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The ISO-standard for digital production printing – a comment

Consistent aim values and guidelines, nationally or internationally defined, have been a reality for conventional offset printing by means of ISO 12647-2 and the ProcessStandard Offsetprint (PSO) for years, remain unattainable for digital printing. This basically depends on two factors, which are interrelated.
Firstly the term „digital printing" as a description of a single imaging technology is not suited well. While an advertising technician understands digital printing as its 5 m wide large format UV-inkjetprinter, an offset printer might think about a toner based machine. Both use cases show substantial difference by means of data preparation, process control and image quality requirements. Secondly, compared to conventional printing, most digital printing technologies are still in an early development phase. Therefore there is a lack of all kinds of standardization activities and related research.

Scoping of ISO 12647-7 and -8?

In the proofing arena ISO 12647-7, published in 2007, defines internationally agreed upon aim values and tolerances both for a proofing system as well as the contract proof creation. In the light of the basic concept of ISO 12647-1 – namely to related primary process parameters (ink. Substrates, screening etc) to resulting visual characteristics (solid coloration, tonal response etc) – part 7 for contract proofs and part 8 for validation prints slightly extend this concept. In fact ISO 12647-7 and -8 start with a reference printing condition by means of a set of characterization data such as FOGRA39 and not – as one might expect from ISO 12647-1 – with a set of process parameters for inkjet or electro-photographic printing.
A less stringent set of quality criteria termed "Validation Prints" has been discussed for more than three years within the corresponding international committee for graphic technology (ISO TC 130). After a successful vote at the CD stage (committee draft) as part of ISO 12647-7 the group decided to separate the criteria for the Validation Print into an all new part 8. This is currently subject for ballot to become ISO/CD 12647-8 and explained in Fogra special print No. 16 in detail.
Both parts define criteria of single copy outputs of high quality irrespectively as a Contract Proofs in part 7 or as Validation Prints in part 8. Dedicated criteria for the production run are not covered and are beyond the scope of both standards. Since there is no ISO standard for digital production printing now manufacturers of those machines already use ISO/CD 12647-8:2009+ to show conformance to the criteria stipulated for the Validation Print.
It is technically possible to add such criteria but it should be outlined why this is not a wise step to go. One the one hand it would water down the concept of the high quality contract proof. On the other hand such modifications would severely oppose the existing scope and therefore change ISO 12647-x as a stringent multipart standard to become an inharmonic set of individual standards. Additionally there are no scientifically sound and broadly applicable methods dedicated to the different needs of modern digital production technologies to be used here. As a consequence an immensely long and probably tough revision (at a glacial pace) would be likely.

An all-new ISO standard for digital production printing – a possible scenario

The demand for a dedicated digital printing standard is undeniable and are the subject of extensive requests at Fogra. In order to address that matter Fogra founded the Digital Printing Working Group in 2008. Using the cooperative nature of national and international experts this working group serves both as a platform to coordinate and conduct necessary research and print trials

and to provide matured documents as a proposal for a digital production standard to be submitted to ISO TC130.
Both discussions within the Fogra Digital Printing Working Group and ISO TC 130 (WG3) lead in a long-term perspective to a printing process independent (process agnostic) definition of quality. This means that the criteria and tolerances are not connected with the underlying printing technology, but according to the requirements of the intended use case. The customer often doesn't care about the concrete printing process or the wavelength of the radiation that cures the colorant on the pertinent substrate. He or she rather looks for a resulting image quality to be defined by suitable criteria addressing colour rendition, homogeneity (uniformity), resolution, artifacts and further permanence aspects (light fastness, rub resistance etc.). In that respect Fogra is conducting research in the field of process independent quality assessment. They are finally subject to be interwoven to the relevant use cases such as "lite production" or "large format printing" etc.
The aim of the Fogra Digital Printing Working Group is therefore to establish substantial and broadly discussed proposals to be submitted to ISO as a new wok item.

In conclusion it should be stated, that the concept of the conventional printing standards (e. g. ISO 12647-1/2/3), potentially subject to be revised in order to mimic to current needs, have been well proven and established. Anyhow a similar procedure for digital printing is hard to imagine. In contrast a (printing) process independent standardization tailored to the pertinent use cases and placed in an all-new consistent ISO standard seems to be most appropriate.
We kindly invite any interested parties to join or use the Fogra Digital Printing Working Group to let this vision come true.

What are the steps in developing an ISO Standard?

ISO TC 130 is made up of international experts from 19 national bodies (countries) that have elected to be participating members (termed P-member). Before work gets started on a standard, New Work Item (NWI) must be prepared and voted on by all P-members. This is followed by a Working Draft (WD), which is approved by the experts in the particular working group (e. g. WG 3 for process control and related metrology) developing the standard. Once the experts are satisfied, a Committee Draft (CD) is prepared and voted on by the P-member national bodies. The CD stage is where all (or most) of the technical issues between various national body interests are resolved. After a successful vote on the CD stage the document moves on to the Draft International Standard (DIS) and Final Draft International Standard (FDIS) stages. At these stages the ballot is open to all 161 national bodies that are member of ISO. This process assures that an ISO standard is both technically sound, broadly applicable and the product of the whole community, not of any individual or special interest group. Unfortunately this has to be done on the price of a sometimes glacial pace.