TAGA NextGen

The changing outlook of color management

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Introduction

- Color management processes
  - How to use
- Reference conditions
- Standards
- Recent activities and route forward
- Closing thoughts


Achieving the right color
- first time
- every time
It’s not magic!

How do we use color management?

- In simple terms, color management is used to obtain consistent color across various devices
  - Throughout the value chain

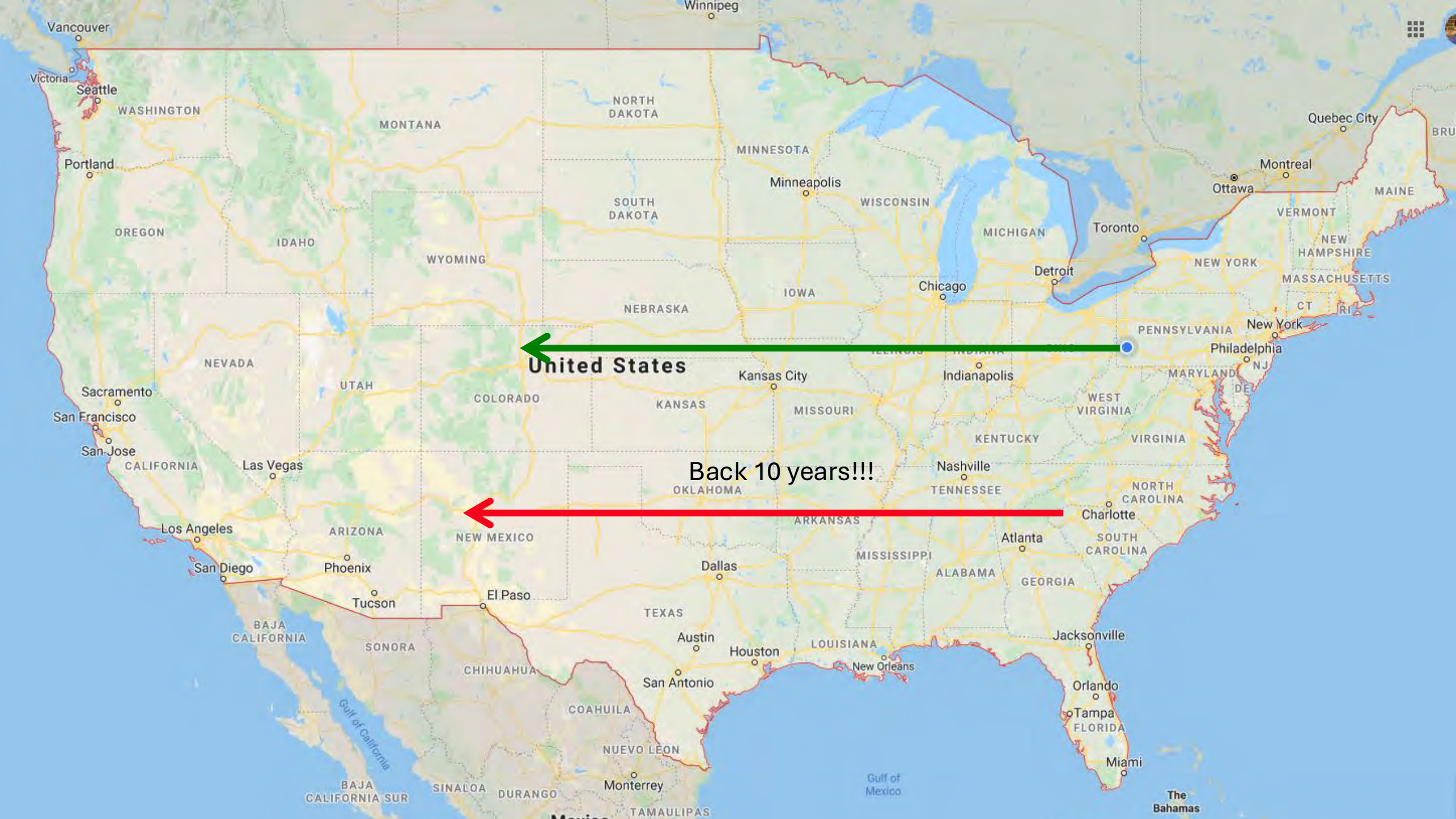
- Color conversions are made based on information contained in an ICC profile

What doesn’t color management do?

- Color management will not make a bad image look good
    - If you start with a bad image in a color managed workflow, you’ll end up with a fantastic reproduction of that bad image!
- Color management is not a replacement for calibration and maintenance

How do we get predictable color?

- Varies to some degree based on the printing process
  - Typically targeting some known colorspace or condition
- Commonly achieve by .icc color management or tone curve adjustments
  - Press calibration / baseline / linearization is critical for repeated success
- Many of these processes are defined by specifications and standards
  - Brands then can get consistent color globally
- Have TVI based methods and near neutral calibration (G7)
  - Aim is to have global alignment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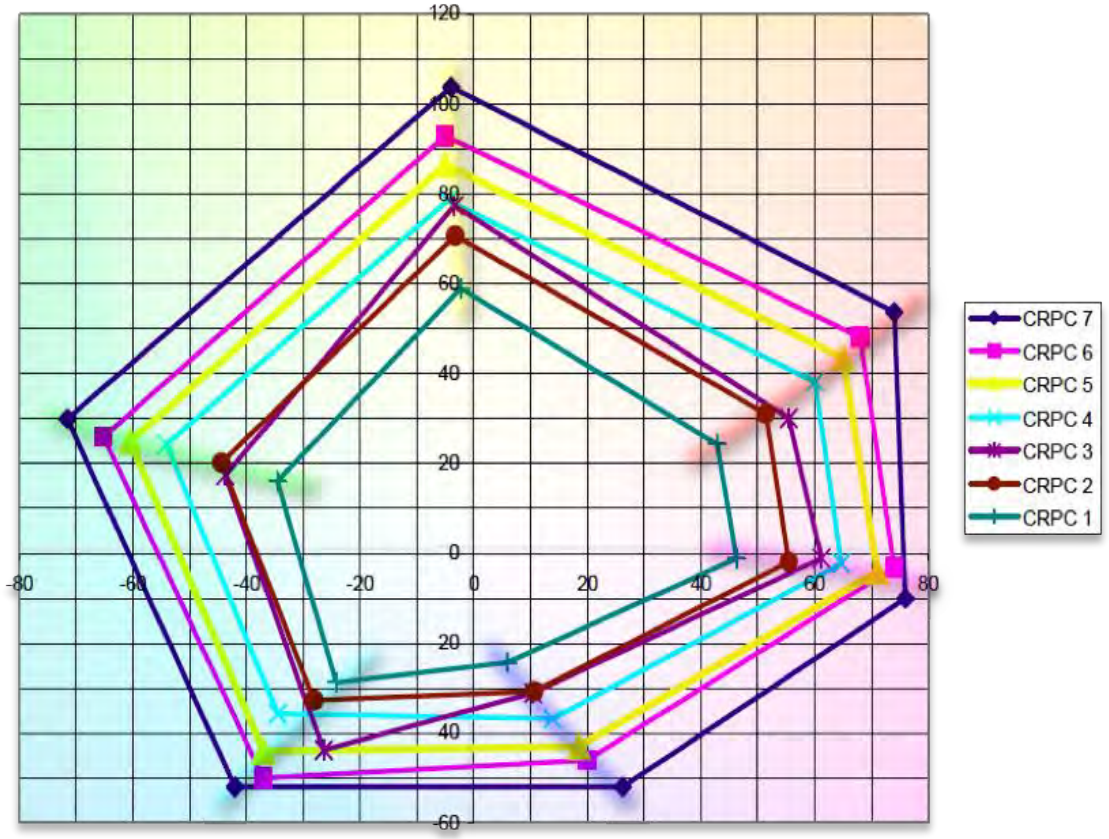
We aim for a CRPC [Characterized Reference Print Condition]

- Have some existing ones
  - CRPC 1 cold-set news (old SNAP + G7)
  - CRPC 2 heat-set news (coated inserts)
  - CRPC 3 quality uncoated (GRACoL Uncoated)
  - CRPC 4 pub super-calendared (direct mail)
  - CRPC 5 pub coated (SWOP 2013)
  - CRPC 6 commercial coated (GRACoL 2013)
  - CRPC 7 generic large-gamut (digital)
- New ones being proposed for ISO 15339
  - Development of a new UCD



Step back to look at the development of standards

There are a number of rules and regulations that need to be followed in standards development

How are ISO standards developed?

The International Organization for Standardization has a six-stage process for developing standards. The stages include the following:

- **Proposal stage.** The first step in developing a new standard starts when industry associations or consumer groups make a request. The relevant ISO committee determines whether a new standard is indeed required.
- **Preparatory stage.** A working group is set up to prepare a working draft of the new standard. The working group is composed of subject matter experts and industry stakeholders; when the draft is deemed satisfactory, the working group's parent committee decides which stage occurs next.
- **Committee stage.** This is an optional stage during which members of the parent committee review and comment on the draft standard. When the committee reaches consensus on the technical content of the draft, it can move to the next stage.
- **Enquiry stage.** The draft standard at this stage is called a Draft International Standard (DIS). It is distributed to ISO members for comments and, ultimately, a vote. If the DIS is approved at this stage without any technical changes, ISO publishes it as a standard. If not, it moves to the approval stage.
- **Approval stage.** The draft standard is submitted as a Final Draft International Standard (FDIS) to ISO members. They vote to approve the new standard.
- **Publication stage.** If ISO members approve the new standard, the FDIS is published as an official international standard.

ISO 12647-2 (Offset Printing) Scope

Scope

This document specifies a number of primary parameters and their values to be applied when producing colour separations, printing formes and print production for four-colour sheet-fed and web-fed offset printing presses, excluding metal decoration printing and coldset offset lithography on newsprint.

The parameters and values are chosen in view of the typical workflow covering the stages of colour separation, proof production, making of the printing forme, selection of OK print and production printing on all commercially available production substrates, excluding surfaces where ISO 13655 compliant measurements do not give reliable measurement data such as transparent film, metals or metallic coated paper.

This document

— is directly applicable to press proof prints and four-colour offset printing,

— is applicable to press proof prints and printing processes with more than four process colours as long as direct analogies to four-colour printing are maintained,

— is applicable for all kinds of ink drying and ink curing methods.

This document is not applicable to other processes than offset lithography such as printing directly from digital data.

ISO 12647-2

- Ongoing standard development
  - Revisited every 5 years
- ISO stated the standard to have multiple methods
  - Did not need to be exactly the same
- TVI and NNC were being introduced as alternate methods
  - The inclusion of this has been the primary goal of the last iteration of the standard
  - Why - there are over 20,000 implementations of NNC (G7)
  - In combination the group looking at a unified characterization dataset (UCD) combining Idealliance CRPC GRACoL 2013 and Fogra 51
- Were supposed to have this completed by now!
  - Think ISO rules

What has changed over the last year

- Jan ‘24 document was ready
- Beta test document provided by Don Schroeder to WG3 using the UCD
- Mid Feb ‘24 Printing United announced G7+
- ISO Near Neutral Calibration becomes stalled due to confusion in the marketplace
- All activity halted and US delegation asked to explain what is going on

G7+ introduces advanced calibration and verification algorithms for new technologies, preserving the familiar features and overall appearance as legacy G7

Fairfax, Va. — PRINTING United Alliance, the most comprehensive member-based printing and graphic arts association in North America, today announces the release of G7+®, the next evolution in color calibration. G7+ is a new and improved calibration specification that replaces legacy G7® with new logic and algorithms, but with similar overall appearance. G7+ training and certification will be available in-person during the COLOR Conference portion of the PRINTING United Technical Event Series this March 12-14 in Dallas, Texas; and soon on the Alliance’s iLEARNING+ platform. Learn more about G7+ here: www.printing.org/g7plus.

New and Improved G7+® Calibration Specification

After an incredible 19-year run and over three years of R&D by PRINTING United Alliance, G7+ is designed to work equally well with all printing technologies and offers increased value and effectiveness for a wider range of markets and applications, while preserving the value of existing G7 workflows. G7+ maintains the features, benefits, and general appearance of G7, but with more accurate gray balance, improved tonality, and better performance in unusual printing conditions.

“PRINTING United Alliance is excited to announce G7+ to continue our mission in supporting leading printers and print buyers around the world,” says Jordan Gorski, executive director, Idealliance. “G7 has raised the bar in the world of print and color output as colorimetry and

Where are we now?

- Ad hoc committee worked on this diligently
  - Multiple questions and iterations
  - Extensive efforts to resolve
- On February 11th, 2025, informed that the development of ISO 12647-2 was cancelled by the convenor of WG3
- Will be reintroduced by US delegation, hopefully on a fast track, during May's ISO TC130 meeting in Grand Rapids, MI

Closing thoughts

Thank you

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Color management builds on the tools & infrastructure

- Leverage press consistency, inline / external instruments and software solutions
  - Known baseline for the color management
  - Easy manner for operators to maintain
- Predictability and consistency key to color management
- Work on the following topics
  - Defining the standard
  - Protocol for managing the presses
  - Regular color checks
    - Are we doing what is planned?
  - Process optimization