

EU-METaverse STRATEGY: WEB 4.0 & VIRTUAL WORLDS

Communication COM(2023) 442 of 11 July 2023 for an EU initiative on Web 4.0 and virtual worlds: a head-start in the next technological transition

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SHORT VERSION [\[Go to Long Version\]](#)

Context | Objective | Interested Parties

Context: Virtual worlds – commonly known as the “metaverse” – have now become technically and economically feasible due to advanced technology and connectivity, presenting both opportunities and risks. These digital, immersive environments will significantly influence how individuals and businesses in Europe operate and interact in the next generation of the Internet, known as Web 4.0, therefore necessitating careful political consideration.

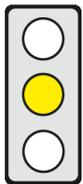
Objective: The Commission wants to maximize the opportunities and minimise the risks that come with the development of Web 4.0 and virtual worlds. The Commission wants to gain a first-mover advantage by formulating a corresponding strategy and proposing actions, especially related to skills, industrial ecosystems, and governance.

Interested Parties: Member States, businesses, employees, EU citizens

Brief Assessment

Pro

- ▶ The Commission recognises that the metaverse offers new economic and societal opportunities for Europe but also poses certain legal, environmental, and economic risks, justifying early strategic engagement with the necessary technological infrastructure and human capital challenges.
- ▶ With the proactive action planning formulated in the Communication, the EU could gain a “first-mover advantage” and establish foundational principles and standards for Web 4.0 and virtual worlds reflecting European values and promoting openness, sustainability, and accessibility.
- ▶ As it is difficult to predict whether novel legal problems will emerge in virtual worlds, the EU should concentrate on enforcing existing rules for the digital economy before introducing new legislation in the form of a “Metaverse Act”, which is in line with the Communication’s strategic approach.



Contra

- ▶ The frequent use of non-standardized and ambiguous terms like “Web 3.0”, “Web 4.0”, and “virtual worlds” could lead to misunderstandings and hinder international cooperation.
- ▶ The Commission initiatives will not be sufficient to attract and develop a talent pool of metaverse specialists or to improve digital literacy among Europeans.
- ▶ The Communication lacks clarity and a comprehensive strategy on how Europe can influence and set standards in the metaverse, especially when non-EU firms predominantly influence this space, raising concerns about Europe’s competitiveness and sovereignty in the digital realm.

Opportunities and risks [Long Version A.1, C.1.4]

Commission proposal: The shift towards the metaverse brings both

- new societal and economic opportunities for Europe, such as efficient interaction between humans and machines in all EU industrial ecosystems through digital twins, [p. 2] but also
- certain legal, environmental, and economic risks, such as novel challenges to fundamental rights, privacy and cybersecurity, as well as legal uncertainty regarding responsibility, liability, and contractual rules [p. 3].



cep-Assessment: For virtual worlds to flourish in the EU, substantial investment is needed in low-latency, high-bandwidth 5G and 6G networks and technologies such as edge computing. Furthermore, skilled workers must be available. The Commission Communication recognises these requirements and proposes actions to address them. At the same time, it is not yet seeking to provide for novel, comprehensive obligations with any kind of EU “metaverse law”, which is prudent as ground-breaking legal issues will arise that cannot yet be foreseen.

Definitions [Long Version A.2, C.1.1]

Commission proposal: “Web 3.0” describes the current status which is a decentralised and Artificial Intelligence (AI)-based web. “Web 4.0” is “the next generation of the internet” where “physical and digital worlds will be seamlessly blending, enabling more intuitive and immersive experiences”. “Virtual worlds” are part of the transition from a static 2D-internet to a “more generalised use of 3D-environments” that are accessed through enhanced user interfaces like VR headsets and require multiple technical building blocks for smooth integration of digital and real objects.



cep-Assessment: The Communication and accompanying Staff Working Document use ambiguous terms such as “Web 3.0”, “Web 4.0”, and “virtual worlds”. The use of ambiguous terminology without a universally agreed definition could lead to misunderstandings and hinder international cooperation. Clear and universally accepted concepts are crucial for fostering international cooperation, which is necessary, as the unilateral imposition of standards via a “Brussels effect” seems unlikely to work in the metaverse field.

First-mover advantage [Long Version A.1, C.1.2]

Commission proposal: The Commission wants to gain a first-mover advantage by formulating a strategy and proposing actions for a Web 4.0 and virtual worlds that

- “reflect EU values and principles and fundamental rights” [p. 4],
- are based on “open and highly distributed technologies and standards” [p. 4], i.e., interoperability, and
- place “sustainability, inclusion and accessibility” [p. 4] at their technological core.

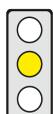


cep-Assessment: While the Communication’s emphasis on shaping metaverse standards is highly laudable, it lacks clarity on how Europe can actually gain influence in this field, given the dominance of non-EU firms. This raises concerns about the EU’s competitiveness and sovereignty. The Commission should therefore pro-actively contribute to international organisations that are developing common standards for the metaverse, and consider public investment in gigabit infrastructure, especially related to the development of edge nodes.

Skills [Long Version A.3, C.1.3]

Commission proposal: To develop a metaverse talent pool and improve digital literacy, the Commission wants inter alia to

- support society-wide skills development via the Digital Europe programme, and for creators of digital content and audio-visual professionals via the Creative Europe programme,
- promote the EU as an attractive destination for highly skilled specialists from non-EU countries, and
- develop resources on Virtual Reality for young people under the Better Internet for Kids strategy.

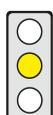


cep-Assessment: While the Commission’s goal to increase digital literacy and skills development is welcome and profoundly important, the chosen approach appears too top-down and may not attract talent organically. The EU should focus on fostering an innovation-friendly environment and cooperate closer with Member States to attract and retain skilled individuals. Moreover, to create a viable and realistic strategy, the EU should present a more comprehensive perspective with specific and actionable recommendations.

Addressing regulatory gaps [Long Version A.1, C.1.5, C.1.6, C.2]

Commission proposal: The EU has developed a legislative framework for the digital economy that already applies to some aspects of these emerging virtual worlds, most importantly [p. 5]

- the Digital Services Act and the Digital Markets Act, which contain obligations for large online platforms,
- the Data Governance Act and the Data Act, which establish rules for data-sharing, and
- the General Data Protection Regulation, which “fully applies to the processing of personal data in virtual worlds”.



cep-Assessment: While the Communication includes a summary of existing regulations, potential regulatory gaps, especially related to competition law and the enforcement of law in the metaverse, are not adequately addressed. Still, due to the current high uncertainty about novel legal problems in the metaverse and its future technological development path, the EU should concentrate on enforcing existing rules, such as the EU Merger Regulation and the Digital Services Act, before introducing new legislation in form of a “Metaverse Act”.