How can Blockchain revolutionize the proof of existence of IP assets protected by an unregistered IP rights worldwide?

« Innovation is the central issue in economic prosperity¹. »
Michael Porter

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¹ https://www.forbes.com/sites/strategyand/2015/11/16/innovations-new-world-order/#696719503ba0
ABSTRACT

The purpose of this document is to explain how Blockchain can revolutionize the proof of existence of IP assets worldwide.

We strongly believe that Blockchain technology can reinforce the actual protection that IP assets may benefit from.

In the digital world, our main objective is to significantly improve the quality of IP assets’ proof of existence, in order to ensure their protection via unregistered IP rights.

We would like to share this conviction with as many contributing firms as possible and with a lot of supporters such as companies, professors or universities, on a global scale.

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1. Introduction

“By striking the right balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish”.

Intellectual property rights are divided into two categories: registered and unregistered rights.

Registered IP rights include:

- **Patents**, for inventions that meet the following criteria: a subject matter that is patentable, novel, involving an inventive step and capable of industrial application;
- **Trademarks**, for any word, name, symbol, or design, or any combination thereof, used in commerce to identify and distinguish the goods of one manufacturer or seller from those of another and to indicate the source of the goods;
- **Designs**, for the appearance of a product, in particular, the shape, texture, color, materials used, contours and ornamentation. To qualify as a new design, the overall impression should be different from any existing design.

A recent European study (OEB/EUIPO October 2016) highlighted a link between the economic development of a company compared to its possession of registered Intellectual property rights (i.e. patent, trademark and design) and concluded that the more a company owns registered Intellectual property rights, the more it performs. Unfortunately, this study did not include the impact of unregistered Intellectual property right, but it is more than likely that the assessment would be the same. Actually, unregistered Intellectual property rights may also have an important impact on companies’ economic development. These rights protect creation and innovation, which represent fundamental tools for the modern economy as they ensure technical progress and productivity.

Unregistered IP rights include:

- **Copyright**, for any creation as long as the latter is original. The Berne Convention for the Protection of Literary and Artistic Works (hereinafter: “the Berne Convention”) institutes three funding principles among which the principle of automaticity, which means that an author benefits from copyright protection from the moment he created his work, and this protection must not be conditional upon compliance with any formality. This principle has been echoed in numbers of national laws. Neighboring rights are also included within copyright.

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3 [https://www.law.cornell.edu/wex/trademark](https://www.law.cornell.edu/wex/trademark)
4 [https://www.copyrightservice.co.uk/protect/p15_design_rights](https://www.copyrightservice.co.uk/protect/p15_design_rights)
6 “Such industries (i.e., IPR-intensive industries) accounted for 39% of the EU’s economic output and 26% of employment during the period 2008-2010, attesting to the value of IP to the European economy”
7 [https://www.alternatives-economiques.fr/role-joue-linnovation/00064783](https://www.alternatives-economiques.fr/role-joue-linnovation/00064783)
9 The Rome Convention (26.10.1961) ensures the protection of Performers, Producers of Phonograms and Broadcasting Organizations.
• **Unregistered design**, for the shape or configuration of a marketable (or potentially marketable) product\(^{10}\).

• **Trade dress** (especially in the United States and in the United Kingdom, this right is not recognized worldwide), for any design that is distinctive and not functional;

• **Trade secrets and know how**, for any information as long as the latter is secret, has a commercial value and has been subject to reasonable protection. Actually, the Agreement on Trade-Related Aspects of Intellectual Property Rights\(^{11}\) (hereinafter: “the TRIPS Agreement”) considers those rights as being “trade related to Intellectual property rights”. In this way, they benefit from the protection of unregistered Intellectual property rights. Also, the Defend Trade Secret Act in the United States\(^{12}\), and the Directive (EU) 2016/943 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure\(^{13}\), link trade secrets and know how with Intellectual property rights, with a similar legal regime.

• **Trade names**, for any name which manufacturers give to a product or to a range of products\(^{14}\).

When it comes to the proof of existence of registered rights (i.e. proof of the identification of the right itself (1) and its dating (2)), there is no real legal issue because the right will be materialized by an official dated title, e.g. a patent certificate, a trademark certificate or a design certificate. This statement does not prevent the possibility that the validity of these registered rights may still be challenged before a registration Office or in front of a Court. However, the complexity of the proof of existence is particularly true in the case of unregistered IP rights, the latter not being, by definition, materialized by any title. In this way, the existence of these unregistered rights can only be assessed through the existence of the asset they protect, both of them being intrinsically linked. In order to prove the unregistered IP right, the proof of existence of the asset must be ensured.

The establishment of the proof is crucial not only during a litigation but also in the normal course of business life (e.g. in license agreement, assignment contract etc.) or in defensive IP actions. It is even necessary in order to ensure the financing of a company. Actually it is very common for a bank, a business angel or an investment fund to determine their support to a company depending on the justification by the latter of measures taken in order to ensure the protection of its IP assets and in this way, preserve their rights.

In the light of the above, we will therefore demonstrate in this White Paper that Blockchain technology could be truly useful to protect creations or innovations by ensuring the effectiveness of unregistered IP rights. In this way, this White paper offers 3 statements that will lead to the conclusion that a new form of protection of these IP assets could be very useful. First of all, companies may face many risks of misappropriation when it comes to IP assets and especially those protected by an unregistered IP right (2.1). Also, the favorable legal framework that unregistered rights benefit from has sometimes led companies to a certain form of decreased vigilance when ensuring the proof of existence of their IP assets (2.2). Added to that, the various methods used by companies all over the world to establish this proof

\(^{10}\) [https://www.copyrightservice.co.uk/protect/p15_design_rights](https://www.copyrightservice.co.uk/protect/p15_design_rights)


\(^{14}\) [https://www.collinsdictionary.com/dictionary/english/trade-name](https://www.collinsdictionary.com/dictionary/english/trade-name)
are, unfortunately, not designed for the digital world (2.3). Following these different assessments, it appears that Blockchain technology can revolutionize the proof of existence of creations and innovations (3).

2. The existing protection of Intellectual property assets is not fully satisfactory, in a digital economy

Companies face many risks of uncontrolled disclosure or even diversion of their creations and innovations, which is a situation that is not uniformly grasped by every legal system. This situation sometimes led them to use certain types of proof of existence that are not suitable for the digital economy.

2.1. Statement n°1: Companies often risk to see their creations or innovations misappropriated, especially those benefiting from an unregistered IP rights

The need for legal protection is high in the Intellectual property field. Since IP can represent such valuable assets, it attracts a lot of attention…

In fact, companies may face a lot of classical risks such as unfair competitors, infringers, industrial spies, patent or copyright trolls,15 indelicate former employees or business partners. Let’s take an example: if a company develops a manufacturing method protected by a trade secret and decides to give it to a manufacturer for a specific order. In this case, there is a high risk that this manufacturer could take this method and use it for another client, after the execution of the order. It can also be the case of an employee who, without malice, posts on Instagram a jewelry drawing, in development by its employer, in order to share it with his friends, before the official launch of the corresponding jewelry. Classical remedies, such as specific contractual clauses or agreements (e.g. non-disclosure agreement, exclusivity undertakings etc.), may not be enough to secure the right of the IP holder.

Beyond those classical risks, there also are growing risks that are linked to the development of the digital world, particularly cyberattacks and hackers.16 Consequently, if there is an unauthorized disclosure of, for instance, a trade secret, this asset doesn’t have a value anymore. In this way, whenever there is a breach of confidentiality, the information loses all or part of its economic value and consequently one of the conditions required to get legal protection.

Also, there may be an uncontrolled disclosure of the creation or innovation before its official launch that could significantly affect its attraction or create a serious loss of profit. This situation happens more often than we might think. In 2011, in New York City, a man has been sentenced to a year in jail for having uploaded a working version of the movie X-Men Origins: Wolverine, 15 Patent and copyright trolls usually refer to non-practicing entities which obtain a patent or a trademark, whose legal soundness is generally unsatisfactory. They then sue or threaten to sue companies using such patented or copyrighted assets. Most of the time, sued companies prefer reaching an agreement rather than spending a considerable amount of money in a patent or copyright litigation. In this way, even though these practices are not strictly speaking a misappropriation, they remain abusive.

16 To enhance this observation, it has to be noted that in 2016, the total amount of cyberattacks’ gains was 2.500 billion dollars – see: http://www.lepoint.fr/high-tech-internet/la-bonne-fortune-des-hackers-12-01-2017-2096615_47.php
one month before the movie’s release\textsuperscript{17}. In 2014, Madonna has also been victim of hacking, several demos having been published on the Internet\textsuperscript{18}.

However, these risks (i.e. unauthorized disclosure and diversion) concerning unregistered Intellectual property rights could also affect registered rights. In fact, an innovation can become a patentable invention; a drawing can become a trademark or a registered design, etc. Before obtaining a formal registration, any registerable IP asset is an unregistered IP asset and benefits from the protection of the latter. In this way, to ensure the protection of a registerable IP asset, there is a need to ensure the protection of its former legal form, i.e. unregistered IP right, through the protection of the IP asset from the date of the creation/innovation. Special attention must be given to the period preceding the disclosure of the information that is kept secret, whether it is an unregistered Intellectual property right (i.e. trade secret, know how) or an aspiring registered Intellectual property right. Furthermore, there is a risk that disclosure would not be controlled or that the inventor or the creator would lose his paternity over the asset, due to the fact that ownership is more complicated to evidence without the help of a title.

2.2. Statement n°2: A specific legal framework for unregistered IP rights has sometimes led companies to consider that further protections were not needed

The actual legal regime is extremely favorable to the protection of unregistered IP rights. As explained above, the Berne Convention provides an automatic protection of an author’s work. No registration is needed. Consequently, all the companies that are located in the 176 contracting States of this Convention, plus the members of the World Trade Organization (164 contracting States) that are not part of the Convention, according to the TRIPS Agreement, can benefit \textit{ab initio} from copyright protection. As for trade secrets, they are also protected automatically (i.e. no formalities needed) under specific conditions\textsuperscript{19}.

Despite a significant harmonization at a worldwide level (e.g. with the Berne Convention) or at regional level (e.g. with the Directive (EU) 2016/943 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisitions, use and disclosure), disparities remain. For example, some countries have a broad conception of what can be copyrightable, whereas others do not. Also, some countries, such as France or Germany, do not have a closed list of copyright works, which means that there is no limitative list of what can be copyrightable, contrary to the United Kingdom\textsuperscript{20}. However, even among countries sharing similar systems, there still may be disparities. In this way, a dress could be protected by copyright in France while in the United States it would be harder to obtain such protection for the same work.

Beyond these disparities, it is still a global assessment that most of the legal regimes represent a very favorable legal framework. This assessment is particularly true when considering copyright protection. In fact, even though

\textsuperscript{17} https://www.cbr.com/x-men-origins-wolverine-uploader-sentenced-to-one-year-in-prison/
\textsuperscript{18} https://www.theguardian.com/music/2014/dec/18/madonna-new-music-leak-terrorism-iconic
\textsuperscript{20} http://www.wipo.int/wipo_magazine/en/2014/03/article_0007.html
some conditions need to be met so that an unregistered IP right may benefit from this broad framework, no formalities are required. However, the issue that might arise from these privileges is that some companies might think that they are sufficient to protect their assets, and would therefore not take any further steps to protect them.

This assessment can be verified when a company undergoes an internal audit before an acquisition or a merger. During the due diligence process, IP lawyers often notice that there is a clear dichotomy between registered rights, which are perfectly listed and unregistered rights, which are often hard to gather. In this way, companies rely on these systems and sometimes forget to identify and protect their unregistered IP rights and when they do, they often use traditional types of proof, that may be useful but not always fully satisfactory.

2.3. Practical overview of the existing methods of establishment of the proof of existence of creations or innovations

The automatic protection (i.e. no formality required), that unregistered rights benefit from has led companies to let their guard down when it comes to the establishment of the said rights.

Most of the time, companies follow what we could call “good practices”, varying from one country to another:

- A bailiff’s report, often used in France;
- A notarial deposit, more frequent in Switzerland;
- A deposit to an author’s society, such as PRS (Performing Right Society) and MCPS (Mechanical Copyright Protection Society) in the United Kingdom or the Society of Authors Composers and Publishers of Music (SACEM) in France;
- A private company, for instance the UK Copyright Service, in the United Kingdom;
- The official national Copyright Office following a system of voluntary registration. They are not compulsory but represent a great help for enforcement purposes. There is the Copyright Protection Center of China (CPCC), authorized by the National Copyright Administration of China (NCAC), in China; the Indian Copyright Office in India and the US Copyright Office, in the United States. These registrations are not prerequisite to get copyright protection; but are another way to prove their rights.

Even though, these methods are very useful and satisfactory, they were not really designed for the digital world. They are indispensable but may be completed by methods that may be more internationally oriented and flexible.

However, companies do not always use these “good practices” upstream and often realize the importance of proving their rights, without forecasting enough, just before or in the course of litigation. In this way, when a litigation

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E.g. a trade secret is an information which meets all of the following requirements:
(a) it is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; (b) it has commercial value because it is secret; (c) it has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret (Art. 2 (1) of the Directive (EU) 2016/943 08.06.2016).

https://www.sacem.fr/
https://www.copyrightservice.co.uk/register/
starts, companies may prove the existence of their asset (and in this way invoke their unregistered rights) with any business document they have, such as:

- Dated drawings and sketches;
- Dated correspondences;
- Dated catalogues containing the creation that can be corroborated by invoices relating to the creation of catalogues;
- Photographs taken at trade fairs;
- Invoices sent to retailers or distributors;
- Documents proving that the creation was disclosed under the owner's name (dated press articles, third-party blogs);
- Marketing and advertising materials invoices;
- Loose sheets etc.

These combinations of business documents are inevitably imperfect because they only ensure a gathering of heteroclite information which constitutes a simple overall view. They only establish a late and incomplete proof, with no certain date.

Following these assessments, we will see in 3. how Blockchain can improve significantly the proof of existence of IP assets.

3. How can Blockchain technology revolutionize the proof of existence of creations and innovations?

In October 2017, Francis Gurry, WIPO Director General, stated that Blockchain technology will play a key role in the proof of existence of creations and innovations benefiting from an unregistered IP right. “A traditional function of IP offices is to maintain a public record of property rights in relation to knowledge, technology and cultural works. While blockchain technology, for example, may increase the system’s efficiency and security, it will do so by means of a private technology rather than a public register.”

As a preliminary remark, blockchains can be private, public (e.g. Bitcoin, Ethereum, Hyperledger etc.) and even hybrid (e.g. Consortium). For the purpose of this White paper we will only consider the Bitcoin Blockchain because there is a quasi-consensus on the fact that the latter is the best suited for Intellectual property registrations.

The Blockchain technology is an electronic network that involves a peer-to-peer architecture. It is a vast public registry that groups transactions into blocks, each block containing information relating to the previous block. Thus, it is impossible to modify one block, because it would change the entire chain. Everyone can download the entire Blockchain and verify its integrity at any time, which means that this control is decentralized.

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26 [https://www2.deloitte.com/fr/fr/pages/services-financier/articles/blockchain-panorama-des-technologies-existantes.html](https://www2.deloitte.com/fr/fr/pages/services-financier/articles/blockchain-panorama-des-technologies-existantes.html)
The Blockchain ensures a registration and an authentication and offers many advantages such as:

- **Transparency**, the evidence is independently verifiable at any time by anyone with the Bitcoin Blockchain technology with open source tools.
- **Tamper-proof and secure**, the evidence is simultaneously recorded on the different "nodes" of the network, making it almost immutable.
- **Simple and fast**, the Bitcoin Blockchain generates proof of existence simply and quickly, without the need of a trusted third party.
- **International by design**, it is international by nature: it uses a computer protocol, which is the same in every country of the world.
- **Confidential**, the creation or innovation is not disclosed to anyone, even when the corresponding footprint is calculated and inserted in a Bitcoin Blockchain transaction.
- **Adaptable and flexible**

Because Blockchain technology is a digital tool, it can be adapted to a large variety of situations, such as collaborative innovation or collaborative creation. Also, it allows an ongoing protection for creations of any format and could evidence the existence of an IP asset from the very beginning of its creation.

**Blockchain technology and collaborative innovation or collaborative creation.**

Nowadays, people working in different sectors have to collaborate because innovations are more and more complex, and require the gathering of different data and specific knowledge. Hence, many creations are made thanks to the collaboration of different entities through, for instance, consortium agreements: research laboratories, research centers, universities, companies from different sectors etc.… Considering this, there is a strong need to ensure traceability of each participant’s contribution to the collaborative process. As collaborative economy is likely to spread, economy is going to grow because this process tends to extend the value of existing assets and creates value through new capabilities."30.

**Blockchain technology and a “step by step” protection.**

Thanks to its flexible nature (i.e. the simplicity of a drag and drop system) Blockchain technology also offers a real ongoing protection, on a day to day basis, whereas traditional modes of proof are only aimed at proving

the existence of an achievement at a specific time, but not the process of creation.

Example: the process of an every-stage registration of a jewelry evidence of design.

Therefore, Blockchain technology is a relevant choice in order to get protection of a registered or unregistered Intellectual property right. In fact, using Blockchain technology as a mode of proof will be a way to introduce a new philosophy of proof and ensure the authenticity of real time-stamped information. With this system, there will be an ongoing protection, each anchoring being a new chapter of a book. Not only the proof of existence of the creation itself will be evidenced, but also the proof of the creative effort (the draft which have been kept, the one which has been put aside, etc.).

**Blockchain technology could ensure the protection of any technical format.**

The Blockchain can register any format of digital documents such as 3D format, PDF format, augmented reality creation format, combination of data and software etc. This flexibility is very useful in the digital world.

**Blockchain technology could also strongly help to prove the origin of the right.**

Even though Blockchain is already most commonly used for the creations or innovations’ proof of existence, it could also help to prove the paternity thanks to the electronic signature. Indeed, the electronic signature placed on the anchored document is another indication of the identity of the creator and consequently of the most likely owner of the rights on the creation or innovation. However, ownership is deduced from various factors and cannot be proven at 100% since the hypothesis of fraud remains possible, as with any type of proof.

- **Cost-effective**, the operating costs are very low. In fact, the Blockchain Bitcoin technology runs as an open source technology, which explains the low cost. Open sourcing is an effective approach in order to democratize the proof via this technology and ensure a wide spreading of the Blockchain Bitcoin technology among young start-ups, inventors and creators. Also, operative costs are not impacted by the exchange rate of Bitcoin crypto-currency because electricity and equipment costs of miners, which relate to the transaction, are paid using FIAT money. Further, it is possible to combine several prints into one single print (as a tree structure), which thus makes it possible to obtain proof whose implementation costs are close to zero.
It has to be kept in mind that a Blockchain technology system should not be used as a substitute to the existing good practices. In fact, this technology has to be considered as a fundamental complementary tool in order to face the perpetual evolution of the digital world and a crucial mechanism to ensure a deep and strong protection of creations and innovations.
4. Conclusion

We are entering a new era in the Intellectual property field, which can be considered as the Fourth Industrial revolution. Today artificial intelligence, data and robots are undeniably part of the discussion and there is a real need to optimize companies’ IP strategy and significantly improve their ability to prove the existence of their assets.

This paper represents the first international initiative in this field and is aimed at making businesses and entrepreneurs aware of a new technology that is as effective as necessary in order to protect their most valuable assets.

Because we strongly support the global development of proof of existence of creations and innovations, which benefits from an unregistered IP right, via Blockchain technology, we encourage a real acceleration in the reception of this mode of proof by jurisdictions worldwide.