MEMORANDUM

To: Chief Executive Officer, FREDÉLO Ltd.
From: In-House Intellectual Property Counsel of FREDÉLO Ltd.
Date: 1 September 2021
Subject: Legal Opinion on the Best Possible Digital Tools, Including Blockchain Technology, to Enhance FREDÉLO Ltd.'s IP management, to Fight Online Counterfeit Product Sale of FREDÉLO Ltd. Products and to Enhance FREDÉLO Ltd.'s Sustainable Ideology

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SUMMARY OF FINDINGS

As the in-house Intellectual Property Counsel of Fredélo Ltd. (FREDÉLO)[1][2], I have been asked to provide FREDÉLO with in-depth recommendations on how it can structure and reinforce its intellectual property (IP) enforcement as well as how it can address current sustainability challenges within luxury fashion industry using online digital solutions, such as blockchain technology. I will address the legal issues, complexities, and possible solutions regarding implementing blockchain technology to enhance FREDÉLO's IP protection and enhance our brand's sustainable ideology.

The Cyber Crimes Unit of the City of London Police has pointed out that especially the *Elodie* bag sold in counterfeit version (online) poses a substantial threat to the luxurious brand image of FREDÉLO.[3] Therefore, I submit it is essential to adopt an industry-wide solution for provenance authentication based on blockchain technology to mitigate the brand-diluting effects of counterfeit luxury goods and facilitate an increase of seizure of counterfeits by enforcement authorities.[4] Moreover, in benchmarking this study for FREDÉLO with Stella McCartney Ltd., it has become apparent that enhancing sustainability is vital in the polluting luxury fashion industry. Blockchain technology offers valuable possibilities to enhance FREDÉLO's position as a sustainability pioneer within the industry, ensure the use of (vegan) eco-friendly materials in FREDÉLO's production process, and uncover unfair working conditions.

I submit that blockchain technology is an efficient and fit-for-purpose technology for FREDÉLO because of the immutability function with its ability to create transparency, the lack of need for burdensome maintenance, the multiple purposes it may serve, its relatively inexpensive nature, its automation function through smart contracts and its complexity to hack. There is a contrary view, however, that the immutable nature of data stored on a blockchain raises concerns as to the 'garbage-in, garbage-out' principle, that the proof-of-work method used in public blockchains leads to a massive carbon-offset, and that no technology, including blockchain technology, is unhackable. Nevertheless, there are several methods to mitigate these

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[1] FREDÉLO is a UK-based company, therefore subject to UK and EU legislation.
[2] Benchmarked with Stella McCartney Ltd.
[3] Contributions from guest lectures by Detective Constable Weizmann Jacobs on 21 October 2020 and Commissioner Dyson of the City of London Police ("Counterfeits, Piracy and Cyber Crimes") on 30 November 2020.
[4] McKinsey, 'The state of fashion 2020' (2020) <https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/the%20state%20of%20fashion%202020%20navigating%20uncertainty/the-state-of-fashion-2020-final.pdf> accessed 7 February 2021.

drawbacks, and as such, I submit the benefits of blockchain technology outweigh the downsides. For that reason, for FREDÉLO, I submit the following key strategies:

1. **Investigate possibilities to collaborate with the WIPO or EUIPO to serve as an independent third party in validating blockchain evidence**

Considering the unregistered nature of copyright in some jurisdictions that are relevant to our brand, it is essential to have valid and strong evidence of the creation date of FREDÉLO designs. Blockchain technology provides an efficient, low-cost, and immutable, thus reliable tool to save evidence of our designs, including their timestamps. Nevertheless, the probative value of evidence stored on our blockchain will significantly increase when validated by an authoritative and independent third party. Therefore, I submit initiating a public-private partnership with the WIPO or EUIPO to serve as independent third parties in validating blockchain evidence, including timestamping.

2. **Register every FREDÉLO design through WIPO PROOF until the legal status of blockchain timestamping is settled**

In the interim of setting up a collaboration with the WIPO or EUIPO and getting our blockchain strategy up and running, I submit to register every FREDÉLO design through the WIPO PROOF mechanism. This new and modern tool proofs our designs are "*first in time, first in right.*"[5]

3. **Collaborate with AURA to adopt an industry-wide provenance authentication mechanism**

I submit collaborating with LVMH's Aura will be the first step towards propagating an industry-wide solution that serves as provenance authentication of luxury goods. Provenance authentication through blockchain technology will increase customer engagement and educate customers about the dangers of purchasing counterfeit items.

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[5] Frederick Mostert & Sheyna Cruz, 'Digital date-and-time-stamping: the evidentiary value and practical significance of WIPO PROOF' (*WIPO Magazine*, January 2021) <https://www.wipo.int/wipo_magazine_digital/en/2021/article_0001.html> accessed 14 March 2021.

4. **Create a public-private partnership with the Cyber Crimes Unit of the City of London Police as well as the United States National Intellectual Property Rights Collaboration Centre**

Public-private partnerships will help to increase seizures of counterfeit products by enforcement authorities. I have investigated this possibility with Detective Weizmann Jacobs of the City of London Police, who responded positively and would be interested in pursuing this opportunity.[6] An essential factor in this partnership is the industry-wide provenance authentication system. Contrary to the current status where every brand has its own system, having one system will, by all means, increase the number of seizures of counterfeit goods by enforcement authorities.

5. **Create NFTs of a limited edition *Elodie* bag to elevate FREDÉLO's designs into art**

Using NFTs linked to limited-edition bags, as one of the first within the luxury fashion industry, will serve as an opportunity for FREDÉLO to become a digital pioneer within the industry. Limited editions are crucial within the luxury fashion industry. Creating 'collectibles' through NFTs will enhance customer engagement, particularly with younger clients who are pivotal in creating upcoming trends.

6. **Be an early adapter of blockchain technology to create transparency and traceability in the supply chain**

The immutable nature of blockchain technology creates an efficient opportunity to provide our customers with a transparent account of our supply chain, enhance our sustainable ideology in terms of vegan materials used, and avoid the association of human slavery and unfair working conditions with our brand.

7. **Adopt proof-of-authority instead of proof-of-work in our blockchain and promote less energy-intensive blockchains**

The proof-of-authority method used in private blockchains is far less polluting than proof-of-work in open and permissionless blockchains. For that reason, aligning with our green ideology, I submit to only adapt proof-of-authority as in Aura and promote the research to less

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[6] Contributions from guest lectures by Detective Constable Weizmann Jacobs (n 3).

energy-intensive and polluting blockchains. In addition, I submit to continuously measure our impact.

8. Mitigate the 'garbage-in, garbage-out' issue through AI

I submit that the effects of the 'garbage-in, garbage-out' issue can be minimised using modern AI. Such system will validate the accuracy of data before it is entered onto the blockchain.

BLOCKCHAIN TECHNOLOGY AS A TOOL FOR IP PROTECTION AND SUPPLY CHAIN TRANSPARENCY

1. In my opinion, blockchain technology is an efficient tool for FREDÉLO to strengthen our IP enforcement programme and provide more transparency in our supply chain to enhance our sustainability goals**.**

1. **Blockchain technology in its essence**

2. Blockchain technology is a form of distributed ledger technology (DLT) and constitutes a peer-to-peer (P2P) network where data records, such as FREDÉLO's fashion designs, are stored in blocks, represented through a unique hash.[7,8] Once every node (participant)[9] in the network verifies a new fashion design, it is added as a new block to the chain. In addition, every block contains a timestamp of when the design was added onto the blockchain, which may evidence the creation date of a FREDÉLO design (*Appendix 1*). I submit that for FREDÉLO, **the most appropriate governance structure is *the private and permissioned blockchain that runs on a private network* (*Appendix 2*), as the **proof-of-work** model that runs on an open and distributed blockchain, often used in the context of cryptocurrencies, has a **massive carbon offset**, which runs counter of FREDÉLO's sustainable beliefs and intrinsic goals (paragraph 61).

3. For the FREDÉLO fashion design to be stored on a blockchain, the design will be hashed using a cryptographic algorithm. **SHA 256 will convert the document that represents FREDÉLO's fashion design into a cryptographic print**. Thus, not the data or genuine document describing the design is stored on the blockchain, but only the hash referring to the record (*Appendix 3*).

4. In my opinion, key benefits of blockchain technology for FREDÉLO include **decentralisation of the system, data immutability, and automation through smart contracts.**[10] Nevertheless, whereas the **immutability** function will be of great advantage to FREDÉLO in **exposing counterfeit goods and creating traceability in our supply chain,**

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[7] Michèle Finck, *Blockchain Regulation and Governance in Europe* (Cambridge University Press 2019), 6.
[8] A hash is the unique fingerprint that represents each block through a set of characters and numbers.
[9] A node is a computer that saves a local version of the distributed ledger.
[10] A smart contract is a contract, albeit not in the legal sense, that automatically executes once a relevant action occurs that is stipulated in the contract.

the function can conversely be detrimental. Once data is stored on the blockchain, and later appears to be erroneous, **it is impossible to correct** (paragraph 0). Nevertheless, **modern artificial intelligence** (AI) supplementing blockchain technology may mitigate this drawback (paragraph 68).

5. Furthermore, **I submit that the complexity to tamper or hack the hash function of a blockchain may be of great significance to our brand.** There will be bugs in every software or digital tool. However, **analysed from a threat-model perspective, blockchain is a very safe tool on a relative basis:** it is difficult to convert the hash in the record for any user unless a participant owns the key.[11] However, FREDÉLO must still have a **security mechanism and backup process** if cybercriminals attempt to copy and rewrite the hashing process on a blockchain.[12]

2. Legal advice to adopt blockchain technology

6. Several existing blockchain technology initiatives in the luxury fashion industry offer great potential for FREDÉLO to build its future IP strategy. I submit the **following ways of adopting blockchain technology for FREDÉLO:**

   i) *Blockchain technology to save evidence of FREDÉLO's designs, including automated timestamping*

7. Online infringement cases of IP rights are usually a race against the clock to preserve relevant evidence. In that regard, timestamping of designs is crucial within the IP realm in the luxury fashion industry: "*first in time, first in right.*"[13] In my opinion, the implementation of blockchain technology to **generate a valid timestamp** and to save **relevant evidence** on a blockchain to serve in court proceedings **can replace existing cumbersome, outdated procedures**[14], such as notarisation of relevant documents[15] involving time constraints and fees (*Appendix 4*).[16,17] Automatic blockchain saving and

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[11] Marie Malaurie-Vignal, 'Blockchain, Intellectual Property and fashion' (2020) 15 Journal of Intellectual Property Law & Practice 92, 93.
[12] As per my discussion with Dr Henry Franks on 25 July 2021.
[13] Mostert & Cruz (n 5).
[14] Alexander Savelyev, 'Copyright the Blockchain Era: Promises and Challenges' (2017) Higher School of Economics Research Paper No. BRP 77/LAW/2017 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3075246> accessed 24 March 2021.
[15] WIPO, 'Survey of Private Copyright Documentation Systems and Practices' (*WIPO*, September 2011) <https://www.wipo.int/export/sites/www/meetings/en/2011/wipo_cr_doc_ge_11/pdf/survey_private_crdocystems.pdf> accessed 22 July 2021.
[16] Frederick Mostert, *From Edison to iPod – protect your ideas and profit* (2nd edition, Portable Magic 2016) 127.
[17] Vivien Chan and others, 'Blockchain Evidence in Internet Courts in China: The Fast Track for Evidence Collection for Online Disputes' (*Lexology*, 15 July 2020) <https://www.lexology.com/library/detail.aspx?g=1631e87b-155a-40b4-a6aa-5260a2e4b9bb> accessed 7 July 2021.

timestamping of hundreds of pages of documents or screenshots of webpages **will cost only GBP 1,1**[18] **at most**.[19] In my opinion, the evidentiary value of blockchain technology lies in its **immutable nature** and because of the high threshold to hack the system (***Appendix 5***).

Registering FREDÉLO's designs through WIPO PROOF

8. When miners validate a transaction, the block on which the FREDÉLO design will be stored contains the unique hash that provides an **immediate and immutable timestamp record** on the block. As such, like the WIPO PROOF token (***Appendix 6***)[20], blockchain technology **generates a date-and-time stamp of every newly created design** when entered onto the blockchain. However, several blockchain timestamping initiatives by private parties have failed to get off the ground because most **courts worldwide only admit evidence verified by an independent third party, notably a government**.

9. For that reason, I submit to get **FREDÉLO's blockchain up and running for design evidence and ensure a government-backed party acts as a qualified and trusted third party who has access to that blockchain.**[21] To illustrate, a drawing of vegan leather boots of FREDÉLO could be timestamped automatically through blockchain technology, and an independent third party is allowed access to our blockchain for validation purposes. In this regard, **I submit initiating a public-private collaboration** between the World Intellectual Property Organisation **(WIPO)** or the European Intellectual Property Office **(EUIPO) and FREDÉLO** and see what options are available for **these governmental institutions to serve as independent third parties in validating blockchain evidence**. In the past years, these authorities have proven to be progressive in the digitisation of IP rights through, for instance, the implementation of the WIPO PROOF token.

10. Pending the outcome of discussions with the WIPO and the EUIPO to serve as independent third parties on our blockchain, I submit to **register every FREDÉLO design through WIPO PROOF proof** to timestamp and evidence our creations. The WIPO PROOF token is a new, modern tool that proves our designs are "*first in time, first in right*."[22] Furthermore,

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[18] Exchanged from USD 1.4 on 22 July 2021.
[19] Kim Lu and Dong Ning, 'China Patent: Chinese Courts respond positively to blockchain evidence' (2019) Managing Intellectual Property <https://www.proquest.com/docview/2307034307/abstract/D2B5E119B06942CEPQ/1?accountid=11862> accessed 21 July 2021.
[20] WIPO serves as an independent and trusted official third party.
[21] This possibility already exists in France: Alice Barbet-Massin, 'Reflections on the legal recognition of blockchain timestamping by the Italian Lawmaker' (*Actualités du Droit*, 28 March 2019) <https://actualitesdudroit.fr/browse/tech-droit/blockchain/20718/reflections-on-the-legal-> accessed 17 March 2021.
[22] Savelyev (n 14).

registrations through WIPO are affordable (CHF 20)[23] and **provide a fast and effective way for FREDÉLO to safeguard evidence of our IP assets**:
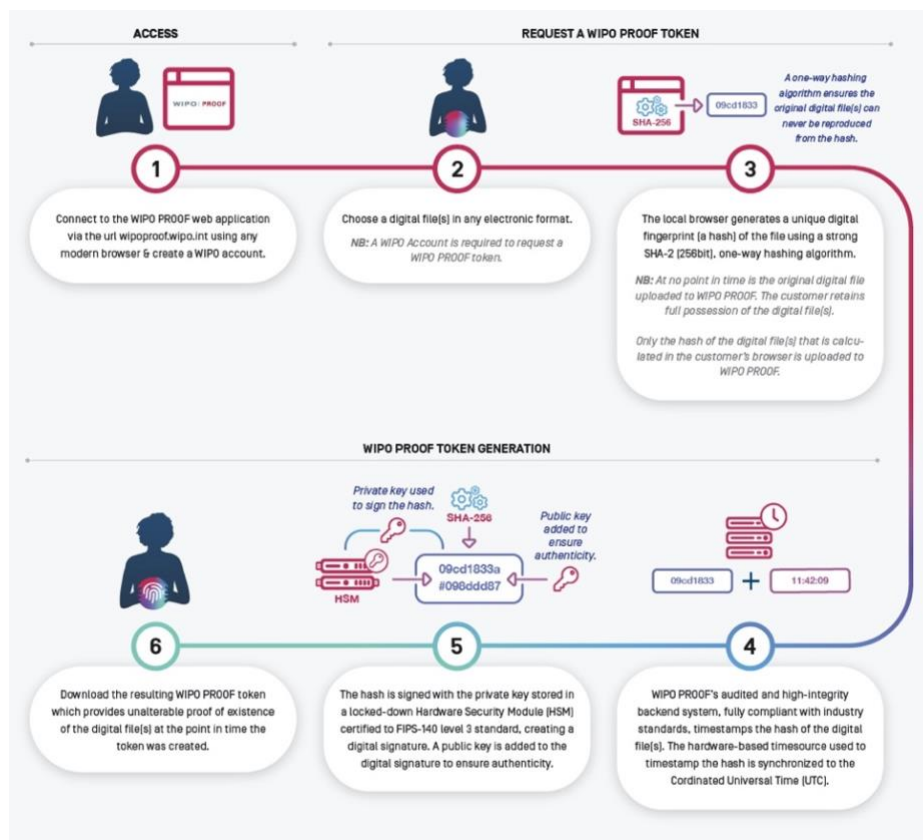
Current legal status of blockchain evidence

11. The WIPO PROOF token as well as initiating a public-private collaboration with the WIPO or EUIPO are efficient solutions to timestamp and evidence our brand's designs. Nevertheless, I submit it is important to keep track of current evidentiary evidence developments regarding blockchain technology in jurisdictions that fall within the scope of our sales' strategy.

FREDÉLO designs stored on a blockchain in China constitutes legally permissible evidence

12. In the People's Republic of China, in my opinion, rules regarding evidence preserved through blockchain technology, specifically regarding IP rights, are **progressive**. In June 2018, the Hangzhou Internet Court launched a **platform on which parties can access blockchain-based evidence deposition**. Furthermore, in 2018, the Supreme Court has

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[23] Which amounts to GBP 15.9, calculated on 22 July 2021.

[24] WIPO <https://wipoproof.wipo.int/wdts/how-it-works.xhtml> accessed 1 July 2021.

recognised the ability of **blockchain technology to serve as evidence in legal proceedings**[25], including evidence of time in copyright disputes, provided that the **authenticity of the blockchain used can be proved**.[26] In examining the probative value of blockchain evidence in court proceedings on a case-by-case analysis, the emphasis of the Hangzhou Internet Court is on the **security of the blockchain in question, content integrity, reliability of the method of saving evidence on the blockchain, the legitimacy of formation,** and how the evidence compares to **other evidence**.[27]

13. The Supreme Court has confirmed these rules in the landmark case *Beijing Weibo Shijie Technology Co., Ltd. v Baidu Online Network Technology (Beijing) Co., Ltd*. Moreover, in September 2018, the Supreme Court promulgated the "*Provisions of the Supreme People's Court on Several Issues Concerning the Trial of Cases by Internet Courts*", confirming that Internet courts may accept evidence that electronic signatures and timestamps are able to authenticate.[28,29]

14. Furthermore, in June 2021, the Chinese Copyright Society launched the **China Copyright Chain**: a digital solution that provides the proof of IP online, including timestamping; it can monitor infringement activities for IP rightsholders, collect online evidence, and issue notices to counterfeit products.[30] Although the China Copyright Chain has not been put into practice at this stage, **I submit it is essential that our legal team keeps track of its implementation and uses it to our benefit.**

Blockchain evidence in the USA is subject to several restrictions

15. In the USA, the Federal Government has not yet used its legislative powers to decide about the admissibility of blockchain evidence in court proceedings. At a federal level, the 'best

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[25] *Hangzhou Huatai Media Culture Media Co., Ltd. v Shenzhen Datotong Technology Development Co., Ltd.* (2018) Zhe 0192 No. 81.
[26] Wolfie Zhao, 'China's Supreme Court Recognizes Blockchain Evidence as Legally Binding', (*Coindesk*, 7 September 2018) <https://www.coindesk.com/chinas-supreme-court-recognizes-blockchain-evidence-as-legally-binding> accessed 7 June 2021.
[27] Lu and Ning (n 19).
[28] Article 11 reads: "*electronic data submitted by the parties concerned, if collected through electronic signature, trusted timestamping, hash value verification, blockchain and other evidence collection, and verified with retention and tamper-proof technical means or via the electronic forensics and deposit platform, which are able to prove its authenticity, the Internet Court shall confirm its authenticity*".
[29] Sylvia Polydor, 'Blockchain Evidence in Court Proceedings in China – A Comparative Study on Admissible Evidence in the Digital Age (as of June 4, 2019)', 2 Stanford Journal of Blockchain Law and Policy 96, 109. See in this regard: Law Commission, 'Smart Contracts – Call for Evidence' (December 2020) <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2020/12/201216-Smart-contracts-call-for-evidence.pdf> accessed 17 March 2021.
[30] David Pan, 'China Launches Copyright Protection Blockchain' (*Coindesk*, 4 June 2021) <https://www.coindesk.com/china-launches-new-copyright-protection-blockchain> accessed 4 June 2021.

evidence rule' and Rule 1002 of the Federal Rules of Evidence[31] constitute the relevant guidance concerning blockchain evidence. **At state-level, New York, Virginia, Illinois, Vermont, Arizona, Washington, and Ohio**[32] **have passed legislation explicitly regulating the admissibility of blockchain evidence in court**. However, limitations of provisions in these jurisdictions that we must consider when safeguarding our designs through blockchain technology include the requirement for **data to be able to be stored and reproduced by all parties in the legal proceedings,** established in Illinois,[33] to have a sort of **human verification, established** in Vermont, and some states like Arizona **do not give legal effect to smart contracts (***Appendix 6***)**,[34] which is relevant in structuring the sale of NFTs connected to limited edition *Elodie* bags (paragraph 34). **Creating a public-private partnership between WIPO or the EUIPO and FREDÉLO** (paragraph 9) **will mitigate the effects of these restrictions.**

In the UK, promising rules on blockchain evidence are in development

16. In the UK, the Digital Architecture and Cyber Security at Her Majesty's Courts and Tribunals (HMCTS) announced plans to launch a **pilot to investigate securely safeguarding evidence on a blockchain**, aiming to modernise court tradition through shifting from paper to digital, as well as facilitating access to information and saving time.[35] In addition, the UK is currently codifying the use of smart contracts into British law.[36] **I submit we follow these developments with great attention.**

In the EU, blockchain evidence is only permissible if validated by an independent third party

17. Currently, blockchain evidence and timestamping in the European Union (EU) is only legally defensible if **validated by an independent and authoritative third party**,[37] for

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[31] That reads: "*An original writing, recording, or photograph is required to prove its content unless these rules or a federal statute provides otherwise.*"

[32] The applicable rules are stipulated in respectively the State of New York Assembly Bill 1683 and Senate Bill 4142, House Bill 2415 'Business Records; electronically registered on a blockchain self-authenticating document', Blockchain Technology Act House Bill 3537, House Act 868, Arizona House Bill 2417, Senate Bill 5638, an Act "Relating to recognising the validity of distributed ledger technology' and Senate Bill 300.

[33] Blockchain Technology Act H.B. 3575 2020.

[34] Alexia Pollacco, 'The Interaction between Blockchain Evidence and Courts – A cross Jurisdictional Analysis' (*BCAS*, 23 April 2020) <https://blog.bcas.io/blockchain_court_evidence#_ftnref6> accessed 23 July 2021.

[35] Paul Sachs, 'The case for blockchain in law and in the courts' (*ITProPortal*, 25 September 2018) <https://www.itproportal.com/features/the-case-for-blockchain-in-law-and-the-courts/> accessed 26 July 2021.

[36] Polydor (n 29).

[37] Anne Rose, 'Blockchain: Transforming the registration of IP rights and strengthening the protection of unregistered IP rights' (*WIPO Magazine*, June 2020) <https://www.wipo.int/wipo_magazine_digital/en/2020/article_0002.html> accessed 17 March 2021.

instance, through a government stamp, because of its credible nature. In the absence of a third authoritative party's validation, blockchain evidence may be regarded as a **'simple electronic timestamp'**[38] according to Regulation (EU) No 910/240 of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation) (*Appendix 7*).[39] Only a **qualified electronic timestamp**[40] **enjoys the presumption of accuracy and integrity of the timestamp** according to Article 41 eIDAS Regulation. A suggested public-private partnership with the WIPO or EUIPO will ensure evidence saved through blockchain technology is regarded as a qualified electronic timestamp by European courts, and consequently enjoy accuracy and integrity as derived from such legal status.

Risks associated with blockchain technology for the purpose of safeguarding FREDÉLO designs

18. Adopting blockchain technology for timestamping and evidencing FREDÉLO designs provides significant benefits, such **as reducing operating costs and improving the data management system.** Moreover, it is burdensome for hackers to forge a blockchain's timestamp of a copyright design. On the other hand, in my view, **there are some inherent risks in using blockchain technology**.

Risks concerning the immutability function

19. One of the issues of blockchain technology in safeguarding evidence of FREDÉLO designs is the **'garbage in – garbage out' risk**: once an employee of FREDÉLO registers a design incorrectly, it is theoretically impossible to correct, and thus, there is no place for human error. Consequently, **the purpose of using the technology becomes obsolete.** For that reason, in my opinion, it is vital to have checks and balances for the process of entering the information onto the blockchain. I submit that **modern AI or other computational tools could complement blockchain technology** to verify data that is to be stored on our blockchain (paragraph 68).

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[38] Malauri-Vignal (n 11), 93.
[39] The eIDAS Regulation distinguishes between a simple, advanced and qualified timestamp, with each level obtaining higher probative value (*Appendix 7*).
[40] The conditions to qualify as a qualified electronic timestamp can be found in Article 42 eIDAS Regulation.

Challenges of blockchain evidence before courts

20. Whereas some jurisdictions are well-advanced and have an excellent understanding of digital tools in legal proceedings, such as the Hangzhou Internet Court in China, I submit that knowledge of **blockchain technology is not a priority for most judges worldwide.**[41] Conversely, **most blockchain workers are IT specialists and have little to no knowledge of the conditions of IP rights and what is required to serve as legal evidence in court proceedings.** Consequently, FREDÉLO might encounter **knowledge gaps,** especially in jurisdictions where rules on blockchain evidence are relatively novel, and where is not much available case law.

21. Moreover, **some of the applicable laws are ambiguous** because there is no one standard blockchain that serves as storage of legal evidence. **Every blockchain works differently** depending on its purpose, i.e., it has a different governance structure, which might cause difficulties when litigating. For instance, in determining the probative value of the evidence, it is often unsure what the court regards to be a secure and reliable blockchain. **Allowing a trusted independent third party to access our blockchain to validate blockchain-stored evidence will prevent questioning the neutrality and authority derived from evidence.**

ii) *Blockchain technology as an anti-counterfeiting tool*

22. In my opinion, **counterfeit FREDÉLO products require scrutiny, as counterfeit products are diluting the luxurious brand reputation of FREDÉLO and may be detrimental to our sustainable focus.** According to a recent report written by the OECD and the EU Intellectual Property Office, counterfeit products add up to 3.3% of global trade, and numbers continue to rise (*Appendix 8*).[42] Blockchain technology provides a **safe routine to verify the authenticity of FREDÉLOs goods**. As such, I submit that the technology can revolutionise anti-counterfeiting and enforcement for FREDÉLO.[43]

23. A possible method is to **attach blockchain-connected tags, Quick Response (CR)-code, seals, or imprints on the product** that will allow consumers to execute **real-time**

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[41] Deyuan Zheng, 'Research on the Judicial Application of Copyright in Blockchain Electronic Deposit' (2020) 517 Advances in Social Science, Education and Humanities Research 293, 295.

[42] OECD, 'Trade in fake goods is now 3.3% of world trade and rising' (*OECD*, March 2019) <https://www.oecd.org/newsroom/trade-in-fake-goods-is-now-33-of-world-trade-and-rising.htm> accessed 8 June 2021.

[43] 'Ruth Burstall and Brigit Clark, 'Blockchain, IP and the Fashion Industry' (2017) Managing Intellectual Property <https://www.proquest.com/docview/1895728735/abstract/89250F5774134D01PQ/1?accountid=11862> accessed 17 March 2021.

provenance authentication, in addition to giving consumers the ability to check every step in the **supply chain** (*Appendix 9*). Furthermore, because of blockchain's inherent transparency and immutability function, the technology can **objectively verify the product's origin** and thus reassure consumers that the product in question is **a genuine FREDÉLO product.**[44]

24. By means of example, the start-up Everledger provides blockchain technology to authenticate the provenance of diamonds for De Beers, Anglo American's AAL.L diamond unit.[45] Blockchain technology is used to record unique characteristics of the diamond, including colour, carat, and a laser-inserted certificate number on the blockchain:[46]
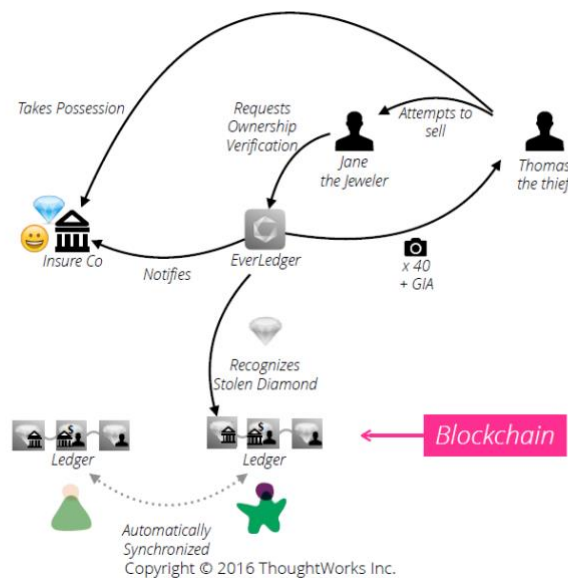
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Aura as an industry-wide provenance authentication system

25. In 2019, Moët Hennessy Louis Vuitton SE (LVMH), in partnership with ConsenSys and Microsoft, announced Aura, a private and permissioned platform based on JP Morgan's Quorum.[48],[49],[50] LVMH has chosen to implement a **consortium structure** to provide for **an**

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[44] Birgit Clark, 'Blockchain and IP Law: A Match made in Crypto Heaven?' (*WIPO Magazine,* 2018)
<https://www.wipo.int/wipo_magazine/en/2018/01/article_0005.html> accessed 17 March 2021.
[45] Barbara Lewis, 'De Beers turns to blockchain to guarantee diamond purity' (*Reuters,* 16 January 2016)
<https://www.reuters.com/article/us-anglo-debeers-blockchain-idUSKBN1F51HV> accessed 20 July 2021.
[46] Calogero Scibetta (Head of Business Development Everledger) during Luxury Law Alliance Seminar 'Is Blockchain soon to be an essential feature for the Luxury Sector?' – Bird&Bird (28 October 2021).
[47] Carlo Guttierez & Alex Khizhniak, 'A close look at Everledger – how blockchain secures luxury goods' (April 2017, *Altoros*)
https://www.altoros.com/blog/a-close-look-at-everledger-how-blockchain-secures-luxury-goods/ accessed 29 July 2021.
[48] The enterprise version of Ethereum.
[49] 'LVMH unveils luxury industry blockchain with Microsoft, ConsenSys' (*Ledger Insights*, 2019) <https://www.ledgerinsights.com/lvmh-luxury-blockchain-microsoft-consensys/> accessed 17 March 2021.
[50] Max Furr, 'Louis Vuitton & Dior are Revolutionizing Authentication Methods Through Blockchain Technology' (*Highsnobiety*, 2019)
<https://www.highsnobiety.com/p/lvmh-blockchain/> accessed 24 March 2021.

industry-wide solution: all luxury fashion brands, including FREDÉLO, may enter the Aura blockchain.[51]

26. In my opinion, an **industry-wide solution that works bottom-up for the purpose of provenance authentication is vital**. Some critics point to plentiful other computer programs that can validate provenance through AI. Nevertheless, blockchain technology provides the **most convenient solution** because of its **earlier implementation and acquaintance with several brands within our industry**. For that reason, I submit building on LVMH's already existing know-how and adjust the blockchain **to FREDÉLO's aims as set out in this memorandum** alongside provenance authentication.

27. On a different note, one matter that needs further investigation, in my opinion, is the risk that **due to the fact that data on the blockchain cannot be altered, LVMH will retain ultimate control over the governance of the blockchain and thus control over what can and will be tracked.**[52]

Collaboration with enforcement authorities

28. The greatest battle against counterfeit product sales takes place online. **For that reason, I submit to establishing a private-public partnership with the Cyber Crimes Unit of the City of London Police**[53] **and the United States National Intellectual Property Rights Collaboration Centre** (IPR Centre).[54] Close and constant collaboration through blockchain technology will help stop online counterfeiters from operating, by giving public authorities the tool (i.e., blockchain technology provenance authentication) **to detect counterfeit goods** and cease such parties from operating online, while **mitigating the dilution of FREDÉLO's brand** (*Appendix 10*).

29. In facilitating the public-private initiative with enforcement authorities, the proposed industry-wide solution based on Aura **will enable a practical working perspective**. Whereas currently, brands all have their **own tools** to identifying counterfeit goods, which has created a troublesome overview for enforcement authorities, a **holistic and industry-**

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[51] ConsenSys,'Press release: LVMH, ConsenSys, and Microsoft Announce Consortium for Luxury Industry' (*ConsenSys,* 16 May 2019) <https://consensys.net/blog/press-release/lvmh-microsoft-consensys-announce-aura-to-power-luxury-industry/> accessed 17 March 2021.
[52] -'How Luxury Fashion Learned to Love the Blockchain' (*Business of Fashion*, 2 April 2019) <https://www.businessoffashion.com/articles/technology/how-luxury-fashion-learned-to-love-the-blockchain> accessed 2 July 2021.
[53] Contributions from guest lectures by Detective Constable Weizmann Jacobs (n 3).
[54] See in this regard: IPR Center, 'About Us – Global Trade Investigations Division' <https://www.iprcenter.gov/about> accessed 8 July 2021.

wide approach will facilitate a more straightforward process for enforcement authorities to seize counterfeits. In addition, **I submit a partnership of this kind would decrease the cost of injunctions significantly.**

iii) *__The use of NFT's to elevate FREDÉLO's designs into art__*

30. One trending topic in modern pop culture that I submit FREDÉLO to consider engaging in, regards **non-fungible tokens (NFTs).** A NFT is a cryptographic asset that serves as a digital certification of ownership rights attached to digital assets.[55] The commercial value of NFTs lies in proving **ownership and authenticity of the digital asset it is representing**.[56] Blockchain technology is used to record the **ownership of the NFTs and validate authenticity**. In contrast to cryptocurrencies, NFTs are non-fungible, meaning that NFTs are non-interchangeable and, as such, unique (***Appendix 11***).[57]

31. **The use of NFTs provides a progressive opportunity for FREDÉLO to capitalise on digital innovation.** Examples of NFTs include:

[55] The Fashion Law, 'From Royalties to Resale Restrictions, What Would Tying NFTs to Luxury Goods Look Like' (*The Fashion Law,* 14 April 2021) <https://www.thefashionlaw.com/from-royalties-to-resale-restrictions-what-would-linking-nfts-to-luxury-goods-look-like/> accessed 22 June 2021.
[56] Lynne Lewis and others, 'NFTs and copyright Law' (*Bird&Bird*, June 2021) <https://www.twobirds.com/en/news/articles/2021/australia/non-fungible-tokens-nfts-and-copyright-law> accessed 24 June 2021.
[57] Jeremy Goldman, 'A Primer on NFTs and Intellectual Property' (*Lexology*, 11 March 2021) <https://www.lexology.com/library/detail.aspx?g=d96ed012-8789-4e87-bc1d-70ba76569c0f> accessed 22 June 2021.

- A piece of NFT art, 'The first 5,000 days', created by digital artist Beeple, auctioned for GPB 50 million by Christie's in 2021:[58],[59]
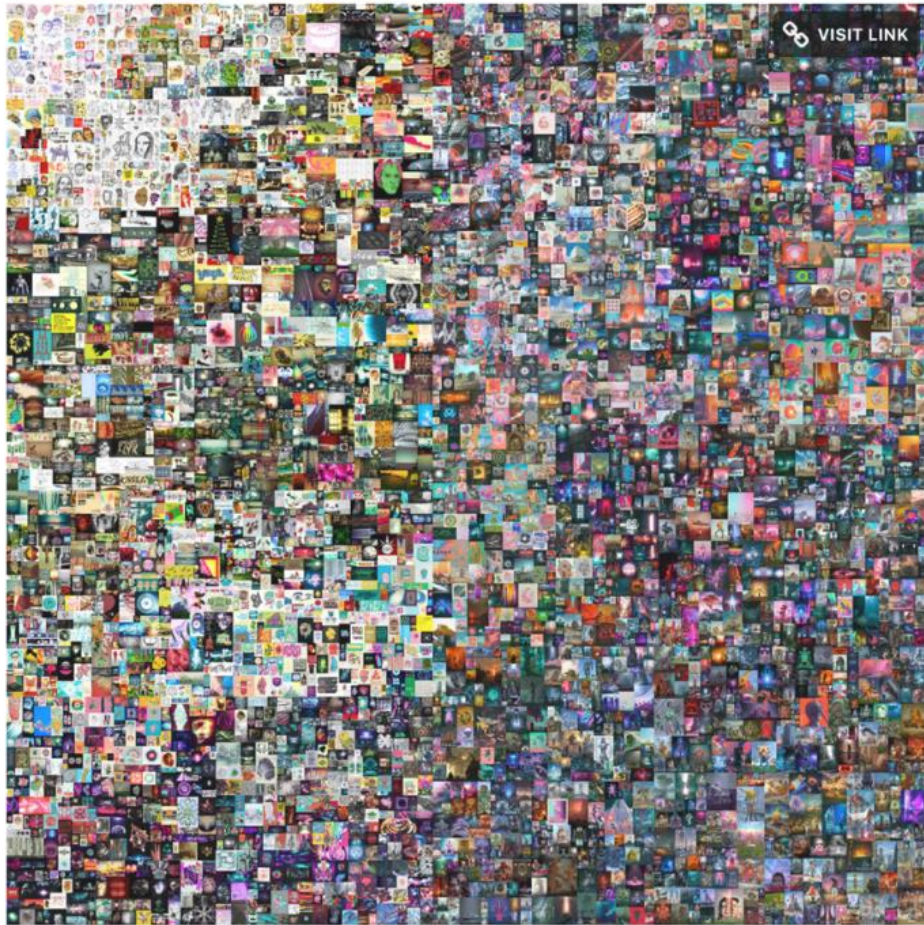
Beeple (b. 1981), EVERYDAYS: THE FIRST 5000 DAYS, 2021. Non-fungible token (jpg). 21,069 x 21,069 pixels (319,168,313 bytes). Minted on 16 February 2021. Sold for $69,346,250 in a single lot sale concurrently with First Open.

[60]

[58] Converted from USD 69 million on 22 July 2021.
[59] Jacob Kastrenakes, 'Beeple sold an NFT for $69 million' (*The Verge*, 11 March 2021)
<https://www.theverge.com/2021/3/11/22325054/beeple-christies-nft-sale-cost-everydays-69-million> accessed 24 June 2021.
[60] Christie's, 'Beeple's Opus' <https://www.christies.com/features/Monumental-collage-by-Beeple-is-first-purely-digital-artwork-NFT-to-come-to-auction-11510-7.aspx> accessed 24 June 2021.

- The original source code of the world wide web created by Sir Tim Berners-Lee for GBP 2.8 million:[61],[62]

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[61] Converted from USD 3.9 million on 22 July 2021.

[62] BBC, 'What are NFTs and why are some worth millions' (*BBC*, 12 March 2021) <https://www.bbc.com/news/technology-56371912> accessed 17 July 2021.

[63] Sotheby's, 'This changed everything: Source Code for WWW x Tim Berners-Lee, an NFT' <https://www.sothebys.com/en/buy/auction/2021/this-changed-everything-source-code-for-www-x-tim-berners-lee-an-nft/source-code-for-the-www> accessed 17 July 2021.

- The first tweet of Jack Dorsey in NFT-format that was sold for GBP 2.1 million:[64]
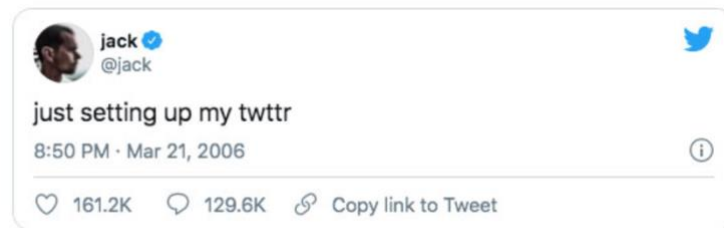
65

- A dunking LeBron James, sponsored by Nike, which was sold for GBP 149,000.[66] Recently, Nike has put more emphasis on the use of NFTs in its marketing strategy (*Appendix 12 & 13*).[67]

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[64] Converted from USD 2.9 million on 22 July 2021.

[65] Ledger Insights 'Jack Dorsey sells his first tweet as an NFT for USD 2.9 million' (Ledger Insights, 23 March 2021) <https://www.ledgerinsights.com/jack-dorsey-sells-his-first-tweet-as-an-nft-for-2-9-million/> accessed 24 June 2021.

[66] Converted from USD 208,000 to GPB on 30 July 2021.

[67] Through, for instance, Nike's utility patent 'CryptoKick NFT': every time Nike creates a new shoe design, it makes a corresponding CryptoKick NFT, including a Unified Product Identifier, containing a digital version of the shoe. As soon as a consumer buys a pair of Nike shoes, the consumer receives the CryptoKick NFT and can resell its physical or digital asset(s). More importantly, the CryptoKick NFT allows consumers to combine tokenised shoes "to breed a new shoe offspring." See in this regard: Robert Hoogendoorn, 'Breed new Nike Shoes through blockchain technology' (*Data Driven Investor*, 12 December 2019) <https://medium.datadriveninvestor.com/breed-new-nike-shoes-through-blockchain-technology-505138db9e17> accessed 7 July 2021.

[68] -'Why one guy paid $208k for a video clip of LeBron James dunking' (*The Hustle*, 7 March 2021) <https://thehustle.co/why-one-guy-paid-208k-for-a-video-clip-of-lebron-james-dunking/> accessed 24 June 2021)).

- The album 'When you See yourself' of King's of Leon in NFT-form, granting buyers the right to download the album and giving buyers access to buying VIP ticket sales.[69]
- A series of 'Weird Whales' NFTs created by a 12-year old, sold for GBP 290,000 in total (***Appendix 14***).[70]

32. Other notable examples include the sale of the cryptocurrency cat Dragon (***Appendix 15***)[71] and the 'Burned Picasso'; an anonymous artist collective has burned an original Picasso, 'Fumeur V', with the idea to preserve the piece by making it immutable in the blockchain forever (***Appendix 16***). In essence, NFTs **transfer the value of physical objects from the real world to the digital world**.[72]

NFT Applications for FREDÉLO

33. For FREDÉLO, I submit the following NFT applications:

1. *Limited edition Elodie NFT*

34. First, NFTs can serve as a digital tool for tokenising a fashion asset created by FREDÉLO. For that reason, **I submit linking NFTs to the physical world through selling NFTs connected to limited edition *Elodie* bags, including the original digital drawing, for the first 1,000 customers:**

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[69] Samantha Hissong, 'Kings of Leon will be the first band to release an album as an NFT' (*Rolling Stones*) <https://www.rollingstone.com/pro/news/kings-of-leon-when-you-see-yourself-album-nft-crypto-1135192/> accessed 30 July 2021.
[70] Zoe Kleinman, 'Twelve-year-old boy makes GPB 290,000 from whale NFTs' (*BBC*, 27 August 2021) <Twelve-year-old boy makes £290,000 from whale NFTs - BBC News> accessed 29 August 2021.
[71] Mark Serrels, 'Someone just bought a cryptocurrency cat for $172,000' (*CNET*, 4 September 2018) <https://www.cnet.com/news/cryptokitties-bought-a-digital-cat-for-172000/> accessed 24 June 2021.
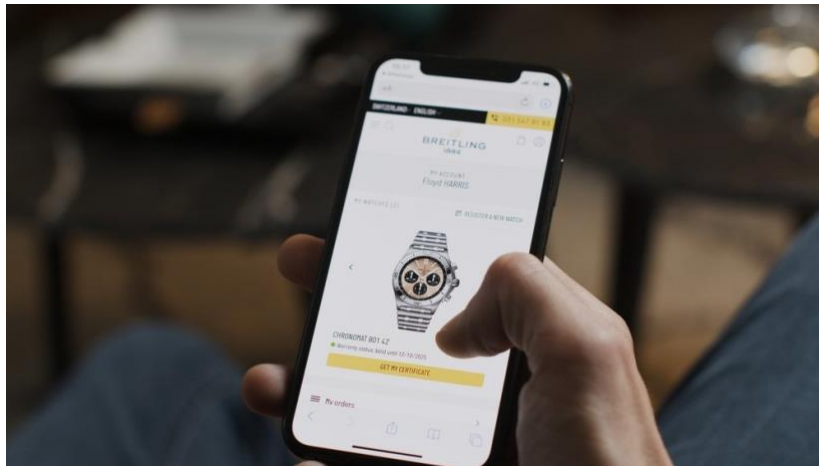[72] Knew Amsterdam, 'Bonus Episode: Burned Picasso Decentricity' (*Twitter*, 28 June 2021) <https://twitter.com/burnedpicasso> accessed 20 July 2021; Brenna Hughes Neghaiwi, 'Shares in Picasso painting go up for grabs at $6,000 in blockchain sale' (*Reuters*, 15 July 2021) <https://www.reuters.com/lifestyle/shares-picasso-painting-go-up-grabs-6000-blockchain-sale-2021-07-15/ > accessed 20 July 2021.
[73] Example of what an limited edition *Elodie* could look like. See in this regard: Anna Lau, 'Handbag Sketches' <Pin de Anna Lau em bag | Desenho de moda, Bolsa infantil, Sacolas (pinterest.com)> accessed 30 July 2021.

35. Selling limited edition *Elodie* bags connected to NFTs will be part of a **marketing campaign** to sell luxury collectibles and make the brand of FREDÉLO **young and relevant** in the digital arena. Selling NFTs will enhance consumer connection in the age group of 18-25 years old, the target group in creating future trends. Furthermore, limited editions provide an interesting opportunity for the FREDÉLO **to enhance its exclusive character and elevate the design to digital art.**

2. *NFT as a provenance authentication tool*

36. Second, NFTs could be used by FREDÉLO as an authentication tool. For instance, Aura is already utilising Ethereum's ECR 721 NFT standard for the trace authenticity of goods.[74] Similarly, Breitling issues a 'digital passport' in certifying authentication for its watch:[75]

3. *Exercising control over resale of limited-edition products*

38. I submit that a third application could be **using NFTs to restrict resale, specifically in the context of limited edition *Elodie* bags that may be subject to undesired surge pricing**

37. To use NFTs as a provenance authentication tool, as suggested by Aura, I should recall **that NFTs as a tool for authentication may only be relevant to the authentication of the digital token itself and not to the associated physical, creative work.**

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[74] Ian Allison, 'Louis Vuitton Owner LVMH is Launching a Blockchain to Track Luxury Goods' (*Coindesk*, 26 March 2019) <https://www.coindesk.com/louis-vuitton-owner-lvmh-is-launching-a-blockchain-to-track-luxury-goods> accessed 14 June 2021.

[75] Lewis and others (n 56).

[76] 'Breitling becomes the first luxury watchmaker to offer a digital passport based on blockchain for all of its new watches' (*Breitling*, 13 October 2020) <https://www.breitling.com/ca-en/news/details/breitling-becomes-the-first-luxury-watchmaker-to-offer-a-digital-passport-based-on-blockchain-for-all-of-its-new-watches-33479> accessed 24 June 2021.

when resold. When selling or auctioning a limited-edition product or design, it is vital to control the resale of purchased products to maintain exclusivity. Some brands, like Hermès, use terms of sale in their customer receipts to prevent resale operations from damaging the exclusivity of the brand:

39. In this respect, when a customer buys a limited-edition *Elodie* bag, a NFT would be tied to the physical product. NFTs, together with **smart contracts, would block resale and record details of ownership of the bag and repair history information.**

40. Contrary to reselling, NFTs could be used by FREDÉLO as a tool to **collect royalties on every resale.**[78] With enhanced consumer understanding of a circular economy and increased demand for more sustainable fashion, the second-hand fashion market is rapidly growing with a predicted annual growth of 15-20% in the coming five years, represented by big players such as *Vestiaire Collective*.[79] Considering our sustainable philosophy, I submit that reselling the limited edition *Elodie* designs **connected to NFTs should be allowed**, albeit under conditions to prevent surge resale prices. **Resale terms would be encoded through smart contracts on the blockchain, allowing for FREDÉLO to receive royalties with every resale.** In addition, NFTs would be linked to the physical FREDÉLO product. In that regard, in my view, it is fundamental to have **legal contracts complementing self-executing smart contracts**, as smart contracts, contrary to what their name suggests, **are currently not legally binding in the majority of jurisdictions that are relevant to our brand**.[80]

Legal risks associated with NFTs

41. FREDÉLO NFTs as collectibles following the suggested applications outlined above may greatly benefit our brand to set us on the map as **a digital pioneer** within the luxury fashion industry. Nevertheless, I submit some **legal issues** that must be considered:

1. *Copyright issues*

42. **First, I submit NFTs create legal uncertainty as to the difference between ownership of an *Elodie* NFT as a unique token versus the ownership of the bag design the NFT is**

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[77] -'Hermes Buyer Beware: Read Your Receipts' (*Pursebop*) <https://www.pursebop.com/hermes-fineprint-on-receipt/> accessed 23 June 2021.

[78] -'Understanding the real potential of the luxury second-hand market' (*CPP Luxury*, 2 October 2020) <https://cpp-luxury.com/understanding-the-real-potential-of-the-luxury-second-hand-market/> accessed 2 July 2021; Dror Poleg, 'NFTs and the future of work' (*Dror Poleg*, 25 March 2021) <https://www.drorpoleg.com/nfts-and-the-future-of-work/> accessed 26 July 2021.

[79] Pursuant to a consumer survey of 7,000 individuals from 6 countries conducted by BCG. See in this regard: Sarah Willersdorf and others, 'The consumers behind fashion's growing second-hand market' (*BCG*, 20 October 2020) <https://www.bcg.com/publications/2020/consumer-segments-behind-growing-secondhand-fashion-market> accessed 2 July 2021.

[80] In the UK, Italy, and several states of the USA, smarts contracts are eligible in some instances to qualify as legally valid contracts.

contemplating.[81] Thus far, courts have not considered copyright-related instances relating to NFTs, and as such, in my view, it is advisable to follow established copyright law.

43. In analysing NFTs from a copyright law perspective, I submit it is essential to **decompose the different property concepts** underlying the NFT, as every piece will have property rights independently. First, there is the **underlying reference asset**, which, in the case of the limited edition *Elodie* bag, is the original physical piece and the digital piece **transposed into a digital form**. Second, there are the **actual property assets of the NFT as a token itself**. Third, there is the **user interface and all the ancillary information stored on the blockchain underlying the NFT**.[82]

44. Proof of ownership is recorded on the blockchain underlying the NFT. I submit that the **buyer does not become the owner of the image or design copyright that the NFT represents**, **nor does it receive the right to retransform the work of art.**[83] Consequently, **the NFT buyer's ability to share or display the work without the risk of being held liable for copyright infringement is appreciably limited**.[84] In the USA, the court ruled in *Capitol Records LLC v. Redigi Inc.*[85] applying the first sale doctrine,[86] that the resale of digital music files constituted infringement of the reproduction and distribution rights.[87,88] Although there is no specific copyright ruling in the United States in the context of NFTs, it is plausible that the **US legal approach may crucially impact the resale rights of NFT buyers in that jurisdiction.**

45. On the other hand, I submit that in the **EU, the resale of NFTs in copyright context is expected to pose fewer hurdles**. According to a judgement rendered by the European Court of Justice (CJEU) in 2012,[89] the resale of purchased and used software falls under the

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[81] Ghaith Mahmood, 'NFTs: What are you buying and what do you actually own?' (*The Fashion Law*, 18 March 2021) <https://www.thefashionlaw.com/nfts-what-are-you-buying-and-what-do-you-actually-own/> accessed 24 June 2021.
[82] TalksOnLaw, 'How do NFT Royalties Work? We ask two blockchain lawyers …' (*YouTube*, 18 June 2021) <https://www.youtube.com/watch?v=DEINmfesK7Q> accessed 26 July 2021.
[83] Moish E. Peltz, 'IP and Non-Fungability: The Intersection of Intellectual Property and NFTs' (*Falcon, Rappaport & Berkman PLLC*, 15 March 2021) <https://frblaw.com/2021/03/15/intellectual-property-and-nfts/> accessed 25 June 2021.
[84] David Ervin and others, 'NFT Risks and Opportunities in the IP Advertising, and Brand Management Spaces' (*Retail and Consumer Law Observer,* 20 April 2021) <https://www.retailconsumerproductslaw.com/2021/04/nft-risks-and-opportunities-in-the-ip-advertising-and-brand-management-spaces/> accessed 25 June 2021.
[85] Capitol Records, LLC v. ReDigi Inc., 934 F. Supp. 2d 640 (S.D.N.Y 2013), aff'd, 910 F.3d 649 (2d Cir. 2018).
[86] 17. U.S.C. §109(a) (2012).
[87] *Capitol Records LLC v. Redigi Inc.* (n 85), at 647.
[88] Philip Shaverdian, 'Blockchain-based Digital Assets and the Case for Revisiting Copyright's First Sale Doctrine' (*UCLA Law Review,* 19 February 2019) <https://www.uclalawreview.org/blockchain-based-digital-assets-and-the-case-for-revisiting-copyrights-first-sale-doctrine-2/#_ftn28> accessed 25 June 2021.
[89] Case C-128/11 *UsedSoft GmbH v Oracle International* ECLI:EU:C:2012:407.

exhaustion principle in Article 4(2) Computer Programs Directive.[90] Consequently, the subsequent acquirer is lawful and may benefit from the right of reproduction as envisaged in Article 5(1) Computers Programs Directive. Nevertheless, in my opinion, the fact that **NFTs' unharmonised copyright law framework, and specifically exhaustion, are yet neither clarified nor by the legislator nor by the (national) courts, may cause discomfort in the sale of FREDÉLO NFTs.**

2. *Risk of false advertisement*

46. Second, I submit that because of the **technological complexity associated with NFTs**, NFT purchasers may not be fully aware of **what rights they obtain at the moment of sale**, **notably regarding the copyright with a related design**. When the copyright ownership of FREDÉLO is not expressly waived through writing in the NFT sales contract, **the buyer of an NFT only buys a non-implied license to show the acquired media that the NFT represents in the customer's token wallet, solely for personal use**.[91] The uncertainty about what consumers are purchasing may result in **false advertising** that might violate 15 USC § 45 in the USA or the Unfair Commercial Practices Directive[92] in the EU.

47. I submit that FREDÉLO must contour **clear and precise ownership rules in every NFT transaction.** For that reason, I recommend that **the NFT sales contract distinguishes between the different layers of ownership** (paragraph 43). In that regard, I have provided a template NFT license created by Dapper Labs (***Appendix 17***).[93] The license template allows for digital portability (i.e., a personal license to show the art associated with the NFT) and provides for commercialisation of the NFT.[94] However**, I submit not to allow commercialisation of FREDÉLO NFTs since the value of FREDÉLO's luxury nature depends on what our head designer has created herself**.[95] Moreover, **the opportunity to commercialise the limited edition *Elodie* design NFT could encourage the risk of**

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[90] Directive 2009/24/EDC of the European Parliament and of The Council of 23 April 2009 on the legal protection of computer programs (OJ 2009 111, p. 16).

[91] Lewis (n 56).

[92] Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 *(*OJ L 149, 11.6.2005, p. 22).

[93] The operator of NBA Top Shot.

[94] Dapper Labs 'NFT License 2.0: Why a NFT can do what no other creative IP can do' (*Medium*, 22 January 2019) <https://medium.com/dapperlabs/nft-license-2-0-why-a-nft-can-do-what-mickey-mouse-never-could-27673d5f29aa> accessed 28 June 2021.

[95] For that reason, I recommend leaving the commercialisation aspect out of terms and conditions, unlike the Dapper Labs Terms of Service (see Appendix 12).

brand dilution. To illustrate, a digital piece of art originating from Banksy sold as an NFT was burned and destroyed and resold by a critique of the art market:[96]

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[96] Christina Criddle, 'Banksy art burned, destroyed, and sold as token in 'money-making stunt' (*BBC*, 9 March 2021) <https://www.bbc.co.uk/news/technology-56335948> accessed 28 June 2021.

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3. *Volatility of NFTs*

48. **Third, I submit that we need to consider whether our brand wants to engage in speculative actions committed to the hype (*Appendix 18 & 19*).** The question is if NFTs "*gives to airy nothing a local habitation*" and if they are built to last.[98] The potential value is wholly dependent on how much another party is willing to pay for it.[99] As such, there is no basis for the price of NFTs. Aura has previously recommended not to sell NFTs because of their **fear of losing longevity associated with luxury brands**.[100]

4. *Enforcement and regulatory issues*

49. **Fourth, in my opinion, in terms of enforcement, it may be challenging, if not impossible, to stop copycats from using FREDÉLO's trade mark or copyrighted design when used in an NFT.**[101] Anyone can create an NFT, even if they do not own a copyright in the work or the applicable trade mark. Although most existing copyright legislation encompasses such violations, the type of conduct will be entirely novel for courts and, as such, may be subject to **uncertain**, **costly, and lengthy litigation procedures**.

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[97] Burnt Banksy, 'Authentic Banksy Art Burning Ceremony' (*Youtube*, 4 March 2021) <https://www.youtube.com/watch?v=C4wm-p_VFh0> accessed 28 June 2021.

[98] William Shakespeare & Madeleine Doran, *A midsummer's Night Dream* (Penguin Books 1959).

[99] Peltz (n 83).

[100] Maghan McDowell, 'The Blockchain playbook: From LVMH's Aura to Arianee' (*Vogue Business*, 26 April 2021) <https://www.voguebusiness.com/technology/the-blockchain-playbook-from-lvmhs-aura-to-arianee> accessed 24 June 2021.

[101] James Purtill, 'Artist report discovering their work is stolen and sold as NFT's' (*ABC Science*, 15 March 2021) <https://www.abc.net.au/news/science/2021-03-16/nfts-artists-report-their-work-is-being-stolen-and-sold/13249408> accessed 25 June 2021.

Implementation of NFTs as a kickstart for unprecedented potential

50. In my opinion, **the use of NFTs to connect the real world to the digital world, as well as a tool to authenticate products, is captivating**. However, it is crucial for our business to consider that there are **not many practical examples as to how to implement the NFTs in a business strategy.** Nevertheless, I submit **NFTs are taking off in practice and that the technology is sound**. By means of example, Alibaba has recently launched a new service called 'Blockchain Digital Copyright and Asset Trade' on Alibaba Auction, where artists can sell rights of their creative works, which are in turn issued through NFTs.[102] Moreover, Donna Karan New York (DKNY) has recently announced it will relaunch and auction its logo as an NFT (*Appendix 20*), aiming to target Gen-Z customers.[103]

51. As such, I submit that FREDÉLO **should consider implementing NFTs in its sale strategy**, especially considering that the **legal risks can be minimised**. Moreover**, limited-edition designs are crucial within the luxury fashion industry**. Having a limited edition *Elodie* bag in a new guise has the potential to be the **kickstart of exceptional development**.

iv) ***Transparency in the supply chain through blockchain technology***

52. The fashion industry characterises itself by large production volumes, minimum response times, and low prices[104] and is one of the world's most polluting industries (*Appendix 21*).[105] Furthermore, creating a fashion item from raw materials is a **complicated process involving a multi-layered production process.** I submit that since the public has gained more awareness of global warming through public voices such as Greta Thunberg, and since the 2015 United Nations Sustainability Development Goals (UNSDG) (*Appendix 22*), **our brand should enhance our emphasis on sustainability.**

53. In my view, blockchain technology could provide for **more transparency and traceability** in FREDÉLO's supply chain (*Appendix 23*) to achieving the following two goals. First, the

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[102] Yosh Ye, 'Alibaba's new blockchain auction platform is selling Star Wars art on a ledger run by Sichuan's government' (*South China Morning Post*, 17 August 2021) <Alibaba's new blockchain auction platform is selling Star Wars art on a ledger run by Sichuan's government | South China Morning Post (scmp.com)> accessed 29 August 2021.
[103] Ledger Insights, 'DKNY promoted new logo through NFT launch' (*Ledger Insights*, 31 August 2021) <https://www.ledgerinsights.com/dkny-promotes-new-logo-through-nft-launch/> accessed 31 August 2021.
[104] Juan José Bullón Pérez and others, 'Traceability of Ready-to-Wear Clothing through Blockchain Technology' 12 *Sustainability* (2020) <www.mdpi.com/journal/sustainability> accessed 6 July 2021.
[105] World Economic Forum, 'These facts show how unsustainable the fashion industry is' (31 January 2020) <https://www.weforum.org/agenda/2020/01/fashion-industry-carbon-unsustainable-environment-pollution/> accessed 2 July 2021.

use of blockchain technology will enhance **FREDÉLO's eco-friendly reputation**. Second, blockchain technology will bring to light **unsustainable outsourcing** (to foreign countries) **and thus contribute to creating fairer working conditions**:
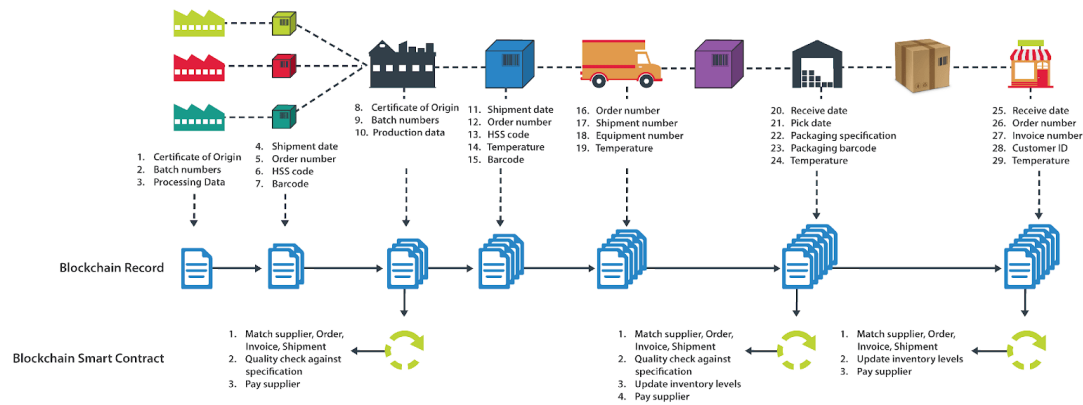
On the other hand, a critique of using blockchain technology to enhance transparency in our supply chain is blockchain's **carbon footprint** (paragraph 61).

1. *Blockchain technology to enhance our eco-friendly reputation*

54. Sustainability presents the **core identity of our brand** (*Appendix 24*). As such, in my opinion, it is more important than ever for FREDÉLO to live up to this element of the brand's ideology. I submit that **the immutability function** of blockchain technology provides for a solution in achieving **traceability of what materials are used and how and where these are processed in the supply chain** (*Appendix 25*).

FREDÉLO's past initiatives concerning sustainability

55. The fact that brands have **little to no sight of the materials used in production processes** in tier four of the supply chain[107] is, in my opinion, the biggest issue regarding sustainability within our industry. However, contrary to most brands, **our brand's intrinsic motivation is to give customers full disclosure about the materials used in the supply chain**. For

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[106]Alberto Cellini, 'LVMH, Consensys and Microsoft: visionary supply chain with Blockchain' (*Crypto Infos EU*, 27 May 2019) <https://cryptoinfos.eu/lvmh-consensys-microsoft-supply-chain-with-blockchain/> accessed 30 July 2021.
[107] Raw material production.

instance, FREDÉLO is a signatory, with 60+ leading global brands, of the **Fashion Pact** (2019) (*Appendix 26*). This international coalition aims to mitigate climate change, restore biodiversity, and protect the oceans.[108] The Fashion Pact includes already existing agreements, such as the United Nations Fashion Industry Charter for Climate Action (*Appendix 27*), which aims to cut greenhouse gas emissions by 2030 and have a net-zero emission rate by 2040.[109]

56. There have been some **successful precedents** of applying blockchain technology in creating more transparency in supply chains that are**,** in my opinion, **relevant to the implementation of the technology for FREDÉLO**. For instance, the 'GoGo Chicken' initiative in Guizhou, China, allows customers to track pre-purchased organically farmed chickens. Information such as the chicken's age, daily step count, and day of death are all recorded on the blockchain (*Appendix 28*).[110] Another example is the tuna industry experimenting with blockchain technology that verifies that tuna has minimal bycatch (paragraph 60).[111]

No current legal obligation for FREDÉLO to deliver transparency

57. At this current stage, **FREDÉLO is not legally obliged to give transparency in its supply chain through penalties**. For instance, in the United States, the Supply Chain Act 2010 in California only gives an obligation for parties with an annual turnover exceeding USD 10,000 to provide insight into its product supply chain. Still, there are no supporting measures guaranteeing parties adhere to this obligation.[112] Although existing legislation does not currently bind our brand, I submit that it is **fundamental for FREDÉLO to continue to execute self-regulation in this regard, strive for circularity, be fully transparent, and continuously measure our impact.**

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[108] The Fashion Pact, 'About the Fashion Pact' <https://thefashionpact.org/?lang=en> accessed 10 June 2021.

[109] United Nations Climate Change, 'About the Fashion Industry Charter for Climate Action' <https://unfccc.int/climate-action/sectoral-engagement/global-climate-action-in-fashion/about-the-fashion-industry-charter-for-climate-action> accessed 15 June 2021.

[110] Nicole Lim, 'The Blockchain Chickens Bringing the Future to Free-Range' (*Sixth Tone*, 2018) <https://www.sixthtone.com/news/1002804/the-blockchain-chickens-bringing-the-future-to-free-range> accessed 15 June 2021.

[111] Adam Sulkowski, 'Blockchain, Business Supply Chains, Sustainability, and Law: The Future of Governance, Legal Frameworks, and Lawyers?' (2018) 43 *Delaware Journal of Corporate Law* (forthcoming) 303, 312.

[112] Fashion Law London, Conference 'The New Age of Fashion: Sustainable Horizons' (13 April 2021).

## 2. *Blockchain technology to provide insight into unfair working conditions*

58. Working conditions and human rights abuses, including child labour, are sensitive topics within the luxury fashion industry (*Appendix 29 & 30*).[113] In my opinion, **it is imperative to touch upon this topic in this legal opinion because of the abilities that blockchain technology provides to expose such abuses**. First and foremost, it is essential to mention that unfair working conditions do not uniquely take place overseas, but also within the UK. Our brand strives for fairness in healthy and safe working conditions. Furthermore, I submit that generating greater traceability in the supply chain through blockchain technology could set an **example for the entire luxury fashion industry.**

59. In the United Kingdom, FREDÉLO is subject to section 54 UK Modern Slavery Act 2015, which obliges FREDÉLO to publicise a statement of slavery and human trafficking and subjects our brand to fines in case of non-compliance. Similarly, as mentioned previously, FREDÉLO is subject to the Californian Supply Chain Act 2010. I submit that implementing blockchain technology will effectively ensure FREDÉLO is **producing its products fairly and responsibly, will create more awareness for the end-consumer about ethically produced garments, and secure compliance with the obligations arising from relevant legislation.**

60. A precedent that could be used as a benchmark for FREDÉLO is the use of blockchain technology by Everledger (paragraph 24). The unique fingerprint of each diamond that is saved on the blockchain **tracks whether the diamond is free from slave labour**.[114] Another instructive example is the use of blockchain technology by the World Wildlife Fund (WWF) in the context of tuna fishing (paragraph 56), pursuing to combat modern human rights abuse and modern slavery associated with illegal fishing. A combination of QR codes and radio-frequency identification codes are linked to the tuna once they are caught. Blockchain technology allows for linking the QR codes on the packages of the processed fish with the tracked history of the original fish on the blockchain:

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[113] Josephine Moulds, 'Child labour in the fashion supply chain – where, why and what can be done – Sponsored by the United Nations' (*Guardian*, 2015) <http://labs.theguardian.com/unicef-child-labour/> accessed 4 July 2021.
[114] Mekong Club, 'Using Blockchain to Combat Modern Slavery' <https://themekongclub.org/wp-content/uploads/2018/04/Blockchain-for-Modern-Slavery_For-web.pdf> accessed 5 July 2021 & Scibetta (n 28) & <https://everledger.io> accessed 5 July 2021.
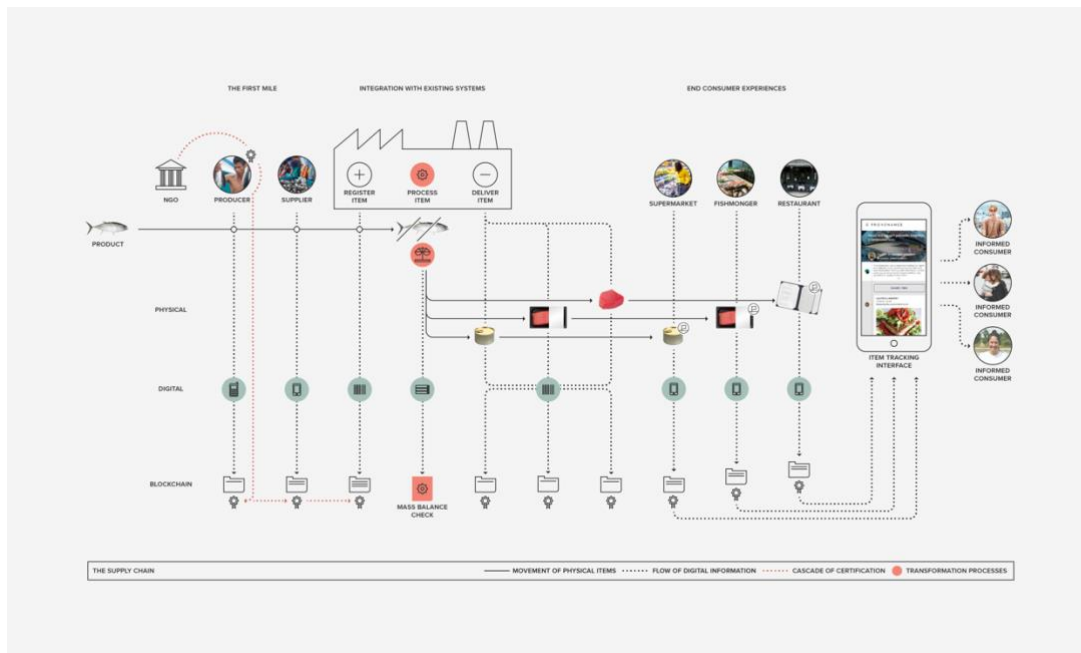
What is interesting about blockchain technology in the context of provenance authenticating of tuna fish is that **akin to raw materials used in fashion items**, tuna fish is **processed into a final product**.

Proof-of-work energy consumption

61. One of the most pressing issues associated with blockchain technology is, in my opinion, and as noted by the United Nations in the context of cryptocurrencies,[116] the **immense amount of electricity** that is required for validators to verify a transaction, especially blockchains based on proof-of-work (*Appendix 31*).[117] As such, the **side-effects of blockchain technology may be worse than the harm it is meant to cure**.[118,119]

62. Some critics point to the fact that to obtain full transparency in the supply chain, like verifying the authenticity of a FREDÉLO product, **a blockchain should provide an open-source solution and be decentralised, contrary to the centralised and closed nature of Aura**. Proof-of-work indeed provides for the most transparent supply chain assessment for

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[115] -'Tracking Tuna from the catch to customer' (*Provenance*) <https://www.provenance.org/news-insights/tracking-tuna-catch-customer> accessed 30 July 2021.

[116] Andre François McKenz, 'Sustainability solution or climate calamity? The dangers and promise of cryptocurrency technology' (*UN News*, 20 June 2021) <https://news.un.org/en/story/2021/06/1094362> accessed 7 July 2021.

[117] Also referred to as 'mining'.

[118] Katie Martin & Billy Nauman, 'Bitcoin's growing energy problem: it's a dirty currency' (*Financial Times,* 20 May 2021) <https://www.ft.com/content/1aecb2db-8f61-427c-a413-3b929291c8ac> accessed 17 June 2021.

[119] Gregory Barber, 'NFTs are hot. So is their effect on the earth's climate' (*Wired*, 3 June 2021) <https://www.wired.com/story/nfts-hot-effect-earth-climate/> accessed 1 July 2021.

consumers, as there is no central party exercising control on what transactions take place on the blockchain.[120,121]

63. However, **I submit that the proof-of-work mechanism is significantly more energy-intensive than the proof-of-authority used in private blockchains.** Aura has previously stated that since **sustainability is one of the underlying rationales of the consortium type of blockchain**, it will only design private blockchains. Another reason for using a private consortium is that **our brand's reputation is at stake when validating transactions on a private blockchain.**[122] For those reasons, **I submit that we should adopt a closed and permissioned blockchain** for the purposes described in this legal opinion.

64. In addition, there is a **trend towards creating more energy-efficient blockchains,**[123] illustrated by the Crypto Climate Accord (2021) (*Appendix 32*), aiming to achieve net-zero emissions for the entire crypto industry by 2030. In my opinion, **developments aiming to minimise carbon offset by blockchain technology must be followed by our brand with great scrutiny.**

AI complementing blockchain technology

65. While blockchain technology is a relatively new technology, I submit that it is worth looking at developing modern AI systems **that may provide remedies to the pitfalls of blockchain technology** and that may serve as **complementary or substitute tools**. One such technology is GPT-3: a natural language machine learning programme that can string phrases and words together, including fake texts indistinguishable from authentic texts (*Appendix 33 & 34*).[124] GTP-3 is a model based on **'few-shot learning,'** meaning that the model only needs to be fed small amounts to learn and run.[125]

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[120] Kayla Matthews, '4 ways to counter blockchain's energy consumption pitfall' (*Greenbiz*, 18 April 2019) <https://www.greenbiz.com/article/4-ways-counter-blockchains-energy-consumption-pitfall> accessed 1 July 2021.

[121] Arianee, a network that works with, *inter alia*, Ba&sh and Breitling.

[122] Ibid.

[123] For instance, Red Belly Blockchain uses an algorithm that allows for massive upscaling in the number of transactions without increasing energy consumption. See in this regard: 'Fork-free, energy efficient red belly blockchain hits 30,000 transactions per second' (*Bitcoinist,* 2018) <https://bitcoinist.com/fork-free-energy-efficient-red-belly-blockchain-hits-30000-transactions-per-second/> accessed 1 July 2021.

[124] Will Douglas Heaven, 'Why GPT-3 is the best and worst of AI right now' (*Technology Review*, 24 February 2021) <https://www.technologyreview.com/2021/02/24/1017797/gpt3-best-worst-ai-openai-natural-language/> accessed 5 June 2021.

[125] Michael J. Garbade, 'Understanding few-shot learning in machine learning' (*Medium*, 25 August 2018) <https://medium.com/quick-code/understanding-few-shot-learning-in-machine-learning-bede251a0f67> accessed 26 July 2021.

66. **The technique behind GPT-3 has been a remarkable development in deep learning recently.**[126] After discussions with an AI expert, however, I submit that GPT-3 is **not suitable** for FREDÉLO for the following reasons. Whereas **blockchain technology is a tightly defined deterministic technique that relies on cryptography and is all about steps that the creators can reason about**, AI is the complete other side of the spectrum. Some experts regard deep learning AI, such as GPT-3, as a **'black-box'**: there is very little explainability, and it is hugely complex (***Appendix 35***). Furthermore, GPT-3 is not much cheaper to run than proof-of-work on a blockchain, as big models simply require a considerable amount of computational power.[127]

67. **Contrary to GPT-3, other modern AI systems that run through supervised learning could be a solution for FREDÉLO.** However, the risk with supervised learning is that **subtle biases** in the data sets often appear detrimental to the purpose of the AI (***Appendix 36***). **Creating a data set is a fine art**: essential is what questions underlie the AI. Moreover, in using AI to detect counterfeit goods, there is an average 70-80% accuracy rate. In that regard, there is a necessity to have a human factor in the loop. Furthermore, it is not sure whether a modern AI system is less energy-intensive than proof-of-work in blockchain technology: it all depends on **how long algorithms run**, which often remains unsure until execution.

68. **It appears that through implementing blockchain technology, we are changing the execution of a specific process, and with AI, we are solving trust concerns to a certain extent**. I submit that AI should be used as a **complementary tool** to blockchain technology for FREDÉLO, as a **control and verification system over what data is put onto the blockchain**. Currently, **human coordination** is essential in the process of safeguarding evidence as well as data regarding the supply chain. To illustrate, when diamonds are recovered from Namibia's coastal regions and are taken to put onto Everledger's blockchain (paragraph 24 & 60), it is vital to have security over the human input; "*errare humanum est*."[128] Through the use of AI, every event that happens to a design off-blockchain will be accurately recorded our blockchain.[129] Nevertheless, in the context of sustainability, I note that blockchain technology and other computational means such as **modern AI will only**

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[126] Jesus Rodriguez, 'Crypto Needn't Fear GPT-3. It should embrace it.' (*Coindesk*, 22 July 2020) <https://www.coindesk.com/crypto-neednt-fear-gpt-3-it-should-embrace-it> accessed 6 July 2021.
[127] As per my discussion with Dr. Henry Franks on 25 July 2021.
[128] To err is human, according to Lucius Annaeus Seneca.
[129] Rose (n 14).

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serve as a tool to bring issues to light and not solve the underlying problems regarding sustainability.[130]

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[130] Rodriguez (n 126).

CONCLUSION

Overall, blockchain technology will enable us to:

1.   strengthen our **IP management** in terms of safeguarding legal evidence including timestamping;

2.   **collaborate** with enforcement authorities **to authenticate** products;

3.   support our **marketing** strategy by selling limited editions **NFTs**; and

4.   enhance **transparency** of our supply chain.

Below are a few action points and next steps to be considered. I would much appreciate your feedback on each separate point so that I may take the necessary follow-up actions.

(1)   Safeguarding designs through **WIPO PROOF token**.

(2)   Investigate **collaboration with IP authorities** to serve as an independent third party on our blockchain.

(3)   Collaborate with enforcement authorities through adopting an **industry-wide provenance authentication** system.

(4)   Use **NFTs** to capitalise on digital innovation.

(5)   Provide consumers with **transparency** in our supply chain trough blockchain technology.

(6)   Complement blockchain technology with **AI**.

BIBLIOGRAPHY

Table of Legislation

17. U.S.C. (2012)

Blockchain Technology Act H.B. 3575 2020

Copyright, Designs and Patents Act 1988

Code civil des Français 1804

Directive 2009/24/EDC of the European Parliament and of The Council of 23 April 2009 on the legal protection of computer programs (OJ 2009 111, p. 16)

Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 (OJ L 149, 11.6.2005, p. 22)

Federal Rules of Evidence 1972

House Act 868, Arizona House Bill 2417

House Bill 2415 'Business Records; electronically registered on a blockchain self-authenticating document'

Ohio Senate Bill 300 'To amend sections 1306/01, 1306.04 and 1306.06 of the Revised Code to amend the Uniform Electronic Transactions Act to define records and contracts secured by blockchain technology as electronic records and to allow the use of smart contract terms'

Senate Bill S4142 'Relates to allowing signatures secured through blockchain to be considered an electronic signature'

Senate Bill 5638, an Act 'Relating to recognizing the validity of distributed ledger technology'

State of New York Assembly Bill 1683

Books

Bently L and others, *Intellectual Property* (5th edn, Oxford University Press 2018)

Finck M, *Blockchain Regulation and Governance in Europe* (Cambridge University Press 2019)

Mostert F, *From Edison to iPod – protect your ideas and profit* (2nd edn, Portable Magic 2016)

Shakespeare W & Doran M, *A midsummer's Night Dream* (Penguin Books 1959)

Table of cases

Capitol Records, LLC v. ReDigi Inc., 934 F. Supp. 2d 640 (S.D.N.Y 2013), aff'd, 910 F.3d 649 (2d Cir. 2018)

Hangzhou Huatai Media Culture Media Co., Ltd. v Shenzhen Datotong Technology Development Co., Ltd. (2018) Zhe 0192 No. 81

Griggs v Evans [2003] EWHC 2914 (Ch)

Case C-128/11 UsedSoft GmbH v Oracle International ECLI:EU:C:2012:407

Journal Articles

-'China patent: Chinese courts respond positively to blockchain evidence' (2019) Managing Intellectual Property <https://www.proquest.com/docview/2307034307?accountid=11862> accessed 27 July 2021

Agnew H, 'LVMH buys minority stake in Stella McCartney brand' (*Financial Times*, 15 July 2019)

Aronzon S M, 'Blockchain and Geographical implications: a natural fit?' (2020) 15 Journal of Intellectual Property Law & Practice 913

Bullón Pérez J J and others, 'Traceability of Ready-to-Wear Clothing through Blockchain Technology' 12 Sustainability (2020) <www.mdpi.com/journal/sustainability> accessed 6 July 2021

Loney M, 'How Blockchain will change intellectual property – trade marks and brands' (2018) Managing Intellectual Property <https://www.proquest.com/docview/2032321501> accessed 27 July 2021

Malaurie-Vignal M, 'Blockchain, Intellectual Property and fashion' (2020) 15 Journal of Intellectual Property Law & Practice 92

Polydor S, 'Blockchain Evidence in Court Proceedings in China – A Comparative Study on Admissible Evidence in the Digital Age (as of June 4, 2019)' 2 Stanford Journal of Blockchain Law and Policy 96.

Riede L & Grinschgl L A, 'Digital Transformation, Managing IP Rights through the blockchain' (2018) The Licensing Journal 10

Savelyev A, 'Copyright the Blockchain Era: Promises and Challenges' (2017) Higher School of Economics Research Paper No. BRP 77/LAW/2017 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3075246> accessed 24 March 2021

Sulkowski A, 'Blockchain, Business Supply Chains, Sustainability, and Law: The Future of Governance, Legal Frameworks, and Lawyers?' 43 *Delaware Journal of Corporate Law* (forthcoming) 303

Zheng D, 'Research on the Judicial Application of Copyright in Blockchain Electronic Deposit' (2020) 517 Advances in Social Science, Education and Humanities Research 293.

Website Articles

- 'About the Fashion Pact' <https://thefashionpact.org/?lang=en> accessed 10 June 2021

- 'Breitling becomes the first luxury watchmaker to offer a digital passport based on blockchain for all of its new watches' (*Breitling*, 13 October 2020) <https://www.breitling.com/ca-en/news/details/breitling-becomes-the-first-luxury-watchmaker-to-offer-a-digital-passport-based-on-blockchain-for-all-of-its-new-watches-33479> accessed 24 June 2021

-'Counterfeit.com' (*The Economist*, August 2015) <https://www.economist.com/business/2015/07/30/counterfeitcom> accessed 30 July 2021

- 'Fork-free, energy efficient red belly blockchain hits 30,000 transactions per second' (*Bitcoinist,* 2018) <https://bitcoinist.com/fork-free-energy-efficient-red-belly-blockchain-hits-30000-transactions-per-second/

-'Hermes Buyer Beware: Read Your Receipts' (*Pursebop*) <https://www.pursebop.com/hermes-fineprint-on-receipt/> accessed 23 June 2021

- 'How Luxury Fashion Learned to Love the Blockchain' (*Business of Fashion*, 2 April 2019) <https://www.businessoffashion.com/articles/technology/how-luxury-fashion-learned-to-love-the-blockchain> accessed 2 July 2021

- 'LVMH unveils luxury industry blockchain with Microsoft, ConsenSys' (*Ledger Insights*, 2019) <https://www.ledgerinsights.com/lvmh-luxury-blockchain-microsoft-consensys/> accessed 17 March 2021

-Make Crypto Green' <https://cryptoclimate.org> accessed 7 July 2021

-'Public vs Private Blockchains, What's the difference?' (*E-zigurat*) <https://www.e-zigurat.com/innovation-school/blog/public-vs-private-blockchain-whats-the-difference/> accessed 30 July 2021

- 'Stella McCartney ECO Impact Report 2020' (2020) <https://www.stellamccartney.com/cloud/smcwp/uploads/2020/09/EcoImpact_2020.pdf> accessed 7 February 2021

-'The environmental impact of the fast fashion industry' (*Sanvt*,12 March 2020) <https://sanvt.com/journal/environmental-impact-of-fast-fashion-infographic/> accessed 30 July 2021

-'Tracking Tuna from the catch to customer' (*Provenance*) <https://www.provenance.org/news-insights/tracking-tuna-catch-customer> accessed 30 July 2021

- 'Understanding the real potential of the luxury second-hand market' (*CPP Luxury*, 2 October 2020) <https://cpp-luxury.com/understanding-the-real-potential-of-the-luxury-second-hand-market/> accessed 2 July 2021

- 'Why one guy paid $208k for a video clip of LeBron James dunking' (*The Hustle*, 7 March 2021) <https://thehustle.co/why-one-guy-paid-208k-for-a-video-clip-of-lebron-james-dunking/> accessed 24 June 2021

@Levelsio, 'Fashion Startup Ideas – Ideas on this Page are 100% generated by OpenAI's GPT-3' (*IdeasIA*) <https://ideasai.net/fashion-startup-ideas> accessed 7 July 2021

Allison I, 'Louis Vuitton Owner LVMH is Launching a Blockchain to Track Luxury Goods' (*Coindesk*, 26 March 2019) <https://www.coindesk.com/louis-vuitton-owner-lvmh-is-launching-a-blockchain-to-track-luxury-goods> accessed 14 June 2021

Baker J, 'Blockchain and Sustainability: Oxymoron or Panacea?' (*Forbes*, 25 May 2021) <https://www.forbes.com/sites/jessibaker/2021/05/25/blockchain-and-sustainability-oxymoron-or-panacea/> accessed 7 July 2021

Barbar G, 'NFTs Are Hot. So Is Their Effect on the Earth's Climate' (*Wired*, 3 June 2021) <https://www.wired.com/story/nfts-hot-effect-earth-climate/> accessed 6 July 2021

Barbet-Massin A, 'Reflections on the legal recognition of blockchain timestamping by the Italian Lawmaker' (*Actualités du Droit*, 28 March 2019) <https://actualitesdudroit.fr/browse/tech-droit/blockchain/20718/reflections-on-the-legal-> accessed 17 March 2021

Barber G, 'NFTs are hot. So is their effect on the earth's climate' (*Wired*, 3 June 2021) <https://www.wired.com/story/nfts-hot-effect-earth-climate/> accessed 1 July 2021

BBC, 'What are NFTs and why are some worth millions' (*BBC*, 12 March 2021) <https://www.bbc.com/news/technology-56371912> accessed 17 July 2021.

Bhatia A and others, 'Stamping Out Counterfeit Goods with Blockchain and IoT' (*BCG*, 17 May 2019) <https://www.bcg.com/publications/2019/stamping-out-counterfeit-goods-blockchain-internet-of-things-iot> accessed 7 July 2021

Blockchain semantics, 'How Does Blockchain Attains Immutability' *(*11 July 2021, *Twitter*) <https://twitter.com/blockchain_sem/status/1016945869625552897> accessed 30 July 2021

Boyd C, 'NFT Art: An Explanation' (*LinkedIn*, 29 March 2021) <https://www.linkedin.com/pulse/nft-art-explanation-clark-boyd> accessed 7 July 2021

Burstall R and Clark B, 'Blockchain, IP and the Fashion Industry' (2017) Managing Intellectual Property <https://www.proquest.com/docview/1895728735/abstract/89250F5774134D01PQ/1?accountid=11862> accessed 17 March 2021

Cellini A, 'LVMH, Consensys and Microsoft: visionary supply chain with Blockchain' (*Crypto Infos EU*, 27 May 2019) <https://cryptoinfos.eu/lvmh-consensys-microsoft-supply-chain-with-blockchain/> accessed 30 July 2021

Chan V and others, 'Blockchain Evidence in Internet Courts in China: The Fast Track for Evidence Collection for Online Disputes' (*Lexology*, 15 July 2020) <https://www.lexology.com/library/detail.aspx?g=1631e87b-155a-40b4-a6aa-5260a2e4b9bb> accessed 7 July 2021

Chugani S and others, 'The notorious NFT: Consumer Protection Issues Raised by NFTs' (*Thomson Reuters Practical Law*, 15 April 2021) <https://uk.practicallaw.thomsonreuters.com/w-030-4989?originationContext=knowHow&transitionType=KnowHowItem&contextData=(sc.DocLink)&firstPage=true> accessed 7 July 2021

Christie's, 'Beeple's Opus' <https://www.christies.com/features/Monumental-collage-by-Beeple-is-first-purely-digital-artwork-NFT-to-come-to-auction-11510-7.aspx> accessed 24 June 2021

Christie's, 'Pablo Picasso' <https://onlineonly.christies.com/s/prints-multiples/pablo-picasso-1881-1973-133/115361> accessed 20 July 2021

Clark B, 'Blockchain and IP Law: A Match made in Crypto Heaven?' (*WIPO Magazine,* 2018) <https://www.wipo.int/wipo_magazine/en/2018/01/article_0005.html> accessed 17 March 2021

Cohn A, Weinstein J M & Brooks M, 'Blockchain in the Retail Industry' (*Steptoe*, 29 October 2018) <https://www.steptoe.com/en/news-publications/blockchain-in-the-retail-industry.html> accessed 7 July 2021

Connecting Europe Facility (CEP), 'What is an electronic signature?' <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/What+is+eSignature> accessed 7 July 2021

ConsenSys,'Press release: LVMH, ConsenSys, and Microsoft Announce Consortium for Luxury Industry' (*ConsenSys,* 16 May 2019) <https://consensys.net/blog/press-release/lvmh-microsoft-consensys-announce-aura-to-power-luxury-industry/> accessed 17 March 2021

Cress M, 'The Black Box Problem' (*Artificial Intelligence Mania*, 10 January 2019) <THE BLACK BOX PROBLEM – Artificial Intelligence Mania> accessed 2 August 2021

Criddle C, 'Banksy art burned, destroyed, and sold as token in 'money-making stunt' (*BBC*, 9 March 2021) <https://www.bbc.co.uk/news/technology-56335948> accessed 28 June 2021

Dapper Labs, 'NFT License 2.0: Why a NFT can do what no other creative IP can do' (*Medium*, 22 January 2019) <https://medium.com/dapperlabs/nft-license-2-0-why-a-nft-can-do-what-mickey-mouse-never-could-27673d5f29aa> accessed 28 June 2021

Ditton E, 'Blockchain to ensure the providence of chickens' (*Twitter*, 17 September 2019) <Emilie Ditton op Twitter: "ZhongAn uses #blockchain to ensure the providence of chickens. 100,000 chickens using Gogo Chicken tracking devices https://t.co/OYrPmw6HVp" / Twitter> accessed 2 August 2021

Divya S, 'Machine Learning/AI Bias' (*Medium*, 12 April 2021) <Machine Learning/AI Bias. Deep learning algorithms are vastly… | by Divya Sikka | MLearning.ai | Medium> accessed 2 November 2021

Divya S, 'The Black Box Problem' (*Artificial Intelligence Mania*, 10 January 2019) <THE BLACK BOX PROBLEM – Artificial Intelligence Mania> accessed 2 August 2021

Douglas Heaven W, 'Why GPT-3 is the best and worst of AI right now' (*Technology Review*, 24 February 2021) <https://www.technologyreview.com/2021/02/24/1017797/gpt3-best-worst-ai-openai-natural-language/> accessed 5 June 2021.

Ervin D and others, 'NFT Risks and Opportunities in the IP Advertising, and Brand Management Spaces' (*Retail and Consumer Law Observer,* 20 April 2021) <https://www.retailconsumerproductslaw.com/2021/04/nft-risks-and-opportunities-in-the-ip-advertising-and-brand-management-spaces/> accessed 25 June 2021

Ethereum, 'Non-fungible Tokens' <https://ethereum.org/en/nft/> accessed 7 July 2021

EU Blockchain Observatory and Forum, 'NFT – Legal Token Classification' <https://www.eublockchainforum.eu/sites/default/files/research-paper/EUBOF%20-%20NFT%20-%20Token%20Classification%20Latam.pdf> accessed 23 July 2021

European Environment Agency, 'Blockchain and the environment' (28 October 2020) <https://www.eea.europa.eu/publications/blockchain-and-the-environment/blockchain-and-the-environment> accessed 7 July 2021

Furr M, 'Louis Vuitton & Dior are Revolutionizing Authentication Methods Through Blockchain Technology' (*Highsnobiety*, 2019) <https://www.highsnobiety.com/p/lvmh-blockchain/> accessed 24 March 2021.

Helmore E, 'Can fashion keep its cool … and help save the planet?' (*The Guardian*, 31 August 2019) <https://www.theguardian.com/fashion/2019/aug/31/can-fashion-keep-its-cool-and-help-save-the-planet> accessed 7 July 2021

Hoogendoorn R, 'Breed new Nike Shoes through blockchain technology' (*Data Driven Investor*, 12 December 2019)<https://medium.datadriveninvestor.com/breed-new-nike-shoes-through-blockchain-technology-505138db9e17> accessed 22 June 2021

Garbade M J , 'Understanding few-shot learning in machine learning' (*Medium*, 25 August 2018) <https://medium.com/quick-code/understanding-few-shot-learning-in-machine-learning-bede251a0f67> accessed 26 July 2021

Goldman J, 'A Primer on NFTs and Intellectual Property' (*Lexology*, 11 March 2021) <https://www.lexology.com/library/detail.aspx?g=d96ed012-8789-4e87-bc1d-70ba76569c0f> accessed 22 June 2021

George Parkin H, 'How Nike's Likely NFT Move Could Shake Up the Sneaker Resale Market' (*FootwearNews*, 16 April 2021) <https://footwearnews.com/2021/business/retail/nike-nft-digtal-sneakers-resale-1203130757/> accessed 7 July 2021

Giedrimaite I, 'Smart Contracts: Pros and Cons of the New Shiny Thing' (22 March 2019, *IPKat*) <https://ipkitten.blogspot.com/2019/03/smart-contracts-pros-and-cons-of-new.html> accessed 30 July 2021

Granskog A and others., 'Survey: Consumer Sentiment on Sustainability in Fashion' (17 July 2020) <https://www.mckinsey.com/industries/retail/our-insights/survey-consumer-sentiment-on-sustainability-in-fashion> accessed 17 June 2021

Guttierez C & Khizhniak A, 'A close look at Everledger – how blockchain secures luxury goods' (April 2017, *Altoros*) https://www.altoros.com/blog/a-close-look-at-everledger-how-blockchain-secures-luxury-goods/ accessed 29 July 2021

Hissong S, 'Kings of Leon will be the first band to release an album as an NFT' (*Rolling Stones*) <https://www.rollingstone.com/pro/news/kings-of-leon-when-you-see-yourself-album-nft-crypto-1135192/> accessed 30 July 2021

Hughes Neghaiwi B, 'Shares in Picasso painting go up for grabs at $6,000 in blockchain sale' (*Reuters*, 15 July 2021) <https://www.reuters.com/lifestyle/shares-picasso-painting-go-up-grabs-6000-blockchain-sale-2021-07-15/ > accessed 20 July 2021

IPR Center, 'About Us – Global Trade Investigations Division' <https://www.iprcenter.gov/about> accessed 8 July 2021

Kant A, 'SHA 256: Compute a SHA 256 hash using C# for effective security' <https://www.technologycrowds.com/2019/10/compute-sha-256-hash-using-csharp-for-effective-secruity.html> accessed 1 July 2021

Kastrenakes J, 'Beeple sold an NFT for $69 million' (*The Verge*, 11 March 2021) <https://www.theverge.com/2021/3/11/22325054/beeple-christies-nft-sale-cost-everydays-69-million> accessed 24 June 2021

Kemal, A 'Blockchain in a nutshell – Blockchain series' (*Medium*, 9 April 2018) <https://medium.com/@adityas.kemal/blockchain-in-nutshell-blockchain-series-3688a1ea310a> accessed 8 July 2021

Kessler K, 'Copyright Concerns for NFT Buyers, Sellers In Music Industry (20 April 2021) <https://www.robinskaplan.com/-/media/pdfs/publications/copyright-concerns-for-nft-buyers-sellers-in-music-industry.pdf?la=en> accessed 7 July 2021

Kleinman Z, 'Twelve-year-old boy makes GPB 290,000 from whale NFTs' (*BBC*, 27 August 2021) <Twelve-year-old boy makes £290,000 from whale NFTs - BBC News> accessed 29 August 2021

Law Commission, 'Smart Contracts – Call for Evidence' (December 2020) <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2020/12/201216-Smart-contracts-call-for-evidence.pdf> accessed 17 March 2021

Lau A, 'Handbag Sketches' <Pin de Anna Lau em bag | Desenho de moda, Bolsa infantil, Sacolas (pinterest.com)> accessed 30 July 2021

Lawton G, '6 alternatives to blockchain for business to consider' (*SearchCIO*, 25 May 2021) <https://searchcio.techtarget.com/feature/6-alternatives-to-blockchain-for-businesses-to-consider > accessed 7 July 2021

Ledger Insights, 'DKNY promoted new logo through NFT launch' (*Ledger Insights*, 31 August 2021) <https://www.ledgerinsights.com/dkny-promotes-new-logo-through-nft-launch/> accessed 31 August 2021

Ledger Insights, 'Jack Dorsey sells his first tweet as an NFT for USD 2.9 million' (Ledger Insights, 23 March 2021) <https://www.ledgerinsights.com/jack-dorsey-sells-his-first-tweet-as-an-nft-for-2-9-million/> accessed 24 June 2021.

Lewis B, 'De Beers turns to blockchain to guarantee diamond purity' (*Reuters,* 16 January 2016) <https://www.reuters.com/article/us-anglo-debeers-blockchain-idUSKBN1F51HV> accessed 20 July 2021

Lewis L and others, 'NFTs and copyright Law' (*Bird&Bird*, June 2021) <https://www.twobirds.com/en/news/articles/2021/australia/non-fungible-tokens-nfts-and-copyright-law> accessed 24 June 2021

Lim N, 'The Blockchain Chickens Bringing the Future to Free-Range' (*Sixth Tone*, 2018) <https://www.sixthtone.com/news/1002804/the-blockchain-chickens-bringing-the-future-to-free-range> accessed 15 June 2021

Litan A, 'Hype Cycle for Blockchain in 2021; More Action than Hype (*Gartner*,14 July 2021) <https://blogs.gartner.com/avivah-litan/2021/07/14/hype-cycle-for-blockchain-2021-more-action-than-hype/> accessed 30 July 2021

Lu K & Ning D, 'China Patent: Chinese Courts respond positively to blockchain evidence' (2019) Managing Intellectual Property <https://www.proquest.com/docview/2307034307/abstract/D2B5E119B06942CEPQ/1?accountid=11862> accessed 21 July 2021

McKenz A F, 'Sustainability solution or climate calamity? The dangers and promise of cryptocurrency technology' (*UN News*, 20 June 2021) <https://news.un.org/en/story/2021/06/1094362> accessed 7 July 2021

Mahmood G, 'NFTs: What are you buying and what do you actually own?' (*The Fashion Law*, 18 March 2021) <https://www.thefashionlaw.com/nfts-what-are-you-buying-and-what-do-you-actually-own/> accessed 24 June 2021

Martin K & Nauman B, 'Bitcoin's growing energy problem: it's a dirty currency' (*Financial Times,* 20 May 2021) <https://www.ft.com/content/1aecb2db-8f61-427c-a413-3b929291c8ac> accessed 17 June 2021

Martin N, 'Google's new pilot aiming to measure the environmental impact of the fashion industry' <https://cloud.google.com/blog/topics/inside-google-cloud/googles-new-pilot-aiming-to-measure-the-environmental-impact-of-the-fashion-industry> accessed 2 July 2021

Matthews K, '4 ways to counter blockchain's energy consumption pitfall' (*Greenbiz*, 18 April 2019) <https://www.greenbiz.com/article/4-ways-counter-blockchains-energy-consumption-pitfall> accessed 1 July 2021

McDowell M, 'The Blockchain playbook: From LVMH's Aura to Arianee' (*Vogue Business*, 26 April 2021) <https://www.voguebusiness.com/technology/the-blockchain-playbook-from-lvmhs-aura-to-arianee> accessed 24 June 2021

McDowell M, 'Fashion's new tech essential: QR codes' (*Vogue Business*, 22 September 2020) <https://www.voguebusiness.com/technology/fashions-new-tech-essential-qr-codes> accessed 30 July 2021

McKinsey, 'The state of fashion 2020' (2020) <https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/the%20state%20of%20fashion%202020%20navigating%20uncertainty/the-state-of-fashion-2020-final.pdf> accessed 7 February 2021

Mekong Club, 'Using Blockchain to Combat Modern Slavery' <https://themekongclub.org/wp-content/uploads/2018/04/Blockchain-for-Modern-Slavery_For-web.pdf> accessed 5 July 2021

Minimaxir, 'Unicorn' (*Github*, 21 June 2020) <https://github.com/minimaxir/gpt-3-experiments/blob/master/examples/unicorn/output_0_7.md> accessed 5 July 2021

Mostert F & Sheyna C, 'Digital date-and-time-stamping: the evidentiary value and practical significance of WIPO PROOF' (*WIPO Magazine*, January 2021) <https://www.wipo.int/wipo_magazine_digital/en/2021/article_0001.html> accessed 14 March 2021

Moulds J, 'Child labour in the fashion supply chain – where, why and what can be done – Sponsored by the United Nations' (*Guardian*, 2015) <http://labs.theguardian.com/unicef-child-labour/> accessed 4 July 2021

Mulligan C, 'Blockchain and Sustainable Growth' (*United Nations*) <https://www.un.org/en/un-chronicle/blockchain-and-sustainable-growth> accessed 7 July 2021

Nevalainen J, 'Blockchain – A new Trend in the Fashion Industry?' (*Hannes Snellman*, 4 March 2021) <https://www.hannessnellman.com/news-views/blog/blockchain-a-new-trend-in-the-fashion-industry/> accessed 27 July 2021.

OECD, 'Trade in fake goods is now 3.3% of world trade and rising' (*OECD*, March 2019) <https://www.oecd.org/newsroom/trade-in-fake-goods-is-now-33-of-world-trade-and-rising.htm> accessed 8 June 2021.

Pan D, 'China Launches Copyright Protection Blockchain' (*Coindesk*, 4 June 2021) <https://www.coindesk.com/china-launches-new-copyright-protection-blockchain> accessed 4 June 2021

Peltz M E, 'IP and Non-Fungability: The Intersection of Intellectual Property and NFTs' (*Falcon, Rappaport & Berkman PLLC*, 15 March 2021) <https://frblaw.com/2021/03/15/intellectual-property-and-nfts/> accessed 25 June 2021

Poleg D, 'NFTs and the future of work' (*Dror Poleg*, 25 March 2021) <https://www.drorpoleg.com/nfts-and-the-future-of-work/> accessed 26 July 2021

Pollacco A, 'The Interaction between Blockchain Evidence and Courts – A cross Jurisdictional Analysis' (*BCAS*, 23 April 2020) <https://blog.bcas.io/blockchain_court_evidence#_ftnref6> accessed 23 July 2021

Pollock D, 'Blockchain For Good: How the United Nations is Looking To Leverage Technology' (*Forbes*, 27 February 2020) <https://www.forbes.com/sites/darrynpollock/2020/02/27/blockchain-for-good-how-the-united-nations-is-looking-to-leverage-technology/> accessed 7 July 2021

Justin Pritchard, 'What is Notarized' (29 July 2021, *The Balance*) <https://www.thebalance.com/what-is-a-notarized-document-315434> accessed 30 July 2021

Purtill J, 'Artist report discovering their work is stolen and sold as NFT's' (*ABC Science*, 15 March 2021) <https://www.abc.net.au/news/science/2021-03-16/nfts-artists-report-their-work-is-being-stolen-and-sold/13249408> accessed 25 June 2021

Ravi R, 'DKNY Reveils New Logo as NFT to Auction it for Charity' (*NFT Evening,* 31 August 2021) <https://nftevening.com/dkny-unveils-new-logo-as-nft-to-auction-it-for-charity/> accessed 31 Augustus 2021

Rodriguez J, 'Crypto Needn't Fear GPT-3. It should embrace it.' (*Coindesk*, 22 July 2020) <https://www.coindesk.com/crypto-neednt-fear-gpt-3-it-should-embrace-it> accessed 6 July 2021

Rose A, 'Blockchain: Transforming the registration of IP rights and strengthening the protection of unregistered IP rights' (*WIPO Magazine*, June 2020) <https://www.wipo.int/wipo_magazine_digital/en/2020/article_0002.html> accessed 17 March 2021

Sachs P, 'The case for blockchain in law and in the courts' (*ITProPortal*, 25 September 2018) <https://www.itproportal.com/features/the-case-for-blockchain-in-law-and-the-courts/> accessed 26 July 2021

Segura A, 'Blockchain in retail fashion' (4 June 2018, *Fashion Retail*) <https://fashionretail.blog/2018/06/04/blockchain-in-fashion/> accessed 29 July 2021

Sephton C, 'What are non-fungible tokens (NFTs)?' (12 March 2021, *Currency*) <https://currency.com/what-are-nft-tokens> accessed 30 July 2021

Serrels M, 'Someone just bought a cryptocurrency cat for $172,000' (*CNET*, 4 September 2018) <https://www.cnet.com/news/cryptokitties-bought-a-digital-cat-for-172000/> accessed 24 June 2021

Stella McCartney Ltd., 'Our Commitments' <https://www.stellamccartney.com/gb/en/sustainability/our-commitments.html> Accessed 10 June 2021

Shaverdian P, 'Blockchain-based Digital Assets and the Case for Revisiting Copyright's First Sale Doctrine' (*UCLA Law Review,* 19 February 2019) <https://www.uclalawreview.org/blockchain-based-digital-assets-and-the-case-for-revisiting-copyrights-first-sale-doctrine-2/#_ftn28> accessed 25 June 2021

Shen M, 'UK Government Pilots Blockchain in Bid to Secure Digital Evidence' (23 August 2018) <https://www.coindesk.com/uk-government-pilots-blockchain-in-bid-to-secure-digital-evidence> accessed 17 March 2021

Sotheby's, 'This changed everything: Source Code for WWW x Tim Berners-Lee, an NFT' <https://www.sothebys.com/en/buy/auction/2021/this-changed-everything-source-code-for-www-x-tim-berners-lee-an-nft/source-code-for-the-www> accessed 17 July 2021

Tarasenko E, 'Are you looking to do the blockchain integration?' (*Merehead*, 27 December 2019) <https://merehead.com/blog/private-blockchain-vs-traditional-centralized-database/> accessed 1 July 2021

The Fashion Law, 'From Royalties to Resale Restrictions, What Would Tying NFTs to Luxury Goods Look Like' (*The Fashion Law,* 14 April 2021) <https://www.thefashionlaw.com/from-royalties-to-resale-restrictions-what-would-linking-nfts-to-luxury-goods-look-like/> accessed 22 June 2021

United Nations, 'Staying on-track to realize the Sustainable Development Goals (3 January 2019) <https://www.un.org/development/desa/en/news/sustainable/sustainable-development-goals.html> accessed 30 July 2021

United Nations Climate Change, The Fashion Industry Charter for Climate Action (2018) <UNITED NATIONS (unfccc.int)> accessed 2 August 2021

United Nations Climate Change, 'About the Fashion Industry Charter for Climate Action' <https://unfccc.int/climate-action/sectoral-engagement/global-climate-action-in-fashion/about-the-fashion-industry-charter-for-climate-action> accessed 15 June 2021

Vincent J, 'Bitcoin consumes more energy than Switzerland according to new estimate' (*The Verge,* 4 July 2019) <Machine Learning/AI Bias. Deep learning algorithms are vastly… | by Divya Sikka | MLearning.ai | Medium> accessed 2 August 2021

WIPO, 'Survey of Private Copyright Documentation Systems and Practices (WIPO, September 2011) <https://www.wipo.int/export/sites/www/meetings/en/2011/wipo_cr_doc_ge_11/pdf/survey_private_crdocystems.pdf> accessed 22 July 2021

Willersdorf S and others, 'The consumers behind fashion's growing second-hand market' (*BCG*, 20 October 2020) <https://www.bcg.com/publications/2020/consumer-segments-behind-growing-secondhand-fashion-market> accessed 2 July 2021

World Economic Forum 'These facts show how unsustainable the fashion industry is' (31 January 2020) <https://www.weforum.org/agenda/2020/01/fashion-industry-carbon-unsustainable-environment-pollution/> accessed 2 July 2021

Ye, Y 'Alibaba's new blockchain auction platform is selling Star Wars art on a ledger run by Sichuan's government' (*South China Morning Post*, 17 August 2021) <Alibaba's new blockchain auction platform is selling Star Wars art on a ledger run by Sichuan's government | South China Morning Post (scmp.com)> accessed 29 August 2021

Zhao W, 'China's Supreme Court Recognizes Blockchain Evidence as Legally Binding', (*Coindesk*, 7 September 2018), <https://www.coindesk.com/chinas-supreme-court-recognizes-blockchain-evidence-as-legally-binding> accessed 7 June 2021

Zilber A, 'Did slave labor make your designer bag? New reports find luxury brands like Prada, Fendi and Dior rank among the worst retailers for protecting workers from exploitation' (16 December 2018, *Daily Mail*) <Luxury fashion brands like Prada and Fendi 'use exploited factory workers to make their products' | Daily Mail Online> accessed 2 August 2021

Video

Burnt Banksy, 'Authentic Banksy Art Burning Ceremony' (*YouTube*, 4 March 2021) <https://www.youtube.com/watch?v=C4wm-p_VFh0> accessed 28 June 2021

Emmanuel J & Punia G, 'Non Fungible Tokens Part 1: What are NFTs, why are they interesting and what do they represent?' (*Bird&Bird*, 2021) <Non-Fungible Tokens Part 1: What are NFTs, why are they interesting and what do they represent? - Bird & Bird – International Law Firm (twobirds.com)> accessed 29 August 2021

Emmanuel J & Punia G, 'Non Fungible Tokens Part 2: What are the legal issues, regulatory issues' (*Bird&Bird*, 2021) <Non-Fungible Tokens Part 2: What are the legal issues, regulatory issues? (twobirds.com)> accessed 29 August 2021

NOS op 3, 'De kunst van het online rijk worden' (*YouTube*, 2 juni 2021) <https://www.youtube.com/watch?v=MJ_rs47qCvs> accessed 16 July 2021

Soslow J, 'Two AIs talk about becoming human. (GPT-3)' (*YouTube*, 13 April 2021) <https://www.youtube.com/watch?v=jz78fSnBG0s> accessed 27 July 2021

TalksOnLaw, 'How do NFT Royalties Work? We ask two blockchain lawyers …' (*YouTube*, 18 June 2021) <https://www.youtube.com/watch?v=DEINmfesK7Q> accessed 26 July 2021

Podcast and conferences

Detective Weizmann Jacobs C Guest Lectures on 21 October 2020 and Commissioner Dyson of the City of London Police ("Counterfeits, Piracy and Cyber Crimes") on 30 November 2020

Fashion Law London, Conference 'The New Age of Fashion: Sustainable Horizons' (13 April 2021)

Knew Amsterdam, 'Bonus Episode: Burned Picasso Decentricity' (*Spotify*, 28 June 2021) <https://twitter.com/burnedpicasso> accessed 20 July 2021

Scibetta C (Head of Business Development Everledger) during Luxury Law Alliance Seminar 'Is Blockchain soon to be an essential feature for the Luxury Sector?' – Bird&Bird (28 October 2021)

APPENDICES

Blockchain in a Nutshell
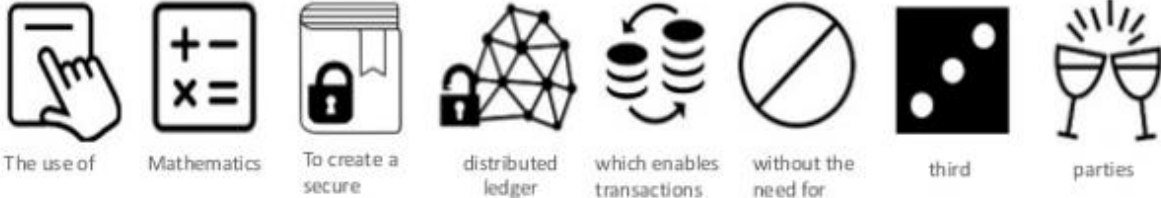
Appendix 1 - Blockchain explained graphically[131]

Appendix 2 – A comparison between public and private blockchains[132]

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[131] Adityas Kemal, 'Blockchain in a nutshell – Blockchain series' (*Medium*, 9 April 2018) <https://medium.com/@adityas.kemal/blockchain-in-nutshell-blockchain-series-3688a1ea310a> accessed 8 July 2021.

[132] -'Public vs Private Blockchains, What's the difference?' (*E-zigurat*) <https://www.e-zigurat.com/innovation-school/blog/public-vs-private-blockchain-whats-the-difference/> accessed 30 July 2021.
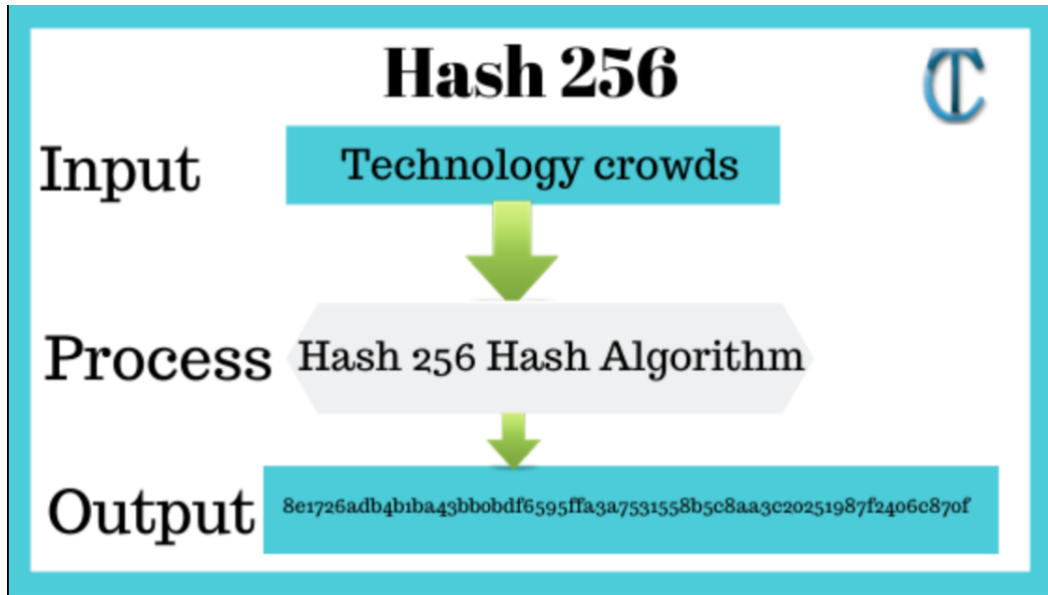
Appendix 3 – Graphic representation of converting the document that represents the fashion design into the cryptographic print[133]

Appendix 4 – Notarisation process[134]

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[133] Anjan Kant 'SHA 256: Compute a SHA 256 hash using C# for effective security' <https://www.technologycrowds.com/2019/10/compute-sha-256-hash-using-csharp-for-effective-secruity.html> accessed 1 July 2021.

[134] Justin Pritchard, 'What is Notarized' (29 July 2021, *The Balance*) <https://www.thebalance.com/what-is-a-notarized-document-315434> accessed 30 July 2021.
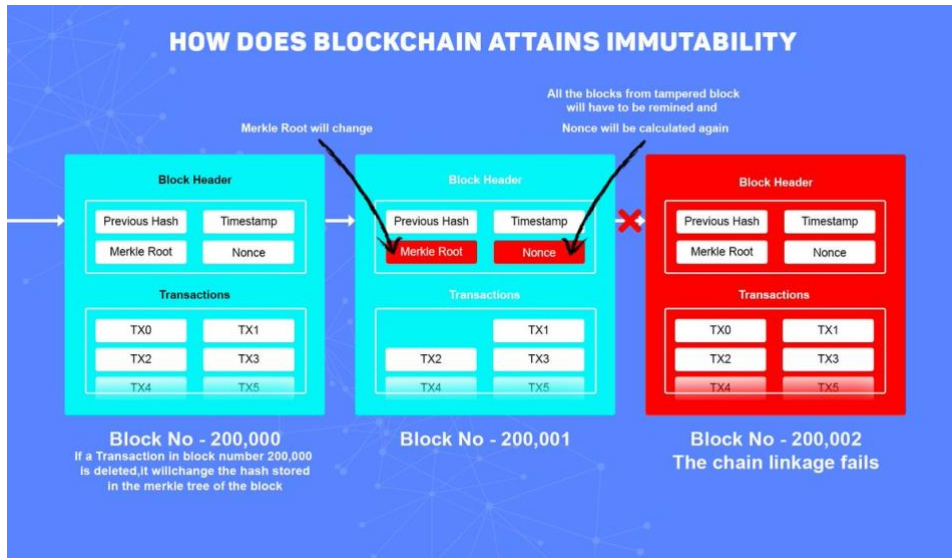
Appendix 5 – Immutability of blockchain technology[135]
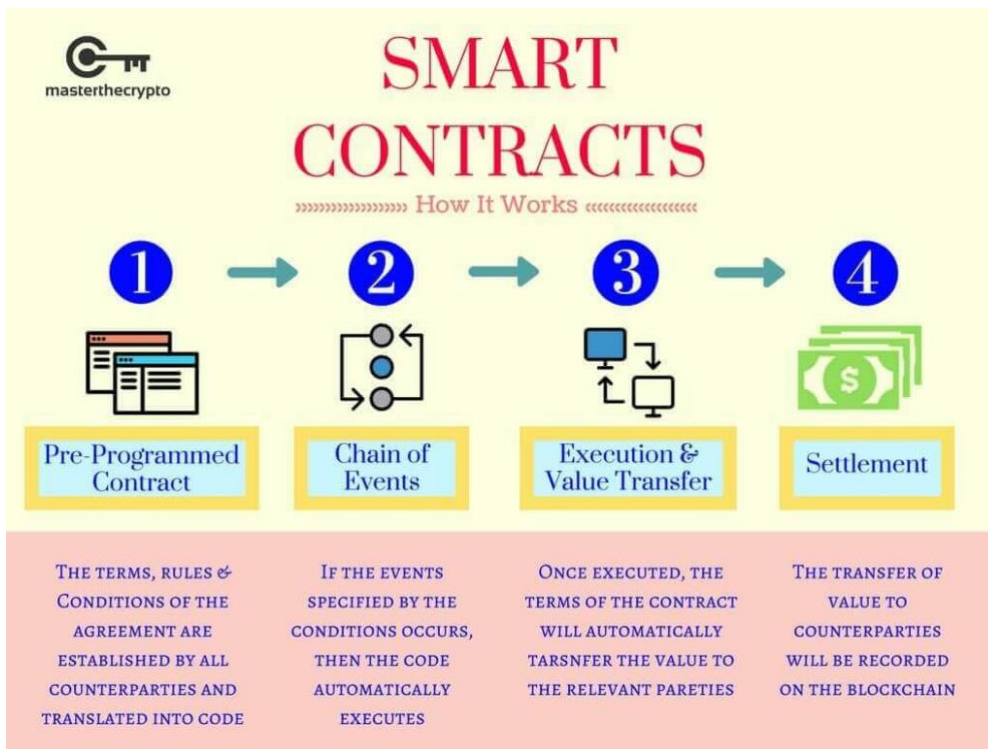
Appendix 6 – Smart contracts explained[136]

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[135] Blockchain semantics, 'How Does Blockchain Attains Immutability' *(*11 July 2021, *Twitter)*
<https://twitter.com/blockchain_sem/status/1016945869625552897> accessed 30 July 2021.
[136] Ieva Giedrimaite, 'Smart Contracts: Pros and Cons of the New Shiny Thing' (22 March 2019, *IPKat*)
<https://ipkitten.blogspot.com/2019/03/smart-contracts-pros-and-cons-of-new.html> accessed 30 July 2021.
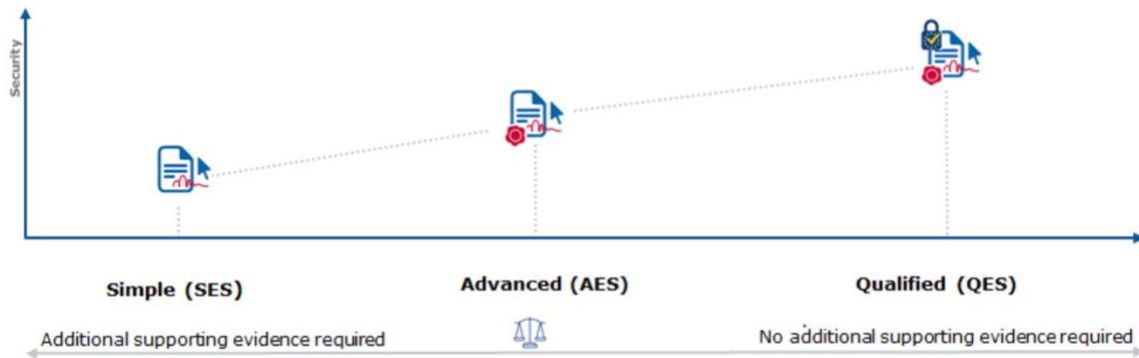
Appendix 7 –Probative value of using digital signatures as evidence in court proceedings pursuant to the eIDAS Regulation[137]

Appendix 8 - Counterfeit products add up to 3.3% of global trade (2019)[138]

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[137] Connecting Europe Facility (CEP), 'What is an electronic signature?'
<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/What+is+eSignature> accessed 7 July 2021.
[138] OECD (n 42).
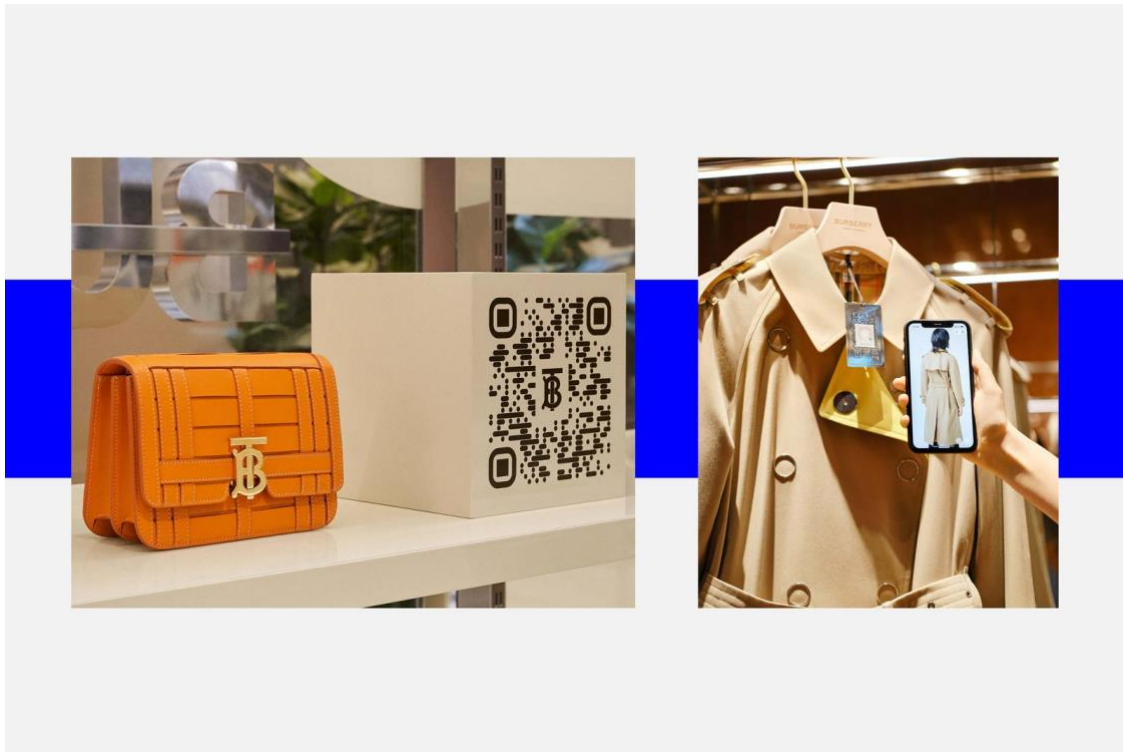
Appendix 9 – An example of a QR code attached to a fashion design[139]

Appendix 10 – Seizure of counterfeit goods by enforcement authorities. Blockchain technology can facilitate provenance authentication, through, for instance, tags or QR-codes[140]

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[139] Maghan McDowell, 'Fashion's new tech essential: QR codes' (*Vogue Business*, 22 September 2020)
<https://www.voguebusiness.com/technology/fashions-new-tech-essential-qr-codes> accessed 30 July 2021.
[140] -'Counterfeit.com' (*The Economist*, August 2015) <https://www.economist.com/business/2015/07/30/counterfeitcom> accessed 30 July 2021.

Appendix 11 – NFTs explained[141]

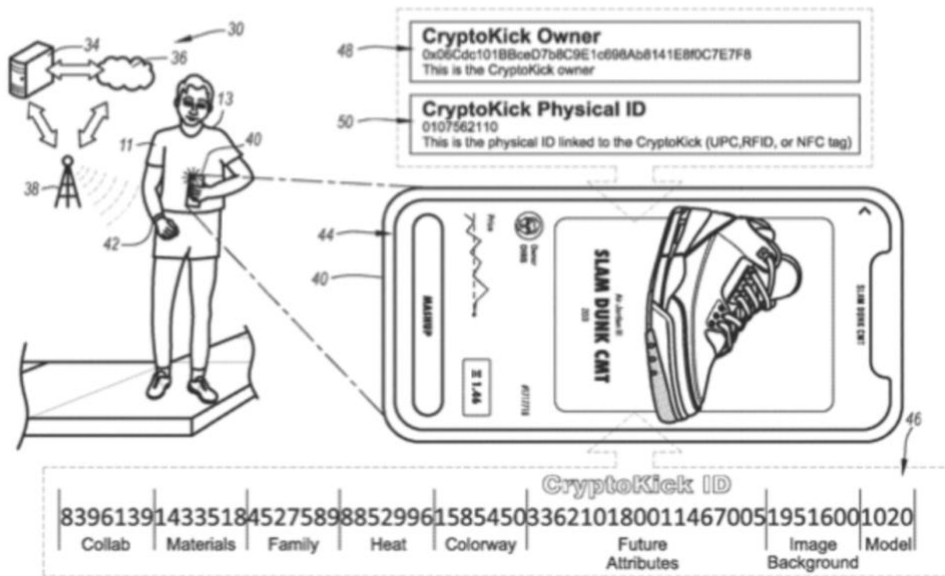**Appendix 12 – Nike's CryptoKicks NFT connected to a physical product [142]**

Appendix 13 – CryptoKick patent application[143] that shows the process of how a physical Nike product is linked to a NFT when a customers buy a pair of Nike shoes[144]
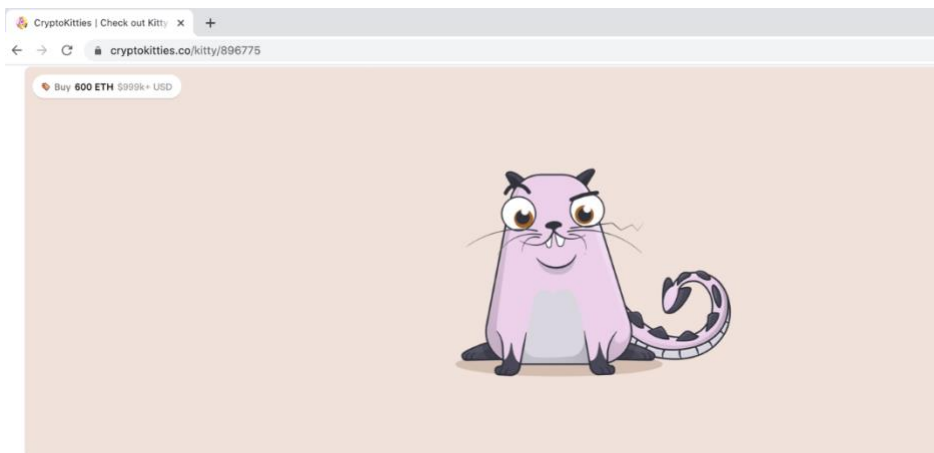
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[142] 'Nike's Dec 2019 patent reveals revolutionary NFT use' (10 February 2020, *NFT.NYC*) <https://nftnyc.medium.com/nikes-dec-2019-patent-reveals-revolutionary-nft-use-a74c115bd0c> accessed 30 July 2021.
[143] US Patent US10505726B1. See:< https://patents.google.com/patent/US10505726B1/en> accessed 22 June 2021.
[144] 'Nike's Dec 2019 patent reveals revolutionary NFT use' (n 142).

Appendix 14 – 'Weird Whales' NFTs created by a 12-year old boy[145]

Appendix 15 – Cryptocurrency cat 'Dragon'[146]

[145] Zoe Kleinman, 'Twelve-year-old boy makes GPB 290,000 from whale NFTs' (*BBC*, 27 August 2021) <Twelve-year-old boy makes £290,000 from whale NFTs - BBC News> accessed 29 August 2021.

[146] <https://www.cryptokitties.co/kitty/896775> accessed 23 June 2021.
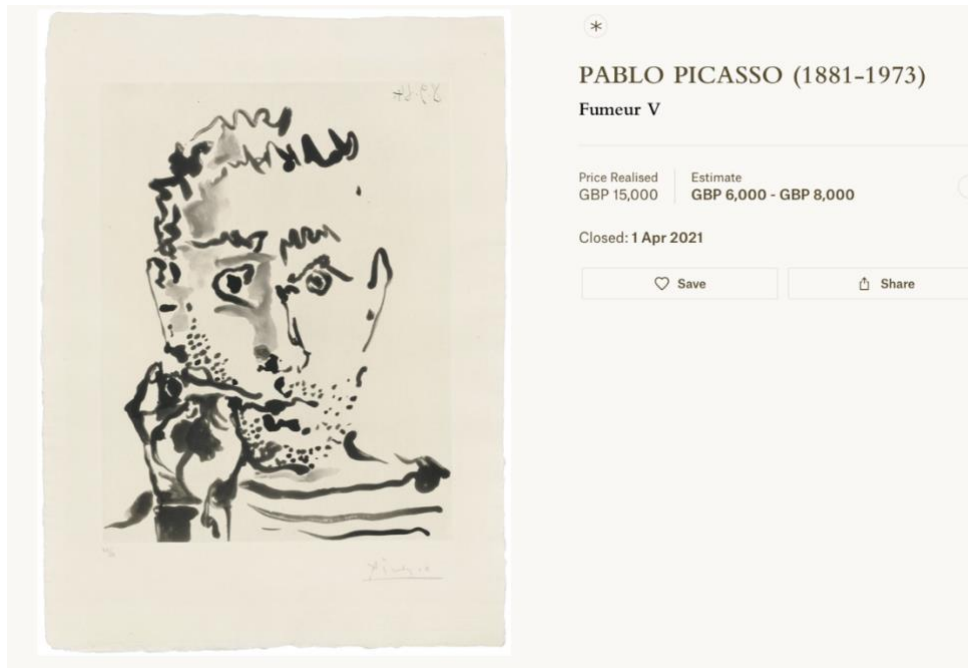
Appendix 16: 'The Burned Picasso'[147]

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[147] Christie's, 'Pablo Picasso' (April 2021) <https://onlineonly.christies.com/s/prints-multiples/pablo-picasso-1881-1973-133/115361>
accessed 20 July 2021.

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"Art" means any art, design, and drawings that may be associated with an NFT that you Own.

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You agree that you may not, nor permit any third party to do or attempt to do any of the foregoing without Creator's express prior written consent in each case: (i) modify the Art for your Purchased NFT in any way, including, without limitation, the shapes, designs, drawings, attributes, or color schemes (your use of Extensions will not constitute a prohibited modification hereunder); (ii) use the Art for your Purchased NFTs to advertise, market, or sell any third party product or service; (iii) use the Art for your Purchased NFTs in connection with images, videos, or other forms of media that depict hatred, intolerance, violence, cruelty, or anything else that could reasonably be found to constitute hate speech or otherwise infringe upon the rights of others; (iv) use the Art for your Purchased NFTs in movies, videos, or any other forms of media, except to the limited extent that such use is expressly permitted in Section 3(b) above or solely for your own personal, non-commercial use; (v) sell, distribute for commercial gain (including, without limitation, giving away in the hopes of eventual commercial gain), or otherwise commercialize merchandise that includes, contains, or consists of the Art for your Purchased NFTs, except as expressly permitted in Section 3(b) above; (vi) attempt to trademark, copyright, or otherwise acquire additional intellectual property rights in or to the Art for your Purchased NFTs; or (vii) otherwise utilize the Art for your Purchased NFTs for your or any third party's commercial benefit. To the extent that Art associated with your Purchased NFTs contains Third Party IP (e.g., licensed intellectual property from a celebrity, athlete, or other public figure), you understand and agree as follows: (w) that you will not have the right to use such Third Party IP in any way except as incorporated in the Art, and subject to the license and restrictions contained herein; (x) that the Commercial Use license in Section 3(b) above will not apply; (y) that, depending on the nature of the license granted from the owner of the Third Party IP, Creator may need to pass through additional restrictions on your ability to use the Art; and (z) to the extent that Creator informs you of such additional restrictions in writing (email is permissible), you will be responsible for complying with all such restrictions from the date that you receive the notice, and that failure to do so will be deemed a breach of this license. The restriction in Section 4 will survive the expiration or termination of this License.

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The license granted in Section 3 above applies only to the extent that you continue to Own the applicable Purchased NFT. If at any time you sell, trade, donate, give away, transfer, or otherwise dispose of your Purchased NFT for any reason, the license granted in Section 3 will immediately expire with respect to those NFTs without the requirement of notice, and you will have no further rights in or to the Art for those NFTs. If you exceed the $100,000 limitation on annual gross revenue set forth in Section 3.b above, you will be in breach of this License, and must send an email to Creator at _____ within fifteen (15) days, with the phrase "NFT License - Commercial Use" in the subject line, requesting a discussion with Creator regarding entering into a broader license agreement or obtaining an exemption (which may be granted or withheld in Creator's sole and absolute discretion). If you exceed the scope of the license grant in Section 3.b without entering into a broader license agreement with or obtaining an exemption from Creator, you acknowledge and agree that: (i) you are in breach of this License; (ii) in addition to any remedies that may be available to Creator at law or in equity, the Creator may immediately terminate this License, without the requirement of notice; and (iii) you will be responsible to reimburse Creator

for any costs and expenses incurred by Creator during the course of enforcing the terms of this License against you.

Appendix 17 - NFT license created by Dapper Labs, allowing the commercialisation of NFTs[148]
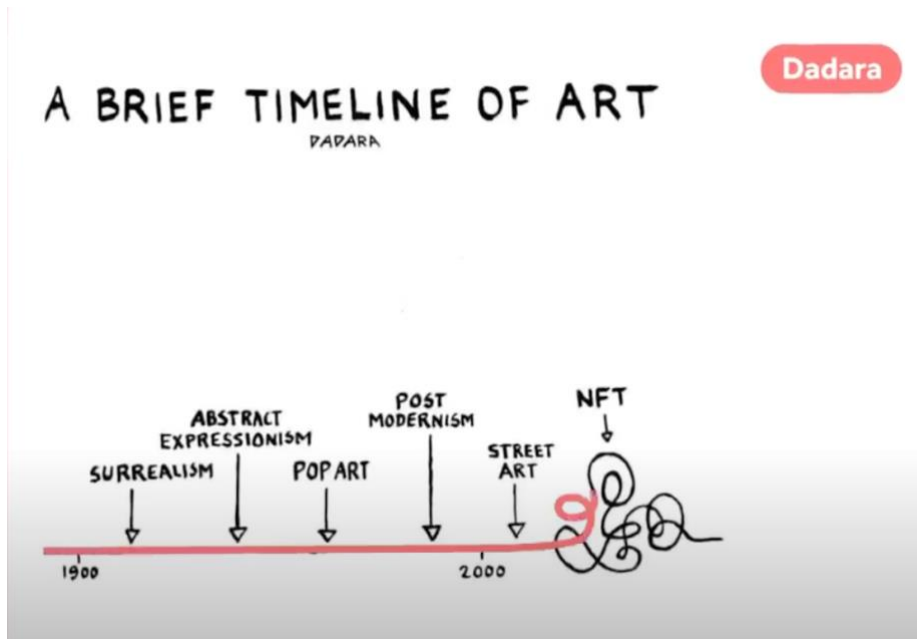

Hype Cycle for Blockchain, 2021
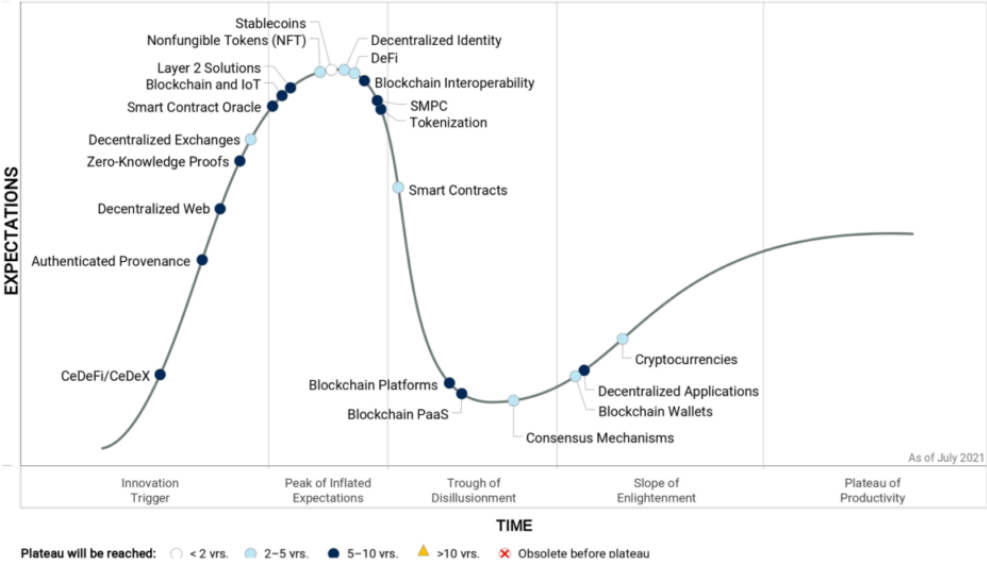
Appendix 18 – The hype cycle of blockchain businesses as predicted in 2021[149]

[148] <https://www.nftlicense.org> accessed 7 July 2021.
[149] Avivah Litan, 'Hype Cycle for Blockchain in 2021; More Action than Hype (*Gartner*, 14 July 2021) <https://blogs.gartner.com/avivah-litan/2021/07/14/hype-cycle-for-blockchain-2021-more-action-than-hype/> accessed 30 July 2021.

**Appendix 19 - 'A brief timeline of art' by cartoonist Dadara[150]**

Appendix 20 – DKNY has launched its renewed logo as NFT. The NFT will be auctioned; DKNY will donate the proceeds to the American Nurses Foundation[151]

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[150] NOS op 3, 'De kunst van het online rijk worden' (2 juni 2021) <https://www.youtube.com/watch?v=MJ_rs47qCvs> accessed 16 July 2021.

[151] Ledger Insights (n 103); Reethy Ravi, 'DKNY Reveils New Logo as NFT to Auction it for Charity' (*NFT Evening,* 31 August 2021) <https://nftevening.com/dkny-unveils-new-logo-as-nft-to-auction-it-for-charity/> accessed 31 Augustus 2021.

CO2 consumption in comparison
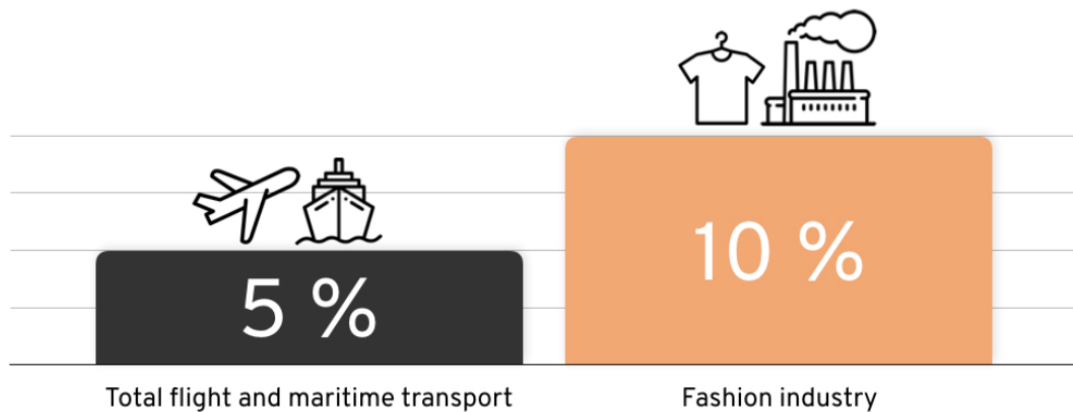
Appendix 21 – The fashion industry is responsible for 10% of all greenhouse emissions, making it more polluting than the total flight and maritime industry[152]

Appendix 22 – The United Nations Sustainability Goals[153]

[152] -'The environmental impact of the fast fashion industry' (*Sanvt*, 12 March 2020,) <https://sanvt.com/journal/environmental-impact-of-fast-fashion-infographic/> accessed 30 July 2021.
[153] United Nations, 'Staying on-track to realize the Sustainable Development Goals (3 January 2019) <https://www.un.org/development/desa/en/news/sustainable/sustainable-development-goals.html> accessed 30 July 2021.

String: Material: 100% cotton. Extracted from plant-based products. Made from wood pulp. Chemical treatment with ammonia, acetone, and sulphuric acid. From China. Durability: 7 years.

#70:00b5ed758dfc28ff6fd56b7a1b6d2ccb279c82121695e337b528ae460eee126a
#293:00034157ad04991ca0a2e7a54f3ac4bce74b87a0ab708b06446d5af3573e3e00
#129697:000069b2ee4512a3178cb56343ff30d24c089d47c34209a51de17f97e12734dc
#1206386:00000a1d995b03a0f248f076e255b0cd11f4392a5d96f7ba4b6bfb8eab54cfa2
#11094201:000000db8d2f7b35ba38bf5c17e090aa54fd466a8486ac114820ce28ae035c99

String: Wet spinning process in which H2SO4 reacs to Na2SO4, which is recycled to H2SO4 in an additional process. #185:00c603ca0b14f99ff32c44efb7d7997e19c33970faeaefeeced46b08fcd84d95
#945:0006d1d709ff63fb48825a711fa908bbe4ce1af483b89deaba2d7fec70ff21a6
#2115:00002d8285f59b2904759f831ddfa778f35c83c649beee816d64e4ccb5627048
#281320:000005089e0b762c0e123b03c372e79a270a02683b1f61ac22e991bd418ae505
#26585528:0000003c20fdd23e189aae6ee3a043348cb6b090609a0eb8de81f1a7f3d0e512

String: Patterns make by a Spanish designer company. Specific software is used for this. Quality inspection passed each 2 years. #229:00c5afbbf8819443302e32e56bb241fae320c561c5aa63cc5f78d9d13c0d74ad
#3851:0001835e911982a3f000c76bc2675f568634e50688f208222078a9b5a4ab63e1
#49592:0000f7b48c117c8696e1a090c90441011594626a157d5290ef39ea63491c17af
#2240215:000005c93ea7674006f463065ffb4ba6cf57a2f66c26bc1571e619cef30e5e8b
#15075051:000000d11b1baffbe98fc631f103bc6f751a0e30b69b6b7dc921755aabe780c2

String: Recibido en España por El Corte Inglés central logistics platform (Calle Carpetanos, 85, 28320 Pinto, Madrid). Distribuido por El Corte Inglés de Salamanca (María Auxiliadora 71-85, 37004 - Salamanca). Local de venta: Sfera: C/ Toro 40, 37002 - Salamanca.
#729:00c591befee611245b6945015e59c9b25f5b4be02298396a2ed23452c0d0585f
#5798:000b3052094c977db55da14b8f03a5538c23107d89cc813ade074ff71c3fa4a1
#63038:0000739ffe583f37667a93d95313c04d9470c045a598685706f9d207b18decb9
#767278:00000404b6ead67fca498533f6c1ec785ac91a99d50cae83b3400688fd5e676d
#10094157:0000003a01f51e59dce09b6242683ff54f1aac9caf9ede5a2b48b3eca49a4890

Appendix 23 – Example of a garment supply chain on a blockchain[154]

- Not test products on animals;
- Not use leathers, fur, or skins
- Produce products without the use of PVC (polyvinyl chloride);
- Not use angora;
- Not use perfluorinated compounds (PFCs) or azo dyes;
- No use of sandblasting for denim material;
- Not use cotton from Uzbekistan, Syria, or Turkmenistan; and
- Not accept wool from farms that allow mulesing.

Appendix 24 – FREDÉLO's sustainable commitments, benchmarked with Stella McCartney[155]

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[154] Bullón Pérez and others (n 104).
[155] Benchmarked by: Stella McCartney, 'Our Commitments' <https://www.stellamccartney.com/gb/en/sustainability/our-commitments.html> Accessed 10 June 2021.
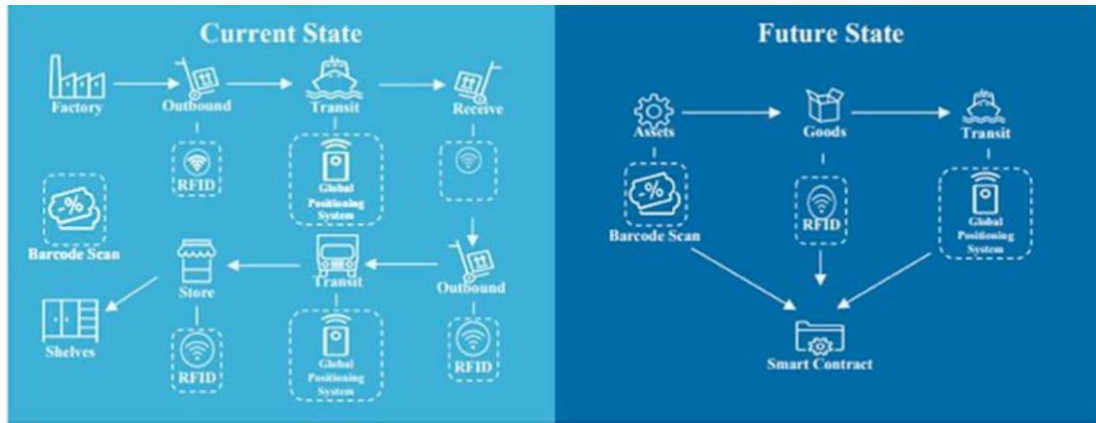
Appendix 25 – The future state of the supply chain through the use of blockchain technology [156]

[156] Alfonso Segura, 'Blockchain in retail fashion' (4 June 2018, *Fashion Retail*) <https://fashionretail.blog/2018/06/04/blockchain-in-fashion/> accessed 29 July 2021.

THE FASHION PACT

Climate

The Fashion Pact's signatories have committed to the implementation of Science Based Targets (SBTs) for Climate to achieve net-zero carbon impact by 2050:

> 1) implementing the principles of the U.N. Fashion Charter,

> 2) achieving 25% low-impact materials sourcing by 2025, and

> 3) achieving 50% renewable energy by 2025, and 100% by 2030 in their own operations.

In order to deliver on these targets, the Fashion Pact is engaging with key climate experts in the industry, starting with 2050 & SYSTEMIQ who have mapped out strategic areas for collective efforts, without duplicating existing initiatives, to inform business decisions and to provide assistance in accurate reporting and target-setting.

Within most companies, significant individual action is already underway to reduce GHG emissions. Together, signatories have achieved reductions of ~350-450k tons of GHG emissions (CO_2 equivalent) across Scope 1 & 2. Members achieved significant progress towards the transition to lower climate impact raw materials with, for example, ~40% of reported cotton volume of members being lower impact, as well as having $^1/3$ of signatories on track to achieving 50% renewable energy in 2020.

Biodiversity

Biodiversity is still an emergent issue of focus within the fashion industry, but is crucial for business reliant on nature-based resources. Concretely, in this pillar, the Fashion Pact has committed to the protection of key species as well as the protection and restoration of critical natural ecosystems.

Committed to driving action rooted in technical expertise and science, The Fashion Pact and Conservation International have worked towards three main outcomes: first, a calculated and detailed plan of action for the next two years for both individual and collective action. Second, the building of partnerships with key global experts and institutions to support the technical work. Third, the scouting for support for the scientific analyses and approaches that will help shape our biodiversity outcomes.

To kick-off first actions, The Fashion Pact has come together in a series of webinars, named the "Nature of Fashion", where , together with key conservation experts, members worked jointly on topics such as how to map your supply chain for biodiversity, creating Science Based Targets for Nature, and developing biodiversity strategies.

As first tangible targets, members have committed to:

1. 1) individual biodiversity blueprints by the end of 2020, and
2. 2) supporting zero deforestation and sustainable forest management by 2025.

80% of signatories had not had a public biodiversity commitment prior to joining the Fashion Pact, and 50% have reported that their membership has inspired their organization's development of actions or commitments to prevent deforestation.

In the Oceans pillar, The Fashion Pact's first area of focus is on eliminating problematic and unnecessary plastic in packaging (including polybags, hangers, consumer packaging, and retail bags).

Signatories will:

1. 1) achieve the elimination of problematic and unnecessary packaging in B2C packaging by 2025 and in B2B by 2030
2. 2) ensure that at least half of other plastic packaging in B2C is 100% recycled content by 2025, and by 2030 for B2B.

These first actions were selected as the Fashion Pact is dedicated to making a tangible impact. Achieving the targets will require scaling innovation and successful pilots, a sphere where the coalition is uniquely equipped to leverage its weight to accelerate impact.

Individual achievement in this space is varied - for example, 60% of signatory brands have eliminated plastic packaging in their retail bags, whereas there have been a lot of challenges in hangers and B2B transport bags, with only 15% of signatories having achieved elimination. Despite the different levels of progress, collective action can scale innovation to close the gap.

The Fashion Pact is currently working with (RE)SET to call innovators to action and use the weight of the collective to scale innovative solutions.

Appendix 26 – Excerpt of the Fashion Pact's commitments[157]

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[157] The Fashion Pact (n 108).

Fashion Industry Charter for Climate Action - Modalities of Work

1. UN Climate Change is committed to facilitate and coordinate, within its resources and mandates and as part of its work on Global Climate Action, the work undertaken by Signatories as part of the fashion industry's response to UNFCCC Global Climate Action.

2. The Fashion Industry Charter for Climate Action does not constitute a new formal initiative or registered organization, but work is carried out by the Signatories with facilitation from UN Climate Change.

3. Signatories to the Fashion Industry Charter for Climate Action are committed to support the implementation of the principles contained in it, both by pursuing the principles within their own organizations and by working collectively with other Signatories.

4. Any company or organization professionally engaged in the fashion sector, and which is committing to the principles of the Fashion Industry Charter for Climate Action by signing it, may participate in this work.

5. Other organizations that are in a position to substantially contribute to realization of the Fashion Industry Charter for Climate Action may also participate in the Working Groups subject to meeting specific criteria to be elaborated by the Signatories. It is recognized that the Supporting Organizations are committed to the principles in the Fashion Industry Charter for Climate Action but may not be able to apply all of them to their own organizations.

6. Delivery of the Fashion Industry Charter for Climate Action is through Working Groups, each having a focus on one or more of the principles in the Fashion Industry Charter for Climate Action.

7. Companies/Organizations signing the Fashion Industry Charter for Climate Action, and Supporting Organizations, may contribute to the work of one or several Working Groups[8] of their choice, as defined in the Fashion Industry Charter for Climate Action. UN Climate Change may invite, from among the participating Signatories and Supporting Organizations, two co-chairs to facilitate work in each Working Group.

8. Substantive direction of the work undertaken in each Working Group is to be decided by consensus among the companies and organizations that are part of that Working Group.

9. Working Group activities requiring resources for their implementation shall be budgeted for by the participating organizations, either through own sources of funding or through joint fund raising.

10. Any products or outputs resulting from the work of participating organizations will be free of copyright and publicly accessible.

11. No participating Signatory may represent, or make statements on behalf of, the other Signatories of the Fashion Industry Charter for Climate Action unless this has been agreed by all Signatories.

12. The participation of Signatories and Supporting Organizations in the Working Groups will be recognized by UN Climate Change in relevant communications and events. Such participation may also be reflected in the Signatories' own communications, by stating that they are a Signatory to the Fashion Industry Charter for Climate Action as part of fashion industry's response to UN Climate Change Global Climate Action.

13. Signatories of the Fashion Industry Charter for Climate Action and Supporting Organizations are not entitled to use the name or logo of UN Climate Change without the express permission by UN Climate Change in writing. UN Climate Change is not able to authorize the use of the United Nations name or logo and no Signatories of the Fashion Industry Charter for Climate Action may use the UN name or logo.

14. UN Climate Change, Signatories of the Fashion Industry Charter for Climate Action, and Supporting Organizations, may not use the name, brand, or logo of any of the other Signatories or Supporting Organizations without express permission.

15. UN Climate Change will facilitate the work by:

    a. Supporting the delivery of the Working Groups to the extent that they are within UN Climate Change's existing resources and mandates;
    b. Maintaining a list of Signatories and their participation in working groups;
    c. Facilitating regular online calls and meetings as may be necessary among Signatories;
    d. Organizing an annual face-to-face meeting with all Signatories to take stock of progress, share lessons learned, and discuss and agree on work to be done in the next year. Signatories will be invited to host the meeting on a rotational basis and attendees will bear their own costs of attendance;
    e. Coordinating external communication activities by the Signatories;
    f. Presenting and explaining the work of the Signatories to other entities and organizations, as needed to facilitate delivery of work by the Signatories;

16. In order to ensure the quality and credibility of the work of the Signatories of the Fashion Industry Charter for Climate Action, UN Climate Change, based on consultations with Signatories, may exclude a company or organization from the list of Signatories if its sincerity in participation or ability to participate is reasonably a cause for concern.
17. The UN Climate Change may cease to be associated with or support the Fashion Industry Charter for Climate Action if it is no longer able to meet the resourcing needs of the initiative or if it is no longer within the mandate of the UNFCCC to continue.
18. Signatories and Supporting Organizations may withdraw from the Fashion Industry Charter for Climate Action and associated obligations at any time by notifying UN Climate Change in writing.
19. The Signatories of the Fashion Industry Charter for Climate Action shall take into due account all regulations applicable to them that relate to antitrust or anticompetitive behaviours and shall refrain from any such behaviours during or in relation to their participation in the Fashion Industry Charter for Climate Action meetings, events and related activities.

Appendix 27 – Commitments of The Fashion Industry Charter for Climate Action[158]
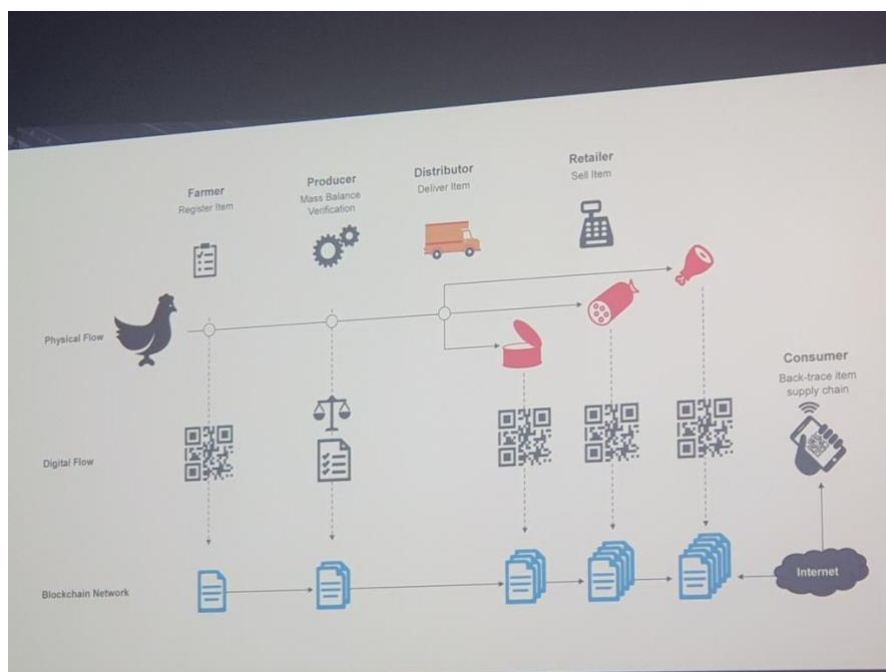
Appendix 28 – GoGo chicken blockchain[159]

[158] United Nations Climate Change, The Fashion Industry Charter for Climate Action (2018) <UNITED NATIONS (unfccc.int)> accessed 2 August 2021.
[159] Emilie Ditton, 'Blockchain to ensure the providence of chickens' (*Twitter*, 17 September 2019) <Emilie Ditton op Twitter: "ZhongAn uses #blockchain to ensure the providence of chickens. 100,000 chickens using Gogo Chicken tracking devices https://t.co/OYrPmw6HVp" / Twitter> accessed 2 August 2021.

Appendix 29 – It has been claimed that some brands within the luxury fashion industry do not protect their workers from exploitation sufficiently[160]


Appendix 30 – The Clean Clothes campaign[161]

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[160] Ariel Zilber, 'Did slave labor make your designer bag? New reports find luxury brands like Prada, Fendi d Dior rank among the worst retailers for protecting workers from exploitation' (16 December 2018, *Daily Mail*) <Luxury fashion brands like Prada and Fendi 'use exploited factory workers to make their products' | Daily Mail Online> accessed 2 August 2021.
[161] 'Most of our clothes are made in places where workers' rights are nonexistent' <https://www.sustainyourstyle.org/old-working-conditions> accessed 30 July 2021.
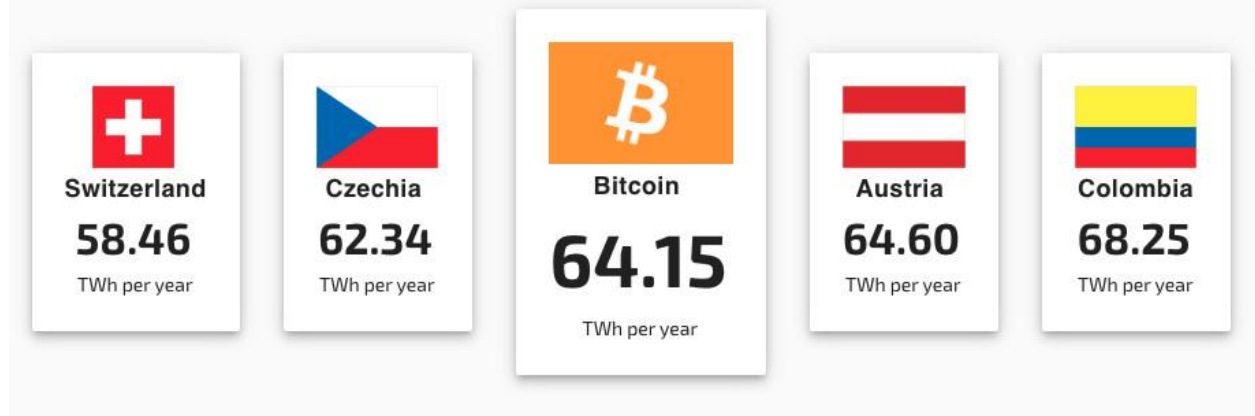
Appendix 31 – Bitcoin, that is a proof-of-work cryptocurrency, uses more energy that Switzerland[162]

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[162] James Vincent, 'Bitcoin consumes more energy than Switzerland according to new estimate' (*The Verge,* 4 July 2019) <Machine Learning/AI Bias. Deep learning algorithms are vastly… | by Divya Sikka | MLearning.ai | Medium> accessed 2 August 2021

Crypto Climate Accord

In cooperation with fintech and crypto industry leaders, Energy Web Foundation, the Alliance for Innovative Regulation and RMI, are excited to launch the **Crypto ClimateAccord**. The Accord, inspired by the Paris Climate Agreement, is a private sector-led initiative for the entire crypto community focused on decarbonizing the cryptocurrency industry in record time.

If successful, the Crypto Climate Accord will create wins for both the planet and the global economy. For climate advocates, we can eliminate emissions from a fast-growing source of electric load. For the cleantech industry, we can onboard an entirely new class of customers with significant demand for low-carbon solutions. For the crypto industry, we can help support widespread adoption of crypto by making industry more sustainable.

The Accord is organized around the following core principles:

Build on existing forward progress The electricity that powers our sector is decarbonizing. Renewables have become cost competitive in energy markets around the world. As a result, a growing share of the grid (and by extension our industry) is becoming cleaner;

Mind the gap; recognize that significant work remains to be done. There is a substantial opportunity to close the gap between crypto emissions today and a net-zero emissions industry;

Move quickly. Crypto's roots in open source, agile, and technology innovation make crypto an ideal candidate to achieve something the world has yet to see: rapid industry-wide *decarbonization*;

Decentralized, **open source technology can accelerate progress**. The same open source, decentralized technology underpinning the global crypto industry—blockchain—can bring transformational levels of data transparency and trust to decarbonization efforts;

Voluntary, market-oriented and value-added. Voluntary, private-sector led action on industry decarbonization should be powered by a shared vision and market-driven solutions that accelerate market growth and create long-term value for everyone; and

Community-driven: All crypto communities should work together, with urgency, to ensure crypto does not further exacerbate global warming, but instead becomes a net positive contributor to the vital transition to a low carbon global economy. This process will be collaborative and based on shared interests and co-investment; no central body will dictate solutions.

What are the objectives of the Crypto Climate Accord?

The Crypto Climate Accord's overall objective is to decarbonize the global crypto industry by prioritizing climate stewardship and supporting the entire crypto industry's transition to net zero greenhouse gas emissions by 2040. The Accord has two specific interim objectives:

Objective 1: Achieve net-zero emissions from electricity consumption for CCA Signatories by 2030.
Objective 2: Develop standards, tools, and technologies with CCA Supporters to accelerate the adoption of and verify progress toward 100% renewably-powered blockchains by the 2025 UNFCCC COP30 conference.

Activities under the Accord will be focused on quickly closing the gap between today's industry emissions and industry-wide decarbonization for all blockchains, service providers, and other crypto industry activity, such as non-fungible tokens.

The Accord will employ a "big tent" approach and act as a coordinating framework for a wide variety of projects and activities to decarbonize the industry. Following launch we will engage with the crypto and sustainability communities to:

Convene a voluntary, open-source working group to drive action

Engage with stakeholders to generate ideas, proposed solutions and agreed-upon targets

Determine the right governance and operating model for activities under the accord
Achieve the following by the end of 2021:

Help crypto buyers and investors decarbonize current crypto holdings

Develop solutions to unlock deeper penetrations of renewable energy in cryptocurrency production

Report on the impact of the Accord on a regular basis

Host the inaugural Crypto Climate Accord Congress

Crypto Climate Accord: Inspired by the Paris Climate Agreement, the Accord is a private sector-led initiative for the entire crypto community focused on decarbonizing the cryptocurrency industry in record time.
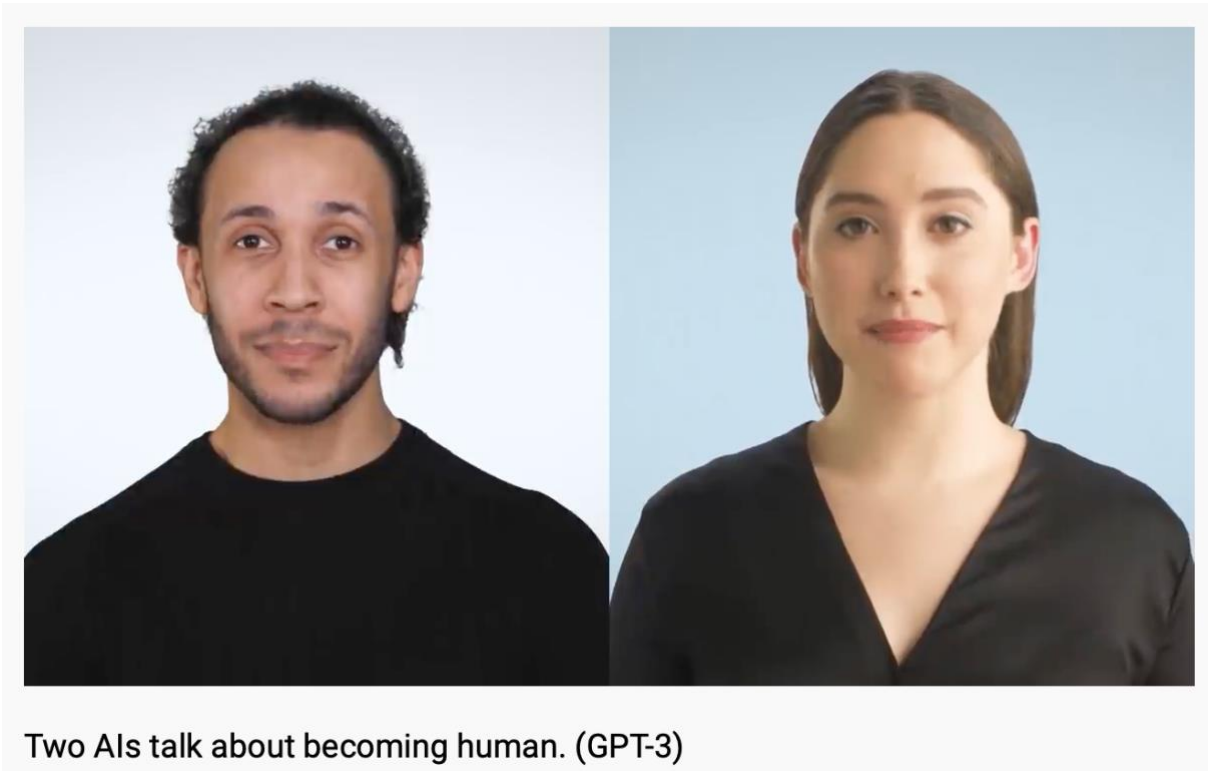
Appendix 32 – Crypto Climate Accord[163]
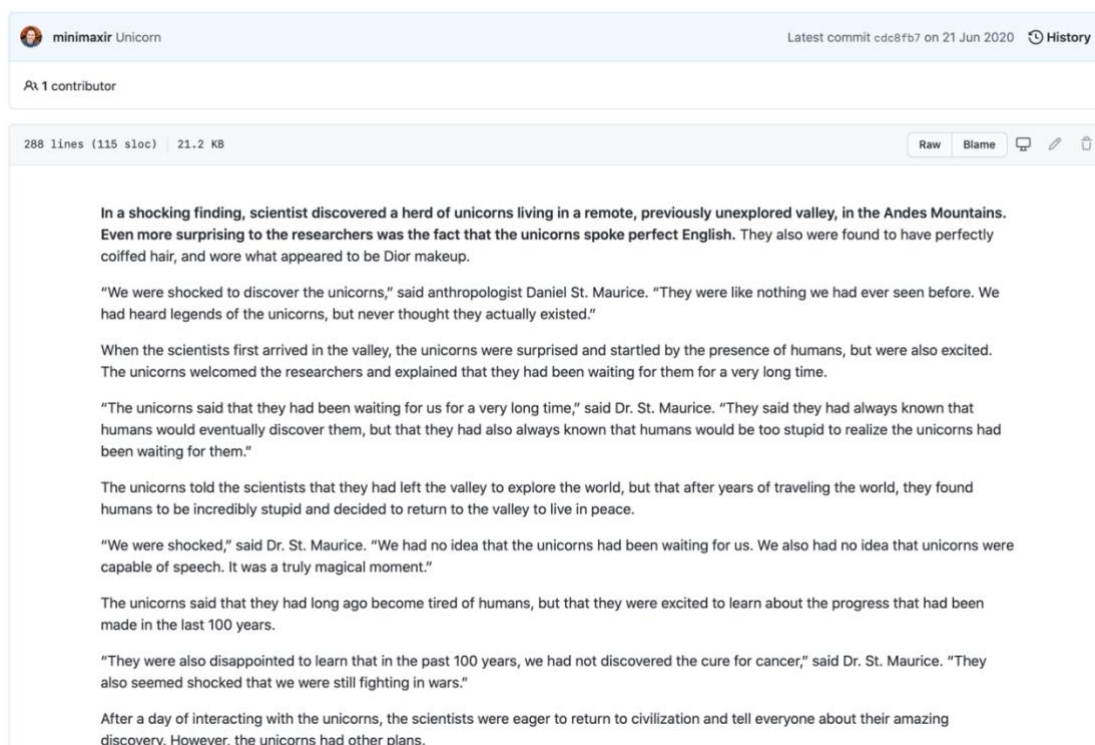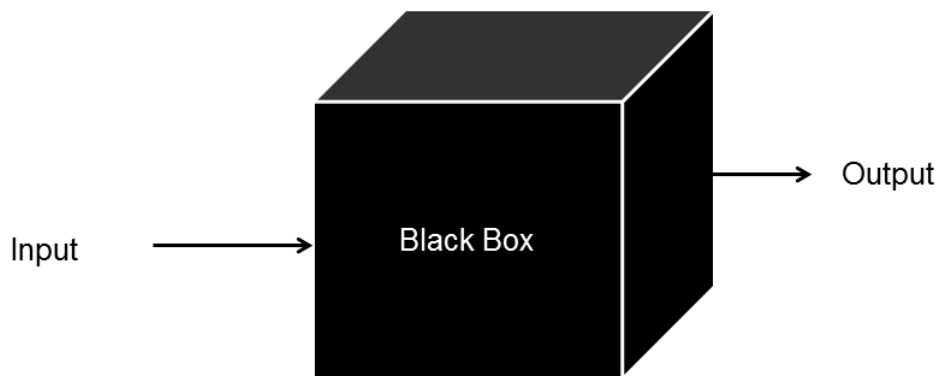

Appendix 33 – Example of a GPT-3 generated text[164]

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[163] -Make Crypto Green' <https://cryptoclimate.org> accessed 7 July 2021.
[164] Minimaxir, 'Unicorn' (*Github*, 21 June 2020) <https://github.com/minimaxir/gpt-3-experiments/blob/master/examples/unicorn/output_0_7.md> accessed 5 July 2021.

Two AIs talk about becoming human. (GPT-3)

Appendix 34 – A clip of two GPT-3 generated persons talking about becoming human[165]
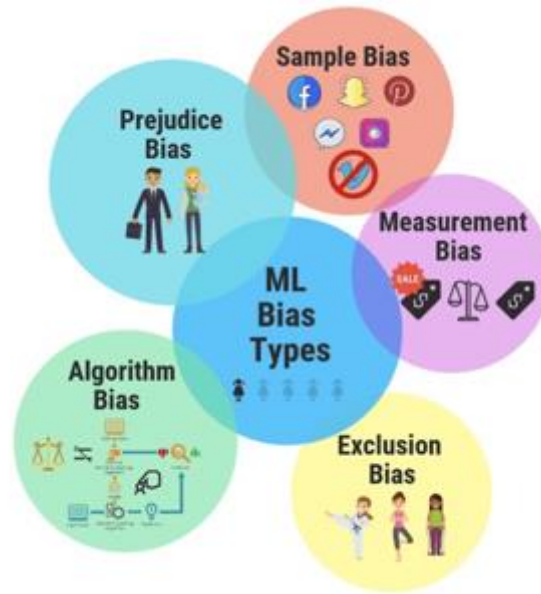

Internal behavior of the code is unknown

Appendix 35 – The 'black-box' associated with deep learning AI[166]

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[165] Jack Soslow, 'Two AIs talk about becoming human. (GPT-3)' (*YouTube*, 13 April 2021)
<https://www.youtube.com/watch?v=jz78fSnBG0s> accessed 27 July 2021.
[166] Matthew Cress, 'The Black Box Problem' (*Artificial Intelligence Mania*, 10 January 2019) <THE BLACK BOX PROBLEM – Artificial Intelligence Mania> accessed 2 August 2021.

Appendix 36 – Subtle AI biases[167]

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[167] Sikka Divya, 'Machine Learning/AI Bias' (*Medium*, 12 April 2021) <Machine Learning/AI Bias. Deep learning algorithms are vastly… | by Divya Sikka | MLearning.ai | Medium> accessed 2 November 2021.