

LET'S
CONNECT



PRINECT
USER DAYS

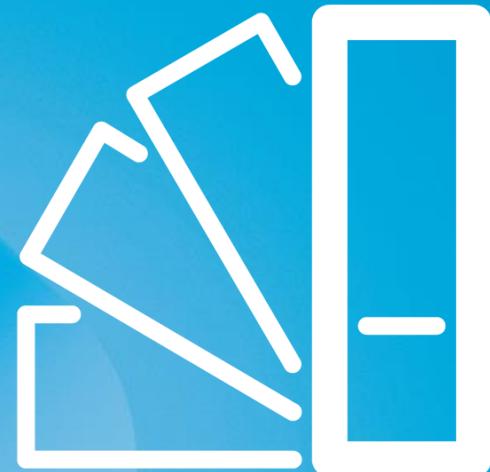
PRINECT HYBRID PRINT PRODUCTION: COLOR MANAGEMENT, COLOR QUALITY AND STABILITY

PRINECT USER DAYS 2026

Stefan Schenk, Axel Zöller Heidelberg

CHALLENGE

*Why do prints with
CMYK colors look different?*



Why do prints with CMYK colors look different?

Color-Transfer Technologies

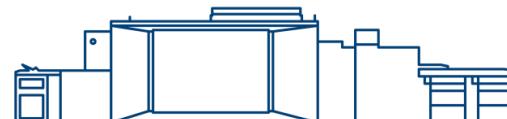
Digital Printing
Dry- or Liquid-Toner



Digital Printing
Liquid Ink



Offset
Pasty Offset



Why do prints with CMYK colors look different?

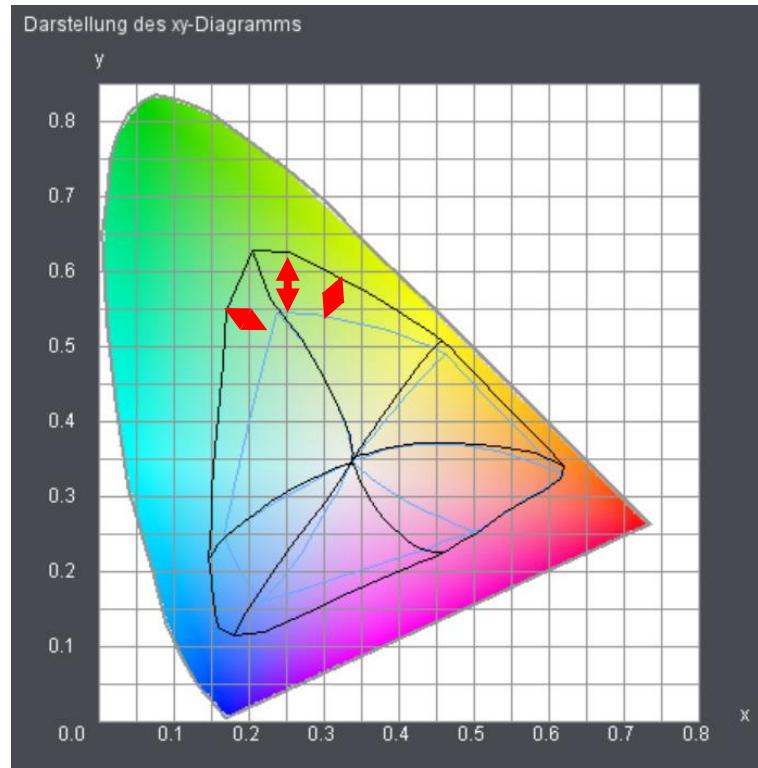
Details

- Different Color Pigments → different Color Spaces
- Different ink reflection on paper
- Different ink-thickness layers
- Different drying times
- Sometimes different papers

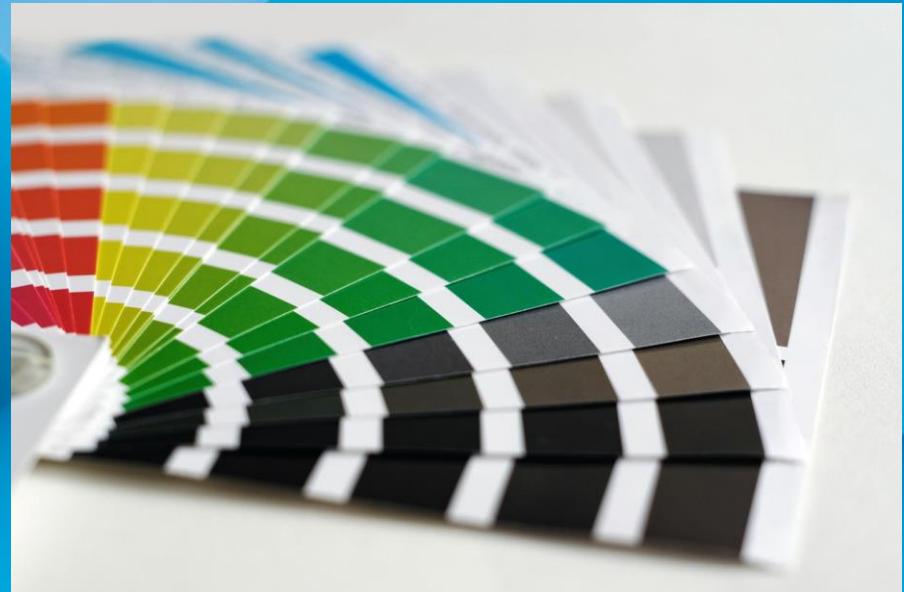
→ Some visual differences **cannot** be avoided but typically the print user will not see any differences.

- Color differences visible with the naked eye are measured in ΔE 2000 (sheet-to-sheet & in-sheet)
- $\Delta E < 2,5$ - 3 is typically **not** visible with the naked eye

→ **Target is to reach ΔE -2,5 -3**



How can colors be matched between technologies?



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HEIDELBERG Solution Process

1. Definition of a common target color space e.g. **Fogra 51** (coated) or **Fogra 52** (for uncoated) or GRACOL (in the USA)
2. The smallest color space defines the standard
3. Calibrate the output device to compensate possible daily or weekly changes
4. Measure and create the device color space (ICC-profile) representing the achievable colors
5. Use the profiles in the Prinect Color Management Module
6. Repeat profiling for the paper classes (gloss- & matt-coated & uncoated papers)



Important

- Make sure that the images used are separated in the same color space or
- Make sure to attach the separation ICC profile to the image in e.g. Photoshop.

Hybrid Print Production

process digitalization
in the pressroom.



Prinect

Automatic Color Settings Prinect Production.

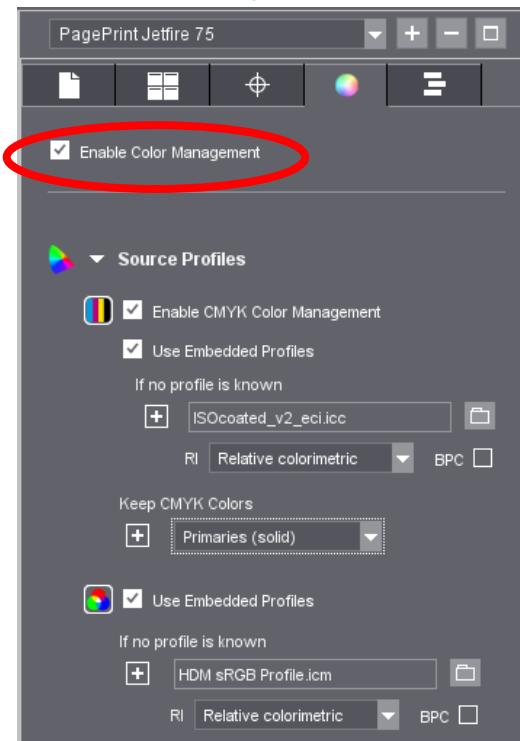
Color Settings

- Color Management settings are defined & saved in **Process-Sequences** for each Offset- & Digital-Press by a specialist **once**.
- The Process-Sequences can be simply selected and executed even having no specialist knowhow
- Color Settings will be selected automatically depending the material type.

→ “Normal” operators do not need to be an expert

→ The outputs, on whatever device,
will look the same (depending physical limitations)

Jetfire Color Management

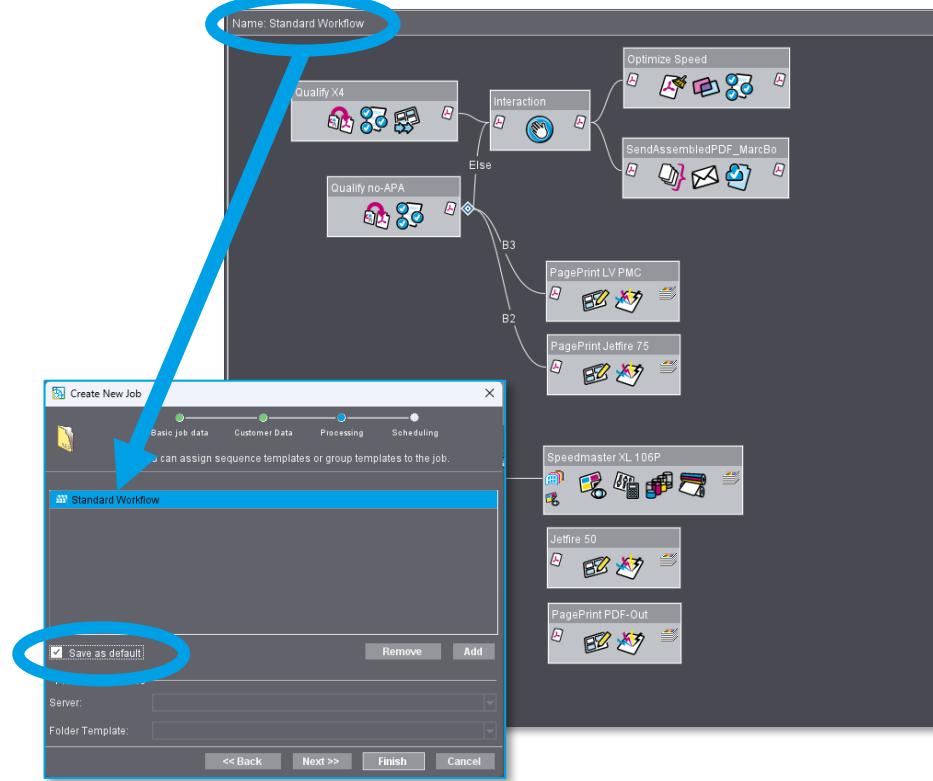


Automatic Color Settings Prinect Production.

Workflow Automation

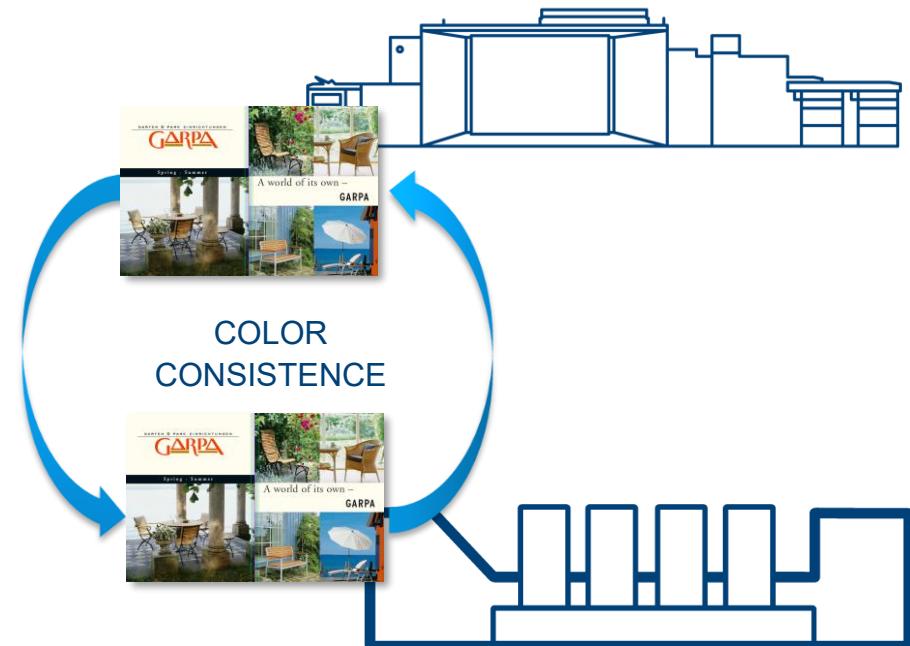
- Sequences can be combined to a Group-Templates
- Group-Templates can be defined as default or selected manually
- If/Then/Else logics can be defined with **Smart Automation** for full automatic workflow
- Workflow definition can be imported by XML e.g. from WebShop or MIS

→ **Very simple operation of the most complex workflows incl. all Color Settings**



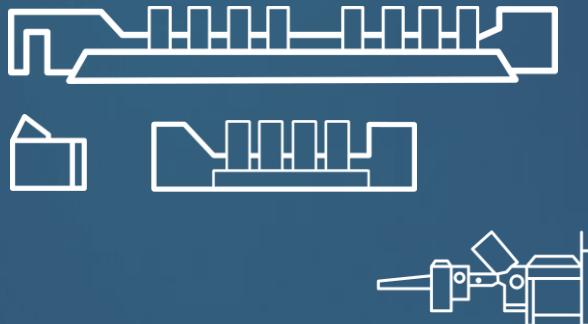
Process Automation within Hybrid Production (Offset & Digital) Benefits

- Extremely simple to operate.
- Very high automation possible
- **No** special color management knowhow needed for the press operator.
- Job changes and output device switch in seconds.
- Extreme flexibility in production planning.
- Mix-Match of jobs easily possible. e.g. cover from offset & content digital.
- Offset- & digitally printed sheets look the same e.g. for reprints



HEIDELBERG Hybrid Offset- and Digital-Print Ecosystem.

Seamlessly Integrated. We tested it – it works!



Prinect Production



benefits



one workflow for
all work steps



color
consistency



efficient
production



switch between
offset & digital
in seconds



service out of
one hand



fast
delivery time



increased
profit

Key Message: Standardization is necessary

Tipps and Tricks

Coordination with offset

--> Standardization of offset versus control on the machine

Special colors

Digital target values in the identical system

--> Measurement conditions for offset (online/inline) versus prepress

Varnish

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