

Digital industries and sustainability

28.03.2022 3 min read

Authors

Márcio Pereira

Related areas

Environmental, Climate and
Mining

Topics

Environmental, Climate and
Mining Metaverse

Digital transformation has led to the adoption of digital tools, innovative technologies, and cultural changes, including in terms of sustainability actions. As part of the process, the Metaverse promises to offer users an immersive, shared virtual environment constructed by means of various technologies, such as virtual reality, augmented reality, blockchain and cryptocurrencies, which in theory should reduce the detrimental effects that human action has on the environment.

This digital transformation, which can represent dematerialization in the physical world, has been taking place in various economic sectors, such as the retail sector, and has undoubtedly allowed reductions in consumption of raw materials, generation of waste, consumption of water and power, and greenhouse gas emissions, in addition to facilitating the monitoring of pollution, biodiversity, and the climate. Digital transformation thus plays an important role in working toward the Sustainable Development Goals (SDGs), through active digital cooperation and interactions between researchers and policymakers.

The Metaverse seems to have the potential to take the process a step further, by considerably reducing the human need to travel, so there is less traffic and pollution; developing virtual products, which do not require physical inputs for their production; and developing advanced, sustainable technologies, so that fewer physical spaces will be needed for human progress. But although technological progress brings benefits, there is no denying that it is responsible for a portion of the social and environmental footprint.

The technology race will increasingly demand physical infrastructure that features more powerful and sophisticated electronic equipment. As a result, millions of tons of electronic waste have been generated worldwide, at the same time the global demand for energy has increased. To cope with this scenario, new legal mechanisms have been created, and organizations have adopted ethical and environmental responsibility policies. As an example, in Brazil, the Sector Agreement for the implementation of the Reverse Logistics System for Electrical and Electronic Products and their Components (October 31, 2019) was signed by members of the production chain, which have committed to carry out a series of actions to meet the National Solid Waste Policy.

Another fundamental point concerns the processing and storage of the data generated to "furnish" the Metaverse, which requires a huge amount of energy, with a significant increase in carbon emissions. Brazil is still working to establish control of carbon emissions through a cap-and-trade system, which is under discussion in the National Congress (Bill PL 528/2021), but carbon taxation is already a reality in Europe (Carbon Border Adjustment Mechanism), which may also affect the development of the market in the virtual world. In addition, the production of hardware demands large quantities of raw material, which, in the supply chain, can mean impacts on biodiversity and more mining. In the European Community, companies'

liability for importing equipment and raw materials without adequate compliance is also already a reality (e.g. the German legislation on due diligence obligations in supply chains).

In the Metaverse, social and environmental footprints can be determining factors in guaranteeing sustainability in the interaction between the virtual world and reality. Certainly, there is room for regulation of the virtual environment itself, with the aim of ensuring supply of services and products with smaller social and environmental impacts, and the preservation of immaterial values, since legal protection can be given to non-corporeal goods within our culture, such as oral traditions, social practices, know-how and customs. Hopefully, ESG (environmental, social and governance) criteria will also be taken on board by investors and companies operating in the digital transformation industry. Sustainability can and should be one of the criteria used to evaluate the best experience of an immersive, shared virtual environment.

>>> This article is part of the e-book "*Metalaw: Reflections on Law in the Metaverse*".

[Click here to access more articles.](#)

› PROFESSIONALS

Professionals who combine legal insight and market perspective



Márcio Pereira