
The metaverse matrix of labour law.

Magdalena Nogueira Guastavino* - David Mangan**

1. Introduction. 2. What is the metaverse? 3. The impact of metaverse on labour law. 3.1. The problem of governance and its impact on employment. 3.2. Data protection. 3.3. Digital Identity. 3.4. Other issues. 4. Conclusion.

Abstract

The rise of the idea of a metaverse in which the real world is replicated has implications for industrial relations. Some of the most important cross-cutting issues are raised in this study in order to situate the particular challenges posed to worker data. There is a pronounced need to address specific multidisciplinary studies that contribute to the development of theoretical foundations that provide legal certainty to this new reality.

Keywords: Metaverse; Data Protection; Digital Identity; Power of Control and Surveillance.

1. Introduction.

There is a lot of talk about the metaverse.¹ What is the metaverse? When will it fully exist? Will it belong to Meta (the corporation), or will there be several converging metaverses to create an interconnected multiverse? What relevance does the metaverse have in the world of work? These are some of the questions we will address here in order to contextualise the particular challenges posed by the metaverse to workers' data protection.

We argue that the metaverse continues a trajectory that has been set for labour law by a globalised and highly digitalised world where control seems to be vested in an increasingly smaller cohort. Within this trajectory, though, it must also be recognised that the metaverse's impact is one of degree. We have seen that one effect of information technologies on work is the blurring of boundaries (such as with the topic of privacy and work). The immersive

* Full Professor of Labour and Social Security Law. Autonomous University of Madrid. Ex Attorney at the Spanish Constitutional Court. President of the Research Center for Organizational Effectiveness. UAM Talent. Visiting Professor at Sapienza University of Rome (Faculty of Economics). This essay has been submitted to a double-blind peer review.

** Maynooth University, School of Law & Criminology; Global Professor, KU Leuven; Visiting Professor, University of Pescara-Chieti. This essay has been submitted to a double-blind peer review.

¹ This article draws from Nogueira Guastavino M., *Metaverso: algunas cuestiones laborales*, in Barcelón Cobedo S., Carrero Domínguez C., de Soto Rioja S. (coord), *Estudio de Derecho del Trabajo y de la Seguridad Social*, Monografías de Temas Laborales, Junta de Andalucía, 64, 2022, 163-172.

nature of the metaverse exceeds this blurring, with implicit questions such as the extent to which the metaverse and the 'real' world may be separated or interconnected in the work context.

2. What is the metaverse?

The first thing to define is the very concept of the metaverse. The metaverse's aim is to offer a parallel digital world that replicates real life. It is about creating a "new world within the world":² a three-dimensional world generated from real life; a computer-generated three-dimensional world that is a digital twin of reality in which all the social dynamics of real life can be reproduced. Thus, it will be possible to study, work, have leisure, play sports, buy all kinds of goods, including real estate, travel, access culture, etc. It will also be conceivable to commit offences and crimes, as real life will be reproduced. Physical and virtual reality will be interconnected. This will be achievable with the further advancement of current technologies such as virtual reality, augmented reality, the internet of things, or even the incorporation of neuroscience into the three-dimensional world. A key feature of the metaverse is its immersive nature: a total immersion in a digital world that isolates the individual from the real world. At present, the parallel digital world exists in embryonic stages of great success, but far from being considered as a twin world. There are games like *Second Life* or the *Sims*. E-sports stand out as an area of great success.³ In addition to competing in these games, you can buy countless virtual goods, including original and unique goods, such as Non-Fungible Tokens (NFTs)⁴ guaranteed by blockchain, as well as make bets with virtual money (bitcoin or the specific currency used by each game) that has actual monetary value.

The metaverse suggests an intriguing situation. The subject matter of the metaverse is not new. Instead, its novelty arises in the level of immersion that it offers. At present, the immersive effect is achieved through virtual reality glasses (oculus type, already owned by the company Meta, with Apple announcing its own version in 2023).⁵ With them you are visually immersed in another programmed and three-dimensional reality in which you project yourself personally through an avatar. This can be a characterization that tends to imitate the real user or, on the contrary, that reflects what the user wants to be and project in that virtual world, allowing a change of gender, orientation, race, and even human form to become transhuman, robotic or even an avatar that is presented as a simple good or thing, real or invented. Immersion is realized, in its most advanced phase, through the internet of things. These glasses seem to place an individual in a world that has elements of virtual reality and augmented reality. The haptic technique allows the sense of touch to be projected into the

² Nisa Avila J.A., *El Metaverso: conceptualización jurídica, retos legales y deficiencias normativas*, in *Lefebvre - El Derecho.com*, 30 November 2021, <https://elderecho.com/metaverso-conceptualizacion-juridica>.

³ Strictly speaking, these are games and not necessarily sports, in which several players compete in skills and times against each other and whose graphics and appearance are especially realistic.

⁴ For more information, <https://www.bbva.com/es/innovacion/que-son-los-ntfs-los-tokens-para-el-coleccionismo-de-bienes-digitales/>.

⁵ Duffy C., *The rivalry between Meta and Apple is moving to a new playing field: virtual reality*, in *CNN Business*, 7 June 2021, available at <https://edition.cnn.com/2023/06/07/tech/apple-meta-rivalry-vr-headsets/index.html>.

virtual world. By means of controls or, in the future, by means of simple gloves, the user feels what is happening in the virtual world. The tendency is to completely "feel" this parallel world: pleasure, pain, cold, heat or any other physical sensation. The more the senses are isolated from the real world, the easier it is to project into the virtual world. The more senses that are projected, logically, the higher the level of immersion.

3. The impact of the metaverse on labour law.

3.1 The problem of governance and its impact on employment.

The metaverse raises enormous legal questions. Many of them are transversal in nature and are key to understanding their own legal functioning. Among them, a technically and legally very relevant aspect is that of the "ownership" of them because this constitutes the axis of governance. At present, existing metaverses can be private closed or centralized (as claimed by Facebook, now Meta, Microsoft, or Fortnite, in games, for example), or private equally, but decentralized open, in which ownership is not vested in a corporation, but with a collective property based on decentralized autonomous organizations (DAOs).⁶ These are organizations in which the holders or shareholders are those who participate with virtual money through the possession of some non-fungible good or token (NFTs) that gives them voting capacity. Put another way, they are decentralized metaverses (typically in the e-sport world you can find some of them such as Decentraland, Sandbox, Axie Infinity or Webaverse). The question of governance and the centralised or decentralised nature of the metaverse has enormous consequences for labour.

A centralized private metaverse, which is entered after consenting to a series of clauses that are barely read but fully accepted, is not the same as a decentralized metaverse in which, supposedly, a certain statutory democracy and group behaviour governs, where the statutes can incorporate ethical and legal aspects as a condition for membership. In addition, the issues of digital identity or the right to data protection are basilar. These three elements - general and transversal to all areas of the legal system - also have clear specific projections in the field of labour relations.

Governance will determine the multiplication of cases to be resolved in labour relations. Relationships in centralized private metaverses introduce an intermediary into the work performed. If my real company hires me to work in-person from the workplace, but for the work to be performed within the metaverse representing the company in its virtual branch (for which my company pays the company that owns the metaverse), the bilateral nature of the employment relationship is certainly not lost. But the performance of the work in a space that is possibly mediated by a third party governed by its own private rules can generate undesirable or complicating overlaps that make the relationship less fluid. The strong intervention of an outside third party that exercises control and surveillance, that can monitor and keep track of absolutely everything that happens within its metaverse, is added to the

⁶ For a legal overview, see *Ercilla García J., Aproximación jurídica a las organizaciones autónomas descentralizadas*, in *Revista Aranzadi de Derecho y Nuevas Tecnologías*, 52, 2020.

usual interference that normal technologies are already bringing to light in the framework of labour relations. The standard of behaviour, the play and scope of fundamental rights move within a double contractual framework. The control of working time, the possibility of registration being managed by the metaverse platform, the problems of harassment of the employee by third party virtual users who are impossible for the employer to locate, time registration, non-compliance or punishable behaviour of the employee with respect to other users, etc: these are issues in which contractual and non-contractual liability are intertwined. Problems arise not only for the worker, who is doubly observed and controlled, but also for the employer, who in many cases does not know how to act in compliance with his general duty of prevention and diligent action.

On the other hand, doubts also arise as to whether the work is developed for a virtual company by a worker and the meeting of supply and demand has taken place in the metaverse itself. Resolution of this point is not always possible within the limited national parameters that extrapolate concepts, regulations, and realities to foreign contexts. Moreover, by imposing the national onto foreign situations, we undermine the borders derived from private international law that will go to determine jurisdiction and applicable law when the parties to the employment contract do not coincide in their nationality or in the jurisdiction in which they operate.⁷

The matter of governance is one familiar to labour law as the digitalisation of work continues. Online labour platforms have thrust employment status to the forefront. And yet, there is more to the intersection of digitalisation and work than the issue of classification.⁸ The larger issue is what law applies. To lawyers, this is the jurisdiction question, the first issue to determine. The metaverse, like online labour platforms, may be accessed from any country. Article 8(1) of the Rome I Regulation allows parties to choose the applicable law (subject to the limitations of the country in or from which the work is habitually performed). Work in the metaverse may be executed broadly in two different manners: exclusively within the metaverse, and in a hybrid manner. If the latter situation arises, then the applicable law may be more easily discernible as there may be a physical location for the work being carried out (an office for example). The situation is more challenging if the work is carried out from a home (for example), and it would not necessarily be a pivotal distinction if this work were carried out exclusively in the metaverse or in a hybrid manner. Work in the metaverse may be distinguished from the law of posted workers.⁹ Employees who work from home,

⁷ Extensively on the law applicable to the employment contract in the different cases in which the metaverse may be involved. See Nogueira Guastavino M., *Metaverso y legislación aplicable al contrato de trabajo*, in *Revista de Trabajo y Seguridad Social*, 471, 2022; its Italian version in *Argomenti di Diritto del Lavoro* 2023 in press.

⁸ To give one example that platform work is not the extent of the intersection between labour and information technologies, “Labour law beyond platform work” was the subject matter of the fifth Roger Blanpain Lecture at KU Leuven’s Institute for Labour Law in 2023:

<https://www.law.kuleuven.be/arbeidsrecht/studiedagen/roger-blanpain-lecture-2023>. See further Mangan D., Muszyński K., Pulignano V., *The platform discount: addressing unpaid work as a structural feature of labour platforms*, in *European Labour Law Journal*, (forthcoming) 2023, in which the authors argue for a movement towards regulation of working conditions and not an exclusive focus on classification.

⁹ Biasi M., Murgo M., *The virtual space of the Metaverse and the idly identification of the applicable labor law*, in *Italian Labour Law e-Journal*, 16, 1, 2023. See also, Biasi M., *Il decent work e la dimensione virtuale: spunti di riflessione sulla regolazione del lavoro nel Metaverso*, in *Lavoro Diritti Europa*, 3, 2023.

perform their work in their country of residence and those laws should be applicable.¹⁰ It remains to be seen what form work in the metaverse will take. We contend that lessons should be drawn from the challenges faced with online labour platforms, and that an openness to new approaches be undertaken.

Finally, while there are many matters to raise in regards to work and the metaverse, we identify one issue which has not been addressed to this point with the digitalisation of work: the intensity of labour precipitated by hybrid working environments; a matter beyond the Working Time Regulations.¹¹ We are not referring here specifically to remote working (where a hybrid of in office and at home working has been used). Instead, hybrid work involves obligations performed both in the physical and online settings. Often these can be simultaneous. The example of social media influencers provides a useful example.¹² A developing trend for companies pertaining to social media influencers has been a movement away from hiring individuals to using existing workers for a similar reason.¹³ The situation presents some profound difficulties such as the blurring of public and private life.

The way existing employees may be used as influencers ranges from the subtle to the more overt. Any employee may be an influencer within their own online or social network. Corporations that have a public product (merchandise or image) have not overlooked the possibilities of their own employees promoting these goods or working at these businesses within employees' own social networks. The potential for employees as social media influencers is an emblem of the changes we are witnessing. When employers engage their employees not only for their work, but also as social media influencers, a significant challenge to the orthodox division of work and private life has been waged. A line is crossed because steps have been taken to deploy the workforce into the online world that has demonstrably greater risks for activity. Protection has been provided by the treatment of the workplace and society as distinct separate entities where the notion of interconnectivity is narrowly defined.¹⁴ The metaverse poses a similar challenge as that presented by employees as social media influencers: a convergence of at work and off-duty lives within the online setting without due regard for its effects on individuals performing this work. Without proper attention, the metaverse can be a fraught platform for work-related legal issues.

3.2. Data protection.

With data protection, we also see centralised governance increasing legal doubts about proportionality; that is, the limitation of data's use in the work context to that which is strictly

¹⁰ *Ibidem*.

¹¹ Directive no. 2003/88/EC of the European Parliament and of the Council of 4 November 2003 concerning certain aspects of the organisation of working time. See CJEU, C-14/04, *Dellas and Others*, 1 December 2005, (43); CJEU, C-518/15, *Matzak*, 21 February 2018, (65).

¹² This discussion draws from Mangan D., *Influencer Marketing as Labour: Between the Public and Private Divide*, in Goanta C., Ranchordás S. (eds), *The Regulation of Social Media Influencers*, Edward Elgar, Cheltenham, 2020.

¹³ See for example, Merrick A., *Employers Are Looking for "Influencers" Within Their Own Ranks*, in *The Atlantic*, 27 September 2018, <https://www.theatlantic.com/business/archive/2018/09/brand-ambassadors/568627/>.

¹⁴ ECHR, application n. 74734/14, *Saumier v France*, 12 January 2017, (60).

necessary based on a legal rule or a clear legitimate interest of the employer (not of a third party within whose framework the work is carried out or executed). We already see challenges with the current system for regulating data in the work environment. The collection and processing of data in the metaverse would challenge legal concepts such as proportionality because collection and processing would seem to be constant and more extensive. Consider that in the metaverse, every movement, reaction, and expression would be captured within a system capable of processing this volume of data. In the metaverse, minute detail may be captured, unlike in the physical world. As we often see with technological developments, there are pros and cons.

An example of the metaverse's positive potential arises in its contrast with current labour platforms which require work to be mediated through them in order for it to be recognised. The metaverse could be better able to recognise the different ways in which work is carried out. To illustrate we use the example of the freelance work platform Upwork and its Time Tracker system.¹⁵ It measures activity in 10-minute segments. Time Tracker takes screenshots of freelancers' work and counts keystrokes as well as mouse clicks. It excludes time when it detects inactivity. The result is that taking a call from a client on another matter interrupts the segment. Detection of inactivity restarts the segment clock, but it does not reset the 'real' clock. With its immersive technology, the metaverse should be capable of recognising that an individual is working on one project while she has been interrupted by a client regarding another project. It should be clear, though, that we do not see the metaverse being a necessary step in redressing the limitations of labour platforms.¹⁶

The negative side of the metaverse regarding the work data implications is its immersiveness. The metaverse can capture keystrokes and mouse clicks (as labour platforms currently do). But, it can also collect and process much more data. If we accept that the metaverse replicates the physical world, then a worker's avatar will mirror everything the individual does. This means reactions, for example, can be captured instantaneously; whereas in the real world a reaction may be suppressed, overlooked, or even discarded. In the metaverse, every detail of action, reaction, and inaction can be stored and processed.

With this potential, the metaverse requires much greater clarity regarding consent in the platform context. Does the act of entering the metaverse constitute consent? There has been a view that simply logging into social media and posting a comment constitutes consent to its public dissemination. While we would debate that perspective, it does prompt us to consider it in the metaverse context. There may be an important distinction that assists in adjudicating these data issues. If work is to be carried out simultaneously in the physical and online world, there is a question about consent (perhaps) needing to be more clearly provided. If workers may select jobs based upon the setting (metaverse or physical world),¹⁷ could it be said that part of this selection is to consent to the more extensive data collection and processing framework? Currently, the GDPR offers a wider spectrum for lawful

¹⁵ This platform is discussed in Mangan D., Muszyński K., Pulignano V., nt. (8).

¹⁶ We suggest that there are alternatives such as enabling freelancers to 'stop' a clock, and then continue from the moment at which the work was left at a later time. Legal practice is one area which allows this.

¹⁷ Discussions around remote work come to mind here. For discussion of remote work and regulatory frameworks see further.

processing which does not necessarily require explicit consent. In the work context, Article 6(1)(b) GDPR permits the collection and processing of personal data where it is necessary for the performance of a contract.

This situation additionally points to the issues created by the regulatory framework for collection and processing of personal data. We raise this point for two reasons. First, we do so with the hope that an enhanced framework may be set out. Second, we anticipate that greater attention may be put on the work implications of the digitalisation movement currently underway.

One of the consequences of the rapid onset of information technology is that there is a mystification of knowledge regarding data collection/processing, and algorithmic management. The European Union, to its credit, has taken steps to address the knowledge gap.¹⁸ While there are laudable examples of actions taken by the EU to regulate in this area, there is a continuation of a neoliberal approach in the intersection of IT and work. The General Data Protection Regulation (GDPR)¹⁹ is one example, and the draft AI Act offers another. The neoliberal character therein stems from how these laws emphasise commercial activity: facilitating commercial activity; offering individualised rights set within a consumer context. There is a presumption that rights, such as an explanation, bridge the knowledge gap; an assumption that questionably achieves this end. Even the entities regulated by these laws must dig deep to discern their obligations. And so, the amalgam currently faced consists of a neoliberal focus on facilitating commercial activity, in an area where there is a vast knowledge gap. Unfortunately, the work applications of these laws seem tangential or lacking in clarity.

The GDPR is of questionable utility when it comes to its application to labour. Much has been left to the individual Member States, pursuant to Article 88 GDPR.²⁰ There may be a concern about trenching upon matters left to Member States – though legislative activity under EU Commission President Ursula von der Leyen suggest this concern may have been reassessed.²¹ Still, the GDPR is disappointing as it has made the determination of employer obligations rather opaque, at best.

To illustrate the challenges posed by the GDPR to labour, consider its consent provisions. As noted above, Article 6(1)(b) GDPR defines lawful data processing as including that “necessary for the performance of a contract to which the data subject is part”. This means that consent is not required of data subjects who are parties to the contract, but that a legal basis for processing of personal data remains. Arguably, this situation includes employment contracts where collection of data is undertaken to assess performance of contractual

¹⁸ With their impact on third countries, EU information technology measures have been dubbed the ‘Brussels effect’. See Bradford A., *The Brussels Effect. How the European Union rules the world*, Oxford University Press, Oxford, 2020.

¹⁹ Regulation (EU) n. 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation - GDPR).

²⁰ This point may be seen in the discussions from different Member States in Hendrickx F., Mangan D., Gramano E. (eds), *Privacy @ Work*, Kluwer Law International, Alphen aan den Rijn, 2023.

²¹ See the discussion surrounding, for example, the EU Adequate Minimum Wage Directive: <https://www.consilium.europa.eu/en/policies/adequate-minimum-wages/>.

obligations by employers (data controllers). Similar wording is used regarding consent to algorithmic processing of personal data collected. Article 22 GDPR²² does not apply where the decision arrived at by automated processing “is necessary for entering into, or performance of, a contract between the data subject and a data controller”. The Article 29 Working Party in its *Opinion 2/2017 on data processing at work*²³ legitimised the phrase in writing “performance of a contract and legitimate interests can sometimes be invoked, provided the processing is strictly necessary for a legitimate purpose and complies with the principles of proportionality and subsidiarity”. An employer may argue it must have the capacity to determine whether workers are adhering to contractual obligations. If (e.g.,) monitoring of employees is viewed as a means in policing performance of an employment contract, some of the rights in the GDPR would seem to be contingent upon employment status.

Article 22 GDPR is also the source of a further complication: the data subject’s right to avoid a decision based solely on automated processing that carries a legal effect.²⁴ Is the right preserved when a human manager relies upon the data produced by an automated source to decide? If so, the conclusion would seem to be largely arrived at through automated means with only a facsimile of human decision-making.

Pursuant to Article 40 of the GDPR, there is a clear and immediate need for a code of conduct around digitalisation of work. While a supervisory body (such as the Data Protection Commission in Ireland or the Agencia Española de Protección de Datos in Spain) may be positioned to carry this out,²⁵ there should be a discussion regarding the involvement of employment bodies at national (such as the Workplace Relations Commission in Ireland or in Spain within the framework of the bipartite social dialogue) and EU levels (the European Labour Authority), as well as representative groups from employee and employer federations, in drafting such a code. This dialogue should also engage with the potential for these bodies to contribute to a monitoring function of such a code of conduct.²⁶ This area may also be a good place to further develop social dialogue.²⁷

We have elaborated upon the issues relating to data issues pertaining to the intersection of the metaverse and work. We have space here only to note the problems of data transfer beyond the European scope are evident in the metaverse. Their solutions should be in line with the General Data Protection Regulation,²⁸ which itself has extraterritorial reach in certain cases, enforcing compliance from entities that, regardless of their location or nationality, carry out business activities in the EU with access to and processing of personal

²² Article 22 GDPR is also the source of a further complication: the data subject’s right to avoid a decision based solely on automated processing that carries a legal effect. Article 21 GDPR, the right to object, also raises difficult questions within a work context.

²³ Article 29 Data Protection Working Party, *Opinion 2/2017 on data processing at work*, WP 249, Brussels, 8 June 2017.

²⁴ Article 21 GDPR, the right to object, also raises difficult questions within a work context.

²⁵ German authorities have questioned the Irish Data Protection Commission in CJEU, C-319/20, *Meta Platforms Ireland*, 29 April 2022.

²⁶ As set out in Article 41 GDPR.

²⁷ About a fit for the proposal for strengthening social dialogue, see European Commission, *Commission sets out concrete actions for greater involvement of social partners at national and EU level*, Press Release, 25 January 2023, available at https://ec.europa.eu/commission/presscorner/detail/en/ip_23_290.

²⁸ Regulation (EU) n. 2016/679, nt. (19).

data of EU citizens (art. 3).²⁹ The corporate duty to avoid invasive surveillance runs head-on into multiverse spaces. The use of the metaverse offers the disclosure of biometric data of the worker beyond the general ones for the reasonable and proportionate control of his activity. The exercise of the power of direction and control of the employer, subject to European and national conditions when it comes to the processing of data specially protected as biometric data (which must be used exceptionally and only with consent, minimization and strictly respecting informed consent and the proportionality test) goes beyond the scope of the employment relationship when entering an immersive virtual world with a panoptic third eye. The labour entrepreneur, until now considered the great panoptic company as a big brother, becomes "panopted" by the new "metaverse eye". Within the framework of a centralized governance system, the power of the metaverse increases fed by data that constantly allows it to. On the other hand, in decentralized systems, although the power is diluted, if the data is not sufficiently protected, it is distributed in multiple computers and blocks, allowing in case of cyber leakage a greater diffusion. Although the application of the general rules of the GDPR in the EU framework can be envisaged when problems arise with respect to European users, the challenge will be to develop a new regulatory development on individual consent and on the use and processing of data obtained in the metaverse by a third party by facilitating the use of the platform to an employer. The multinational nature of the metaverse will, however, make it difficult to apply the GDPR, in which the data collected may be from workers located in other latitudes and who carry out their activity outside its indirect territorial and extraterritorial scope. Hence, companies using the metaverse will have to comply with regulations from multiple jurisdictions.

To the problems of data is added that of the obligation to provide them with secure systems and avoid leaks. Cybersecurity, which forces the company to implement all possible mechanisms to avoid attacks by third parties that could jeopardize the data it is responsible for, finds new flanks to take into account with respect to the voluntary third party invited to the data feast represented by the metaverse. The implicit transfer of data will have to be addressed in order to examine whether it is a consented transfer or a transfer of data in the strict sense.

3.3. Digital identity.

Finally, the metaverse poses a crucial problem, which is that of digital identity. This has direct and complex implications in the workplace, as the employment relationship constitutes an *intuitu personae* benefit³⁰ in which the qualifications, competences and personal and professional aptitudes of the person determine their professional framework and their

²⁹ A study on extraterritoriality in Ripol Carulla S., *Aplicación territorial del Reglamento*, in Piñar Mañas J.L., Álvarez Caro M., Recio Gayo M. (eds), *Reglamento General de Protección de Datos: hacia un nuevo modelo europeo de privacidad*, Reus, Madrid, 2016, 77-186. For coordination with the rules of international law laid down in the Brussels IA Regulation, see De Miguel Asensio P.A., *Competencia y derecho aplicable en el Reglamento general sobre protección de datos de la Unión Europea*, in *Revista Española de Derecho Internacional*, 69, 1, 2017, 75-108.

³⁰ This subject is discussed in-depth in Llana González P., *Identidad Digital*, Bosch-Wolters Kluwer, Las Rozas de Madrid, 2021.

consequent remuneration. The potentiality of the metaverse consists, among other things, in the infinite possibility of being who and how you want to be (animal, thing, sex, orientation, etc.). This, in principle, can eliminate many of the problems derived from discrimination in all areas and be more egalitarian than the real world. Still, even the ductility offered by the metaverse to project as an avatar automatically generates labour questions. To date, a user of one of these virtual spaces only needs an email account. At most, it requires a mobile phone to compare a moderately real existence. Minor issues, but no less important, arise when an individual has been hired by a real company to conduct work on the metaverse, and the hiring company dictates how the avatar is to be used (physical and external appearance) in virtual space. The game and limit that the right to one's own image imposes on business powers, the nuances of proportionality posed by these rights in the framework of contractual labour relations, or the interferences that the tendencies of the person and their freedom of expression or vindication may have in the projection of the image are old problems in the framework of new spaces. The ductility of manifestation of the personality and identity in the metaverse raises numerous questions. In the contracting made in the metaverse between a virtual company (which can have a real twin - a real company with registered office outside the metaverse - or be a simple creation of artificial intelligence) and an avatar projection of a natural person in real life, the characterization by which the user chooses can be decisive.

Problems arise when it comes to knowing if the company can benefit from aid for hiring vulnerable groups or if, on the contrary, its obligations in terms of equality or diversity are not in non-compliance. The fulfilment of the duties and obligations of both parties, as well as related third parties, such as co-workers, sometimes requires knowing physical and real data, such as race, sex, pregnancy, etc., in order to infer that there has been a conduct, where appropriate, discriminatory or to activate policies aimed at positive action. Although the neutral "blind" to which the ductility of the avatar leads can be an advantage from the perspective of the objective selection of personnel for their merit and ability and not for other issues outside the objective data, the truth is that in many other aspects the fictitious identity caused by the form and characterization of the avatar hinders the normal functioning of the employment relationship. In the metaverse (where the contracting parties may never physically meet) the construction of a "persistent digital identity" will be of "special relevance".³¹ This identity would be used to certify the avatar that has unique and personalized assets (vehicles, cars, houses, clothes, art) but, above all, that to allows users to operate on any platform (*Self Sovereign Identity* SSI), regardless of the use of multiple avatars and meeting the requirements for the performance of certain qualified professions. At European level there are already regulatory proposals for the establishment of a framework for European digital identity³² that allows the identity of the parties and that the linking with them of specific attributes through verifiable credentials in the case of metaverses. In this way, "our avatar in the metaverse could be identified through an identity *wallet* and allow its

³¹ Newzoo, *Intro to the Metaverse*, Trend Report, 29 July 2021, 15-17.

³² European Commission, *Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) no. 910/2014 as regards establishing a framework for a European Digital Identity*, 3 June 2021. Finally, it promotes and gives full legal validity to self-sovereign digital identity (SSI) and electronic ledgers, including those based on Blockchain (eIDAS29).

counterpart to verify, for example, that he is of legal age or that he has a driving license" allowing, at the same time, the individual a "better control of their personal data and the use of them (even anonymously)", facilitating the development of the data economy but allowing, at the same time, individual freedom and, above all, enabling the possibility of linking our activity in the metaverse with the traditional structures of administration of justice in case of conflict.³³ But, even with all the securities, such as those of the real world (ID, for example), decentralized metaverses based on the blockchain will not prevent the legal consequences between parties for acts derived from the impersonation within the metaverse if someone other than the holder manages to use his account and his credentials. Thus, a worker could leave his avatar to another person to perform the functions entrusted (as a subcontractor, or by bonds of friendship, doing a favour to the owner of the avatar, for example). The same would happen in real life when the work is done remotely, unless it was controlled by a biometric data that is not reproducible or, at least, of less fungible possibility. In both cases, real world and virtual world, the question will be to prove impersonation in order to determine possible responsibilities towards the employee, and it should be possible to activate mechanisms similar to those of the real world (denunciation, annulment, renewal).

3.4. Other issues.

Without being able to enter into the many other specific labour issues,³⁴ we will highlight some in a referential way. Of course, from the perspective of employment, the metaverse offers a multitude of new opportunities, not only because of the enormous creation of jobs linked exogenously and directly to the creation and maintenance of the metaverse (creators, graphic designers, architects, marketing, graphics, creatives, cybersecurity personnel, programmers, software engineers, etc.).³⁵ Likewise, indirect jobs linked to the training of professionals will be created to act in this new space dedicated to training and retraining courses for those who are already workers. And exogenously, equally, it is expected that the need for traditional workers in the strictly real world will increase as a result of the virtual success of the company while many companies will not only act in the virtual market, but will project the needs and purchases in real life, so that if you buy a bag in the metaverse you can also have it in a few minutes in your 'real' closet.

There is also a question of the type of work created as a result of the metaverse. New jobs may arise in relation to virtual needs of the metaverse.³⁶ The metaverse may also reproduce the professions and jobs of the real world in their virtual version such as lawyers, doctors, artists, representatives, managers. But it is in the endogenous sphere where the greatest risks of precariousness and social dumping are detected. Employment within the virtual world

³³ Mata Muñoz A., *Metaversos: blockchain y seguridad jurídica*, in *Diario La Ley - Sección Ciberderecho*, 60, April 2022.

³⁴ Some of them can be seen in López Cumbre L., *Relaciones laborales "por", "para" y "en" el Metaverso*, in *Diario La Ley*, 100033, March 2022.

³⁵ Meneses N., *El metaverso: nuevas oportunidades laborales y retos en el futuro de las redes sociales*, in *El País*, Madrid, 25 November 2021.

³⁶ We see the creation of new jobs with social media as an indication of the potential for new work created by information technologies. See Mangan D., nt. (12).

connects with the thorny question of work "for" platforms, but also in the question of work "on" platforms. This involves determining a series of variables to qualify the exact nature of the work provided and its applicable regulations. And once their labour nature has been determined, proceed to the projection of general labour standards, whether they are minimum interprofessional wages or, in the future at EU level, an adequate minimum wage.

Likewise, the metaverse presents an enormous potential in relation to training and prevention of occupational risks. In terms of training, reference has been made to the "magic of digital twins" that allows through training in the metaverse to recreate real situations 100% safe and absent from the risks inherent in the real world. With the metaverse, training is offered in all types of subjects and, in terms of occupational risks, preventive and progressive training is allowed with an evaluation and control of the worker by his supervisors with cost savings and, above all, risks of damage to the worker, with the consequent reduction of accidents and travel costs and organization of agendas for training courses, because a single course valid for all workers subjected to the environment in question can be designed. Consider whether the suspension of the employment contract due to force majeure is possible (due to a cyberattack on the corporate *Land* located in the metaverse or suffered by the professional avatar), or if it is possible to terminate the contract for these same reasons (elimination of the metaverse itself), are issues that should also be addressed, having already occurred in the real twin world.³⁷ Or, for example, if it is possible to sanction and fire an avatar, as there are also real projections of dismissals for non-compliance with business orders for the use of virtual reality.³⁸ Add the many problems involved in the metaverse of control and surveillance, respect for fundamental rights by the employer, the duty to prevent moral damage and so many other aspects of the employment relationship that can be reproduced in this area.³⁹

Along with this, the application of the rest of individual working conditions, but also collective, especially the promotion of exogenous collective bargaining - incorporating real workers who carry out their work within the metaverse to general conventions and agreements, contemplating, where appropriate, specialties (especially in terms of working time given the jet lag that characterizes the global world it tries to represent). But also looking for points and ways of meeting that allow the representation and defence of workers properly linked to *crowdworking* and that could rather be described as "distributed work" in which computers divide the great tasks into simpler and more basic ones so that armies of workers (*clickworkers*) from all over the world can get a few dollars to survive or, for an initial time, "believe they play" without profit.⁴⁰ Remuneration linked to the corresponding obligation to

³⁷ Beltran Heredia I., *ERTE por fuerza mayor derivado de un ciberataque mediante virus ransomware*, in *Una mirada crítica a las relaciones laborales – Blog de Derecho del Trabajo y de la Seguridad Social*, 22 March 2022.

³⁸ Tribunal Superior de Justicia de Asturias, Sala Social de Oviedo, rec. 1249/2021, 29 June 2021.

³⁹ For a deeper analysis of the metaverse on these issues in Italian literature: Martone M., *Prime riflessioni su lavoro e metaverso*, in *Argomenti di Diritto del Lavoro*, 6, 2022, 1131 ff.; Donini A., Novella M., *Il metaverso come luogo di lavoro*, in *Labour&Law Issues*, 8, 2, 2022; Lombardi M., *Il lavoro nel metaverso uno spazio indefinito del possibile*, in *Labour&Law Issues*, 8, 2, 2022; Maio V., *Diritto del lavoro e metaverso. Se il lavoro non è un video gioco*, in *Labour&Law Issues*, 8, 2, 2022; Peruzzi M., *Almeno tu nel metaverso. Il diritto del lavoro e la sfida dei nuovi spazi digitali*, in *Labour&Law Issues*, 8, 2, 2022; Biasi M., nt. (9).

⁴⁰ On these topics see Cherry M.A., *Working for (virtually) minimum wage: applying the fair labor standards Act in cyberspace*, in *Alabama Law Review*, 60, 5, 2009, 1077 ff.

pay contributions or labour taxes if the relationship is classified as employment. And whose conflicts must be resolved by judicial or extra-judicial means, either within the metaverse or outside it, considering in the centralized metaverses the repercussion, if any, of the possible submission clauses assumed.

Finally, individual rights such as freedom of expression and a right to privacy are evident legal issues with the metaverse. If we again draw from social media platforms, the metaverse could be regulated by a private third party, but still have very significant workplace implications, such as termination for comments made within the metaverse. It may additionally be asked what rights to privacy do workers have in the metaverse (a point implicit in the above discussion of personal data protection in the metaverse)? These rights are of particular importance within democracies. Whether it is the private third party operating the metaverse or employers, these individual rights are mediated by parties who act as gatekeepers for the individuals using the metaverse.⁴¹ These two rights may offer the most potent means of engaging worker rights within the metaverse.

4. Conclusion.

In short, the metaverse is an interesting topic that opens to the current questions about working in and for platforms, other challenges that, without being new, escape us from national regulations and require minimum supranational standards, especially regional for which the EU is concerned, that establish concrete guidelines to be developed. Facing a present reality but of total projection still distant, constitutes, in any case, a challenge that will have to be addressed in future works.

Bibliography

- Article 29 Data Protection Working Party, *Opinion 2/2017 on data processing at work*, WP 249, Brussels, 8 June 2017;
- Beltran Heredia I., *ERTE por fuerza mayor derivado de un ciberataque mediante virus ransomware*, in *Una mirada crítica a las relaciones laborales – Blog de Derecho del Trabajo y de la Seguridad Social*, 22 March 2022;
- Biasi M., *Il decent work e la dimensione virtuale: spunti di riflessione sulla regolazione del lavoro nel Metaverso*, in *Lavoro Diritti Europa*, 3, 2023;
- Biasi M., Murgio M., *The virtual space of the Metaverse and the idly identification of the applicable labor law*, in *Italian Labour Law e-Journal*, 16, 1, 2023;
- Bradford A., *The Brussels Effect. How the European Union rules the world*, Oxford University Press, Oxford, 2020;

⁴¹ For discussion on employers as gatekeepers of online expression see Mangan D., *Online Speech and the Workplace: Public Right, Private Regulation*, in *Comparative Labor Law & Policy Journal*, 39, 2, 2018, 357-388.

-
- Cherry M.A., *Working for (virtually) minimum wage: applying the fair labor standards Act in cyberspace*, in *Alabama Law Review*, 60, 5, 2009;
- De Miguel Asensio P.A., *Competencia y derecho aplicable en el Reglamento general sobre protección de datos de la Unión Europea*, in *Revista Española de Derecho Internacional*, 69, 1, 2017;
- Donini A., Novella M., *Il metaverso come luogo di lavoro*, in *Labour&Law Issues*, 8, 2, 2022;
- Duffy C., *The rivalry between Meta and Apple is moving to a new playing field: virtual reality*, in *CNN Business*, 7 June 2021;
- Ercilla García J., *Aproximación jurídica a las organizaciones autónomas descentralizadas*, in *Revista Aranzadi de Derecho y Nuevas Tecnologías*, 52, 2020;
- Hendrickx F., Mangan D., Gramano E. (eds), *Privacy @ Work*, Kluwer Law International, Alphen aan den Rijn, 2023;
- Llaneza González P., *Identidad Digital*, Bosch-Wolters Kluwer, Las Rozas de Madrid, 2021;
- Lombardi M., *Il lavoro nel metaverso uno spazio indefinito del possibile*, in *Labour&Law Issues*, 8, 2, 2022;
- López Cumbre L., *Relaciones laborales “por”, “para” y “en” el Metaverso*, in *Diario La Ley*, 100033, March 2022;
- Maio V., *Diritto del lavoro e metaverso. Se il lavoro non è un video gioco*, in *Labour&Law Issues*, 8, 2, 2022;
- Mangan D., *Influencer Marketing as Labour: Between the Public and Private Divide*, in Goanta C., Ranchordás S. (eds), *The Regulation of Social Media Influencers*, Edward Elgar, Cheltenham, 2020;
- Mangan D., Muszyński K., Pulignano V., *The platform discount: addressing unpaid work as a structural feature of labour platforms*, in *European Labour Law Journal*, (forthcoming) 2023;
- Mangan D., *Online Speech and the Workplace: Public Right, Private Regulation*, in *Comparative Labor Law & Policy Journal*, 39, 2, 2018;
- Martone M., *Prime riflessioni su lavoro e metaverso*, in *Argomenti di Diritto del Lavoro*, 6, 2022;
- Mata Muñoz A., *Metaversos: blockchain y seguridad jurídica*, in *Diario La Ley - Sección Ciberderecho*, 60, April 2022;
- Meneses N., *El metaverso: nuevas oportunidades laborales y retos en el futuro de las redes sociales*, in *El País*, Madrid, 25 November 2021;
- Merrick A., *Employers Are Looking for “Influencers” Within Their Own Ranks*, in *The Atlantic*, 27 September 2018;
- Newzoo, *Intro to the Metaverse*, Trend Report, 29 July 2021;
- Nisa Avila J.A., *El Metaverso: conceptualización jurídica, retos legales y deficiencias normativas*, in *Lefebvre - El Derecho.com*, 30 November 2021;
- Nogueira Guastavino M., *Metaverso y legislación aplicable al contrato de trabajo*, in *Revista de Trabajo y Seguridad Social*, 471, 2022;
- Nogueira Guastavino M., *Metaverso: algunas cuestiones laborales*, in Barcelón Cobedo S., Carrero Domínguez C., de Soto Rioja S. (coord), *Estudio de Derecho del Trabajo y de la Seguridad Social*, Monografías de Temas Laborales, Junta de Andalucía, 64, 2022;
- Peruzzi M., *Almeno tu nel metaverso. Il diritto del lavoro e la sfida dei nuovi spazi digitali*, in *Labour&Law Issues*, 8, 2, 2022;

Rípol Carulla S., *Aplicación territorial del Reglamento*, in Piñar Mañas J.L., Álvarez Caro M., Recio Gayo M. (eds), *Reglamento General de Protección de Datos: hacia un nuevo modelo europeo de privacidad*, Reus, Madrid, 2016.

Copyright © 2023 Magdalena Nogueira Guastavino, David Mangan. This article is released under a Creative Commons Attribution 4.0 International License