U.S. Graphic Arts Industry & Standards: A Brief History

The following is the sixth and final installment in a series that offers a brief history of the U.S. Graphic Arts Industry's involvement in graphic arts standards activity.

By David Q. McDowell

NPES is the secretariat for B65, CGATS, TC130/WG2 and the USTAG/TC130. These committees are all active and healthy. The work of CGATS and the U.S. support of TC130 is being integrated to minimize overlap and/or conflicts. All TC130 documents are circulated to one or more of the CGATS SCs in addition to the members of the USTAG.

Although NPES and IPA were the only two graphic arts organizations represented on the ANSI Image Technology Standards Board, in 1994 Kip Smythe of NPES was elected chair of the ITSB. In addition, a number of the company representatives brought a graphic arts background—a real turnaround in involvement and interest by the graphic arts in a 10-year time span.

Within CGATS the relationship with industry groups has also continued to grow to the benefit of both. A significant accomplishment occurred in the fall of 1995 with the publication of the first CGATS Technical Report, ANSI/CGATS TR 001-1995, Graphic Technology—Color Characterization Data for Type 1 Printing.
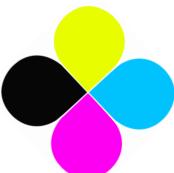
Cooperative Effort
This technical report was the outgrowth of the cooperative effort between SWOP and CGATS to prepare and measure physical printed samples produced as close to the SWOP aims as possible. The data contained in this report was the first publicly available colorimetric characterization data for a major printing process. It has the endorsement of both SWOP and CGATS and is the perfect example of cooperation between an industry group and a standards committee.

CGATS is also in dialogue with many of the other industry groups interested in specifications and standard practices. In the area of printing, this includes the Graphic Communications Association (GCA), Gravure Association of America (GAA), SNAP Committee, etc. As of this writing, there are 18 CGATS (and IT8) standards in place and another seven in the development/approval process.

The current CGATS organization is as follows:

- Main Committee
- Executive Committee
- SC1 Terminology
- SC2 Plates
- SC3 Densitometry
- SC4 Process Control
- SC5 Materials Handling
- SC6 Digital Advertising Exchange
- SC7 Data Exchange
- SC8 Color Data Definition

Following Dick Fisch and Al Materazzi the officers of CGATS have been:

Years	Chairman, Vice Chairman
1991-1993	David McDowell (Kodak),Tom Basore (WPA)
1994-1995	Tom Basore, Gerd Koehler (Quebecor)
1996-1997	Bruce Shifrin (Screen), Walt Zawacki (Flint Ink)

A key project in the current CGATS program of work is the development of standards to allow the exchange of completed work in electronic form. These standards must satisfy the needs of the DDAP requirements definitions and will also find applicability for material beyond advertising. It is important that these exchanges be enabled between both CEPS (raster-based systems) and DTP (desktop publishing) systems. These activities are building on a combination of the TIFF/IT (IT8.8 and ISO 12639) standard and an implementation standard for graphic arts use of the Adobe Portable Document Format (PDF). This latter step is possible because the Adobe PDF is a publically available format specification.

ISO Activities
The work of ISO/TC130 has continued to progress and accelerate. The Chairman is Dr. Fredrich Dolazelik of the German graphic arts research institute, FOGRA. The work in TC130 is maturing and is incorporating national body work from, in particular, the United States, Germany, and Japan. Other countries are also active and these activities are clearly beginning to allow international communication of graphic arts information. A key difference between the current

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activities and those of earlier standards activities is that the current focus is on the enablement of communication rather than the strict proscribing of acceptable performance.

Considerable emphasis is being placed on the definition of printed output. A three-tiered model is being followed. Under this model the color of the ink in the can is defined in terms of an ink test. This is followed by definition of various standard printing conditions—typically related to the paper being used. This is then followed by the characterization of the printing under those specific conditions with a specific ink. This latter characterization is usually based on the IT8.7/3 (IT8.7/3-1993, Graphic technology—Input data for characterization of 4-color process printing) dataset or its ISO equivalent, ISO 12642 with the same title.

Following the lead of the United States, both the European and Japanese communities are beginning to develop printing characterization data based on this approach, similar to the SWOP characterization in CGATS TR001. In another area, the colorimetric measurement profiles defined first in CGATS.5-1993 and then incorporated in ISO 13655 are being accepted by many other groups such as color fax and the color management groups.

One activity of special interest is the development and approval of the first ISO standard that includes image data in digital form on a CD-ROM as a normative part of the standard. ISO 12640, Graphic technology—Prepress digital data exchange—Standard color image data (SCID), was approved by TC130 in 1995.

This standard started as a proposal from the Japanese National Body. It was accepted by TC130 with additional images proposed by several other national body groups. The final standard carries both natural images (pretty pictures) as well as test objects such as a rendition of the IT8.7/3 (ISO 12642) dataset used for printing characterization. The images contained in this standard have formed the basis for all the printing characterization work being accomplished world-wide (e.g., SWOP, Japan Color, the FOGRA work, as well as the work going on in SNAP, GAA, etc.).

Industry Activities
The SWOP Committee is very active and is keeping up with the changes in technology. In its 1993 revision of the SWOP requirements document off press proofing was included for the first time. The concept of "Application Data Sheets" was also introduced to allow the manufacturers of proofing equipment to better specify the proper operation of their product to provide the best appearance match to a SWOP press proof.

SNAP (Specifications for Newsprint Advertising for Publications) and CGATS have begun a dialogue to consider a

standard defining the technical aspects of the SNAP printing conditions and development of color characterization data similar to SWOP definitions in CGATS.6 and CGATS TR001.

Several subgroups within the GAA Standards Committee are looking at definition and characterization of packaging, publication, and commercial gravure printing. It is too early to know if these will lead to GAA or ANSI/ISO standards. However, this work is following the model of the SWOP/CGATS work and is using the images and measurement procedures specified in the ANSI and ISO standards.

In 1994, an industry consortium was formed to deal with the exchange of color profile data between color management systems. This group is now called the International Color Consortium (ICC). NPES is the administrative secretariat and its technical secretariat is FOGRA.

The initial founding members were Adobe Systems, Inc, Agfa-Gevaert, N.V., Apple Computer, Inc, Eastman Kodak Company, Microsoft Corporation, Silicon Graphics, Inc., Sun Microsystems, Inc., and Taligent, Inc. By the end of 1995 the membership had grown to 26 companies. Although it is not a formal standards committee, the ICC has entered into dialogue with TC130 and is preparing their specification in accordance with the procedures for an International Standard.

David Q. McDowell, Standards Consultant with Eastman Kodak Company, has been instrumental throughout his career in forming and promoting print standards in the United States and around the world. He was honored with the 2013 Idealliance Leonard Holzinger Award.