1. Overview of the initiative

Open science has been firmly on the agenda in the Netherlands in the last couple of years. It has been a priority for the previous and current government. In the Coalition Agreement 2017-2021 the government states that ‘Open Science and Open Access will become the norm in academic research’.\(^1\) The motto here is: ad open as possible, ad closed as necessary. The switch to open science requires ambition, investment in people and resources, and being alert to any risks. On open science and open access the government of the Netherlands works closely together with national and international stakeholders.

On 19 January 2017, the State Secretary for Education, Culture and Science (OCW) sent a letter to the Dutch House of Representatives on the subject of open science, asking a wide-ranging coalition of the parties involved to jointly draw up a National Plan Open Science (NPOS). In order to show their commitment to the National Plan Open Science, the parties involved signed the Open Science Declaration on 9 February 2017.\(^2\)

\(^1\) Coalition Agreement 2017-2021 ‘Confidence in the Future’ (page 16)

\(^2\) National Plan Open Science https://www.openscience.nl/binaries/content/assets/subsites-evenementen/open-science/national_plan_open_science_the_netherlands_february_2017_en_pdf
Signing parties

- Association of Universities in the Netherlands (VSNU) [www.vsnu.nl](http://www.vsnu.nl)
- Royal Netherlands Academy of Sciences (KNAW) [https://knaw.nl/en](https://knaw.nl/en)
- Netherlands Organisation for Scientific Research (NWO) [www.nwo.nl/en](http://www.nwo.nl/en)
- Netherlands Association of Universities of Applied Sciences (VH) [www.vereniginghogescholen.nl/english](http://www.vereniginghogescholen.nl/english)
- PhD Candidates Network of the Netherlands (PNN) [www.hetpnn.nl](http://www.hetpnn.nl)
- The National Library of the Netherlands (KB) [www.kb.nl/en](http://www.kb.nl/en)
- Collaborative organization for ICT in Dutch Education and Research (SURF) [www.surf.nl/en](http://www.surf.nl/en)
- Dutch Federation of University Medical Centres (NFU) [www.nfu.nl/english](http://www.nfu.nl/english)
- Netherlands Organisation for Health Research and Development (ZonMw) [www.zonmw.nl](http://www.zonmw.nl)
- Global Open Findable, Accessible Interoperable, Reusable (GO FAIR) [www.go-fair.org](http://www.go-fair.org)

Through the signature of the above mentioned parties, the declaration was also signed by the following parties DANS, The Young Academy, DTL, LCRDM, Netherlands eScience Centre, 4TU Centre for Research Data, and UKB.

In addition to the organisations that have joined the Platform through the National Plan Open Science, more parties play a role in achieving open science. The more parties that are willing to actively take part, the better that will be for achieving the national ambitions. Any active interested parties may connect with the Platform.

Key ambitions and focal points
The National Plan (2017-2020) focuses on four key areas: open access, (re)use of data and evaluation systems. By adopting this approach, the Netherlands wishes to live up to its reputation as a leading country for open science and benefit - and to allow others to benefit - as soon as possible from the advantages expected to be offered by open science.

De four key ambitions of the NPOS are:

1. **100% open access publishing**
   Scientific publications (articles, (parts of) books, reports), financed by public funds which will openly accessible to all, anywhere in the world, for consultation and reuse as of 2020. Currently, the vast majority of publications are still behind a paywall and only accessible to the scientific community through expensive subscriptions.
   https://www.openscience.nl/en/themes/100-open-access-publishing/index

2. **Optimal (re)use of research data**
   Researchers must be able to reuse other people's research data where possible and exchange their own research data easily. Currently, research data is still not yet systematically managed and published in line with agreed standards everywhere and as a result is hard to find or reuse. European efforts with regard to text and data mining or content mining are also relevant here.

3. **Recognising researchers. Corresponding evaluation and valuation systems**
   In the current evaluation and valuation systems, the focus often lies on the number of publications in renowned high impact journals, often by established publishers, and not on open access. The culture of 'publish or perish' is therefore retained. Open science encourages a wider set of evaluation criteria than simply research output and quality, such as quality of education, valorisation, leadership and good data stewardship.
4. Encouraging and Supporting open science

Effective support of open science requires a coordinated approach. With a strong collaboration culture and limited geographical scope, the Netherlands has an ideal starting position to inspire as many countries as possible as a frontrunner in this movement. In this regard, the National Platform Open Science plays an important role.


`Citizen Science’ will be added as a fifth theme into the NPOS. This was decided in the NPOS Steering Committee meeting of 7 Juni 2018.

2. Rationale, motives and key drivers

The NPOS follows on from the robust and ambitious Dutch open science policy which the Ministry of Education, Culture and Science called for in 2013. Open science, including the open access element, was top priority during the Netherlands EU Presidency in the first half of 2016. One outcome of the Dutch Presidency was the Amsterdam Call for Action. It contains a recommendation that each EU Member State should draw up a National Plan for Open Science. This Call for Action led to conclusions of the Council of the European Union in 2016 in which EU Member States made agreements pertaining to open science. Those agreements stipulate, among other things, that publicly-funded scientific publications must be accessible to all by 2020. Agreements were also made concerning the optimal reuse of research data, in particular data origination from publicly-funded research. The underlying principle for that research data is that it should be “as open as possible, as closed as necessary.”

Aligning the many initiatives and the huge ambition required a major boost. This is where the NPOS came into place. The purpose of the plan is to implement the national transition to an open science system. The NPOS sets out the ambitions, lists the parties willing to take action, the timeframe in which they aim to achieve their goals, and continues to build on the robust and ambitious Dutch open access policy.

3. Governance of the initiative
(see also page 29-30 of the NPOS)

Together with the launch of the National Plan Open Science it was decided that the parties involved will come together to ensure that the Netherlands progresses towards achieving its aims and closely monitors developments. The Ministry of Education, Culture and Science facilitates them with a (technical) president financing for a secretariat.

The Governance consists of the following four parts:

- **Steering Group**
  - role: guards the progress, decides on the direction, ensures commitment and unity, and assures the connection with (inter)national initiatives. It ensures commitment to the NPOS on the highest level
  - members: consists of the executives of a selection of the parties involved in the Open Science Declaration
  - technical president (independent connector and mediator without a vote) is the Director-General responsible for Research and Science Policy at the Ministry of Education, Culture and Science
    - meets 2 times a year
    - a secretariat supports the Steering Group

- **National Coordinator Open Science**
  - role:
    - advisor to the Steering Committee as a `voice of scientists’ on the key ambitions of the NPOS
to give the National Plan and Platform a face to the outside world and to bring attention to open science at a national and international level
- **background:** preferably a scientist with extensive knowledge in the field of open science
- **bears co-responsibility for realizing the ambitions of the NPOS**
- **connector between various stakeholders of the Platform and outside**

**Platform**
- **role:** to assure regular deliberation between the parties involved in the Open Science Declaration to ensure that the ambitions in the NPOS will be realized and that coherence and cooperation in the field of open science is stimulated.
- **members:** open science experts from the parties involved in the Open Science Declaration
- prepares the meetings of the Steering Group with input from the Theme Groups
- hands two times a year a progress report to the Steering Group
- **technical president is a representative if the Ministry of Education, Culture and Science**
- meets several times a year (4 times on average)
  https://www.openscience.nl/en/national-platform-open-science

**Theme groups:**
- **role:** to have thematical and in depth discussions on the four key ambitions of the NPOS, to work on the realization and actual implementation of the ambitions and to inform the Platform about the progress.
- the theme groups deliberate with the Platforms on the steps to take
- **members:** at least open science experts from the parties involved in the Open Science Declaration
- each theme group has one or two theme leaders that have a coordinating and stimulating role and who is/are also the linking pin with other theme groups, the Platform and the secretariat
- meets several times a year

**Secretariat**
The external secretarial office
- supports the chair of the Platform (Ministry of Education, Culture and Science (OCW)) both in terms of logistics and content,
- is the point of contact for Dutch and international parties
- assists the Platform in carrying out its activities

**4. Process and timeline**
For each of the four key ambitions from the NPOS a `responsible coalition’ was formed out of the midst of the ten parties involved in the NPOS and indications of timelines were set. The can be found on pages 21 - 27 of the NPOS.

**5. Adoption and implementation**
As stated previously, the NPOS was adopted on 9 February 2017.

The Theme Groups, in cooperation and consultation with the Steering Committee, National Coordinator and Platform, have been working since on the implementation of the NPOS.

The following two documents are examples of results of the work of the Theme Groups. Both documents have been approved by the Steering Committee and are in English: .
From the midst of Theme Group Open Access, written by the `responsible coalition’ of VSNU, NWO/ZonMw, and KNAW:

**Roadmap to open access 2018 – 2020**

For progress on open access the roadmap defines 5 pillars:

- **negotiations with publishers**
  The VSNU continues to negotiate with the large publishing houses with which its affiliates have contracts. The universities want the reading contracts to be made fully open access for no extra cost. This will apply to all disciplines, while we understand that differences in publication culture exist. For this reason, the road to open access may require a number of different routes.

- **alternative publication platforms**
  In 2018 - 2020, the universities' negotiating position must be strengthened by reducing their dependence on established publishers. An open infrastructure for open access appears to offer a suitable solution in this regard. For the members of the NPOS, it is vital to maintain principles of open access in order to guide the market in such a way that both established and alternative publishers develop the right standards.

- **international collaboration**
  It is vitally important that open access remains high on the political agenda and that open science was given political priority during the Dutch Presidency of the European Union. Universities need a European lobby in order to exert political pressure on publishers and to keep each other informed. It is therefore evident that the European lobby must gird its loins and universities must work closely together in order to make open access a high priority on the international agenda. The VSNU is not alone in its efforts in the Netherlands: its partners NWO/ZonMw and KNAW are also firm proponents of this kind of international collaboration.

- **monitoring**
  Recently, the VSNU – together with a number of academic experts – formulated definitions concerning the monitoring of open-access publications. With the aid of these definitions, the universities conducted an official study of open-access performance in 2016, the results of which were presented to the Ministry of Education, Culture and Science at the end of 2017. This study found that 42% of articles in the Netherlands in 2016 were open-access publications. In collaboration with its partners, the VSNU will initiate an exploratory study into alternative methods of monitoring open-access publications, although the ambition remains to allow all parties to register and monitor open access by means of a simple method.

- **archiving (deposit)**
  At the end of 2016, all universities embraced a collective archiving policy in order to ensure the goal of 100% access by 2020 is achieved. Universities feel a responsibility to guarantee access to its own research output, and this archiving policy reinforces this process. In the coming period, VSNU will continue consultation with its national partners to further emphasise the importance of retaining copyright rather than transferring it exclusively to publishers. VSNU will develop an application of the right to open access as referred to in the Copyright Act (Taverne Amendment, clause included in 2015).

http://www.vsnu.nl/Roadmap-open-access-2018-2020-English/

From the midst of Theme Group Researcher Recognition and Rewarding, written by the `responsible coalition’ of NOW, VSNU and VH:

**Recommendations for recognition and rewarding of researchers in relation to open science**

This document 3 main themes and 5 recommendations:

1) **Assessment of researchers**

The recommendations below (1 and 2) are intended for all research performing organisations in their role as employer.
**Recommendation 1:** Include (realised and expected) contributions to open science as selection criteria when hiring new researchers and support staff.

**Recommendation 2:** Incorporate open science into policies on the development, support, rewarding and appreciation of scientific staff.

2) **Assessment of research proposals**
   The recommendation below (3) is intended for NWO11 and ZonMw as the main research funding organisations in the Netherlands.

**Recommendation 3:** Ensure that assessment of research proposals incorporates a positive rewarding of a researcher or research group’s open science track record (open access publication, FAIR data sharing, engaging societal stakeholders). Train reviewers accordingly.

3) **Assessment of research**
   The following recommendations (4 and 5) are intended primarily for KNAW, NWO and VSNU, as the developers of the Standard Evaluation Protocol (SEP 2015-2021). The SEP is used to evaluate scientific research in the Netherlands. The recommendations also apply for the VH (Dutch Association of Universities of Applied Sciences). For quality assurance relating to applied research at Dutch universities of applied sciences, the Branch Protocol for Quality Assurance in Research (BKO 2016-2022) applies.

**Recommendation 4:** Invite research units that submit self-evaluations in 2018-2021 based on the current SEP or BKO to reflect on their contributions to open science at all appropriate research stages.

**Recommendation 5:** In the next SEP (2021-2027) and BKO (2022-2028), consider including a table with possible open science metrics (similar to the current SEP table D1 and BKO tables 3 and 4) to allow research units to make their own selections, in close alignment with national20 and international21 developments in this area and respecting differences between the various disciplines. Also have the research units describe how they engage stakeholders as part of the self-evaluation.

https://www.openscience.nl/binaries/content/assets/subsites-evenementen/open-science/notitie-erkennen-en-waarderen-van-onderzoekers_en-gb.pdf

6. **International Aspects**

Transition towards open science is a world wide phenomenon. International cooperation is essential for the Netherlands to achieve its open science ambitions. As paragraph 2 shows it is an integral part of the Netherlands’ approach. The governments, universities and other partners represent the Dutch ambitions of the NPOS (2016), the EU Council Conclusions (2016) and the Coalition Agreement (2017) in international meetings.

Two specific examples of international aspects in the Netherlands’ approach:
- In the aforementioned ‘Roadmap to open access 2018-2020’ international cooperation is mentioned as one of the five pillars of open access.
- With respect to (FAIR) research data, the Netherlands, together with Germany and France, initiated the Go FAIR initiative. https://www.go-fair.org/

7. **Monitoring and Evaluation**

In the Sector Agreement between the Ministry of Education, Culture and Science and the Association of Universities in the Netherlands (VSNU) of 9 April 2018 it was (re)confirmed that in the meetings between them at the highest level the progress of the NPOS will be a standard topic of discussion. For open access the VSNU will provide an insight into the progress by providing qualitative and quantitative (including percentages) monitoring. The monitoring of open access is also one of the five pillars in the ‘Roadmap to open access 2018-2020’. http://www.vsnu.nl/Roadmap-open-access-2018-2020-English/the-road-to-2020.html
Chronological overview of some key events, initiatives and developments on open science

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Weblinks in English</th>
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<tbody>
<tr>
<td>23-01-2015</td>
<td>Letter to the House of Representatives ‘Progress Open Access’</td>
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<tr>
<td>01-01-2016 to 30-06-2016</td>
<td>The Netherlands’ Presidency of the EU Open Science as a priority theme on the agenda</td>
<td><a href="https://www.government.nl/topics/european-union/the-netherlands-eu-presidency">https://www.government.nl/topics/european-union/the-netherlands-eu-presidency</a></td>
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<td>21-03-2016</td>
<td>Speech. ‘Open Science is winning’ NWO-International workshop Open Access - (Den Haag)</td>
<td><a href="https://www.rijksoverheid.nl/regering/bewindspersone/sander-dekker/documenten/toespraken/2016/03/21/open-access-is-winning">https://www.rijksoverheid.nl/regering/bewindspersone/sander-dekker/documenten/toespraken/2016/03/21/open-access-is-winning</a></td>
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<td>04-04-2016</td>
<td>Amsterdam Call for Action on Open Science</td>
<td><a href="https://www.government.nl/documents/reports/2016/04/04/amsterdam-call-for-action-on-open-science">https://www.government.nl/documents/reports/2016/04/04/amsterdam-call-for-action-on-open-science</a> \<a href="http://www.openaccess.nl/en/events/amsterdam-call-for-action-on-open-science">http://www.openaccess.nl/en/events/amsterdam-call-for-action-on-open-science</a></td>
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<td>01-12-2017</td>
<td>‘Progress towards the European Open Science Cloud’ Joint Declaration of the Netherlands, Germany and France on the start of the GOFAIR International Office during the EU Competitiveness Council.</td>
<td><a href="https://www.government.nl/latest/news/2017/12/01/progress-towards-the-european-open-science-cloud">https://www.government.nl/latest/news/2017/12/01/progress-towards-the-european-open-science-cloud</a></td>
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<tr>
<td>12-01-2018</td>
<td>Speech. For the Dies Natalis at TU Delft</td>
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<td>xx-01-2018</td>
<td>GO FAIR Guidelines for involvement at country level: Nederland presenteert samen met Duitsland en Frankrijk de GO FAIR richtlijnen voor deelname van landen. GO FAIR wordt standaard agendapunt van de ERAC Standing Working Group Open Science and Innovation.</td>
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<td>09-02-2018</td>
<td>Appointment of National Coördinator Open Science</td>
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<td>9-04-2018</td>
<td>Sector Agreement on scientific education:</td>
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<td></td>
<td>• Universities and government will keep working on realising the ambitions of the NPOS and the Coalition Agreement in the national and international context.</td>
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<td></td>
<td>• Signing non-disclosure contracts with publishers is non-disirable.</td>
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<td>• The progress of NPOS will be permanent on the agenda of high level meetings between VSNU and Ministry OCW</td>
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<td>• (Possibly) a mediating role of Ministry OCW in the pilot project regarding the Amendement Taverne.</td>
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<td>April 2018</td>
<td>Letter on the National Science Agenda (NWA):</td>
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<td>• Open science and open access are the norm within the NWA</td>
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<td>• Consortia indicate to what extent the society is involved in research and how knowledge transfer can be stimulated. Each consortium reserves a part of their budget for this.</td>
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<td>June 2018</td>
<td>Letter to and hearings in the House of Representatives regarding testing on animals. Minister OCW stimulates via open science policy the sharing of data and the open access to articles, also in research with animals. Open science can be a way to avoid unnecessary replication research on animals.</td>
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Other useful website: [https://www.openscience.nl/en](https://www.openscience.nl/en)