

Article 36 Appendix A: Patent Sources [NOTE: See Example 36:1. for a sample patent trail]

Although we are interested in patents as they relate to university or country rankings a little background is necessary. Patents are classified as intellectual property. The patent has an **inventor** who often **assigns** ownership to another entity. In universities, the inventors assign ownership to the university.

Step one is to file a patent **application**. The process for the patent to be **“granted”**. takes two to three years. The term is 20 years of exclusive use to the patent starting from the filing date.

Patents are often filed with multiple patent agencies. Each patent agency gives the patents its own number. Patent filings are structured and use unique subject codes which are unfamiliar to the lay searcher. The filings are in many languages, title translations may differ, and the records may not be translated.

Subscription products from Clarivate Analytics and Elsevier massage patent data to standardize translations and highlight patent citation bibliometrics. Organization names require disambiguation. Clarivate, which has a vested interest, warns researchers against using free patent sites (Derwent, 2017).

I have a habit of finding problems. I randomly chose Tsinghua University for my example and discovered that not only does it have some commercial patent-filing entities, but the university name appears in English in some patents and in Chinese (Qinghua) in others. When I searched in Derwent for Tsinghua University, I missed more than half of the patents the university filed. So much for disambiguation!

We begin by examining the patent coverage of CA's Derwent on WOS and Elsevier SciVal's Overview – Economic Impact icon.

Derwent

Derwent has two patent indexes: Derwent World Patents Index and Derwent Patents Citation Index. Derwent covers 50 patent agencies. As of 7 July 2018, Derwent World Patents Index included over 37 million patent records starting in 1963 and 13.6 million between 2013-2018. Derwent indexes are available on multiple platforms: CA's own Web of Science platform where the indexes are merged and presented as Derwent Innovations Index and on ProQuest Dialog and STN, where they are separate Derwent files.

In the World Patents Index each record links to a list of patents and scholarly articles cited by the patent (backwards citations or references in library speak) and patents citing the patent. It links to some of the cited articles in WOS. It does not list articles citing patents.

For example, Tsinghua University (Univ Tsinghua or Univ Qinghua) have over 15,000 patent records between 2013-2018. Over 5000 have been cited at least one time by another patent.

The Patents Citation Index expands the citation trail. The most highly cited Tsinghua patent was cited 34 times. The Citation Index lists the citations for each of those 34 patents.

Derwent, in conjunction with ProQuest Dialog, provide sample pages for [World Patents Index](#) and Derwent Patents Citation Index

[Derwent Innovations Help Index:](#)

Elsevier SciVal

SciVal does not provide patent filings. It collates citations related to patents under the Overview toolbar icon, **Economic Impact**. Subscribers can select one institution or one geographic area and filter by pre-set time ranges and by broad subject areas. They can also filter by one of five individual patent offices: Japan, UK, US, European or WIPO.

Metrics include:

Citing-Patents Count: number of patents citing the scholarly output published by selected university/Location, including the list of the citing patents. Once a patent has been selected, the user can link to the European Patent Office for the patent record. For example, 556 patents filed between 2013-2018 cited the scholarly output of Tsinghua University. MIT had the most citations.

Patent-Cited Scholarly Output: number of scholarly outputs by university/ country that have been cited in patents, including list of publications. Once an article has been selected, the user can link to a Scopus record. For example, 279 scholarly outputs of Tsinghua University were cited in patents. The most cited article was cited over 150 times. The article is not linked to the patent.

Patent Citations Count: number of patent citations received by university/country. **[NOTE:** This is not the number of patents]

Patent Citations per Scholarly Output: average patent-citations received per 1,000 scholarly outputs published by university/country.

OTHER PATENT SITES

There are many free, or partly free, sources for patent records from the individual offices and from open source sites that aggregate the patents.

Patent Offices

[World Intellectual Property Organization \(WIPO\)](#) – **[PATENTSCOPE](#)** has 70 million documents including 3.4 million published international patent applications (**PCT**) filed with WIPO. The date range is 20-10-1978 to 15-6-2018 on 19-6-2018 and dates vary by country. Records contain patent information, full text, drawings and patent filing documents but not the citation trail. WIPO also offers fee-based services.

User Guide: https://patentscope.wipo.int/search/en/help/users_guide_summer2017.pdf

[European Patent Office \(EPO\)](#) **[Espacenet](#)** search interface offers free access to 100 million patents and related documents from 1836. It offers Global Patent Index, a fee-based tool and other fee-based services such as **[Searching Asian documents](#)**

[US Patent and Trademark Office USPTO](#) issued its first patent in 1790 and its 10 millionth in June of 2018. It offers a free basic and advanced search interface plus many additional fee-based services. I found this to be the most difficult of all the options to use and I was unable to match known patents.

[NOTE: Data as of 10 July 2018

Aggregator Websites

[Google Patents](#)

Google patents claims to have 87 million records of patents or patent-related documents. About 16 million are patent grants, starting in 1790 and applications, from 2001. Basic search includes free text, date range, assignee, inventor, or any mix of 17 patent offices and grant or application.

[Advanced Patent Search](#) is structured and has more fields.

See [Google help](#)

[Patent Lens](#), now The Lens, is a good source for patent searching and may be the best source for citation search data. This Australian-based organization offers free access of over 100 million patent records from 95 jurisdictions. Emphasis is on citations
PatCite links scholarly work and patents: <https://support.lens.org/help-resources/video-tutorial/patcite-analysis/>

I would like to thank Arleen Zank at Wayfinder for her help. <https://wayfinder.digital/arleen-zank-bio.html>. For those interested in more information about patent filings see her answers to my questions in **Appendix 36.B**.

Appendix 36 A. and B support Ruth's Rankings 36 and 37.

REFERENCE

Derwent (2017) . The cost of free: Playing roulette with intangible assets accessed 6 July 2018 at https://clarivate.com/wp-content/uploads/2017/10/IP_The_Cost_of_Free_1_0817.pdf