METAVERSE AND NFTS

METAVERSE AND NFTS

INTRODUCTION

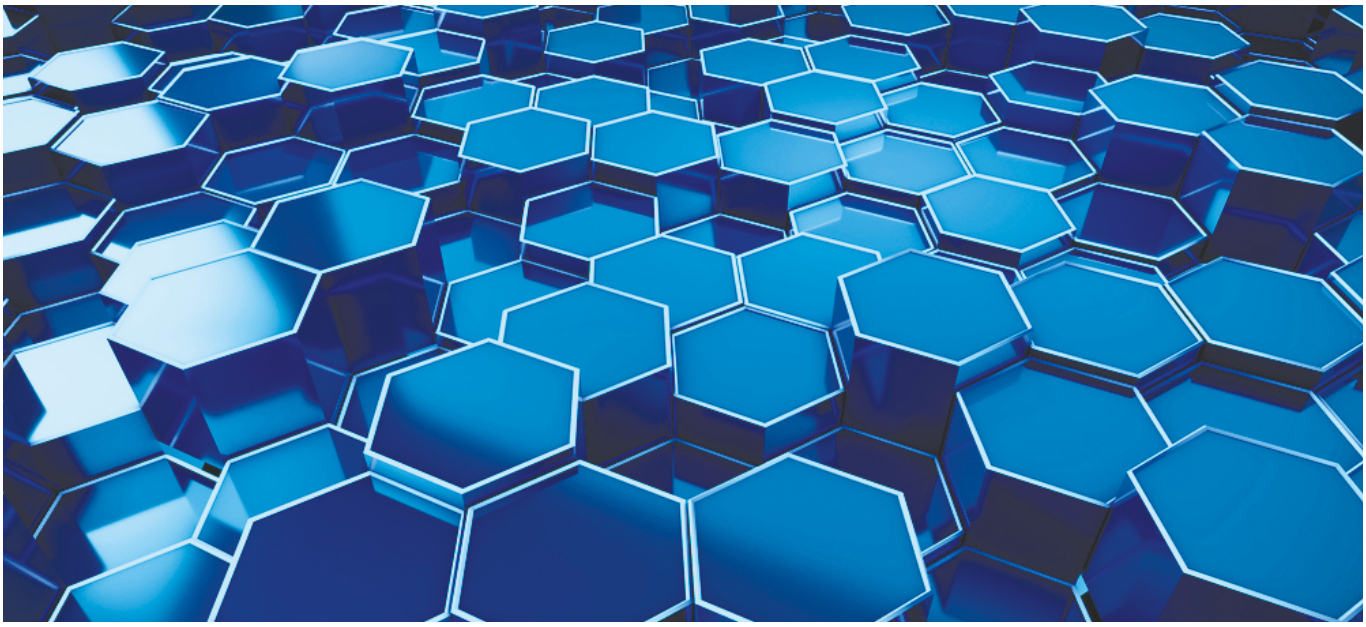
Non-fungible tokens (NFT) are one of the fastest growing areas of the Metaverse, attracting curiosity, creative talent and investment desires.

The possibilities offered by the Metaverse range from attending virtual concerts, travel, shopping, transactions, cinema, changing the way people work, etc.
This new digital universe will expand the frontiers to a much more interactive alternative reality.
One of the main characteristics of the Metaverse is that it contains a fully-fledged economy, encompassing physical and virtual worlds in a completely decentralised manner.

Hence the main connection between the metaverse and NFTs, as the relationship between the two is related to digital assets and how they are valued. The metaverse makes it possible to expose new forms of digital property, while NFTs are in charge of determining the price of such content and the guarantees of ownership.

In the first part of this paper, the key aspects of blockchain technology will be discussed in depth, proceeding with a compilation of the different business contexts largely affected by the introduction of NFTs, and concluding with an overview of the various issues related to this world - fraud, theft and legal aspects.

BLOCKCHAIN



The blockchain can be defined as a computer technology based on a shared, immutable and decentralised data structure, represented by the use of a digital transaction ledger.

Transactions are nothing more than the 'data' that form the distributed database and make up the blockchain ledger. The latter keeps track of the transactions made and the data of the parties involved in the transaction.

The blockchain is capable of guaranteeing the exchange of assets, i.e. electronic files that can be owned and transferred by individuals as currency to carry out transactions, or as a way to store intangible content, such as computerised works of art, videos or contractual documents.

Through these digital assets, the risk of replication is avoided and the concepts of transparency and traceability are maintained. Each transaction is verified by the network elements through a consensus mechanism.

A consensus mechanism is a fault-tolerant process that is used in blockchains to obtain the necessary agreement on a single data value or a single network state. This leads to decentralised trust based on shared distributed knowledge of the data and its history.

BLOCKS AND CONSENSUS

The entries in a blockchain's distributed ledger are grouped into blocks, i.e. data packets marked with a specific code, called a hash, which allows anyone to verify their authenticity.

The blocks are distributed among the nodes of the network according to peer-to-peer (P2P) logic, i.e. via direct connection between the nodes themselves. Within each block, transactions are stored, correlated by a time marker, the timestamp.

The blocks are concatenated together in chronological order and their integrity is guaranteed by the use of cryptographic systems; each block, in fact, includes the hash of the previous block. **[1]**

Before registering a new transaction on the blockchain, its legitimacy must be confirmed.

The validity of a transaction is not ascertained by a central entity, but by a network of participants connected to the network using a consensus mechanism.

Each participant has voting rights and new transactions are only added to the ledger once consensus is reached by a sufficient percentage of participants. **[2]**

ETHEREUM

Ethereum is a digital platform that embraces blockchain technology and expands its use to a wide variety of applications.

The platform was created in 2015 by programmer Vitalik Buterin with the aim of creating a tool for decentralised and collaborative applications. Ether (ETH) is the native cryptocurrency that enables transactions on the Ethereum network. **[3]**

SMART CONTRACTS

A smart contract is an automatically executing contract with the terms of the agreement between buyer and seller written directly in lines of code.

The code and the agreements in it exist through a distributed and decentralised blockchain network. The code controls execution and transactions are traceable and irreversible. Smart contracts work by following simple "if/when... then...' instructions written in the code.

A computer network executes actions when predetermined conditions have been met and verified. These actions can include releasing funds to the appropriate parties, registering a vehicle, sending notifications or issuing a ticket.

The blockchain is updated when the transaction is completed. This means that the transaction cannot be changed and only the parties that have been granted permission can see the results. **[4]**

EVM E GAS

The Ethereum network is characterised by a decentralised virtual computer, also known as the Ethereum Virtual Machine (EVM).

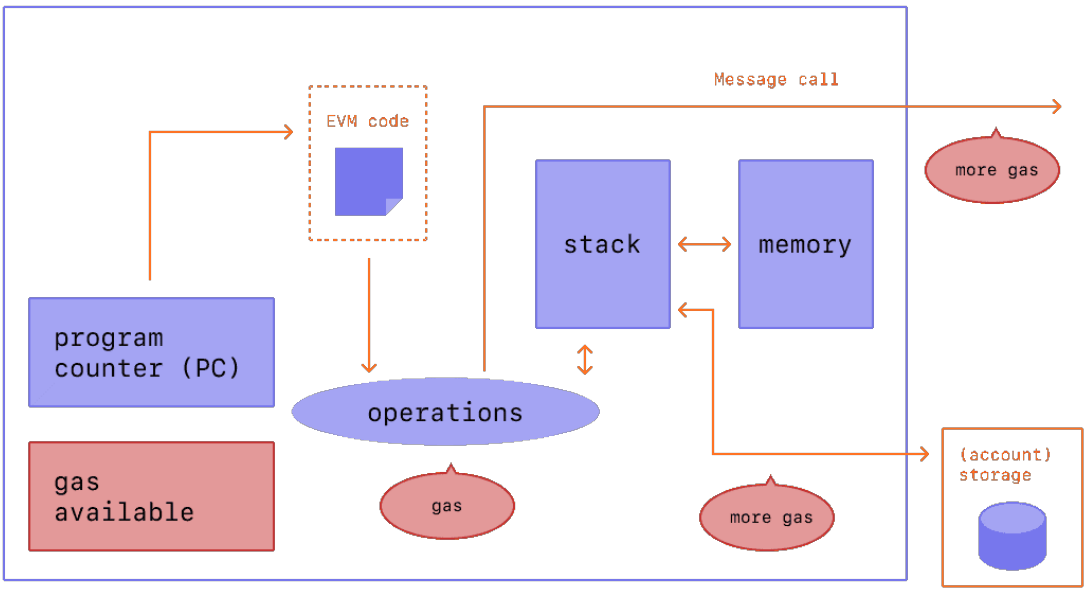
The EVM's task is to update the global state of the blockchain following the execution of basic transactions and Smart Contracts. **[5]**

Ethereum charges a fee (gas fee) for the execution of each transaction. Gas is a cost required to execute a transaction on the blockchain and is measured in 'gwei' (10^9 wei), which is a particular fraction of ETH. Gas prices are determined by supply and demand: the busier the Ethereum network, the higher the price of the gas.

The gas fee consists of a fixed part for all transactions and, in the case of the execution of Smart Contracts, of a variable part, proportional to the instructions executed and the memory used. **[6]**

TOKENS

Tokens can be defined as digital information stored on a distributed ledger and representing some form of right: ownership of an asset, access to a service, receipt of a payment, and so on. Creating a token on the blockchain means defining



in a Smart Contract all its fundamental characteristics, such as the number of tokens in circulation, who is authorised to transfer them, who can dispose of them and the rules of access to the token. **[7]**

Obviously, the area referred to in order to attribute a first meaning of tokens is that of cryptocurrencies, in fact starting from the assumption that a cryptocurrency is an 'electronic currency' based on blockchain or other distributed ledger, it is possible to state that each of these cryptocurrencies (Bitcoin, Ethereum etc.) has its own transaction ledger on which exchanges are stored.

In this sense, tokens are in fact fractions of an issued cryptocurrency, which are exchanged between users through exchanges stored on the aforementioned ledger.

For the sake of simplicity, it would be appropriate to define this type of 'token' as coin, a term that, although it indicates the same concept (when referring to cryptocurrency or fraction thereof), is actually less confusing. In fact, there is another type of 'token' that, unlike those mentioned above, does not have its own register, but uses the register of another coin.

For example, through Ethereum's Smart Contracts, anyone can issue their own tokens, e.g. with an Initial Coin Offer (ICO), and registering the transactions pertaining to that token on Ethereum's blockchain instead of necessarily building their own.

The token thus has the same characteristics as the cryptocurrency (security and uncensurable transferability) but is not 'native' and above all 'internal' to the blockchain on which the transactions pertaining to it are stored, but rather represents the digital twin of a real asset, a 'real' right, which exists outside the blockchain system. **[8]**

FUNGIBLE TOKENS

Fungibility is the ability of a good or asset to be exchanged for other goods or assets of the same type. Fungible goods simplify the processes of exchange and trade, as fungibility implies an equal value between goods. An example of a fungible good (fungible token) is money.

If person A lends person B a $50 note, it does not matter to person A if it is repaid with another $50 note, since it is mutually

exchangeable. In the same sense, person A can be repaid with two $20 notes and one $10 note and still be satisfied, since the total is $50. Bitcoin and other cryptocurrencies are examples of fungible assets. Such tokens are constructed in such a way that each fraction of a token is equivalent to the next. x

For example, Bitcoin, the most popular cryptocurrency, is fungible, meaning that one Bitcoin is equal to another Bitcoin and is equal to all other Bitcoins. **[9]**

SEMI FUNGIBLE TOKENS

Semi-Fungible Tokens (SFTs) are a new set of tokens that can be both fungible and non-fungible during their life cycle. Initially, SFTs behave like normal fungible tokens in that they can be traded in the same way with other SFTs.

After a specific period or after reaching certain conditions, SFTs change from fungible to non-fungible according to their pre-programmed Smart Contracts. **[10]**

NFT

In the case of non-fungible asset (Not Fungible Tokens), although two items may appear identical, each will have attributes, such as an identification code, that make them unique. With these tokens, it is

possible to represent any type of asset, whether digital or physical.

They can only have one official owner at a time and are protected by the blockchain: no one can change the ownership record or copy/paste a new NFT. **[9]**

ORACLES

Blockchain oracles are entities that connect blockchains to external systems, thus enabling the execution of smart contracts based on inputs and outputs from the real world.

Blockchains and Smart Contracts per se cannot access off-chain data (data that is outside the network), but despite this constraint, for many contractual

agreements, it is crucial to have relevant information from the outside world in order to maintain the agreed deal.

This is why blockchain oracles become essential, as they provide a link between off-chain and on-chain data.

Without oracles, smart contracts would have very limited use as they would only have access to the data within their own networks.

It is important to know that an oracle is not the data source itself, but is the system that queries, verifies and authenticates external data sources and then transmits the information.

Given the wide range of external resources on the blockchain, blockchain oracles come in various shapes and sizes.

Smart contracts not only require various types of external data and calculations, but also require various delivery mechanisms and different levels of security.

Typically, each type of oracle involves a combination of data capture, validation, calculation and delivery to a destination.

The way in which an oracle operates depends entirely on what it is designed for. **[11]** **[12]**

NFT (NOT FUNGIBLE TOKEN)

TIPI DI NFT

COLLECTIBLES

Collecting is a basic human instinct, a survival advantage amplified by eons of natural selection. Until now, collectors have been limited to physical objects such as paintings, stamps and coins, but thanks to NFTs and blockchain technology, the assortment of collectibles is rapidly expanding into the digital space.

When we talk about NFTs, we are not just talking about digital objects with no connection to reality, but it is possible to create a virtual object that represents and identifies a real existing object. In this case, an NFT can be a virtual representation of something that really exists.

If we take stamps or paintings as an example, the NFT would represent a contract describing its characteristics and properties.

Although it may seem strange to collect a digital file that can be copied, emailed, downloaded etc., non-fungible tokens, as explained above, function as unique identifiers of digital files that can be used to trace their history and ownership.

NFTs, therefore, can be a collector's item: some are rarer or more in demand, while others may seem quite common and have

a steady supply ready to meet market demands.

There is a real market for NFTs related to fashion, online games, music and art. In January 2022 alone, sales of non-fungible tokens reached $500 million.

One of the first NFT projects to achieve significant success was Cryptokitties, a game developed on Ethereum that allows players to collect, breed and trade virtual cats. Each CryptoKitty is the result of a combination of various properties, such as age, breed or colour.

Thus, each cat is unique and can be traded for another. Moreover, such tokens are indivisible, i.e. there is no way to divide a CryptoKitty token into sub-parts.

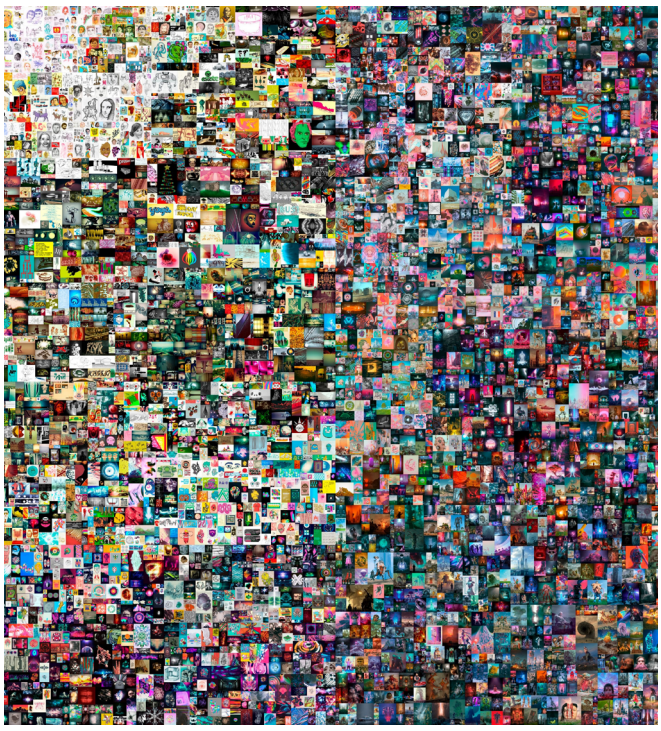
This project gained notoriety after congesting the Ethereum blockchain due to the high level of activity it generated online. It is estimated that 25% of Ethereum's traffic in December 2017 was related to virtual collectible cats. CryptoKitties is an early example of blockchain usage not tied to a currency, but created for recreational and entertainment purposes.

Virtual cats have moved millions of dollars: some rarer units have sold for hundreds of thousands of dollars.

ARTWORK

Gli NFT and the blockchain make it possible to prove and certify the authenticity and thus the intellectual property of a digital work of art because, regardless of the transfer of ownership, its attribution will always be traceable to the author.

Thus, in the case of a GIF, a video or a digital image sold for hundreds of thousands of dollars, blockchain can serve to ascertain and store the information thanks to which two things can be asserted: that an artwork is 'the original' and that its authorship and ownership can be proved.



Today, more and more people are willing to pay hundreds, even millions, of dollars to own unique digital works of art.

An example can be found in the most expensive crypto artwork to date, paid around 69 million dollars. This is Everydays: the first 5,000 days, a digital collage made by an American cryptoartist with 5,000 images.

The value of a CryptoArt/NFT depends on the buyer's perspective and how he values it. The valuation is purely speculative and reflects the supply and demand phenomena of the market.

For example, the price of a work of art is influenced by two main factors: the public's interest and the buyer's willingness to pay. This allows the seller to set the price of that work of art as high as he wishes, but whether the buyer will be willing to spend that amount or not is another matter.

It is important to emphasise that the value of NFTs and CryptoArt is based solely on the value of cryptocurrencies. NFTs are sold on the basis of a cryptocurrency, which is then converted into a monetary value: for example, one NFT is sold for 2 ETH, which for us is equivalent to about $3000 (July 2022). But if the value of ETH were to decrease, then the value of the artwork would also decrease: its value therefore depends continuously on the cryptocurrency.

NFT enables a totally new way of categorising digital artworks that allows designers to monetise their work. This technology allows a faster process and a more accessible way for artists to produce works and reap the benefits of their creativity.

Like social media, NFT platforms provide immediate access to a global audience. In addition, having a pre-existing online following often helps artists gain greater visibility in the NFT market.

In this sense, the artist no longer needs to chase clients, wait for feedback or change and modify his or her work to meet the client's needs.

Some NFT works include royalties for the artist, which means that each time the work is sold, the artist can receive 8-10% of all future sales. This depends on the platform used by the artist; Zora, for example, is an NFT platform with a 'Creative Share' option, which allows users to buy and exchange artwork immediately.

The sale of cryptoArt or NFTs has the potential to transform the entire creative industry; Blockchain technology and the application and use of NFTs are producing

a real revolution in the art world, which could lead to a new way of conceiving the art system and market than we know today. **[13]**

MEMES

Thanks to this new world, a new ecosystem has emerged that allows memes made through NFT to be bought and sold.

This gives meme creators the opportunity to have a new channel to exchange or monetise their content, thus enabling the emergence of new professionals such as meme makers.

In the last ten years, memes have spread to almost every aspect of our culture. They dictate the latest dance moves, allow us to quickly share complex thoughts and emotions, and even launch careers. In this sense, memes have become a fundamental part of our lives.

Many are adapted and remixed over the years, acquiring a particular meaning in various subcultures. Other memes remain largely unchanged over time and achieve 'legendary' status.

Some examples of iconic meme creators who have sold their original creations as NFT are:

NYAN CAT

In February 2021, Chris Torres started the NFT meme avalanche. He is the creator of the character Nyan Cat and was the first meme creator to sell his work as an NFT. Torres auctioned off his pop-tart rainbow cat for almost $600,000 (300 ETH at the time).

TROLL FACE

Trollface was one of the first images to be widely accepted, understood and spread as a meme in the early 2000s. Carlos Ramirez drew the image in Microsoft Paint on 19 September 2008. Ramirez retained his right to the original intellectual property. As a result, he was able to profit from it through NFT, selling it in March 2021 for approximately $70,000 (42 ETH at that time). **[14]**

EVENT TICKETS

People have long collected ticket stubs as reminders of an experience: the first time they saw their favourite artist live, the experience of a once-in-a-lifetime music festival, etc.

Ticketing companies tend to see tickets only as a kind of 'authorisation' to access an event. But many of the billions of tickets sold worldwide each year are actually

purchased by people as a reminder of an experience after it has occurred.

For example, if you want a ticket to Michael Jordan's first NBA game, it will cost you $468,000. A ticket to a Beatles concert is worth about $16,500.

The link between NFTs and tickets goes beyond the concept of NFTs as tickets. Many organisations are already using NFTs as a new form of merchandising.

There are numerous examples of event organisers using NFTs in exactly this way: to expand their product offering and customer base through digital merchandising and unique collector's items:

• Coachella created its own ***NFT market***, selling artwork, photos of the 2022 event and lifetime NFT tickets.

• ***Selling artwork***, photos of the 2022 event and lifetime NFT tickets.

• Coinbase integrated ***NFT merchandising*** into the Governors Ball Music Festival in New York, giving its users a free, one-of-a-kind NFT that also allowed access to the VIP lounge.

Furthermore, NFTs are a powerful tool for generating community. NFT collections represent both an investment and membership in an exclusive club of owners. And the more desirable membership in that club becomes, the more valuable the investment becomes.

Take VeeFriends as an example. Created by influencer Gary Vaynerchuk, each VeeFriend NFT is worth a ticket to an exclusive conference called VeeCon.

When the VeeFriends were launched on the market, around 10,000 were sold at auction for between $1,500 and $50,000, depending on the level of rarity and the benefits offered by NFTs.

The opportunities for NFT ticket sales expand when one realises that NFTs are not just a one-off ticket. They can guarantee membership in an exclusive community.

A collector's item with benefits and advantages beyond the event to which it gives access. A reward system for the most loyal fans and valued customers.

During the pandemic, the digital events sector grew faster than ever before.

Live-streaming events are nothing new. What is new is the creation of immersive, interactive online experiences that anyone in the world can participate in.

What is new is the Metaverse.

In 2020, a virtual Travis Scott concert on Fortnite attracted 27.7 million unique players, making it the biggest concert ever. This was in addition to the 195 million views achieved on YouTube.

It was scalable in a way that live events are not, but also engaging in a way that traditional TV and streaming are not.

This is why Warner Music Group bought a huge concert hall like NFT in the Sandbox metaverse. If virtual events like this continue to grow in popularity, Warner's purchase of NFT has secured a place to host artists, sell merchandise and bring fans together.

Universal Music Group is also betting on the metaverse as a new frontier of entertainment, bringing its artist Jamiroquai to Sandbox with concerts and immersive games.

What NFTs fundamentally enable is an expansion of the ticket concept and what it represents. They expand both the product offering and the addressable market.

Coachella, for example, sold 10 NFT tickets with lifetime passes for $1.5 million, with one of the tickets reaching the $270,000 mark. That is the equivalent of almost 3,500 regular tickets sold in one batch to just 10 people.

With this technology, event organisers can coin the required number of NFT tickets on a blockchain platform of their choice. They can code the NFTs to set a sale price or run the sale as an auction where people can bid for tickets.

The buyer buys NFT-based tickets directly from the ticketing company. When payment is received, a smart contract is activated and a ticketing database sends an NFT ticket to the buyer.

This type of ticketing method can be used for concert tickets, music events, football matches and other applications where participants can show their tickets digitally and also prove their identity. **[15]** **[16]**

MUSIC

The music world has also been able to find benefits from the emergence of NFT.

Thanks to the union of the music world with the blockchain, artists have found a new channel that can be one-to-one or one-to-many to reach all fans. Indeed, artists have the possibility to offer new types of services and experiences to their fans, creating digital goods that give fans special privileges, such as early access

to new songs or exclusive content, the possibility of an up-close experience, information about upcoming releases, autographs, etc.

This would create a stronger bond between artists and fans and help promote fan engagement, helping artists monetise their work in a new way.

In 2021, musician Shawn Mendes collaborated with Genies, a company that produces 2D avatars, to design virtual versions of some of his most recognisable accessories, such as his Fender guitar, gold ring and embellished waistcoat from his touring wardrobe. The profits were used by the Shawn Mendes Foundation and the Wonder Grants programme to support young creators. The collection raised more than $10 million within ten minutes of release.

The Weeknd also raised millions of dollars in 2021 with the sale of his first NFT collection. The limited-edition collection, sold through the NFT art platform Nifty Gateway, consisted of eight pieces: three audiovisual items sold through open auctions, four static artworks and two drawings, a stand-alone main video entitled ‘The Source’ featuring an unreleased song by The Weeknd, and a floating 3D model of his head, which sold for $490,000.

Kings of Leon were the first band to release an album as NFT. The album was released in collaboration with the YellowHeart platform, which aims to be a leader in this special field combining music and blockchain. The initiative, despite some difficulties, was a success that allowed the band to raise $2 million in just a few days.

GAMING

The world of cryptocurrencies has recently been targeted by so-called Crypto Gaming: this is linked to the ownership of in-game items, giving creators and users the opportunity to redeem and make the most of the time spent within a given title. Crypto Gaming is primarily based on the concept of digital scarcity, i.e. a limitation of the resources in a game in order to guarantee its value.

Translated into other words, the possibility of certifying the possession of in-game objects will allow them to be exchanged outside the game for cryptocurrencies with a real monetary value.

If a certain software house creates a title and distributes it to players for free or for a fee, aesthetic or artistic elements can be included within the same game that will transform the gaming experience. If we pay to buy a certain item, be it an aesthetic

object or an actual plot of land, the digital licence will remain our property, with the possibility of resale.

A recent case in point is The Sandbox, the metaverse owned by PIXOWL INC. that seems to already have clear ideas on what it wants to propose to a community of hundreds of thousands of users. In the game in question, real digital yachts have been sold for over 600 thousand dollars, in addition to the fact that the same pass to access the Alpha of The Sandbox (available on OpenSea at 1.96 Ethereum) has been proposed at the exorbitant price of around 10 thousand dollars.

But that's not all: one of the values that can be acquired in the game are the LANDs (i.e. lands), which have a defined number: they are to all intents and purposes unique and non-fungible ERC-721 tokens on the Ethereum blockchain, which can be traded on the official marketplace in exchange for SAND, the utility token of The Sandbox.

International publishers investing in the NFT market for gaming include:

Ubisoft: the transalpine giant has never made a secret of the fact that it wants to invest in blockchain technology and NFTs, with the conviction that these elements can somehow point to the future of video games.

Confirming the path taken by the creators of Rayman is the launch of Ubisoft Quartz, a platform dedicated to the exchange and use of non-fungible tokens within its titles (first and foremost, Tom Clancy's Ghost Recon Breakpoint).

Even **Konami** seems to have realised the potential: on the occasion of the 35th anniversary of the Castlevania series, the Japanese company decided to launch NFTs dedicated to the vampire slayer franchise.

The complete collection was put up for auction on the OpenSea platform, and among the NFTs available for purchase were game scenes, background songs, and some artwork made for the occasion. **[17]**

IDENTITY

The implications of creating a stable and secure digital identity in virtual worlds are enormous.

NFTs promise to give people the freedom to build real societies in the metaverse, with social, economic and even political interactions based on recognised norms in everyday life.

One of the most important implications of enabling identity in the metaverse is

the possibility to migrate freely - while maintaining one's identity - between different virtual worlds with very different characteristics, cultures and rules of the game.

The transformative value of NFTs may lie in allowing humanity to seamlessly 'move' between physical and virtual domains - and from metaverse to metaverse - while establishing and protecting each individual digital identity.

From a privacy perspective, NFTs could spell the end of online anonymity.

However, having a fully verified network has a number of advantages, including the reduction of fraud, crime and perhaps even nasty comments.

Not to mention that with proper smart contracts (NFT-verified online identity), blockchain would give you full visibility of who has access to your data, where it goes and even allow you to get paid every time your data changes hands.

This would finally allow countries and network users to enforce the rights of stakeholders under data privacy laws and regulations (e.g. GDPR, CCPA) that have so far had little say in controlling the full scope of personal data collection and transfer. **[18]**

MINTING & SELLING

The method of creating and selling non-fungible tokens is explained below:

Step 1 Platform Selection
First, it is important to select the platform you wish to use. There are several options available for the production and sale of NFTs, including the most popular platforms: OpenSea, SuperRare, Nifty Gateway, NFT Showroom, BakerySwap, etc.

Step 2 Payment Method Selection
The next step is the creation of a digital wallet in which all transactions take place. The most commonly used platforms are: MetaMask, CoinBase, WallectConnect etc. Once the digital wallet is chosen, the digital currency (cryptocurrency) will be added to that specific wallet. Subsequently, the digital wallet will be connected to the newly chosen NFT platform.

Fase 3 Minting di NFT
LThe platform offers a choice of single, one-off or multiple sales of the same object.
The digital file must be uploaded to the platform and will be converted into a non-fungible token. The platform accepts different formats such as PNG, GIF, WEBP, MP4, MP3.

Once the three main steps have been

completed, artists can proceed to auction the minted NFT.

Auction methods include:

• Fixed-price sales, which allow the artist to set a price and the seller to buy it immediately;

• The timed auction, which is limited to a specific period of time;

• The unlimited auction, which will continue until the owner's acceptance.

INVESTMENT OPPORTUNITIES

There are basically three ways to generate profit with NFT:

• Artist (digital content creator)

• NFT project development

• NFT trading

One of the main attractions of investing in NFTs is the potential increase in value that can occur over time. A prime example is CryptoPunk 1422, purchased for $74 in 2017 and resold in October 2021 for the incredible sum of $2 million. This example highlights the potential of many NFTs for strong price appreciation.

High-end NFTs often allow owners to be part of exclusive 'communities', which adds an air of prestige to the assets. A famous example is the Bored Ape Yacht Club, which runs a Discord server with other Bored Ape owners, including celebrities and high-profile names.

A good way to invest in NFTs is to do so through NFT companies. As the name suggests, these companies have direct or indirect exposure to the NFT sector, allowing equity investors to speculate on the sector's growth.

For investors wondering how to invest in NFT, these companies can provide an easy route. NFT companies may in fact be brands that have developed NFTs and sell them through reputable markets, or they may be gaming companies that are entering this new market. At the moment, there are not many companies that base their entire business model on NFTs, although this may change in the future.

Traders or investors in such projects follow the general rules of trading: buy NFT at a profitable price and then resell it once its price has risen. Just like the art market or the cryptocurrency market, the NFT market also follows a similar trend and it is therefore difficult to extract the value of

assets.

However, if we look at the traditional art market, investments take time to mature and it is rare that a work of art gains value in a few years.

On the other hand, just as one analyses a company to determine its share price, one can analyse the team of creators, the sector in which an NFT moves, the community it generates, the creator's personal brand and other key data.

Like buying Bitcoin, investing in NFT companies is still highly speculative. The NFT market is relatively young compared to other markets, so investors are still trying to understand the complexities of how the value of assets is affected by certain factors.

Therefore, buying shares in these companies is likely to be more attractive to risk-seeking investors than to risk-averse investors. **[19]**

NFT, TRUFFE E FURTI

There are many ways to identify and classify scams that occur in the land of NFTs. The use of smart contracts and blockchain technology has taken off only a few years ago, so the security infrastructure and control procedures are new.

PHISHING

Phishing was one of the first scams to take place on the Internet. Fraudsters make use of this unfamiliar technology, sending innocent-looking e-mails or creating malicious links, which result in the theft of data and more generally personal information (credit card numbers, bank details or passwords).

It is common knowledge that one's secret password should never be revealed to anyone. Many suggest that one should not keep one's secret 12- or 24-word phrase (a set of words randomly generated during the set-up of a crypto wallet) even on computer systems. This is because hackers can gain access to the key and lock the holder out of their funds. Likewise, NFT projects will never ask you to reveal the address of your crypto wallet.

PUMP AND DUMP

Those who believe in an NFT project buy mainly because of the publicity. However, a holding group can be left with a pile of worthless NFTs if after the sale the founding team walks away from all accounts and social media. This tactic is

widely used as it is very easy to build fake online communities.

The best way to prevent NFTs from being stolen is to carefully research the project, also by interacting with some community members. It is sometimes possible to see several accounts programmed with the same chat pattern, which reinforces the idea that chat activity is engineered by bots.

CATFISHING NFT SCAM

Catfishing consists of impersonating someone online and trying to steal as much personal data as possible.

For instance, in an NFT project, scammers target someone in the community, pretending to be a founder. It may seem legitimate to be asked to disclose one's wallet address, as it comes from the project channel, but the founding team will never use this mode of contact.

VULNERABILITIES OF THE SMART CONTRACT

Many projects ensure that their artwork is secure and reliable. Marketplaces and protocols allow a secondary market for exchange and proof of ownership.

It must be ensured that smart contracts are

safe from exploitation of any vulnerabilities. NFTs 'drained' in the process and sold to the secondary market represent a loss for both the service provider and the artist.

LEGAL ASPECTS

Il quadro giuridico relativo agli NFT,
The legal framework relating to NTFs, in particular their creation, marketing, purchase and maintenance, is largely undefined and controversial. NTFs bring up multiple legal issues, including intellectual property and contractual issues or publicity and consumer protection rights.

Against this background, the following considerations are merely intended to provide a general overview of some of the possible legal issues that the use of NTFs raises.

CONSUMER RIGHTS

Jurists are divided into two schools of thought. The first argues that NFTs should entail a private right of ownership for the owner of the work.

The second, on the other hand, argues that NFTs have no relevance from a copyright point of view, but that the ownership of the 'digital original' should be considered as something autonomous and isolated from any copyright.

From this point of view, therefore, the issue is comparable to the buyer of a physical painting, who only acquires the right to freely enjoy it and not also the copyright on it, which remains with the artist.

For the sake of clarity, take the example of the user who bought Nyan Cat's NFT, who:

• He did not buy the work since it remains on the author's devices and on the devices of all those who can freely reproduce and download it;

• He did not purchase the copyright on that work, which instead remains with the author (the owner of the work cannot reproduce or use it as if he were the author);

• He does not enjoy exclusivity of reproduction or use; indeed, the gif in question is reproducible and downloadable by anyone.

CONSUMER PROTECTION

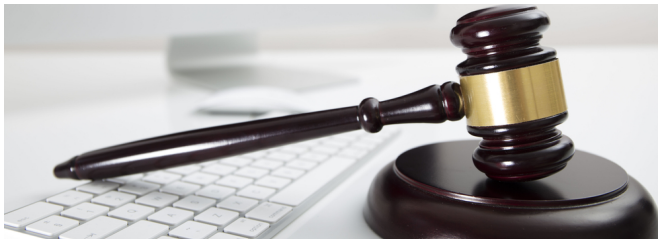
A further critical point orbits around the protection of the consumer, since the correct information of the latter can in no way disregard at least rudimentary information and training concerning the functioning of blockchain and tokens.

Indeed, the complexity and vastness of the subject matter make it difficult to summarise it in 'Terms and Conditions' made available to consumers.

Moreover, even if this were possible, there would be the additional difficulty of drafting a comprehensible and exhaustive guide even for users completely unfamiliar with the subject, and attempts at information would risk being fragmentary or incomplete or, worse, confusing and useless for the consumer.

Lastly, a further thorny issue is Article 52 of the Consumer Code, which regulates the consumer's right of withdrawal in business-to-consumer relations; a right which, in this case, could not be applied since it is the very structure of the blockchain that does not allow the links in the chain to backtrack.

THE LEGAL NATURE



Many people wonder about the legal nature of NFTs and, in the present case, whether they constitute a mere representative title of a good, whether tangible or digital, within the meaning and for the purposes of Article 1996 of the Consumer Code, or whether they represent a good themselves.

If one opts for this second reconstruction, the legislator will have to clarify whether or not NFTs can be regarded as financial products or services with the consequent application of the relevant legislation.

TAX ASPECTS

Lastly, there are the problems related to the tax sphere and the risk of money laundering.
In fact, while there is a lack of legislation for the payment of VAT and criteria for accounting for movements and assets, in the absence of ad hoc regulation at national and international level, the NFT market is serving as a trading place for large sums of 'dirty' money, which is laundered and put back into the market in this way.

CONCLUSIONS

In recent months, we have seen how the news and emerging technology trends have focused on a term unknown to many until recently: the metaverse. it is ceasing to be something belonging to science fiction and is becoming a (virtual) and even a physical reality for many companies that have joined the race to launch their own metaverse propositions in order not to be left behind. Sectors range from design, architecture, fashion, entertainment, retail, etc.
From what has been said, we can say that NFTs can help to obtain sole ownership of a given asset in the metaverse. In fact, NFTs are one of the keys to changing the fundamental design of the metaverse, transforming conventional social networks of user interaction, transaction and socialisation.

The combination of NFT, metaverse and blockchain is a turning point and has the potential to transform the future. The combination of the digital world, real and virtual goods and the new meaning they give to the economy and social experiences will be key to the future of our interactions.

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