



Metaverse
STANDARDS FORUM™

Metaverse Standards Forum

Summary, October 2022

THE SILICON CATALYST
THOUGHT
LEADERSHIP SERIES

Neil Trevett

NVIDIA, VP Developer Ecosystems

Khronos, President

Metaverse Standards Forum, Chair

ntrevett@nvidia.com | [@neilt3d](https://twitter.com/neilt3d)



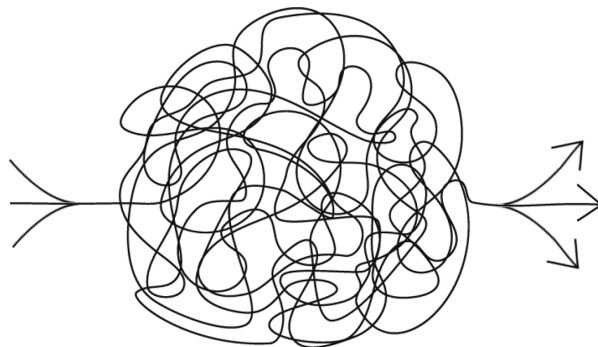
Metaverse - The Interoperability Perspective

What will the metaverse be?

Some mix of the connectivity of the web with the immersiveness of spatial computing...
.. leveraging AI and decentralized ID/transactions

Diverse emerging technologies are being brought together in novel ways

- Synthesized visual reality
- Universally portable 3D assets
- Practical XR optics
- Real-time environment scanning and semantics
- End-user 3D content creation tooling
- Accurate physical simulations
- Realistic avatars
- Online personas and social connections
- Machine learning for semantic understanding and assisted content creation
- User identity, security and privacy
- Effective remote social interactions
- Streaming of vast geospatial data sets
- Real-world geo-anchoring with persistence
- IOT sensor networks
- Universal digital twins
- Servers scaling to millions of simultaneous users
- Interoperable run-times
- Online economies and currencies
- Pervasive low-latency wireless connectivity and much more ...



Darwinian Evolution

Standards will play a key role in enabling and amplifying the emergence of successful technologies, products and services

Cross vendor, cross-platform interoperability

Software to hardware, server to client, organization to organization ...

Accelerated business opportunities

Remove needless friction points to reduce costs and speed time to market

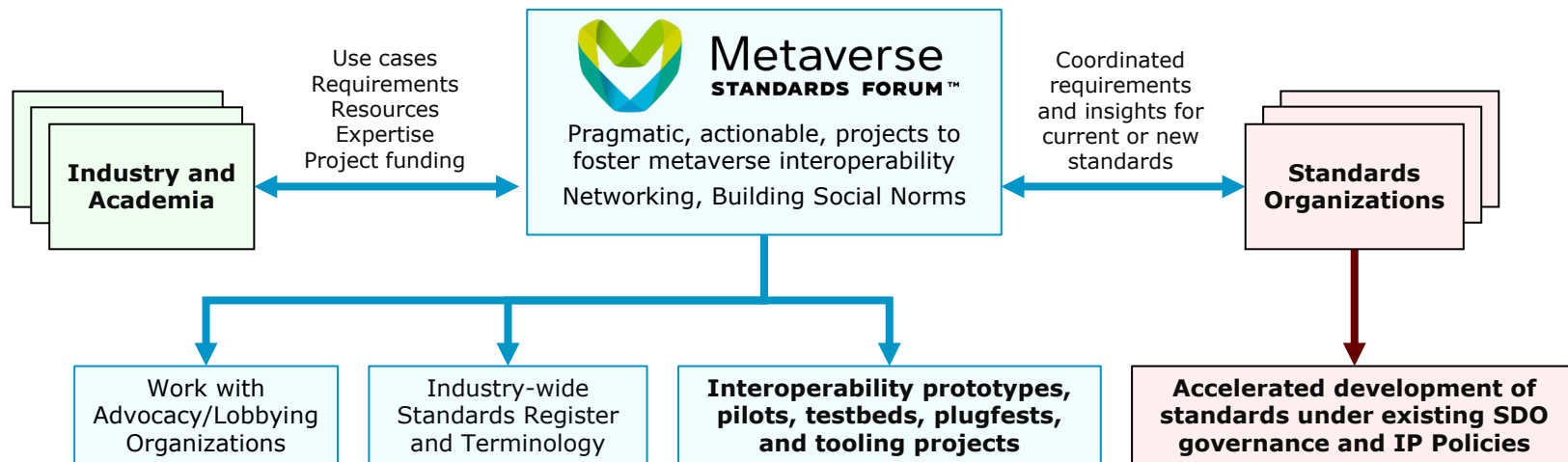
Timely standards create the chance to build an open and inclusive metaverse

Key technologies made openly and widely available, enabling and encouraging safe and equitable access for all

Better Metaverse Standards – Sooner!

- Coordination and cooperation between SDOs and the wider industry
- Open to all, no participation fee, no NDA, no IP framework
- NOT another SDO! All standardization 'heavy-lifting' continues at existing SDOs

Launched in June 2022
1,800+ Members



<https://metaverse-standards.org/>

KHRONOS[®]
GROUP
Initiated and hosted by The Khronos Group
for fast organizational bootstrap



Organizing for Effective Forum Action

1. Gather interoperability Topics from all members

Online input from all members on actionable topics that need improvement today!

Over 200 topics suggested and counting, for example..

Database of metaverse standards
 Taking 3D assets between worlds
 Asset LODs
 gITF / USD interoperability
 Avatar customization / animation
 3D Apparel and Fashion
 Cloth Simulation
 Metaverse traversal
 Geospatial ontologies
 Geospatial streaming
 Decentralized User ID
 Ethical framework
 User privacy
 Child safety
 Payment frameworks
 Metaverse Pharmacy
 Etc. etc..

2. Organize Topics into Domains

Consensus on where is member interest AND the Forum has member expertise to add industry value

Topics naturally falling into Domains

Topic	# Upvotes
Metaverse Standards Registry	69
3D Assets	186
Avatars and Apparel	75
Real/Virtual World Integration	98
Geospatial	36
User Identity	72
Privacy, Safety, Security, Inclusion	182
Payments and Economy	39
Governance and Advocacy	24
Teaching, Education, Exams, Certification	65
XR and UI	50
Metaverse Definition	40
Runtimes and Object Model	29
Networking	23
Tooling and Creators	12
Health and Medical	7
Business Analytics	4
Performance and Scalability	9
Gaming	9
Miscellaneous	11
Forum Outreach	1

3. Create Domain Working Groups

Focused discussions for smaller groups, Dedicated Portal group, chairs elected from membership

4. Working Group Projects

Focus on project execution, chairs elected from membership

5. Publish Project Work Products

Recommendations and guidelines, open-source tooling, interoperability pilot projects

Domain Working Group Pipeline

Approved Working Groups

Executing agreed Working Group Charters
 Metaverse Standards Register

Approved Exploratory Groups

Building consensus on Working Group Charter Proposals
 gITF/USD 3D Asset Interoperability (visuals, behaviors)
 Digital Asset Management (web3, protection, digital rights)
 Real/Virtual World Integration (Digital twins, IOT)
 Avatars and Digital Fashion/Wearables

Proposed Exploratory Groups

Privacy, Cybersecurity & Identity

More to come...

Any member can make Working Group proposals

