

# Patent translation in the Middle East

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Over 800 US patents are granted on average per day according to recent trends, and more than half are of foreign origin. Patent laws are vital to economic growth and human innovation; they guarantee an inventor the exclusive right to sell and profit from his or her product for a set amount of time, which is often what makes the investments involved in researching and creating it possible.

Pharmaceutical patents are of particular importance because they incentivize the development of new medicines, drugs and vaccines. Every country has different patent laws and application requirements, so an inventor must apply for a separate patent in every country in which he or she intends to sell a product. US business with foreign countries has expanded exponentially in recent years – the number of US utility patents (including pharmaceutical patents) granted to foreign inventors or companies has risen by over 200% in the past two decades and currently exceeds those granted to domestic inventors (Figure 1). The rising globalization of new products and ideas means that the patent translation industry is also increasingly in demand.

This growth is particularly marked in US trade with the Middle East. In the last 20 years alone, the number of US utility patent grants originating from Arabic speaking countries has skyrocketed by over 3,000% – from just 12 patents in 1993 to 412 in 2013 (Figure 2). Most of this is driven by Saudi Arabia, although Kuwait, Egypt and the United Arab Emirates (UAE) also contribute a significant percentage. The business goes both ways: not only are Middle Eastern companies increasing their product sales and business roots in the United States, but US business in the Middle East and North Africa region is expanding more rapidly than in any other part of the world. US commerce with the Arabic-speaking world grew by more than 17% between 2011 and 2012 alone. The UAE was the top US business partner in the region that



Figure 1: US utility patent (or "patents for invention") grants in 2013.

year, increasing imports by an astounding 41.9%. Pharmaceutical sales also constitute a very important percentage of that growth: US pharmaceutical sales in the UAE alone rose from roughly \$26 million in 2002 to almost \$160 million in 2010. The English-Arabic patent translation industry is starting to expand along with this meteoric rise in trade between the United States and the Middle East, due to increased patent requirements to produce new medicine in different markets under the license of big pharmaceutical companies.

Pharmaceutical and chemical patents are classified as utility patents by the United States Patent and Trademark Office. A standard US utility patent is generally 10,000 to 20,000 words long, with some patents of up to 80,000 words in length, and includes a set of claims, a description of the invention or product, a declaration that the filer of the patent believes that they are truly the original inventor of the idea, a detailed drawing of the



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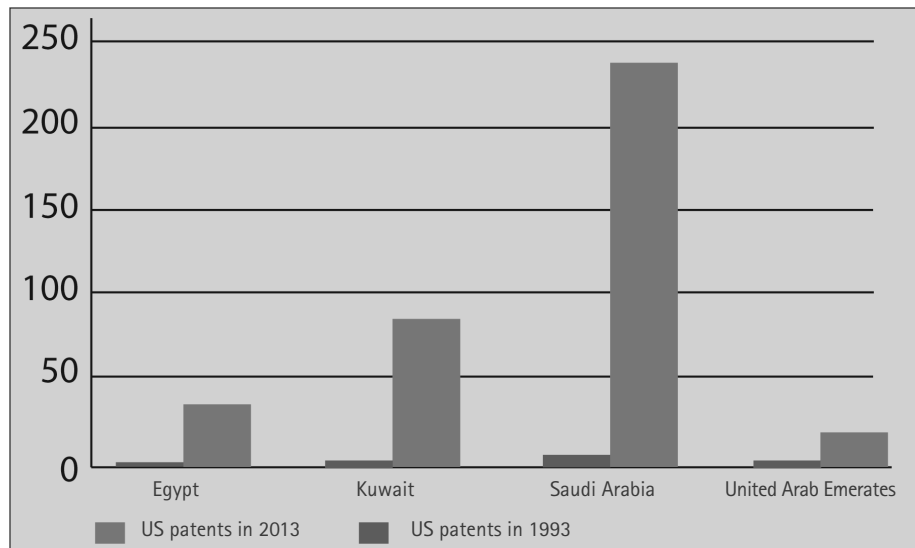


Figure 2: In 20 years, US patent grants originating from Arabic-speaking countries have gone up by over 3,000%.

invention (in the case of a pharmaceutical patent, this would most likely be of a new compound's chemical structure), an abstract summarizing the entire patent and a filing fee. The claims are the most important component of a patent application, as they define the invention and, if granted, serve as the legal reference for issues of patent validity or infringement. The decision whether or not to grant a patent application is also largely determined by a thorough examination of the claims.

The language of a patent must be extremely precise and detailed to ensure

clarity and proper legal protection, so inventors will often hire a patent attorney to help them write the patent application. Other suggested best practices to assure accuracy are the inclusion of a glossary to define potentially ambiguous terms, and even designating a dictionary so that the intended definition of every word of the patent is clear. Less than half of the patent applications filed in the United States last year were granted. Although several of the applications were rejected because the original claim was not patentable, many patent applications are also rejected because

of mistakes, missing parts or ambiguities in the language that can cause the patent examiner to wrongly interpret the claims.

Writing a legally, scientifically and technically accurate patent application is complicated enough, but a further dimension is added when inventors hope to market their products worldwide. To use or sell inventions such as medicines internationally, inventors or companies need to apply for a patent in the country they plan to do business with, which means that their patent application must be translated and localized. For example, a Saudi Arabian company hoping to expand its business to the United States would have to apply for a US patent for its product, meaning that its original patent application would have to be translated into English and localized to the correct legal format.

This is no simple task — patent translation requires extreme accuracy, as even small mistakes or slight misinterpretations could compromise the scientific, intellectual, and legal integrity of the invention. Fully qualified patent translators should not only have several years of legal or patent translation experience and fluency in both the source and target languages, but also formal training or an advanced degree in a field related to the patent. For pharmaceutical patent translation, this would mean advanced studies or significant experience in medicine or

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chemical engineering. Additionally, patent translations should go through a very experienced proofreader who also has advanced knowledge of the field, to ensure that the document is linguistically, grammatically, mathematically and scientifically accurate. Glossaries also become more important as a best practice in patent translation, as key terminology throughout the patent must be correct and consistent.

Chemical and pharmaceutical patent translation, particularly between Arabic and English, can be especially complex. The International Union of Pure and Applied Chemists, a standardizing body for organic chemistry, publishes its original standards in English. This means that the international standard incorporates English writing conventions that may not exist in other languages, such as white space and capitalization. For instance, "Co" denotes the element Cobalt, whereas "CO" represents the compound carbon monoxide. Arabic, unlike English, does not have capital letters as a part of its alphabet. This complicates the translation process and necessitates extreme attention to detail, as well as a translator and proofreader with advanced knowledge in the field.

Another complicating factor is that Arabic and English do not share the same letters and sounds. Transliteration of chemical compound names is vitally important even when translating between languages that share the same alphabet and roots, and even between different dialects of the same language. For the sake of simplicity, we show here an example in the Portuguese language instead of Arabic: ethyl acetate is translated as *acetato de etilo* in European Portuguese, but as *acetato de etila* in Brazilian Portuguese. Transliterating between languages that do not share an alphabet or a root system adds several more layers of complexity. Many scientific terms such as compounds and biological species names are originally Latin, not English. Thus, the translator must be familiar with those compounds that need to be either translated or transliterated versus other compounds that should neither be translated nor transliterated. A knowledge of chemical transliteration conventions in both the source and target languages is paramount. One mistake could turn years of hard work, resources and creativity into a meaningless jumble

of letters, or could cause significant and unnecessary delays in the patent application process, leading to a loss of business or an additional waste of resources.

Computer assisted translation (CAT) tools can be very useful for the legal language of patents, as these rely heavily on literal translation. However, machine translation and spelling correction software are not ideal when translating uncommon words, or words that contain unusual letter sequences, such as chemical compound names like chloroxylonol. When translating between English and Arabic, CAT tools may also often cause formatting issues. These are easily rectified in most translations with regular semantic structure, but they can be virtually destructive when translating things such as bonds or chemical structural formula symbols in a patent translation. In particular, this requirement to constantly alternate between writing directions – left to right for English and right to left for Arabic – demands the translator's

attention to retype the segments of a compound when it is composed of Arabic transliteration, Western and Greek letters and numbers.

There is great opportunity in the translation of intellectual property documents between the English and Arabic speaking worlds. With the rise in economic and intellectual exchange between the United States and the Middle East, a steady increase in demand for translation between the Arabic and English languages of intellectual property literature is occurring. Using the example of pharmaceutical patents, we have highlighted the highly specialized, multidisciplinary skills required to translate patents and other intellectual property literature, which make Arabic-English patent translation a highly specialized field, though one that is starting to develop more as demand grows. As the industry continues to advance, it will hopefully continue to also fuel a greater mobility of inventions and ideas across the globe. **M**

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