Three reuse indicators for KB images in Wikipedia and Wikimedia Commons, in a historical perspective (2013-2022)

Olaf Janssen, 29 December 2022

Wikipedia is a very effective channel to globally improve the findability, visibility and reusability of images from the heritage collections of the KB, the national library of the Netherlands. In this article I will illustrate this, based on three reuse indicators (KPIs) that I measured in December 2022. I will also show that during the period 2013-2022 our image collections have reached ever-increasing global audiences.

One of the core tasks the KB, the national library of the Netherlands is to bring as many people as possible into contact with our digitized collection images, including our collection highlights, medieval manuscripts, historical atlases, alba amicorum, broadsheet prints, children's picture books, flora and fauna books or catchpenny prints.
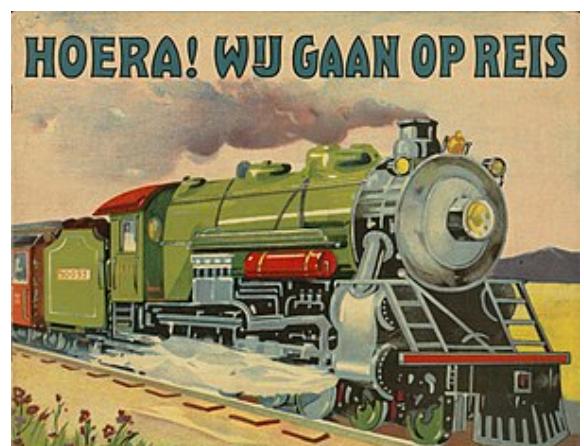

Since 2014, the KB has structurally used the Wikimedia platforms to fulfill this task. First, we upload our (out of copyright, public domain) images to Wikimedia Commons, the free and open media repository best known as the place where the writers of Wikipedia (have to) get their images from. These images are then used by the Wikipedia community to illustrate and enrich the encyclopedic articles.

Three reuse indicators for KB images, 2013-2022

At the end of December 2022, I measured three interconnected indicators (KPIs) for the reuse and public outreach of our images via the Wikimedia platforms:

1. The number of KB images on Wikimedia Commons
2. The number of unique Wikipedia articles using those KB images
3. The number of requests for those Wikipedia articles per month

Because I have also measured these KPIs in the past, I am able to put these figures into a historical context, from 2013 to 2022.

1) The number of KB images on Wikimedia Commons

In 2014 we started making image donations to Wikimedia Commons, over the years the number of KB images has grown steadily. As of 20 December 2022, there were 27.296 images available in the KB Commons repository. The table below (source) shows the historical growth.

Datum meting	Aantal KB-gerelateerde media-bestanden op Commons	Groeit t.o.v. vorige meting	Groei in %
01-09-2013	500	-	-
01-10-2013	775	275	55%
24-03-2014	1.286	511	66%
03-10-2014	2.645	1.359	106%
27-12-2016	6.260 (*)	3.615	137%
14-12-2017	12.044 (*)	5.784	92%
12-02-2020	15.192	3.148	26%
18-12-2020	25.779	10.587	70%
02-02-2022	25.306	-473	-1,8%
20-12-2022	27.296	1.990	7,8%

Translation of column headers:

1. Datum meting = Date of measurement

2. Aantal KB-gerelateerde media-bestanden op Commons = Number of KB related media files on Wikimedia Commons

3. Groei t.o.v. vorige meting = Growth compared to previous measurement (absolute numbers)

4. Groei in % = Growth in %

A brief analysis of this table:

- In column 2 we see that over the years increasingly more public domain images from the KB collections are becoming available for reuse on Wikimedia Commons. The striking growth of more than 10K images in 2020 is due to the KB collection highlights project in that year.
- The relative growth (column 4) is leveling off. This is because more and more images would have to be uploaded every year to maintain the growth percentages from previous years. This is not realistic every year.
- There is still a lot of room for more image donations over the coming years, as both online and offline KB sources still hold tens of thousands of copyright-free images suitable for Wikimedia

Commons. In 2023 many thousands of additional images of broadsheets, medieval manuscripts, catchpenny prints and alba amicorum are planned to be uploaded, so there is still sufficient room for this KPI to grow considerably.

2) The number of unique Wikipedia articles using those KB images

Wikipedia writers use our images to illustrate articles. On 20 December 2022 I measured the number of unique Wikipedia articles (in all language versions) that use those images: Of the

- 27.296 available KB images on Commons (see above)
- a total of 1.737 unique images are used 6.010 times
- in 4.607 unique Wikipedia articles (=*this KPI*)
- in 136 distinct language versions of the encyclopedia.

These figures are further detailed in the article *Public outreach and reuse of KB images via Wikipedia, 2014-2022* (December 2022). The table below (source) shows the historical development.

Datum meting	Aantal unieke Wikipedia-artikelen waarin KB-mediabestanden opgenomen zijn = KPI 4	Aantal taalversies van Wikipedia waarin KB-mediabestanden opgenomen zijn	Aantal hergebruikte KB-mediabestanden in al die taalversies van Wikipedia	Totaal aantal KB-mediabestanden op Wikimedia Commons, zie KPI2	Percentage hergebruik van KB-mediabestanden in Wikipedia
01-09-2013	-	-	300	500	60%
01-10-2013	1.153	77	311	775	40%
26-03-2014	1.336	78	356	1.286	28%
03-10-2014	1.498	-	405	2.645	15%
27-12-2016 *	2.114 (914+1.200)	81	664 (451+195)	6.581 (6.260+ 321)	10%
14-12-2017 *	2.567 (1.276+1.291)	83	829 (631+198)	12.379 (12.044+335)	6,6%
12-02-2020	3.883	113	1.157	15.192	7,6%
16-02-2022	4.308	131	1.651	25.306	6,5%
20-12-2022	4.607	136	1.737	27.296	6,36%

Translation of column headers:

1. Datum meting = Date of measurement

2. Aantal unieke Wikipedia-artikelen waarin KB-mediabestanden opgenomen zijn = Number of unique Wikipedia articles that include KB media files (=*this KPI*)

3. Aantal taalversies van Wikipedia waarin KB-mediabestanden opgenomen zijn = Number of language versions of Wikipedia that contain KB media files

4. Aantal hergebruikte KB-mediabestanden in al die taalversies van Wikipedia = Number of reused KB media files in all those language versions of Wikipedia

5. Totaal aantal KB-mediabestanden op Wikimedia Commons, zie KPI2 = Total number of KB media files on Wikimedia Commons (*see first KPI above*)

6. Percentage hergebruik van KB-mediabestanden in Wikipedia = Percentage of reuse of KB media files in Wikipedia

Also here a brief analysis of the table:

- Column 2: The number of unique Wikipedia articles containing KB images has grown from 1.153 in 2013 to 4.607 in December 2022. This is a growth of 300%.
- Column 3: KB images can be found in increasingly more language versions, with (on 20 December 2022) the English language at the top (993 articles), followed by the Dutch (620), French, German and Russian Wikipedias.
- Column 4: The number of KB images that find their way from Wikimedia Commons into Wikipedia is also growing steadily and has increased almost sixfold since the measurements started in 2013.
- Column 6: Relative reuse has dropped quite sharply over the years, from 40% in 2013 to 6.36% in December 2022. This can be explained by the fact that the KB made image donations during that period, which means that the total number of KB media files (column 5, copy of first KPI above) has grown strongly. However, it may take years for the Wikipedia community to 'discover' all these images and incorporate them into articles.
- But even then there is a practical upper limit to the number of images that can be usefully incorporated into an article: whether the KB puts 20 or 500 images from, for example, a medieval manuscript on Commons, the Wikipedia article about that manuscript can typically only contain a maximum of around 10 images in a meaningful way.
- And often that doesn't happen at all and KB images are never used in Wikipedia articles. This is not a disadvantage though, because KB images on Commons serve broader purposes than just Wikipedia; they are also used on other Wikimedia platforms (e.g. 2.130 times on Wikidata, d.d. 20-12-2022) and they find their way to other websites (Google Images!), social media, publications, news services, academic research and other types of free or commercial reuse.

3) The number of requests for those Wikipedia articles per month

Very nice, all those Wikipedia articles containing our images, but if they are never requested, then our images will also never be seen. Fortunately for the KB, this is not the case: in the period January 2022 to October 2022 (10 months), there were 10.3 million such page request on average every month, as column 4 of the table below (source) shows.

Datum meting	Meetperiode in maanden	Totaal aantal opvragingen van Wiki-pagina's met KB-beelden in deze periode	Gemiddeld aantal paginaopvragingen (page views) per maand in deze periode
01-10-2013	3	3.523.235	1.174.411
26-03-2014	6	6.326.489	1.054.415
03-10-2014	6	2.078.252	346.375 (*)
27-12-2016	12	34.000.000	2.833.333
15-12-2017	12	39.600.000	3.300.000
19-02-2020	24	164.000.000	6.800.000
17-02-2022	24	206.838.859	8.618.286
20-12-2022	10	102.986.208	10.298.621

Translation of column headers:

1. Datum meting = Date of measurement

2. Meetperiode in maanden = Measurement period in months

3. Totaal aantal opvragingen van Wiki-pagina's met KB-beelden in deze periode = Total number of requests of Wiki pages containing KB images during this period

4. Gemiddeld aantal paginaopvragingen (page views) per maand in deze period = Average number of page requests (page views) per month in this period (=*this KPI*)

- Column 4: We see an upward trend over time in the average number of monthly views of Wikipedia articles containing KB images.
- Column 3: The seemingly spectacular increase of 164M views during 2018-2019 compared to 2017 is mainly because some KB images were included in widely read articles on English Wikipedia.

The data on which the numbers in the table are based can also be displayed graphically:

Category details for Media contributed by Koninklijke Bibliotheek

105 months have a data point, with 475,036,154 page views in total. Click on individual time points in the graph to see monthly data.

Graph showing the number of monthly requests of pages on Wikipedia (and other Wikimedia sites) that contain images from the KB. Source: BaGLAMa2 tool d.d. 28 December 2022.

A brief analysis of this graph:

- Since the start of the measurements in February 2014, there have been a total of 475 million page requests over a period of 105 months. We see that during 2022 the average hovers around 10M page views, in line with the data in the table above.

- During 9 years a clear upward trend can be identified in how often KB-image-containing-Wikipedia articles are requested by people. This growth can be explained by the fact that during this period the KB has uploaded more images to Wikimedia Commons (see first KPI), which Wikipedia writers have included in more articles (see second KPI), which have been viewed by more people (this KPI) .

- However, this does not automatically mean that the KB images in those articles are also viewed (with certain amounts of attention) millions of times; especially if an image is located near the bottom of a long article, the chances that it will be actually viewed are rather small. Still, the more article requests, the more exposure KB collection images get and the greater the likelyhood that people all over the world will benefit from them, for educational and/or entertainment purposes.

More details and data

More detailed analyses and all underlying data used for this article can be found on the project pages of the KB on Dutch Wikipedia:

- KPI 2: The number of KB images on Wikimedia Commons
- KPI 4: The number of unique Wikipedia articles using those images
- KPI 8: The number of requests for those Wikipedia articles per month

About the author

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