

# › **CREATE KNOWLEDGE FOR TOMORROW**

› A JUMP START

› WORKING TODAY  
TO CREATE TOMORROW

**TNO** innovation  
for life

› MARCH 2013



› **EXPLORE WHAT  
FASCINATES YOU**

# DISCOVER TNO

## TALENT DEVELOPMENT PROGRAMME AND TNO TRAINEE PROGRAMME

A FLYING START AT TNO? TNO PRESENTS YOU WITH A WEALTH OF OPTIONS. WHAT IS YOUR AIM: TO BECOME A TOP RESEARCHER OR A CONSULTANT, PROJECT MANAGER OF BUSINESS DEVELOPER? FROM THE MOMENT YOU ENTER EMPLOYMENT WITH US YOU ENJOY MAJOR FREEDOM IN, AND RESPONSIBILITY FOR, SHAPING YOUR OWN CAREER PATH.

## ARE YOU ONE OF THE AMBITIOUS STARTERS?

In the Talent Development Programme (TDP) we help you to develop your talents. We provide you with support which will help you to realise and apply your own potential. Besides helping to increase your expertise, we also focus on your personal development. Your own efforts are crucial here: we expect you to show initiative and ideas for achieving this goal.

### In brief:

For all those who wish to begin in the field of technology and from here to explore which development route is best for them: applied technology, consultancy, project management or business development.

- Over a period of 3 to 4 years you undergo accelerated development. You start from a firm foundation, and from here on you have the opportunity to explore various roles. At the end of the programme you decide on the role and the environment that suit you best.
- Personal support for your development, in terms of both specialist expertise and competencies.
- Resources to help you develop more rapidly: monitoring by your manager and HR, training, coaching and learning on the job. This also leaves room for made-to-measure solutions which fit your development and ambitions.

## EXPLORE WHAT FASCINATES YOU, WHILE ALSO EXPANDING YOUR HORIZONS?

Do you not yet feel ready to commit to a single field of expertise? Or are you seeking the way that your knowledge and experience can contribute to solving societal issues?

In the TNO Trainee Programme we give starters with a wide range of societal interests the chance to develop optimally. You receive the ultimate opportunity to experience our organisation on a broad basis and to discover the nature of your own passions and challenges.

### In brief:

- Working towards broad roles in the future, such as technology system integrator, consultant or account manager.
- Over two years you work on projects within three separate expertise areas and/or themes, in various team combinations and roles.
- You expand your horizons by working on multi-expertise projects.
- You receive intensive support by means of coaching, intervision together with other trainees, and training courses and/or workshops.

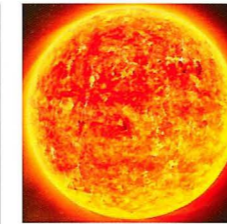
## SEVEN THEMES

# INFORMATION SOCIETY

### A CONNECTED SOCIETY

TNO RESEARCHES THE IMPACT OF THE INFORMATION SOCIETY AND STIMULATES THE INTRODUCTION OF NEW SERVICES, APPLICATIONS AND POLICY, BASED ON THE LATEST ICT, MEDIA AND AEROSPACE TECHNOLOGY.

- Working to integrate (new) media applications.
- Developing a co-creation model for industry and government.
- Researching user interface in iPod applications in a museum.



# ENERGY

### SUSTAINABLE ENERGY SUPPLY

THROUGH INNOVATIONS, TNO IS WORKING TO ENSURE A SUSTAINABLE, EFFICIENT AND SECURE ENERGY SUPPLY.

- (Inter)national contributions to the sustainable use of energy and rare materials from (deep) underground
- Contributing to achievement of climate goals through the development of CO<sub>2</sub> Capture and Storage (CCS).

# INDUSTRIAL INNOVATION

### STRUCTURALLY COMPETITIVE INDUSTRY

TNO REINFORCES THE INNOVATIVE STRENGTH OF INDUSTRY THROUGH INNOVATION IN PRODUCTS AND PROCESSES. WITH A STRONG FOCUS ON SUSTAINABILITY.

- Helping to reduce the use of scarce raw materials in chemical processes with the help of biobased economy.
- Developing thin film techniques, roll-2-roll production, print technologies for reducing the energy consumption of buildings.
- Designing a unique non-contact measuring machine for free-form optics, the Nanofemos.



# DEFENCE, SAFETY AND SECURITY

### A SAFE AND SECURE SOCIETY

TNO FOCUSES ON A SAFE AND SECURE SOCIETY BY CREATING INNOVATIONS FOR PEOPLE WORKING IN THE ARMED FORCES, LAW-ENFORCEMENT AGENCIES, EMERGENCY SERVICES AND INDUSTRY.

- Developing a new concept in the field of crisis management training: GATE.
- Contributing to the use of technological, organisational and human expertise for innovation in civil crisis response.
- Developing a software model for the simulation of joint air and missile defence, naval fire support, the JROADS model.



# THREE EXPERTISE AREAS

WE DEPLOY OUR PEOPLE AND APPLY OUR KNOWLEDGE IN PROJECTS WITHIN THE SEVEN THEMES.

# TECHNICAL SCIENCES

### TECHNOLOGY WITH IMPACT

In the Technical Sciences expertise area highly motivated and talented researchers work together on crucial technological breakthroughs for the societal challenges we face in the areas of energy, mobility, defence, safety & security, built environment, and industrial innovation. Breakthroughs like flexible and efficient solar cells, extending the lifetime of viaducts, self-repairing materials, 3D-printing of food, paying for mobility, new sensor observation systems, anti-explosive protection, and cyber security. Breakthroughs on which we work closely together with knowledge partners and industry.

At Technical Sciences some 1500 staff whose expertise ranges from material science and mechatronics, physics and electronics, fluid mechanics and chemistry to civil engineering and ICT work with an ambition that is driven by passion and by belief in being at the very top of the international tree in breakthrough innovations.

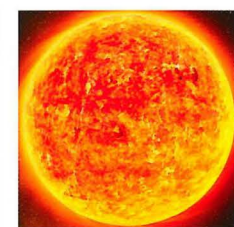
# EARTH AND LI

### TACKLING SOCIE

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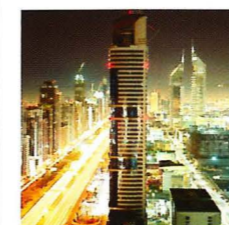


## BUILT ENVIRONMENT

### DYNAMIC URBAN ENVIRONMENT

TNO WORKS ON TRANSITIONS AND INNOVATIONS THAT CONTRIBUTE TO SUSTAINABLE DESIGN AND BUILDING FOR COMFORTABLE LIVING IN A DENSELY POPULATED COUNTRY.

- Accelerating and improving spatial planning processes through the use of Urban Strategy, a model for integrated area development that has been developed by TNO.
- Developing measures for climate adaptation in urban areas.
- Working on new concepts for sustainable construction, management, redevelopment and maintenance of urban areas.



## TRANSPORT AND MOBILITY



### TO ACCELERATE INNOVATION

TNO ACCELERATES INNOVATION THROUGH THE COMBINATION OF TECHNOLOGICAL INNOVATION, INFLUENCING HUMAN BEHAVIOUR AND SMARTER ORGANISATION TO MAKE MOBILITY CLEAN, QUITE AND SAFE.

- Working on improved accessibility for the mainports Schiphol and Rotterdam in 2040 by means of network designs.
- Developing the Truck of the Future demo programme. This programme involves existing trucks being equipped with systems that reduce fuel consumption and CO<sub>2</sub> emission.
- Contributing to a more robust road network in the Randstad by means of a dynamic traffic model.

## HEALTHY LIVING

### A DYNAMIC SOCIETY

TNO INITIATES TECHNOLOGICAL AND SOCIETAL INNOVATIONS FOR HEALTHY LIVING IN A DYNAMIC SOCIETY.

- Developing innovative solutions for letting people work longer and more healthily.
- Working to reduce sodium levels in foods without losing product quality and flavour.
- Working on a better approach to child abuse. An approach that goes further than just identification.



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AGE IN

## TECHNICAL SCIENCES

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## EARTH, ENVIRONMENTAL AND LIFE SCIENCES

### TACKLING SOCIETAL ISSUES

How do you make food that not only tastes good but is also healthy? How do you prevent industrial disasters like 'Chemiepack Moerdijk'? And how can you store CO<sub>2</sub> properly and safely? These are issues that are tackled in the Earth, Environmental and Life Sciences expertise area as some 800 people, from molecular biologist to physicists, chemists, food and food safety specialists to earth scientists search for solutions.

TNO's added value in such projects? It is not the primarily scientific issues we want to tackle but the societal issues. And we use scientific knowledge to do this, helping industry and government to innovate.

## BEHAVIOURAL AND SOCIETAL SCIENCES

### INNOVATIONS THAT REALLY SUCCEED IN PRACTICE

People, organisations and our society ultimately determine what innovations are significant to them and how they can and want to use them. So it is not simply a matter of innovating but knowing how human beings in organisations behave, individually and in teams, as well as the driving force behind societal processes. This knowledge is provided by the Behavioural and Societal Sciences expertise area.

Some 750 people, from psychologists, medical experts, industrial designers, business scientists and mathematicians to econometricians and serious gaming experts are committed to the goal of enabling new developments to happen.

# WORKING TODAY TO CREATE TOMORROW



## EXPAND YOUR HORIZONS

WOULD YOU LIKE TO HELP DEVELOP A ROBOT ARM FOR PHYSICALLY HANDICAPPED PEOPLE? TO COME UP WITH THE ULTIMATE SOLUTION TO ROAD CONGESTION OR OBESITY AMONG CHILDREN? OR TO WORK ON A CLEANER AND SAFER LIVING ENVIRONMENT?

### WORKING ON INNOVATION WITH IMPACT

The work of TNO has an impact on society. Working for TNO means working in teams on exciting assignments for multinationals, small and medium-sized enterprise and government. It means contributing directly to innovation and to the further development and application of knowledge. The assignments range from contract research to consultancy, from policy studies to certification and testing. Boring routine is one term you won't need in your vocabulary.

### FOR THOSE SEEKING A CHALLENGE

Are you good at dealing with people? Are you result- and client-focused? Do you have a go-getting attitude and think in terms of possibilities? TNO is looking for highly motivated staff with a strong personality. Working for TNO also means that good diploma results are not all you need: you must also be able to manage your own input and development.

### A SPECIAL ORGANISATION

Before we say anything else, it would be good to know more about TNO. Our full name is *De Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek* or in English the Netherlands Organisation for Applied Scientific Research. TNO was established by law in 1932 and holds strictly independent status. TNO is a 'non-profit' organisation and we invest profits directly in new innovations. Three-quarters of our turnover is derived from market-related assignments for government, the business sector and social organisations. The government provides funding in order to support development of the knowledge that the Netherlands needs in the long term.

### CONNECTING AND PUSHING BACK BOUNDARIES

TNO employs around 4000 people with highly varied backgrounds, qualities and interests. This multi-disciplinary perspective is vital in order to maintain innovation. We combine the right kinds of established and new expertise from various disciplines – from biotechnology to movement sciences, from architecture to toxicology, from physics to sociology – in order to achieve the optimum results. Together with universities and top technology institutes, we thus develop knowledge that keeps pace with the latest international developments.

In addition, TNO also has a private division: TNO Companies ([www.tno-companies.nl](http://www.tno-companies.nl)). In this division of the organisation, TNO staff who want to bring their golden idea to market have a chance to realise their dream.

### A CENTRAL POSITION IN SOCIETY

For TNO, innovating means seeing what knowledge can mean for society. It means being aware of what's important, both now and in the future. We work on solutions to the problems of today and tomorrow, problems which yesterday still seemed insoluble. We look to a future with a society that is safe and secure, with prosperity and well-being for all. A society in which competitive strength goes hand in hand with sustainability. A society that continues to progress.

# TNO CONNECTS PEOPLE AND KNOWLEDGE TO CREATE INNOVATIONS THAT BOOST THE SUSTAINABLE COMPETITIVE STRENGTH OF INDUSTRY AND THE WELL-BEING OF SOCIETY

## INTERESTED IN APPLYING?

Follow us on [twitter.com/TNO\\_TALENT](https://twitter.com/TNO_TALENT) and check out our job vacancies at [workingattno.nl](http://workingattno.nl). Send an open application by leaving your profile on our website. Or contact us through [working@tno.nl](mailto:working@tno.nl) or **+3188 86 681 88**.

## GRADUATING

### WANT TO SEE WHAT TNO CAN DO FOR YOU?

TNO offers a wide range of internships and graduation possibilities. There is an interesting assignment available in just about every specialist field. We take a discerning look at candidates, however. Good marks are important, but we also consider your competencies, whether things click between us and whether you are someone who could become a TNO employee.

Would you like to challenge us with your idea? Be sure to visit our website and contact us.

## INFORMATION

Read our magazine TNO Time via [www.tno.nl](http://www.tno.nl), click on News for our press releases and the latest TNO news.

Would you like to find out whether TNO is right for you? Then keep an eye on our agenda on the website and see when you can meet us.

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