

The Researchers Report 2012

Country Profile: Netherlands



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1. Key data

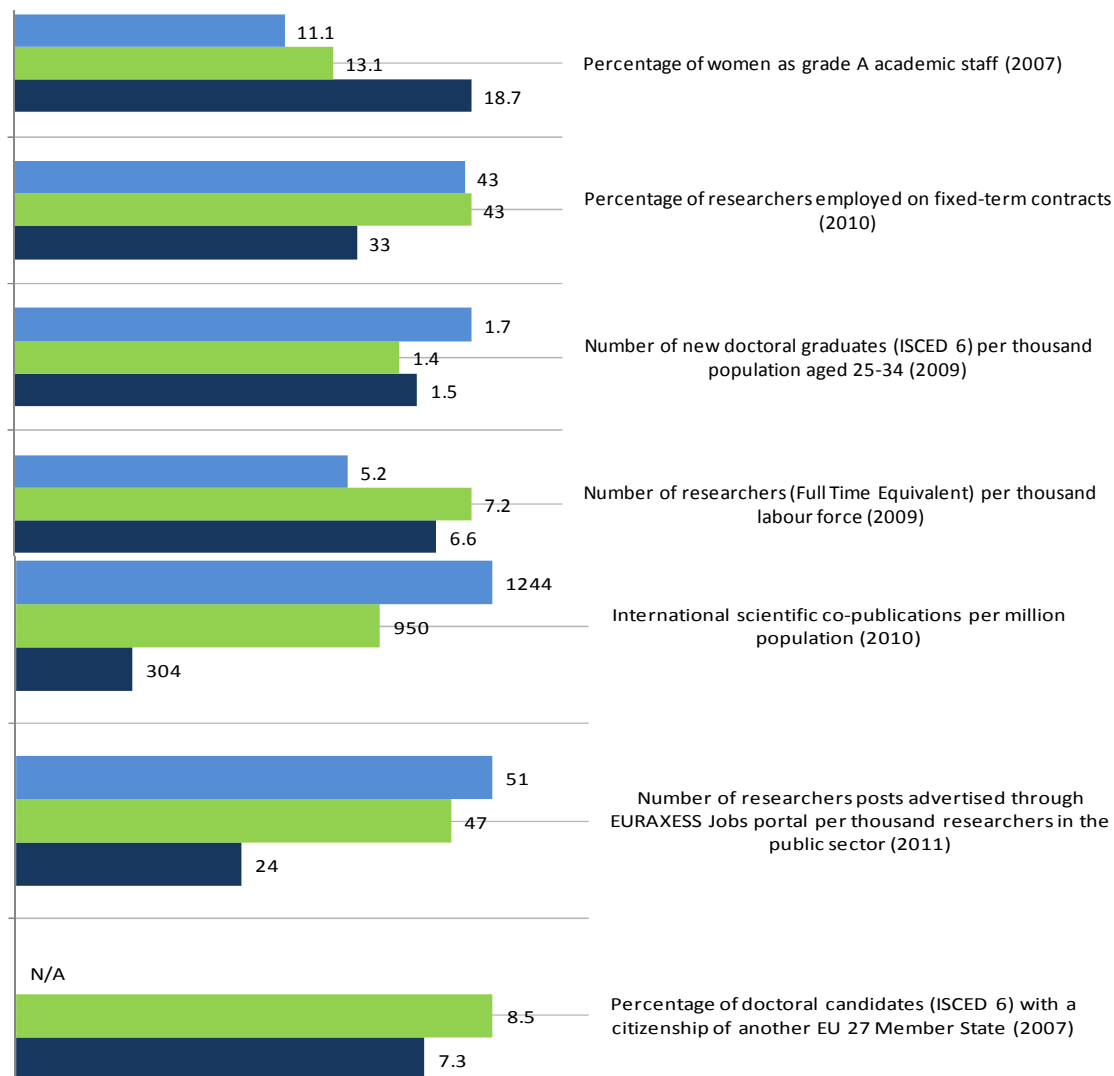
National R&D intensity target

"The national target for the Netherlands in 2010 was set to 3% by the former government. The Dutch R&D intensity in 2009 was at the same level as in 2000, particularly with a sharp decrease between 2006 and 2008 at an average annual rate of 4.31%. The decreasing trend has accentuated since 2006, leading the Netherlands to perform below the EU average. In 2009 the R&D intensity amounted to 1.84%¹. The drop in R&D intensity between 2004 and 2008 was due to a decrease in the R&D intensity of the private sector, while public R&D remained stable at around 0.96% in 2009. If the present trend continued, R&D intensity in the Netherlands would fall short of the EU average in 2020. However, the Government Agreement signed in September 2010 set down that the Netherlands aspires to be one of the top five knowledge economies worldwide. As yet no national R&D target for 2020 has been set."²

Key indicators measuring the country's research performance

The figure below presents key indicators measuring Netherlands's research performance against a reference group and the EU-27 average³.

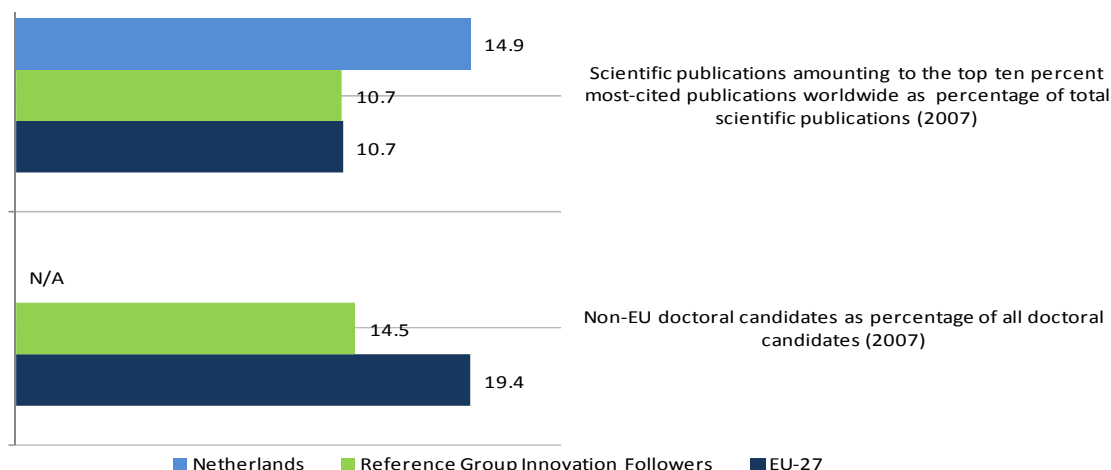
Figure 1: Key indicators – Netherlands



¹ Provisional data from Eurostat. National sources stipulate 1.82%.

² European Commission (2011), "Innovation Union Competitiveness Report 2011".

³ The values refer to 2011 or the latest year available.



Source: Deloitte

Data: Eurostat, SHE Figures, EURAXESS Jobs Portal, Science Metrix/Scopus (Elsevier), Innovation Union Scoreboard 2010

Notes: Based on their average innovation performance across 24 indicators, Austria, Belgium, Cyprus, Estonia, France, Ireland, Luxembourg, Netherlands, Slovenia and the UK show a performance close to that of the EU-27. These countries are the Innovation followers⁴.

Stock of researchers

The table below presents the stock of researchers by Head Count (HC) and Full Time Equivalent (FTE) and in relation to the active labour force.

Table 1: Human resources – Stock of researchers

Indicator	Netherlands	EU Average
Head Count per 1 000 active labour force (2008)	6.74	9.45
Head Count (2008)	59 719	-
FTE per 1 000 active labour force (2009)	5.23	6.63
Full time equivalent (FTE) (2009)	46 657	-

Source: Deloitte

Data: Eurostat

2. National strategies

The Dutch Government has put in place a range of measures aimed at training enough researchers to meet its R&D targets and at promoting attractive employment conditions in public research institutions. The table below presents key programmes and initiatives intended to implement the strategic objectives to train enough researchers to reach Netherlands's R&D targets, to promote attractive working conditions, and to address gender and dual career issues.

Table 2: National strategies

Measure	Description
Agenda for Higher Education Policy: Quality in Diversity (2011)	July 2011 the ministry of Education, Culture and Science has published a Strategic Agenda for Higher Education, Research and Science for 2011-2015. The agenda aims to strengthen the quality of education, focus on specific economic sectors (such as water, energy etc.), and strengthen curiosity-driven (fundamental) research. The priorities in higher education and public research focus on the following measures: – a quality investment (reallocation of money) in higher education: EUR 230 million; – a different way of financing higher education, more quality-driven and with a focus on specific economic sectors; – specific targets are set for the universities with regard to quality, focus and valorisation which have to result in a reduction of the number of university courses, strengthening of the labour market and more focus on research; – Universities have to support the policy of the Dutch government to strengthen

⁴ European Commission (2011), "Innovation Union Scoreboard 2010".

Measure	Description
	certain top sectors.
Growing Through Knowledge - NWO Strategy 2011-2014	The Netherlands Organisation for Scientific Research (NWO) funds top researchers at universities and institutes and steers the course of Dutch science by means of subsidies and research programmes. The main objective of the NWO's new strategy, is to invest on a greater scale in world-class scientists and excellent research. NWO has chosen the following six priorities for its policy over the next few years: – strengthening investment in talent and in response-mode research; – investing with partners in themes inspired by society's needs; – encouraging and facilitating knowledge utilisation; – strengthening international cooperation within and outside of Europe; – promoting access to high-quality research facilities; – strengthening the national role of NWO institutes.
Strategic Agenda for Higher Education and Science Policy (2011)	The Strategic Agenda produced by the Social and Economic Council presents its views on the position and role of higher education and research in the Netherlands. This advisory report set out the direction for higher education, science and research policy for the following four years. It focused on a number of socio-economic themes from the education-labour market perspective in particular. The report pointed out the need for basic quality in higher education as well as quality in the teaching staff, in particular at universities of applied sciences. Finally, the Council expressed its belief that the funding system for higher education should focus less on numbers of first-year students and total student numbers, and more on quality and excellence, and be simple and transparent.

Source: Deloitte

3. Women in the research profession

Measures supporting women researchers in top-level positions

In 2007, the percentage of women grade A academic staff was 11.1% in the Netherlands compared with 13.1% among the Innovation Union reference group and an EU average of 18.7%⁵.

In Netherlands, the representation of women in science remains low, especially in leading positions. Gender equality in science has not been a political topic in the Netherlands in recent times; issues related to the position of women are of secondary policy interest, whereas realising the full potential of labour force participation, including of women, is promoted.

The only programme promoting an increase in the number of women in leading research positions is Aspasia. The Aspasia programme was launched in 1999 by the Netherlands Organisation for Scientific Research (NWO) and has been designed to alleviate the under-representation of women in the upper echelons of academia. The aim of Aspasia is to encourage the promotion of female academics to senior lecturer (or professorial) level.

Aspasia is linked to two of the NWO's competitive grant schemes⁶: Vidi (for experienced researchers) and Vici (for researchers of professorial quality). Vidi and Vici are part of the NWO's Innovational Research Incentives Scheme. To qualify as an Aspasia candidate, a female applicant for a Vidi or Vici grant must either have been awarded such a grant, or – starting from 2010 – have had her application judged worthy of a grant following the interview procedure, but been unsuccessful in obtaining one because of resource constraints. Executive

⁵ See Figure 1 "Key indicators – Netherlands".

⁶ The Innovational Research Incentives Scheme targets individual researchers at various stages of their careers. It includes three forms of grant:

- Veni: for researchers who have recently completed their doctorates to allow them to continue to develop their ideas (funding: EUR 250 000);
- Vidi: for experienced researchers who want to develop their own innovative line of research and appoint one or more researchers (funding: EUR 800 000);
- Vici: for researchers of professorial quality to build their own research group (funding: EUR 1.5 million).

The scheme was set up in 2000 by NWO, KNAW and the universities jointly. The aim is to promote innovation in academic research. The scheme is directed at providing encouragement for individual researchers and gives talented, creative researchers the opportunity to conduct their own research programme independently and give a boost to talented researchers to enter and remain committed to the scientific profession. It targets both international top talents and excellent national researchers (men and women) who are among the best 10-20% of their age group.

Boards that promote such applicants to senior lecturer or professor within a year of the Vidi or Vici grant award decision may, subject to certain conditions, qualify for a premium. The premium available for the promotion of each grant recipient is EUR 100 000. The premium offered for the promotion of a grant-worthy but unsuccessful candidate is EUR 200 000.

The Aspasia premium may be used in a number of ways. However, a condition of grant is that the Board must use at least EUR 50 000 of the premium to fund more generic diversity policy measures by the university or faculty to increase the upward movement of female staff within the institution.

Following the Vidi and Vici award decisions, the NWO contacts women Vidi and Vici recipients and grant-worthy but unsuccessful applicants, who are not senior lecturers or professors, and if the candidate agrees, the NWO will propose to her Executive Board that she should be promoted under the Aspasia scheme.

Quotas to ensure a representative gender balance

The Government of the Netherlands has no quotas and/or national targets and/or other measures in place to ensure a representative gender balance for researchers (at any level of the career ladder, or on selection/evaluation committees).

Maternity leave

The Netherlands has no legislation dealing exclusively with the possibility of interrupting and extending a grant's validity because of maternity leave. Public funders have autonomy to take their own decision, but generally follow the Anti-discrimination Act (1999).

Maternity leave is fully paid; parental leave is voluntary and partly paid for by the parents themselves. Parents can work full time or part time, while receiving parental benefit. Accordingly, parental benefit can be considered a form of care benefit.

4. Open, transparent and merit-based recruitment

Recruitment system

In Netherlands, each institution is an autonomous employer with its own personnel and recruitment policies and no legal instrument exists to influence the autonomy of the institution. Only sometimes there is a statutory obligation to publish a job vacancy on relevant national online platforms.

Open recruitment in institutions

The table below presents information on open recruitment in higher education and public research institutions.

Table 3: Open recruitment in higher education and public research institutions

Do institutions in the country currently have policies to ...?	Yes/No	Description
– publish job vacancies on relevant national online platforms	To some extent	In some cases, there is a statutory requirement to public job vacancies on relevant national online platforms.
– publish job vacancies on relevant Europe-wide online platforms (e.g. EURAXESS)	To some extent	In some cases, there is a statutory requirement to public job vacancies to publish a job vacancy on relevant Europe-wide online platforms.
– publish job vacancies in English	Yes	Institutions publish job vacancies in English.
– systematically establish selection panels	Yes	Institutions have policies to systematically establish selection panels.
– establish clear rules for the composition of selection panels (e.g. number and role of members, inclusion of foreign experts, gender balance, etc.)	Yes	Institutions have policies to establish clear rules for the composition of selection panels.
– publish the composition of a selection panel (obliging the recruiting institution)	No	Institutions do not have policies to publish the composition of selection panels.

Do institutions in the country currently have policies to ...?	Yes/No	Description
– publish the selection criteria together with job advert	No or to some extent	Institutions may publish the selection criteria together with job advert ⁷ .
– regulate a minimum time period between vacancy publication and the deadline for applying	No	Institutions do not have policies to regulate a minimum time period between vacancy publication and the deadline for applying.
– place the burden of proof on the employer to prove that the recruitment procedure was open and transparent	No	Institutions have no policies to place the burden of proof to prove that the recruitment procedure was open and transparent.
– offer applicants the right to receive adequate feedback	Yes	Institutions offer applicants the right to receive adequate feedback.
– offer applicants the right to appeal	No	Institutions do not have policies to offer applicants the right to appeal.

Source: Deloitte

EURAXESS Services Network

In 2011, the number of researcher posts advertised through the EURAXESS Jobs portal per thousand researchers in the public sector was 51 in the Netherlands compared with 47 among the Innovation Union reference group and an EU average of 24⁸.

Information on entry conditions, transfer of social security and pension contributions, accommodation, and administrative assistance is available at the national EURAXESS portal.

The EURAXESS Netherlands portal cooperates intensively with the Ministry of the Interior, the Ministry of Foreign Affairs and the Ministry of Social Affairs and Work. Representatives of EURAXESS NL are involved in strategic working groups and committees of the Ministry of Education, Culture and Science dealing with relevant issues (human resources in R&D, mobility, visa conditions, health and social security etc).

EURAXESS NL is also linked to 'Academic Transfer' (which is linked to the EURAXESS Jobs portal). This portal makes it possible for research organisations to register, to fill in job vacancies and to search for researchers in the Netherlands and other countries.

5. Education and training

Measures to attract and train people to become researchers

The Government of the Netherlands aims to stimulate the interest in and enthusiasm of children, talented young pupils and students (a career in) research. This has been embedded in the policy for science communication (former policy of public understanding of science). The Ministry of Education, Culture and Science funds the Netherlands Centre for Science and Technology and its NEMO Science Centre to implement policies for science communication.

The Dutch government, education and business-sectors commissioned the National Platform Science & Technology to ensure sufficient availability of people who have a background in scientific or technical education. This approach was formulated in the 'Deltaplan Bèta Techniek', a memorandum on preventing shortages. The memorandum aimed to achieve in 2010 a structural increase of 15% more pupils and students in scientific and technical education and to use existing talent more effectively in businesses and research institutes. The Platform continues to target schools, universities, businesses, ministries, municipalities, regions and sectors to ensure that the future supply of knowledge workers will meet future demand.

However, the government has neither put in place measures to stimulate master's degree students to take up a science or research career at doctoral level nor to increase the number of doctorates in science, technology, engineering and mathematics (STEM) subjects.

⁷ For example, if Dutch as language is required for academic staff (Dutch language and culture), the potential candidate needs to speak and write Dutch.

⁸ See Figure 1 "Key indicators – Netherlands".

Doctoral graduates by gender

The table below shows doctoral graduates in Netherlands by gender as a ratio of the total population cohort.

Table 4: Doctoral graduates by gender

Indicator	Netherlands	EU average
New doctoral graduates (ISCED 6) per 1 000 population aged 25-34 (total) (2009)	1.7	1.5
Female Graduates (ISCED 6) per 1 000 of the female population aged 25-34 (2009)	1.4	1.4
Male Graduates (ISCED 6) per 1 000 of the male population aged 25-34 (2009)	1.9	1.6

Source: Deloitte

Data: Eurostat

Funding of doctoral candidates

The table below presents the two different funding paths accessible to doctoral candidates in Netherlands.

Table 5: Funding opportunities for doctoral candidates

Funding scheme	Description
Employment contracts	Until recently all PhD candidates in the Netherlands were considered to be employees, ensuring that certain rights and obligations laid down by law were provided via Collective Employment Agreements (CAOs). However, some universities currently appoint PhD candidates on the basis of a grant. In doing so, these universities are attempting to provide a place for more PhD candidates for the same amount of money, thus improving productivity at the cost of the employment benefits of PhD candidates. Accordingly, these grant-PhD candidates are not entitled to social benefits, such as the right to maternity leave, pension benefits and sick pay. As a consequence, a PhD project could become less attractive compared to other commercial functions. In 1986, the Dutch Ministry of Education created the position of (Research) Assistant in Training, or AiO (Assistent in Opleiding), a specific salaried position with the objective of producing a PhD within (generally) four years. AiOs are regarded as members of staff, and not as students, but they are also supposed to devote some part of their time to specific post-graduate training. The current PhD system, including fixed salary scale, contract periods, and education and supervision plan, was introduced in 2005. Universities have started searching for alternative methods of appointing PhD candidates, so as to decrease costs: - First flow of funds: each university receives a lump sum from the government for all its activities, which can be categorised internally as teaching and research. The lump sum is based on a funding model comprising various teaching and research parameters, with the aim of distributing the sum total of funds to the universities. Some of these parameters are based on the universities' performance in teaching (degrees) and research (PhDs); - Second flow of funds: this flow of funds is made up of the funding that the universities receive from the NWO (in the form of subsidies for appointing researchers) and the Royal Netherlands Academy of Arts and Sciences (in the form of funding for Academy Professors). The second flow of funds focuses specifically on the research activities of the universities and research facilities; - Third flow of funds: this flow of funds comprises additional funding from public and private sources, both national and international. It comes from contract work for both research and teaching; - Fourth flow of funds: tuition fees, which are paid directly by students. Finally, universities offer opportunities for applicants who are not hired to do a PhD. Highly talented and motivated applicants gain admission to a PhD programme: - on a scholarship, for example from a foreign government, an international organisation or a Dutch fund for foreign PhD candidates; - as an employee of another employer, for example as an employee of a university of applied sciences who has been given a PhD voucher; - as an external PhD candidate. These candidates work on a dissertation in their own time under the guidance of a university professor. They need to find a supervisor themselves. Once a supervisor is found, the supervisor develops and agrees a plan of work.

Source: Deloitte

Measures to increase the quality of doctoral training

In 2009 and 2010, NWO developed a programme to strengthen the Dutch PhD system at the request of the Minister for Education, Culture and Science and in collaboration with VSNU and KNAW. Inter-university and local research schools or Graduate Schools can be eligible for a block grant of EUR 800 000 for the appointment of PhD students.

Following the advice of an evaluation committee that examined the design of the first two rounds, NWO has decided to continue the programme. It offers schools a funding opportunity for the appointment of four PhD students. These PhDs form part of a school that, possibly in collaboration with an educational establishment, provides a coherent educational and research programme covering both the master's and PhD routes. If an application is honored, then the submitting university will be awarded a block grant of EUR 800 000. The grant is solely intended for the personnel costs of the PhDs to be appointed and a limited amount for the associated research costs. The budget was EUR 15 million in 2012.

6. Working conditions

Measures to improve researchers' funding opportunities

Dutch government funding for scientific research carried out in the Netherlands is provided in a number of different ways:

- provision of a fixed contribution to institutions ('institutional funding' or 'basic funding'), for which there may or may not be management responsibility;
- funding of research via intermediary organisations (such as NWO, KNAW, and Agentschap NL);
- funding of research via the ministry's own knowledge institutes, for example at the Ministry of Justice and the Ministry of Health, Welfare and Sport;
- direct funding of policy-oriented research.

The Netherlands has a large number of organisations carrying out research, either as their main assignment or in support of their main task. The differentiation generally made and the rough spread of research funds among them is:

- Universities (including university hospitals) (25%);
- Research institutes, including private non-profit (PNP) institutes (15%);
- Companies (60%).

Remuneration

There is a uniform job classification system at universities and research institutes. Each employee is informed of the job profile and the job level that applies to his/her position. This is linked to a salary level. In this respect, the employee is informed about

- the applicable job profile(s);
- the applicable result areas;
- the levels of the classification criteria that apply to his or her duties;
- the job level determined on the basis of the classification rules;
- the salary scale that is linked to the job level and that is determined in accordance with the CAO (Collective Employment Agreement).

In 1986, the Dutch Ministry of Education created the position of (Research) Assistant in Training, or AiO (*Assistent in Opleiding*), a specific salaried position with the objective of producing a PhD within (generally) four years. AiOs are regarded as members of staff, and not as students, but they are also supposed to devote some part of their time to specific post-graduate training.

Researchers' Statute

The VSNU (Association of Universities in the Netherlands)⁹ represents the interests of the universities in their role as 'employers' vis-à-vis their employees, political and community organisations on the topic of working conditions and labour relations, and also establishes the Collective Employment Agreement for the sector¹⁰.

⁹ Other VSNU activities are:

- promote maximum personal development of employees;
- contribute to the improvement of working conditions;
- be a centre of knowledge and expertise for universities as employers;

‘European Charter for Researchers’ & the ‘Code of Conduct for the Recruitment of Researchers’

The Ministry of Education, Culture and Science provides the universities and large companies with information about the ‘Charter & Code’ principles. The VSNU (Association of Universities) and some universities have signed and adopted the ‘Charter & Code’.

Autonomy of institutions

Within the framework laid down in the Higher Education and Research Act (of 1993 - amended in 2002), universities enjoy a high level of autonomy. Universities and public research institutes are autonomous in defining recruitment policies, job profiles and career grades in combination with remuneration. They are also responsible for the quality assurance of their teaching and research activities.

Career development

Clear career development provisions are negotiated individually throughout the recruitment process between the researchers and the university/public research institute. Some universities offer the possibility of a tenure track.

Social security benefits (sickness, unemployment, and old-age)

Researchers with employment contracts are entitled to social security coverage, including health insurance, unemployment benefits and supplementary pensions, and old-age benefits. Contributions are automatically deducted from researchers’ pay, regardless of their nationality. PhD candidates receiving a grant have minimum or no social security rights (including no pension benefits).

7. Collaboration between academia and industry

Universities, research institutions and industrial partners cooperate closely to create or support different tools to develop partnerships between academia and industry.

8. Mobility and international attractiveness

Outbound mobility

The NWO runs bilateral exchange programmes (for instance with Belgium, Germany, China, India, Japan, South Korea, etc.) encouraging scientific collaboration and mobility of researchers.

The NWO’s Rubicon Programme aims to stimulate young recently graduated PhD students to acquire international experience. The Programme offers researchers, who have completed their doctorates in the previous year, the chance to gain experience at a top research institution outside the Netherlands for a maximum period of two years.

Promotion of ‘dual careers’

The Government of the Netherlands (or institutions) does not actively promote policies/measures supporting researchers’ dual careers.

Portability of national grants

In the Netherlands, publicly funded grants are portable to other EU countries to some extent.

Access to cross-border grants

The majority of grants (including those granted from the NWO) are open to Dutch and foreign candidates regardless of their nationality. As a general rule, the research conducted based on the grant should contribute to the Dutch research system.

Measures encouraging inter-sectoral mobility

The issue of encouraging researchers to move from the public to the business sector and vice-versa has been embedded in the Strategic Agenda for Higher Education and Science Policy and the National Innovation Strategy of the Netherlands (letter of industry of the Ministry of Economic Affairs, Agriculture and Innovation).

-
- promote professional human resources management;
 - provide instruments for the control and management of salary costs.

¹⁰ The current Collective Employment Agreement (CAO) of the Dutch Universities is valid from 1 March 2010 to 1 January 2012.

