European Commission

Virtual worlds

Virtual worlds, or metaverses, are computer-simulated immersive environments. The EU is making sure they are open, secure, trustworthy and inclusive spaces.

Have you tried interacting with virtual worlds, also referred to as metaverses? Virtual worlds are becoming more and more sophisticated with better and clearer images and more life-like avatars. Virtual worlds provide opportunities as well as challenges. We have consulted citizens like you and want to ensure these reflect EU values and fundamental rights and foster innovation for businesses.

An EU initiative on web 4.0 and virtual worlds

The EU initiative on web 4.0 and virtual worlds gives us a head start in the next technological transition.

The Commission has adopted a strategy on Web 4.0 and virtual worlds to steer the next technological transition and ensure an open, secure, trustworthy, fair and inclusive digital environment for EU citizens and businesses and public administrations.

Virtual worlds:

persistent, immersive environments based on 3D and extended reality (XR) technologies.

Web 4.0:

digital and real objects and environments integrated and communicating between each other, enabling immersive experiences.

4 pillars

Empowering people and reinforcing skills to foster awareness, access to trustworthy information and build a talent pool of virtual world specialists.

Business: supporting a European Web 4.0 industrial ecosystem to scale up excellence and address fragmentation.

Government: supporting societal progress and virtual public services to leverage the opportunities virtual worlds can offer.

Governance: to set up the structures for the EU to steer the openness of virtual worlds.

23 Recommendations

The Commission hosted a European Citizens' Panel on Virtual Worlds. A representative group of citizens made 23 recommendations on citizens' expectations for the future, principles and actions to ensure that virtual worlds in the EU are fair and citizen-friendly.

Virtual worlds: An exponential rise of the market

2022

€27 billion: Global virtual worlds' market size

€1.9 billion: Virtual worlds market in the automotive industry

3700: Firms, research and government bodies in the EU in the virtual worlds subdomain

...to...

2030

€800 billion: Estimated growth of the global virtual worlds' market

€16.5 billion: Estimated rise of the market in the automotive industry

860 000: New jobs for extended reality in Europe by 2025

What virtual worlds will allow

Health

Students and professionals can be trained to deal with emergency situations and surgeries simulations: less risks of surgical complications and better accuracy of diagnosis.

Green transition

3D models can simulate the effects of global warming: better understanding of their causes and mitigation measures.

Faster setup times and less waste in terms of energy, materials and resources: contribution to the green transition for the entire industry.

Industry

According to one European car manufacturer, by 2025, industrial virtual worlds will reduce vehicles delivery time by 60% and the carbon footprint of vehicle manufacturing by 50%.
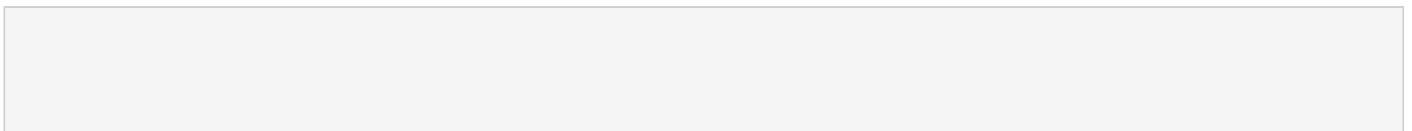
Art and design

From fashion to cultural heritage, music, visual arts or design, virtual worlds will offer new ways to create. It will give users the feeling of being in an actual museum, concerts, plays, and immersive ballets.
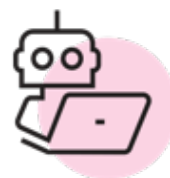
Education

A more experiential learning process can help students accelerate their learning and understanding of the world.

Related Content

[Virtual Worlds fit for people (https://digital-strategy.ec.europa.eu/en/policies/virtual-worlds)](https://digital-strategy.ec.europa.eu/en/policies/virtual-worlds)

Virtual worlds, also referred to as metaverses, will provide opportunities as well as challenges. The Commission will ensure they reflect EU values and fundamental rights and foster innovation for businesses.

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