The International Color Consortium (ICC)

- An industry consortium
- Established in 1993 by eight industry vendors

ICC Membership

- **Founders:**

  Adobe Systems Incorporated

  Agfa-Gevaert N.V.

  Apple Computer, Inc.

  Eastman Kodak Company

  FOGRA-Institute (Honorary)

  Microsoft Corporation

  Silicon Graphics Inc.

  Sun Microsystems, Inc.

  Taligent, Inc.

The ICC Today

- Today 49 members

- Goal: ***Create, promote and encourage evolution of an open, vendor-neutral, crossplatform colour management system architecture and components***

The ICC is truly international!

- **18 member companies from the USA**
- **13 member companies from Europe**
- **18 member companies from Japan**

There are currently no member companies from China or the rest of Asia!

Benefits of ICC Membership

- ***Participation*** **in the on-going development of the ICC Profile Format Specification**
- ***Advanced notice*** **of future changes to the ICC Profile Format Specification**
- ***Networking*** **with world renowned color scientists**
- ***Recognition*** **of your company's support for the advancement of color management**

Complete membership documents are available at www.color.org

ICC Membership

- Founding members comprise the ICC Steering Committee together with an additional eight members.
- Currently approximately 49 members from all areas of the imaging and computer industry.

The Heritage

- Several profile-like formats appeared in early 1990s
  - Kodak (Precision Transforms)
  - Apple (ColorSync)
  - EFI (EFI Color)
  - Adobe (PostScript CSA/CRD, PDF CalRGB)
- ICC's profile specification based on the Apple ColorSync profile format

The ICC Profile

- **ICC develops and promotes a standard colour profile specification (ICC Profile).**
- Available as PDF at www.color.org
- The current version of the ICC Profile

Specification is **ICC.1:2010-12 (Profile version 4.3.0.0) Image technology colour management - Architecture, profile format, and data structure**

The current specification should be read in conjunction with the Errata to ICC.1:2010-12

ICC Today

- *The colour management architecture currently in place allows communication of colour across all applications, devices, and operating systems.*
- Currently at version 4.0 of the specification

ICC Support

- Operating System Support on Apple, Microsoft, Sun, SGI, Java.
- Support for most high-end graphic arts input and output devices.
- Support in most professional and amateur photography applications.
- Support for many high-end consumer devices.

Working Groups

- Working groups are investigating and working on recommendations and solutions for:
  - Specification editing
  - Graphic arts special interest (GASIG)
  - Architecture
  - Motion picture, video and photography
  - Automated Workflow
  - Displays
  - Profile Assessment

Graphic Arts Special Interest Group

Charter: The primary focus of this working group is to address issues raised when using ICC Profiles for printing presses or related printing systems, for example digital proofers.

Objectives:

1. **Promote the use of ICC Profiles in “high end” graphic arts applications.**
2. **Identify areas where the existing ICC Profile format is unable to provide the functionality required by these printing systems.**
3. **Propose changes in working practice and if necessary in the ICC Profile format to address current limitations.**

Architecture

Charter: The Architecture Working Group will address issues relating to ICC architecture.

Objectives:

1. **Document the current architecture, including its functionality for the purpose of defining the baseline for further work and internal usage.**
2. **Investigate and propose improvements and alternatives to the current architecture to address identified issues.**

IccLabs

Profile Assessment

Charter: The mission of this group is to seek methods for assessing quality of ICC profiles.

Objectives:

1. **Define a set of quality attributes for ICC profiles.**
2. **Identify analytical methods for defining and investigating performance capabilities of valid ICC profiles. (A valid profile is one that conforms to the ICC specification.)**
3. **Investigate metrics that might quantify or qualify said performance characteristics.**
4. **Recommend promising solutions to the ICC body for their consideration.**
5. **Short term goal is to develop evaluation methods for use within the ICC.**
6. **Longer term goal is to offer suggestions to users for evaluation.**

Displays

Charter: When the ICC Profile Specification was developed, display technology was primarily CRT-based. As a result, the transform tags for the monitor support a simple additive model that is appropriate for that technology.

Nowadays, there are numerous new technologies, including LCD, Led, and OLED with various types of backlighting. The simple model described by the ICC Monitor tags is inadequate to completely and adequately describe color displayed by these technologies. The predominance of the sRGB color encoding, which was developed during the CRT era, has been used for a large amount of content. New displays, especially those on mobile devices, often do not model that color encoding completing. In addition, new technologies that provide wider color gamut than sRGB are available. Unfortunately, these devices, because they do not provide a direct means to display sRGB content adequately, often yield inferior results.

Displays cont.

The Display Working Group is created to address the aforementioned issues with the following

goals:

1. Work with other groups in the ICC as well as outside organizations **to fully define the problems** associated with color management of display output;
2. **Identify and categorize display technologies** and the appropriate corresponding transform methodologies for supporting them in ICC workflows;
3. Where the current ICC specification is inadequate to the needs of display color managements, **draft profile proposals to implement the algorithms and data structures developed in #2** and bring them through to acceptance by the ICC; and
4. **Develop algorithms and data sturctures to implement the methogologies** identified in #2 and #3.

Motion Picture, Video and Photography

Charter: Enable and promote the correct and effective use of ICC color management for photography, video and motion pictures.

Objectives:

1. **Identify issues with the implementation** and use of ICC color management for photography, video and motion pictures.
2. **Establish and maintain liaison relationships** with the appropriate photography, video and motion picture standards development organizations, e.g. ISO/TC 42, ISO/TC 36, IEC/TC 100, ISO/IEC JTC1/SC29, ITU-R SG6, SMPTE.
3. Prepare white papers and other educational materials, and promotion activities to guide developers and users in the appropriate application of ICC color management to photography, video and motion pictures.
4. When necessary, **propose new ICC specifications or revisions** to existing ICC specifications to address photography, video and motion picture issues.
5. **Promote the use** of ICC color management in photography, video and motion pictures.

Summary

- The ICC has achieved its initial goal: a colour management architecture that allows for the communication of colour across devices, applications, and operating systems.

- In the future, the architecture will be broadened to fit additional colour workflows, and specifications tightened further to improve interoperability. This effort is being managed under the name ICCLabs

Xie Xie!