

Web3D Consortium



Versar and Web3D Strategic Partnership Meeting 15 December 2020

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Web3D Consortium
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Unlocking Markets Enabling Enterprises

Our Standards



and H|anim



**Provide a technology strategy based on
durability, interoperability, and portability**

About Web3D Consortium



- **International, non-profit, member-funded, Standards Development Organization (SDO)**
- **Founded in 1997. Web3D develops and maintains X3D and HAnim ISO-IEC Standards**
- **Engaging a community of technologists, enterprises, and artists**
- **Members span Academia, Industry, Government, and Professionals**



Web3D Consortium Goals

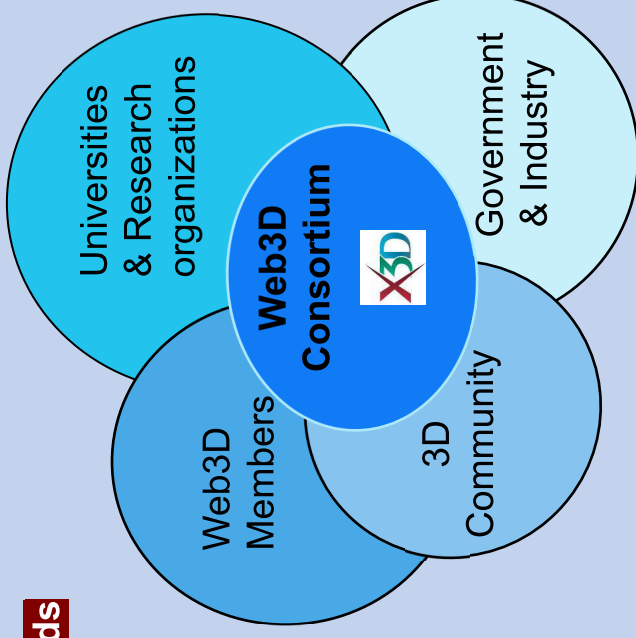
Enable enterprises and industry with open 3D standards

Provide a vehicle for the creation of open standards for 3D the Web, and to integrate these standards and resources for outreach, advocacy, and education

Empower 3D/VR Developers

Guide Policy Makers

Helping consumers and developers understand 3D technologies and to make informed decisions when choosing the right technology for their business needs.



Web3D Standards



X3D
File Format and
Rendering Engine



HANIM
Humanoid Animation



Version 4.0 now a Public Draft

Integrates X3D and glTF, HTML5,
WebAudio, Shadows, PointProperties
Web3D Member Ballot next 45 days,
then ship to ISO/IEC

X3D standards and HANIM
Ratified by
ISO/IEC JTC 1/SC 24 WG 6

www.web3d.org/standards

About Extensible 3D (X3D)

- Open, certified ISO-IEC Standard
- Royalty-Free
- Evolutionary since 1997
- Durable : Forward Compatible
- Interoperable : across applications
- Portable: Multi-Platform

- X3D is next generations VRML, offering robust 3D functionality for 3D scenes across a wide variety of applications
- X3D has strong interoperability with other industry standards
- X3D Provides long-term stability for 3D content and solutions

www.web3d.org/about



X3D: Publishing 3D with interactivity

A Presentation layer

You need a higher-level language like X3D to compose several 3D assets into a meaningful 3D interactive Web application.

X3D provides the best presentation layer when combining 3D models, 3D tiles, Point clouds, Smart Game Format (SGF) and more into one system.



www.web3d.org/x3d/why-use-x3d

The Web is our platform:

X3D Anywhere

- **3D + VR + AR Capable**
- **Runs on multiple devices** (Phones, tablets, desktops, caves)
- **Used across multiple domains** (Medical, Geospatial, 3D printing/scanning, CAD and more)
- **Interactive 3D**
- **Animation**
- **WWW**

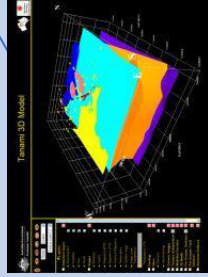


X3D Use Cases

X3D Anywhere



Geo Visualization



Education



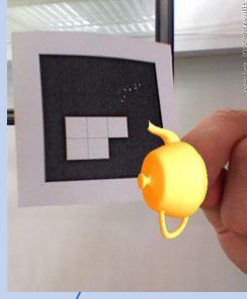
Cultural Heritage



Gaming



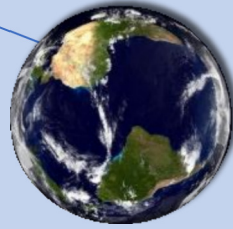
Augmented Reality



Virtual Worlds



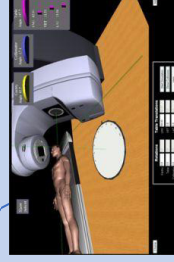
Mirror Worlds



E-commerce



Medical



Enterprise

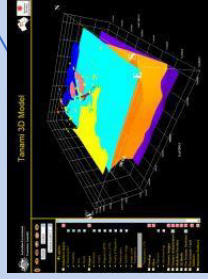


X3D Use Cases

X3D Anywhere



Geo Visualization



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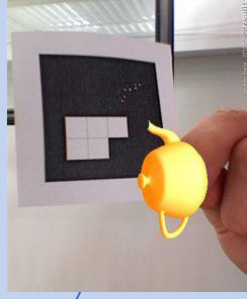
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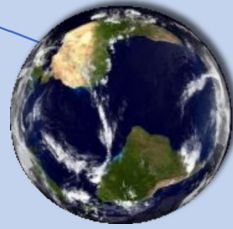
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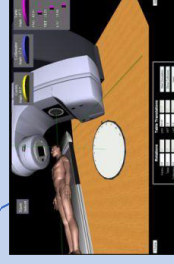
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E-commerce



Medical

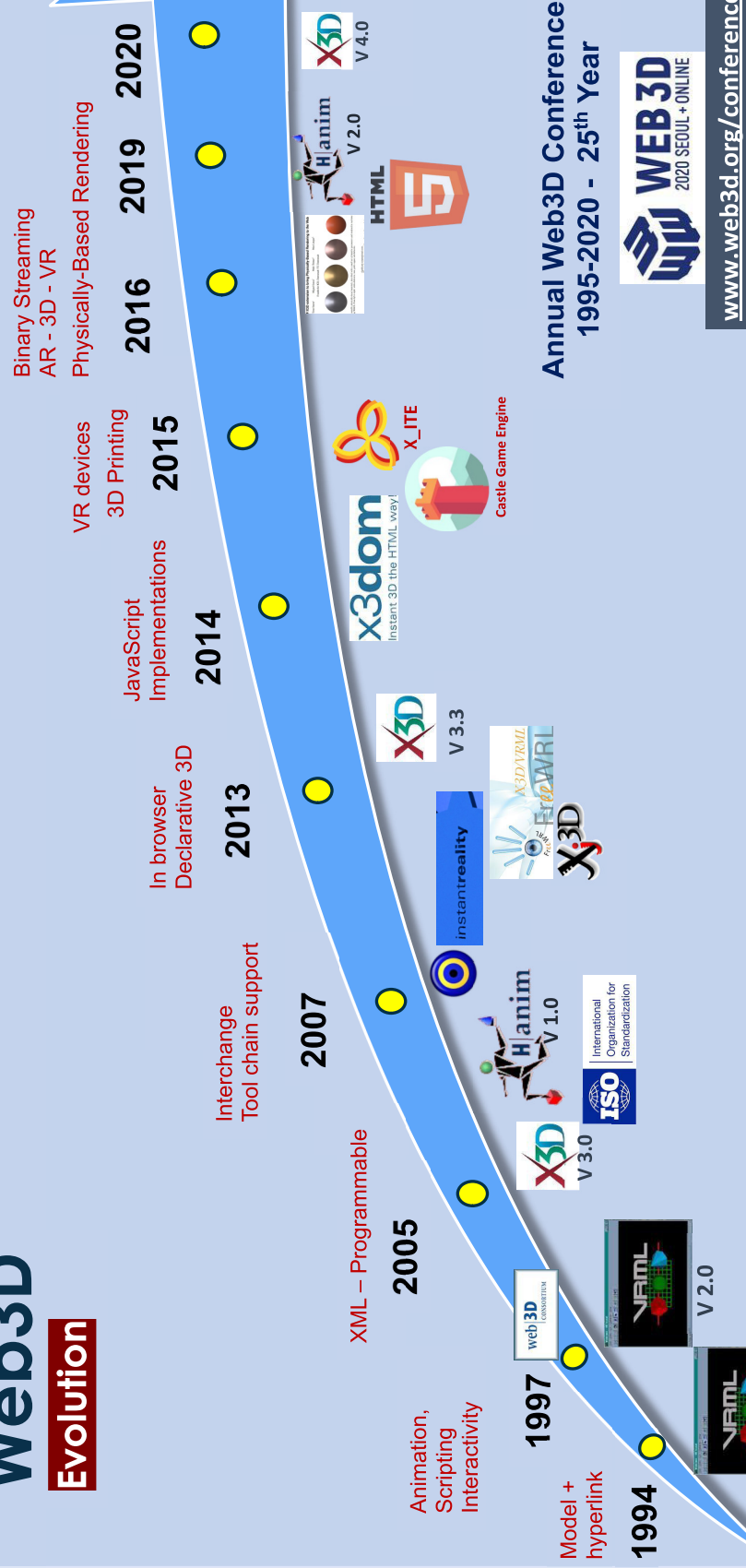


Enterprise



Web3D

Evolution



Evolution Collaboration Standardization Democratization 3D Printing HTML5 VR/AR

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Web3D is a Community Effort

Members and volunteers work together on Standards

Developers · Designers · Educators · Consultants
Researchers · Clinicians · Hobbyists



Web3D Working Groups:

- X3D
- Humanoid Animation (HAnim)
- Medical
- Geospatial
- Mixed Augmented Reality (MAR)
- Cultural and Natural Heritage
- X3D Semantic Web
- Design Printing & Scanning
- Web3D User Experience (Web3DUX)



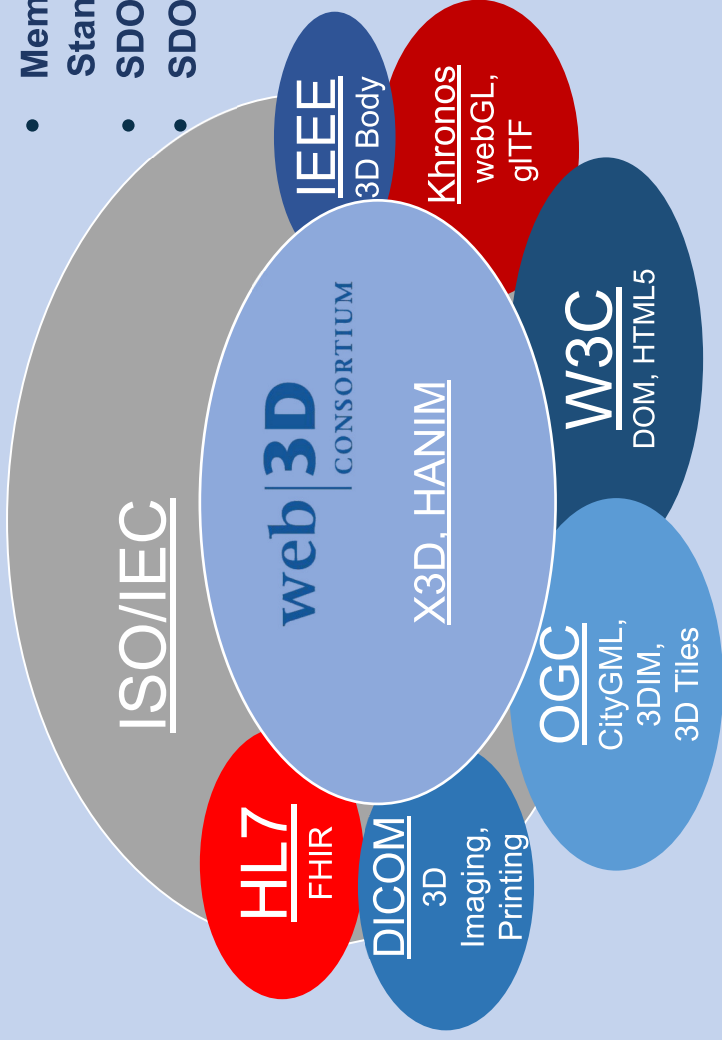
Standards
Development
Organizations (SDO)

www.web3d.org/working-groups

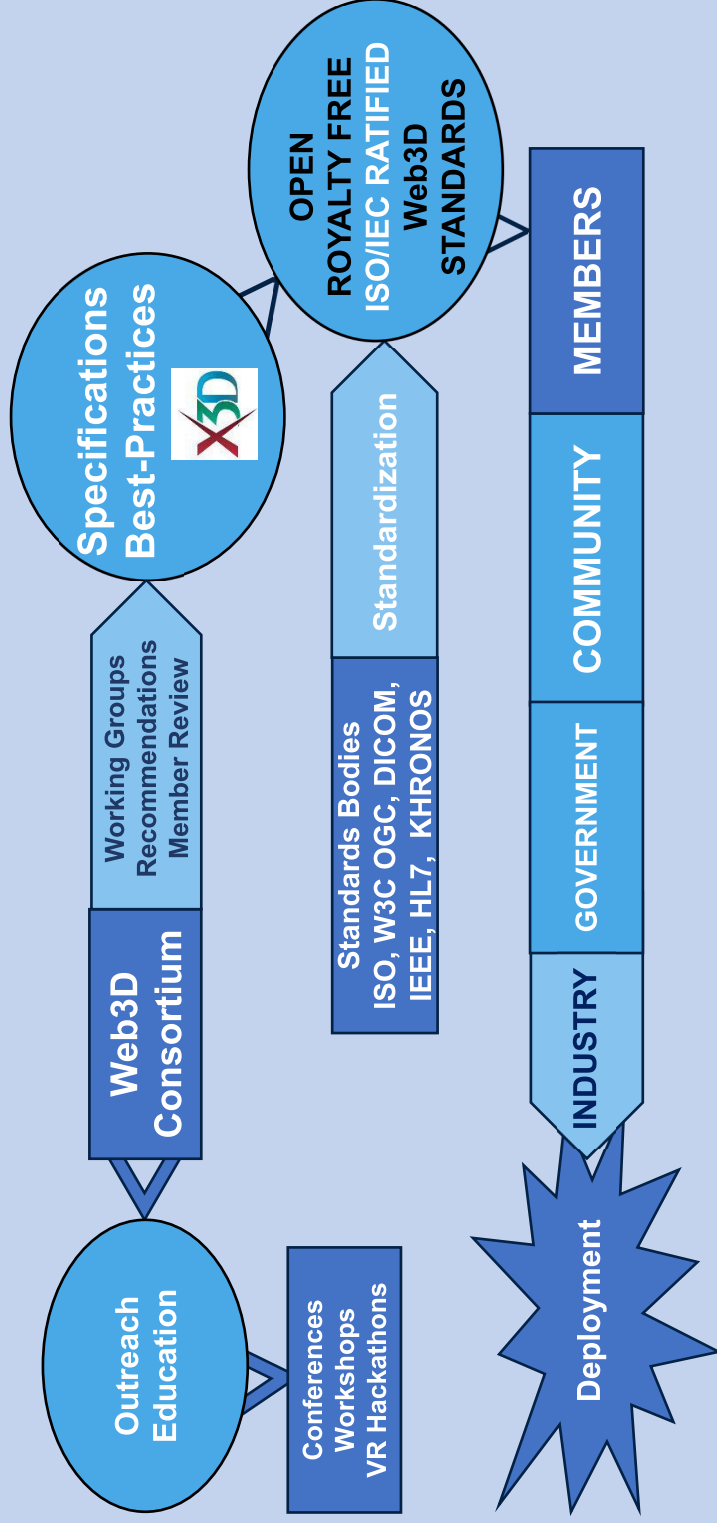
Web3D Collaborates

Standards Development Organization Collaboration

- Membership sharing between Web3D Standards Development Organizations (SDO)
- SDO Working Group participation
- SDO joint work opportunities



Bringing open Web3D Standards to All



www.web3d.org/working-groups



Versar Directing Membership Benefits



www.web3d.org/member-benefits

Marketing Opportunities	Business Opportunities	Drive Web3D Standards	Networking Opportunities	Web3D Talent Bank
<ul style="list-style-type: none"> Promote products Promote Services Speaking Opportunities Conference participation Booth partnership 	<ul style="list-style-type: none"> Business partnership Joint grants SDO Partnerships 	<ul style="list-style-type: none"> Working Group participation Early access to standards Board Seat 	<ul style="list-style-type: none"> Industry Leaders 3D Research Experts 3D companies 	<ul style="list-style-type: none"> Access to Web3D experts Lesson Learned Proven Use cases

There are many benefits to joining Web3D Consortium as we build open interactive 3D standards

Why Participate in Web3D?



Learn and collaborate with peers, customers, competitors, and potential partners

Influence new standards in ways that matter to your business

Support Web3D's vision by becoming a member

www.web3d.org/join

Why a Web3D Directing Membership?

- 1. Get immediate access and influence on development of new Web3D standards**
 - a. Develop new specifications; Vote on standards
 - b. Join or lead Working Groups
 - c. Submit new technologies and use cases
- 2. Show the industry you are the leader making interoperable 3D a reality**
 - a. Directing Members drive strategy and initiatives through a seat on the Board of Directors
 - b. Serve as an official Web3D Liaison with other SDOs
 - c. Access Industry-wide perspectives to make informed strategic decisions
- 3. Build long-term value and community**
 - a. Partner with other members and speed time-to-market
 - b. Learn lessons and best practices from industry leaders
 - c. Partner with members on external marketing, proposals, and projects

Convergence

Take aways:

1. Current opportunity in a full, open technology stack that cuts-across vertical markets for long-term stability
2. Leadership in Web3D Standards technology brings client confidence in roadmaps and investment
3. There is customer appetite for non-proprietary, durable solutions that can save \$ across the enterprise and lifecycle
4. Decades of success stories show how extending X3D enables innovation to meet new application needs

Web3D Forward

To achieve our goal of X3D Everywhere, we will continue our multi-pronged strategy:

1. Continue technical Excellence and Open platforms
2. Pursue visible leadership in the international media ecosystem
3. Advocate for adoption, deployment, and procurement across sectors
4. Increase Web3D membership and partners

2019 | 2020 | 2021 | 2022

X3D Standardization HAnim

Hands, feet, medical, motion animation
Web3D ratified (review, BoD approval)
Updates submitted for ISO ballot

Facial Animation
IEEE 3DBP collaboration

Medical records
usage, accreditation

File encodings, language bindings

JavaScript, Java, JSON, Efficient EXI and gITF compression
X3D Unified Object Model for Programming Language
Bindings (JavaScript, Java, adding C, C++, C#, Python)

Map to non-ISO languages and tools
(e.g. Blender, Matlab, others)

X3D 4.0

HTML encoding and DOM binding:
design, specification, implementation,
X3D v4 /HTML examples

Maintain alignment: W3C HTML5, DOM updates

X3D 4.1

ISO MAR Reference Model efforts
Compare/contrast, align with WebXR

ISO/IEC Mixed Augmented Reality (MAR) Reference Model
implemented in X3D for VR/AR

gITF Support

gITF for compressed geometry (available throughout X3D encodings)
Efficient XML Interchange (EXI) for data compression, XML Security

Geometric compression and
progressive-mesh streaming

ISO/IEC JTC 1 Study Groups

X3D Standard for 3D Printing + Scanning

X3D, HAnim, OGC for Smart Cities

In development

In Planning

Web3D products provide a coordinated set of steadily evolving ISO/IEC standards

Web3D 2021 Events



**Web3D 2021 – Hybrid (In-person and virtual)
Tentative Dates – October 2021
Pisa, Italy – Hosts: Institute for Information Science and
Technologies (ISTI, CNR Italy).
<https://web3d.siggraph.org>**



**Virtual SIGGRAPH 2021
<https://s2021.siggraph.org/conference/>**



**Web3D 2021 Webinars
Continued X3D Education
www.web3d.org/webinars**

www.web3d.org/news-events

Join Web3D and Participate!

Join us in building Open 3D



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Join us to build open interactive 3D standards

www.web3d.org/join

Web3D Resources

About:

www.webx3d.org/about

Membership:

www.web3d.org/join

Learn X3D:

www.webx3d.org/learn-x3d

Web3D Standards:

www.web3d.org/standards

Work Groups:

www.web3d.org/working-groups

Case Studies:

www.web3d.org/case-studies

Workshop:

www.web3d.org/Web3d-quickstart

Examples:

www.web3d.org/x3d/content/examples/Basic

News & Events:

www.web3d.org/news-events