

Comparison of Metaverse Strategies Worldwide

Christoph Paul Runde

Virtual Dimension Center (VDC), Fellbach, Germany

Corresponding author: christoph.runde@vdc-fellbach.de

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SCOPE

The metaverse (or Virtual Worlds) is currently attracting a great deal of attention in business and society (Council of EU, 2022; European Parliament, 2022; Siemens, 2023). At the center of the often-controversial discourse is the next development stage of the internet in three-dimensional space. The metaverse is currently associated with virtual environments with always-on 3D experiences that combine physical and virtual reality using various technologies. This enables social interactions and economic transactions. The impact on the economy and society is considered to be substantial: corporate consultancies forecast metaverse markets with volumes of up to USD 394 billion by 2025 (BCG) (Bobier et al., 2022) and USD 5 trillion by 2030 (McKinsey & Company) (Elmasry et al., 2022). A metaverse study from 2023 by Ernst Young (EY) and NOKIA clearly shows (Douin et al., 2023 p. 28, Figure 5.1) that it will not only be the big tech companies (1st place) and existing metaverse platform (2nd place) that will drive future metaverse developments, but also industrial equipment suppliers (3rd place), manufacturers of enterprise software (4th place) and game developers (5th place). Such huge impact projections and various ways to contribute to and to benefit from the metaverse motivated a number of countries and the European Commission to work out respective metaverse strategies to position themselves (Kshetri, 2023). This paper compares these strategies, giving also an outlook on what to expect in the future.

Active countries and regions

A number of countries want to lead the way with dedicated metaverse strategies. Some of these are coordinated by state actors, while others are industry consortia.

China has published a three-year plan "Three-Year Action Plan for the Innovative Development of the Metaverse Industry (2023-2025) in China". Although China focuses on the industrial metaverse, applications in the entertainment industry are also mentioned. China wants to promote the Yuan metaverse ecosystem, new technologies and also the digital infrastructure. China's strategy aims to create global metaverse champions and metaverse celebrities. A secure and trustworthy industrial governance system shall be established. China has launched its own metaverse standardization

initiatives (MIIT, 2023; Pascual, 2022; Liu and Ryder, 2022; Baptista, 2022; Kshetri, 2022; Hernandez, 2022; Knight, 2022; SCMP, 2022; Terrill, 2005; Kalathil, 2003, Yang, 2001).



FROM POLITICO PRO

Beijing is coming for the metaverse

Proposals reviewed by POLITICO show China wants to assert state control over virtual environments.



Experts that reviewed the proposal at the request of POLITICO said it risks violating principles of privacy and freedom | Jade Gao/AFP via Getty Images

BY GIAN VOLPICELLI

AUGUST 20, 2023 | 4:00 PM CET | 5 MINUTES READ

Figure 1. Politico.eu reports about China's metaverse ambitions in August 2023 (Volpicelli, 2023).

The **Dubai** Metaverse Strategy seeks to foster innovation, enhance the metaverse's economic contributions through R&D collaborations, and promote advanced ecosystems utilising accelerators and incubators. It also aims to foster talent and invest in future capabilities by providing the necessary support in metaverse education aimed at developers, content creators and users of digital platforms in the metaverse community. The Dubai Metaverse Strategy aims to turn Dubai into one of the world's top 10 metaverse economies as well as a global hub for the metaverse community. The strategy aims to build on Dubai's achievement of attracting more than 1,000 companies in the fields of blockchain and metaverse. It also promotes Dubai's ambitions to support more than 40,000 virtual jobs by 2030. This would further boost Dubai's economy and support the UAE government's vision of increasing the number of blockchain companies by five times the present number. (Dubai's Higher Committee, 2023;

Cabral, 2022; UAE Moments, 2022; Abdulmalak, 2022; Handagama, 2022; O'Malley, 2022; Al-Monitor, 2022; Hanafi et al., 2021)

The **European Union (EU)** published *"An EU initiative on Web 4.0 and virtual worlds: a head start in the next technological transition"*. Core elements of Europe's strategy are to foster a supportive business environment and to support SMEs and start-ups; a talent pool of virtual world specialists is to be built; children are to be empowered and protected in virtual worlds. The EU further mentions to build its metaverse solutions based on interoperability, standardization, open standards and open interfaces. There shall be support for the open-source community. European solutions shall profit from the EU's robust legislative framework and European measures for IP protection. The goals of Europe's strategy are to boost the EU's technological capabilities and to accelerate the uptake of new business models. Europe seeks to support access to finance to support creators and to scale up innovative business models. Furthermore, societal progress shall be supported, and public services be improved (EC, 2023).

The *"Metaverse Initiative by the Finnish Ecosystem. Virtual Potential into Real-World Impact"* aims to establish **Finland** as a leading architect and enabler for the Metaverse. In addition, the Finland society shall be considered as a benchmark metaverse society. The Finish strategy shall attract major foreign direct investments in all parts of the Metaverse value chain. Finland's metaverse ecosystem expresses its will to avoid domination by a single company or country. The Finish metaverse strategy is based on a Finish vision, Finish values and strengths. Core elements of the Finish metaverse strategy are to boost economic growth, to foster cross-boundary collaboration, to support education for the Metaverse, to advance metaverse research, and to market Finish solutions on a global scale (DigitalFinland, 2023).

The **Japan** metaverse strategy is twofold. On the one hand side, many Japanese tech and finance giants, including Mizuho Financial Group, Sumitomo Mitsui Financial Group, and Mitsubishi UFJ Financial Group, have signed an agreement to form the Japan Metaverse Economic Zone. This metaverse, called Ryugukoku, will be operated by JP Games and will serve as a digital asset platform for member companies to share their technology with users. The platform will allow for the transfer of items and personal data between metaverses using unique identities and wallet services. On the other hand, the Japanese government considered what risks are expected from the metaverse, and how governments and private businesses should respond to these risks. In particular, the *"Study Group on Utilization of Metaverse, etc. for the Web3 Era"* established by the Ministry of Internal Affairs and Communications, and the *"Public-Private Partnership Conference on Dealing with New Legal Issues Concerning Content on Metaverse, etc."* established by the Cabinet Office, examined a number of legal risks. Issues, among others, were: the relationship between the real world and users, the state of avatars (actions, identity in the virtual space), and the relationship between users and operators (JCB et al., 2023; Japan Ministry of Internal Affairs, 2023).

In **Saudi Arabia**, the metaverse is key part of nation's *"Vision 2030"*. The metaverse also plays a valid role in the national *"Gaming and e-Sports Strategy"*. The goal of Saudi Arabia is to grow the gaming and e-sports market to US\$ 13.3 billion of gross domestic product (GDP) and to 39.000 jobs by 2030. Saudi Arabia is investing into these businesses. One element of Saudi Arabia's metaverse strategy is to create a metaverse twin of the futuristic megacity NEOM (Ellyatt, 2022; Uddin, 2022; Al-Monitor, 2022; Middle East Eye, 2022; BeyondGamez, 2022; Robertson, 2022; Gideon, 2022; Nureldine, 2022; Panhans et al., 2021; Geschwindt, 2022; Fitch, 2020).

South Korea's ambitious plans included to take the upper hand in the global metaverse market (5th largest market share by 2026), to train metaverse experts (total of 40,000 people by 2026), to nurture metaverse service providers (220 companies by 2026), and to discover metaverse best practices (total of 50 cases by 2026). Key elements of the South Korean strategy to reach these goals are to nurture

specialized corporations that could lead the metaverse industry, train key players in the metaverse era, and to create and support a metaverse ecosystem. Finally, Korea aims to build a world-class metaverse platform; as lighthouse showcase, South Korea has chosen to create virtual Seoul as an exemplary metaverse world. Further showcases, marketing campaigns and diverse types of funds underline South Korea's ambitions. (MSIT, 2022; Davies and Jung, 2022, Cureton, 2022; Park, 2022a; Park 2022b).

MAGAZINE BY COINTELEGRAPH

QFEATURES JOURNEYS CRYPTO CITY GUIDES 6 QUESTIONS HODLER'S

Inside South Korea's wild plan to dominate the metaverse

by Andrew Fenton | 11 min | December 8, 2022



South Koreans are obsessed with technology. More than half the population plays video games, and crypto adoption is high — both of which are very promising signs that its plan to dominate the Metaverse will succeed.

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"Many years ago, it was AI. Now, it's metaverse," he says. "From the government's perspective, [...] as long as you don't have a coin itself, they're willing to support a lot of these new technologies" — Doo Wan Nam from StableNode

South Korea: The land of the metaverse

If you had to pick the one country that's most primed to take advantage of the opportunities offered by the metaverse, South Korea would be high on the list.

It's a technology-obsessed country that eagerly adopts new products, where 98% of

Figure 2. Magazine by Cointelegraph reports about South Korea's metaverse ambitions in December 2022 (Fenton, 2022)

Global Metaverse Strategies Comparison

	strategy goals	target groups	strategy key elements	discrete measures
 China	- world-leading industrial mature metaverse ecosystem - Metaverse as an important growth pole of the digital economy - establish three to five companies with global influence - establish a number of specialised SMEs - establish three to five industrial development clusters - establish yuan / renminbi universe - secure and efficient governance system for the metaverse	- industry - public administration - society	- upgrade key technologies - Promote an industrial ecosystem - enable the industrial metaverse - strengthen the industrial base (incl. standardization)	- metaverse business parks - MV infrastructure - MV standardization agencies - create MV best practices - create MV applications for digital life
 Dubai	- turn Dubai into one of the world's top 10 metaverse economies - turn Dubai into a global hub for the metaverse community - attract more than 1,000 companies - support more than 40,000 virtual jobs by 2030 - foster innovation; promote advanced ecosystems - foster talent - invest in future capabilities - create new governmental work models	- tourism - education - government services - retail and real estate [health care]	- XR and MV technologies - foster MV innovation and economic contribution - cultivate MV talent through education and training - develop MV use cases and applications in Dubai government - Adopting and scale globally - Dubai as the "crypto-capital" of the world - UAE as a "test bed" for new technologies	- over fifteen initiatives and strategies were announced in the 2022 assembly - MV virtual embassy - Emirates Airlines training in the MV
 European Union	- boost the EU's technological capabilities - accelerate the uptake of new business models and solutions - support access to finance to support creators and to scale up innovative business models - support societal progress and improve public services	- industry - creative industry - society / consumers	- foster a supportive business environment; support SMEs, start-ups - interoperability, standardisation, open standards and interfaces - support open-source community - build a talent pool of virtual world specialists - empower and protect children in virtual worlds - EU's robust legislative framework - IP protection	- skills development for MV technologies (Digital Europe programme) - guiding principles for virtual worlds through citizens' panel - research on impact of MV on people's health through Horizon Europe - develop a MV toolbox for the general public - create European initiative on Virtual Worlds - create EU partnership on virtual worlds - analysis of XR & MV standards landscape
 Finland	- establish Finland as a leading architect and enabler for the Metaverse - Finland to be considered as a benchmark society - attract major foreign direct investments in all parts of the Metaverse value chain - avoid domination by a single company or country	- society - healthcare - industry	- Finish vision, values and strengths - boost economic growth - cross-boundary collaboration - education for the Metaverse - marketing and sales on a global scale - advance metaverse research	- Metaverse in Action Program (however just recommendations!): - support technology enablers - create / support business Networks - showcase Industrial Metaverse - showcase Metaverse society - showcase Metaverse healthcare - create Metaverse economic zone „Ruugukoku“ - media conference
 Japan	- respond to rapidly growing demand for digital transformation (DX) for enterprises and government agencies - enable interoperability and collaboration between Metaverse platforms - serve as new social infrastructure for enterprise DX and employee experience (EX) transformation - promote metaverse business - expand the "Japan Metaverse Economic Zone" globally - respond to MV risks	- society / consumers - government services - enterprises	- agreement of numerous companies using their respective mature technologies to create an open Metaverse infrastructure supporting authentication, digital twins, NFTs, etc. - analysis by the "Study Group on Utilization of Metaverse, etc. for the Web3 Era" established by the Ministry of Internal Affairs and Communications	- the US\$ 500 billion futuristic megacity NEOM shall have its own metaverse - investment in metaverse gaming
 Saudi Arabia	- gaming and e-sports market: US\$ 13.3 billion to gross domestic product (GDP) and 39,000 jobs by 2030 - create digital MV twin of futuristic megacity NEOM	- e-games, e-sports - real estate - society / consumers	- MV is key part of Vision 2030 - launch of national „Gaming and e-Sports Strategy“	
 South Korea	- take the upper hand in the global metaverse market (5th largest market share by 2026) - train metaverse experts (total of 40,000 people by 2026) - nurture metaverse service providers (220 companies by 2026) - discover metaverse best practices (total of 50 cases by 2026)	- society / consumers - government services - enterprises	- create world-class metaverse platform - create and support MV ecosystem - train key players in the metaverse era - nurture specialized corporations that could lead the metaverse industry - build an exemplary metaverse world	- metaverse platform of the city of Seoul - diverse types of funds to be provided "Expanded Virtual World" marketing campaign - K-Metaverse pavilion: further showcases

Figure 3. global metaverse / virtual worlds strategies comparison

The United States of America did not develop a metaverse strategy until now. The reason can presumably be seen in the fact that the US government sees this as a task for the economy.

Comparison

The analyzed metaverse strategies differ greatly in terms of many criteria.

The topic of **skilled people and talents** is mentioned by China, Dubai, the EU, Finland and Korea, but not by Japan and Saudi Arabia.

Only in Japan and Finland was it a **consortium of companies** that formulated the strategy. In all other countries, it was state actors that drew up the strategy.

It is therefore to be expected that the **financing** of the implementation of the strategies will also be handled very differently. Although the Finnish metaverse ecosystem is planning the "Metaverse in Action Programme", it will not be able to raise any significant funds itself. In Japan, it is estimated that the large corporations involved will be able to do so. All other countries (China, Dubai, Saudi Arabia, Korea) are launching funding programs.

The structure of the funding programs depends directly on the **specific nature of the planned projects**. Japan is planning the Japan Metaverse Economic Zone "Ryugukoku", Korea with the Seoul Metaverse and Saudi Arabia with the NEOM Metaverse. Japan is still in the process of realizing a platform, while Korea and Saudi Arabia are already working on concrete applications in the contexts of urban planning, citizen participation, public services and tourism.

This also makes it clear that the **target groups** of the various metaverse strategies differ. All countries address the digital society, the consumers. All countries except Dubai and Saudi Arabia address industry. China, Dubai, Japan and Korea see public services in the metaverse. Dubai, Saudi Arabia and Korea are planning tourism applications in the metaverse. Dubai and Saudi Arabia see real estate applications in the metaverse. Dubai explicitly mentions retail applications, Saudi Arabia explicitly mentions e-sports and gaming applications.

China, Dubai and Japan address **payment systems** for the metaverse. China wants to promote the Yuan metaverse ecosystem. Dubai explicitly emphasizes its role as a global crypto stronghold. Japan envisions a digital asset platform that enables member companies to share their technology with users. For example, Mizuho Financial Group will provide its expertise on payments and metaverse tokens, and Mitsubishi UFJ Financial Group, which has its own digital asset platform, will support Web3 functions and global expansion plans.

Only the European and Chinese strategies explicitly mention **metaverse standardization**. Europe and China have already taken initial steps in this area. Europe is planning an analysis of the status of metaverse standardization and the relevant standardization system. After the topic of eXtended Reality was explicitly mentioned in the Chinese standardization strategy "China Standards 2035", the Chinese Ministry of Industry and Information Technology (MIIT) has announced the establishment of a "Metaverse Standardization Working Group".

Only the European Commission Metaverse / Virtual Worlds strategy provides for a later **review and adaptation of the strategy**.

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Electra Tsaknaki (ed.)

Independent Researcher, Greece

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