Appendix #10239

Table A. Overview of Metaverse-Related Policy Documents (2021-2024)

Number	Date	Name of Strategy	Policy Actor	Issue by
1	2022/7	Shanghai's Action Plan for Cultivating the Metaverse New Track (2022-2025)	China	Shanghai Municipal People's Government
2	2022/8	Action Plan for the Innovative Development of the Metaverse of the Beijing Municipal Administrative Center (2022-2024)	China	People's Government of Tongzhou District of Beijing, the Beijing Municipal Science and Technology Commission, the Zhongguancun Science Park Management Committee, and the Beijing Municipal Bureau of Economy and Information Technology
3	2022/10	The Action Plan for the Fusion Development of Virtual Reality and Industry Applications (2022-2026)	China	The Ministry of Industry and Information Technology, the Ministry of Education, the Ministry of Culture and Tourism, the National Radio and Television Administration, and the General Administration of Sport
4	2023/8	The Three-Year Action Plan for the Innovative Development of the Metaverse Industry (2023-2025)	China	the Ministry of Industry and Information Technology, the Ministry of Education, the Ministry of Culture and Tourism, the State-owned Assets Supervision and Administration Commission of the State Council, and the National Radio and Television Administration
5	2022/8	The Metaverse: Concepts and Issues for Congress	US	Congressional Research Service
6	2023/10	Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence	US	The White House
7	2024/10	Memorandum on Advancing the United States' Leadership in Artificial Intelligence; Harnessing Artificial Intelligence to Fulfill National Security Objectives; and Fostering the Safety, Security, and Trustworthiness of Artificial Intelligence	US	The White House
8	2022/7	Web 3.0 Policy Office Established in the Minister's Secretariat as a Cross-Departmental Internal Organization	Japan	Ministry of Economy, Trade and Industry
9	2022/8	Study Group Members and Overall	Japan	Ministry of Economy, Trade and Industry

		Roadmap for the Research Project on Constructing Web-3.0-Era Creator Economies		
10	2023/2	Agreement on the creation of the “Japan Metaverse Economic Zone”	Japan	JCB Co., Ltd., Mizuho Financial Group, Inc., Sumitomo Mitsui Financial Group, Inc., Mitsubishi UFJ Financial Group, Inc., Resona Holdings, Inc., Sompo Japan Insurance, Inc., Toppan Inc., Fujitsu Ltd., TBT Lab Inc.
11	2023/7	Study Group on the Utilization of Metaverse Towards Web3 Era	Japan	Ministry of Internal Affairs and Communications
12	2024/10	Principles of the Metaverse (Version 1.0) with Additional Explanation	Japan	Ministry of Internal Affairs and Communications
13	2021/10	Metaverse Seoul Master Plan (2022-2026)	Sourth Korea	Ministry of Science and ICT
14	2022/1	Korea’s Pan-Governmental Strategy on Metaverse	Sourth Korea	Ministry of Science and ICT
15	2022/11	Ethical Principles for the Metaverse	Sourth Korea	Ministry of Science and ICT
16	2024/8	Metaverse Industry Promotion Act	Sourth Korea	Ministry of Science and ICT
17	2022/7	Dubai Metaverse Strategy	UAE	The Government of the United Arab Emirates
18	2023/9	Responsible Metaverse Self-governance Framework	UAE	Minister of State for Artificial Intelligence, Digital Economy & Remote Work Applications Office
19	2023/9	Vision 2030 Annual Report 2023	Saudi Arabian	Saudi Arabian Government
20	2016/4	General Data Protection Regulation	EU	European Parliament
21	2022/9	The Digital Markets Act	EU	European Parliament
22	2022/10	The Digital Services Act	EU	European Parliament
23	2023/6	Metaverse	EU	European Parliament’s Policy Department for Citizens’ Rights and Constitutional Affairs
24	2023/7	An EU Initiative on Web 4.0 and Virtual Worlds: a Head Start in the Next Technological Transition	EU	European Parliament
25	2024/10	Virtual Worlds – Opportunities, Risks and Policy Implications for the Single Market	EU	European Parliament
26	2022/4	Safeguarding the metaverse	UK	The Institution of Engineering and Technology
27	2022/5	Online Safety Bill	UK	UK Parliament
28	2022/10	Meta Submission to the DCMS Sub-committee on Online Harms and	UK	UK Parliament

29	2024/7	Disinformation's inquiry into Misinformation and trusted voices What is the Metaverse and what Impacts will it have for Society?	UK	UK Parliament
30	2022/10	Exploratory Mission on the Metaverse	France	The Minister of the Economy, Finance and Recovery, the Minister of Culture and the Secretary of State for the Digital Transition and Electronic Communications
31	2023/4	The Metaverse and Human rights	Norway	Norges Institusjon for Menneskerettigheter
32	2023/11	Finnish Metaverse Ecosystem: Virtual Potential into Real-World Impact'	Finnish	Business Finland
33	2024/2	Germany Industrial Competitiveness and the Metaverse	Germany	The European Centre for International Political Economy
34	2024/4	Creating Certainty in the Metaverse	Switzerland	Swiss Metaverse Association

Table B. Dimensions and Codes for Metaverse-Related Policy Analysis

Code	Category	Definition	Example
Policy Scale	Comprehensive	Policies that span multiple domains and levels, emphasizing systemic and integrated governance.	The policy sets a development goal of promoting both large-scale and specialized integrated applications by deepening the organic integration of virtual reality into key industry sectors and encouraging pilot projects in qualified areas. Application domains include Virtual Reality + Industrial Production, Virtual Reality + Cultural Tourism, Virtual Reality + Integrated Media, Virtual Reality + Education and Training, Virtual Reality + Sports and Health, Virtual Reality + Commerce and Creative Industries, Virtual Reality + Performing Arts and Entertainment, Virtual Reality + Emergency Response, Virtual Reality + Accessibility for Persons with Disabilities, and Virtual Reality + Smart Cities. (China, The Action Plan for the Fusion Development of Virtual Reality and Industry Applications (2022-2026))
	Sectoral	Policies focused on specific industries or functional areas such as industry, culture, or technology.	Specifically, the metaverse is driving productivity gains in manufacturing, engineering, financial services and retail – it could add €71 billion to German GDP by 2035. As well as enhancing the productivity of existing operations, immersive technologies and smart factories can enable the reshoring of profitable activities back to the German economy, particularly in technology and engineering. (Germany, Germany Industrial Competitiveness and the Metaverse)
	Vision-centric	Policies primarily driven by long-term national	HH Sheikh Hamdan bin Mohammed said that Dubai is making great strides in enhancing its position as a global testbed for metaverse technology while investing judiciously in building capabilities and talent in

		visions or strategic narratives.	creating the region's most robust and largest ecosystem for the metaverse community. His Highness added that adopting new technologies will be a stepping stone in Dubai's vision to use future technologies to create new work models in vital sectors and increase the metaverse's impact on regional and global economies. (Dubai, Dubai Metaverse Strategy)
Policy Issue	Economic	Focused on digital economy, platform business models, and virtual assets.	The trend toward using tokens such as crypto-assets and non-fungible tokens (NFTs) as the basis for creating new value and using blockchains to manage and use data (Web 3.0) is spreading globally. In addition, as metaverses become new personal interfaces especially among younger generations such as Generation Z, digital spaces and assets could become much more important, and their business value could also increase dramatically. (Japan, Web 3.0 Policy Office Established in the Minister's Secretariat as a Cross-Departmental Internal Organization)
	Politics	Concerned with sovereignty, global influence, and political legitimacy.	The EU's Single Market, The EU's Single Market, rich and diverse culture, creative content, strong industrial base, excellence in research, innovation and education, and robust legislative framework should be drivers to Europe's leadership, competitiveness and technological sovereignty in this field.rich and diverse culture, creative content, strong industrial base, excellence in research, innovation and education, and robust legislative framework should be drivers to Europe's leadership, competitiveness and technological sovereignty in this field. (EU, An EU Initiative on Web 4.0 and Virtual Worlds: a Head Start in the Next Technological Transition)
	Culture	Emphasizes value transmission, virtual identity, and symbolic representation.	The metaverse is part of a broader policy aimed at democratizing access to culture and presents significant economic opportunities for all related sectors. Supporting innovation in this field within France would help promote and export Francophone culture, both within the French-speaking world and beyond. Like the internet, the metaverse is expected to gradually become essential across economic, social, and cultural activities. In addition to supporting companies already engaged in emerging markets such as gaming and social interaction, it is crucial to explore the development of immersive practices. (France, Exploratory Mission on the Metaverse)
	Security	Addresses data sovereignty, cybersecurity, user protection, and systemic risk.	Blockchain-based cryptocurrencies could serve as a payment method in metaverse transactions. Proponents argue that blockchain use in the metaverse could facilitate fast, secure, trusted, and transparent online transactions without a centralized oversight body. Moreover, those who advocate for a decentralized metaverse (i.e., one not owned and controlled by a handful of companies) argue that blockchain could also serve as the technological backbone to build decentralized and distributed applications, services, platforms, and communities in the metaverse. (US, The Metaverse: Concepts and Issues for Congress)
	R&D	Supports research, innovation, infrastructure, and technological	Breakthrough key frontier technologies. Focus on spatial computing, holographic light fields, enhancement of the five senses, and brain-computer interfaces to overcome bottlenecks in human-computer interaction. Accelerate the research, development, and application of new display technologies such as micro organic light-emitting displays (Micro-OLED) and micro light-emitting diode displays (Micro-LED). (China, Shanghai's

		standard-setting.	Action Plan for Cultivating the Metaverse New Track (2022-2025))
	Consolidating	Aims to maintain and reinforce existing advantages in technology or governance.	Coordinate and integrate efforts across various departments, strengthen the synergy of policies related to industry, innovation, finance, fiscal affairs, and regional development, and collaboratively advance key tasks such as metaverse technology breakthroughs, standards formulation, and governance system construction. Deepen cooperation between central and local governments, encourage local authorities to formulate targeted and practical policy measures based on their specific circumstances, optimize industrial layouts, and promote metaverse technology innovation and industry development in accordance with local conditions. (China, The Three-Year Action Plan for the Innovative Development of the Metaverse Industry (2023-2025))
	Enforcing	Strengthens existing leading industries and foundational capabilities through regulation, rules, and institutional control.	The Act and its Enforcement Decree will lay the foundation for the systematic promotion of the metaverse industry by establishing key policies, including: ① developing a basic plan for promoting the industry, ② conducting surveys to assess the industry's status and identify necessary regulatory improvements, ③ fostering specialized personnel, and ④ designating regional metaverse industry support centers. (Sourth Korea, Metaverse Industry Promotion Act)
Strategic Orientation	Transformative	Uses the metaverse as a means to drive strategic national transformation.	Vision 2030 is designed to be delivered in phases. The first phase of Vision 2030 brought sweeping economic and structural reforms, establishing a foundation for national transformation. These reforms have set the stage for a successful shift towards a more diversified and robust economy. This progress has profoundly benefited citizens. It has unleashed a wave of opportunity, allowing them to channel their ambition and skills. Now in its second phase, Vision 2030 focuses on growth and opportunity across key promising sectors. In the third phase, we will double down on initiatives that propel us forward, focusing on expanding the private sector and creating an attractive business environment. (Saudi Arabian, Vision 2030 Annual Report 2023)
	Preventative	Focuses on risk anticipation and early regulation to mitigate potential harms.	We would encourage the Government to provide more clarity on its assertions that the Bill will cover the metaverse. As we have previously written, it seems likely that a user-to-user regime would encompass the metaverse. There are two sets of questions arising: do the lists of measures in the safety duties seem appropriate for the dynamic, real-time environment of the metaverse? If harms that require action are described by reference to current criminal offences, is there a danger that those offences will themselves become outdated (consider a sexual assault on an avatar)? Of course, the Bill provides for updating but, in the case of the need for new criminal offences, how long will this take? This is not a problem with a systems-focussed regime itself but more generally illustrates the difficulties of relying on lists of types of content in terms of keeping the regime relevant. We believe that gaming is included but it would be helpful for the G overnment to confirm this; some online computer games closely resemble a metaverse and rely on user-generated content. (UK, Online Safety Bill)

Platform Dependency	Low	The state maintains autonomous control over core platforms, infrastructure, or has multiple alternative options.	Across many technological domains, the United States has historically led the world not only in advancing capabilities, but also in developing the tests, standards, and norms that underpin reliable and beneficial global adoption. The United States approach to AI should be no different, and proactively constructing testing infrastructure to assess and mitigate AI risks will be essential to realizing AI's positive potential and to preserving United States AI leadership. (US, Memorandum on Advancing the United States' Leadership in Artificial Intelligence; Harnessing Artificial Intelligence to Fulfill National Security Objectives; and Fostering the Safety, Security, and Trustworthiness of Artificial Intelligence)
	Medium	The state partially depends on foreign platforms but retains some domestic technology or alternative options.	Principles for the Further Self-motivated and Autonomous Development: (1) Openness and Innovation: Respecting the metaverse as a free and open place; Promoting innovation and creating diverse use cases through business development; Ensuring interoperability of avatars, contents; Appropriately protecting intellectual property rights and other rights. (2) Diversity and Inclusion: Providing a space for self-realization and self-expression free from the restrictions in physical space; Respecting cultural diversity created by various countries, regions, user attributes; Ensuring diverse opinions (metaverse that is less likely to cause problems, such as filter bubbles and echo chambers); Utilizing the metaverse as an effective means for social participation for persons with disabilities and other handicaps; Ensuring fair participation in the metaverse; Ensuring usability for everyone. (3)Literacy: Helping users improve their understanding of the metaverse; Helping users improve their ICT literacy. (4) Community: Respecting autonomy in community management; Supporting community development.
	High	The state is highly dependent on foreign core platforms, cloud services, or technological infrastructure, lacking domestic alternatives.	Through the "Invest Saudi" platform, over $25.6 billion worth of industrial investment opportunities are showcased, with a focus on critical sectors like machinery and equipment. These opportunities, aligned with the National Industrial Strategy, aim to expand the industrial base, reduce imports by 50%, and boost Saudi exports. (Saudi Arabian, Vision 2030 Annual Report 2023)
Governance Approach	Centralized	State-led governance with top-down decision-making and regulatory design.	Establish dedicated task forces at both the municipal and district levels to strengthen guidance on top-level planning and the implementation of key tasks, and actively work towards incorporating them into the city's metaverse development plan. Utilize the district-level industrial investment promotion mechanism, integrate it into the digital economy investment system, and coordinate efforts to ensure the execution of planned tasks. Collaborate with municipal departments to pool high-quality expert resources from across the city, build an industrial think tank, and carry out theoretical guidance, policy research, and technical consultation. (China, Action Plan for the Innovative Development of the Metaverse of the Beijing Municipal Administrative Center (2022-2024))
	Collaborative	Multi-stakeholder	These ethical principles target individuals and organizations in the private and public sector, such as

	engagement, including government, industry, and academia.	companies, those in academia, research institutes, civil society, and the Government, which create and discover experiential values in the metaverse, or which develop, operate, and use the metaverse platform on which experiential values are discovered, shared, and used. Therefore, the recommended targets include every entity directly participating in the process of developing, operating, and using the metaverse, or those directly or indirectly affected by it. (Sourth Korea, Ethical Principles for the Metaverse)
Innovation -driven	Prioritizes technological development and competitive advantage through innovation.	First, the United States must lead the world's development of safe, secure, and trustworthy AI. To that end, the United States Government must – in partnership with industry, civil society, and academia – promote and secure the foundational capabilities across the United States that power AI development. The United States Government cannot take the unmatched vibrancy and innovativeness of the United States AI ecosystem for granted; it must proactively strengthen it, ensuring that the United States remains the most attractive destination for global talent and home to the world's most sophisticated computational facilities. The United States Government must also provide appropriate safety and security guidance to AI developers and users, and rigorously assess and help mitigate the risks that AI systems could pose. (US, Memorandum on Advancing the United States' Leadership in Artificial Intelligence; Harnessing Artificial Intelligence to Fulfill National Security Objectives; and Fostering the Safety, Security, and Trustworthiness of Artificial Intelligence)
Ethics -based	Grounded in human rights, normative principles, and precautionary ethics.	Whereas virtual worlds pose significant risks in various domains, such as mental health, competition, data protection, and consumer protection, including for vulnerable groups such as minors, the elderly, and people with disabilities; whereas further research in this field is also needed; whereas virtual worlds also present multifaceted challenges that include but are not limited to user-generated content, intellectual property rights, cybersecurity measures and fundamental human rights; whereas the experience of virtual worlds can pose challenges to women (EU, Virtual Worlds – Opportunities, Risks and Policy Implications for the Single Market)