

Virtual Worlds: the EU funded project views

Metaverse enablers: moving towards virtual worlds

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General Information

- **Title: OPENVERSE - OPEN and co-created metaVERSE for Europe**
- **Call: HORIZON-CL4-2023-HUMAN-01-CNECT (A human-centred and ethical development of digital and industrial technologies)**
- **Type of action: HORIZON Coordination and Support Actions**
- **Project starting date: 1 November 2023**
- **Project end date: 31 October 2026**
- **Project duration: 36 months**
- **number of partners: 11**
- **Grant amount: 2M EUR**
- **Total value of the project: 3M EUR**

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Consortium

- THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (coordinator)
- IDC ITALIA
- TRUST-IT SRL
- COMMPLA SRL
- POLITECNICO DI MILANO
- NATIONAL UNIVERSITY OF IRELAND GALWAY
- VRIJE UNIVERSITEIT BRUSSEL
- XR4EUROPE
- IDSA INTERNATIONAL DATA SPACES EV
- DATA AI AND ROBOTICS DAIRO
- MARTEL GMBH
- Inspiring Futures Sàrl

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Vision

Europe calls for the emergence of a Metaverse that characterises itself for being open, transparent, inclusive, ethically and environmentally responsible, but also capable of restoring the technological sovereignty of EU industry.

Such a European Metaverse would foster the following benefits:

- a) Higher accessibility, greater freedom and control, lower barriers to entry and more equitable distribution of resources;
- b) Interoperability, privacy and security as well as data ownership: an open human-centric Metaverse would allow different virtual worlds to interoperate with each other;
- c) More innovation, creativity, and social benefits: an open human-centric Metaverse would foster a collaborative environment where developers and users could work together to create new experiences and features.

In that regards, the overarching aim of OPENVERSE is to establish a knowledge base on it, setting up and animating a community of stakeholders, testing a methodology that combines user co-creation and XR in real world cases of industrial and societal relevance, exploring relevant ethical, legal, IPR and governance challenges, and producing industry standards as well as a technology and policy roadmap and recommendations

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Key Results/1

- 1) Handbook of co-creation methodologies for prototyping metaverse environments with the help of users, complete with the mixed reality repository of use cases
- 2) The OPENVERSE Observatory containing
 - OPENVERSE watch (description and analysis of existing technologies)
 - Taxonomy of metaverse technologies
 - OPENVERSE Marketplace (basically actors and tools/services already available in the market)
 - A repository of metaverse related policies and projects, and co-creation use cases
- 3) The OPENVERSE roadmap consisting in a:
 - Policy roadmap: policy foresight will tell us what future regulation will be needed
 - Research roadmap: technology foresight will tell us what research challenges will have to be solved
- 4) Research on IPR and Governance Models, Ethical and legal requirements elicitation
- 5) Demonstration case on Metaverse-Enabled Robotics
- 6) Exploratory study on existing metaverse environments
- 7) Input to the redefinition of industry standards.

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Key Results/2

- The OPENVERSE roadmap: the overall objective is to envision, explore, evaluate, and better understand 1) how concrete experiments and innovations, of a Metaverse kind, may be built upon the current situation and thereupon help shape possible/desirable/acceptable futures, and 2) how some of these options but also under which conditions, may satisfy a human-centric qualification and as such, become a strong build-up channel for European development.
- Demonstration case on Metaverse-Enabled Robotics: by leveraging extended reality (XR) interfaces, the task intends to set up a demonstrator to improve communication of collaborative robots' current states and activities, making it easier for workers to understand and interact with these robots while also reducing the learning curve for their tasks and teaching them new skills. This innovative approach to robotics can create a future where human-robot interaction is beneficial and essential in addressing the most pressing issues related to welfare and prosperity in Europe.
- Exploratory study on existing metaverse environments: with the available metaverse environments (substantially those of Meta) to identify risk factors in terms of behaviour, perception of privacy and identity with experts and stakeholders will be conducted to this end. Specifically, a smallscale experiment, with max 50 participants, will be conducted with a selection of available metaverse environments to identify potential issues from the users' perspectives.

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Outcomes

- Europe to co-shape and promote an open, decentralised, trustworthy European Metaverse
- Make the European Metaverse in line with an human centric technology set out in the EU Declaration on Digital Principles and Rights
- A competitive ecosystem, with European companies playing a leading role in the adoption and acceptance, and in the development of Metaverse technologies
- Making the Metaverse focused not only on business opportunities, but also on important societal challenges such as education, healthcare and the green transformation

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Impacts

- Increased inclusiveness by supporting a humancentred approach to technology that is aligned with EU social and ethical values (as well as sustainability)
- Sustainable, jobs by targeting skills mismatches, including those at risk of exclusion
- Contribute to ethical consideration relating to technological progress
- Increase sustainability through the empowerment of stakeholders

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Thank you!

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