

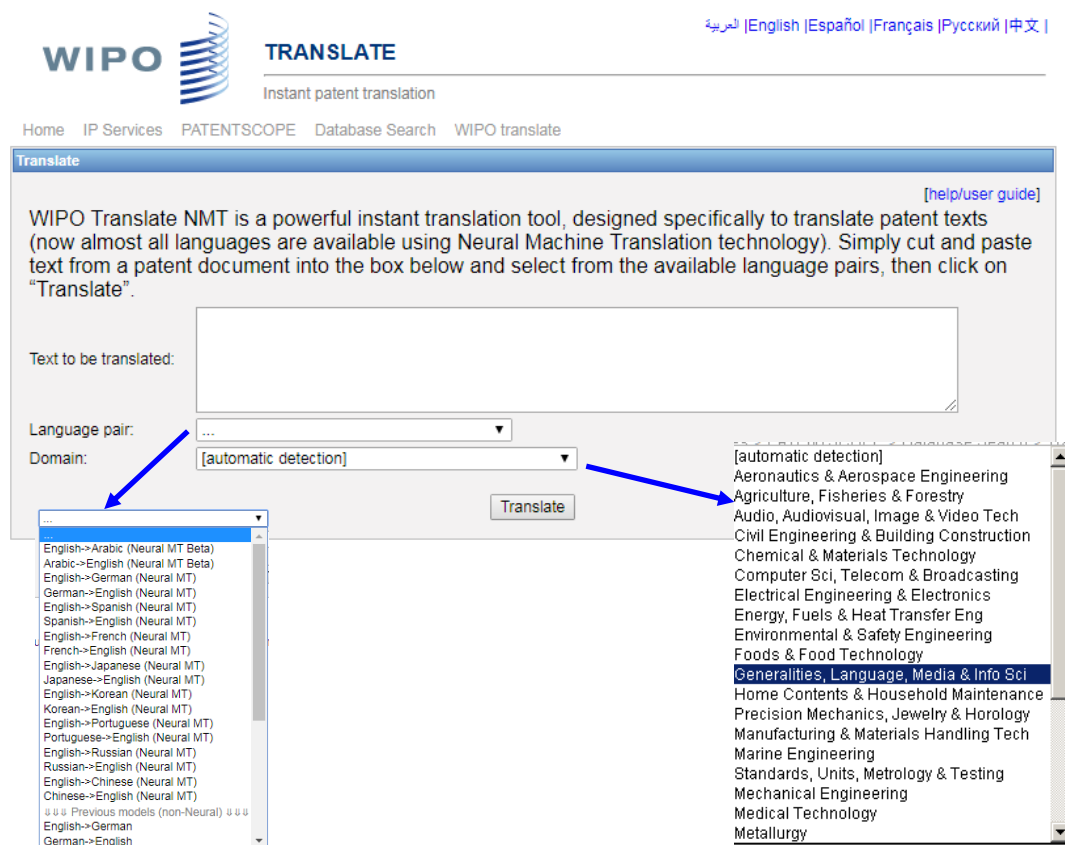
WIPO translate: Instant Patent Translation

<http://patentscope.wipo.int/translate>

A. What is it?

This tool is designed to give users the possibility to understand the content of a text and provide alternative translations for each segment of the text. Since September 2016, Neural Machine Translation is used to provide more accurate translation of patent texts, WIPO Translate (since September 2017) offers Neural Machine Translation in all 10 official languages of the PCT, the tool is powered by the open source “Marian NMT”¹.

The interface proposes:



¹ <https://marian-nmt.github.io/>

For example, you can enter the following sentence in the interface, click on “translate”, and the source text and the translation will be displayed:

Source text: 本发明公开了一种移动通讯网络中的接入认证的方法,该方法包括移动通讯网络中身份位置寄存器对用户终端的接入认证过程。本发明还公开了相应系统,该系统包括用户终端,接入服务器和身份位置寄存器。本发明还公开了相应装置。本发明有效地避免了经由不可靠网络而导致的中间人攻击,通过将接入点路由信息和认证结果绑定,来保证接入点就是用户真实的接入点。

Language pair: Chinese->English

Domain: Generalities, Language, Media & Info Sci

Translate

This automatic translation is provided for information only, it may contain discrepancies or mistakes and does not have any juridical value.

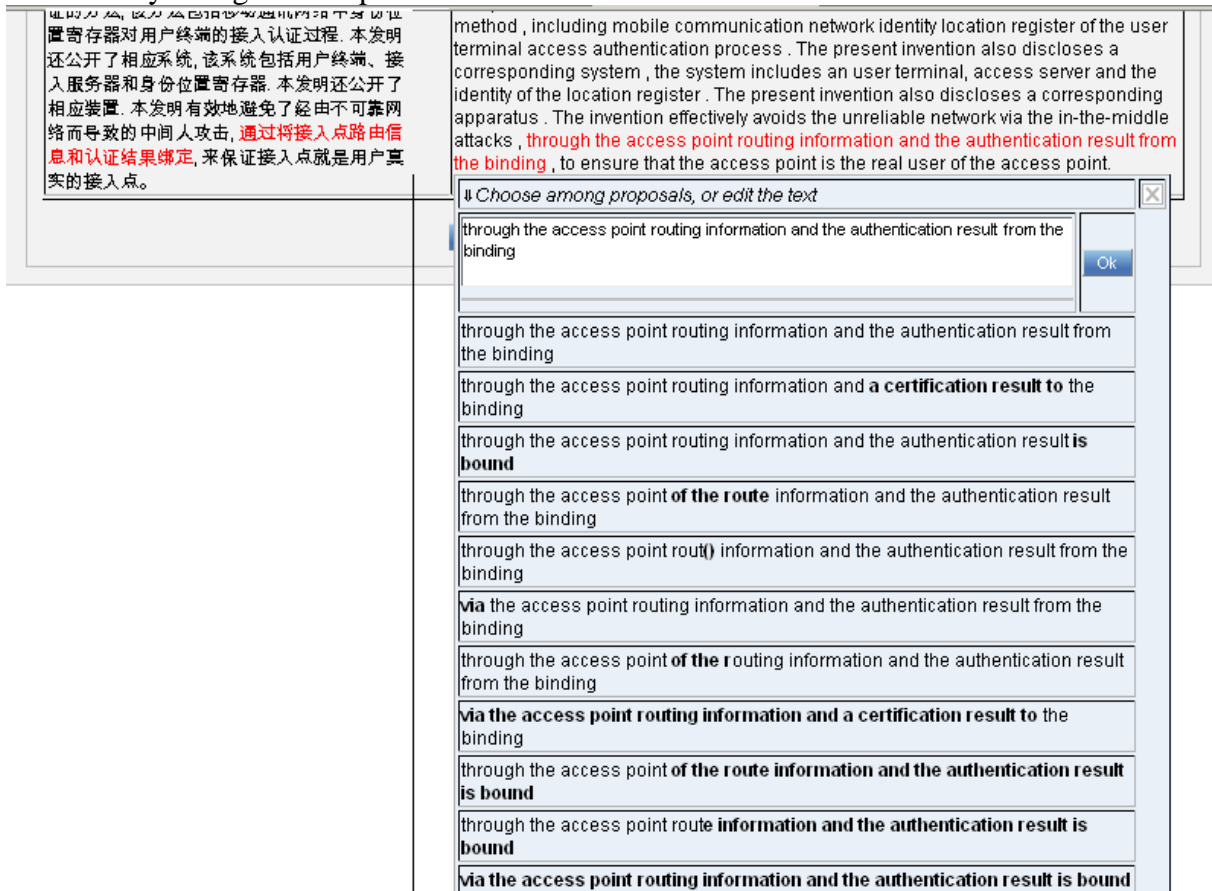
- Please hover your mouse over parallel segments of text
- Click to view other proposals
- Select words or phrases on the right to access other translation proposals

本发明公开了一种移动通讯网络中的接入认证的方法,该方法包括移动通讯网络中身份位置寄存器对用户终端的接入认证过程。本发明还公开了相应系统,该系统包括用户终端、接入服务器和身份位置寄存器。本发明还公开了相应装置。本发明有效地避免了经由不可靠网络而导致的中间人攻击,通过将接入点路由信息和认证结果绑定,来保证接入点就是用户真实的接入点。	The present invention discloses a mobile communication network access authentication method, including mobile communication network identity location register of the user terminal access authentication process. The present invention also discloses a corresponding system, the system includes an user terminal, access server and the identity of the location register. The present invention also discloses a corresponding apparatus. The invention effectively avoids the unreliable network via the in-the-middle attacks, through the access point routing information and the authentication result from the binding, to ensure that the access point is the real user of the access point.
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Edit translation

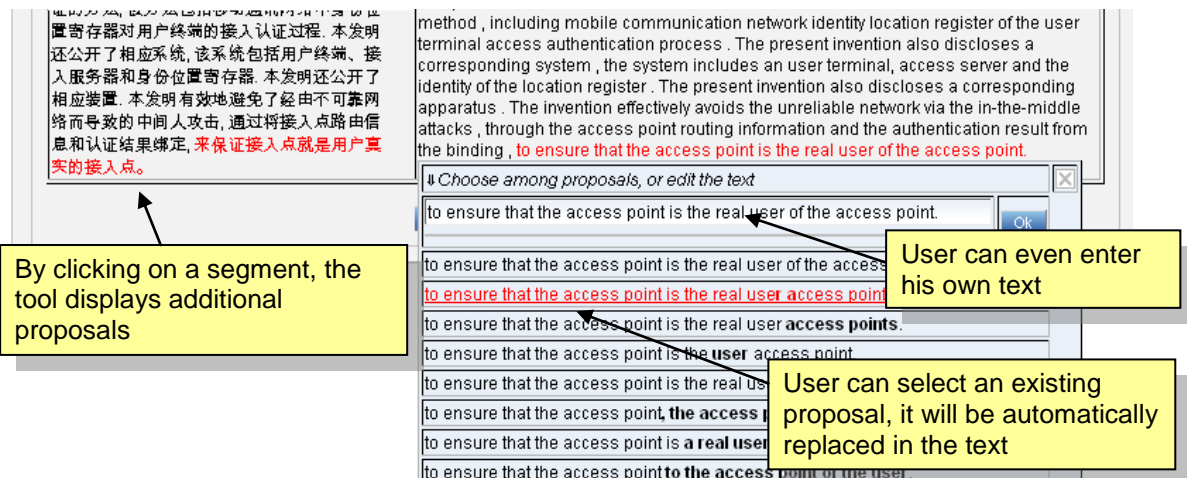
Hovering the mouse on the left highlights corresponding segment on the right (and vice-versa)

By clicking on a segment other proposals will be displayed. Selecting one of them will automatically change the output text.



Note that, when the text is long, parallel segments are highlighted in red, which helps identify which part of the source text is translated.

Clicking on the source or target text, allows the user to enter his own translation of the segment:



When the user wants more proposals for a particular phrase, he can select the source phrase, the phrase will be segmented from the rest of the sentence and more proposals will be displayed.

E.g. if the user wants to look for more proposals for “*torque pin*”, he first selects the phrase, waits a second and gets the following display:

The screenshot shows a text box on the left with the following text: "A rotor coupling (10) including a first member (12) rotatable about a first axis of rotation (14) and a second member (16) , engageable with the first member, and rotatable about a second axis of rotation (18). The rotor coupling (10) further includes at least one / **torque pin** / (24) for transmitting torque between the first and second members such that the first and second axes of rotation are allowed to respectively angularly vary during rotation of the rotor coupling." The phrase "torque pin / (24) for transmitting torque between the first and second members such that the first and second axes of rotation are allowed to respectively angularly vary during rotation of the rotor coupling." is highlighted in red. Below the text box is a button labeled "Edit translation". To the right, a window titled "# Choose among proposals, or edit the text" is open, displaying a list of suggestions: "broche d'entraînement de couple", "la broche d'entraînement de couple", "couple de broche", "un couple d'axe de", "couple d'axe de", "couple d'axe", "de couple d'axe de", "couple de goupille", "le couple broche", "couple broche", and "le couple d'axe de".

This functionality can also be used to further segment long sentences. In the example, the last sentence is too long for the tool to display good proposals, therefore we can select a phrase in the middle of the sentence to further split the sentence (e.g. by selecting “*for transmitting torque*”):

The screenshot shows a text box on the left with the following text: "A rotor coupling (10) including a first member (12) rotatable about a first axis of rotation (14) and a second member (16) , engageable with the first member, and rotatable about a second axis of rotation (18). The rotor coupling (10) further includes at least one / torque pin / (24) / **for transmitting torque** / between the first and second members such that the first and second axes of rotation are allowed to respectively angularly vary during rotation of the rotor coupling." The phrase "for transmitting torque / between the first and second members such that the first and second axes of rotation are allowed to respectively angularly vary during rotation of the rotor coupling." is highlighted in red. Below the text box is a button labeled "Edit translation". To the right, a window titled "# Choose among proposals, or edit the text" is open, displaying a list of suggestions: "pour transmettre un couple", "pour transmettre le couple", "pour la transmission de couple", "permettant de transmettre un couple", "destiné à transmettre un couple", "pour la transmission du couple", "servant à transmettre un couple", "destinée à transmettre un couple", and "servant à transmettre le couple".

When the translation is finished, do not try to copy and paste it from the right box straight away, you first have to click on “Edit translation” (this is due to a technical behavior that would otherwise copy all the alternative translations).

You will then be able to further edit the translation before copying it (Note that the “post-edited” translations are not currently used on WIPO Translate to retrain the system).

B. How to use it?

When you first enter a text, without further input and click on “translate“ the tool will try to guess the language pair from the text (note that it is not always accurate!) and try to guess the domain it belongs to.

How to set and use domains?

The system is trained on patents belonging to specific domains. It can use this information to resolve some translation ambiguities (e.g. the English word “rope” can be translated as “*corde*” – a textile rope - or “*cable*” – a metal rope- in French). You can specify the domain by yourself or let the tool guess it from the content. In any case, if you can’t decide between several domains, you can always change it afterwards and look at how the translations differ.

C. How does it work?

The tool has been trained using a corpus of patent title and abstract pairs translated by humans. It has also been trained on aligned descriptions and claims. It is based on Machine Learning techniques, which means it tries to reproduce phrase translations it has already seen during the training.

Therefore, the tool is specific to patent texts. It will not be accurate when translating any other kind of text (news, legal texts, conversations, etc.). The typical example is “I am”, which has never been seen in training data, therefore will be badly translated in any languages.

D. Short history

In the past (since 2009), the tool was using Phrase-Based Statistical Machine Translation (using the open-source “Moses”²), in 2016 WIPO experimented with Neural Machine Translation (“Nematus”³ /Amunmt”). Since September 2017, all models are based on Neuron Machine Translation, using the open source Marian⁴.

E. Remarks

Robots: You may be asked to enter a “captcha” (enter a text displayed on an image) to ensure that any user or program (robot) is not overloading the system. Do not use the tool with any automatic program to translate batch of texts, it will overload the system. An anti-robot system has been set up and any abuse will end-up in a black list.

F. Disclaimer

Be careful when using the tool: it should be used for information only. It may contain discrepancies or mistakes and does not have any legal value.

² <http://www.statmt.org/moses/>

³ <https://github.com/EdinburghNLP/nematus>

⁴ <https://marian-nmt.github.io/>

G. Bibliography

The system has been described in the following publications (chronological order):

- (2017) WIPO Translate: Patent Neural Machine Translation publicly available in 10 languages. Invited talk in PSLT 2017 workshop, Nagoya, September 2017.
https://www.researchgate.net/publication/320058012_WIPO_Translate_Patent_Neural_Machine_Translation_publicly_available_in_10_languages
- (2016) Practical use of machine translation in international organization. Invited lecture in Icon2016 conference, Varanasi, India, 19-20/12/2016. <https://lnkd.in/f9jTmBJ>
- (2015) Full-text Patent translation at WIPO: scalability, quality and usability, Workshop on Patent and Scientific Literature Translation (PSLT 2015), Miami, October 2015.
https://www.researchgate.net/publication/283508042_Full-text_Patent_translation_at_WIPO_scalability_quality_and_usability
- (2015) WIPO Translate: overcoming language barriers in patent information, *The European IPR helpdesk*, Bulletin no 17, April-July 2015, pp. 10-11,
https://www.iprhelpdesk.eu/sites/default/files/newsdocuments/IPR_Bulletin_No17_1.pdf
- (2014) Bruno Pouliquen: Patent Machine Translation (handling large data with Moses), keynote presentation at *Machine Translation Marathon*, 8-13/09/2014, Trento, Italy, [PDF presentation 39 slides, 1.2M]
http://statmt.org/mtm14/uploads/Main/PatentMT_MTM2014.pdf
- (2014) Marcin Junczys-Dowmunt and Bruno Pouliquen: SMT of German Patents at WIPO: Decompounding and Verb Structure Pre-reordering. In *17th Annual Conference of the European Association for Machine Translation (EAMT)*, 16-18 June 2014, Dubrovnik, Croatia, [PDF]
https://www.researchgate.net/publication/263099943_SMT_of_German_Patents_at_WIPO_Decomposing_and_Verb_Structure_Pre-reordering
- (2013) Bruno Pouliquen, Christophe Mazenc & Paul Halfpenny: Latest developments in machine translation at WIPO, *EPO- East meets West*, 18-19 April 2013, Vienna, Austria, [PDF presentation 14 slides, 590Kb]
[http://documents.epo.org/projects/babylon/eponot.nsf/0/27A72BD08630377DC1257B5F00434488/\\$File/9_wipo_pouliquen.pdf](http://documents.epo.org/projects/babylon/eponot.nsf/0/27A72BD08630377DC1257B5F00434488/$File/9_wipo_pouliquen.pdf)
- (2011) Bruno Pouliquen & Christophe Mazenc: Automatic translation tools at WIPO. *Aslib, Translating and the Computer* 33, 17-18 Nov 2011, London; 6pp. [PDF, 407Kb] <http://www.mt-archive.info/Aslib-2011-Pouliquen.pdf>
- (2011) Bruno Pouliquen & Christophe Mazenc: COPPA, CLIR and TAPTA: three tools to assist in overcoming the patent barrier at WIPO. *MT Summit XIII: the Thirteenth Machine Translation Summit* [organized by the Asia-Pacific Association for Machine Translation (AAMT), 19-23 September 2011, Xiamen, China; pp.24-30. [PDF, 896KB] <http://www.mt-archive.info/MTS-2011-Pouliquen.pdf>
- (2011) Bruno Pouliquen, Christophe Mazenc & Aldo Iorio: Tapta: a user-driven translation system for patent documents based on domain-aware statistical machine translation. [*EAMT 2011*]: *proceedings of the 15th conference of the European Association for Machine Translation*, 30-31 May 2011, Leuven, Belgium; eds. Mikel L.Forcada, Heidi Depraetere, Vincent Vandeghinste; pp.5-12. [PDF, 342KB]; [presentation](#), 15 slides [PDF, 1642KB]. <http://www.mt-archive.info/EAMT-2011-Pouliquen.pdf>

Tapta4UN (the same tool tailored for United Nations) has been described in the following publications:

- (2013) Bruno Pouliquen, Cecilia Elizalde, Marcin Junczys-Dowmunt, Christophe Mazenc & Jose Garcia-Verdugo: Large-scale multiple language translation accelerator at the United Nations. [MT Summit 2013], *Proceedings of the XIV Machine Translation Summit, Nice September 2-6, pp. 345-352* [PDF, 572KB]
<http://www.mtsummit2013.info/files/proceedings/main/mt-summit-2013-pouliquen-et-al.pdf>
- (2012) Cecilia Elizalde, Bruno Pouliquen, Christophe Mazenc & José García-Verdugo: TAPTA4UN: collaboration on machine translation between the World Intellectual Property Organization and the United Nations. *Aslib 2012 - Translating and the Computer* 34, 29-30 November 2012, London, UK; [PDF, 168KB], <http://www.mt-archive.info/Aslib-2012-Elizalde.pdf>
- (2012) Bruno Pouliquen, Christophe Mazenc, Cecilia Elizalde, & Jose Garcia-Verdugo: Statistical machine translation prototype using UN parallel documents. *EAMT 2012: Proceedings of the 16th Annual Conference of the European Association for Machine Translation*, Trento, Italy, May 28-30 2012, ed. Mauro Cettolo, Marcello Federico, Lucia Specia, Andy Way; pp.12-19, [PDF, 251KB], <http://www.mt-archive.info/EAMT-2012-Pouliquen.pdf>

The same software has been installed in other UN agencies (ITU, IMO, FAO etc.):

(2015) Bruno Pouliquen: SMT in various United Nations agencies, Machine Translation Summit, Miami, October 2015; https://www.researchgate.net/publication/283508669_SMT_in_various_United_Nations_agencies

(2015) Bruno Pouliquen, Marcin Junczys-Dowmunt, Blanca Pinero, Michał Ziemiński, SMT at the International Maritime Organization: Experiences with Combining In-house Corpora with Out-of-domain Corpora. Proceedings of EAMT 2015 conference, Antalya, Turkey, May 2015; https://www.researchgate.net/publication/276885856_SMT_at_the_International_Maritime_Organization_Experiences_with_Combining_In-house_Corpora_with_Out-of-domain_Corpora