For the monitoring of Open Access publications in the Netherlands we chose a pragmatic approach. The monitoring is limited to peer-reviewed articles. For feasibility reasons, definitions may slightly deviate from existing and accepted definitions in the literature. In a second phase definitions may become more sophisticated.

OA articles are distinguished in three types that are explained below in more detail:
1. Gold, DOAJ classified
2. Gold, not DOAJ classified OA/Hybrid
3. Green only OA

1. Definition

The definition of Open Access peer-reviewed articles is:

**Peer-reviewed article is gratis and permanently available on the website of the publisher or in a trusted repository**

1.1. Peer-reviewed articles

For the definition of peer-review we follow the definition framework for scientific research as set by the General Council of the Association of Universities in the Netherlands (VSNU) on 11 June 2010 (AB VSNU meeting 207) and used for KUOZ. The specific definition on peer reviewed articles from this document is shown below.

<table>
<thead>
<tr>
<th>Definition scientific publication and peer-reviewed articles:</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Scientific publication</strong></td>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td>A publication by (a member or members of) staff relating to the results of scientific research aimed at the forum of researchers, published in the reporting year (x).</td>
<td>A focus on the target group of researchers means that a publication has specific features such as an emphasis on the research process, justification of methodology and reference to previous research results. These features can vary per discipline. In principle, a scientific publication relates to the results of the authors own scientific research designed to contribute towards increasing scientific knowledge. Exceptions to this rule include publications that relate to research performed by others but still clearly contribute towards increasing scientific knowledge (instead of solely disseminating this knowledge), such as a review article.</td>
</tr>
<tr>
<td>a) ‘Refereed’ article in a journal</td>
<td>An article that has been subject to a critical,</td>
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</tbody>
</table>

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1. Examples are the definition used by the DOAJ and the definition set by the Budapest Open Access Initiative ([http://www.budapestopenaccessinitiative.org](http://www.budapestopenaccessinitiative.org))
2. Definitie afspraken Wetenschappelijk Onderzoek
3. Kengetallen universitair onderzoek
independent review by one or more experts in the field, called “referees”, who are responsible for determining whether the topic of the article falls within the scope of the journal and who establish the originality, quality of the research, clarity of presentation etc. (editorial staff), with members who are considered experts in their field and who can independently express their views (who effectively function as referees), then an article can be regarded as ‘refereed’. If it is unclear whether an article is ‘refereed’ in accordance with the above description, or if there are doubts as to the independence of the referee process, the article is classed as publication type b.

b) ‘Non-refereed’ article in a journal
An article that has not been subject to a critical review as referred to under a.

1.2. Gratis and permanent

- With ‘Gratis’ we mean that access to the article is "for zero price". The user doesn’t have to pay to read the article.
  We deliberately do not use the term ‘libre’ (“with little or no restriction”). ‘Libre’ refers to the discussions about different kinds of Creative Commons licencing. In this first phase of monitoring Open Access in the Netherlands the decision is made to limit us to the definition ‘gratis’. This choice is in line with the ambition to ensure that the results of scientific research, particularly publicly funded research, are freely available.

- Permanent; the article is permanently online available
  o Articles can be published under an embargo. If so, than the article is not considered OA until the moment the embargo is lifted.
  o Articles can be published OA for a restricted period of time. When the article isn’t permanently available or not gratis available then it is not considered OA.

1.3. Preprints

The pilot projects have shown that it is impossible to distinguish preprints from other (author) versions of an article. It was therefore decided to count preprints under Category C. Obviously, this means that only preprints count if the actual published metadata of the peer-reviewed article is found in the CRIS. Preprints that are registered as a pre-print (only) in the CRIS, and for which it is not (yet) clear whether they have been accepted and published, do not count.
2. Classification of different types of OA

OA articles are distinguished into three classifications that are explained below in more detail. This classification system has been developed in collaboration with experts from all Dutch universities—librarians, (system) administrations and policy advisors. The classification is largely based on the possibility to differentiate between these types. The way these specifications are registered played an important role in creating the current OA classification. OA is differentiated in:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category A</td>
<td>Gold, DOAJ classified OA</td>
</tr>
<tr>
<td></td>
<td>An OA article in an OA journal listed in the DOAJ</td>
</tr>
<tr>
<td>Category B</td>
<td>Gold, not DOAJ classified OA/Hybrid</td>
</tr>
<tr>
<td></td>
<td>An OA article in a closed/restricted journal or a journal not listed in the DOAJ</td>
</tr>
<tr>
<td>Category C</td>
<td>Green only OA</td>
</tr>
<tr>
<td></td>
<td>Article is only OA via a trusted repository</td>
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</table>

2.1. Gold, DOAJ classified:

The Directory of Open Access Journals (DOAJ) is an online directory that indexes and provides access to open access, peer-reviewed journals. Changes in the DOAJ can affect the number of OA articles presented by universities. In accordance with the end data retrieved from a CRIS each year (x-1), the DOAJ is set on 31-12 of the year x-1. The articles in year x-1 are matched with the DOAJ list set at year x-1. That match gives the count of articles category A. Gold, DOAJ classified OA.

2.2. Gold, not DOAJ classified OA/Hybrid:

If an OA article is published in a journal not incorporated within the DOAJ or in a closed/restricted journal it is counted towards the number of articles in category B. Gold, not DOAJ classified OA/Hybrid. Whereas “Gold, DOAJ classified OA” articles are determined by the nature of the journal in this case the author indicates that the article is OA within a restricted or not DOAJ journal. The university has to set up a control mechanism to ensure that these kinds of articles are really OA.

2.3. Green only OA:

This classification follows the entry of an article in a trusted repository. To determine repositories as ‘trusted’ the list presented by OpenDOAR (also employed by OpenAIRE) is used. OpenDOAR is an authoritative directory of academic open access repositories. Each OpenDOAR repository has been visited by project staff to check the information that is recorded. This in-depth approach does not rely on automated analysis and gives a quality-controlled list of repositories. OpenDOAR is one of the SHERPA Services including RoMEO and JULIET. For the measurement, the VSNU will request just the green only peer-reviewed articles which will be counted towards category C. Green only OA.

2.4. Toll access + embargo:

All articles that do not match one of the above criteria are considered non-OA. Special attention is needed for articles intended for OA but are still published under embargo on the reference date (31-12 of year x-1). These articles are considered non-OA until the moment the embargo is lifted. These articles will be counted towards category D. Toll-access + embargo. When the embargo is lifted the article is considered OA.

In scheme 1 (see below) the differentiation between the types of OA is schematically given.
Is the peer-reviewed article gratis and permanently available on the website of the publisher?

Is the journal in the DOAJ?

YES

‘Gold, DOAJ classified’ alias category A

YES

Is the peer-reviewed article* on the reference date open available in a trusted repository?

YES

‘Green only OA’ (on reference date) alias category C

NO

Toll access + embargo (on reference date) alias category D

NO

‘Gold not DOAJ classified OA/Hybrid’ alias category B

NO

Is the peer-reviewed article gratis and permanently available on the website of the publisher?

NO

A: Open article in open access journal

B: Open article in toll access journal

C: Article is only open access via a trusted repository

D: Article is not (yet) open access via A, B or C

* Final author version, postprint, after peer-review (if applicable), publisher version or preprint.
3. **Measurement**

The basis for monitoring of OA are the research products registered in a university CRIS. Each year, the universities will use the KUOZ research output category 1a (peer-reviewed articles) of year $x-1$ in accordance with the Agreed Definitions of Scientific Research to determine the OA category. The same correction rules will apply, so the universities agreed that corrections are allowed in the year prior to the latest request ($year x-2$).

1) The peer-reviewed articles in the end data retrieved from the CRIS are matched consecutively to the different types of OA (see scheme 2 below): All articles are matched with the DOAJ (set ultimo year $x-1$). The articles in this subset are considered “Gold, DOAJ classified articles”.

2) The remaining subset contains OA and toll access articles. To distinguish between the other types the encoding in the CRIS is used. The universities agree to implement control mechanisms to ensure the quality of the data. All articles in this subset which are published as Open Access, but either the journal is not (yet) recorded in the DOAJ or it is published OA in a toll access journal will be considered “Gold, not DOAJ classified OA/Hybrid”.

3) All articles left are matched with the list of trusted repositories. When an article is OA via a trusted repository without an embargo (or the existence of an embargo that ended on or before 31-12 of year $x-1$) will be considered for the monitoring of OA as “Green only OA”.

4) The VSNU will also request a count of the “toll access + embargo” non-OA publications (the subset that remains and has not been classified during one of the previous steps).

The aggregation level at which the data is requested is HOOP (Higher Education and Research Plan) categories.
End data matched with DOAJ same year

Subset comprises non OA articles

CRIS end data

Non OA/ Toll Access

Gold DOAJ classified

Green only

Gold not classified/ Hybrid

Subset matched with trusted repositories listed in OpenDOAR

Subset controlled by hand on OA articles in toll access journals or journals not listed in the DOAJ