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Annual Review for MaterialX

Jonathan Stone – Lucasfilm ADG

ASWF TAC Meeting, February 5th, 2025

MaterialX Project

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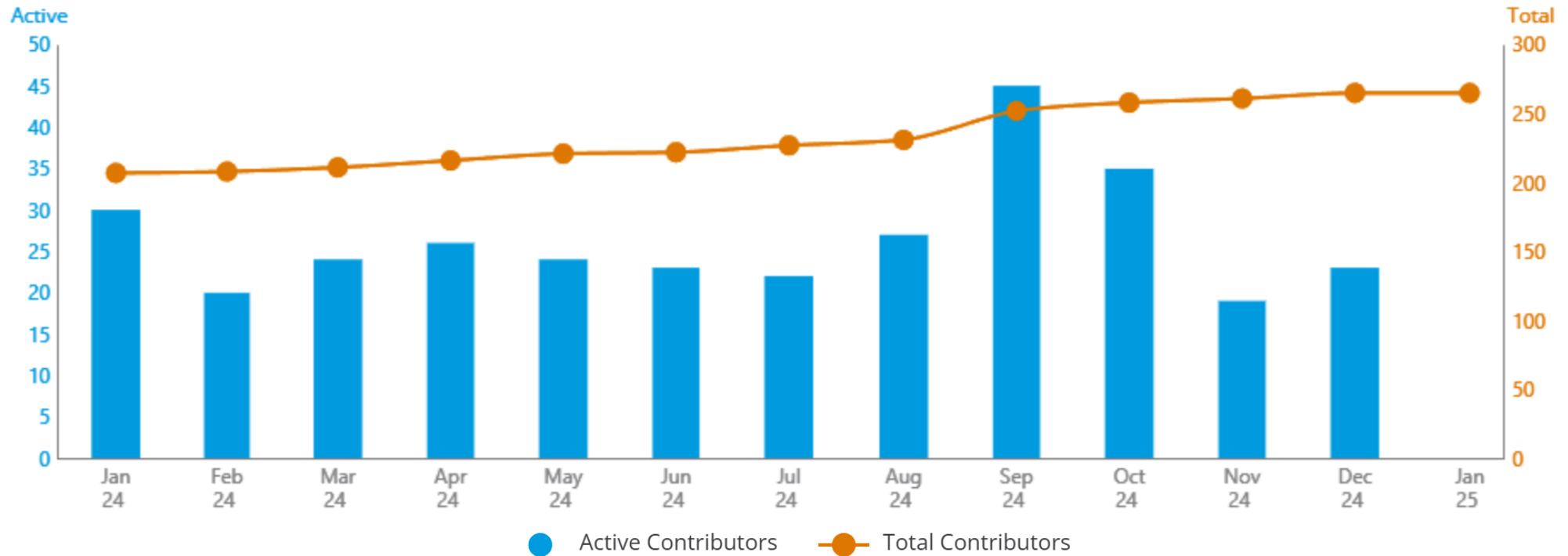
- Represent CG materials independently of individual tools and renderers
- Launched at Industrial Light & Magic in 2012
- First production use on *Star Wars: The Force Awakens* in 2015
- Released as open source in 2017
- Joined the ASWF in 2021
- Graduated as an adopted project in 2024



Active Contributors 2024

Contributors ⓘ

Active Contributors are **increased by 5.66%** 📈 vs. the previous time period.













Contributing Organizations 2024

Organization Leaderboard

Activities are up  by 18.71% vs. the previous time period.

Metric:

Rank 	Organization	Activities	Change	% Contributions
1	 Academy Software Foundation	2K	+490	58.19%
2	 Autodesk	573	-24	16.60%
3	 Apple Inc.	294	+178	8.52%
4	 Adobe Inc.	229	-40	6.64%
5	 NVIDIA Corporation	96	+42	2.78%
6	 Spiria	53	+25	1.54%
7	 Industrial Light & Magic	29	+23	0.84%
8	 Lucasfilm	24	-25	0.70%
9	 Pixar Animation Studios	22	-27	0.64%

Additional contributors:

- SideFX Software
- Wētā FX Limited
- Needle Tools GmbH
- Academy of Art University
- RapidCompact by DGG
- Epic Games
- The Foundry Visionmongers Limited
- Ubisoft
- Chaos Software LTD
- Blender Foundation
- RodeoFX
- Arch Linux

Contributing Regions 2024

Geographical Distribution

TOP 5 REGIONS

36%

United States

21%

Canada

17%

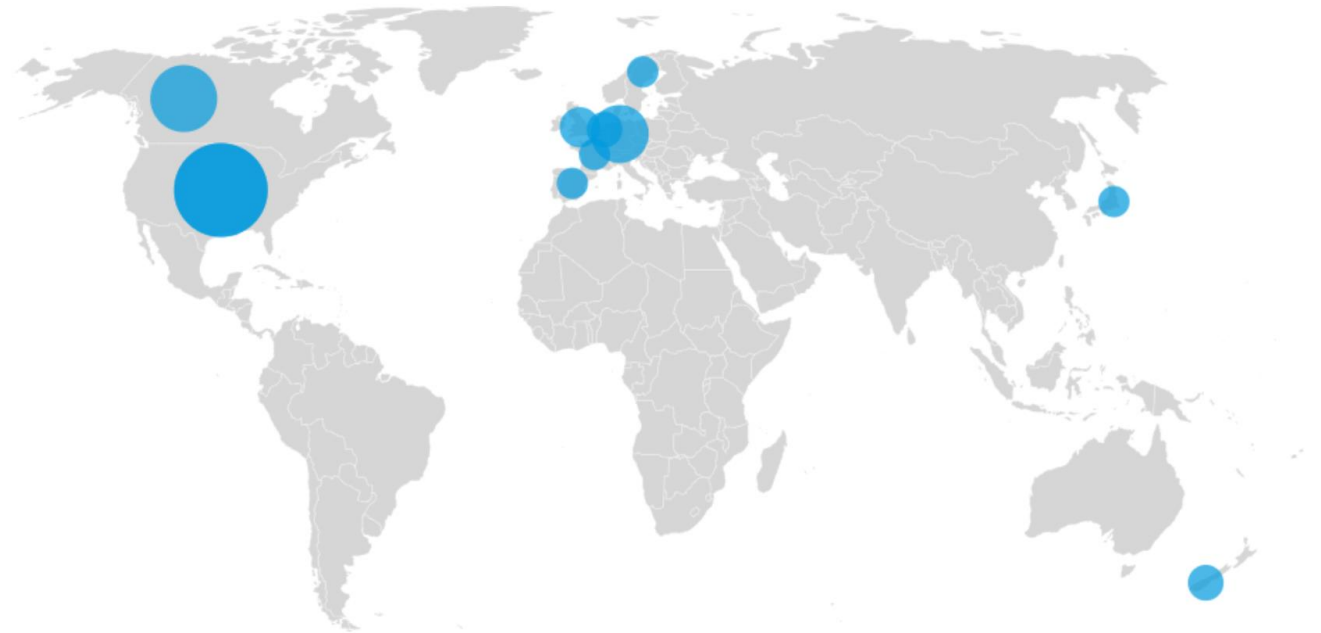
Germany

7%

United Kingdom

5%

New Zealand



Third-Party Integrations

Houdini[®]



Apple Vision Pro



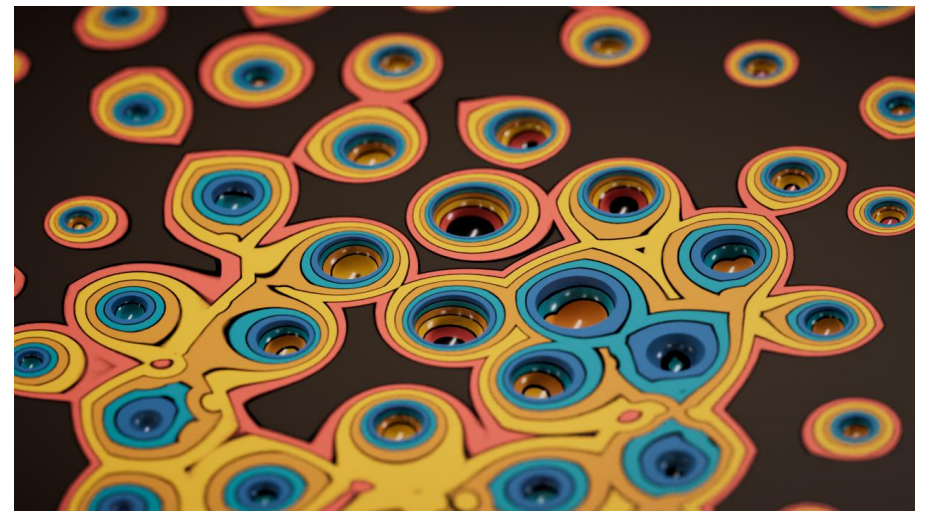
New Integrations in
2024



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Highlights: MaterialX 1.39.2 Release

- New Features:
 - Chiang Hair BSDF (NVIDIA contribution)
 - Generic Color Ramps (Autodesk contribution)
 - Improved Worley Noise (SideFX contribution)
 - Disney Principled shading graph
 - Shader generation optimizations
- Dev Days 2024 Contributions
 - 10 merged pull requests
- Validated with OpenUSD 25.02



Highlights: OpenPBR 1.0 Release

- Result of a long-time collaboration between MaterialX, Adobe, and Autodesk
 - With additional contributions from NVIDIA, Blender Foundation, ILM, and more
- Current release is OpenPBR 1.1
 - Now available in MaterialX 1.39.2 and OpenUSD 25.02



Highlights: AOUSD Materials WG

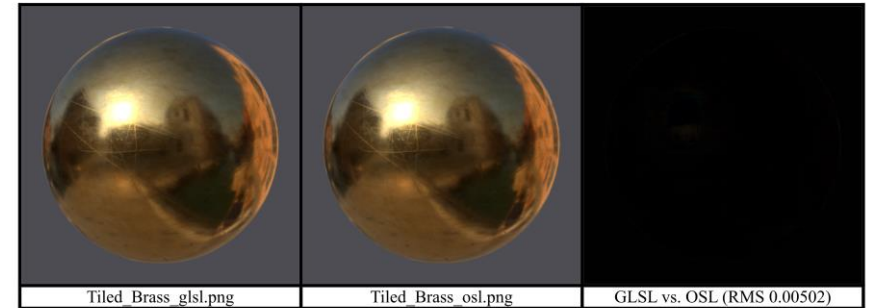
- The Alliance for OpenUSD launched the Materials Working Group in 2024
- Developing a normative specification for OpenUSD materials
- The MaterialX specification will be included via *reference*
- This requires sections of the MaterialX specification to become *normative*



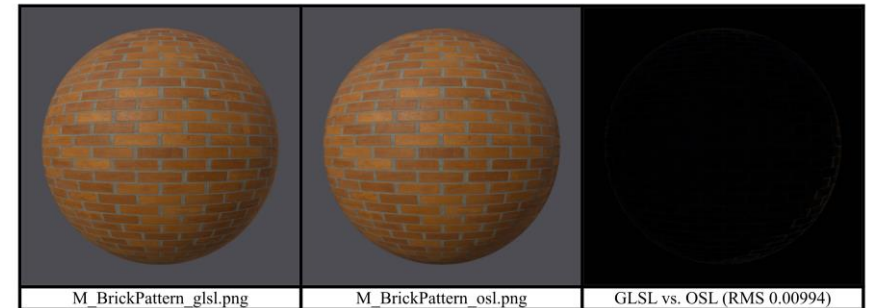
Roadmap: Render Validation

- A strong need for accurate comparisons of complex materials across renderers and languages
- Initially focused on MaterialX, but will extend to OpenUSD assets in the future
- Collaborations with the Open Shading Language team and Alliance for OpenUSD will be hugely valuable

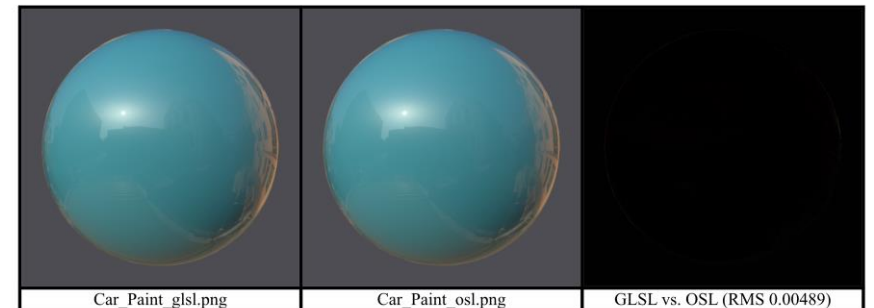
..\build\bin\resources\Materials\Examples\StandardSurface\standard_surface_brass_tiled:



..\build\bin\resources\Materials\Examples\StandardSurface\standard_surface_brick_procedural:

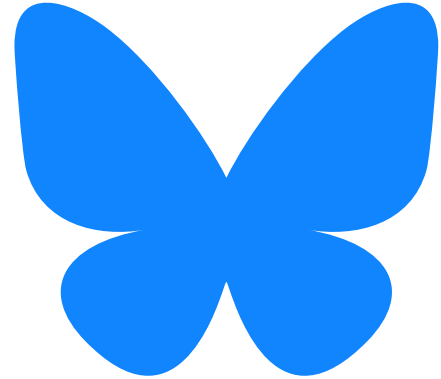


..\build\bin\resources\Materials\Examples\StandardSurface\standard_surface_carpaint:



Roadmap: Open Social Platforms

- MaterialX has recently migrated to BlueSky and Mastodon for public announcements and discussions
- We'd love to build an Academy Software Foundation community on these open platforms
- Let us know if you're interested in joining and connecting with us!



TAC Open Discussion

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