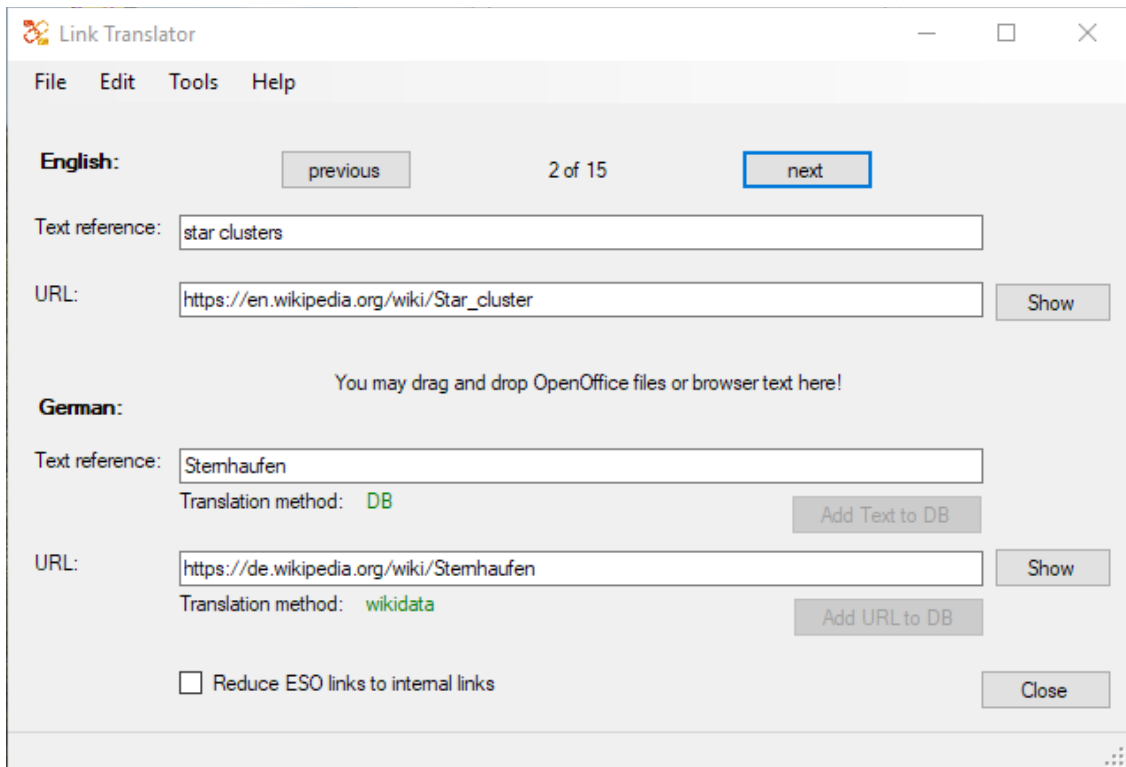


Link Translator Help

Link Translator is a tool that helps translate English Wikipedia hyperlinks into their German equivalents, thereby replacing the text representation and – when possible – the URL of the hyperlink. It does this by using several sources of information:

- a built-in database, which is based on text files and can be edited by the user
- the Wikidata service, which is Wikipedia's mechanism for generating the list of inter-language links on the left hand side of a topic
- the Wikipedia topic pages themselves and their inter-language links.

Link Translator has been created particularly for the translation of public outreach materials by ESO, the European Southern Observatory, but can equally well be used for other scientific translation work that contains many links to Wikipedia articles.



The screenshot shows the Link Translator application window. At the top is a menu bar with 'File', 'Edit', 'Tools', and 'Help'. Below the menu bar, there's a section for the 'English' language. It includes a 'previous' button, a page indicator '2 of 15', and a 'next' button. Under 'English', there's a 'Text reference:' field containing 'star clusters' and a 'URL:' field containing 'https://en.wikipedia.org/wiki/Star_cluster'. A 'Show' button is next to the URL field. Below this is a section for the 'German' language. It has a 'Text reference:' field containing 'Stemhaufen' and a 'URL:' field containing 'https://de.wikipedia.org/wiki/Stemhaufen'. Both fields have a 'Show' button to their right. Between the English and German sections, there's a message: 'You may drag and drop OpenOffice files or browser text here!'. Below the German section, there are two buttons: 'Add Text to DB' and 'Add URL to DB'. At the bottom, there's a checkbox labeled 'Reduce ESO links to internal links' and a 'Close' button.

You can interact with Link Translator in several ways, depending on your preferred workflow. First, you have to give Link Translator the original text you are working on and you can do that in several ways:

- Open an OpenOffice document that contains the original (English) text
- Select text in OpenOffice or in Firefox (other web browsers have not yet been tested) and drag and drop the selection onto the Link Translator window
- Select text in OpenOffice or in your web browser, copy it to the windows clipboard (Ctrl-C) and the paste into the Link Translator window (select the Link Translator window and press Ctrl-Shift-V).

Link Translator will extract all the hyperlinks from your input, translate them and then present the result in its main window, link by link. You can move back and forth between the hyperlinks via the *previous / next* buttons.

Quick Tour

Use the following steps to translate the links of an entire article or text block:

1. Start LinkTranslator – Double click the LinkTranslator.exe file or a shortcut that you might have set up on your desktop.
2. Open the web page that contains the text to be translated.
3. Select the text block, drag it to LinkTranslator window and drop it there. LinkTranslator might take a second or two to do the translations and then will show the first first link and its suggested translation.
4. If you are not satisfied with the translation result you can edit the German fields or replace the URL with another that you have manually searched in your browser.
5. Start your translation work with whatever editor or tool you might use, for example Open Office.
6. When you arrive at the location where the first link is to be inserted, start a drag somewhere in the LinkTranslator window, drag to your word processor and drop the link at the desired location.
7. If you have made changes to the German link, consider to add a new rule to the translation database for either the text or the URL or both by clicking the buttons below the respective fields.
8. Click the next button to proceed to the next link and repeat steps 4 to 7 until you are done.

That is basically all there is to using LinkTranslator. The following section contain some of the finer points.

Installation

The installation of LinkTranslator is extremely simple. Just unpack the zip-archive into a directory – that's all. If you want to install LinkTranslator in a Windows-conformant way this directory should be under the system's *Program Files* folder (*Programme* in a German system). You will need administrator rights to create and access a directory there. As an alternative you can create a directory on any place where you have write access from your normal user account and run LinkTranslator from there.

LinkTranslator comes with two files that comprise the translation database: *TransUrlDb.txt* and *TransTextDb.txt*. These are simple text files that you can open in any text editor. As LinkTranslator allows you to amend those files by more translation rules these files must be write accessible to your normal user account. As this might not be the case when you install under Program Files LinkTranslator allows you to move these files to a different directory. Go to *Tools* → *Configure...* to tell LinkTranslator the folder you have put them to.

Using LinkTranslator

There are several ways to let LinkTranslator know what you are translating at the moment. One way was mentioned already in the quick tour: Just drag and drop the English text from a website or OpenOffice document into LinkTranslator. But there are other methods, too.

Opening an OpenOffice Document

Link Translator offers several alternatives for your workflow while working on a translation. One is to read a complete OpenOffice document and extract all its hyperlinks in a single operation. You do that by *File -> Translate Links in OpenOffice Document....* (As an alternative you can also drag the file name from an Explorer window into the dialog.)

Then you can browse through those hyperlinks with the *previous / next* buttons and see their suggested translations. You can edit the German translation or URI of a hyperlink if you don't like the suggestion. After you are done with your editing you can either

- append all translated hyperlinks to the opened document, where you can pick them up later when you are working in your OpenOffice document, or
- drag and drop one link at a time from the Link Translator window into an OpenOffice document or other applications and insert them at their final position in your translation document.

Using Drag and Drop

Sometimes you want to just translate a single hyperlink or a small number of them. The most convenient method for this scenario is to select them in your web browser or in OpenOffice and drag them onto the Link Translator window. In this case Link Translator will translate your hyperlinks and you can look at them as usual with the *previous / next* buttons. Note however that you will not be able to append the translations to an OpenOffice document. Instead you can start a new drag in the Link Translator window and drag the translation to your OpenOffice window or another application. Thereby you can place the translation precisely where you want them to be.

Using Copy and Paste

Very similar to the Drag and Drop method is using Copy and Paste. Instead of dragging some text containing hyperlinks onto the Link Translator window you copy the text in the source application (either by using a menu command or by the Ctrl-C keyboard shortcut) and then paste it to the Link Translator window (again either via an menu command or via the Ctrl-V keyboard shortcut). And much like in the Drag and Drop method you can now look at each hyperlink and transfer the translations by another Copy-and-Paste back to your document. While being in the Link Translator window press Ctrl-C (or use the *Edit -> Copy* menu command) then go to your OpenOffice window and press Ctrl-V there to insert the translated hyperlink.

Combining these Methods

Which of the three methods you use is totally up to you and depends on your preferred workflow. You can even mix the three methods, for example open an OpenOffice document with the *Translate Links in OpenOffice Document ...* button and then move the translations over to your target document in a one-by-one fashion by Drag and Drop. Instead of drag-and-drop you can of course use copy-paste. Select the text to be translated in your web browser or OpenOffice document, press Ctrl-C (copy), then go to the LinkTranslator window and press Ctrl-Shift-V there. The reason, we use Ctrl-Shift-V instead of just Ctrl-V is that you can also copy-past contents into the various text fields of the window, for example when manually adjusting the German link text or URL. Hence, the shortcut Ctrl-V is already taken.

If you are limited in screen space, you might prefer to run LinkTranslator and append all the translated links at the end of your OpenOffice document. Then you can close LinkTranslator and continue working exclusively in your OpenOffice document. To use that method open your OpenOffice document in LinkTranslator with the

File → Translate Links in OpenOffice Document...

menu command. An Open File dialog appears in which you can select the OpenOffice document. LinkTranslator processes all the links in that document and you can review and correct them by using the previous and next buttons. When you are finished, execute the

File → Append Links to Document

command, which remembers the document you opened earlier on. Before executing that command you should make sure it is no longer open in OpenOffice. LinkTranslator appends all translated links at the end of your document, which looks like this:

```
-----  
(F) Asteroidengürtel  
(P) \(1\) Ceres  
(F) Zwergplanet  
(P) \(4\) Vesta  
(ESO) SPHERE  
(ESO) Very Large Telescope  
(ESO) SPHERE, the Spectro-Polarimetric High-contrast Exoplanet REsearch instrument,  
(F) Dawn-Raumsonde  
(-) untranslatable link
```

The marks (F), (P), (ESO), and (-) in front of every line indicates translation status of a link:

- (F) Link has been fully translated, both URL and text
- (P) Link has been partially translated and probably needs some more editing

(ESO) This is a link to an ESO page

(-) This link could not be translated.

Personally, I prefer the drag-and-drop method as this requires a minimum number of mouse clicks lets you place the translated links most conveniently.

Translation Methods

Below the German URL and text fields LinkTranslator gives an indication of how it translated that link. Here is what the various translation method keywords mean:

ESO	This URL points to an ESO page and has hence not been translated. (Only show for URL translations.)
DB	Translation was done by database lookup.
wikidata	Translation was done by querying the Wikidata server. If this indication appears for the text component it means that no database entry has been found for that text, but the title of the corresponding German Wikipedia page was used.
wikipedia	Translation was done by following the inter-language link on the Wikipedia page. If this indication appears for the text component it means that no database entry has been found for that text, but the title of the corresponding German Wikipedia page was used.
none	No translation has occurred.

To give you an optical clue whether you need to hand-tune the translation, translation methods appear in the colors green, orange, and red. Green means that a reasonable translation has been found. The method appears in orange if a translation has been found, but might possibly not be suitable in this particular case. This is used when the translation was performed by the methods *wikidata* or *wikipedia* and no proper translation of the original English text could be performed. Red appears in the case of method *none*.

Translation by Database-Lookup

The first method tried for all non-ESO links is to lookup the URL and the link text in their respective database. If an equivalent entry is found the translation is taken from the database.

Before looking up the link text it is brought into a normalized form. Punctuation characters are removed and all text is converted to lower case. Thereby it is avoided to have separate entries for phrases that just differ in character case or punctuation as sometimes appears at the begin or end of sentences.

Wikidata

Links to Wikipedia pages can often be translated by the help of a Wikimedia server called Wikidata. This service lists equivalents of a page in other languages and their page titles. This is ideal for the purposes of LinkTranslator and delivers next to the URL of the German page also the text part of the link.

The *wikidata* method is tried when URL or link text could not be found in the translation database. If just one of the two (URL and text) has been found in the database, LinkTranslator queries the Wikidata server, but only supplies the part has not been found in the database. In other words, the translation database entry always has precedence.

Unfortunately, not all pages have an entry in Wikidata yet. For such pages, LinkTranslator uses the page data itself.

Wikipedia Page Data

If the *wikidata* method fails, LinkTranslator tries to extract any links to other languages from the page HTML data itself. This succeeds in a certain number of cases. But note that there are Wikipedia pages that do not have an equivalent in the German Wikipedia.

The same precedence rules as for the Wikidata method apply, i.e. translations found in the translation database always have precedence.

Adding to the Translation Database

Whenever you have manually edited the translation result you might want think about inserting a new rule into the translation database. To do that just press the “Add to ... DB” button below the respective field. Note that for each URL and each text phrase there can only be one translation in the database. If the original translation result was produced by database lookup (i. e. „DB“ appeared as translation method) pressing „Add ... to DB“ will overwrite the existing translation rule.

If the translation of a URL or text was produced via the *wikidata* or *wikipage* methods, you might consider to add it nonetheless to the translation database. Adding a text translation to the database confirms that this is a good translation for the original English text phrase. Thus the translation

method will appear as a green “DB” in the future. (In order to allow the addition of the entry to the database you have to make a manual modification first, which will then enable the button. You could simply add a space at the end and then delete it again.)

For URL translation that were produced with the *wikidata* or *wikipedia* methods it generally makes not much sense to add them to the URL translation database. If the German page's URL should change in the future, the Wikidata server would correctly reflect that change, whereas our URL translation database would still contain the old URL.

ESO Links

All ESO links undergo special treatment by LinkTranslator. It was developed in the context of translating public outreach materials for ESO, the European Southern Observatory. Fortunately, all links to pages of the main ESO website do not need a translation of the URL and seldom need a translation of the text part. The ESO web server looks for the user's preferred language and automatically displays any page request in that language.

The text phrase however needs still to be translated, except for all technical terms and designation that on purpose remain untranslated, for example the name “Very Large Telescope”.

The Translation Database Files

The translation database consists of two files: TransURL.txt and TransText.txt. Both are simple text files that can be edited manually. It is however safer to add new entries by the LinkTranslator program, which will take care of all the specialties described in the sections below.

Both files contain one translation entry per line:

<english-URL>;<german-URL>

respectively

<english-text>;<german-text>

As a semicolon acts as the separator between the two elements of each pair, the semicolon must not be contained in the actual elements. Instead of a semicolon the sequence „%3B“ should be used. This of course introduces the percent sign as an additional special character, which must be replaced by „%25“.

The URL-Translation File

While LinkTranslator can translate most Wikipedia links by querying the Wikidata server or by using the link to the corresponding German page on the Wikipedia page. For some Wikipedia topics there does not exist a German equivalent yet. Those are the cases where you might want to search manually for a suitable German page and enter this exception to the translation database. For non-Wikipedia links there is no automatic mechanism for finding a German equivalent and you must always resort to a manual search. If you expect to come across this web address more often in the future you might want to enter the result of your search to the translation database. The easiest way to do so is to copy the URL from the browser into the German URL field, then press the button „Add URL to DB“ to add a new entry to the database.

Many entries in the TransURL.txt file will refer to Wikipedia pages. Therefore, LinkTranslator uses some abbreviations for Wikipedia URLs:

\$(enWiki) stands for <https://en.wikipedia.org/wiki/>

\$(deWiki) stands for <https://de.wikipedia.org/wiki/>

This shortens the entries significantly and makes them easier to maintain, should Wikipedia ever change their internet address.

The Text-Translation File

Besides escaping the semicolons and percent signs there is one more specialty to the entries of the text translation file: The English text phrase is stored in a normalized format. Some links include text at the beginning of a sentence, which starts with an upper case letter. Other links contain leading or

trailing spaces or punctuation marks. Hence the same basic phrase might take on different appearances, depending on where they appear in a sentence. To have them all match with the same translation entry, we first normalize a phrase before storing it.

The normalization scheme is relatively simple:

- convert the entire phrase to lower-case characters
- remove leading and trailing spaces
- remove all periods, commas, semicolons, and colons.

Of course this normalization is only done for the English part, not the German equivalent!