Blockchain, IP and the fashion industry

How could blockchain help fashion and other IP-intensive industries? Ruth Burstall and Birgit Clark investigate its potential use in registration, tracking, enforcement and payment

You are most likely to have heard of blockchain in the context of cryptocurrency (Bitcoin or Quibitcoin, Litecoin, Numerai among others), fintech or the insurance world. However, multiple industries are now exploring possible applications for blockchain technology. Emerging technologies and trends hint at how blockchain may be used for a variety of purposes, many of which are relevant to the fashion and luxury industries. We will explore how this new technology already is and could be used within the ambit of IP law and fashion.

What is meant when we talk about blockchain?

Blockchain came about as a result of the cryptocurrency Bitcoin. Bitcoin in turn was conceived as a currency that could be exchanged on peer-to-peer networks without the need for an intermediary such as a bank to authorise the transaction. In the absence of a bank, it was necessary to find a way to accurately and securely record value-transactions. Blockchain technology was the answer to this problem.

“Spreadsheet in the sky”

Blockchain can be defined as an open ledger of information that is distributed and verified across a peer-to-peer network. In other words, it is a computerised public ledger that can apply to almost anything you may usually save to a spreadsheet or database. Each transaction or block is transmitted to all of the participants in the network and must be verified by each
Evidence and information of actual use of a trade mark in trade, as well as the frequency of such use could be readily shared and be available on the official trade mark register.

Blockchain is “unhackable”

As no single person, institution or company hosts or controls the information, storing of the information on the blockchain is perceived as near unhackable: instead the data is spread across multiple nodes with the technology using multiple servers rather than one central server. Once a block is validated, it cannot be changed without changing it across the whole network. Distributed ledgers are inherently harder to attack because instead of a single database, there are multiple shared copies of the same database. To be successful a cyber-attack would have to attack all these copies simultaneously. The expense and computing power “51% attack” to action such an attack means that corruption of the data held on the blockchain is – at least at present – regarded as extremely unlikely.

Blockchain – why does it matter?

Blockchain in the context of fashion and IP could be used for a multitude of purposes, which could easily also permeate a multitude of other IP heavy industries:

- for record keeping: providing an irreversible, secure, time-stamped record of the creation of IP;
- to register and clear IP rights;
- to control and track the distribution of (un-)registered IP rights;
- to provide evidence of first use in commerce/trade and/or (genuine) use of a trade mark;
- to establish and enforce IP contracts, licences etc through smart contracts;
- to transmit payments in real-time to IP owners;
- for authentication: detection of counterfeit or fake goods;
- provenance: detection and retrieval of stolen goods;
- detection of grey or parallel imported goods; and
- enforcement of exclusive distribution networks.

The multitude of potential applications of blockchain technology was already foreseen by its presumed and mysterious inventor – who is known only under his pseudonym Satoshi Nakamoto – in 2010 in a message (“a tremendous variety of possible transaction types ... Escrow transactions, bonded contracts, third party arbitration, multiparty signatures ...”) with the original code for Bitcoin and blockchain having been released by Nakamoto in 2009.

IP protection using blockchain

Blockchain also offers a large number of obvious possibilities for IP protection, registration and as evidence, either at the registry stage or at court.

Blockchain-based IP registries

Blockchain technology could be used by the existing IP offices in connection with registering and granting IP rights, for example to replace the traditional databases holding registration information for trade marks, patents, designs and – in some jurisdictions – copyright. The advantages are apparent. By registering IP rights on a distributed ledger, they could effectively become smart intellectual property rights, providing a robust and trustworthy proof of record. The information could also be linked to and connected to actual use of products, so that (first) use in trade/commerce requirements could be updated immediately.

This in turn would affect how trade marks could be cleared for registration and use since actual use information could – theoretically and if the law was changed accordingly to provide for this possibility – be added to the registration details of a trade mark on the official register. This would mean that evidence and information of actual use of a trade mark in trade, as well as the frequency of such use could be readily shared and be available on the official trade mark register. The official register could also reflect the state of the market, which is relevant when it comes to assessing the infringement risk in many jurisdictions.

Of course, as some of this data could be considered confidential by trade mark owners, such sharing of information would potentially have to be made optional. Nonetheless, the option of having such information available without delay could be attractive to many trade mark owners, not least as it would save time, resources and money.

Evidence of use in trade/commerce

If all transactions relating to a product bearing a particular trade mark are entered on the blockchain, then that use of the trade mark on the blockchain could – at least arguably – be evidence of use of the trade mark in trade. If we assume that this was accepted by the law, then blockchain technology and related smart contract technology (which we will discuss in more detail below) could also be used to simplify the process of proving evidence of use of a trade mark in trade and/or first use in commerce, depending on the jurisdiction, as well as providing other evidence at an IP office or court, for example evidence of acquired distinctiveness or secondary meaning. Further, whenever use of a trade mark in trade/commerce can be reconciled with information on a blockchain ledger then this could enable
evidence of such use to be notified to the relevant IP office or authority virtually immediately on the occurrence of a verified event of such use. This would substantially lower the burden of collecting relevant evidence for rights holders and at the same time would simplify the process at respective IP Office. Indeed, the registration process of a trade mark could be simplified and freed of a significant burden of evidence and administration, which would equally apply for maintaining IP rights once registered, especially in those jurisdictions where the renewal or contestability of an IP right requires further evidence of use in commerce.

Blockchain and certification/collective marks

Certification and collective trade marks are another field for the potential application of blockchain technology, particularly with regard to the fashion, luxury and textiles and related industries.

While there are national differences, certification marks may be used by anyone who can certify that products meet certain established criteria or standards, for example the Woolmark which certifies that the goods on which it is used are made of 100% wool. In many jurisdictions, the main difference between collective marks and certification marks is that the former may only be used by a specific group of enterprises, such as the members of an association, whereas certification marks are not confined to any membership but may be used by anybody who complies with the standards defined by the owner of the certification mark. An important requirement for certification marks is however that the entity that applies for registration is considered “competent to certify” the products concerned. This could mean that certification marks issued by way of blockchain would potentially have to be issued within the scope of a private blockchain rather than by traditional open blockchains which, as explained above, operate without a single issuing authority. The concept of private blockchains, originally almost an anathema to blockchain users, has become increasingly popular. Instead of providing fully public and uncontrolled network access permissions on traditional open blockchains, private blockchains are more tightly controlled, with rights to modify and/or read the blockchain restricted to a small number of users. As such, they are ideally suited to be used for certification and/or collective trade marks, which the added bonus that fake certificates could almost immediately be identified as such.

Evidence of creatorship

Blockchain technology may be equally important within the context of unregistered IP rights, which are particularly important in the fashion industry. The seasonal nature of fashion designs, with fast changing designs or “see now, buy now” models which will only be marketed for a short time, means that it is often not cost-effective for designers to apply for registered rights and designers therefore frequently rely on unregistered design rights and copyright to prevent copies of their designs. Enforcement of unregistered rights gives rise to difficulties of proving matters, such as ownership of the design, whether it is still in the period of protection and whether qualification requirements have been met. This is where blockchain technology could bridge the gap: if an original design document and details of the designer are uploaded to a blockchain, this creates a time-stamped record and good evidence to prove these matters. Locking evidence of their use and conception on a blockchain could make their enforcement much easier and at the same time also act as a deterrent to potential infringers.

Provenance authentication

Blockchain also allows you to record objectively verifiable details about when and where products are made and about the people that made them. It is obvious that this could be used for much broader brand protection and information, including trade mark registration details, legal information, assignment
The promise of blockchain technology has led to something of a patent rush with numerous patent applications being filed for blockchain-related inventions in the past few years and chain of title information and/or evidence of (first) use in trade or commerce.

Weaved in intelligence

In the fashion industry this is already being used in real life: utilising one of blockchain’s so far most imaginative applications is exemplified by the collaboration between New York/Shanghai-based fashion brand, Babyghost, and VeChain, a blockchain start up that focuses on the protection of brands, trade marks and products. For its spring 2017 collection, inspired by the 1970s concept of Indigo children — often defined with reference to their enhanced intellect and insight — Babyghost quite literally weaved intelligence into its clothing. Each look or outfit was embedded with a VeChain chip, hosting a public key which was also stored on a blockchain. Using a mobile app to verify the public key, the wearer of the garment can thereby access information about the piece. In this case, each outfit was able to tell the wearer about the designer’s inspiration for the design. Blockchain may also be useful for high-value or collectible items such as jewellery, works of art, rare musical instrument or books where purchasers (and insurers) will be keen to confirm provenance and purchase history of goods, not least when it comes to reselling, finding insurance or when it comes to the recovery of stolen goods.

Tracking progress through the supply chain

The ability to add blocks of data to the chain also creates opportunities for brand owners to record details about a product’s progress through stages in the manufacturing and supply chain. Brand owners could use this function to record where goods are placed on the market – allowing them to distinguish grey goods in cases of parallel imports and identify where they left the supply chain. In the same way, blockchain could be used to monitor and control leaks from selective distribution networks and so assist in enforcing such agreements. This capability will render the technology of interest to other industries, such as the pharmaceutical industry. Again, this type of technology already exists: a London-based start up called Everledger is using blockchain technology to record details of the provenance of diamonds. Everledger engraves a serial number on the diamond’s girdle which allows access to information about where the diamond comes from and a chain of information about its owners. This information can be used by potential purchasers, diamond certifiers and insurers. The information could also be extremely useful in identifying and recovering jewels and any other valuable items, such as designer handbags, in cases of theft. Opportunities of further application in other industries seem almost limitless.

Anti-counterfeiting and enforcement

The above examples also show blockchain’s potential for revolutionising anti-counterfeiting and enforcement efforts. In fact, the VeChain chip was conceived as a brand protection method and the usual information stored on the chip is data confirming the origin of the product. Adding scannable tags or chips to garments could also enhance the effectiveness of Customs programs to prevent global trade in counterfeits. If a brand owner is able to tell Customs that its genuine products are embedded with a tag which proves its origin, then the absence of such a tag or a tag bearing incorrect data is an easy way for Customs to check whether a product is counterfeit. We already mentioned the concept of having an interactive tag (similar to QR codes and NFC tags), which allows users to objectively verify the origin of products is not new. However, unlike blockchain, these more traditional and established technologies link to one single source of information, such as a website. Therefore, although they may make life more difficult for counterfeiters, they are still prone to corruption and copying. Blockchain technology does not suffer from this drawback since counterfeiters should be unable to alter the information on the blockchain.

Of course, using blockchain as an anti-counterfeiting method will not help address brand-diluting counterfeits that consumers buy in full awareness of their counterfeit and infringing nature. Nonetheless, it could be helpful in eliminating fakes which consumers mistake for genuine goods and which can arguably be much more damaging for luxury brands. A further benefit is that, by engaging customers in the process of verifying whether a product is genuine, brands have an opportunity to focus consumers’ minds on the very issue of counterfeits and educate them about the drawbacks and dangers of buying fake products.

Outlook

Who owns blockchain and other hurdles to acceptance

The promise of blockchain technology has led to something of a patent rush with numerous patent applications being filed for blockchain-related inventions in the past few years. A large percentage of these patent filings have been made by banks and financial institutions. However, as the blockchain technology gains further traction, we may see applications being filed across a much wider spectrum of industries. Most of patent applications claim methods of enhancing or using the original blockchain as disclosed by Nakamoto, in a white paper in 2008, with the original code for Bitcoin and blockchain being released by him in 2009. There also continue to be proponents for making blockchain technology accessible by offering the code under open source licences or by creating patent pools. This uncertainty has had no effect on the rapid increase in popularity and
Enforcing and licensing IP rights

“Smart contracts”

Another buzzword often cited in connection with blockchain is the concept of smart contracts and similar distributed ledger products, which may be used to establish and enforce IP agreements, such as licences, as well as for the transmission of payments in real-time to IP owners. As before, similar methods are already in use in creative industries; for example, British musical artist Imogen Heap pioneered the distribution of and digital payments for her music via a blockchain platform. Smart contracts have also been discussed in a report by the UK government chief scientific adviser published in January 2016 titled “Distributed Ledger Technology: beyond the blockchain”.

Lack of uniform definition

Looking into the smart contract phenomenon in more detail, however, reveals an immediate downside: there is no generally accepted definition of the term. Instead we are faced with two very different ways of looking at them. One – rather utopian – view of smart contracts believes that they could do away with lawyers altogether by defining smart contracts as “contracts that are self-enforcing”, stating that “they don’t need page after page of small print, let alone the lawyers who write the small print or the courts that enforce them”. As enticing and catchy as this may sound, this is a rather simplified definition which does not reflect real-life human and business interaction, where things are bound to go wrong at some point somewhere. If and when this happens however, whatever contract is in place needs to provide at least some information about governing laws, jurisdiction, etc.

Smart contract performance

Another, at least in our view, more realistic definition sees smart contract as a type of coded instructions that execute on the occurrence of an event, usually but not always by the use of blockchain technology which record and also executes transactions. Smart contracts under this definition are computerised transaction protocols that execute terms of a contract automatically, without the need for third parties. Of course, separating the blockchain from the actual contractual agreement turns smart contracts into a method of execution of a contract, where a (counterpart) performance is triggered automatically by a relevant act.

Therefore, it appears to us to be a more realistic to say that smart contracts may be used to implement a contract without human involvement once the underlying binding contract, which was drafted by lawyers, has been coded. Smart contract performance may thus be used for:

• self-monitoring of the terms of an IP agreement;
• automation of contract performance;
• certification of a transaction; and
• for evidencing and facilitating delivery and payment transfers, if so coded.

Need for regulation?

Whether smart contracts could accurately execute more complex contractual terms and instructions is another question that will need to be explored. While lawyers will need to draft the underlying contractual agreement, namely the real contract which will then trigger the smart performance elements, and much time will have to be spent to code the contracts, they should be relatively robust. Nonetheless, no smart contract or code will be able to cover all possible permutations of issues occurring in the real world. Moreover, with many of the underlying terms and conditions and contracts being drafted by companies, other concerns, such as consumer protection laws and public interest considerations, will come into play, which will shape the concept of smart contracts. Adding contracts onto a blockchain inevitably leads to questions concerning the choice of law and jurisdiction. As with international e-commerce disputes, it appears safe to assume that blockchain and smart contracts will only operate outside of the traditional scope of the law for a limited time. While some argue that blockchain related disputes are best suited for a special type of ADR or decentralised court, it is far more likely that legislators and national courts and laws will eventually catch up with technological developments and provide the necessary rules, laws and international conventions to facilitate blockchain transactions on a large scale.

Blockchain is here to stay

Having said that, with blockchain technology being unhackable, the question of just who should be allowed to administer the ledger will also become more prominent. Some will argue that it is in the very nature of the blockchain not to have one single authorising institution, such as a bank, but if blockchain is meant to permeate mainstream business practices then these issues will need to be addressed. Further, while large scale adoption of blockchain may face some hurdles and resistance not least since Bitcoin has become infamous in the context of criminal activities on the dark web, it appears that blockchain is not only here to stay but will also become a firm fixture as an integral part of the fourth industrial revolution and also within the ambit of IP law in the fashion industry and beyond.