



Report on EPO Patent Knowledge Week

The European Patent Office (EPO) has recently held many online conferences but the real highlight has been the Patent Knowledge week. There were three full days on 28-30 November discussing AI, the EPO's new tools, data on the first few months of the Unified Patent and Unified Patent Court (UPC),

The overwhelming theme was AI and how it is changing the patent system and profession. There is a huge amount of data associated with millions of patent filings and AI is rapidly unlocking a broader and more in-depth understanding of the patent landscape. Here were some of my favourite parts of the event. If you want to watch any part of it, the recordings are available on Youtube.

New EPO Tools

The EPO was keen to show off its new tools, the AI-powered CPC text categoriser and the Deep Tech Finder. The CPC categoriser uses a transformer model (like ChatGPT) to work out what patent classification codes (CPC symbols) are associated with the text provided to it. The Deep Tech finder is a map searching tool that allows you to find European startups that have European patent applications.

Head of Data Science at the EPO, Alexander Klenner-Bajaja, gave a presentation on the underlying training and work used to develop the model. Initially they trained a BERT model to fill-in-the-blanks on English claim language: "A method of [BLANK] a widget". They then trained it to "fill-in-the-blanks" a CPC symbol to the claim language in the same way.

The categoriser works for English, French, and German text but was only trained on English claims as this seemed to provide the best results. The tool relies on machine translation of input text into English to achieve categorisation but this apparently shows

no reduction in accuracy. It's quite amazing how reliable machine translation has become.

Alexander presented an interesting anecdote of the quirks of the system. [EP4147606A1](#) describes a "locking assembly, drawer assembly, and a storage cabinet". The CPC analyser picks up on the keywords and places the application in E05B65/46 for locks (or fastenings) for drawers. However, a human examiner reviewing the application took a nuanced approach and determined that it was really relating to a latch system for a drawer in a fridge and so classified it in A47B. However, patent classification clearly is somewhat subjective as the Chinese Patent Office took the same approach as the AI, putting a related Chinese application in E05B65.

Ilja Rudyk, Senior Economist at the EPO, showed off the Deep Tech Finder, part of a broader initiative at the EPO called the [Observatory on Patents and Technology](#). The Deep Tech Finder shows a map of European startups with European patent application which you can search and filter to find startups in particular sectors. It also allows you to search by investor, which I found interesting for looking what startups are supported by UK government investment funds like the UK Future Fund. It is hoped that this tool will help investors to identify European startups with IP protection more easily.

A real theme through the event was highlighting tools that leverage patent data in combination with other data sets. The Observatory is particularly set up to highlight innovation in technical areas crucial to sustainability such as [Firefighting](#), [Clean Energy technology](#), and [Coronavirus-related technologies](#).

The EPO also showed off the new [IPscore 3.0](#), a sophisticated grading tool based in Excel which can be used to help value a patent portfolio, particularly that of a small and midsize enterprise (SME). Having a brief look, it does a good job of highlighting both the patent information and business information needed to value a patent.

While not new, the EPO also highlighted its [Unitary Patent Dashboard](#), which shows stats on European Patent with Unitary Effect. The presenters mentioned that around 25% of new European patents have been validated with unitary effect, since the introduction of the new system on 1 June 2023; the majority of uptake being from SMEs

It's great to see the EPO adopting technology to improve the patent system and particularly access to the patent system.

The Impact of AI

The other main topic was how AI has and will affect the work of those working in this field, whether patent professionals or patent analysts.

In the first day, there was a panel discussion on the impact of AI on applicants, searchers, and IP authorities. The general view seemed to be one of cautious optimism and excitement. Tools like Added Matter will improve the efficiency of patent work, which should reduce costs and thereby improve access to the patent system. They also discussed the risks and challenges such as concerns over how AI tools will use your data, how competent they are at performing patent attorney tasks, and the risk of “hallucinations” where AI models invent new information and disinformation. There was emphasis on how AI augments the work of individuals, rather than acting on its own. It’s a tool that may help us with our work and that we should not be worried about Artificial General Intelligence for now.

With the power of new AI tools to analyse text quickly developing, the patent analysis industry is going to see a huge boon over the coming decade. Reference was made to a report by Fortune business insights that said the current value of the patent analytics is estimated to be around \$1B at present, and is expected to grow to \$2.3B by 2030, a 13% annual growth rate.

Governments, businesses, investors, and researchers are all increasingly interested in analysing patent data so as to make better strategic decisions. No doubt AI will push this growth as larger amounts of analysis can be performed by machines. While perhaps some of this growth will be at the expense of work traditionally done by patent attorneys, there should be a rise in the overall willingness to perform patent analysis as the cost is reduced by automation.

Christopher Harrison, Patents Analytics Manager at WIPO, highlighted though that an increasingly important part of data analysis is storytelling. We can organise and present data with increasing efficiency and AI can really assist with this work but AI is not yet at a stage where it can readily tell the story of what the data means. ChatGPT’s capabilities are a step in the right direction but there is still plenty of value of applying a human element to the output of such to better inform decision makers.

The panel discussion on the third day brought some interesting discussions on AI as well. There was a consensus that this technology is very exciting but users need to be quite cautious. To do expert work, users still need to be experts, because AI models are not yet reliable enough when the cost of failure is massive. Brian King emphasised that Clarivate had used AI for years but nonetheless Clarivate’s clients very much valued the human annotation and curation of data. They felt that AI was not ready to replace the expertise of

patent analysts and the annotation work they do. Similarly, Thorsten Rohde of CAS expressed that AI is valuable but there is a lot of value in understanding the most complex information found in chemical patents, that AI is not yet ready to analyse.

Andrew Samm of Patently took a more hopeful view, comparing generative AI to AI technology used in patent classification and to machine translation, and how these technologies were initially untrustworthy but have increasingly integrated parts of our approach to work.

The panellists also expressed that AI is particularly useful for bridging the gap between a user question and a coding query, so the user doesn't have to learn the syntax to interact with a system or database.

The Unified Patent and Unified Patent Court (UPC)

The UP and UPC has been talked about extensively at all of the recent EPO conferences and the consistent message is that the new system has been a success so far. The Patent Knowledge week focussed more on the systems that can be used to access UPC data and to discuss the statistics on UPC filings. So far around 16,000 requests have been received for European patents with unitary effect with around 100 requests being filed every day. German and US applicants have been some of the most common users of the new system. The [UP Dashboard](#) mentioned above is the best place to check out this information.

A lot of technical information was presented at the start of the second day on how to use the EP register, the UP register, and the UPC systems to obtain data on cases which you should check out if you want to perform detailed searches for unitary patents. I learnt that "Yes" is a valid input for many of the date fields on the EP register!

Sign-off

In general, the Patent Knowledge event was a real highlight amongst the EPO conferences because it had the time to really delve into the detail and to talk about interesting topics. I look forward to next year!