towards colleagues when they require it.

9. OTHER CULTURES

We understand that in other cultures different standards and values may apply and we take account of this. Nevertheless, we continue to abide by this code. Employees who work in an international context are expected to make additional efforts to be alert to issues that may affect their integrity or that of the organisation and to raise such issues with their line-manager (possibly in the Netherlands).

10. DIVERSITY

TNO promotes diversity in its organisation. We value diversity in terms of gender, culture, age and opinion. All employees are treated equally and with respect.

11. PRIVATE CONDUCT

TNO employees are aware that in private situations they may also be seen as representatives of TNO and that their conduct has an impact on TNO's image.

12. ALCOHOL, DRUGS

Alcohol and drugs have no place within our work. This means that we are not under the influence of such substances when we are occupied with our work. At company receptions at or outside TNO locations, we adopt a responsible attitude towards alcohol.

13. RELATIONSHIPS AT WORK

Intimate relationships can develop anywhere, including at work. If employees enter into an intimate relationship, they must take extra account of those around them. They must prevent any (impression of) conflict of interests and ensure that colleagues do not experience any inconvenience as a result. A relationship between team members is not ideal because of the change in team dynamics that it involves.

An intimate relationship between two TNO employees in a team who have unequal positions within the hierarchy is problematic.

Relationships between TNO employees must be reported to the respective line managers. Efforts will be made to identify a solution that meets the needs of all persons involved. An assessment will be made as to whether it is desirable for one or both persons to take a different position.

¹ Sexual harassment¹ is considered to be any form of verbal, non-verbal physical conduct with a sexual connotation (such as physical contact, sexually suggestive comments, e-mails or text and/or ogling), the aim or consequence of which undermines the dignity of a person, especially if a threatening, hostile, insulting, humiliating or hurtful situation is created (Section 1a, 1 para 3 Equal Treatment Act (Wet Gelijke Behandeling); Section 7:646, para 8 Netherlands Civil Code (Burgerlijk Wetboek)).

² 'Bullying' is considered to be long term and systematic humiliating, intimidating or hostile behaviour directed towards the same person (or persons) who are unable to defend themselves effectively against it. Types of bullying that occur frequently include social isolation, making an individual's work unpleasant or impossible, comments about the private life of the individual, gossip, insults or mockery.

WHAT DOES THIS CODE MEAN FOR ME AND HOW IS THE CODE PUT INTO PRACTICE?

FOR EVERY EMPLOYEE:

A healthy, ethical and pleasant culture is in the interests of us all. This code provides the basis for this. Critical self-evaluation is also essential. As a result, we are working towards a future-proof and in this respect progressive organisation. We are expected to be aware of this code and to act according to it. In this, we adopt a proactive attitude.

If things are unclear, we ask our line-manager for clarification. We are expected to adopt an open and flexible attitude towards changes in the organisation and to behave in a way that contributes towards an open and constructive atmosphere. Any problems we encounter we report to our line-manager.

In the event that we know that an offence has occurred and can reasonably presume that this offence is a punishable or criminal offence, we report it as soon as is reasonably possible. In principle we report it to our line-manager. If the report relates to the line-manager, the report is made to his or her line-manager. If the report relates to the latter line-manager, the report is made to the Executive Board. If the report relates to (a member of) the Executive Board, the report is made to the Supervisory Board.

If the report is classed as a report of a suspicion of wrongdoing, the 'Regulations governing the suspicion of wrongdoing' apply. The obligation to report referred to here does not apply if by making the report you would expose yourself or a relation by blood or marriage related in the direct line or in the collateral line to the second or third remove, or your spouse or former spouse or registered partner or former registered partner to the risk of a criminal conviction.

ACCESSIBILITY

TNO ensures that this corporate code is accessible to all employees in and outside the organisation in both the Dutch and English languages.

ENSURING GOOD POLICY AND IMPLEMENTATION

The corporate code forms the basis for TNO policy. Certain parts of this code have been elaborated further and agreements established in more specific policy.

Various departments and organizational divisions within TNO carry out activities referred to in this code, such as safeguarding quality in the organisation and making available confidential counsellors. Everyone within TNO is expected to contribute to the realization of this document by discussing it with each other, calling each other to account and setting a good example. Everyone is also free to make suggestions to improve this code. In principle, you can do this by contacting your line-manager or the Integrity Officer.

As part of their introduction, new TNO employees spend some time focusing on the issue of professional integrity. When signing the contract on appointment, they also agree to subscribe to this code and one or more confidentiality statements.

Teams and their line-managers are personally responsible for ensuring issues relating to this code are discussed in their team meetings. If necessary, they can ask for support in this from support departments. TNO also organizes meetings and campaigns to focus on issues relating to this code in an interesting way.



In meetings (such as ROC meetings), the core values or this code may be raised, if there is reason to do so. Line-managers engage their employees in discussion about difficult situations that they may face and potential dilemmas.

TNO evaluates the application of the corporate code on an annual basis, with a specific focus on integrity. This evaluation appears annually on the agenda of the Executive Board. The Works Council and line managers are also informed annually of the developments that are relevant to them.

SPECIFIC ROLE OF LINE-MANAGERS AND EXECUTIVE DIRECTORS

Executive directors and employees in a management or coordinating role take the lead and are expected to:

1. show exemplary conduct and acknowledge good conduct on the part of employees;
2. create a working environment in which they and the employees for whom they are responsible can operate safely, pleasantly and with integrity; they provide clarity in exercising the role, duties and terms and conditions of employment. They know how to identify and make use of the qualities of employees. They encourage employees and direct them towards self-development and lifetime employability. They ensure that employees are valued in a fair and honest way. They also provide timely feedback on the performance of employees and team performance (recognition, appreciation and areas for improvement).
3. call employees and other line-managers to account for conduct that is not in line with the letter or spirit of this code. In the event that line-managers receive a report of a suspicion of wrongdoing, they act in accordance with the 'Regulations governing the suspicion of wrongdoing'. The line-manager decides whether the Executive Board (via the line) should be informed of the suspicion of wrongdoing. Line-managers inform the Executive Board immediately of reasonable suspicions of punishable or criminal offences that come to their notice.
4. act in accordance with the standards and duty of care as described in chapter 3 and specifically §3.7 and Ch 4 and Ch 5 of the NGWI.

There is a focus on the development of management at TNO through the Leadership Development Programme.

REPORTS

To a large extent, compliance with this code is monitored by the organisation's management. If employees or line managers have the impression that the management is failing to comply with the corporate code, they can contact the (senior) manager in question or if they cannot or do not wish to do that, the relevant person

from the integrity organisation (see the chapter Integrity organisation). The Supervisory Board can be informed of reports concerning the executive via the Integrity Reporting centre, if need be (to be determined by the Integrity Reporting Centre).

COMPLAINTS

TNO takes complaints seriously and assesses them in terms of their admissibility, investigating the actual events where necessary. The complaint is assessed on the basis of facts and circumstances in an effort to do justice to the outcome of the complaints procedure.

LEARNING ORGANISATION

TNO is a learning organisation. We learn from things that go well and things that go badly. We do this in part by valuing best practice and spreading it across the organisation and evaluating issues that did not go well or could be better. We do this with respect for the people involved in the learning process.

DISCIPLINARY MEASURES

The fact that TNO is a learning organisation does not detract from the fact that, in certain cases, failure to abide by this code can result in (disciplinary) measures in consultation with HR (labour affairs). In assessing non-compliance with scientific standards and principles, Chapter 5 of the NGWI must be observed.

INTEGRITY ORGANISATION

THIS CORPORATE CODE IS PART OF THE TNO INTEGRITY POLICY. VARIOUS PERSONS AND BODIES WITHIN TNO HAVE BEEN DESIGNATED TO IMPLEMENT THE ORGANISATION'S POLICY.

BELOW, DETAILS OF A NUMBER OF PERSONS AND BODIES ARE GIVEN WHO HAVE A PARTICULAR ROLE TO PLAY IN THE INTEGRITY ORGANISATION.



COMMITTEES, BODIES AND OFFICIALS

Integrity Advisory Board (IAB)

This Board advises the Executive Board on code and on other matters relating to the integrity policy of TNO to improve awareness and the correct actions of employees and line-managers within TNO.

Integrity Reporting Centre (Meldpunt Integriteit)

In cases where an employee wishes to draw attention to wrongdoing and the issue has not been tackled or not tackled effectively by the line-manager(s), we report this directly or via a confidential counsellor to the integrity reporting centre. The integrity reporting centre has a permanent, external, expert chairperson. The reporting centre assesses the report and provide advice on its handling to the line-manager or the Executive Board and ensure that such handling takes place.

Central Complaints Advisory Committee (CKAC)

Employees can submit complaints to this committee that relate to personal disadvantage suffered as a result of the organisation (or an individual within the organisation) within the framework of the Internal Complaints Procedure.

Ethics committees

TNO research with humans and animals is reviewed by an external or internal ethical review committee. This means that TNO complies with laws and legislation and codes of conduct.

Research with people is reviewed by:

- a. an external medical ethics review committee if the Medical Research on Human Subjects Act (WMO) applies to the research; or
- b. an internal ethical review committee for human-related research if the research falls outside the scope of the WMO.

A licence for research with animals is granted by the Central Committee on Animal Experiments on the basis of the Animal Experiments Act. This committee will seek the advice of an independent and impartial animal experiments committee in order to assess the licence application.

Integrity Officer/central confidential counsellor

The secretary of the Integrity Advisory Board and of the integrity reporting centre advises line-managers and the organisation on integrity issues and helps in the implementation and enforcement of the corporate code and other integrity policy. Advises on ethical issues on request.

In his role as central confidential counsellor, the Integrity Officer is the confidential counsellor for the first, second and third level of management. The Integrity Officer is also the coordinator of the (decentralised) confidential counsellors. If the Integrity Officer does not feel able to take on the role of confidential counsellor, a referral to an external confidential counsellor can be made.

Decentralised confidential counsellors

These confidential counsellors are on hand for situations relating to commercial and scientific/academic integrity, forms of social behaviour and issues of conscience. If we are unable to turn to our line-manager to deal with a specific issue within the context of this corporate code or if he/ she is unable to provide a solution, in principle, we should first consult the senior line-manager, unless there are compelling reasons not to do so. In that case, we can put the question to the decentralised confidential counsellor. We can do that individually or together with our line-manager. The confidential counsellor will provide further assistance.

In the event of inappropriate forms of social behaviour, you can contact the confidential counsellor directly.

External confidential counsellor

Via the occupational health and safety service (arbodienst) there are also external confidential counsellors available who provide support on matters concerning commercial and academic/scientific integrity. They can also be consulted about problems relating to social behaviour, bullying and sexual harassment.

Security

These staff supervise prevention and the response to breaches in security policy.

REGULATIONS

Regulations governing the suspicion of wrongdoing

TNO Employees who report situations or behaviour that they genuinely believe to involve the suspicion of wrongdoing cannot and must not be challenged about this if it is done in good faith. This is guaranteed by our Regulations governing the suspicion of wrongdoing. These regulations make it possible to report a suspicion of wrongdoing confidentially, perhaps via a confidential counsellor. The person reporting can request that his or her identity be withheld from the organisation. Complaints or reports by employees about scientific integrity are reported to the Integrity Disclosure Office and are treated as a report.

Complaints regulations

TNO has put in place specific complaints regulations on the basis of which employees and others can submit a complaint. See intranet or tno.nl.

The Netherlands Code of Conduct for Research Integrity

(NGWI) to which TNO has made a commitment sets out the principles and standards governing the performance of scientific research.

Transitional provision relating to NGWI: chapters 2, 3 and 5 of the NGWI (see Chapter C Scientific Research) apply to research started after the implementation date of 15 May 2019 and to research activities carried out after the implementation date for research that had been started before. For other situations the TNO code 2018 applies.

These regulations apply as of 15 May 2019.

**› TNO CREATES
IMPACTFUL INNOVATIONS
FOR THE SUSTAINABLE WELLBEING
AND PROSPERITY OF SOCIETY.**