



The Chamber of Digital Commerce

# **Pixels to Policy – The NFT Impact Report**

# Acknowledgements

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# Executive Summary

**Non-fungible tokens (NFTs)** offer a wide range of use cases that **have the potential to bring efficiency, economic opportunity and increased security** to individual creators, consumers, and a broad range of industries.

**NFTs are by and large consumer products that should not be regulated in the same manner as the early, financial applications of blockchain such as cryptocurrencies.**

Indeed, NFTs raise different policy challenges, such as the need to verify authenticity of the underlying asset and protect the rights of creators and owners. In many cases, mitigation strategies used for physical analogues are effective for NFTs. As such, the regulatory principle “same business, same risks, same rules” is most appropriate. For others, the industry is leading the way in identifying and responding to the novel challenges of this technology by leveraging innovative solutions, including utilizing the public nature of the blockchain.

## NFT USE-CASES:

 Digital Art & Collectables

 Supply Chain

 Financial Services

 Music

 Community Access

 Gaming

 Metaverse

 Ticket Sales

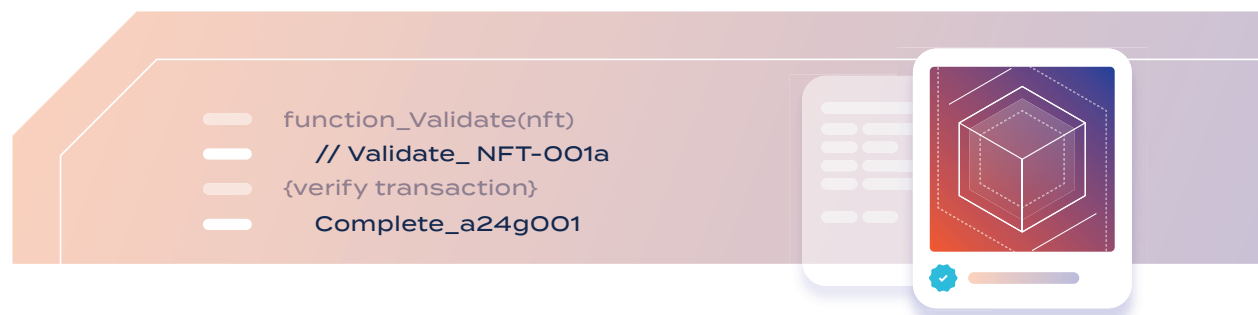
# How Do NFTs Work?

## DEFINE: NON-FUNGIBLE TOKEN \_“NFT”\_

An NFT is a **unique digital identifier that represents ownership of a digital or physical property**, like a certificate of ownership or authentication, that is recorded on a blockchain.

Non-fungible means that each token is unique and not interchangeable, as opposed to cryptocurrencies like bitcoin or ether that are intended to serve as units of account, stores of value, and means of exchange.

When someone creates, or “mints” an NFT, they execute code stored in a smart contract, which is a set of instructions that facilitate and verify the transaction. Many NFTs are associated with off-blockchain assets, such as a digital asset stored in a cloud or physical server for a digital asset or a physical asset stored within a vault, much like a deed to a house.<sup>1</sup>



<sup>1</sup> It is instructive to note that there are several technical ways NFTs are created and stored. For instance, some NFTs like Ordinals and CryptoPunks exist as artifacts stored directly on a blockchain while others are cryptographic references to objects stored off-chain, via decentralized storage application or reference real world objects.

# How are NFTs Different from Cryptocurrencies?

**Cryptocurrencies are a form of digital currency or means of exchange and can also serve as a store of value. NFTs, on the other hand, may represent unique digital assets such as artwork, music, videos, in-game items, and other forms of digital collectibles (more below).**

Although both use cryptography to record an immutable chain of ownership, NFTs may require a different regulatory approach in areas such as intellectual property (“IP”) and consumer protection. Whereas cryptocurrencies or digital assets may be deemed to be securities or commodities and may therefore be subject to financial regulation, this is not necessarily the case for non-financial digital assets like most NFTs. Several foreign jurisdictions, including the United Kingdom and European Union, have taken steps to carve non-financial use cases of NFTs out of financial regulation.

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# Benefits of NFT Technology

NFT technology is most typically used to make it possible to prove ownership of digital and physical assets by holding an NFT. The various applications of NFTs offer innovative and wide-ranging economic opportunities and potential benefits.



- **Access and Opportunity.**

NFTs present an opportunity to usher in a new era of sponsorship, transparency, and creator/developer-initiated monetization models. They give creators more control over their work product and more direct access to consumers. They also allow artists to retain IP (Intellectual Property) rights and creative control, receive direct compensation and to monetize their work without having to rely on third parties or gatekeepers that have historically excluded women, people of color and other underrepresented groups.

- **Efficiency and Portability.**

NFTs offer improvements across a wide range of industries in terms of automation and interoperability. NFTs can automate processes such as asset tracking, verification, and transfer of ownership, which increases the speed and accuracy of transactions, and creates new ways to securely move digital assets across platforms and in peer-to-peer transactions.

- **Community.**

NFTs can serve as a means of gating exclusive interest or experience-based communities, meaning people can connect with those who share their passions and creators can interact with their fans/communities more directly.

- **Cybersecurity.**

NFTs can be used to store, track and access identifying information by linking a unique digital identity to a real-world identity or confirming a digital signature. Such applications for digital identification can provide access to finance for those who lack traditional identification and ensure the integrity of digital commerce and finance.

- **Verifiable Provenance.**

The unique identifier for NFTs enables secure and traceable supply chain operations for industrial, pharmaceutical, agricultural, military items, and a range of other manufacturing industries. The verifiable provenance allows any stakeholder in the supply chain to verify a product's origin, movements, and authenticity.

# Understanding the Use Cases of NFTs

The following is a non-exhaustible list of some of the most prominent and promising NFT use cases identified to date.

## Digital Art/Collectibles

NFTs transfer, track, and verify ownership of digital artwork, media, and collectibles. Digital collectible NFTs have proven to be a valuable tool to provide new revenue streams for creators and ways for fans to engage with their favorite artists, sports teams, and other forms of entertainment:

- **Art and Collectibles:** Artists and creators are using NFTs to sell digital artworks, collectible items, and other digital assets in a way that ensures ownership and scarcity.
- **Sports:** Sports teams and leagues are now using NFTs to represent virtual collectibles like player cards, VIP experiences, and other digital assets.
- **Film & TV:** Film studios and television networks are also exploring the use of NFTs to represent virtual collectibles like movie posters, behind-the-scenes footage, and other digital assets.

## Supply Chain

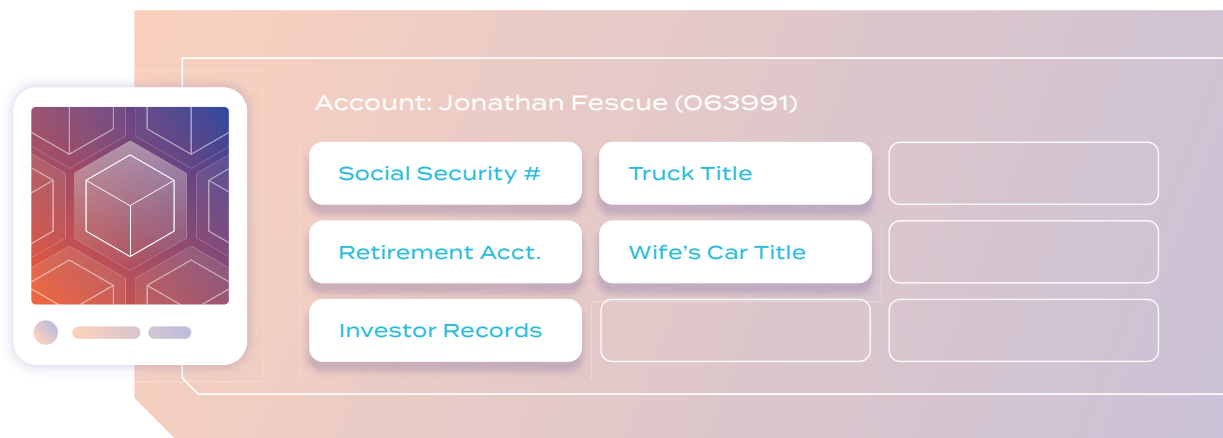
NFTs can provide authenticity, traceability, and transparency in the supply chain, by tracking the movement of goods and assets from origin to destination, providing a sole source of truth for the multiple parties typically involved in a supply chain. The decentralized and verifiable nature of the blockchain means every party has visibility into the digital record making it more efficient and transparent.



## 💰 Identity & Document Management in Financial Services & Beyond

Financial institutions can leverage NFTs to solve major challenges, such as document fraud, including by using NFTs to store sensitive data and maintaining accurate, unalterable, and immutable records.

NFTs can also tokenize personal data, such as vehicle titles and investor qualifications and credentials.



## 🎵 Music

NFTs allow artists to generate new revenue streams by tokenizing their songs and albums for direct sale to consumers and combining NFTs with digital or physical fan experiences or merchandise.

## Community Access

NFTs allow project creators, artists, web3 participants, and others to form exclusive communities of NFT holders.

- NFTs do not just enable the creation of exclusive communities – they allow NFT issuers to commercialize them. Some entertainers, retailers and brands are already exploring this prospect through customer loyalty programs and brand-centered communities that only NFT holders can access (i.e., artist fan clubs, Instagram influencer followers, and gamer streaming followers).

## Gaming

NFTs can enable interoperability among various gaming platforms that operate on blockchain networks. Many gaming companies offer users the ability to purchase in-game upgrades to characters and experiences. Yet, most characters and in-game purchases are exclusively used within their gaming environments. NFTs' ability to authenticate ownership of digital assets across different gaming platforms has the potential to transform the gaming industry and could be a fundamental technology for enabling interoperability in the metaverse. The portability and interoperability of in-game purchases and other digital goods has the potential to make the gaming market and metaverse more accessible to smaller creators and developers who will design and sell these NFTs, leading to greater competition and growth.

## Metaverse

NFTs could play an integral role in persistent digital environments where individuals can: (i) build, sell, rent, and host events on digital land and at digital homes, buildings or stadiums made in the form of NFTs; and (ii) purchase NFTs that represent real world world clothes, vehicles, toys, household items or similar physical items.

## Ticket Sales

Event organizers can use NFTs to prevent scammers from selling fake tickets and bots from purchasing tickets for immediate resale by both establishing certain preset conditions for each transaction and verifying purchasers' publicly accessible transaction history.

# Understanding Selected NFT-Related Challenges

**As a novel technology, there has been considerable attention in the media related to the risks of NFTs, but industry can – and has – taken steps to identify, understand and mitigate risks and protect consumers.**

## ILLICIT FINANCE

### **Challenges:**

How to protect NFTs from being exploited by bad actors?

Some attributes make NFTs vulnerable to exploitation by sanctioned persons and money launderers. These include subjective valuation, ease of transferability, and use of anonymous third-party intermediaries or no intermediaries, and the potential for NFTs to be traded repeatedly in an abbreviated time period. Additionally, smart contracts' ability to generate regular royalty payments creates money laundering vulnerabilities for NFT creators and issuers.

### **Industry Responses and Recommendations:**

There are a broad range of actions platforms hosting NFTs are taking to mitigate these risks, including traditional AML/CFT controls such as enhanced due diligence, traditional sanctions screening, transaction limits, 'Know Your Customer' (KYC) and 'Know Your Business' (KYB) requirements on sellers, as well as employing the use of private sector blockchain analytics tools to identify, trace, and attribute risky participants and sanctioned wallet addresses. Additionally, NFT platforms can also inform buyers and sellers about the importance of conducting due diligence with the other party prior to finalizing NFT transactions.

There are also several factors that make NFTs unattractive for illicit finance, including the public nature of the blockchain and price volatility. Furthermore, NFTs also have a wide range of value, from nominal to tens of millions of dollars. As such, some mitigations may be advisable only when NFTs exceed certain value thresholds, as is the case in physical art and collectibles markets in some jurisdictions. Regardless, NFTs are not currently traded at the scale that would make them a comparable risk to many other products.

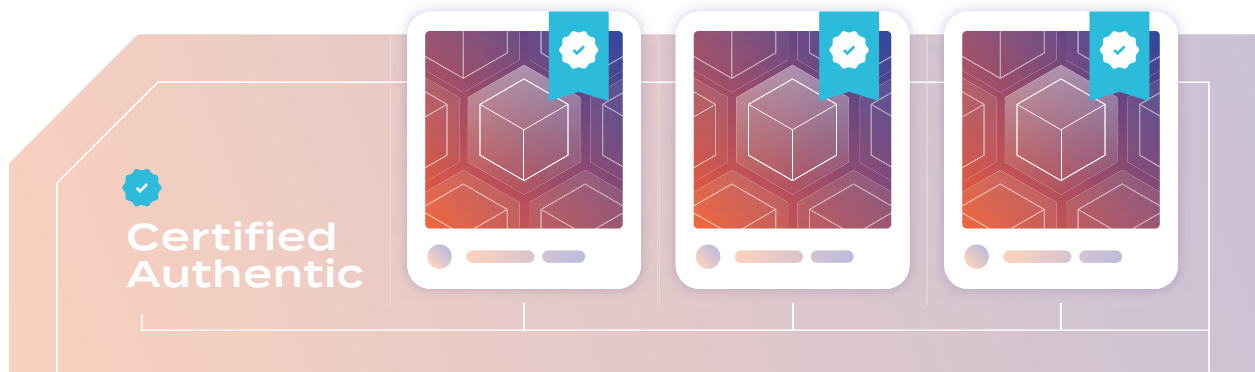
Furthermore,  
**NFTs also have a wide range of value**, from nominal to tens of millions of dollars.



### Challenges:

#### How to protect NFT consumers from fraud?

Like their physical analogues, NFTs could be used to counterfeit or otherwise violate copyright and IP protections, leaving unsuspecting buyers with assets of little value. Most NFTs are also owned by people who self-custody their own tokens through wallet applications like MetaMask; self-custody is a fundamental component of decentralization but makes people uniquely vulnerable to frauds and phishing. This can involve a scammer pretending to be a representative of a crypto wallet operator, or a certain NFT influencer, and requesting unsuspecting owners' private keys or seed phrase, which can then be used to transfer NFTs to another blockchain account.



The industry is also vulnerable to so-called rug pulls, which occur when creators either attempt to inflate the project's value and later abandon it, or collect funds in connection with an NFT mint, but never deliver the NFT or its expected utility, taking consumers' money and leaving them with a worthless asset or no asset at all. Similarly, consumers are also at risk of wash trading in NFTs when unscrupulous market participants artificially inflate the price of an NFT by trading it back and forth among themselves, creating a false impression of demand, and leading others to invest in the asset at an artificially inflated price, which can result in significant financial losses for unsuspecting buyers.

## Industry Responses and Recommendations:

**NFT platforms employ traditional fraud monitoring tools, machine learning and artificial intelligence to help tackle fraud.**

For example, current machine learning tools can identify duplicates, copycats, and trademark infringements. When fraudulent activity is detected, IP rights holders can be automatically notified to take steps to protect their intellectual property.

NFT platforms can offer custodial services for NFTs, which democratizes access to users who have little experience with blockchain-enabled technology, as well as develop trainings and internal policies that identify fraud risks, company controls, and affirmative actions to mitigate risk. Moreover, NFT platforms can invest in consumer education programs to reduce knowledge gaps and user vulnerabilities so fraud attempts can be more easily spotted. Buyers should also be advised to only purchase NFTs from reputable sellers (i.e., verified creator accounts, verified links provided in the NFT project's Discord and/or Twitter page) and use reputable NFT platforms.

### FRAUD MONITORING TACTICS:

- ✓ Use Machine Learning to Identify Duplicates
- ✓ Develop Internal Policies and Trainings
- ✓ Consumer Education Programs
- ✓ Only Purchase NFTs from Reputable Sellers

### Challenges:

If I buy an NFT, is my information safe?

Each transaction on public blockchain networks is visible, though the data is pseudonymized. This transparency protects and proves ownership of an NFT. When users promote their ownership of an NFT (on social media or otherwise), that data is traceable so their wallet address may be discovered – this is especially true for rare, well-known NFTs. This puts the responsibility on the NFT owner to be aware of frauds. Third-party platforms used to buy and sell NFTs are like other online marketplaces, so users should be just as vigilant and research sites before transacting on them.

When users promote their ownership of an NFT, **that data is traceable so their wallet address may be discovered** – this is especially true for rare, well-known NFTs.

### Industry Responses and Recommendations:

NFT marketplaces can make users aware of the privacy risks associated with publicizing ownership of an NFT and have standard data protection practices in place for off-chain data including transparency around usage, data encryption and multi-factor authentication.



### Challenge:

#### How can creators get compensated?

Many creators have found NFTs commercially attractive due to their ability to generate royalties from secondary sales. However, NFT marketplaces have the **option** to adhere to specified royalty percentages encoded in smart contracts, which has led to the emergence of several zero-royalty NFT marketplaces and widespread debate.

### Industry Responses and Recommendations:

Industry stakeholders can encourage collaboration to promote transparency across the industry for whether royalties are honored and how royalties are paid out to creators.

There are several actions NFT marketplaces can adopt to ensure remitting royalty payments to creatives remains sustainable, including:

- The creation of a regressive royalty system wherein the higher an NFT's value, the lower the levied royalty percentage;
- Switch the onus of paying royalties from sellers to buyers (i.e., creating a buyer's premium), which could stave off powerful NFT marketplaces from eliminating royalty payments altogether; or
- Encourage increased NFT mint prices so that higher revenues are generated from primary sales, thus lowering NFT marketplaces' incentive to cut into royalty payments.

## BUYER/OWNER RIGHTS

### Challenge:

When you buy an NFT, is it yours?

Each NFT creator can adopt a unique ownership or license structure, which can lead to confusion around ownership of, and the scope of use rights in, the NFTs and any associated digital assets linked to NFTs.

### Industry Responses and Recommendations:

NFT stakeholders (led by the venture capital firm, a16zcrypto) have already drafted and published a standardized set of license agreements called the “Can’t Be Evil” licenses.<sup>2</sup> Industry leaders are working to promote the adoption of these licenses as well as drafting other licenses which may address other NFT business models. At the same time, any licensing template will need to be flexible and adaptable, given the infancy of the industry and the constant innovations relating to NFT intellectual property.



<sup>2</sup> a16zcrypto. (2021, March 16). Introducing NFT Licenses. a16zcrypto. <https://a16zcrypto.com/content/article/introducing-nft-licenses/>.