

Instituto de
conhecimento:

LAW IN THE METAVERSE

The path to a new reality



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How to enhance the metaverse through the law? This is the question that **Luís Barreto Xavier**, a consultant at Abreu Advogados and president of the Institute of Knowledge, answers in his article. He is a Guest Professor at the Faculty of Law of the Portuguese Catholic University, having been the founder and director for nearly 10 years of the Catholic Global School of Law. He has experience in representing the Portuguese State in various litigation cases and before the European Court of Justice. He is a member of the Multidisciplinary Research Group on Artificial Intelligence and Law, created in 2018 within the scope of the Catholic Research Centre for the Future of Law and since 2019, he teaches Artificial Intelligence Law in the law degree course at UCP.

Ricardo Henriques, partner at Abreu Advogados and member of the board of the Knowledge Institute, and **Margarida Castillo Silva**, associate at Abreu Advogados, explain the relationship between **Trademarks and Copyright in the metaverse**, with a special focus on NFTs. Ricardo Henriques and Margarida Castillo Silva frequently work with clients in the prevention and/or resolution of Intellectual Property and Information Technology disputes, with a particular focus on copyright and technology disputes.



Ricardo Henriques, partner at Abreu Advogados and **Maria Rubina Silva**, propose a reflection on the path taken by the big tech in the sense of creating an immersive, interactive and sensorial internet where aspects of material existence are replicated, leading us to reflect on the relevance of the **due diligence on intangible assets**.

Ricardo Henriques, partner at Abreu Advogados, and **José Maria Alves Pereira**, senior associate at Abreu Advogados, raise several questions about the operationalization of the relationship between **Data Protection and the metaverse**. With extensive experience in the field of Data Protection, Ricardo Henriques has been working on several GDPR implementation projects and advising on outsourcing transactions and projects, while José Maria Alves Pereira acts in particular in GDPR compliance audit processes.





Ricardo Henriques, partner, and **Matilde Ortins de Bettencourt**, trainee lawyer, encourage us to reflect on the effective **protection of data privacy**, especially of minors, in all technologies that will be part of metaverse. Having developed his practice with particular emphasis on technology law in Portugal and international markets, Ricardo Henriques frequently works with clients in areas such as the prevention and resolution of Intellectual Property and Information Technology disputes, with a particular focus on intellectual property rights disputes, copyright and technology, licensing of intellectual property and technology, data protection and other regulatory issues.

The **M&A** market is traditionally one of the most dynamic, but how can it adapt to a new reality in the metaverse? This question is the starting point for the article by **Paulo de Tarso Domingues**, partner at Abreu Advogados, and **Cláudia Isabel Costa**, associate lawyer at Abreu Advogados. With more than two decades of experience, Paulo de Tarso Domingues works mainly in corporate law and arbitration and is the director of the Faculty of Law of the University of Porto, being also invited to teach several courses at Portuguese and foreign universities. Cláudia Isabel Costa has been developing her practice in mergers, acquisitions and spin-offs, with a special focus on structuring operations and restructuring companies. She has participated in conferences on the relationship between Artificial Intelligence and Due Diligence. She is currently a Master's student at the Faculty of Law of the University of Lisbon, where she researches the application of Artificial Intelligence in the Capital Markets. She also attends the Post-Graduation AI and Law at the same faculty.



What if the companies' **Shareholders' Meetings were held in the metaverse?** **César Bessa Monteiro, Jr.**, partner at Abreu Advogados, and **Benedita Marques Pombo**, trainee lawyer at Abreu Advogados, talk about a future that may not be so far away. César Bessa Monteiro, Jr. has been particularly involved in advising national and multinational companies in all types of cross-border commercial transactions, namely in global projects of business structuring and integration. Benedita Marques Pombo has a degree in Law and a postgraduate degree in Commercial Company Law from the Faculty of Law of the University of Lisbon and a Masters' degree in Law and Management from the Portuguese Catholic University.

Gonçalo Malheiro, professional partner, and **Daniela Faria**, trainee lawyer, write about the added **challenges of identifying civil liability in the metaverse** environment. Working mainly in the areas of litigation and arbitration, Gonçalo Malheiro has experience in both arbitration and litigation in different areas of law, such as civil litigation, commercial litigation, insolvency, industrial property, criminal and administrative offences. Member of the Chartered Institute of Arbitrators, Director and founder of the publication Young Arbitration Review and Arbitrator enrolled in the Arbitration Centre of the Portuguese Chamber of Commerce of São Paulo, he has followed the growing debate and reflection on arbitration and litigation applied to new digital realities.





Diogo Pereira Duarte, partner at Abreu Advogados, tells us about crypto-assets and smart contracts, the basis of the **metaverse financial system**, and how they cannot exist outside the law. The lawyers who co-coordinate the Finance area at Abreu Advogados have been dedicated to and specialized in advising on the legal implications between technology and financial services, with emphasis on smart contracts, blockchain, artificial intelligence, quantum computing, cryptocurrencies, crypto-assets, ICOs, among others. The lawyer is also Professor of Civil Law and Financial Law at the Lisbon Faculty of Law and was selected by the Bank of Portugal to integrate the Market Contact Group on the Digital Euro.

Alexandra Courela, partner at Abreu Advogados, and **Susana A. Duarte**, associated partner at Abreu Advogados, outline a guide to the **challenges that the metaverse could bring from a tax point of view**. Working in the areas of Tax, Corporate, Commercial and M&A, Alexandra Courela has extensive experience in advising several national and international companies, whether in operations related to financing or restructuring, or in areas as diverse as stock options or transfer pricing. Susana A. Duarte works mainly advising private clients and companies in restructuring operations, as well as in tax litigation related to various tax matters.



Marta Costa, partner at Abreu Advogados and **Mafalda Alcaide Rebelo**, associate lawyer at Abreu Advogados, guide us on a journey through the world of **the metaverse and digital heritage**. With extensive experience in advising individual clients in the field of inheritance and family law, Marta Costa is a professor at the Faculty of Law of Lisbon Nova University and Lisbon Lusófona University. Mafalda Alcaide Rebelo has been a lawyer at Abreu Advogados since 2019 and works mainly in the Private Clients & Family Businesses sector.

Mafalda Teixeira de Abreu, a professional partner at Abreu Advogados, tells us about the advantages of the **metaverse at the service of the public interest**. With more than 20 years of experience in legal practice, she works essentially in the area of public law, especially in the areas of project finance and public procurement and has participated in several privatization processes of strategic Portuguese companies, having also accompanied public-private partnerships in the areas of transport and health.





The world of work has evolved significantly in recent years, boosted by the pandemic. The metaverse could be the next step and **Marta de Oliveira Pinto Trindade**, partner at Abreu Advogados, together with **Matilde Carvalho e Cortinhal**, trainee lawyer at Abreu Advogados, analyze the topic in depth in their article “**Metaverse and Work**”. Marta de Oliveira Pinto Trindade works mainly on Labour and Social Security issues, namely in advising national and multinational companies on the preparation and termination of employment contracts or collective bargaining agreements, while Matilde Carvalho e Cortinhal has been a member of Abreu Advogados since 2021, having a degree in Law from the Faculty of Law of Lisbon Nova University.

ESG and the Metaverse are the main subjects of the article written by **João Vacas**, Of Counsel at Abreu Advogados and member of the board of directors of its Knowledge Institute. João has an extensive experience in European matters, namely on policy and legislation at the formulation, negotiation and adoption levels and a clear understanding of the interactions with, and among, EU institutions, Member States, companies, other non-state actors, and citizens. As an Invited Professor of the Institute for Political Studies of the Portuguese Catholic University, João Vacas created and teaches the BA course on “Portugal and the EU”.



The real estate sector has already arrived **at the metaverse** and **Maria Santa Martha**, partner at Abreu Advogados, and **João Diogo Barbosa**, trainee lawyer at Abreu Advogados, explain the respective challenges and opportunities. Maria Santa Martha has more than 20 years of experience in providing legal advice to national and foreign clients in real estate transactions in various sectors of activity and works mainly in large-scale real estate transactions. João Diogo Barbosa has a degree in Law from the Faculty of Law of the University of Porto and has been with Abreu Advogados since 2021.

How to enhance the metaverse through Law?

Author

 **Luís Barreto Xavier**

- > Big Tech
- > Competition
- > Personal data protection
- > Cybersecurity

The business opportunities generated or enhanced through the metaverse are more likely to be successful when they are also designed in terms of compliance with legal and regulatory requirements.

1-The metaverse is a reality under construction and its components are the object of significant investment, especially from the major technological firms (big tech), starting with the company formerly known as Facebook, Meta. Numerous studies project a vertiginous increase in the volume of business related to the metaverse in the coming years. It is claimed that companies that know how to properly use the metaverse will have a much higher probability of success than those that do not invest in it.

However, many unknowns still remain.

First of all, with regard to its construction. How long will it take for the technologies that are essential to it to mature? Which models will prevail, among the alternatives imagined today? What degree of interoperability will be achieved? What relevance will big tech hold relative to other players? What level of control will individual or corporate users have? Will regional, social and generational inequalities increase?

Also, regarding its use. Will it be predominantly professional, work and commercial (B2B) or linked to entertainment (gaming) and consumption (B2C)? Will it replace the era of



social networks, realizing the transition to the so-called Web 3? How will it interact with the blockchain ecosystem, and especially with crypto-assets and NFTs?

2. It is up to the law to establish limits to human activities that involve risks, as well as to define sanctions for behaviours that violate people's rights.

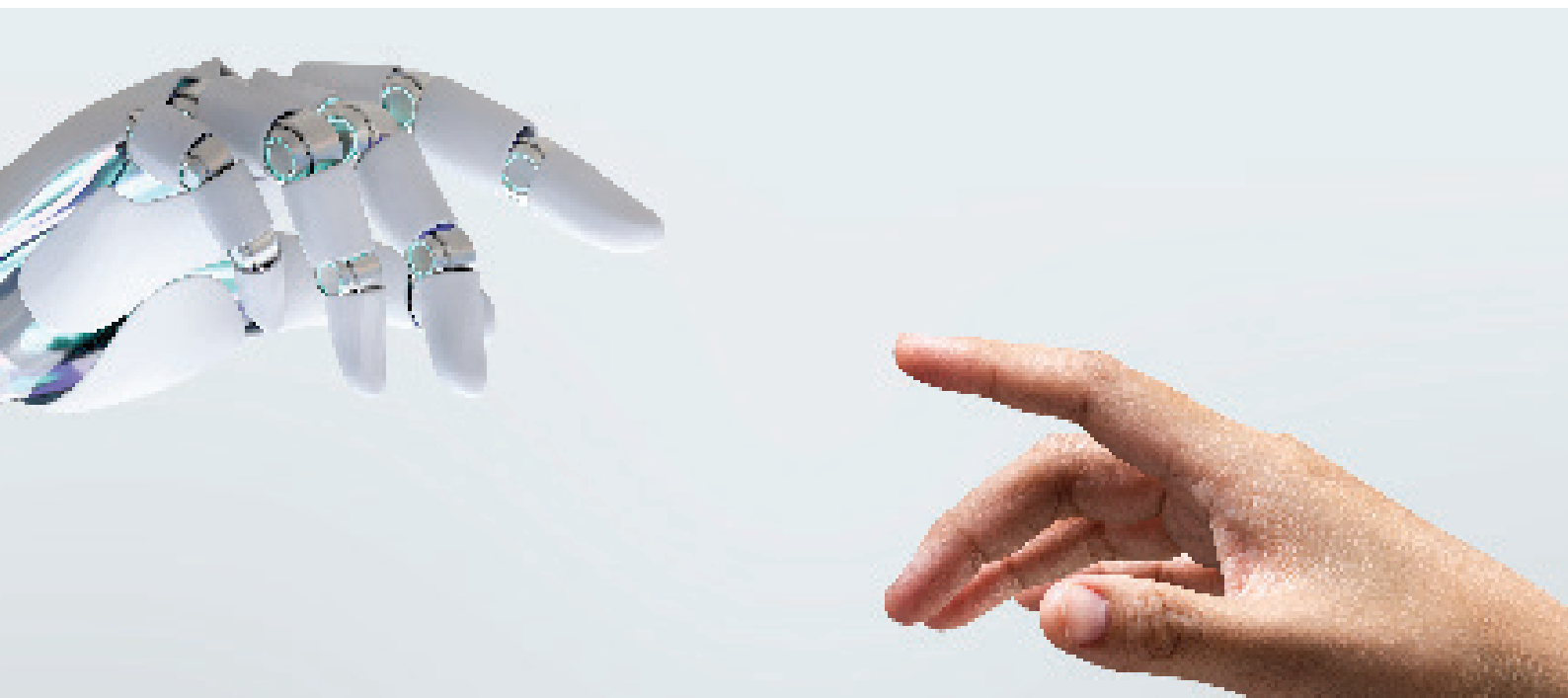
Although the specific regulation of the metaverse is not yet among the priorities of national or supranational legislators (such as the European Union), it is important to flag the legal dimensions of some of the risks associated with its development.

National and European authorities will be confronted with competition issues, resulting mainly from the growing trend of concentration by big tech, and as a result of the dominant role they may play in this process. It will be important to understand whether the legislative and enforcement instruments are sufficient to protect the market and competition.

There will be a difficult tension between, on the one hand, the protection of privacy and the protection of personal data in the metaverse (or even the protection of personal identity in the face of its misuse by strangers), and, on the other hand, the identification of the authors of illegal or criminal behaviour, carried out under cover of anonymity facilitated by avatars.

Legal issues are raised with regard to consumer protection in accessing and using the different platforms, and in the acquisition of goods in the virtual world ("real estate" in metaverse and NFTs, for example) or physical (retail), through metaverse.





It is important to protect the most vulnerable, especially children, in an immersive environment that may lead to alienation from the real world, addictive behaviours, abuse and discrimination by malicious entities.

Platform resilience and cybersecurity are of great importance here.

3. In addition to setting limits, the law is also an instrument for creating value for companies and individuals.

The business opportunities generated or enhanced through the metaverse are more likely to be successful when also designed with compliance in mind in relation to legal and regulatory requirements. In fact, contrary to what one might imagine, there are several rules and legal principles applicable to the activities involved in the construction, provision of services and enjoyment of the metaverse.

For example: Human rights, fundamental rights and protection of personal data; criminal and civil liability; competition, consumer protection,

e-commerce and digital services; future regulation of Artificial Intelligence (AI) and the Internet of Things (IoT); financial regulation and future rules on crypto assets and distributed ledgers; intellectual property (eg trademarks and copyright); taxation of activities carried out in the metaverse.

So, the first movers in the metaverse will be successful if they structure an adequate business plan and incorporate a legal architecture by design, thus minimizing risks and enhancing opportunities.

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Trademarks and Copyright in the metaverse

Authors

 **Ricardo Henriques**
 **Margarida Castillo Silva**

- > NFTs
- > Copyright
- > Trademark Law
- > "Pulp Fiction"

Trademarks, as a factor in the value enhancement of NFTs, present themselves as a valuable asset in the metaverse, and it is not by chance that there is a "race" for their protection in the virtual space in order to avoid some risks, namely in their improper or non-authorized use.

The metaverse is a technological phenomenon that disrupts reality as we know it, but it is also a space of commercial opportunity, namely for the promotion of new products or virtual objects, as well as others that reproduce the appearance of those existing in physical space. This promotion and virtual reproduction has been established through the - already very reputable - "NFTs" (non-fungible tokens), which function as an essential technology in the acquisition of virtual goods.

Not infrequently NFTs have as their object certain items that, in addition to being able to have their physical counterpart, are protected

by trademarks with high visibility among the general public. It can be said, therefore, that trademarks, as a factor in the value-enhancement of NFTs, present themselves as a valuable asset in the metaverse, it's therefore not by chance that there is a "race" for their protection in the virtual space in order to avoid some risks, namely their improper or unauthorized use.

In this regard, it should be noted that there are already some disputes. Take the example of the case between the French luxury brand Hermès and an American artist, Mason Rothschild, for having created and marketed NFTs of the



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iconic “Birkin” bag the configuration of which is protected. In addition to the trademark infringement, issues of unfair competition and possible brand dilution were raised. Another example is the litigation between Nike and the company StockX on the grounds of trademark infringement, as well as on the grounds of counterfeiting and misleading advertising, since the NFTs created by that company reproduced in full the design of the shoe.

NFTs also raise several questions regarding Copyright and it has been widely discussed, among other topics, whether, in the cases of virtual representations of physical goods, we are facing a true transformation/adaptation of the work to a different medium (the digital one) and if, consequently, we can talk about infringements to existing copyrights and in the emergence of new ones.

In this regard, we have the example of the well-known case that pitted the Miramax film studio against the famous film director Quentin Tarantino, as a result of the latter having sold NFTs of never-before-seen fictional content from the movie “Pulp Fiction”. In question, besides the breach of contractual clauses, was the infringement of Miramax's Copyright on the virtual representation of said content.

The cases mentioned above reflect some of the challenges emerging from the metaverse in these matters, and raise the question of whether the legal regimes, namely in terms of Trademark Law and Copyright Law, are adequate and sufficient.

With regard to the protection of Trademarks, it is questioned whether the protection already granted, through registration, regarding certain physical goods, covers their protection in the virtual space. Currently, the answer presented has been in the negative and its justification is based on the Principle of Specialty inherent to Trademark Law, applicable both in Portuguese and European Union Law. The aforementioned principle determines that the protection granted is limited to specific products and/or services, which are covered by the respective registration.

There are those who argue, however, that the answer may go in the opposite direction in the event that we are faced with the improper use trademarks with reputation (that is, trademarks that benefit from protection in relation to all products or services, not limited only to those covered by the registration), being clear the intention of taking advantage



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of the respective reputation or distinctive character. This understanding, however, will necessarily mean that the owners of other brands, those that are not considered trademarks with reputation, will see their rights weakened, or not as protected. For this reason, there have been new registration requests that cover digital goods and/or services and, also, the creation of NFTs by the trademark owners themselves as a way of affirming and activating the respective trademarks in the metaverse. This strategy will have the intended effect of extending protection, but also expanding the reach and interaction of brands with other operators and consumers in the market, thus enhancing their respective appreciation.

In terms of copyright protection, the solutions that have been presented - in addition to the litigation route for the unauthorized use of the works in question - are limited to drafting and stipulating contractual clauses that best safeguard the interests of the Copyright owner of the work that is the object of the NFT, in particular with regard to the forms of use and the particular medium of the work.

That said, there is no doubt that copyright owners, as well as trademark owners - when

confronted with the expansion of virtual realities - should consider strategies to build and strengthen their assets and their virtual market, whose first step will necessarily involve obtaining adequate protection. It should be noted that, without this, negative and immediate consequences may arise, which are anticipated to be difficult to overcome, especially in the reconstitution of the pre-existing situation to the injury of rights.



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Due Diligence of intangible assets in the metaverse

Authors

-  **Ricardo Henriques**
-  **Maria Rubina Silva**

- > Due-diligence
- > Immersive internet
- > Intangible assets
- > Smart contracts

All existing assets in the metaverse will be, necessarily and by definition, intangible, hence the particular importance of their verification in the transactional context.

In the context of the digital revolution, big tech have identified the creation of an immersive, interactive and sensorial Internet, encapsulated in the metaverse, as the next step in the evolutionary chain, which emerges as an archetype of this ideal. Within this “complementary” universe all (or nearly all) aspects of material existence are virtually replicated.

In this way, and naturally, along with all the other questions that will be raised, the commercialization of certain goods and assets will also spontaneously occur. In particular, and considering the nature of the

universe in question, the transaction of assets that are sometimes neglected or underestimated will be relevant: intangible assets.

Intangible assets are all those which, having value and economic expression, lack or are incapable of physical materialisation. From reputation to trade secrets, including intellectual and industrial property rights, the truth is that the importance of these assets in the knowledge era is indisputable, since – as long as they comply with accounting recognition and measurement criteria – they are key resources that demonstrably enhance



the growth of companies and give their holders a clear competitive advantage over their competitors.

In this sense, the commercial relevance of this type of asset is clear, as well as its high transactional potential. Hence, given the common concerns of investors related to security issues in legal traffic, the need to carry out thorough and effective due diligence in order to assess essential issues such as the origin, ownership and current legal status of the assets, the (in)existence of limitations on their use, among others, in order to carry out their valuation and estimate the associated risk to their transaction.

Having arrived here, what then is the significance of the already established question of the relevance of the due diligence of intangible assets, when applied to the metaverse, a reality where the real and the virtual intersect?

It is first of all important to remember that not all the subjects that are relevant in the metaverse imply the subtlety that would be

expected from the start: at the risk of oversimplification, the metaverse, despite innovating in many aspects, limits itself, in others, to transposing to the virtual what already exists in the physical world.

Therefore, what motivates, occupies and applies to the due diligence of intangible assets in the physical world, will also apply to the virtual world; in fact, the characteristic of "virtuality" was already present in certain intangible assets that existed without materialization, so that for the due diligence of these in the Metaverse, there is only the need for certain adaptations in the face of concerns typical of the reality in which we now operate.

It should be noted, from the outset, that all existing assets in the metaverse will be, necessarily and by definition, intangible, hence the particular importance of their verification in the transactional context.

Some may be owned outside the metaverse, being merely activated there, along with their use in the physical world. Others, in turn, may have been created and used exclusively in

the metaverse. As for the latter, it is worth remembering the importance of NFTs, where the ownership of unique digital versions, i.e. non -fungible versions, of assets is recorded, through registration on a Blockchain.

Here lies, or so we anticipate, the primary challenge in carrying out a due diligence within this scope and which is reflected in the methodology to be adopted in the preparatory stages (and even during and immediately after) the transaction: the lack of a centralized entity that controls and assures the reliability of existing records makes it difficult to guarantee the credibility of the information obtained, in particular with regard to the ownership and content of the assets, which will necessarily be the basis of any due diligence that can be carried out on them.

In this sense, technical audits would be particularly relevant, in order to prove the authenticity of NFTs , always accompanied by the already common legal audits, which would deal with the issues that currently accompany transactions of this type of assets, namely with regard to the analysis of documentation complementary to the NFT, and which would make it possible to clarify the conditions applicable to marketing, use, reproduction, etc. of the assets, such as the terms and conditions of the relevant platforms and smart contracts that may be inherent to the registration of NFTs on the Blockchain.

In short, given the inherent value of intangible assets, the appeal of their commercialization is easily understood. In particular, in the metaverse, where these

types of assets proliferate, their transaction is foreseen to be constant. In this sense, the preparation of these operations, through a due process diligence resulting in recommendations for direct implementation, proves to be essential for making informed and balanced business decisions. This due process diligence will not, however, be free of challenges, given the nature of the assets in question and the way they are owned in the metaverse .

In the context of the digital revolution, the big tech have identified as the next step in the evolutionary chain the creation of an immersive, interactive and sensorial Internet , encapsulated in the Metaverse.

What then is the significance of the question of the relevance of the due diligence of intangible assets, when applied to the metaverse , a reality where the real and the virtual intersect?



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Data Protection and the metaverse

Authors

 **Ricardo Henriques**

 **José Maria Alves Pereira**

- > **GDPR**
- > **Second Life**
- > **State**
- > **Geographic uncertainty**

Given the multiplicity of metaverse uses, it would certainly be useful to create, and regulate, a digital identity that would allow metaverse participants to be sure that they are interacting with a trustworthy user.

If assessing what may constitute personal data under the definition provided for in the General Data Protection Regulation (“GDPR”) proves to be a challenge in certain situations, applying such a definition to a digital world (we are talking about the metaverse) makes the task even more difficult.

The challenge referred to in the previous paragraph is not the only one that arises when analysing the implications that a virtual world can bring to the privacy of those who intend to “inhabit” that world.

The metaverse, which is usually associated with online games, is in a moment of transition between a fantasy world (who doesn't

remember the game Second Life?) to a real world and should therefore be properly regulated.

Although there are several topics that raise questions, in this article we deal with those that involve the protection of the personal data of the (future) “inhabitants” of the metaverse and who, at least in the real world, enjoy due legal protection as owners of the data. But does existing legislation ensure the same protection in the metaverse?

As mentioned earlier, first of all it will be important to understand in which situations the definition of “personal data” will be applicable in the metaverse. For example, participation in



the metaverse implies the creation of a virtual image that will identify the user. This virtual image, or avatar, may correspond to the user's image (through a representation of the features of the user's face, namely through the processing of biometric data), but it may also be a fantasy image, which does not correspond to the so-called real image of the user. Now, in the latter case, will the virtual image, even if it does not correspond to the real image of a user, benefit from the same protection as the real image? Are we at the beginning of the creation of a digital identity?

Given the multiplicity of uses of the metaverse, it would certainly be useful to create, and regulate, a digital identity that would allow the participants of the metaverse to be sure that they are interacting with a trustworthy user (for example: to make sure that the person with whom one is interacting has the power to represent a particular legal person).

In addition to the representative image of the user, the interactions established in the metaverse also pose problems from the point of view of data protection.

As interactions take place in a digital environment, the danger of monitoring data subjects is of particular importance, as the user ends up never "turning off". In fact, if in the "real world" the user can disconnect from the network and communicate with other people "face to face", in the metaverse all interactions can be monitored, as they occur on servers that "give life" to the metaverse. Thus, the risk of unnecessary data collection (in violation of the principle of minimization), and their illicit use, increases, requiring the entity responsible for the treatment of this data to apply additional technical and organizational measures to

avoid abusive monitoring of users of the metaverse.

This last question leads us directly to another: how will it be possible to ensure that the user in the metaverse has access to information regarding the processing of their personal data? Compliance with the principle of transparency, which requires the controller to ensure that the data subject has access to information regarding the processing of their personal data, will certainly challenge entities when defining the procedures associated with the fulfilment of the duty to provide information, namely by demanding that the information be made available in a clear way, therefore avoiding long and dense texts, which are difficult to understand and access.

In this way, it is also important to define the responsibility of the entities that process personal data in the metaverse. Are these entities jointly responsible for the processing of the personal data they process within the scope of making the metaverse available? Will we be dealing with data processing on a Controller/Processor basis in which the platform provider will be a Processor and the other entities Controllers?

No less important than the issues already addressed here will be the definition of the place where the relationships established in the metaverse occur for the purposes of defining the applicable legislation. Considering a parallel world that is not associated with any geographic location, and that is not under the aegis of any jurisdiction, how can we indicate that a particular controller is directing its services to the citizens of a particular State, if in the that same state doesn't exist?



This geographic uncertainty brings us to another problem. Does the metaverse apply the rules laid down for so-called transfers outside the European Economic Area, which, in order to be lawful, are subject to special rules? In this case should the location of the servers of the Entities that have a presence in the metaverse be considered?

As can be seen from the present text, which intends to start a discussion that will take a long time, the doubts that a virtual world raises are many, and at this moment it is necessary to reflect on whether the existing legislation has the capacity to respond to them.



Processing of sensitive and children's personal data

Authors

 **Ricardo Henriques**

 **Matilde Ortins de Bettencourt**

- > Metadata
- > Personal data
- > Biometric data
- > GDPR

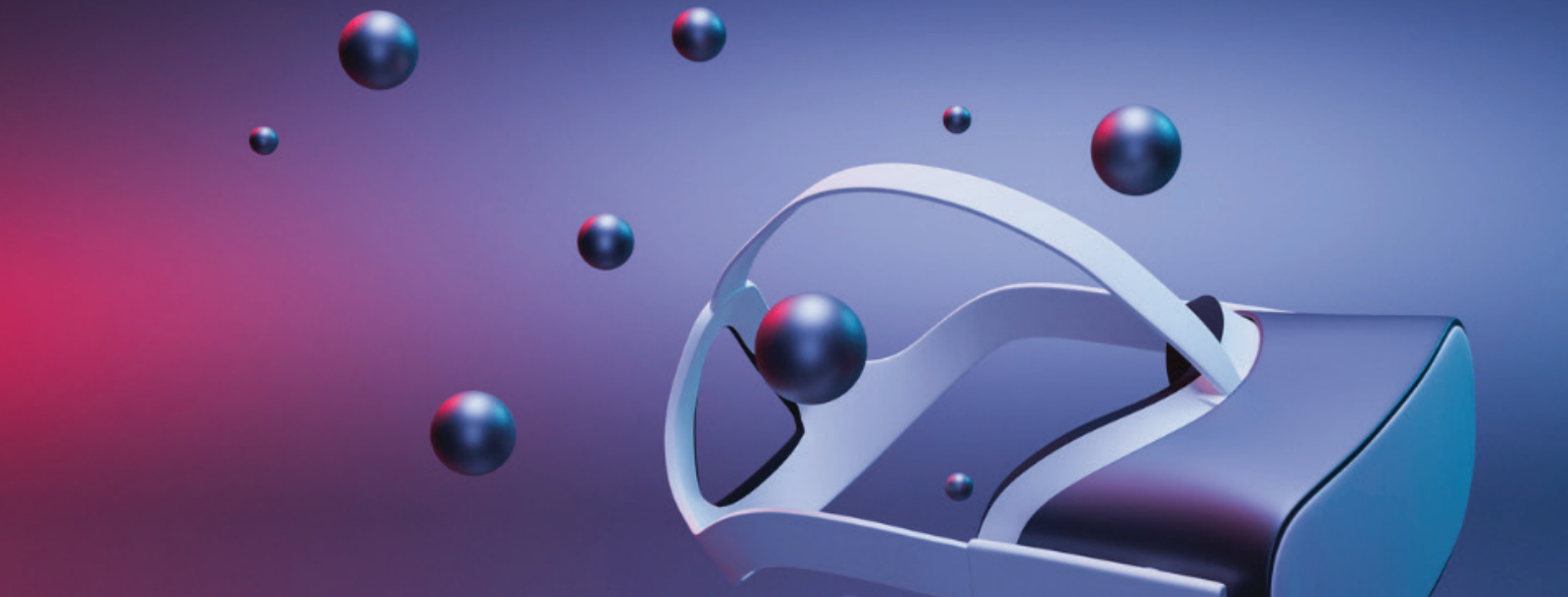
Consent will be the applicable and appropriate legal basis for the processing of these special categories of personal data.

The metaverse, as a disruptive virtual reality, will function intrinsically dependent upon the massive sharing and continuous creation of data and metadata. It is not just about the flow of information necessary and characteristic to any technology, but also about data generated and collected through digital elements which integrate this new reality. First of all, think about the virtual reality glasses, microphones, motion sensors, among other equipment, that will be necessary for a complete experience in the metaverse. These devices will allow data such as eye movements, body language, voice, facial expressions and even brain activity, vital signs and emotional responses to be collected.

Since these are data that reveal very specific and personal characteristics, capable of identifying a person, they will immediately be considered personal data, more precisely biometric data. This data, because it is related to behavioural attributes that allow or at least confirm the unique identification of a person, constitute special categories of data (previously called "sensitive data ") within the meaning of the GDPR and are therefore subject to a special protection.

The issue is complex, as the processing of this special category of data is only allowed in a limited number of situations. Restricting ourselves to the metaverse environment and considering that, in





principle, there will not be a law that expressly provides for the processing of this data in the metaverse environment and that, at the same time, establishes guarantees for the defence of data subjects, consent will be the applicable and appropriate legal basis for the processing of these special categories of personal data. Other applicable legal grounds may eventually be considered, depending on the categories of personal data to be processed, their respective purposes, as well as the way in which the data will be treated within the scope of new technologies and means of interaction used in the metaverse.

However, in order to be considered valid, the consent of the data subject must be provided through a free, specific, informed and unequivocal expression of will, in such a way that the Data Controller is able to demonstrate that the consent for the treatment of personal data was actually collected. Additionally, the data subject must provide consent for all processing purposes individually considered. In view of the above, it is easy to

understand the challenge of implementing an adequate mechanism that allows the data subject to give his/her consent for each processing purpose in this volatile environment. Think, from the outset, of the countless possibilities that the metaverse offers - when relating to other users, when buying a work of art, when going to a concert and even enjoying possibilities that may not even have been thought of - in all these cases, it is quite likely that biometric data will be processed through the sensory and cognitive experience of the data subject and, consequently, consent will be required for each individual purpose.

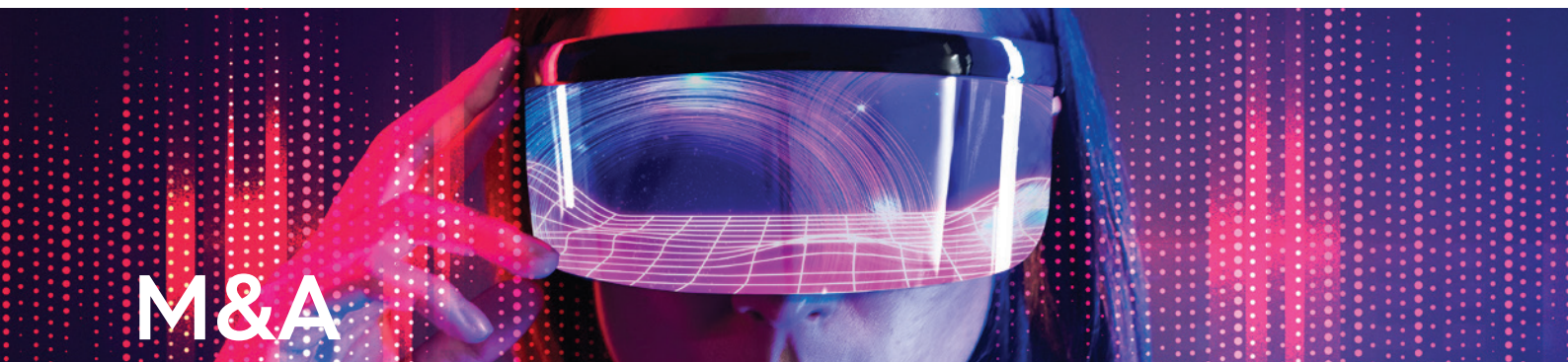
The problem inherent in obtaining consent is intensified if minors are involved. Law nº 58/2019 provides that the personal data of children can only be processed based on consent, when they have reached the age of 13. This means that, if a minor under 13 years old wishes to be a user of the metaverse, the processing of their personal data will only be lawful if their legal representatives give consent. This means that the

metaverse will have to be equipped with safe and effective protection mechanisms that ensure and verify that consent is being validly given. This is a point to which the greatest efforts of adequate measures and guarantees of protection should be directed, taking into account that children were and are the first to have contact with experiences similar to the metaverse, through video games that allow interaction in environments virtual environments that intend to reproduce the real world.

The potentially large-scale processing of biometric data also puts the onus on the Data Controller to conduct an impact assessment on data protection prior to processing. This will be another of the challenges imposed on the processing of personal data in the metaverse, first of all due to the difficulty that may arise for the user regarding the accuracy of the Data Controller in each processing activity of their personal data.

It may be considered that the operation of business models in the metaverse with the absence of processing of personal data could be a viable solution to address the challenges exposed here. However, in order to achieve an effective result in the protection of users' privacy, this will have to be a joint effort between all the technologies that will be part of or that are connected with the metaverse.





M&A and the metaverse

Authors

- ✉ Paulo de Tarso Domingues
- ✉ Cláudia Isabel Costa

- > M&A
- > Machine learning algorithms
- > Artificial intelligence
- > Target firm

The legal system is designed for the “real world” and not for a “virtual reality”. If damages are caused, how will they be compensated? If someone claims ownership of digital assets that are in the possession of others, how will they be refunded? Will virtual companies have virtual shareholdings similar to those in the real world? How is their ownership determined? How will they be transferred?

We live in a particularly interesting period of human history. The disruptive potential of various technologies such as the metaverse has forced humankind to reflect deeply on our own existence as individual beings and as a community.

A lawyer who is interested in these phenomena and wants to be up-to-date cannot fail to try to understand how these new technologies work and how they affect the relationship between people and the transaction of goods

and services. Bearing this in mind, we propose a small reflection on what the metaverse is and the influence that this “new world” will have on mergers and acquisitions.

The term metaverse appeared in 1992 in the science fiction book *Snow Crash* by Neal Stephenson. There is no universal definition of metaverse, but some authors such as Luciano Floridi seem to understand it as a digital space in which users can have a virtual, three-dimensional, immersive experience with





some tactile and kinetic sensations. It has even been advanced that the main objective of the metaverse is to achieve an extension of reality in itself, promising to change the modes of communication between people and businesses. It should be noted that the metaverse is not to be confused with other technologies such as blockchain, Web 3.0, cryptocurrencies or artificial intelligence, but it will be the place where the ideal environment is created for all these technologies to express themselves.

This virtual reality is composed of a large and heterogeneous number of elements, among which the following stand out and are of particular importance: a) the avatars, which are nothing more than digital representations of their users, controlled by them and through which they can experience a virtual alternative life analogous to the real world; b) computational agents that are not controlled by users, but that use machine learning algorithms in decision making, that learn through interactive experience with their virtual environment.

Data generated in the virtual world must be stored on blockchain platforms to ensure its security. In addition, the metaverse has a set of

tools that allows for the creation of digital goods. Finally, users can move their avatars and digital assets back and forth in the metaverse .

Focusing now on our topic, the relationship between the metaverse and mergers and acquisitions can happen at three levels.

The first of them, and the most widely mentioned in the articles that deal with this matter, is related to the fact that M&A operations can be developed and are made possible, allowing investors to buy, sell or merge commercial companies in this virtual parallel world. The cost associated with creating and maintaining a virtual universe composed of several users will, however, be very high, so the tendency will be for this technology to be concentrated in a restricted group of companies, such as Facebook or Microsoft, since start-ups, for example, will certainly have many difficulties in entering this metaverse market of available investors. In this way, it is expected that an active market will emerge in the technological sector through the combination of synergies between companies that develop technologies such as artificial intelligence, blockchain, cloud , internet of things, among others, all of them

essential to the construction and maintenance of the metaverse. At this level, there are, in our opinion, no special legal particularities with regard to M&A transactions, so there will also be no major difficulties or doubts in the implementation and application of the current legal regime in force to M&A transactions carried out in the metaverse.

A second point that can be raised in this context concerns the possibility of “mixing” between the real world and the virtual world in these types of operations. Thus, for example, it may happen that part of the negotiation process takes place in a virtual environment, and part of the transaction data may be stored on the blockchain, but the object of negotiation - the target company - exists in the real world, and it is still necessary to adopt all the formalities legally required for the business to take place in the real world. At this level too, we do not think that there are any particular legal difficulties. The objective will be to use the metaverse more as an ancillary instrument that facilitates the negotiations. Basically, the metaverse will be used here, as far as possible, as if it were another electronic or digital platform to support the execution of the M&A operation.

Finally, there is a third plane of relationship between the metaverse and M&A, where more difficulties will arise and which will require greater reflection and consideration of the legal regime to be applied. As already mentioned above, the metaverse creates a virtual reality that intends to be an extension of reality in itself, reproducing everything that really exists. Some authors claim, for example, that in the metaverse an economic system can even be created in which it will be possible to use cryptocurrencies or a commercial

metaverse through which relationships between entrepreneurs (B2B) and between entrepreneurs and users (B2C) are established. In other words, it will be possible for users to own digital goods, moving them throughout the metaverse and trading them among themselves. In this way, avatars can associate and create their own commercial companies to market their virtual goods and/or products that will be paid with virtual currencies. Now, it will be here, in this totally virtual “brave new world”, that begins with the metaverse, that the greatest difficulties may arise regarding the applicable legal regime. Indeed, the legal system is designed for the “real world” and not for a “virtual reality”. For example: if damages are caused, how will these be compensated? If someone claims ownership of digital assets that are in the possession of others, how will they be refunded? Will virtual companies have virtual shares similar to those in the real world? How is their ownership determined? How will their transfer take place? In other words, the current legal system is not designed or prepared to deal with this virtual reality, which will require a huge effort to adapt in order to properly regulate and discipline this new world, since, obviously (*cela va sans dire, mais cela va mieux en le disant*), the same cannot remain outside the law...



Holding of Shareholders Meetings in the metaverse

Authors

 César Bessa Monteiro Jr.
 Benedita Marques Pombo

- > Commercial Companies
- > COVID-19
- > General Assemblies
- > Shareholders

The use of the metaverse may prove to be a factor in bringing companies and their shareholders or partners closer together, allowing, in particular, the holding of Shareholders' Meetings in which any relevant, current or urgent topic is resolved, regardless of the geographical location of the participants, through an interface similar to reality.

The metaverse allows the creation of a virtual space, through which people – found anywhere in the world – connect through a specific network, being able to coexist, socialize, gather and work.

Thus, the use of the metaverse may prove to be a factor in bringing companies and their shareholders or partners closer together, allowing, in particular, the holding of shareholders' meetings in which any relevant, current or urgent topic is resolved, regardless of location, geographic location of the

participants, through an interface similar to reality. In other words, the physical location, for example, where the Chairman and Secretary of the Board of the shareholders' meeting are located will become irrelevant, for this purpose, with access to a mobile phone or computer, together with headphones or augmented virtual reality glasses, being all that is needed.

With regard to the Portuguese legal system, it should be noted that, although the law already foresees the hypothesis that the



shareholders' meetings of public limited companies are held by telematic means, establishing subparagraph b) of paragraph 6 of article 377 of the Commercial Companies Code (hereinafter, "CSC") that "Unless otherwise provided in the articles of association, through telematic means, the company must ensure the authenticity of the declarations and the security of the communications, proceeding to the registration of its content and the respective stakeholders" – this provision is also considered applicable to private limited companies by reference made by article 248 of the CSC – the preferred method for holding these meetings continues to be face-to-face.

In any case, with the spread of the COVID-19 pandemic, which forced a situation of confinement that severely restricted mobility on the part of people, causing considerable difficulties in the normal functioning of corporate bodies, especially with regard to the holding of shareholders' meetings, it became necessary to take measures to safeguard corporate interests and minimise the consequences that would result from this situation.

In this way, driven by the COVID-19 pandemic, legislation was enacted that streamlined the use of telematic means for holding general meetings of commercial companies, associations and cooperatives, in particular, Law No. 1-A/2020, whose article 5, no. 1 regulates telematic means for shareholders' meetings, establishing that "[the] participation by telematic means, namely video or teleconference of members of collegiate bodies of public or private entities in the respective meetings, does not prevent the regular functioning of the body, namely with

regard to quorum and deliberations, although the form of participation must be recorded in the respective minutes".

It is therefore worth questioning whether, and to what extent, the aforementioned rules regarding the holding of Shareholders' Meetings by telematic means apply to the metaverse.

From our point of view, considering that:

- I. Telematic means are currently defined as "set of computer services provided through a telecommunications network";
- II. Metaverse is based on the use of a set of IT resources articulated through a telecommunication network and;
- III. Such resources are a plus to the telematic means usually used, allowing an interaction that is substantially close to that which takes place in person;

We are of the opinion that, for the most part – if not even for equal reason – the aforementioned rules fully apply to the holding of Shareholders' Meetings in the metaverse, which are admissible provided that it is possible to verify the identity of the participants and ensure "the authenticity of declarations and the security of communications, registering their content and the respective participants."

Such admissibility requirements, however, are not legally supported and it is up to the Companies adhering to this technology to adopt the procedures they deem appropriate.





As an example, Iberdrola Group held a Shareholders' Meeting during the month of June 2022 through the use of the metaverse. In this scope:

- A virtual environment of the company was created in which participants, through a personalized avatar, could interact with each other;
- With regard to the authenticity of the statements produced, within the scope of the General Meeting, including the exercise of voting, the Partners used a portal specifically created for this purpose, whose operation was based on the use of blockchain technology, and in which they authenticated themselves by scanning their ID cards.

In short, we are of the opinion that Portuguese legislation does not prohibit the use of the metaverse for the purposes of holding Shareholders' Meetings, provided that the identity of the participants and the authenticity and security of the statements and communications to be produced in that context are safeguarded.



Metaverse and (its) legal and financial system

- > Crypto assets
- > Legal by design
- > Smart Contracts
- > Blockchain

Author

 **Diogo Pereira Duarte**

Despite the numerous potentialities of the technologies in which it is built, the metaverse will not exist outside the law nor is the perspective that the law will not apply to it realistic.

On Halloween night 2008, in the midst of the financial crisis, Satoshi Nakamoto (still no one knows his true identity) published an eight-page article on a mailing list used by cypherpunks. The article was entitled “Bitcoin: A Peer-to-Peer Electronic Cash System”, and Nakamoto wrote: “I am working on a new electronic cash system that is completely peer-to-peer with no trusted third party intervention”.

Basically, Nakamoto built on existing technologies (distributed systems, cryptography and consensus mechanisms) to solve a major problem: how to transfer value on the internet avoiding double transmissions

(double spending). Cryptoassets, as a new class of assets, emerged and from that moment onwards, exclusive ownership over representations of value on the internet became possible: property.

In the hype of initial coin offerings in 2017/2018, the issuance and sale of cryptoassets was used to raise funds and finance various projects in billions of dollars. In addition, there has been an explosion in cryptocurrency trading in the context of the Covid-19 Pandemic, and the emergence of several applications of decentralized financial protocols, using business models built on smart contracts, which made it possible to





replicate traditional operations and products from the financial markets, such as deposits, loans, foreign exchange, insurance products, among others, but apparently without an intermediary, without financial intermediation.

Smart contracts programmed on blockchains refer to contracts in which the execution is fully or partially automated, that is, a contract in which the execution of contractual conditions occurs automatically, without the need for human intervention, by virtue of a computer protocol - an algorithm - which can check pre-defined conditions and execute events and actions that are stipulated in that protocol. These contracts allow the movement of programmable assets using distributed ledger systems, and the execution of the contract translates into a change in the state of the database implemented by that system. Transactions, once initiated by act of will (by transferring crypto-assets to smart contracts), dispense with offline structures such as lawyers and courts.

These two concepts (cryptoassets and smart contracts) will be at the base of the metaverse's financial system, first of all because they enable, without the need for interconnection with offline legal and social

structures, two essential realities to the human condition: property and exchanges, that is, contracts. It seems to me that the metaverse and web 3 will be two sides of the same coin.

Despite the numerous potentialities of the technologies in which it is built, the metaverse will not exist outside the law nor is the perspective that the law will not apply to it realistic. The DAO hack in 2016; the numerous misappropriations of NFTs; the failure to obtain the stabilizing effect by the Terra-Luna protocol, and the uncertainty regarding the destination in the use of BTC reserves, are only a small demonstration that, when necessary, the law will always have a say, so that the financial system is efficient and investors protected.

And as such the metaverse, understood as legal by design, will be fundamental.



The Challenges of Liability in the metaverse

- > Avatar
- > Civil responsibility
- > Proof
- > Dispute resolution

Authors

 **Gonçalo Malheiro**
 **Daniela Ferreira Faria**

Challenging issues in relation to the identification of the author of the illicit act but also, it is anticipated, regarding the issue of guilt and the causal link.

In this article we will address the issue of the metaverse related to civil liability and the challenges that result from it, in the certainty that, at present, there are more questions than answers regarding this new reality.

The novelty that the metaverse advocates allows us to question what is the legal approach to the most varied situations that take place there, namely those that imply civil liability and the resolution of disputes and that inevitably, sooner or later will occur, as with any another human reality.

In this new virtual reality, remember that agents act through avatars, being able to maintain close relationships with peers, as if it were a physical reality.

There are several obstacles that, from the outset, make it difficult to apply the legal norms, concepts and doctrinal solutions that exist today. It is still true that there is an immense field of development and challenges for all those who work in the field of Law, trying to understand if the traditional figures and legal institutes (such as civil liability in the terms we know today) are able to offer solutions to the new problems, or if we will be facing an effective innovation in the legislative field and in the application of Law.

Let's ask, just as an example, a few questions:

First, which agent should be civilly liable? The avatar is designed to be the "real" representation of your agent. However, what will happen when there is the creation of several avatars by a single user or when an agent creates and





uses a third-party avatar, as if there is a confusion of identities.

It may, in many cases, be difficult to find the agent who carries out any illicit act due to pure ignorance of his or her identity. In addition to that, the various avatars can simply be anonymous, so the virtual trace of the agent or creator is non-existent.

We will certainly have very challenging questions regarding the identification of the author of the illicit act but also, it is anticipated, regarding the issue of guilt and the causal nexus. In fact, knowing the degree of fault, the existence of reasons for excluding or mitigating that fault, the verification of a direct causal link between the act and the damage, will certainly raise many doubts and oblige doctrine and jurisprudence to adapt law enforcement to this new reality.

Not forgetting, of course, the subject of proof, whether in terms of the degree of its effectiveness, the difficulties in obtaining it and its legality, contending with issues, for example, related to the safeguarding of the personality rights of the parties and of privacy protection.

If there is civil liability of the avatar, it is still necessary to discern the role and responsibility of the platform that creates this digital universe. However, the question is how can this be held responsible? Since it was not the author of the alleged illegal act, although it provided the means to do so, it is asked whether there is any violation of a right of surveillance and control regarding what takes place on that platform.

On the other hand, and at another level, given the space of autonomy for people to express themselves online, it will always be difficult to find the balance between allowing freedom of expression through the metaverse and also punishing and holding the avatar accountable for misuse of its space and abuse of the freedom granted to them by the platform itself.

Should the platform be interventionist from the start, determining, for example, the amount of actions and qualities of the avatar? Will this intervention go against the essence of the metaverse?

This accountability and compliance with rules of good conduct leads us to a third interesting

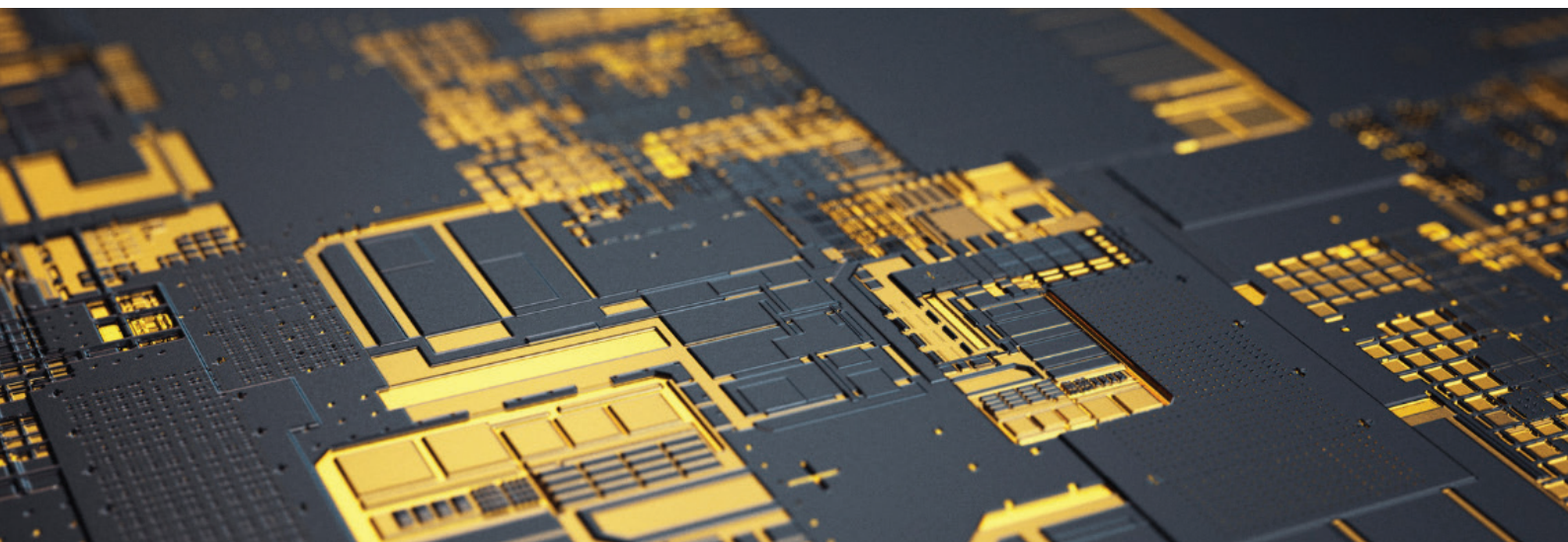
point: the form of dispute resolution that comes from the relationships established in the metaverse.

If we were in the scope of civil liability, there will be no doubt as to the competence of the civil courts, however, it is already questioned which Court is competent, especially considering that the illicit fact may have originated in a relatively undetermined place or be difficult to ascertain. The answer becomes even more difficult if we are dealing with acts with different connections to different jurisdictions.

Likewise, we will have foreseeable difficulties regarding the determination of the applicable law, especially in those cases with impacts upon or relationships with different jurisdictions. Will the law of the country where the agent comes from apply, the law of origin of the IT platform (if any) or the law of the verified year of the act itself? Is there scope for an agreement between the parties as to the jurisdiction and applicable law?

The metaverse offers endless tools in the apparent transposition of real life to virtual life. However, some gaps in the application of the existing law are evident or at least difficulties in its application are anticipated.

For the time being, the regulation of the metaverse, at the level of civil liability, is still non-existent or insufficient in the best case, requiring a major legislative effort both at the national and international level, in order to overcome the difficulties raised both by the application of concrete judicial orders, as well as the added difficulty created by the multi-jurisdictional nature of these conflicts and issues. For this same reason, at this stage, there are more questions than answers, in the certainty that as litigation takes place, it is up to the legal system to do justice to John Locke's phrase that "The end of law is not to abolish or restrict but to preserve and expand liberty".





Taxation in the metaverse

- > Taxation
- > Tal Law
- > Commercial transactions
- > Cryptocurrencies

Authors

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 **Susana A.Duarte**

The metaverse presents itself as a challenge for the tax legislator, given that its lack of a material nature forces us to rethink structural concepts, but we believe that the time to do so is now.

“Any sufficiently advanced technology is indistinguishable from magic.” – Arthur C. Clarke

The metaverse, as an immersive virtual reality, may seem to the most easily-entertained (and sceptical) like a scene from a science fiction movie that will only come true in the distant future. However, the truth is that the metaverse is not the future but a reality of the present and with it new questions arise that must be answered, tax questions being no exception.

The possibilities in the metaverse are already infinite: it is possible to socialize, hold meetings, attend concerts, fashion shows, conferences, acquire “real estate” or luxury goods, open a

business, among many other activities. And although the metaverse is a virtual space, the commercial transactions that take place in it (in a virtual space, between avatars and using cryptocurrency payment) can have an impact on the real world and can generate revenue. In this context, a fundamental tax question is whether tax legislation today allows taxing the income generated in the metaverse and whether States and their respective tax authorities can exercise their jurisdiction in this dematerialized world.

Naturally, in cases where the income generated in the metaverse is linked to entities that legally exist in the real world, taxation may take place in the real world if the rules of incidence are met.

However, this analysis may appear to be more complex than at first glance, due to the fact that, for example, payments can occur inside or outside the metaverse, they relate to products or services that can be used both in the metaverse and outside and also because it is not always easy to establish the connection between a given avatar/user and the entity existing in the real world. The truth is that the exponential growth of this entire virtual world has highlighted the inadequacy of the current tax paradigm which, in terms of income taxes, is still mostly based on the existence of a physical presence in a certain territory, so it is urgent to think about new solutions capable of keeping up with the demands of the virtual world. However, this does not mean that such realities are no longer subject to taxation in the real world.

And here, similar to what we have been advocating for crypto assets, the tax regime should encourage these new realities, recognizing that this is a new industry. Through a set of policies, events and circumstances Portugal has been asserting its position in the technological world having had, until now, a great capacity to attract investment and know-how, know-how being the differentiator that can be used in several areas for the benefit of all, so the challenge is to approach the metaverse and all this new industry in an integrated way, investing in technical knowledge and then finding the legal and fiscal solutions that make its development sustainable. When the Portuguese organize and mobilize, we are able to undertake unimaginable undertakings. If we "Discovered" the New World, why don't we think about "Discovering" the metaverse!



The metaverse and digital heritage

Authors

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- > Digital Heritage
- > Personal data
- > Right to privacy

What happens to our digital heritage after our death? For example, who will have access to our personal data, sensitive information, access codes to the most varied online services, social networks, email accounts?; what happens to our files stored in the cloud or on digital platforms?

The digital world plays an essential role in our daily lives, allowing us, even if often unconsciously, to accumulate numerous assets (from personal data, to passwords for accessing services, to profiles on social networks, to music, books, photographs, videos and other content stored on digital platforms or in the cloud, cryptocurrencies, NFTs, etc.). The metaverse, whatever it may be, allows for a rapid intensification of this appropriation, accumulation and sharing of assets and offers a prime means for this.

But what happens to our digital heritage after our death? For example, who will have access to our personal data, sensitive information, access codes to the most varied online services, social networks, email accounts?; what happens to our files stored in the cloud or on digital platforms?; does the right to privacy remain after our death?; do social media accounts cease to exist after our death or are rights transferred to heirs or designated beneficiaries in life?



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Problems related to digital heritage, that is, to the set of digital assets and data left by the deceased and transmissible after death, have been gaining worldwide prominence, although no joint positions have yet been taken, for example, within the bodies of the European Union an individual approach on the part of each State has been taken.

In this context, essentially because not all digital assets are merely or even essentially economic, very sensitive issues must be considered, such as their compatibility with the fundamental right to privacy of the deceased person. Furthermore, Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and the free movement of such data does not regulate issues related to the processing of data of deceased persons, it being up to the States, individually, to stipulate rules.

Thus, some States have shown a tendency to protect the deceased's right to privacy, namely by restricting access to certain goods and data considered sensitive, unless otherwise

determined by the deceased in life (as is the case in France), and others, on the contrary, are more protective of heirs' rights, broadly authorizing access to the deceased's digital heritage (as is the case in Germany).

In Portugal, so far, there is no legislation that regulates the various aspects related to digital inheritance.

However, with regard to personal data, and pursuant to article 17 of the Personal Data Protection Law, Law no. 58/2019 of the 8th August, the heirs of the deceased inherit their personal data, with rights of access, rectification and deletion of the same transferred to them, unless expressly indicated by the deceased who designates another person as the beneficiary. In this way, in addition to digital assets with economic value, personal digital assets, such as emails, files stored in the cloud or other digital platforms, instant messaging applications, accounts on social networks, logins and the most diverse personal information online, are also part of the deceased's inheritance, and the heirs may even request access to them by judicial means, if this is denied.



How then can we protect our privacy, as well as our expectations, after death?

The Personal Data Protection Law, like the Portuguese rules of inheritance law, allow a person to limit access to their personal data, thus preventing their personal information, whether sensitive or not, of a digital nature, from being accessed by their heirs.

It should be noted that, within the scope of digital inheritance, a person may, through their will, dispose of their digital assets, in whole or in part, in favour of third parties, but, should the assets hold economic value, they may be limited by any mandatory succession rules that apply, as is the case in Portuguese law, where each of us has an inalienable share in the succession itself (variable between 1/2 and 2/3), in favour of the respective legitimate heirs (as a rule, spouse, children or parents).

It should be clarified that Portuguese inheritance law does not necessarily apply even if the descendent is Portuguese or resident here or the assets are located here. In fact, whenever a person has more than one

nationality, they may choose, through a will and under Regulation (EU) No. 650/2012 of the European Parliament and Council, of the 4th July 2012 the law of the nationality which is most favourable to them for succession purposes. Even so, if the descendant has only one nationality but resides in another country, they can choose the law of their nationality as applicable (in the absence of choice, the law of residence will apply).

Currently, in Portugal, the assets that make up the digital inheritance are not subject to taxation.



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Metaverse at the service of the Public Interest

- > Public administration
- > Public services
- > Town planning
- > Community Funds

Author

 Mafalda Teixeira de Abreu

The public administration sector is an area where the metaverse can bring great benefits, both to the Public Administration itself and to the user. Three areas are easily identified: public services, funds and incentives and town planning.

In a Portuguese newspaper with a large circulation, it is said that the “metaverse could be worth 5 billion euros by 2030”. No-one doubts that the future involves virtual reality and the “replication of physical reality by virtual means”, but the challenge facing our Public Administration is to know: when exactly will this happen?

In addition to those sectors where the impact that the metaverse can bring is evident (such as in commerce and industry), the public administration sector is an area where the metaverse can bring great benefits, both for the public administration itself and for the user.

Three areas are easily identified: (i) public services (ii) funds and incentives and (iii) town planning.

As for public services, just think about customer service at citizens' shops, queues outside the Tax Authority or the waiting time at the Registry Offices. If the effort that has been made in the modernization of the Public Administration is indisputable, whether in terms of technology or in terms of human resources, it is easy then to imagine the further gains if our physical reality was also available in a virtual environment. Comfortably seated remotely in their own environment, the user



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could access the services, interact with the “Alexa” of the Public Administration, clarify doubts, deliver requests and obtain documents. And if we associate the metaverse with blockchain technology, the symbiosis is perfect. We all win in time and, certainly, in efficiency and disposition. It is natural that such an option requires an increased technological investment in a set of support instruments, but it is a path with return, in favour of an orderly and timely administration at the service of collective interests and civil society.

Another area where the benefits of the metaverse are clear is in terms of community funds and incentives. If the majority of applications are currently submitted, considered and processed electronically on public administration portals; if the execution process of projects is necessarily submitted on the aforementioned portals, one can imagine the advantage of the metaverse in audits and compliance checks with (executed) projects, which has major significance for payment purposes (and consolidation of payments received). Today, seriously aggravated by the pandemic caused by COVID-19, the process of verifying the incentives awarded and closing related contracts can have a delay of months, if not years, so the metaverse would streamline this entire process, which would bring security, transparency and efficiency to the management authorities and other supervisory bodies. The impact that this would have on the good management of public funds, including at the candidacy stage, is also evident, because bureaucratic, administrative, complex, repetitive and unclear procedures could be eliminated in a virtual reality, where the Administration would appear in a collaborative format, in a timely manner at the service of the beneficiary so that the application could be properly drafted and the project carried out in the

legally required terms. This has, in fact, been one of the great challenges of the Administration in terms of attribution and management of funds because, either due to the lack of resources, adequate training or simply the desire to “serve”, the speed of the Administration and the individual is not always the same and the beneficiary of incentives often feels alone, desperate for some foreseeability that is not always legal (if only it was!). Although today in an embryonic phase, the metaverse appears to be a promising resource.

The third area where the metaverse can generate major advances is in city planning. This is one of the areas where technology has advanced the fastest and, perhaps because of this, the impact of the metaverse could be exponential. Land development, the growth of cities and the inventory and management of public heritage are just a few examples of real needs that the use of the metaverse can leverage. Avatars can solve problems, anticipate solutions, foster creativity and citizens' awareness of the environment that surrounds them and also empower public managers for the harmonious planning of the growth of cities. In addition, physical space is developed and publicized, is made accessible remotely and immediately, which leads us back to a circular economy, where public services, access to culture, art and knowledge are at the service of the citizen and the community. Let's do it?



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Metaverse and work

Authors

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 **Matilde Carvalho e Cortinhal**

- > Labour Law
- > Meta-Work
- > Avatar
- > Non-Player Character

Although it is evident that the Avatar of each worker represents them in their place of work in the metaverse, to what extent is it possible to conclude that a worker has violated the rights of another through interactions between the respective avatars ?

The widespread existence of work in the metaverse or, at least, its presence in our day-to-day life, may seem a still distant idea but, as proved with the phenomenon of teleworking, technology has a significant capacity for evolution, the speed of which may be surprising, so it is essential that the labour market and legal systems prepare for these changes.

Now, while in face-to-face work, or even telework, the worker exists only through their physical person, in the metaverse it is an existence that, initially being merely electronic, without physical transposition, may constitute

an extension or representation of the worker in a kind of parallel universe, through an Avatar (ie, a representation of oneself, usually in virtual media, with the aim of personifying oneself to demonstrate a self-image in virtual environments, an entirely digital cyberbody, a graphic figure of varying complexity that lends its simulated life to the transport of a cyberspace identity into the parallel worlds of cyberspace).

It is thus understandable that from this new reality emerge the most diverse issues for Labour Law. For example, can the use of an Avatar facilitate or even encourage situations



of harassment in the workplace and, at the same time, make it difficult to assign responsibilities to the worker who controls the harasser and to protect the harassed person? And who will be the harassed that deserves protection?

The metaverse is characterized by allowing an immersive experience of individuals in the virtual world.

On the other hand, in our legal system, harassment (...) the unwanted behaviour, namely that based on a factor of discrimination, practiced when accessing employment or in the employment, work or professional training itself, with the objective or effect of disturbing or embarrassing the person, affecting their dignity, or creating an intimidating, hostile, degrading, humiliating or destabilizing environment.”¹

Could a worker be subject to disciplinary proceedings based on the behaviour that their Avatar adopted in the Metaverse, behaviour that affected and eventually harmed the rights of another worker represented by another Avatar?

Although it is evident that the Avatar of each worker represents him or her in their place of work in the metaverse, to what extent is it possible to conclude that a worker has violated the rights of another through interactions between their respective Avatars? As is well known, under the terms of the Labour Code², the worker has a general duty to “respect and treat the employer, hierarchical

superiors, co-workers and people who have a relationship with the company, with civility and probity”. In this sense we understand that, for example, the insult made by one Avatar to another could effectively come to be considered an insult between co-workers and should not, for the mere fact of being between Avatars, no longer be framed as a potential violation of this duty of respect, first of all because behind each Avatar there will always be a co-worker, as well as due to the exposure that the situation may imply to other co-workers.



However, at an evidential level, there may perhaps be more difficulties; a worker who has the metaverse as their place of work and is represented before their colleagues through an Avatar, and who has an incorrect behaviour from a work point of view, can possibly easily justify it with computer failures (bugs), an argument that is not available if insulting the same colleague face-to-face. In the metaverse it is easily argued that it was a click in the wrong place, an unintentional behaviour or even a behaviour that isn't replicated in the physical (non-virtual) world.

¹ Article 29 of the Labour Code published as an annex to Law n°7/2009 of 12 February, as amended more recently by Law n° 1/2022, of 03/01 (hereinafter only the Labour Code).

² Article 128, n° 1, subparagraph a), of the Labour Code

Our legislation is not yet adapted to this and other realities of the virtual world (although this may change when the digital world begins to have a more consistent physical aspect that can be perceived by our senses), but while this legislation is being prepared, it counts on our contribution in the adaptation of existing rules. However, difficulties in controlling these cases are anticipated, given the novelty and influence of technology still unknown to many.

Another interesting question is whether it will be possible to attribute responsibility to workers for the behaviour that their Avatar adopts towards an NPC. An NPC – Non - Player Character – is a character in an electronic game that cannot be controlled by the player. It is expected that the metaverse, in addition to Avatars, is also inhabited by these extras, which leads us to question: is it possible to trigger disciplinary action against a worker, for example, based on an offence directed at an NPC, that is, a mere digital character, not only without any legal personality but also to whom (to which?) no person is associated?

It is true that the labour legislation does not expressly provide for the responsibility for insulting “ software ”, but if NPCs share the workplace, should they be protected? Will we soon see a movement in favour of their rights?

In this regard, we understand that the employer should be able to take disciplinary action against a worker who insults an NPC for having adopted inappropriate behaviour in the workplace, also keeping in mind the general duty of civility and probity, even when the respective behaviours may have a negative impact on the employer's image. As we are not dealing with actions in the workplace, we refer to the reasoning and study

already extensively developed regarding the relevance or irrelevance of the worker's behaviour outside the work place and time. However, an NPC is still mere software, so the application of this precept may be debatable.

The issues become even more complex if we consider the possible difficulty in assessing both the applicable law and the jurisdictional competence to resolve them.

If the metaverse is a virtual world, how to define the geographic framework for the activity developed there? And who will be responsible for settling emerging disputes? When a worker has the metaverse as their place of work, will the jurisdiction be that of the physical space where the worker is located, where the worker uses the computer tools that allow them to operate in the metaverse or the place of the employer's registered office?

Whether it's work for the sake of the metaverse (technological jobs in the real world), work for the metaverse (real-world employment contract developed in the virtual world) or work exclusively in the metaverse (“meta-work”), these and a whole set of new questions arise that the Labour Law will have to prepare to answer.



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ESG and metaverse

- > ESG
- > European Union
- > European Green Deal
- > Sustainability
- > Due Diligence

Author
 João Vacas

Regardless of how big their ambitions for alterity may be, the metaverses and their concrete operation, as well as the defence of the rights of companies or individual users who resort to them, all have a place and growing support in what have been good practices within the ESG universe, itself a reality in the process of expansion and clarification.

What happens when you combine an evolving concept – that of sustainability in its ternary ESG declination – with an idea originating in science fiction that understands materialization as new as it is thriving, paradoxically through the greater dematerialization of practices, procedures and, even, of human life itself that the world has ever known, like the metaverse?

For the time being, political decision makers tend to have doubts when they consider this reality, as can be seen from the cautious response that the European Commission gave

in February this year (2022), through Vice-President Vestager, regarding the possibility of regulating the metaverse(s): first you have to analyze and then, eventually, legislate. We are in this phase of study on a European scale.

However, no matter how clearly alternative the planned universes are, and how diverse and immersive the promised new lives may be, they cannot escape the good practices and norms regarding sustainability that are increasingly demanded of States, companies and citizens. In other words, no matter how



Meta a universe may be, at least in the European Union, it will have to act in order to promote its sustainability and all the actors and stakeholders will not be able to avoid this shared responsibility.

E: Following the order of the acronym, in terms of the environment, it is expected that an exponential increase in human relationships, namely in the provision of services and commercial exchanges in a metaverse environment will result in a very significant increase in the use of energy and the use of harmful materials for the elaboration and maintenance of the - increasingly sophisticated - technological means involved in the respective structures, with the dematerialization of procedures and the reduction of physical movement being pointed out as the most beneficial side of the same coin.

The European decarbonization objectives, stemming from the European Green Deal (European Green Deal) and enshrined in the European Climate Law and in the broad Objective 55 Package (Fit for 55), still under debate by European co-legislators, to which the REpowerEU Plan was recently added - which aims to accelerate and deepen these objectives in relation to European autonomy from Russian fossil fuels - will not fail to affect the companies that own and operate the metaverses. These will have to foresee and demonstrate how their investments, their existence and their activity influence the environment, whether that influence is real or potential.

S: These same companies will have to take into account the social impact of their activity, both in terms of their workers and the users / participants / "inhabitants" of the respective

metaverses. Among those aspects, both the imperative of respect for human rights and the privacy of personal data stand out, as well as the reliability and security of the products and services offered. The fact that they are dematerialized relationships does not inhibit their legal nature or the need to take them into account.

Issues such as the attention due to the mental health of company employees and consumers in the context of the metaverse will also have to be considered, as well as the transparency of the value chains within them and the dignified treatment due to each of their actors. In other words, also with regard to social aspects, dematerialization does not mean a tabula rasa or no man's land, but, rather, special care and attention to the daily lives of all those involved and the concrete consequences of these involvements. No company should be able to argue in its defence mere immateriality as a factor of preliminary exclusion of its responsibility.

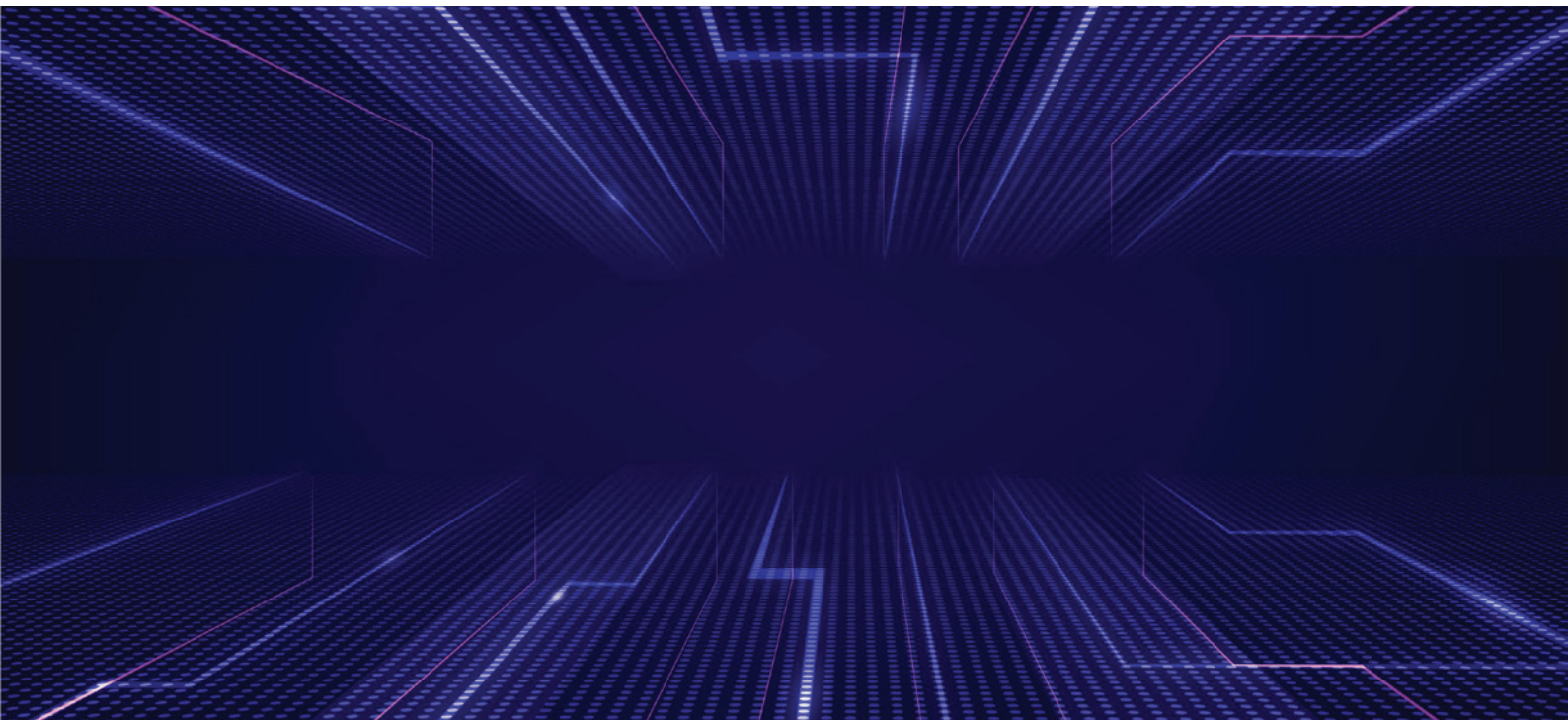
G: On 23 February, the European Commission presented a proposal for a Directive on the duty of due diligence of companies in matters of sustainability, which amends Directive (EU) 2019/1937 on the protection of persons who report violations of EU law (whistleblower directive), which expressly provides for the need to "apply comprehensive processes for mitigating negative human rights and environmental effects in their value chains, integrate sustainability into corporate governance and management systems and frame business decisions in terms of human rights, climate and environmental impact, as well as in terms of the company's long-term resilience."



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Although aimed at larger companies (more than 500 employees, on average, and a net turnover of more than EUR 150 million worldwide), this proposal, the final content of which will be negotiated by the European Parliament and the Council under the ordinary legislative procedure (co-decision), underlines the need for everyone to be involved in all economic sectors, considering that their behaviour "is fundamental to the success of the Union's sustainability objectives", and a "cascade" requirement for the fulfilment of similar objectives by larger companies with the smaller ones with whom they interact is foreseeable.

In short, the European Commission aims to "ensure that companies active in the internal market contribute to sustainable development and the transition of economies and societies to sustainability through the identification, prevention and mitigation, cessation and minimization of potential or actual negative effects, on human rights and the environment associated with the companies' own

operations, subsidiaries and value chains." To this end, it lists six steps defined by the OECD Guide to Due Diligence for Responsible Business Conduct: "1) integrating due diligence into management policies and systems, 2) identifying and analysing negative effects on human rights and the environment, 3) preventing, stopping and minimizing potential or actual negative effects on human rights and the environment, 4) assessing the effectiveness of measures, 5) communicating and 6) providing remediation."

Regardless of how big its ambition for otherness may be, the metaverses and their concrete operation, as well as the defence of the rights of companies or individual users who resort to them, all have a place and growing support in what have been good practices within the ESG universe, itself a reality in the process of expansion and clarification.



Applications of Real Estate Law in the metaverse

Authors

 **Maria Santa Martha**

 **João Diogo Barbosa**

- > NFT
- > Real estate
- > Crypto assets
- > Tokens

As intermediaries, developers and real estate investment funds enter the space of the metaverse, the acceptance of norms and principles of real estate law become increasingly necessary to guarantee the predictability and legal certainty of investments.

1. The Metaverse and Real Estate Property

For the metaverse to function as an extension of human life - and a sustainable business model - the idea of ownership is indispensable. According to the most recent data, sales of real estate properties in the metaverse exceeded 500 million dollars in 2021, driven by the strategic reconversion of Facebook, now Meta, betting on augmented reality and the metaverse.

In addition to Meta, in the last year several multinationals have discovered opportunities in the metaverse to make their businesses

prosper. Gucci, for example, now offers stores and experiences in the virtual world and has acquired a property on the Sandbox platform, where it has installed a virtual space that offers products that cannot be purchased physically. Sotheby's has developed a virtual business area, focused on NFT, ranging from art to real estate. And in Portugal, the token business is no longer reserved for startups and fintechs, with the entry of institutions such as Santa Casa da Misericórdia into the market.

In the real estate sector, the deals found were surprising due to their size and eccentricity. In addition to more exceptional purchases of



mansions or private islands by more extravagant users, in recent months several real estate developers have specialized in the metaverse, allocating considerable funds to the creation of subsidiaries with long-term investment plans that involve accumulating vast areas of land and digital buildings, in transactions that already move several million dollars at a time, with a view to benefiting from the recovery potential if the metaverse technology convinces a greater number of users.

2. The transfer of non-physical real estate

As there is no tangible asset that can be transferred, acquiring a property in the metaverse is substantially different from doing so in the analogue reality. In the virtual world, one might wish to purchase land, a mansion or even an island, but, in fact, the object of purchase and sale is never a land, a mansion or an island. That which a platform or a property-owning user can transmit is simply an NFT, a token to which is associated a code that allows access to goods in the metaverse under the terms in which one can benefit from a right of ownership in the physical world³.

In this way, there is no legal difference between acquiring an island or a piece of clothing, only a subtle distinction between the content of the associated tokens. These tokens operate in a decentralized manner and rely on blockchain technology to effect and record each chain of transactions, which makes it possible to establish and eventually clarify the ownership of the acquired goods.

To regulate the acquisition of digital property, it is common for platforms to encourage the use of smart contracts, which allow you to automate and speed up the purchase, sale and eventual lease of properties. In this respect, even if users are entering into business related to a token and not exactly real estate, expert legal advice can make the difference between a profitable business and a painful litigation process.

3. Real Estate Law in the Metaverse

As intermediaries, developers and real estate investment funds enter the metaverse space, the acceptance of norms and principles of real estate law becomes increasingly necessary to guarantee the predictability and legal certainty of investments.

Currently, even in a less optimistic context than in 2021, many investors in the metaverse still resist seeking proper legal advice before getting involved in digital businesses. As mentioned before, from the contractual negotiation to the review of the terms and services of each platform, there is a legal dimension that will have to be considered alongside the technology and economic rationality of the business.

In Portugal, there has been a reformulation of business models in terms of real estate development, with the so-called “online sale” of real estate assets, through which those interested in a specific immovable property (in this case, with a physical existence), select the

³With one essential difference: adherence to a metaverse platform depends on adherence to its terms of service, which may create unexpected limitations or at least different limitations from those that apply to properties with material existence.



properties through a virtual visit, book and enter into promissory contracts for the purchase and sale at a distance (joining smart contracts), with the definitive contract - for the time being, and until legislative change to the contrary - formalized by public deed or authenticated private document. It should be noted that since April 2022 (with the entry into force of Decree-Law no. 126/2021 of 30th December) the door opened for these acts to be carried out remotely via videoconferencing. There is also an appetite for the online "purchase" of real estate assets using crypto-assets. This business model implies specificities that are already developed by legal practice, but not necessarily evident to users. The review of smart contracts in terms more suited to a specific buyer or seller may be especially important, allowing additional guarantees and limitations to their automated effects. Real estate law can intervene today to adjudicate disputes of a contractual nature, but it could also be useful to improve the quality of contracts concluded, establish registration mechanisms complementary to the blockchain and to develop more complex operations, which involve not only the purchase and sale, but also the development of projects, leasing or real estate development intended for resale.

At the same time, from a financial perspective, the availability of means to support investments has been an increasingly present topic in the strategic discussions of financial institutions. To carry out a more substantial business plan in the metaverse, it is necessary to consider funding and the various alternatives available, as is the case with physical projects.

In general, with the passage of time and assuming that the technology will have the expected trajectory of adoption, it is also expected that the transactions carried out in the metaverse will become increasingly complex, including new projects (not only luxury brand stores, but also offices, condominiums, cultural and leisure spaces, for example) and benefiting from the interoperability of tokens between different platforms to create unpredictable combinations. In this more advanced phase, in which the metaverse truly becomes a parallel world, the contributions of the different areas of law, from real estate to finance, including labour or intellectual property, are crucial for the security of transactions.

For now, while platforms and the virtual world are under construction, the principles of real estate law are naturally necessary to transform the potential of technology into a desirable product for potential users.





Abreu Advogados Knowledge Institute

Our contribution towards innovation and excellence

The Knowledge Institute has a historical path at Abreu Advogados. Since 2012 we have been one of the first knowledge centres incubated in a law firm fostering legal knowledge and promoting internal and external initiatives for the development and the practice of law. The Institute is able to provide certified training to all lawyers, in-house lawyers and other professionals seeking to deepen their knowledge and strengthen skills in different areas, from law to technology, from business sciences to soft-skills.

Abreu Advogados

Abreu Advogados is the law firm set to provide legal advice in this changing society and for over 25 years has been working daily to ensure that new solutions are created for every industry. As a full-service law firm with offices in Lisbon, Porto and Funchal, Abreu Advogados is amongst the largest firms in Portugal. With more than 200 lawyers and over 300 professionals, Abreu Advogados continuously attracts strategic opportunities for its clients' in key areas such as Corporate/M&A, Tax, Litigation and Competition. Considered a leading Tech firm in the Finance, Fintech and TMT areas, its teams have analyzed the consequences not yet addressed of different corporate models related to cryptocurrency and blockchain. Whilst working for clients that develop cryptocurrency activities, the firm has assisted companies that want to launch ICOs, set mining activities in Portugal or that want to deal with NFTs.

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