

CAN COPYRIGHT BE TOKENIZED?

By Dr Rita Matulionyte*

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Abstract

Blockchain offers an abundance of new opportunities for the art industry. Blockchain-based equity crowdfunding, as one such opportunity, could potentially allow the tokenization of copyright in future artistic projects. Such 'copyright tokens' could be sold via crowdfunding platforms to investors in order to attract funding for the artistic project at stake. Although the business model behind Blockchain-based equity crowdfunding is an interesting one indeed, it presents a number of legal issues. This article explores the various means by which such a tokenization scheme could be achieved from the perspective of current Australian copyright laws, to conclude that there are no straightforward solutions to what is a thus far unexplored application of copyright law.

Keywords

Copyright, Blockchain, token, assignment, future copyright, smart contracts

I Introduction

Innovation Network is a start-up that aims 'to be the marketplace to tokenize and list innovation-related projects'.¹ In particular, Innovation Network aims to become an equity-based crowdfunding platform where all innovators, including artists in a broad sense,² can tokenize their future innovative projects and attract funding for these projects by selling tokens to a crowd of investors. Innovation Network is run on a Blockchain-based platform where parties are able to sell and buy their tokens by using self-executable smart contracts.³ It is expected to work in the following way: A promotor (e.g. an artist) develops an idea for an artistic project (a film, installation, etc.). They describe and present the idea on the platform and tokenize future copyright in this creative project. Namely, the promotor issues tokens that represent shares of copyright into the future work. Investors will buy these tokens (using either a fiat currency or cryptocurrency) and acquire equity in

* Dr LLM, Senior Lecturer at Macquarie Law School; associated senior researcher at Law Institute of Lithuania; Disclaimer: this research was partially funded by Innovation Network platform (\$5,000). The views are entirely personal and may not coincide with the views of the funding organization. I thank Alexander Connolly for his assistance in preparing this article.

¹ Innovation Network, "Tokenizing Innovation" (2019), www.innovation.net/ [Date Accessed: 2 March 2019]. The initial White Paper which was used for the purposes of this article have now been removed from the website but is available under request from the author.

² For the purposes of this article, the terms 'art', 'art project' and 'art industries' are used in the broadest possible sense as synonyms to such concepts as 'creative industries', 'copyright industries' or 'cultural industries'.

³ Notably, Innovation Network does not specifically target the art market, but all kinds of start-ups that are interested in raising funds to start their innovative projects. For the purpose of this article the focus will be on art projects and copyright tokens only.

the copyrighted project. This will allow them to participate in the sharing of future profits generated by the copyrighted work, and to trade their copyright tokens on online crypto exchange platforms. Funds that promoters raise during the crowdfunding campaign will be used for the creation and commercialization of the art project that was tokenized in the first place.

The idea of securitizing future copyright royalties in order to attract funding for artistic endeavours is not entirely new. In 1997, David Bowie became the first to securitize his intellectual property via a traditional financial instrument (being the issuance of an asset-backed security) to raise \$55 million, in what later became known as a 'Bowie Bond'.⁴ Blockchain (otherwise known as distributed ledger technology),⁵ has enabled the potential for asset tokenization; an opportunity which has already been employed by multiple online platforms and artists. For instance, the online platform 'Maecenas' has tokenized a multi-billion dollar Andy Warhol painting and sold it on Blockchain.⁶ For another example, 'Gramatik' (an international electronic dance musician and independent producer) has tokenized his future intellectual property; by selling his GRMTK tokens he raised \$2.25 million in its first twenty-four hours, and valued the token at \$9 million.⁷ Innovation Network is another example of how Blockchain can be used to commercialize (future) IP rights in order to attract investment from the crowd.⁸

Innovation Network's Platform aims to address a long standing problem: art markets are under-funded and raising funds for artistic projects is difficult and onerous. Artists wishing to fund their artistic endeavours have traditionally relied on self- and family-funding, government grants, private organizations and, more recently, crowdfunding.⁹ Crowdfunding is an emerging and growing phenomenon in an Australian art scene.¹⁰ Although the success rate of crowdfunding campaigns are

⁴ Stanley Safer, "Tokenize the Musician" (Spring 2019) 21 *Tulane Journal of Technology & Intellectual Property* 107, 113; Jay C. Klear, "Applicability of Private Equity Fund Structure in the Furtherance of Intellectual Property Securitizations", (2002) *COLUM. BUS. L. REV.* 796, 798.

⁵ For a good introduction how Blockchain works see: Benito Arruñada, "Blockchain's Struggle to Deliver Impersonal Exchange" (2018) 19 *Minn. J.L. Sci. & Tech.* 55, 58-61.

⁶ See Maecenas, "Participate in blockchain-based auctions of fine art" (2019), www.maecenas.co [Date Accessed 10 July 2019]. Maecenas tokenizes and sells existing art works. See also Mark Emem, "Andy Warhol's Multi-Million Dollar Painting Tokenized and Sold on Blockchain" *CCN*, 6 September 2018, <https://www.ccn.com/andy-warhols-multi-million-dollar-painting-tokenized-and-sold-on-blockchain/>.

⁷ See Zach LeBeau, "GRAMATIK, the World's First 'Crypto-Artist' . . . by SingularDTV", *Medium*, 21 September 2017), <http://medium.com/singulardtv/gramatik-the-worlds-first-crypto-artist-by-singulardtv-ad2bc078986c>.

⁸ Other projects that use Blockchain to commercialize existing and future IP rights include e.g. Intellectual Property Tokens (James E. Malackowski, "Intellectual Property Coin Token Introduction" (IPCG Funding Innovation, 17 September 2018) IP Coin Group, <https://ipcoingroup.com/wp-content/uploads/2018/10/IPCG-IPC-Token-Product-Intro-Sept-2018.pdf> [Date Accessed 10 July 2019]); Entertainment Intellectual Property Exchange platform (Mavo Studio, "MavoToken: Entertainment Intellectual Property Exchange" (Mavo Studio, 2019) www.mavotoken.com [Date Accessed 10 July 2019]); LEXIT (LEXIT Technologies OÜ, "LEXIT Marketplace" (2019) www.lexit.com/about [Date Accessed 10 July 2019]; Aeternum (Aeternum, "Libertarian blockchain platform for investments in deep science startups" (October 2018) Aeternum Whitepaper, <https://aeternum.io/en#three-values> [Date Accessed 10 July 2019]); Creativechain Token (Smith + Crown, "Creativechain Token Sale (ICO): A Marketplace For Intellectual Property" (2019), <https://www.smithandcrown.com/sale/creativechain-token-sale-ico-marketplace-intellectual-property/> [Date Accessed 10 July 2019]); Machi X Intellectual Property exchange (Machi X, "Buy and Sell Music Copyrights" (2019), <https://machix.com/> [Date Accessed 10 July 2019]).

⁹ David Throsby and Katya Petetskaya, "Making Art Work: An Economic Study of Professional Artists in Australia" (2017) Australia Council for the Arts, Table 10.7.

¹⁰ The most popular platforms overseas are Kickstarter and Patreon. The most popular platforms in Australia include the Australian Cultural Fund and 'Pozible'.

rather high, the number of artists that utilise crowdfunding to finance their projects remains relatively low.¹¹

Interestingly, artists who choose to fundraise via crowdfunding platforms do not often make use of equity-based crowdfunding services.¹² ‘Traditional’ crowdfunding functions like a private donation, whereby the crowd would support an artistic project without any expectation of return. It is common that the contributors to the project receive certain benefit, such as a copy of the work created, a ticket to the art event, etc. However, the main current art crowdfunding platforms do not allow giving financial benefits to donors.¹³

Within an equity-based crowdfunding scheme, the funder (investor) makes a payment in return for an interest in the promotor’s company or some other equity interest such as an interest in the future copyright to be created by the promotor.¹⁴ In Australia (as in other jurisdictions) equity crowdfunding is considered an investment scheme which is regulated under the Corporations Act 2001 (Cth).¹⁵ Whilst Australian platforms offering equity-based crowdfunding services do exist, none are specifically available to artistic projects.¹⁶ Blockchain technology and smart contracts arguably have the potential to facilitate the functioning of equity crowdfunding platforms. It is expected that they will decrease transactional costs, which will allow more and smaller organizations (including artists) to both establish and fund equity campaigns in artistic projects. These are the underlying goals of the Innovation Network.¹⁷

The question that is of interest for copyright lawyers is whether tokenization of copyright, as envisaged by the Innovation Network crowdfunding platform, is possible from the perspective of copyright law. The issues addressed by this article are as follows: (1) Can copyright be divided into multiple shares (tokens) and owned by tens or hundreds of investors? (2) Can *future* copyright be

¹¹ According to the Australia Council for the Arts report, 11% of interviewed artists chose to crowdfund in the years 2011-2015, with a success rate of 79%. See David Throsby and Katya Petetskaya, “Making Art Work: An Economic Study of Professional Artists in Australia” (2017) Australia Council for the Arts, Table 10.7.

¹² For differences between traditional Crowdfunding (which is most commonly used) and equity crowdfunding – See Howard Marks, “What is Equity Crowdfunding?” *Forbes*, 19 December 2018, <https://www.forbes.com/sites/howardmarks/2018/12/19/what-is-equity-crowdfunding/#b0151243b5df> [Date Accessed 10 July 2019].

¹³ E.g. Pozible explicitly state that those crowdfunding are not allowed to give shares to donors/contributors and raise investment funds. See e.g. Pozible guidelines (Pozible Team, “Guidelines” (Intercom, 2019) <https://intercom.help/pozible/campaign-creators/i-m-starting-a-campaign/guidelines> [Date Accessed 10 July 2019]); Australian Cultural Fund has similar rules (Australian Culture Fund, “Frequently Asked Questions” (Creative Partnerships Australia and the Australian Government, 2019) <https://australianculturalfund.org.au/faq/> [Date Accessed 10 July 2019]).

¹⁴ Arts Law Centre of Australia, “Crowdfunding” (Arts Law Centre of Australia and the Australian Government, 11 January 2016) Information Sheet, https://www.artslaw.com.au/images/uploads/Crowdfunding_info_sheet_11.01.2016.pdf [Date Accessed 10 June 2019].

¹⁵ The Australian Government's new equity crowdfunding framework started in September 2017. In 2018, the first batch of crowdfunding intermediary licences were issued to: Big Start, Billfolda, Birchall Financial Services, Equitise, Global Funding Partners, IQX Investment Services and On-Market Bookbuilds; see Australian Government Treasury, *Australian companies take up crowdfunding opportunity* (Minister for Revenue and Financial Services, 11 January 2018) Media Releases 2018(3).

¹⁶ Examples of equity crowd-funding platforms in Australia include: Angel Investment Network, Equitize, VentureCrowd, etc.

¹⁷ Innovation Network, “Tokenizing Innovation” (2019), www.innovation.net/ [Date Accessed: 2 March 2019]. At the time of writing Innovation Network was working on acquiring regulatory approvals from the Australian Security and Investment Commission (ASIC) that are needed to commence their service in Australia.

tokenized and sold to investors? (3) Assignments of copyright are subject to formalities. Can these copyright formalities be met by smart contracts? The analysis will be based on Australian copyright law, with references to the laws of certain European jurisdictions where relevant.

II Multiple Ownership: can copyright be divided into tokens and owned by multiple investors?

The first question to be addressed is whether copyright can be split into ‘tokens’ that represent shares of copyright, and sold to different persons.

Under Australian law, (and most other modern copyright jurisdictions), copyright in a single work is divisible and can be simultaneously owned by different persons.¹⁸ It most often emerges in situations when a work or other subject matter is created by several persons (co-authorship) who then become co-owners of the work. Alternatively, it could emerge as a result of a partial assignment of copyright. Australian copyright law allows the assignment of copyright in full or in part. When one owner assigns a part of copyright to another, multiple ownership emerges.¹⁹ However, as will be seen, multiple ownership rules in Australia are not as flexible as one may wish them to be. Multiple ownership, including co-ownership, rules were developed for certain specific scenarios that occur in art industries (e.g. situations when a work is created by several authors) and the framework that they offer is less than suitable for the multiple ownership model envisaged by the copyright tokenization scheme. Discussed below are the different legal arrangements of multiple ownership that might emerge in the art industry, and whether these models can be applied to a copyright tokenization scheme.

1 Co-ownership

The most common multiple ownership scenario available under Australian copyright law is co-ownership, or joint ownership.²⁰ It most often arises in joint-authorship situations, that is, when a work was created by several authors. For instance, if several musicians contribute to the creation of a single musical composition, they will normally be considered as ‘joint authors’ and initial co-owners of the musical piece, unless otherwise agreed.²¹ Also, in the case of a cinematographic film the ‘maker’ of the film is the owner of its copyright.²² In some situations both the producer and the director of the film might be the makers of the film and, as a result, be considered the initial co-owners of copyright in the film.²³ It is also possible for contract to provide that a certain person is a

¹⁸ *Copyright Act 1968* (Cth) s 196(2).

¹⁹ In this paper the term ‘multiple ownership’ is used as a general term to cover co-ownership and other types of situations when several owners are involved. Note that some authors use ‘co-ownership’ in a broad sense encompassing different types of multiple ownership, see e.g. Andrew Stewart et al, *Intellectual Property in Australia*, 6th ed. (Reed International Books Australia Pty Ltd trading as LexisNexis Butterworths, 2018), 890 [22.61].

²⁰ These concepts are used interchangeable both by courts and commentators, see *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* [2005] FCAFC 144, [21]; Walter Arthur Copinger and E.P. Skone James, *Copinger and Skone James on Copyright*, 13th ed (London United Kingdom, Sweet and Maxwell, 1991), ch 7.

²¹ Joint authors may transfer their rights to a third party, such as a publisher, producer etc. Statute may also envisage that initial ownership of copyright is vested not in joint-authors but in a third party (e.g. employer), *Copyright Act 1968* (Cth) s 35(6).

²² *Copyright Act 1968* (Cth) s 98(2).

²³ See *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* [2005] FCAFC 144, [12]-[19].

co-owner of a work even if they have not contributed sufficiently to its expression.²⁴ Thus, although a co-ownership relationship normally arises when co-owners are also co-authors, it is also possible for situations to exist whereby a co-owner is not a co-author.²⁵

Joint authorship and co-ownership relationships are subject to a set of rules. According to s 10(1) of the *Copyright Act 1968* (Cth), a work is considered to be a 'work of joint authorship' only if it has been produced by the collaboration of two or more authors and in which the contribution of each author is *not* separate from the contribution of the other author or authors, unless agreed otherwise. For a work to be considered as a work of joint authorship, the efforts of the co-authors must not be distinct and independent so as to allow them to be isolated.²⁶

As far as co-ownership is concerned, the basic principle is that co-owners of a copyright hold their rights as tenants (or owners) in common.²⁷ Under a tenants in common classification, the consent of all co-owners is required before any copyright rights can be exercised (including the grant of assignment or license).²⁸ However any co-owner may bring action for infringement of the copyright, including against a third party and even another co-owner, without the consent of the other co-owners.²⁹ Co-owners hold equal shares in copyright, unless otherwise agreed in the contract.³⁰

As could be seen from above, the legal framework surrounding co-ownership is not very flexible. A co-owner wishing to exploit copyright in any way will require prior consent from all other co-owners. For this reason, in the case of collaborative projects, commentators have recommended avoiding joint ownership rules since they are unnecessary and inconvenient, and may hinder parties' ability to use the work if another co-owner does not grant a necessary permission.³¹ It has instead been suggested that in a collaborative project, copyright could vest in one party while other parties could be granted licenses to use the work in the manner prescribed by the contract.³²

In the case of copyright tokenization, the legal framework surrounding co-ownership is even less suitable as it would convey co-ownership (in equal shares) to all token holding parties. This does not fit the purpose of the project. It would also mean that each token holder would need permission from all other token holders whenever they want to sell their token/s. Similarly, the promoter (the artist who issued tokens to fund their project) would need prior permission every time they want to use the work in a manner that triggers copyright (e.g. reproduce, perform, make available online

²⁴ Andrew Stewart et al, *Intellectual Property in Australia*, 6th ed. (Reed International Books Australia Pty Ltd trading as LexisNexis Butterworths, 2018), 197 [7.7]; *Prior v Lansdowne Press Pty Ltd* [1977] VR 65.

²⁵ E.g. *Prior v Lansdowne Press Pty Ltd* (1975) 12 ALR 685, 689-699.

²⁶ C Alexander and C Dalton, "Commentary to Intellectual Property: Copyright" in the *Australian Encyclopedia of Forms and Precedents* (LexisNexis, Last Updated March 2013, Date Accessed 27 May 2019), [1545].

²⁷ See e.g. *Prior v Lansdowne Press Pty Ltd* (1975) 12 ALR 685, 689; *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* [2005] FCAFC 144, [20], [114]; *Chhabra v McPherson as Trustee for the McPherson Practice Trust* [2018] FCA 1755, [130]; *Prior v Sheldon* [2000] FCA 438, [79].

²⁸ E.g. *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* [2005] FCAFC 144, [20].

²⁹ E.g. *Prior v Sheldon* [2000] FCA 438, [79].

³⁰ For instance, in *Prior v Lansdowne Press Pty Ltd* (1975) 12 ALR 685, 689-699 a publication agreement assigned three co-authors specific shares of royalties flowing from the publication (being 60 percent, 30 percent and 10 percent respectively). This assignment was recognised and upheld by the court in determining entitlement to the copyright.

³¹ Nigel Parker, "Intellectual property issues in joint ventures and collaborations" (2007) 2(11) *Journal of Intellectual Property Law & Practice* 729, 740

³² Nigel Parker, "Intellectual property issues in joint ventures and collaborations" (2007) 2(11) *Journal of Intellectual Property Law & Practice* 729, 740.

etc.).³³ Furthermore, such a framework would give token holders (as co-owners) the same rights comprised in copyright (reproduction, public communication, etc) which they arguably neither need nor would intend to exercise. Finally, it would allow every token holder to enforce their individual rights in the case of a copyright infringement.³⁴ This could reasonably lead to the misuse of rights under copyright, as well as the potential for numerous overlapping enforcement actions (in circumstances of infringement).

Alternatively, the rules that apply to co-ownership can be modified under contract. In other words, the contract could stipulate what share of copyright is transferred to each token holder, and they do not need to be equal.³⁵ Contracts could change the rules governing how rights are exercised by, for example, allowing token holders to sell their tokens (and assign their share of copyright) without prior permission from other token holders. It could also provide that the promoter (artist) is the only party that can exercise all rights vested by copyright (except assignment of rights to shares that it does not own), while token holders are not permitted to perform or license any act comprised in copyright, etc.³⁶ However, such modifications would necessarily mean that the essence of the co-ownership relationship is abandoned. Co-ownership rules are based on the rationale that the work was created collaboratively and the contributions are inseparable,³⁷ thus leading to collaborative exploitation of copyright. If co-owners' interests are different and separate, and the contract stipulates that parties' rights can be exercised independently, co-ownership arguably no longer applies, but a new type of relationship is formed.

2. Independent works – independent ownership

Let us now turn to another multiple ownership scenario which is referred to as 'independent ownership' for the purposes of this article. We will see that although it allows multiple owners to independently exercise their rights, this model normally arises when several (related) works are involved, and therefore does not entirely fit the proposed copyright tokenization scheme.

Legal commentators tend to distinguish co-ownership of a single work from multiple ownership in the case of multiple (related) works.³⁸ By way of example, suppose A and B have written a song; A is the author of the lyrics, while B is the author of the musical composition. In this case, A will be the owner of the lyrics, and B will be the owner of the musical composition, unless otherwise agreed.³⁹ In this situation, from the perspective of copyright law, there are two separate works (musical and literary work) and two separate copyrights owned by different persons. There is no 'co-ownership' of copyright in a legal sense, as discussed above. In such a case, the owner of the lyrics and the owner of the musical composition exercise and enforce copyright in their respective works independently, without the need of permission from another owner. This 'independent ownership in related works'

³³ The rights of a copyright owner in relation to an artistic work are enshrined under *Copyright Act 1968* (Cth) s 31(1)(b).

³⁴ Notably, where there is a contracted unequal apportionment of shares then any party seeking damages for infringement can only recover to the extent of the value of their share apportionment (even though it is the entire copyright which is being infringed upon); see e.g. *Prior v Lansdowne Press Pty Ltd* (1975) 12 ALR 685, 689-699.

³⁵ As was the case in *Prior v Lansdowne Press Pty Ltd* (1975) 12 ALR 685, 689-699.

³⁶ *Copyright Act 1968* (Cth) s 31(1)(b).

³⁷ Elizabeth Adeney, "Research collaborations and "authorship": differentiating legal from management norms" (2016) 44(2) *Australian Business Law Review* 132, 136-137.

³⁸ See e.g. Andrew Stewart et al, *Intellectual Property in Australia*, 6th ed. (Reed International Books Australia Pty Ltd trading as LexisNexis Butterworths, 2018), 890 [22.61].

³⁹ The contract might alter this default position by stipulating that both parties are co-owners of both musical composition and lyrics.

model applies in all situations where the outcome of an artistic collaboration does not qualify as a work of joint authorship (e.g. when contributions of authors to a single work are separate and could be sequestered).⁴⁰

This 'independent ownership' model is more flexible as it allows each owner to assign or otherwise exercise their rights independently from other owners. However, it does not entirely suit the purposes of the project in focus. Equity crowdfunding platforms, such as Innovation Network, are likely to include creations that involve one work only (e.g. a book, painting etc.). In these situations there is only one copyright that is involved and there would therefore be only one copyright owner. Even if the artistic project was more complex (e.g. an artistic installation that includes sculptures, music, photos, etc.) and different parts are created and owned by different artists, this multiple ownership of copyright would not directly translate into multiple ownership of tokens. Each token is not intended to represent a separate work, but rather a share in an entire creative project. Thus, although the 'independent ownership' model seems to be more attractive for our purposes, it was designed for situations where several independent works were created by different authors, and so far it has not been applied in a manner conducive to a copyright tokenization scenario.

3 Multiple ownership in a single work

After discounting co-ownership and 'independent ownership' models, it is worth mentioning the third alternative that seems to be available under Australian law. It was briefly discussed in the *Seven Network v TCN Channel Nine* case.⁴¹ In this case, two parties, Mr Murray and Seven Network, contributed to the production of a cinematographic film (referred to in the decision as 'Camera Tapes'). The courts had to determine who owned copyright in the Camera Tapes. The trial judge established joint-ownership of copyright and on appeal the majority of the Full Federal Court agreed. However, Edmonds J in dissent instead suggested that Mr Murray and Seven Network were multiple owners of copyright in the Camera Tapes and their own them separately:

"In my view, the product of the joint venture between Seven and Mr Murray was the copyright in the Camera Tapes but that was acquired by each of them separately and not as co-owners of the copyright; rather they were multiple owners of copyright in the Camera Tapes. What Seven acquired was copyright in the Camera Tapes limited to the doing of a specified act or acts, namely, the use of the Camera Tapes to make the Selected Footage Film and the broadcast of that Selected Footage Film on its 'Today Tonight' program. That copyright, and, indeed, future copyright, can be so limited, otherwise than as a result of partial assignment, is recognised by s 30 of the Copyright Act. What Mr Murray acquired was copyright in the Camera Tapes to do all other acts permitted by s 86 of the Copyright Act."⁴²

Thus, according to Edmonds J, it is possible that copyright in a *single* copyrighted subject matter is owned by *multiple* owners not as joint-owners (or co-owners) but independently. He suggests that in

⁴⁰ Another example could be collective works under *Copyright Act 1968* (Cth) s 204(2), such as a scholarly book containing chapters written by different authors. Authors of each chapter would retain copyright in the chapter, unless agreed otherwise. In Australia, the publisher has rights over a typographical arrangement of a published edition; however, this set of rights is clearly distinguishable from copyright underlying each chapter, which may or may not be assigned to a publisher. See e.g. Andrew Stewart et al, *Intellectual Property in Australia*, 6th ed. (Reed International Books Australia Pty Ltd trading as LexisNexis Butterworths, 2018), 183-184 [6.51]; *Nationwide News Pty Ltd v Copyright Agency Ltd* (1996) 34 IPR 53.

⁴¹ *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* [2005] FCAFC 144.

⁴² *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* [2005] FCAFC 144, [114]-[117].

such a scenario, owners can exercise the rights they own independently from other owners, in a manner similar to the ‘independent ownership’ model discussed above.

This legal structure would be more suitable for the intended copyright tokenization proposal, as it would allow independent ownership over a single copyrighted subject matter. However, the reasons that Edmonds J provided to support this conclusion raise the question as to whether such a multiple ownership scenario could apply to the copyright tokenization scheme proposed.

In his judgement, Edmond J highlights that the parties entered a joint venture (as opposed to the partnership found to exist by the rest of the court) and that “one of the basic features of a joint venture is that the participants receive the fruits of the venture separately and in kind.”⁴³ In other words, the ‘independent ownership’ in this particular case is founded upon the parties entering into a joint venture to create a particular subject matter. In the case of copyright tokenization scenarios and equity-based crowdfunding more generally, there is unlikely to be a joint venture between the promoter (the artist) and the investors (token holders). Token holders merely fund the project and receive equity in return, while the artistic project is developed by the artist independently. Since the existence of joint venture was the main rationale behind Edmond J’s conclusion on multiple ownership (and such a joint venture seems inconsistent with our proposed scheme), it remains unclear whether the same conclusion with regard to ownership could be drawn in a copyright tokenization scenario.

Also, Edmond J suggested that ownership would be divided by attributing different rights of use to different owners (i.e. the right to broadcast the film to Seven, and all other rights to Mr Murray) along the lines explicitly permitted by copyright law.⁴⁴ Edmond J did not discuss the possibility of dividing copyright into shares and assigning these shares to investors, while allowing the promotor (artist) to essentially retain all exclusive rights comprised in copyright.

4 Multiple ownership as per contract

The above discussion shows that current legal schemes regulating multiple ownership of copyright, such as co-ownership or ‘independent ownership’, do not suit the needs of copyright tokenization. Since copyright tokenization presents a new multiple ownership situation, new legal approaches are needed.

Fortunately, Australian copyright law does not onerously restrict how copyright can be assigned. According to s 196(2) of the *Copyright Act 1968* (Cth), “[a]n assignment of copyright may be limited in any way [...]”. This section further provides three examples on how the assignment can be limited, namely: (1) by limiting assignment to certain classes of acts that the owner has the exclusive right to do; (2) by limiting assignment to a place in or part of Australia; (3) or by limiting it to part of the period for which the copyright is to subsist.⁴⁵ Importantly, these examples are non-exhaustive and the Act allows limiting assignment in ‘any way’.⁴⁶ This is compatible with the freedom of contract doctrine that underlies Australian copyright contract law.⁴⁷ It allows parties to enter into any contractual arrangements that fit their needs.

⁴³ *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* [2005] FCAFC 144, [116].

⁴⁴ See *Copyright Act 1968* (Cth) s 196(2)(a).

⁴⁵ *Copyright Act 1968* (Cth) s 196(2).

⁴⁶ *Copyright Act 1968* (Cth) s 196(2) uses ‘including any one or more of the following ways’. This is open to an interpretation which allows for other possibilities beyond those listed.

⁴⁷ For more on this see Rita Matulionyte, “Empowering Authors via Fairer Copyright Contract Law”, (2019) 42(2) *UNSW Law Journal* 681.

Thus, s 196(2) could be read to imply that a copyright in a single work could be divided into shares (tokens) and those shares could be assigned to multiple persons. It will be a job for lawyers to carefully design such a partial assignment contract that takes into account the interests of the promotor seeking to tokenize their future copyright, and investors who buy copyright tokens with the purposes of receiving a share of future profits and trading tokens with other investors. Such contracts will need to clearly define the share of copyright in question, and what rights each token holder acquires (namely, a right to re-assign their share to a third person); what share and what rights the promotor (the artist) retains; what accountability obligations promotor has to token holders; how parties share future profits that the art project generates; and how the right to re-assign shares of copyright (tokens) can be exercised, etc.

III Future copyright

Another issue related to the tokenization of copyright is assignment of future copyright. In the case of equity-based crowdfunding platform, it is not the existing copyright that will be tokenized but the future copyright that will come into existence when the copyrighted work or other subject matter is created.⁴⁸

Under Australian copyright law, it is possible to assign future rights in copyright. Under s 197(1) *Copyright Act 1968* (Cth), the person who will be the owner of copyright on its coming into existence may assign future copyright (wholly or partially) to another person, with the Act requiring only that the agreement be in writing and signed.⁴⁹ Therefore, it is generally possible to sell future copyright in Australia and the absence of existing copyright at the time of assignment does not cause any significant legal issues from the perspective of Australian copyright law.⁵⁰

It is important to note that this conclusion does not necessary apply as far as European jurisdictions are concerned. While rights into future works might be assigned in some European jurisdictions (e.g. UK, Ireland, Denmark), many civil law jurisdictions have restrictions with regard to rights assignment to future works. The laws of France, Hungary, Poland, and Spain expressly prohibit general transfers of rights to future works.⁵¹ Some other European countries allow it, but apply restrictions to their operation such as requiring mandatory time limits and allowing scope for renegotiation, or imparting an obligation to pay additional remuneration (e.g. in Germany or Italy).⁵²

These provisions are meant to protect authors from transferring rights to undefined future works to publishers. However, these restrictions usually do not apply when the future work at stake is well defined. For instance, the general position in Hungary is that the transfer of rights to an indefinite number of future works shall be null and void. It is however possible to make an agreement for

⁴⁸ As a point of comparison, the Maecenas platform offers a possibility to tokenize existing (high value) works; see Maecenas, "Participate in blockchain-based auctions of fine art" (2019), www.maecenas.co [Date Accessed 10 July 2019].

⁴⁹ Although the *Copyright Act 1968* (Cth) s 197(1) does not explicitly mention the requirement for a contract to be in writing, it requires it to be signed which is possible only if there is a written agreement.

⁵⁰ The issue of signature will be discussed in a subsequent section.

⁵¹ Europe Economics IViR, Lucie Guibault and Olivia Salamanca, "Remuneration of authors of books and scientific journals, translators, journalists and visual artists for the use of their works" [2016] Study Prepared for the European Commission Directorate-General of Communications Networks, Content & Technology, 47.

⁵² Europe Economics IViR, Lucie Guibault and Olivia Salamanca, "Remuneration of authors of books and scientific journals, translators, journalists and visual artists for the use of their works" [2016] Study Prepared for the European Commission Directorate-General of Communications Networks, Content & Technology, 48.

future works if they are defined at least by type or character.⁵³ Similar rules permitting transfer of future copyright in works that are defined in certain manner are available in France, Poland and Spain.⁵⁴

In the case of a crowdfunding platform, projects should be well specified and described before they are listed and promoted on the platform. In such a situation, when future works are sufficiently defined, assignment of rights into such future works is unlikely to cause problems even in author-protective countries such as France, Hungary or Poland. If, however, an art tokenization platform were to allow the tokenization of copyright in unspecified works,⁵⁵ this might lead to problems in certain European jurisdictions. As art tokenization platforms tend to reach beyond borders, they should attempt to comply with the copyright regulations in the jurisdictions in which they operate.⁵⁶

IV Assignment formalities and smart contracts

The third and final question to be addressed is whether the formalities to which copyright assignment contracts are subject can be met via smart contracts that underlie Blockchain-driven crowdfunding platforms (such as Innovation Network).

Smart contracts are agreements that utilise technologies such as Blockchains to perform the role of the agreement (interpretation, performance, enforcement) without human intervention.⁵⁷ They are self-executable and, arguably, no intermediary is needed to ensure performance of these contracts. They have been successfully applied in many instances, such as financial markets and cryptocurrency exchange platforms.⁵⁸

One of the issues in relation to the use of smart contracts for our intended purposes, is that there are certain formalities required for copyright assignment contracts.⁵⁹ In Australia (as in many other jurisdictions), assignment of copyright (whether total or partial) must be in writing and signed.⁶⁰ Returning to the tokenization proposal, it is therefore necessary that any time parties (promoter or token holders) wanted to sell their copyright tokens, they would need to enter into individual contracts that are written and signed by both parties. In an offline world, this is inconvenient and would lead to high transactional costs. In an online world, smart contracts are available to facilitate

⁵³ See Articles 44(1) and 52(1) of Hungarian Copyright Act, cited in Europe Economics IViR, Lucie Guibault and Olivia Salamanca, "Remuneration of authors of books and scientific journals, translators, journalists and visual artists for the use of their works" [2016] Study Prepared for the European Commission Directorate-General of Communications Networks, Content & Technology, 48.

⁵⁴ Europe Economics IViR, Lucie Guibault and Olivia Salamanca, "Remuneration of authors of books and scientific journals, translators, journalists and visual artists for the use of their works" [2016] Study Prepared for the European Commission Directorate-General of Communications Networks, Content & Technology, 48.

⁵⁵ E.g. this may arise in situations when an artist, and not a specific work, is tokenized, as in Gramatik example discussed above.

⁵⁶ For more information on what law applies in cross-border copyright scenarios, see e.g. Rita Matulionyte, *Law Applicable to Copyright Infringement: A Comparison of the ALI and CLIP Proposals* (Edward Elgar Publishing, 2011).

⁵⁷ Mark Verstraete, "The Stakes of Smart Contracts" (2019) 50 *Loyola University of Chicago Law Journal* 743, 745.

⁵⁸ See Simon Geiregat, "Cryptocurrencies are (smart) contracts" (October 2018) 34(5) *Computer Law & Security Review* 1144-1149.

⁵⁹ For other legal issues related to smart contracts see e.g. Jean Bacon et al, "Blockchain Demystified: A Technical and Legal Introduction to Distributed and Centralised Ledgers" (2018) 25(2) *Rich. J.L. & Tech.* 1, 50-57 [93]-[108].

⁶⁰ *Copyright Act 1968* (Cth) s 196(3).

this process. However, the question remains whether smart contracts are able to satisfy the formalities for copyright assignment contracts.

Generally, the use of digital platforms and contracts to overcome statutory writing and signing requirements has been reasonably well explored by the courts, which have taken a broad view on enforcement.⁶¹ Australian courts have generally accepted that even where there is a requirement for writing and signing, it is satisfied if the agreement appears as a result of computer data.⁶² However, there are a few issues specifically related to smart (as opposed to merely digital) contracts. According to Szabo (who introduced the concept of smart contracts in 1994), a smart contract is “a computerised transaction protocol that executes the terms of a contract.”⁶³ Therefore, some argue that “a smart contract is not a legally enforceable promise, but an automated mechanical process”, and therefore does not qualify as a legal contract.⁶⁴ However, as Bacon et al argues,

“while this may be true at the level of the computer-readable code, it is unlikely to reflect smart contract use in practice. In reality, the creator of a smart contract will ordinarily need to explain his offer to human counter-parties in human-intelligible language. This explanation can form the basis of the agreement between the parties and thereby determine the terms of the contract.”⁶⁵

Accordingly, it is unlikely that smart contracts *per se*, even if ‘written’ in a computer-readable language, would satisfy the written form requirement. Written instructions should be capable of interpretation by a contracting party, not by a computer, keeping in mind that only certain persons might be able to deduct terms of contract from raw computer code. The written form requirement will, however, be met if the smart contract is accompanied with human-readable instructions (terms of service) that can be explained e.g. in a user interface. This digital form of instructions is likely to satisfy the written form requirement.⁶⁶

Another issue is the signature requirement. Australian courts have given a broad view on what constitutes a signature, extending to recognising that a typed name can constitute a signature.⁶⁷ It is well established that the purpose of a signature is to authenticate communications and to confirm that the party accepts the terms of offer.⁶⁸ Again, in the case of smart contracts, certain specific problems may arise. On the one hand, Blockchains that underlie smart contracts use Public Key infrastructure (PKI) to authenticate the identity of the users participating in the transaction.⁶⁹ It is a

⁶¹ See e.g. Diccon Loxton, “Not Worth the Paper They’re not Written on? Executing Documents (Including Deeds) Under Electronic Documentation Platforms: Part A” (2017) 91(2) *Australian Law Journal* 133, 137-138 and 142-144.

⁶² *Islamic Council (SA) v Federation of Islamic Councils (Aust)* [2009] NSWSC 211, [20]-[22]. See also Diccon Loxton, “Not Worth the Paper They’re not Written on? Executing Documents (Including Deeds) Under Electronic Documentation Platforms: Part A” (2017) 91(2) *Australian Law Journal* 133, 142-144.

⁶³ Nick Szabo, “Smart Contracts” (Recorded on Perma.cc, 1994) <https://perma.cc/KP3Y-AURX> [Date Accessed 10 June 2019].

⁶⁴ See Kevin Werbach and Nicolas Cornell, “Contracts Ex. Machina” (2017) 67 *Duke L.J.* 313, 339–340.

⁶⁵ Jean Bacon et al, “Blockchain Demystified: A Technical and Legal Introduction to Distributed and Centralised Ledgers” (2018) 25(2) *Rich. J.L. & Tech.* 1, [95].

⁶⁶ *Islamic Council (SA) v Federation of Islamic Councils (Aust)* [2009] NSWSC 211, [20]-[22]. See also Diccon Loxton, “Not Worth the Paper They’re not Written on? Executing Documents (Including Deeds) Under Electronic Documentation Platforms: Part A” (2017) 91(2) *Australian Law Journal* 133, 142-144.

⁶⁷ *Islamic Council (SA) v Federation of Islamic Councils (Aust)* [2009] NSWSC 211, [22].

⁶⁸ Vivien Goldwasser and Tony Ciro, “Standards of Behaviour in Commercial Contracting” [2002] 30 *Australian Business Law Review* 369, 383.

⁶⁹ Jean Bacon et al, “Blockchain Demystified: A Technical and Legal Introduction to Distributed and Centralised Ledgers” (2018) 25(2) *Rich. J.L. & Tech.* 1, [20]-[24].

reliable system that has been successfully used by a number of Blockchain platforms.⁷⁰ However, Blockchains and smart contracts are infamous for allowing anonymity of users. Users are able to use their online identities (pseudonyms) to enter smart contracts and avoid identification. There also exist additional measures that may further bolster anonymity when contracting online.⁷¹

It is questionable whether signature requirements would be satisfied if parties could be authenticated only by their pseudonyms without the possibility of verifying their real-world identities. The main purpose of the signature is to disclose the legitimate identity of a person. This is necessary for various purposes, e.g. in case an action of enforcement is brought. Therefore, smart contracts could generally meet the signature requirement only if they enable the authentication of the real-world identity of parties. This is technically possible and depends on the coding of the smart contract.⁷²

In addition, in some European countries there are other requirements for the assignment of copyright. For instance, under the legislation of several European states (e.g. Belgium, France), copyright contracts must specify duration, place of exercise, and the amount of remuneration for each of the rights transferred.⁷³ If this is not addressed in the rights assignment contract, the default position of the courts is to construe the contract strictly, such that the rights assigned by the assignor might be narrower than intended by the parties. If crowdfunding platforms intend to operate in multiple jurisdictions, they need to be aware of and in compliance with the copyright law requirements applicable in those jurisdictions. These requirements will have to be clearly addressed in human-readable instructions attached to smart contracts (as discussed above).

V Conclusion

It is not clear whether Innovation Network will succeed and become a platform where artists can tokenize their creative ideas and successfully attract investment for their projects. However, it is one of many emerging examples of how Blockchain technology can be used to find new ways to commercialize copyright and fund art. The legal analysis of such a project has shown it raises new questions from the perspective of copyright law that do not necessarily have straightforward answers. It raises questions about whether current rules on future assignments of copyright and multiple ownership are suitable for the purposes of such a proposed scheme, or if they will instead act as a hurdle to be overcome in the implementation of such an innovative idea. If Blockchain is going to revolutionize how copyright is commercialized and enforced, its application in different projects is likely to raise ever new questions for copyright lawyers and test the current boundaries of copyright law.

⁷⁰ For more information on the use of PKI including an example, see Murat Yasin Kubilay, Mehmet Sabir Kiraza and Hacı Ali Mantar, "CertLedger: A new PKI model with Certificate Transparency based on blockchain" [2019] 85 *Computers & Security* 333.

⁷¹ Jean Bacon et al, "Blockchain Demystified: A Technical and Legal Introduction to Distributed and Centralised Ledgers" (2018) 25(2) *Rich. J.L. & Tech.* 1, [80]-[84].

⁷² Jean Bacon et al, "Blockchain Demystified: A Technical and Legal Introduction to Distributed and Centralised Ledgers" (2018) 25(2) *Rich. J.L. & Tech.* 1, [84].

⁷³ Martin Kretschmer et al, "The Relationship between Copyright and Contract Law" (2010) 4 *Research commissioned by the Strategic Advisory Board for Intellectual Property Policy*, 70.