

## Chapter 7

# Blockchain and Copyright: Challenges and Opportunities

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### ABSTRACT

*Advances in the field of digital technology are constantly introducing new levels of controversy into copyright policy. Blockchain is the most recent technology with significant impact in digital copyright. Combined with smart contracts, blockchain enables new efficient forms of distribution of copyrighted works and also a new model of private ordering regarding the control of uses of works on the Internet. The chapter aims to examine the relationship and the most relevant intersections between blockchain, digital exploitation of copyrighted works, copyright law, and privacy law.*

### INTRODUCTION

Throughout history, from the printing press to the Internet, emerging technologies have been raising novel questions and introducing new levels of controversy into copyright policy. The exteriorization (*corpus mechanicum*) of creative expression (*corpus mysticum*) is shaped according to the possibilities that constantly evolving technologies provide (e.g. through a book, a painting, a vinyl record, a CD, or software). Therefore, the way creative contents are revealed to the public depend on the existing and available technology. Moreover, technology is relevant for the copyright realm also because it enables new types of storage and distribution of copyright material. If, on the one hand, it facilitates innovative forms of economic

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exploitation of creative content, especially in the digital world, on the other hand, it provides new ways of infringement (e.g., unauthorized sharing of digital copies through p2p platforms), which poses new challenges to the enforcement of rights granted by copyright law.

Blockchain is the most recent technology with significant impact on copyright law in the digital context, not only by allowing a new efficient and decentralized form of distribution of works but also by enabling smart contracting and a new model of private ordering regarding the control of works in the Internet.

After the seminal work of the unknown creator of the Bitcoin, commonly known under the pseudonym Sakamoto (2008), blockchain technology has been mainly associated to cryptocurrencies. Nevertheless, blockchain is a versatile technology with numerous other potential applications in diverse fields where a storage structure is required such as finance, banking, healthcare, land registration or intellectual property amongst several other industries.

The purpose of the present chapter is to analyze some of the most relevant copyright issues that may suffer direct influence from Blockchain technology such as the clarification of the legal status of a copyrighted work and the registration of copyrighted works; the use of digital rights management systems based on technological protection measures to control unauthorized uses of copyrighted works and to implement self-help or private ordering systems based on the use of smart contracts and, finally, the compliance of blockchain with copyright legal provisions foreseeing limitations and exceptions based on the public interest.

## **BACKGROUND**

Blockchain technology constitutes a decentralized infrastructure for the storage of data and the management of software applications (De Filippi & Wright, 2018, p. 34). Blockchain may be described as a form of distributed ledger technology where transactions are grouped into blocks which are chained to the previous one, therefore enabling a transparent and tendentially immutable record of every transaction held on the platform. As Finck & Moscon (2019) state, each block assembles multiple transactions, is then added to the existing chain of blocks and, after reaching a certain size, is chained to the existing ledger “through a hashing process (The ledger’s blocks have different key components, including the hash of all transactions contained in the block (its ‘fingerprint’), a timestamp, and a hash of the previous block (which creates the sequential chain of blocks))” (pp. 89-90).

One of the main features of blockchain technology is the non-absolute necessity of a third-party (e.g. public registers or banks) involvement for transactions and transfers of value, while providing the parties involved with absolute confidence in the validity

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