

# Open Standards for Interactive 3D on the Web

www.web3d.org



- Portability
- Durability
- Interoperability
- Royalty-free
- International recognition and support



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*A nonprofit organization that develops and maintains the X3D, VRML, and H-Anim standards – 3D file formats and runtime specifications for the delivery and integration of interactive 3D data over networks: open, royalty-free and ISO-ratified.*

# The ISO Standards for 3D on the Web



Shared world wide

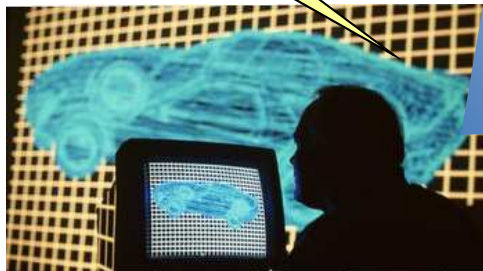
Shared between applications



Royalty-free;  
Numerous  
implementations  
including Open  
source

**"X3D enables the communication of real-time 3D across networks and XML-based web services"**

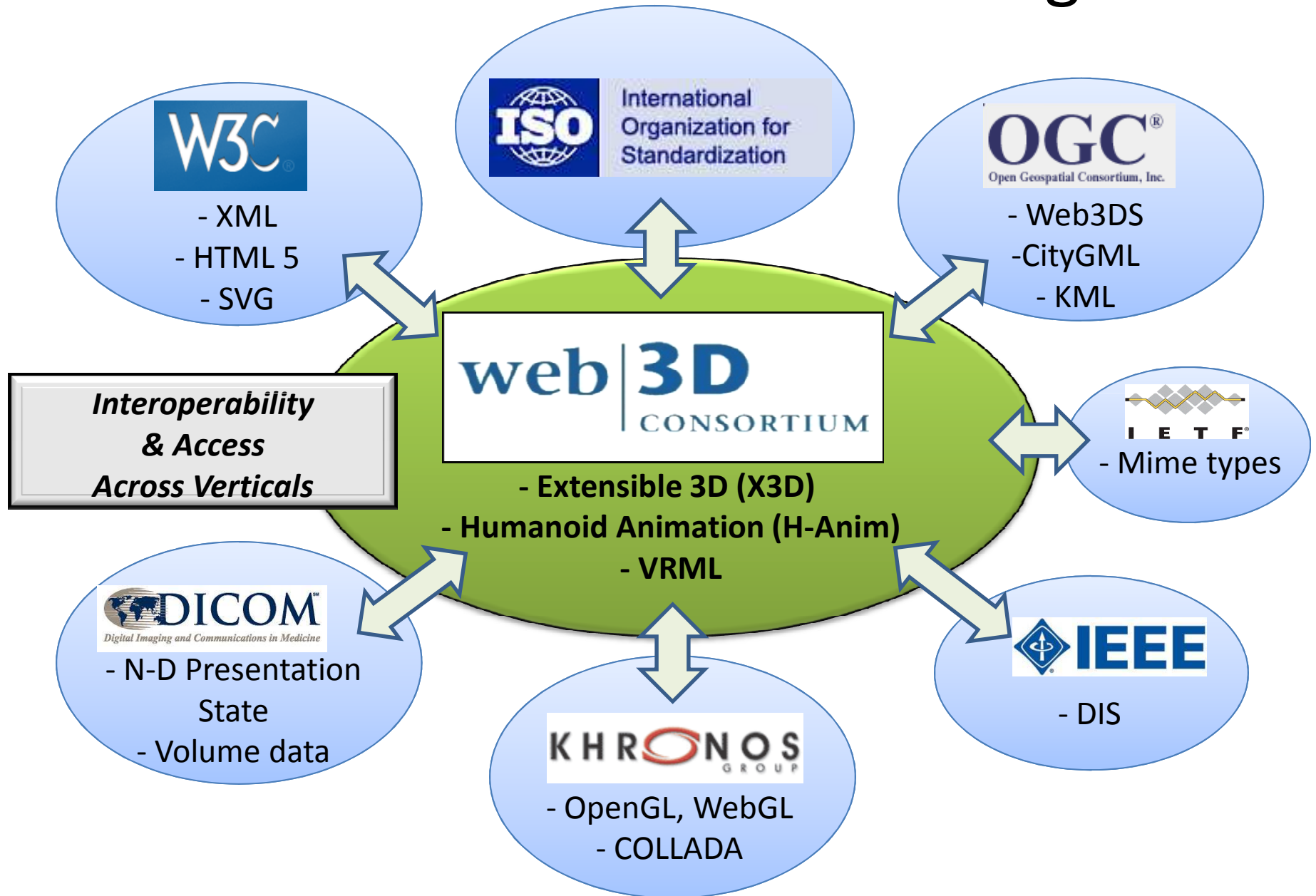
Lasts the Test  
of  
Time



Shared between  
systems

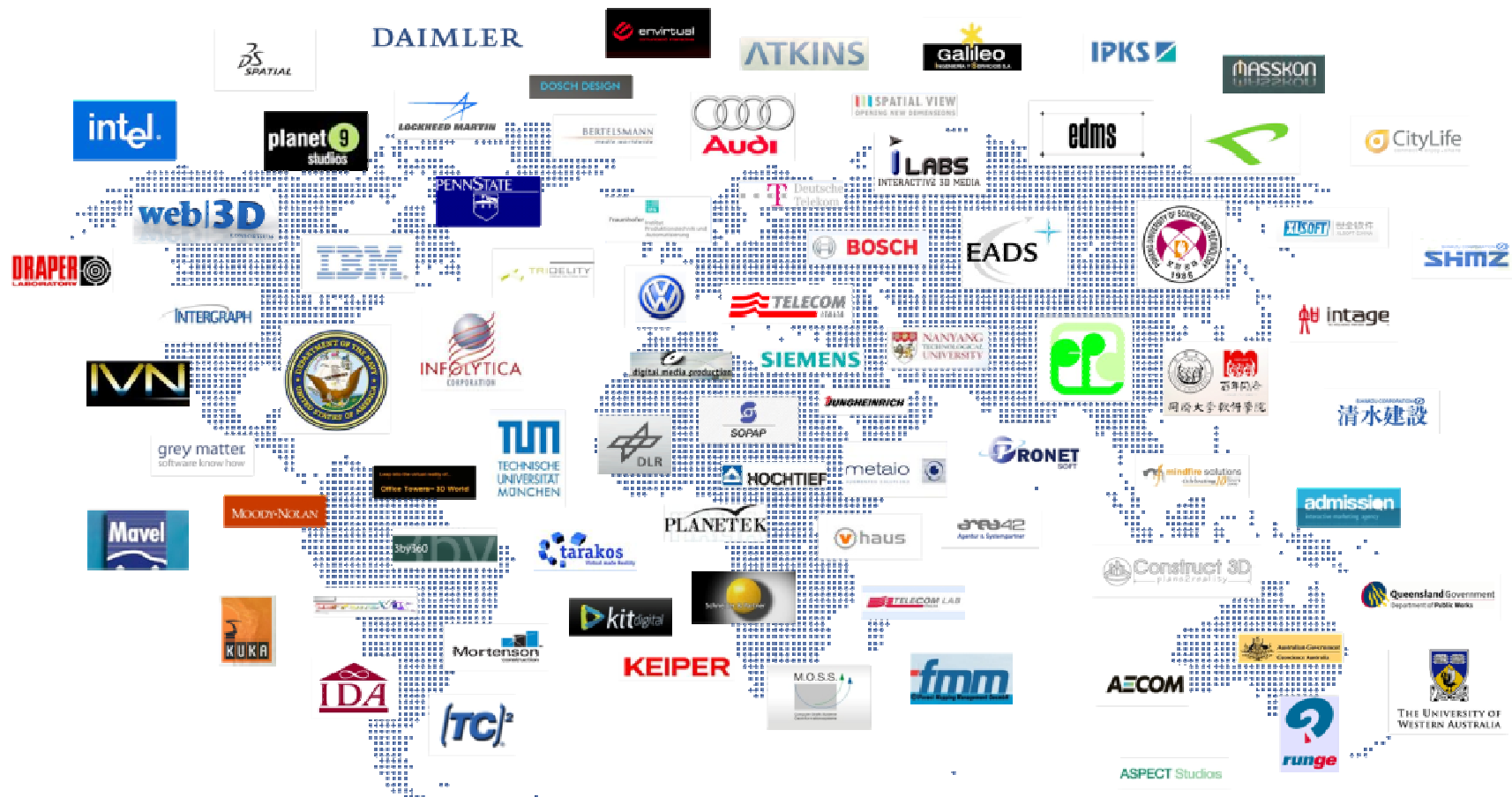
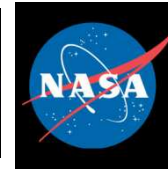


# Web3D Collaboration & Convergence





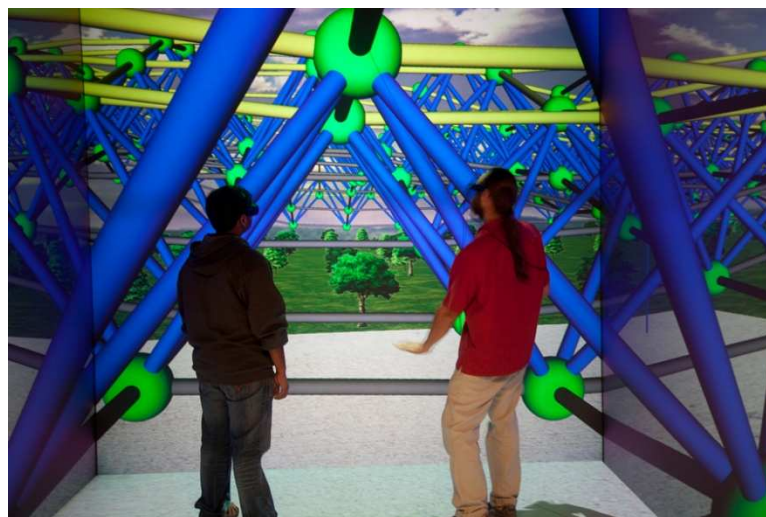
# Adoption





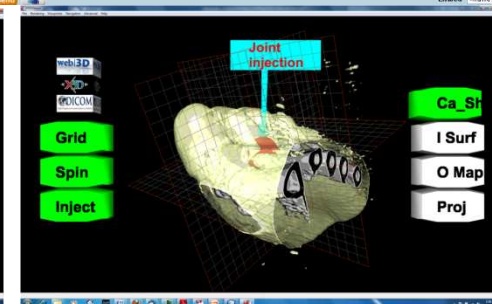
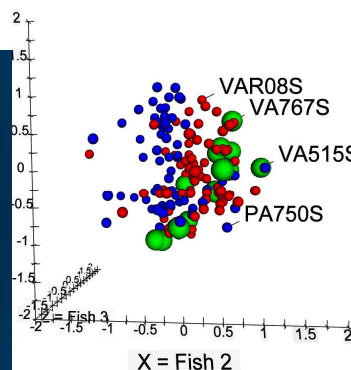
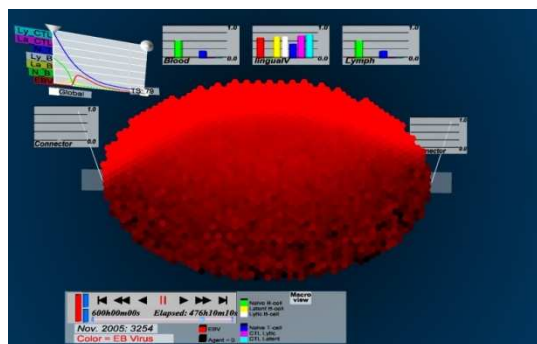


# Extensible 3D (X3D), H-Anim



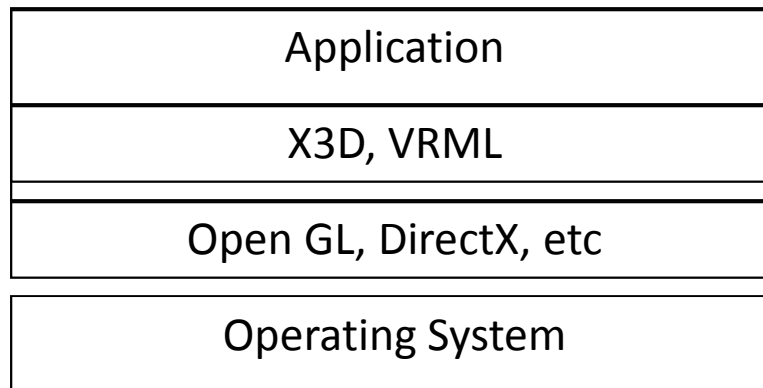
*See videos and case studies at [web3d.org](http://web3d.org):*

<http://www.web3d.org/realtime-3d/videos>



# CS Foundations

- ISO standard, openly published and royalty-free
- A layer above media and rendering libraries including files formats and an API
- Multiple implementations and API language bindings
- Open source and commercial codebases
- X3D Scene graph includes the *Transformation graph* and the *Behavior graph*

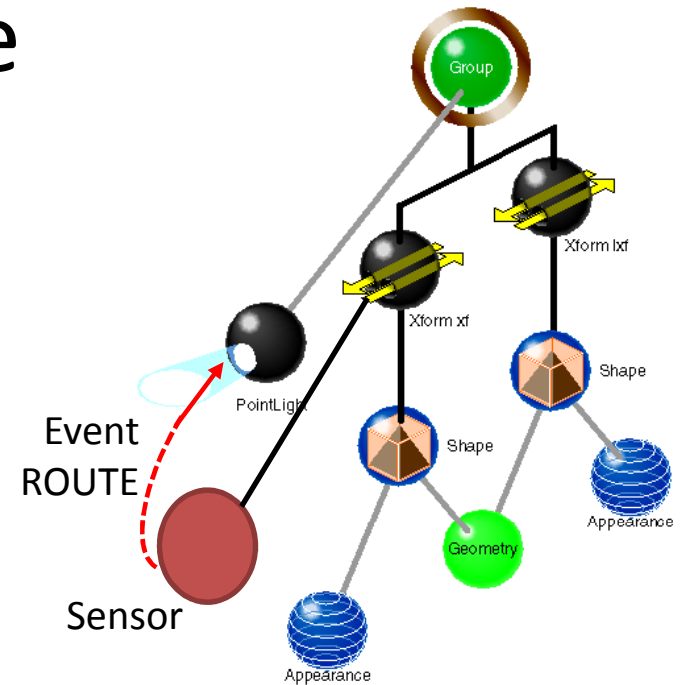




# Standard Scope

Scene graph for real-time interactive delivery of virtual environments over the web:

- Meshes, lights, materials, textures, shaders
  - Integrated video, audio
  - Animation
  - Interaction
  - Scripts & Behaviors
- 
- Multiple encodings (ISO = XML, VRML-Classic, Binary)
  - Multiple Application Programming Interfaces (ISO = ECMA, Java)
- 
- X3D 3.3 includes examples for Volume rendering, CAD and Geospatial support!



# The Web3D Consortium 2011

www.web3d.org



- Current SIGs:
  - Augmented Reality
  - eLearning
- Current Projects:
  - DICOM n-D Presentation
  - OGC 3D PIE
  - W3C Declarative 3D Group
- Current Chapters:
  - Korea
  - China



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# Join Us!

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