

# Panel: Rendering Believable 3D Assets for E-Commerce

**AWE Conference**  
**June 18, 2024**

**KHRONOS**  
GROUP

WEBINARS  
& MEETUPS

**3DCommerce™**



# Panelists



**Eric Chadwick**  
Senior 3D Technical  
Artist,  
DGG



**Ashleigh Miller**  
Sr. Program Manager  
and 3D SME,  
Amazon



**Dan Frith**  
3DC Chair and CCO,  
London Dynamics



**Jane Rawnsley**  
SVP Creative,  
Avataar

# Khronos Group for open source standards, including glTF

Weekly conference calls: glTF features, interop, extensions, workflow, tooling, tutorials ...





# 3D Commerce Deliverables



**Material Variants**  
Efficient transmission of many e-commerce products



**Metadata**  
Supports for XMP Extensible Metadata Platform ISO 16684-1 to hold consistent data for product discovery, dimensions, how a virtual product interacts with the physical world, defining variants, etc.

**PBR Materials**  
Transmission  
Clearcoat  
Sheen  
Refraction  
Specular Color  
Color Attenuation  
Volumetric Properties



## Next Steps

Iridescence, subsurface scattering, anisotropy, interactivity & behaviors

**Consistent Asset Creation**

Free guidelines for tools and product designers to create high-quality real-time 3D models for e-commerce

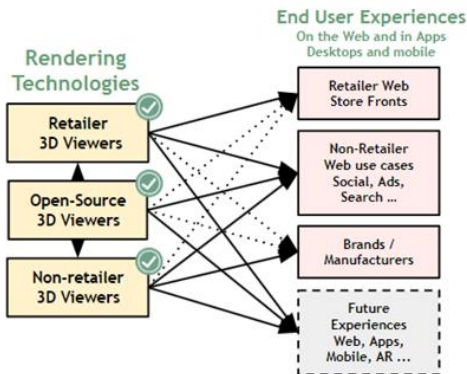
How to use KTX 2.0 supercompressed textures for minimized glTF download size at high quality



Open-source asset checker tool in design to guide creation and assess compliance of reliable e-commerce 3D assets



**3D Commerce Viewer Certification Program**



Viewers certified to accurately display 3D products  
Consistent deployment in a wide variety of end-user experiences: Web, social media, ad platforms, apps etc.



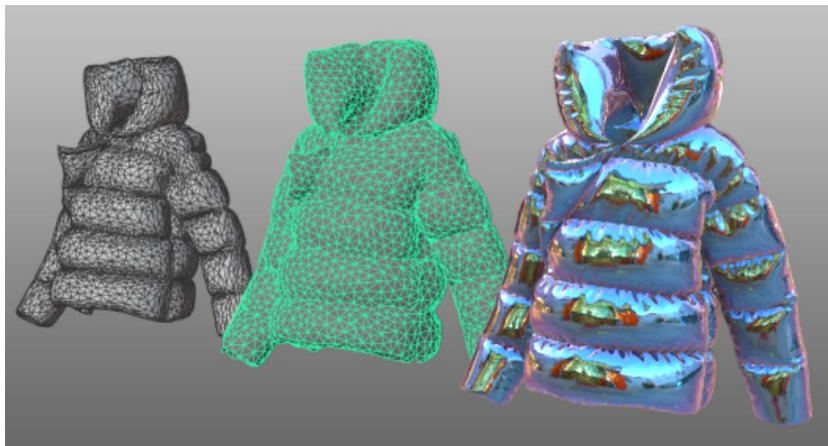
Certification to go beyond testing rendered pixels and achieve ecosystem consistency around tone mapping and display calibration

# Panel Topics

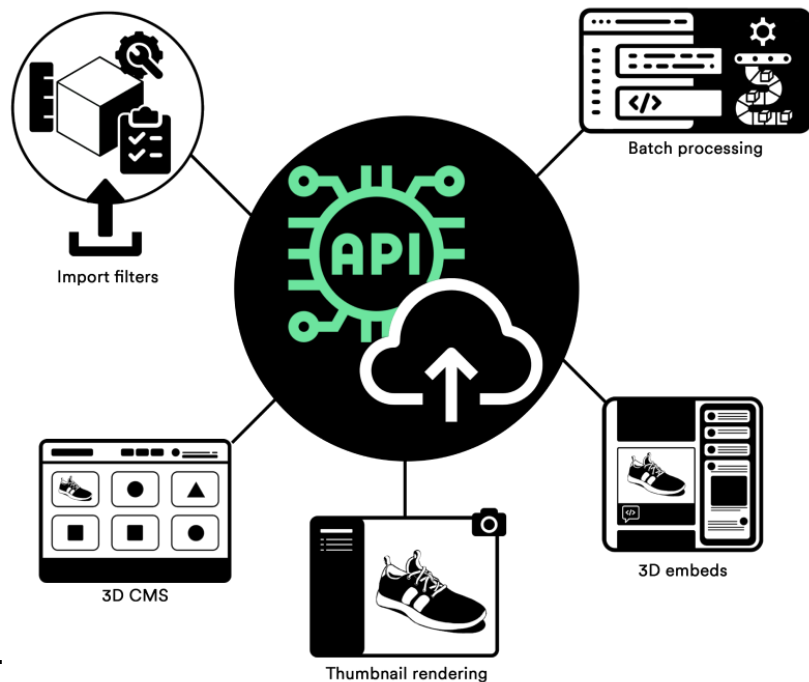
- Setting Up a 3D Pipeline
- Realism in Interactive Rendering
- Real-Time vs. Photoreal Rendering
- Visual Consistency
- PBR Neutral Tonemapper
- Reusability & Scalability
- Future Outlook
- Q & A



# Setting Up a 3D Pipeline



- 3D is giant confusing hurdle for most.
- Adoption of 3d is easy, but doing it well is hard.
- Key things we've learned.
- Great reference, accurate source.



# Realism in Interactive Rendering



- The struggle is real! Going beyond “does it fit”
- Barriers to realism? AR lighting?
- Realism is about customer trust





# Real-Time vs. Photoreal Rendering



- Are brands avoiding real-time to focus on rendering?
- Why is this happening? Comfort with known processes?
- What's lost when real-time is off the table?



# Visual Consistency



- What do we mean by “visual consistency”?
- How does the visual consistency of an asset impact its effectiveness in an e-commerce context?
- What are the current challenges to achieving it?



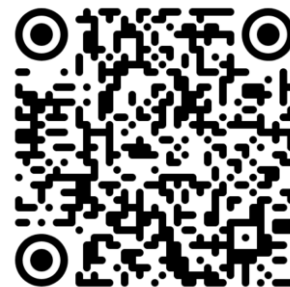
# Visual Consistency - 3D Commerce Viewer Certification



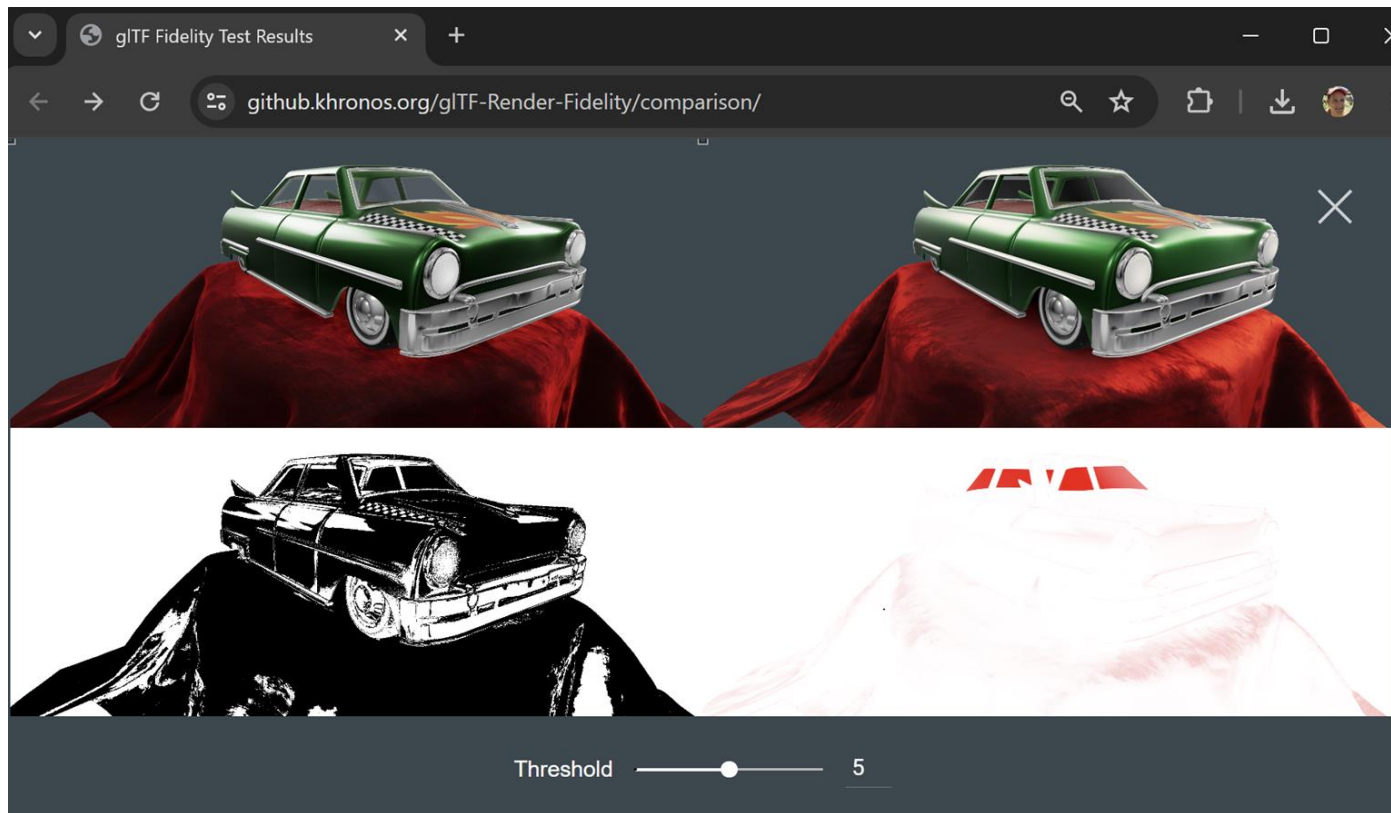
Image: the same 3D chair displayed in four uncertified viewers (courtesy of Wayfair)

Consistent display of virtual products across multiple platforms increases consumer confidence and reduces returns

# Visual Consistency - Render Fidelity Comparison Results



[<model-viewer>](#)  
[Render Fidelity](#)  
[Comparison Results](#)

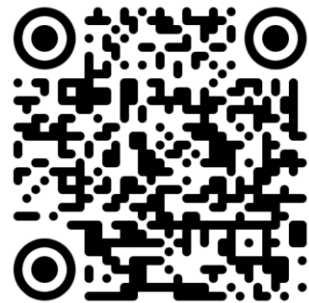




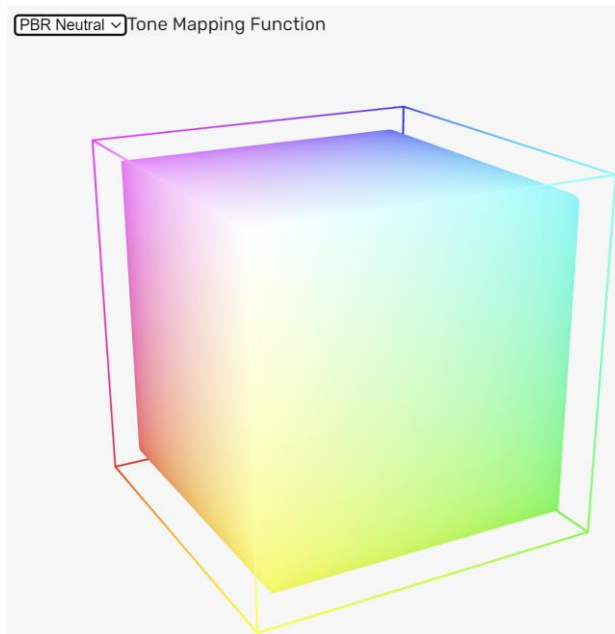
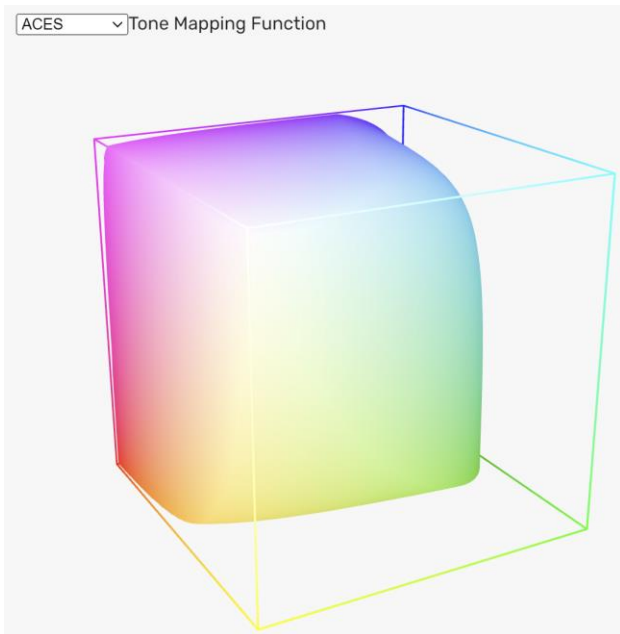
# PBR Neutral Tonemapper

[Explanation](#) >>

[Press Release](#)



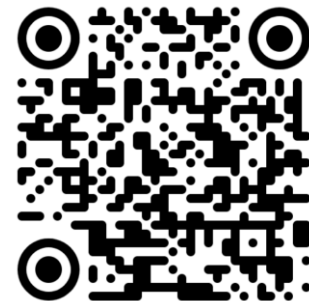
- Why was it created? What are the use cases?
- How does it differ from/complement existing tone mappers?



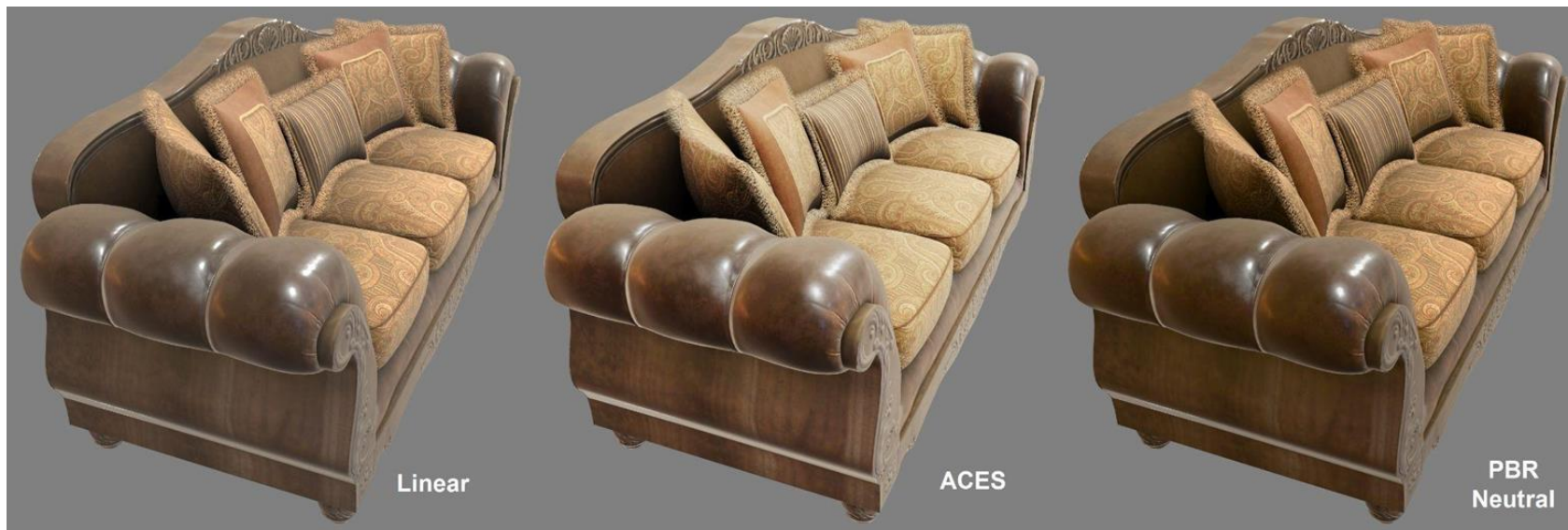
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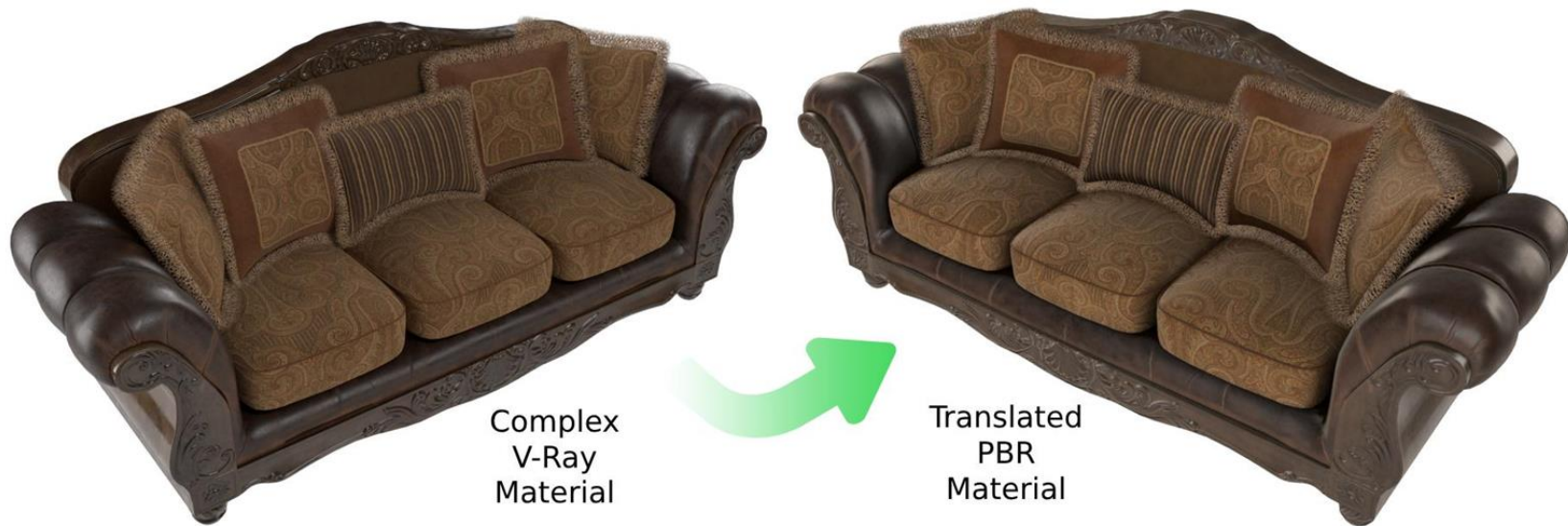
[Press Release](#)



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# Reusability & Scalability



- What does it mean for an asset to be “reusable”?
- High-poly “hero” assets, PBR at 4K minimum, runtime assets as hero assets?
- Large retailers and visual fidelity across thousands of products?
- What matters more at scale: fidelity or functionality?

# Future Outlook

- glTF extensions:
  - Anisotropy
  - Clearcoat
  - Dispersion
  - Sheen
  - Transmission
  - Volume
- How are AI tools impacting the development of 3D assets?
  - What are the current use cases for creating assets using Gaussian splatting or NERF?
  - What kinds of results are currently possible using these techniques?
  - How much delta is there between what AI can achieve and a reusable, visually consistent 3D render?
- Use cases:
  - In what contexts can we currently achieve believable, reusable, visually consistent results?
  - Where do we still face significant barriers and why (e.g. apparel)





# Connect with Khronos at AWE

Meet Up with Khronos in Booth 510



[3D Content Creation for Spatial Computing](#)

Wednesday June 19, 11:00 AM



[OpenXR's Open-Source Pipeline for Accessible XR Development](#)

Wednesday June 19, 11:30 AM PT



Metaverse  
STANDARDS FORUM™

[State of 3D Asset Interoperability using USD & glTF](#)

Thursday June 20, 2:30 PM PT



**These slides will be available on the Khronos  
Group website.**

[www.khronos.org/events](http://www.khronos.org/events)

For more information on glTF and links to online resources, please visit

[www.khronos.org/glTF](http://www.khronos.org/glTF)



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