web|3D CONSORTIUM

X3D4 Roadmap

August 2020

Web3D.org

About Web3D Consortium

Web3D Consortium promotes deployment of X3D and HANIM standards

Allowing 3D scenes to be used by a wide variety of applications

Offering robust 3D functionality and long-term stability for enterprise solutions while supporting interoperability with other industry standards

International, non-profit, member funded, standards development organization

Community of technologists, enterprise and artists

Members: Academia, Industry, Government and Professionals

www.web3d.org/about

X3D STANDARDS

- X3D is an ISO ratified file format allowing 3D scenes to be used by a wide variety of applications for future compatibility

- X3D can be used by Web browsers and other viewers, authoring tools, 3D Printing applications, text editors, XML tools and AR/VR

- Consortium members collaboratively develop the X3D standards and tools making them widely adopted by digital content creation industries across diverse markets

Web3D Standardization Process

Volunteers and Members work together on Standards

Web3D Working Groups:

- X3D
- Medical
- Geospatial
- Mixed Reality
- Heritage
- Semantics
- Design Printing & Scanning
- Web3D UX

www.web3d.org/about/working-groups

SDO Partnerships:

W3C World Wide Web consortium

ISO

OGC Open Geospatial Consortium, Inc.

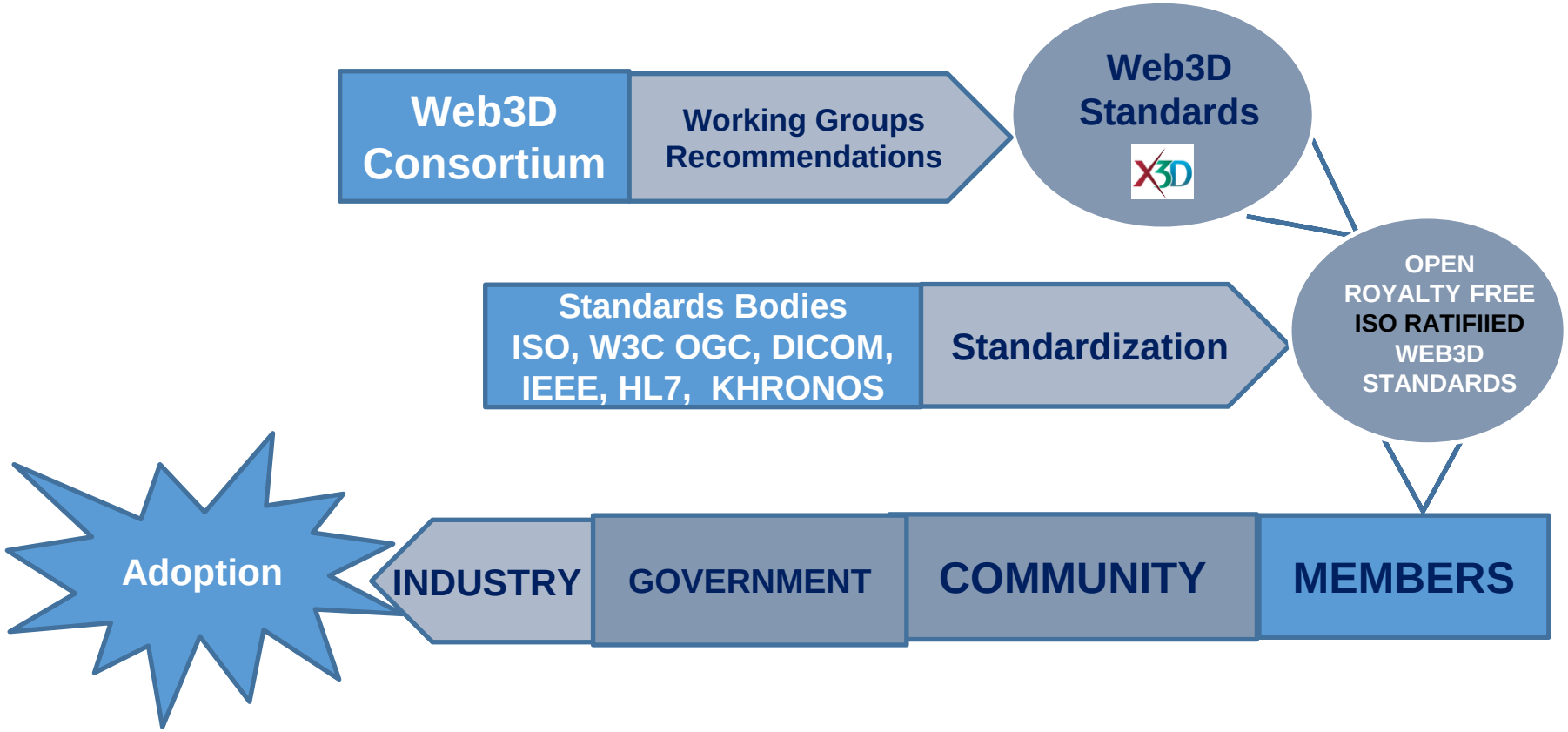
HL7 International

Khronos Group

DICOM Digital Imaging and Communications in Medicine

IEEE

Bringing open Web3D Standards to ALL



Tasks 2019-2020

***X*3D4 Native Support**

Design, Printing and Scanning

VR, AR, MR, xR

Browser support - X3D v4 - 90 percent of X3D node set support in Web browsers with JavaScript libraries

New WG - Web3D UX and Semantic

SDO - Continue Interoperability In Particular - IEEE 3DBP, HL7

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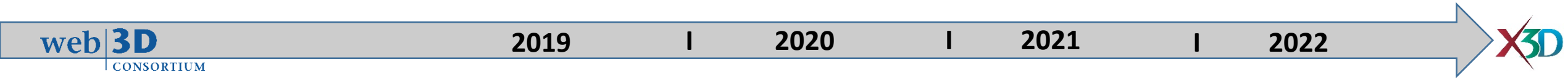

VR, AR, MR, xR

Identify Member projects
Track industry efforts

Define gaps, new goals in X3D standards

Extend X3D to support full range of Mixed and Augmented Reality (MAR)

X3D 4.0

HTML encoding and DOM binding: design, specification, implementation, X3D 4.0 + HTML examples

Maintain alignment: W3C HTML5, DOM updates

X3D Future 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

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

In development

In Planning

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 glTF 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**	
glTF Support	**glTF 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**	

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In development | In Planning