

Globale Strategien zu VR/AR Virtual Worlds / Metaverse

Länder & Regionen

- Baden-Württemberg, China, Dubai, Europäische Union, Finnland, Japan, Saudia Arabia and Südkorea haben Metaverse-Strategien verabschiedet.
- UK und USA: Prozess laufend
- immer genannte Zielgruppen:
 - society
 - governmental services
 - healthcare



Global Metaverse Strategies Comparison

strategy goals	target groups	strategy key elements	discrete measures
 Baden-Württemberg - support decentralized, open Metaverse - promote cross-technology cooperation - position BW as tech leader (XR, AI, digital twins) - embed Metaverse in innovation strategy - enable economic and societal benefits	- companies (all sizes) - start-ups - research institutions - government and administration - general public	- CyberLÄND eco system platform - cross-sector networks - digital competence building - EU alignment and standards - innovation ecosystem support	- further development of CyberLÄND platform - funding: Invest BW, Games BW - ARENA2036 lab (MV regulatory sandbox) - awards with Metaverse focus - XR education and trainings
 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 - 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
 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	- create Metaverse economic zone „Ryugukoku“ - media conference
 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“	- the US\$ 500 billion futuristic megacity NEOM shall have its own metaverse - investment in metaverse gaming
 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



Information concerning the new European Partnership „Virtual Worlds“

- **Proposed starting year:** 2025
- **Goals:**
 - research and innovation in technology building blocks
 - policies, human and ethical aspects
 - applications – ecosystem
 - open standards
- **Format:** Co-programmed European Partnership: to foster a strong engagement from industry, research and technology organisations (RTOs) and SMEs through commitments to common research and innovation agenda.
- **Budget:** build on existing virtual worlds related investments under this MFF [multiannual financial framework: (Horizon Europe, Digital Europe Programme, Creative Europe)] 2.16 Billion €
 - Investments in the period 2021-2024: ~700 million Euros
 - Destination Earth and related Digital Twins: ~300 million Euros
 - The Human Brain Project Flagship and the digital twin of the body: ~ 50 million Euros
 - Extended Reality technologies: 150 million Euros
 - Creative and Content Industries: 60 million Euros (tbc)
 - Future Internet / next generation Internet technologies: ~100 million Euros
 - Additional Investments foreseen in the period 2025-2027: 800 million Euros

Position paper Virtual Worlds



VIRTUAL DIMENSION CENTER
Fellbach

VIRTUAL DIMENSION CENTER
T2 St. Georg

Living Lab
XR-Interakt

ERSTER
DEUTSCHER
FACHVERBAND
FÜR
VIRTUAL
REALITY

XR3
Extended Reality
Berlin-Brandenburg e.V.

XR
NEXTREALITYHAMBURG

EUROXR

XR3
EXTENDED REALITY
BAVARIA E.V.

VAR
Fachgruppe
Virtual & Augmented Reality

game
Verband der deutschen
Games-Branche

INTERACTION
www.interaction-center.de

bitkom

uniVERSEty

GAMES-XR
MITTELDEUTSCHLAND

Gesellschaft für immersive Medien
Schleswig-Holstein e.V.

Interrelations (synergies) with other partnerships/instruments: prospective

new partnerships

- Brain Health
- Forests and Forestry
- Raw Materials
- Resilient Cultural Heritage
- Social Transformations and Resilience
- Innovative Materials for EU
- Solar Photovoltaics
- Textiles of the Future
- Virtual Worlds

existing partnerships: 49 in the topics

- health (9)
- digital, industry and space (10): **AI + photonics**
- climate, energy and mobility (11)
- food, bioeconomy, natural resources, agriculture and environment (8)
- across various themes (11)

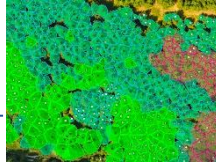
- Brain Computer Interfaces; XR-supported diagnosis and planning



fig: corbis

- Digital Forest Twin

fig: Pina Earth



- Digital Mine Twin



fig: Rio Tinto

- Digital Cultural Heritage

fig: Fh-IAO



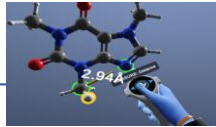
- Virtual Worlds as social interaction space, participation and inclusion



fig: Meta

- Molecular Design by XR

fig: Journal of Chemical Information and Modeling



- Digital Urban Twin

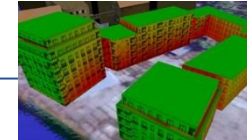


fig: LGL BaWü

- Virtual Fashion Design, digital fitting

fig: Human Solutions



Wirtschaftspolitik trifft virtuelle Welten

Politische Weichenstellung in Deutschland:

Das Metaverse auf der Agenda der Wirtschaftsminister

Kernaussagen des Beschlusses (Juni 2025) der Wirtschaftsministerkonferenz:

- Metaverse & XR-Technologien bieten hohes Wirtschafts- und Arbeitsplatzpotenzial in Deutschland.
- Industrie, Mittelstand und Start-ups sollen gleichermaßen profitieren.
- Fokus auf:
 - Digitale Zwillinge
 - Remote Collaboration
 - Simulation & Training
 - Plattform-Ökosysteme



=> Ziel: Aufbau eines offenen, vertrauenswürdigen und fairen digitalen Umfelds (kein „Big-Tech-only“-Szenario)

Vom Hype zur Wertschöpfung

Wirtschaftliches Potenzial: Wo das Metaverse Wert schafft

Zentrale Wirtschaftsbereiche mit Potenzial laut Wirtschaftsministerkonferenz

- Automobilindustrie
 - immersive Produktentwicklung, virtuelle Teststrecken
- Bau & Architektur
 - Simulation, Schulung, Beteiligung (BIM + Metaverse)
- Gesundheit
 - Remote Surgery Training, Patient Journeys
- Maschinenbau
 - Digitale Zwillinge kompletter Fertigungslinien
- Energie & Umwelt
 - Urban Digital Twins für Netze & Klima
- Handel
 - Virtuelle Showrooms & personalisierte Avatare



=> Erwartete Effekte: Zeit- und Kostenersparnis, Fehlerminimierung & Effizienzgewinne,
Neue Geschäftsmodelle & Plattformen

Was jetzt passieren muss

Handlungsempfehlungen und Herausforderungen

Politische Initiativen laut Wirtschaftsministerkonferenz

- Entwicklung einer übergeordneten Metaverse-Strategie
- Förderung wirtschaftsnaher Forschung & Start-ups
- Aufbau einer leistungsfähigen XR/Digital Twin-Infrastruktur (Rechenzentren, Edge Computing)
- Offene Standards & Interoperabilität statt Vendor Lock-ins
- Regulatory Sandboxes zur rechtssicheren Erprobung neuer Anwendungen

Herausforderungen

- Fragmentierte Daten- und Plattformlandschaften
- Mangel an Fachkräften
- Unsicherheit beim Datenschutz und bei Eigentumsrechten

=> Fazit: Deutschland erkennt das Metaverse als wirtschaftsstrategisches Zukunftsfeld. Der politische Wille zur Unterstützung ist da – jetzt kommt es auf konkrete Umsetzung, Interoperabilität und vertrauensbildende Maßnahmen an.