

# Virtual Dimension Center (VDC)

## Virtual Reality, Augmented Reality, Mixed Reality, Metaverse

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## Overview Virtual Dimension Center (VDC)

- Germany's largest B2B network for VR / AR / MR
- start 2002 with 13 founding members . Today 100+ members and 30+ partners
- non-profit
- core tasks:
  - infomation gathering
  - contact match making
  - technology marketing
  - technology transfer
  - project development on regional / national / EU level
  - V/AR hardware assessment
  - education & training
- certified, best-in-class organization
- staff: 8 employees
- 5-8 projects running (regional, national, EU)
- public relations:
  - 10.000+ calls of VDC website per month
  - 10.000+ impressions per month on social media
  - 4.000 newsletter recipients
  - 300+ news and events published per year
  - 70+ press articles with VDC per year
  - editorial contributions, interviews in

- (co-)organized events in 2022: 48
- recent VDC reports, studies, analyses:
  - position paper on V/AR standardization
  - position paper on VAR user interface design
  - technology consequence analysis "future workplace"numerous lab reports on V/AR hardware & software assessments including VR headset image quality, tracking systems, AR marker tracking, ergonomics

### Whitepapers:

- V/AR in the creative industries*
- guideline "Collaborative XR"*
- guideline "360° streaming & VR broadcasting"*
- VR/AR/MR in aerospace applications*
- virtual acceptance & certification*
- V/AR education needs*
- V/AR consulting needs*
- opportunities of StartUp cooperations in the V/AR sector*



# VDC Members



## Industry



## IT



## Research & education



## Others



# XR eco system: positioning ourselves in future topics

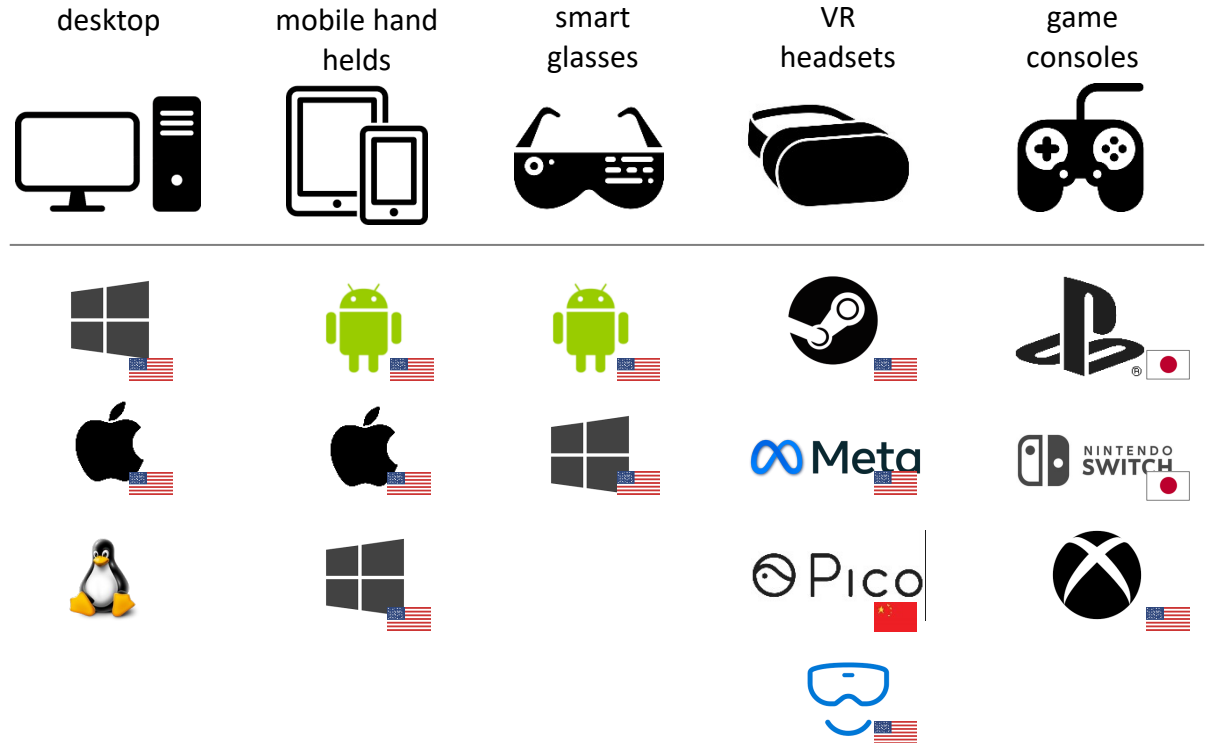
We find ourselves only at the sideline of a fight for global XR ecosystems.

problem:

- Europe will probably not create a huge, global platform provider
- platform providers aim at vendor lock-in

questions:

- what options for action do we have?
- what can be our future role to create added value and employment?





# Positioning ourselves in future topics: metaverse

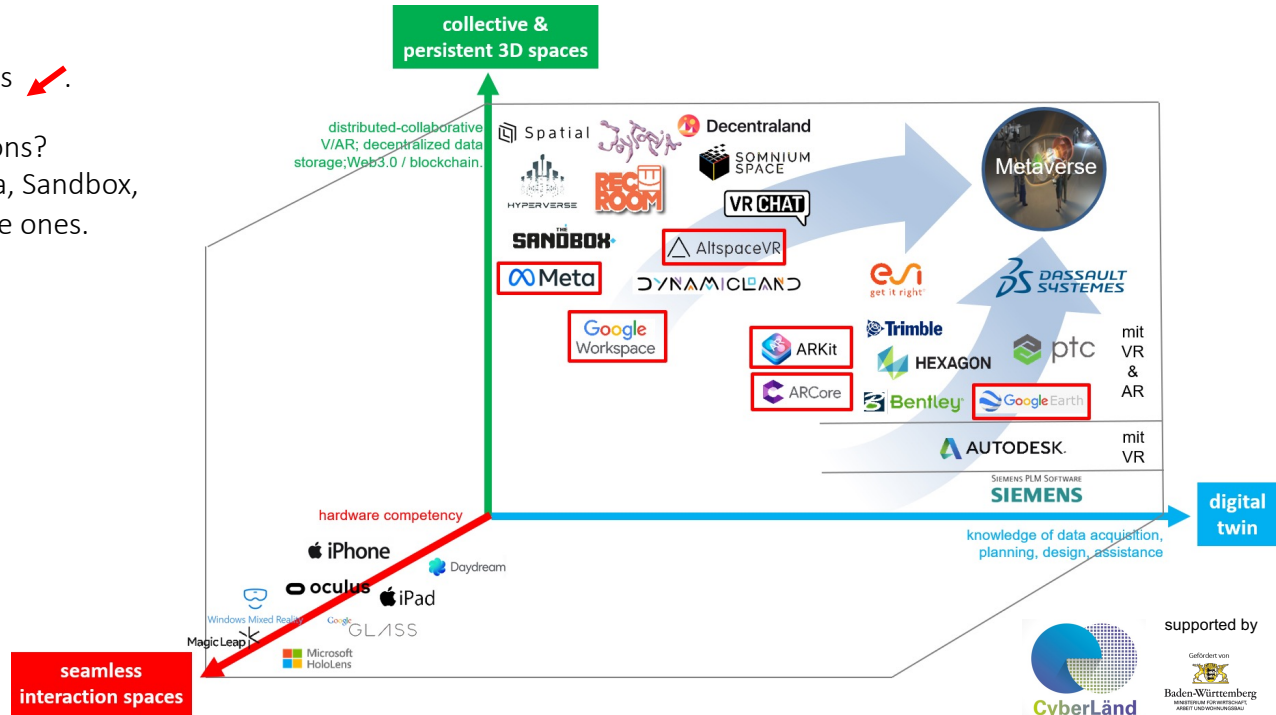
Assuming the metaverse to be a combination of

1. collective & persistent 3D spaces ↑ ,
2. digital twin methods → , and
3. seamless, ubiquitous XR interaction spaces ↙ .

Who can deliver industrial metaverse solutions?

The „usual US metaverse suspects“ like Meta, Sandbox, Decentraland, etc. will probably not be the ones.

## The 3 axes of the metaverse:



supported by



Gefördert von  
Baden-Württemberg  
MINISTERIUM FÜR WIRTSCHAFTSANGELEGENHEITEN,  
ARBEIT UND ENERGIE

# Just one example for strong Europe: Tracking, Tracing, Positioning, Localisation




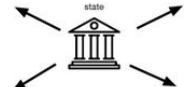
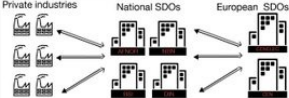

## Tracking, Positioning:

- more than 1.000 tech suppliers
- 20+ technologies
- From photogrammetry with smartphone camera to satellite positioning
- convergence (sensor fusion) will deliver seamless positioning indoor and outdoor.



Germany & Europe are still excellent on norming and standardization:  
top international influencing position to ensure interoperability

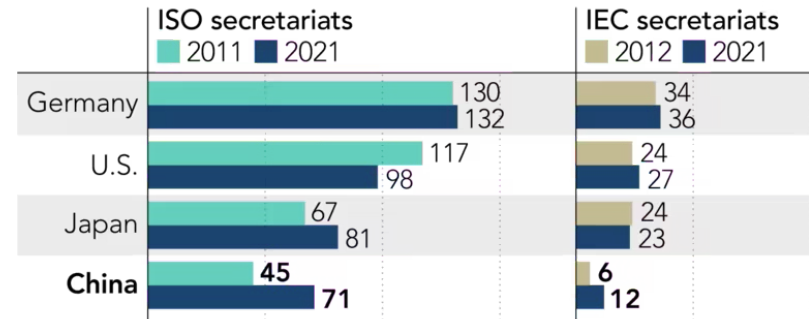
## Setting standards in China, Europe and the US

 <b>CHINA</b> a state-driven process	 <b>EUROPE</b> a structured, market-driven process	 <b>UNITED STATES</b> a loose, market-driven process
		
<p>Coordinated by the Standardization Administration of China (SAC), which lies under the State Administration for Market Regulation (SAMR), an arm of the State Council.</p>	<p>Private industry actors coordinate largely under the auspices of non-governmental standards development organizations (SDOs) at the national and European level.</p> <p>This process typically respects a clear hierarchy.</p>	<p>600 standards development organizations, mostly industry associations, set standards for their industries in the spirit of competition.</p> <p>The American National Standards Institute (ANSI) represents US interests at the international level but plays a comparatively limited role.</p>

Source: John Seaman, "China and the New Geopolitics of Technical Standardization", Notes de l'Ifri, Ifri, January 2020

## China's growing clout in standardization organizations

(Number of secretariat positions by country)



ISO stands for International Organization for Standardization, IEC for International Electrotechnical Commission; includes twinned ISO secretariats  
Source: ISO, IEC, U.S. National Institute of Standards and Technology

**Thank you for your attention.**

