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# Annual Review for Academy Color Encoding System (ACES)

# ACES

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ACES is a widely-used, standards-based framework for capturing, processing, exchanging, and archiving scene-referred imagery (based around SMPTE ST 2065-1). We provide standard components to enable predictable, reproducible color across workflows.

**Contributed by:**
*Academy of Motion Picture Arts and Sciences*

**Github:** *github.com/aces-aswf*
**Website:** *acescentral.com*
**Artwork:** *artwork.aswf.io/projects/aces*
**Mailing lists:**

- aces-discussion: aces-discussion@lists.aswf.io
- ACES Central: community.acescentral.com

**OpenSSF Best Practice Badge URL:**
*https://www.bestpractices.dev/en/projects/10714*

# ACES TSC

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Chair
**Scott Dyer**
*Academy of Motion Picture Arts and Sciences*

**Bill Baggelaar**
*Rocketfrog Consulting*

**Sean Cooper**
*Skydance Animation*

**Annie Chang**
*NBCUniversal*

**J Schulte**
*Industrial Light & Magic*

**Chris Clark**
*Netflix*

**Nick Shaw**
*Antler Post*

# ACES Project

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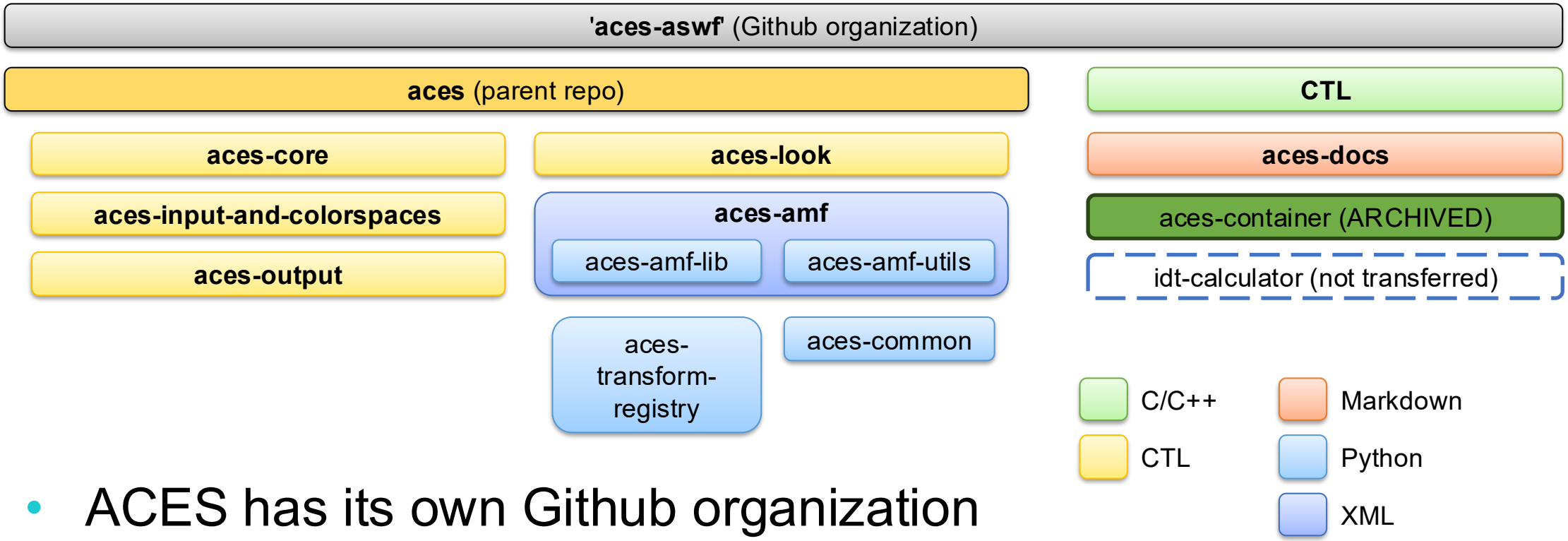


- ACES has its own Github organization
- ACES consists of code and "not code"
  - SMPTE standards, specifications, best practices, etc.

# What have we done?

# Roadmap



- Github project roadmap (WIP): https://github.com/orgs/aces-aswf/projects/2/views/2
  - Need to get initiatives broken down into issues so we can more thoroughly fill out roadmap, communicate priorities, and track progress
- Mostly been getting "settled in"
  - Transferred repositories, set up community health files
  - Systems and information a bit scattered and broad
    - Consolidate to one place and simplify, wherever possible
    - Add automation to help manage complex infrastructure
    - Been working through permissions – Github, Github tokens, and PyPI
  - Keep running things through transition – manage legacy processes, e.g. implementers "Logo Program"
- TSC discussion to align on project mission, vision, goals
  - List of work initiatives (working groups) that work us toward those goals

# How are we doing?

# Contributions

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## Health score

● **Healthy**

The Insights Health Score combines the four key areas to measure an open source project's overall trustworthiness. Learn more

Health Score Healthy

Share your project Health Score in your GitHub page.

Generate badge

| Contributors | Popularity | Development | Security & Best practices |
|---|---|---|---|

**Quarterly Contributor Retention Rate**

14% of contributors are contributing quarter over quarter - This project has decent contributor retention, with 10%+ of contributors continuing their involvement.

**Quarterly Active Contributors**

2 active contributors in the last quarter - Project has very limited contributor activity, which may impact development pace and maintenance coverage.

**Contributor Dependency**

1 contributor accounts for 51%+ of contributions - This project is dependent on a single contributor, leading to a high risk if that individual becomes unavailable.

**Organization Dependency**

1 organization accounts for 51%+ of contributions - This project is highly dependent on a single organization, indicating a lack of diverse organizational support.

ACES **Academy Color Encoding System (ACES)** Jul 8, 2025 → Jul 8, 2026

## Contributors leaderboard

All activities

| Contributor | Total contributions |
|---|---|
| Scott Dyer | 287 - 67% |
| michaeldsmith | 78 - 18% |
| Chris Clark | 21 - 5% |
| michaeldsmith | 12 - 3% |
| Chris Clark | 6 - 1% |
| Doug Walker | 5 - 1% |
| Sean Cooper | 3 - 1% |
| viivsion | 3 - 1% |
| Thomas Wilshaw | 2 - 0% |
| Cristian Le | 2 - 0% |

# Contributions (cont.)




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- OpenSSF Badge: 94%
  - A bit misleading…
    - CTL has CI and unit tests
    - Core ACES components, built using CTL, do not
  - *Should these have separate OpenSSF badges?*
- Commit activity
  - A bit misleading…
    - Mostly cleanup, very few substantive commits
    - However, major new contributions on the horizon

# Contributions (cont.)

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**Academy Color Encoding System (ACES)** Jul 8, 2025 → Jul 8, 2026

## Organizations leaderboard

All activities

| Organization | Total contributions |
|---|---|
| Academy of Motion Picture Arts and Sciences | 287 - 94% |
| Autodesk Inc. | 5 - 2% |
| Netflix, Inc. | 3 - 1% |
| Rochester Institute of Technology | 3 - 1% |
| Academy Software Foundation | 2 - 1% |
| Max Planck Institute for Intelligent Systems | 2 - 1% |
| Framestore Limited | 1 - 0% |
| Antler Post | 1 - 0% |

# Organizations contributing and/or using in production



- Dozens currently using
- Active participation down, but several past contributors

- Studios: Netflix, Disney, Universal, Paramount Skydance, Sony, …
- Cameras: Apple, ARRI, Blackmagic, Canon, DJI, Leica, Oppo, Panasonic, RED, Sony, Vivo, Xiaomi, …
- Post-production: Blackmagic, Colorfront, Filmlight, Pomfort, …
- https://acescentral.com/logo-program/
- https://acescentral.com/aces-productions/

# Getting more contributions



- A bit of chicken and egg problem
- Have companies involved, but mostly only for their piece(s)
  - Transitioning to them "owning" and maintaining their piece(s)
- We can make things easier, it just takes time
- No good first issues – we're still defining what those might look like for the different project components
  - Transforms – e.g. implementer submissions, or looks
  - Docs – e.g. usage guides, summaries (i.e. LLM summations then edits of long forum threads), product/application specific guides
  - CTL?

# VFX Industry Build Matrix Updates



Not applicable.

# Project Engineering Contributions

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ASWF Project Engineering Contribution Matrix

File Edit View Insert Format Data Tools Extensions Help

A1 | Project

| | A | B | C | D |
|---|---|---|---|---|
| 1 | Project | Which organizations do you believe have at least one person spending at least 20% of their work time contributing directly to the project? (See attached note for a full explanation.) | What % of the project's **tactical** needs/goals are currently being met? (See attached note for a full explanation.) | What % of the project's **strategic** needs/goals are currently being met? (See attached note for a full explanation.) |
| 2 | ACES | Academy | 0% | 0% |
| 3 | Dailies Notes Assistant (DNA) | ILM, Sony Imageworks | 75% | 75% |
| 4 | DPEL | DreamWorks Animation, Netflix Animation | 50% | 40% |
| 5 | MaterialX | Lucasfilm, Apple, Autodesk, NVIDIA | 80% | 70% |
| 6 | Open Shading Language (OSL) | Sony Pictures Imageworks, Intel, Netflix Animation, NVIDIA | 60% | 40% |
| 7 | OpenAPV | | | |

0% and 0% ➜ 3% and 3%.

# AI / ML Code Generation Use / Reporting



- No explicit policy yet published in our repos
- Informal use of "Assisted-by:" in recent commits
- Plan to set, but haven't had a need (yet)
  - Will follow TAC recommendations

# What comes next?

# Goals



- **Establish a stable foundation**
  - Clean up existing ACES codebase and practices, predictable intentional releases
- **Empower interoperability & implementation consistency**
  - Provide vendors with clearer specs and tools to ensure identical results across applications
- **Expand documentation**
  - Add user-friendly docs to lower barrier to entry.
  - Practical, accessible. Audience aware.
- **Build sustainable governance and contributor onboarding**
  - Make understanding how to help the project more effortless
- **Explore ecosystem expansion**
  - Adapt ACES principles and components to fit broader industries, if applicable.

# Current & Future Focuses



- Automations
  - Actively working to add GitHub Actions to help manage the complex repo structure, including submodule synchronization and automated release prep
- Publishing to PyPI
  - Will be merging the project's first python packages to help with AMF validation, URN management, and more
- Updating implementer contribution guidance and systems
- Big goal for next year is to begin adding tests for ACES CTL components and for implementers to better verify implementations

# Key Achievements in the past year



- **ACES 2.0** (April 2025)
  - Not technically in "past year", but important foundation for a planned August release

- Almost ready
  - **Python packages**

| | |
|---|---|
| **aces-amf-utils** | CLI, builder, and utilities for creating, modifying, and analyzing AMF files |
| **aces-amf-lib** | Reference library for reading, writing, and validating AMF files |
| **aces-transforms** | ACES transform ID registry with offline lookup and version mapping |
| **aces-common** | Shared protocols and types |

  - **CTL enhancements** – 16x speed CPU, Metal backend, unit testing framework, VS Code debugger plugin, Matlab & Python bindings

# Areas the project could use help on



- Re-engage previous participants, bring in new ones
  - Help brainstorming areas for improvement
  - Help reviewing PRs
  - Contribute new work
  - Create issues – bugs, features, anything!
- Communication, marketing, documentation
  - Highlight the project is still active, why it's still important, and provide more accurate guides on how and why to use ACES (counter or drown out bad info from some YouTubers)
- Hope to get some engagement at SIGGRAPH BoF

# Feedback on working with ASWF



- Some of the transition has been frustrating, but…
- In the long term this is good for the project

- How to handle CTL vs ACES stuff?

- Lots of untapped resources here
  - People
  - Tools & support

# TAC Open Discussion