In those jurisdictions where proof of first use is required, Blockchain could be used to create a time-stamped cryptographic record of a trademark that could then serve as proof of first use. In those jurisdictions requiring registration, the central authorities responsible for trademark registration could choose to take advantage of the immutable and transparent nature of blockchain technology to enhance registration and management of IP rights.

Although some IP offices, such as EUIPO, are allegedly looking into using Blockchain to record and enforce IP rights (Mertens, 2018b), the migration of government agencies to a blockchain-based system will not happen overnight. In the meantime, startups are stepping in, at the risk of creating confusion and potential conflicts between two different types of registration (Monteleone, 2018). In the United States, the startup Cognate, <sup>54</sup> for example, is using Blockchain to issue "chain marks" – in lieu of trademarks. Companies can upload proof of trademark use and other information about their mark. After review of the documentation, the company registers the mark as a "chain mark". The process is quick and fast: it only takes one day and costs approximately US\$ 40, while registration to government agencies such as the United States Patent and Trademark Office (USTPO) or EUIPO can take up to 12 months, with much higher fees (Mertens, 2018b).

Such initiatives raise the question of the legal status of trademarks' "registration" through permissioned blockchain-based platforms in case of litigation. Such registration could be useful to prove first use, but will these "chain marks" be enforceable in courts, in the same way that trademarks are? Will they offer the same level of protection as traditional trademarks? Should existing rules be adjusted to take account of these new developments? These issues will need to be considered; the disruptive potential of blockchain technology is likely to keep IP lawyers and regulators busy in the years to come.

## (iii) Patents

Blockchain could also facilitate patent registration. A patent is a legal right granted by a national or regional patent office for a certain period of time – at least 20 years – to an inventor who has created something new, which involves an inventive step and that can be industrially applied. Patent applications are handled at the national or regional level by some 200 patent offices, some of which are already investigating the potential of Blockchain to help them streamline their activities (Mertens, 2018a). Beyond the institutional use of Blockchain by official agencies, inventors could use the technology to record a hash\* of the patent description on the blockchain, which could then be used as the first step in the patent application process (Boucher, 2017).