

18. The Netherlands

The Netherlands has participated in international and European space activities for more than 50 years. The Netherlands Space Office (NSO) is the space agency of the government, advising and implementing the national space policy. NSO reports to the ministries of Economic Affairs and Climate Policy; Education, Culture and Science; Infrastructure and Water Management; and the Netherlands Organisation for Scientific Research (NWO).

Important national activities and recent policy initiatives include the creation of the Satellite Data Portal in 2012, which contains earth observation data covering the Netherlands' territory from several commercial satellite missions. The main purpose of the data portal is to offer the user community data complementary to Copernicus satellite data, and develop national downstream capabilities. It provides free access to national actors for civil and commercial use.

In 2017, the Netherlands allocated some EUR 128 million (USD 145 million) to space activities, a 15% decrease in real terms compared with 2008. 65% of the funding was allocated to ESA and 18% to EUMETSAT. 37% of the ESA funding was devoted to science, followed by 22% to the launchers programme. Other priorities include the satellite communications and technology development programmes.

Important national space technology and research actors include several public research institutes (e.g. Netherlands Institute for Space Research (SRON), and Netherlands Organisation for Applied Scientific Research (TNO), several universities with capabilities in astronomy, earth observation and aerospace engineering, in addition to private companies (like Airbus Netherlands) and many small and medium-sized enterprises (SMEs). The country also hosts the European Space Technology and Research Centre (ESTEC), the largest establishment of the European Space Agency (ESA), which develops and tests many of the Organisation's projects and missions, as well as the Galileo Reference Centre, operated by the European GNSS Agency.

The Netherlands space industry has strong capabilities in several industry segments, including manufacturing subsystems and downstream applications. The space manufacturing sector provides subsystems (e.g. instruments and solar panels) and components to European satellites and launchers, such as sensors, structures and igniters. The Netherlands currently has two domestically-built instruments in orbit. The air-quality measuring instrument TROPOMI, flying on the Copernicus satellite Sentinel-5P, launched in 2017, and the ozone monitoring instrument OMI, on the US satellite AURA. The Royal Netherlands Meteorological Institute processes and analyses the scientific data from these two instruments. Several companies in

the Netherlands are also important actors in the growing small and very small satellite industry (e.g. cubesats) as manufacturers and launch service providers, including for instance Innovative Solutions in Space (ISIS) and Hiber).

Important downstream/value-adding activities include earth observation products and services for precision farming, infrastructure modelling (incl. pipelines, deformation) and water management, and navigation (e.g. GNSS devices). Furthermore, a number of satellite operators have ground stations (Inmarsat) or their main office (SES Networks, Leosat) in the Netherlands. Annual turnover of the Netherlands space industry is estimated at some EUR 600 million (USD 663 million) (Holland High Tech, 2018^[2]).

The Netherlands' share in scientific publications in the OECD space literature dataset (see guide to the profiles) is comparable to that of Canada and Spain and has increased since 2000. In space-related patent applications, Netherlands' share has remained stable.

Disbursements on space-related ODA projects over the period 2002-16 focussed mainly on agriculture and rural development (including food production) and water management. Since 2013, the Netherlands Space Office runs the Geodata for Agriculture and Water programme (G4AW), which funds projects and partnerships in developing countries in Africa and Asia, developing satellite-based information services for smallholder farmers and pastoralists and providing useful and timely agro-meteorological advice as well as financial/insurance products. An important objective is to improve sustainable food production, with an effective use of inputs (water, seeds, pesticides, etc.) (Netherlands Space Office, 2016^[1]). Positive impacts of this programme have already been registered, with programme participants reporting 10-15% harvest increases as well as a reduced use of inputs

References

- Holland High Tech (2018), *HTSM Top sector: Roadmap Space 2017-2021*, High Tech Systems and Materials Roadmap Council, Utrecht, https://www.luchtenruimtevaart.nl/fileadmin/user_upload/_temp_/HTSM_Roadmap_Space_2018_Issue_1.0.pdf (accessed on 25 April 2018). [2]
- Netherlands Space Office (2016), *How Space for Food Security works at the local level: An overview of lessons learned in three years of the Facility for Agriculture and Water (F4AW)*, Netherlands Space Office, the Hague, <https://g4aw.spaceoffice.nl/files/files/G4AW/publications/2016%20G4AW%20Publication%20Lessons%20learned%20report%20-%20Opening%20new%20markets%20for%20smallholders%20LR%2020161209.pdf> (accessed on 13 May 2019). [1]

Figure 18.1. Netherlands – Fast facts

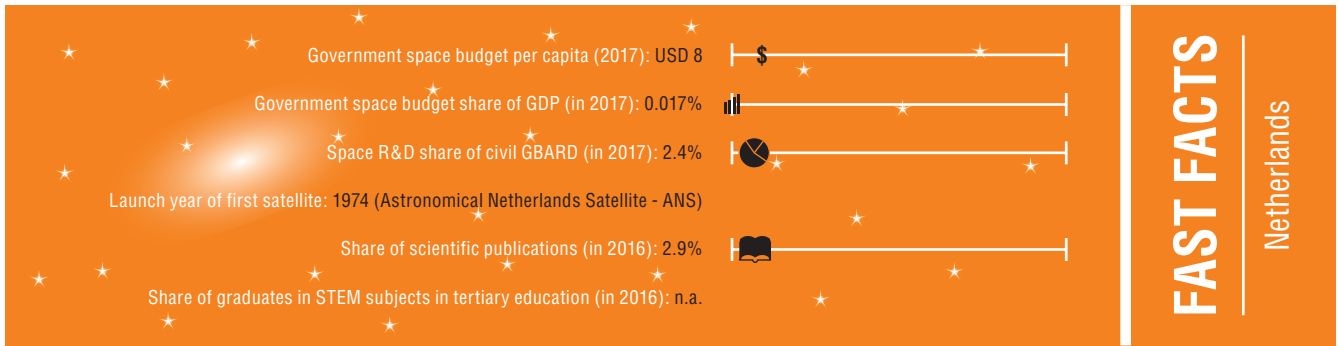
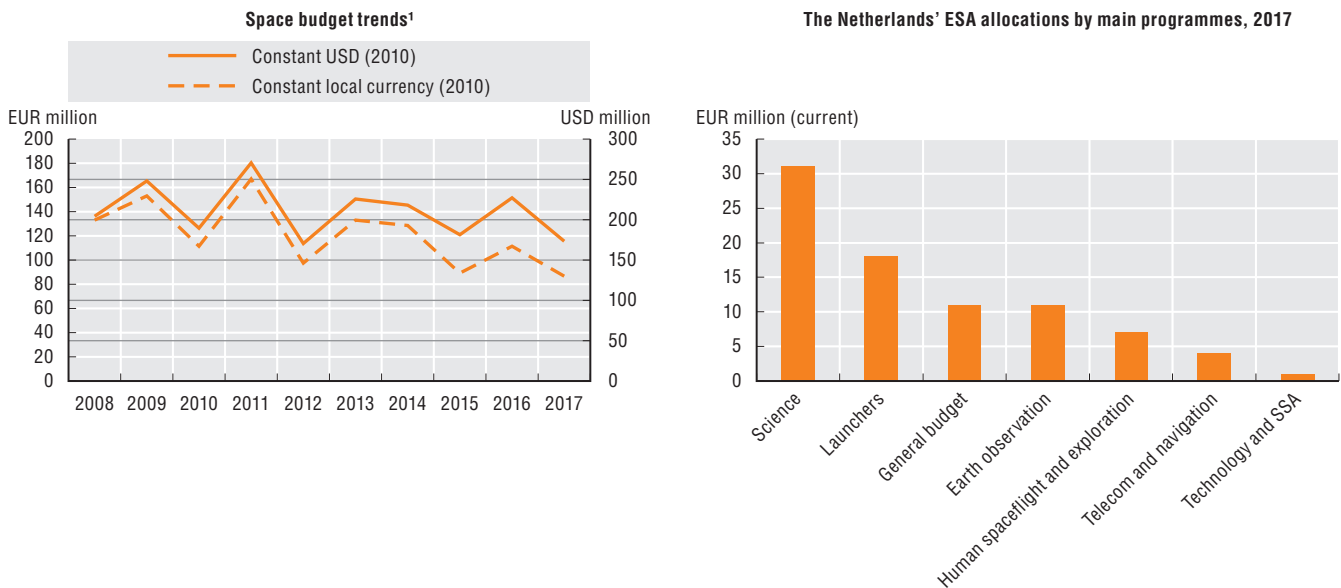


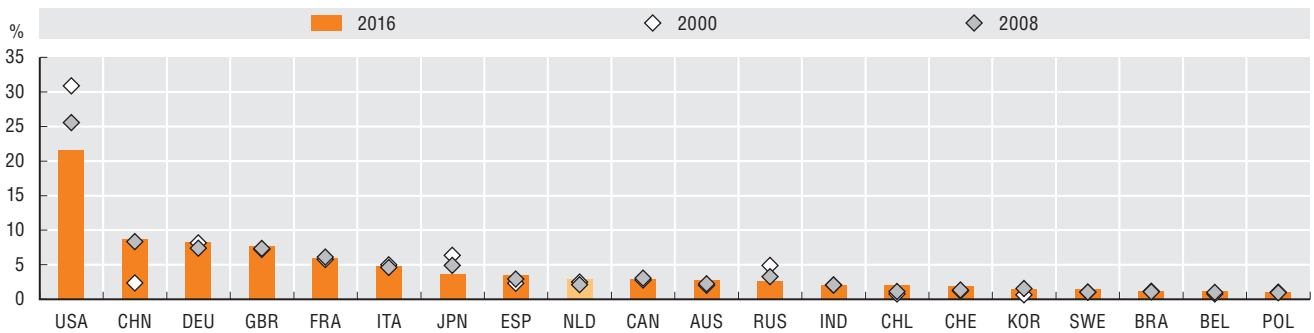
Figure 18.2. Space budget trends and main programmes



Note: 1. The institutional space budget includes allocations to ESA, EUMETSAT, ECMWF, WMO and national/multilateral programmes.
Source: OECD analysis based on institutional sources.

Figure 18.3. Scientific production in space literature, per country

Share of total publications in space literature, 2000, 2008 and 2016

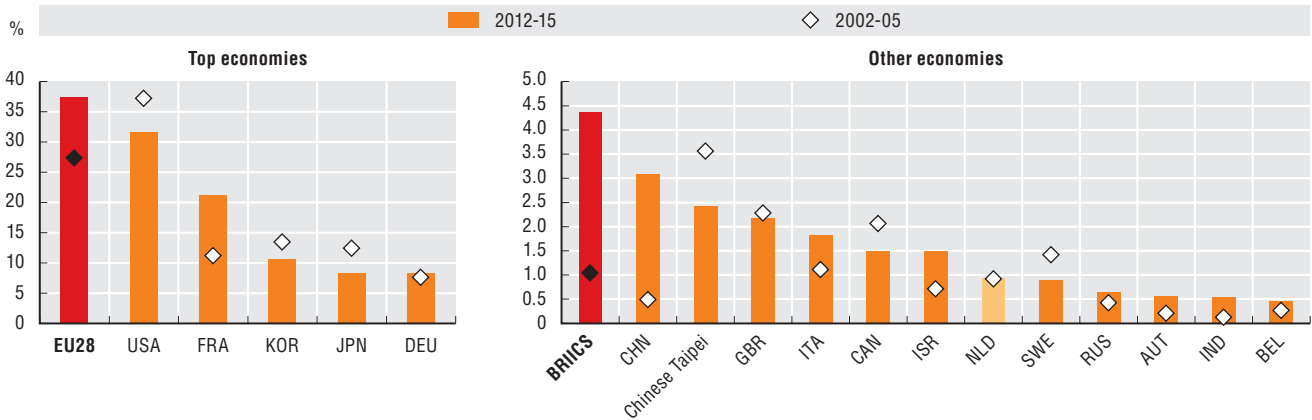


Source: OECD analysis based on Scopus Custom Data, Elsevier, July 2018.

18. The Netherlands

Figure 18.4. Top applicants of space-related patents

IP5 patent families, by priority date and applicant's location, using fractional counts, 2002-05 and 2012-15

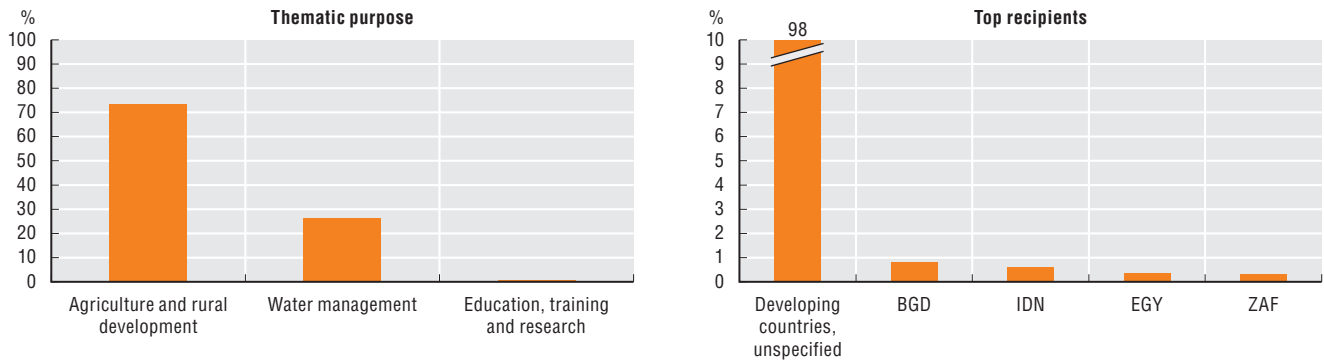


Note: Patent families are compiled using information on patent families within the Five IP offices (IP5). Figures are based on incomplete data from 2014.

Source: OECD STI Micro-data Lab: Intellectual Property Database, <http://oe.cd/ipstats>, March 2018.

Figure 18.5. Netherlands' space-related official development assistance disbursements

Share of total Netherlands' space-related disbursements, 2002-16



Note: The vast majority of Netherlands' space-related ODA projects in the OECD DAC dataset display information about disbursements rather than commitments (due to reporting procedures). For this reason, the figure shows the total disbursements by thematic purpose and by top recipients, instead of total commitments.

Source: Analysis based on OECD DAC database (2018).



From:
The Space Economy in Figures
How Space Contributes to the Global Economy

Access the complete publication at:

<https://doi.org/10.1787/c5996201-en>

Please cite this chapter as:

OECD (2019), "The Netherlands", in *The Space Economy in Figures: How Space Contributes to the Global Economy*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/ebe1a304-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.