



7 myths on expanded gamut printing debunked

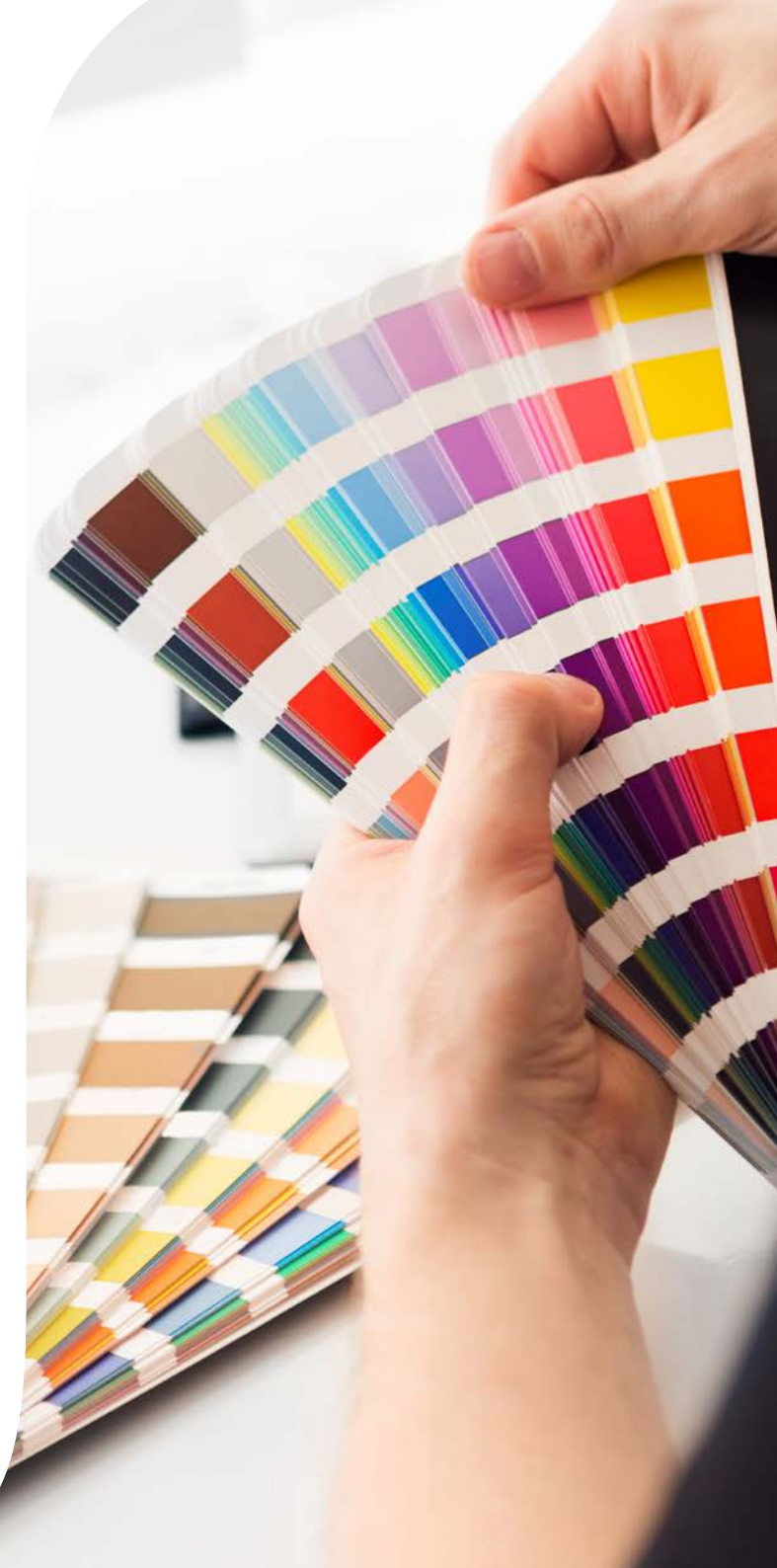
Learn how expanded gamut technology raises your productivity and makes printing more profitable.

A lot of companies are still not sure whether or not fixed palette printing is a good idea.

This document demystifies a number of common recurring beliefs about extended gamut technology that keep printing companies from reaching their full potential.

| Table of contents

- 03** What is extended gamut printing?
- 07** Introducing Equinox
- 10** Myth 1. Customer approval issues
- 12** Myth 2. Extended gamut solutions
- 14** Myth 3. Capacity issues
- 18** Myth 4. Spot color accuracy
- 21** Myth 5. Customer approval on press
- 24** Myth 6. Registration issues
- 26** Myth 7. Ink issues
- 28** Seeing is believing



What is extended
gamut printing?

| What is extended gamut printing?

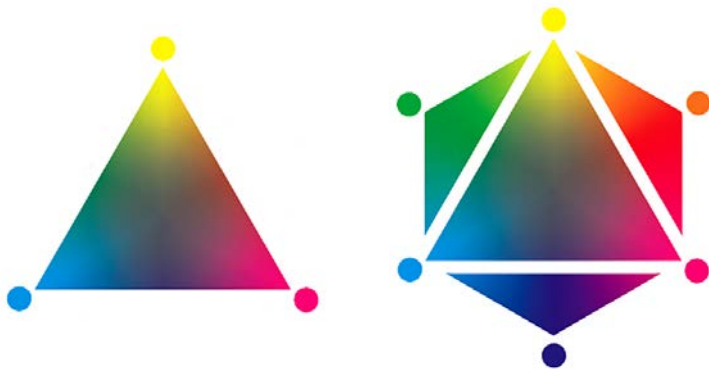
Printing with CMYK + spot colors

The four color process (CMYK) is capable of producing a limited range of colors. Spot colors have traditionally been used to achieve colors outside the CMYK gamut.

However, printing with spot colors is not cost-effective. It requires mixing custom inks, cleaning and prepping the press decks for each job, and makes it hard to run print jobs in combo.

Adding extra colors to the cyan, magenta, yellow and black expands the gamut and reduces the need for custom spot colors. Typically extra colors would be orange or red, green, and violet or blue.

The press can then use the same set of inks for every job, resulting in important cost savings in the press room. Additionally, images are more colorful and closer to the original.



CMYK triangle

Expanded gamut hexagon



| What is extended gamut printing?

Top 4 concerns in the press room

Growing product variations result in numerous packaging variations: different flavors, different sizes, geographical content variations ... As a consequence the need for short runs rises.

But on a conventional press that high number of short runs is not all too profitable as a result of printing with custom ink mixes:

1. job change-overs cause considerable press down-time
2. there is a lot of media waste to get the press up to color before it is ready to produce sellable material
3. you need quite the amount of inks in inventory
4. profit margins are decreasing

Finding an alternative in digital print

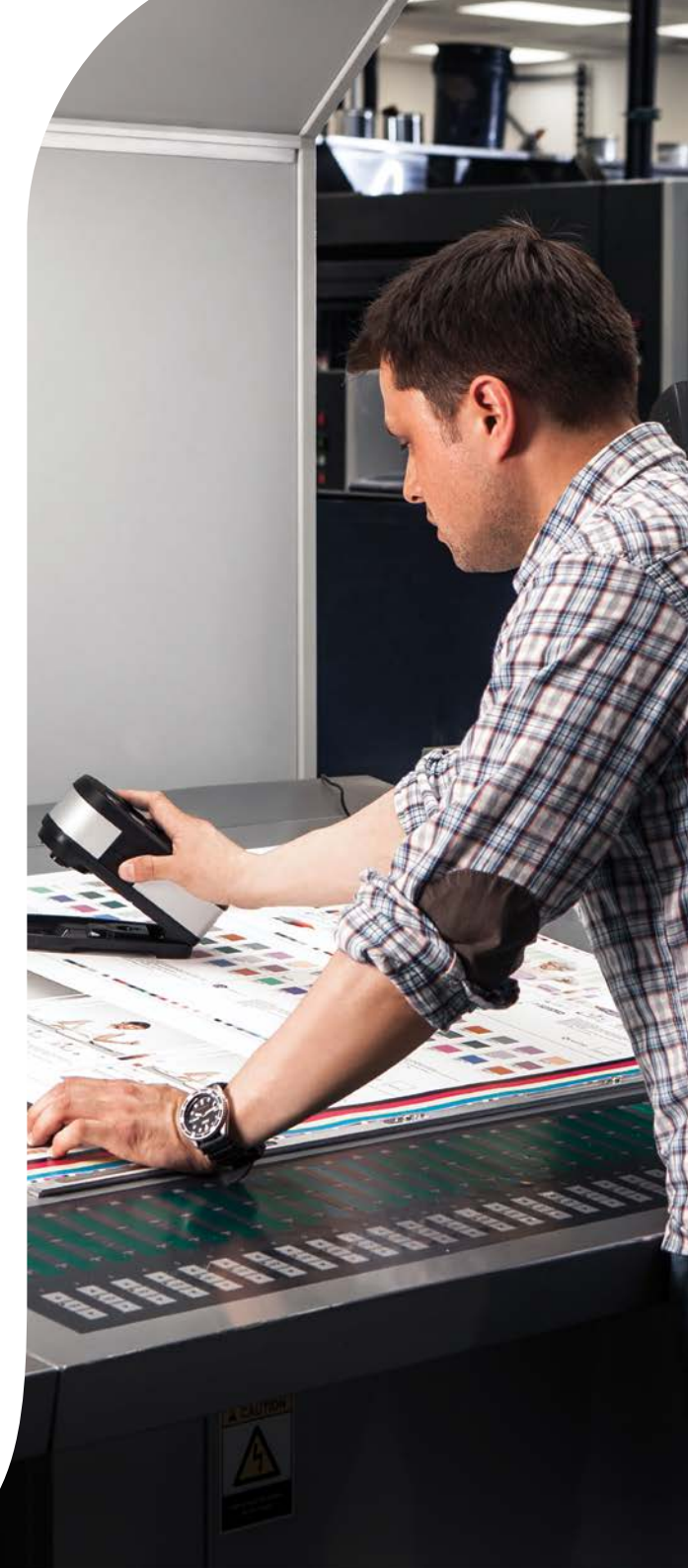
Part of the short run packaging printing is covered by more affordable digital print runs. To efficiently manage these short runs a digital press has a fixed set of inks.

However, digital presses are not available for all print applications.

Printing brand colors with a fixed ink set

Extended gamut printing is the equivalent of digital printing with a fixed palette of 4, 5, 6 or 7 inks, only on a conventional press.

So, instead of mixing inks in the ink room, inks are digitally pre-mixed in prepress. This even includes an accurate match of most brand colors and PANTONE colors.



| What is extended gamut printing?

“Why isn’t everyone doing this?”

Although extended gamut printing addresses color in the first place, it’s actually a productivity solution.

Therefore, even though you might feel comfortable with the results you are producing with regard to color at the moment, you could be more productive and more profitable without any extra investments in hardware or headcount.

With extended gamut printing all the main concerns in the press room are tackled:

- substantially shorter press set-up time
- reduced costs of printed waste and inks
- more press up-time

And here is a nice bonus: all these savings are a true bottom line profit for your company, without charging your customer anything extra.



Introducing Equinox

| Introducing Equinox

Equinox is Esko's extended gamut printing solution, specifically designed to meet the needs of packaging and label printers.

Equinox converts brand colors as well as CMYK and RGB colors to maximum 3 colors in a 4, 5, 6 or 7 color process. This is done in such a way that the customer cannot tell the difference when viewed on the supermarket shelf.



| Introducing Equinox

Benefits of Equinox

- 1 save **time**
by not having to wash the press and change inks
- 2 save on **substrate**
by not having to get up to color before and between runs
- 3 save on **inks**
by not storing spot inks in inventory or by mixing special formulations
- 4 be color **consistent**
from run-to-run, as well as with jobs you ran months ago from the same customer



Myth 1. Customer confidence

- “ Our customers will not accept extended gamut.

| Myth 1. Customer confidence

Extended gamut is not a matter of what you are printing; it is how you achieve the result.

Is the customer concerned with how the packaging is printed? Does your customer accept digital printing today?

What is important to your customer?

- The overall look of a design/package
- Matching the provided color tolerance
- Consistency across the supply chain

Set expectations with the proof

As colors are converted in prepress with extended gamut software, the proof will already be a much better representation of what will come off press. So it is easier to set clear expectations upfront with your customer.

Moreover, you will be more color consistent on repeat jobs of that customer.

Esko supports you

Esko can actively support you in your conversation with your customer; to help you emphasize the numerous benefits for both parties.

“ Working with Equinox enables us to assess the printing requirements of our customers and fully match their quality demands.

—
Marco Rampini, Graphic Service Manager
Europe, Sealed Air, Italy



Myth 2. Extended gamut solutions

- “ This is no different to Opaltone or Hexachrome, both of which have not been adopted by the industry.

| Myth 2. Extended gamut solutions

Equinox is a profile based solution. It is not dependent on certain inks, in regards to type, hue, or number of inks. It works with any fixed ink set, whether it is 4, 5, 6, or 7.

Equinox is not tied to a single printing process either, nor is it device dependent in any way.

In fact if you really wanted to utilize Opalstone or Hexachrome, Equinox would support this.

“ Once the profiles are made, it is almost a push button solution as far as spot colors are concerned.

—
*Harsha Paruchuri, Director,
Pragati Offset, India*

Why Equinox?

- Equinox is by far the most utilized extended gamut solution around the world.
- Equinox technology is not only an integral part of our proven Esko workflow solution; it can also be built into Adobe® Photoshop®.
- Equinox is the only color management based technology that expands the gamut of CMYK images and vector data.
- Equinox incorporates all of the capabilities of other extended gamut solutions combined, and is capable of optimizing both spot and process colors.



Myth 3. Capacity issues

- “ We do not have enough work to enable these savings and get a return.
- “ We cannot always run in combo and so cannot take full advantage.
- “ We don't have a 7 color press.

| Myth 3. Capacity issues

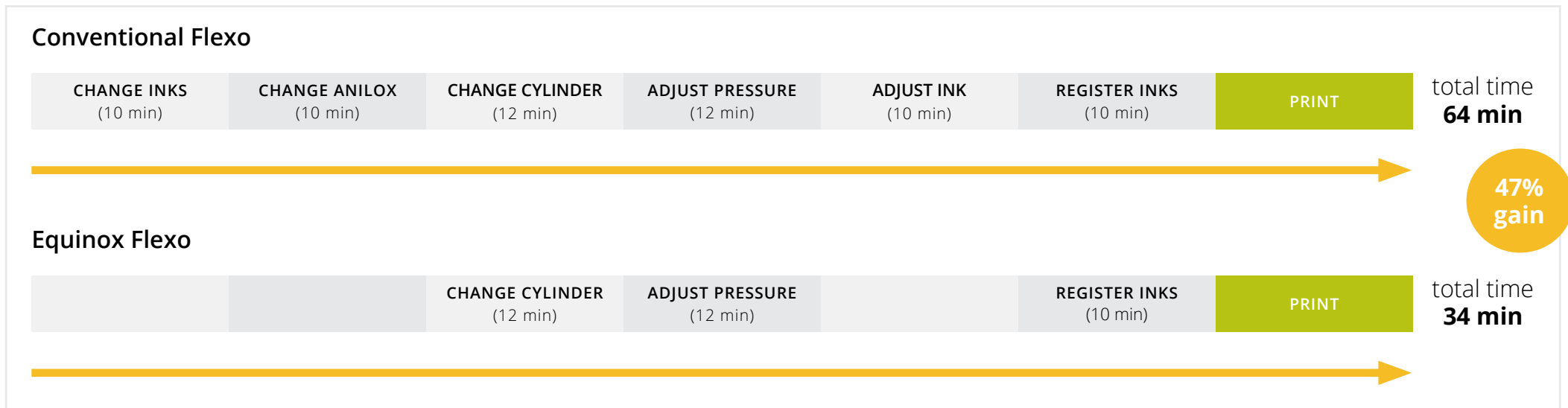
It appears to be a general concern that you need to have a lot of work to convert right from the get go, or have a press with 7 color positions, to realize savings and get a return on your money spent.

Save from the very first print

The savings already start, by not needing to wash-out and change over inks prior to, and between runs.

This image shows an example of a typical make-ready at a label converter. From the first print job, there is a time saving of a stunning 47% in press set-up alone.

The same is true in regard to substrate savings and ink. Every time you are able to run two jobs one after the other, or every time you do not need to wash-up and change inks, you save. From there, the more jobs you run this way, the more you save.



■ Setup ■ Production

A typical make-ready at a label converter

| Myth 3. Capacity issues

Combo runs

It's clear that back-to-back runs involve immediate savings, as demonstrated below.

If you are then able to run some work in combination – print all 5 different flavors of the same packaging design, for instance – the savings are even greater.

You only need to set up the press once. From there on you instantly produce high quality and color accurate material that is sellable to you customer.

1 print run using spot colors



multiple print runs using spot colors



1 print run using Equinox



multiple print runs using Equinox



| Myth 3. Capacity issues

Any press will do

As stated earlier, Equinox is device independent. The solution works equally well with any press, whether that press works only with CMYK, or with 4, 5, 6 or 7 colors.

“ We have reduced the number of daily change-overs by 20%. We have also reduced make-ready times by 20 to 40%. Today, we are looking at increasing our revenue by 10% within one year.

—
*Cédric Ladroue, General Manager,
Statim, France*



Myth 4. Spot color accuracy

- “ We will not be able to re-create spot colors within the required customer tolerance or match PANTONE colors.

| Myth 4. Spot color accuracy

A look at the PANTONE Guide will give you an idea of how many cans of ink you would need in inventory. You immediately realize that – even if you would not need all of them for your customers' jobs – you would still need an impressive ink inventory.

Converting PANTONE colors on any press

Expanded gamut printing with Equinox is device independent. You do not need a press with 7 or 8 ink positions. The technology equally applies to a 4-color press.

Using extended gamut technology, approximately 40 to 60% of the PANTONE colors can already be built out of CMYK alone, within a $2\Delta E$ tolerance.

If you are then looking to reproduce as many colors as possible, it is recommended that you add extra colors on your press. Adding orange, green and violet, allows a PANTONE color conversion closer to 75 to 90%, depending on the substrate.



| Myth 4. Spot color accuracy

Customer is king

Equinox is not tied to a certain set of colors. In case a customer wants you to use an equity blue, you could still print in extended gamut with that particular blue instead of the violet ink on your press. In turn this may reduce the amount of other colors you can match.

“ It is a major innovation being able to print PANTONE colors with just seven inks. Thanks to Equinox we can now offer higher quality, more sellable print with less color differentiation. We have boosted our color space and regularly use extended gamut printing. We are also saving an average of 25% in inks.

—
Evgeny Lungin, Head of Prepress, Uniflex, Belarus



Myth 5. Customer approval on press

- “ Extended gamut will make press approvals more difficult.
- “ It will be harder to get customer sign-off.
- “ We will not be able to adjust on press.

| Myth 5. Customer approval on press

Often customers come to press to sign off the result. If the customer is not quite happy, color adjustments are made on press.

In approving the printed result, the customer knows the printed batch will exactly meet his expectations.

A more cost-effective way to approach approvals

With extended gamut software the colors are digitally pre-mixed in prepress. With Equinox you are able to create an accurate proof. If the customer likes the proof, he will like what is going to come off press. If he does not like the proof, then you can intercept changes at the prepress stage.

Consequently the need for color changes at the press will be reduced or eliminated, because the print will be more in line with customer expectations based on the proof. This saves you a considerable amount of operator time and money for inks, substrates and set-up time.



| Myth 5. Customer approval on press

No more spilled inks

Usually spot colors are formulated with pigments in the ink room. In that case costly color adjustments are only possible on press.

With Equinox inks are digitally pre-mixed in prepress, not in the ink room. When setting clear customer expectations in the pre-press stage, there is less potential for changes on press.

At last, the expensive days of print managers approving print at the end of a printing press are coming to an end.

“ With Equinox we create a proofing profile from the fingerprint of the press that very accurately matches the approved expectations for the press run. This is much better than in the past, when we created proofs and separations that relied on some guesswork. Now, with Equinox, we are able to accurately calculate colors with much more precision.

—
*Mark Causey, Director of Color Technologies,
Beck Atlanta, USA*



Myth 6. Registration issues

- “ We will not be able to register small text, barcodes or small elements, built out of more than 1 color.
- “ 7 color process is going to need tighter registration.

| Myth 6. Registration issues

Usually you will tackle registration with bleed. The problem with 4-color registrations is that bleed is visible when registration is slightly off.

Color shifts not visible to the naked eye

With extended gamut the visible impact of mis-registration can actually be reduced. This is ideal for small elements and there is no need for tighter registration.

Also, Equinox color profile tools will **never build colors with more than three inks** in order to guarantee excellent press registration.

“ Matching colors with Esko tools, our customers are confident with our proofs. —
Hugh Farrell, Prepress Manager, North State Flexibles LLC, USA



Left: CMYK registration.
Right: Registration with extended gamut solution.

Myth 7. Ink issues

- “ The solid areas will be dripping with ink.
- “ 7 color process is going to be harder to manage on press.

| Myth 7. Ink issues

Less is more

Equinox converts colors in the most optimal way. This means sometimes only one ink is used, mostly two, and seldom a color is built out of maximum three inks.

With more colors available to build the colors, often less ink is used in a particular area.

Building jobs from seven inks press standardization is easier to manage on press and more stable. In addition it's also more repeatable.

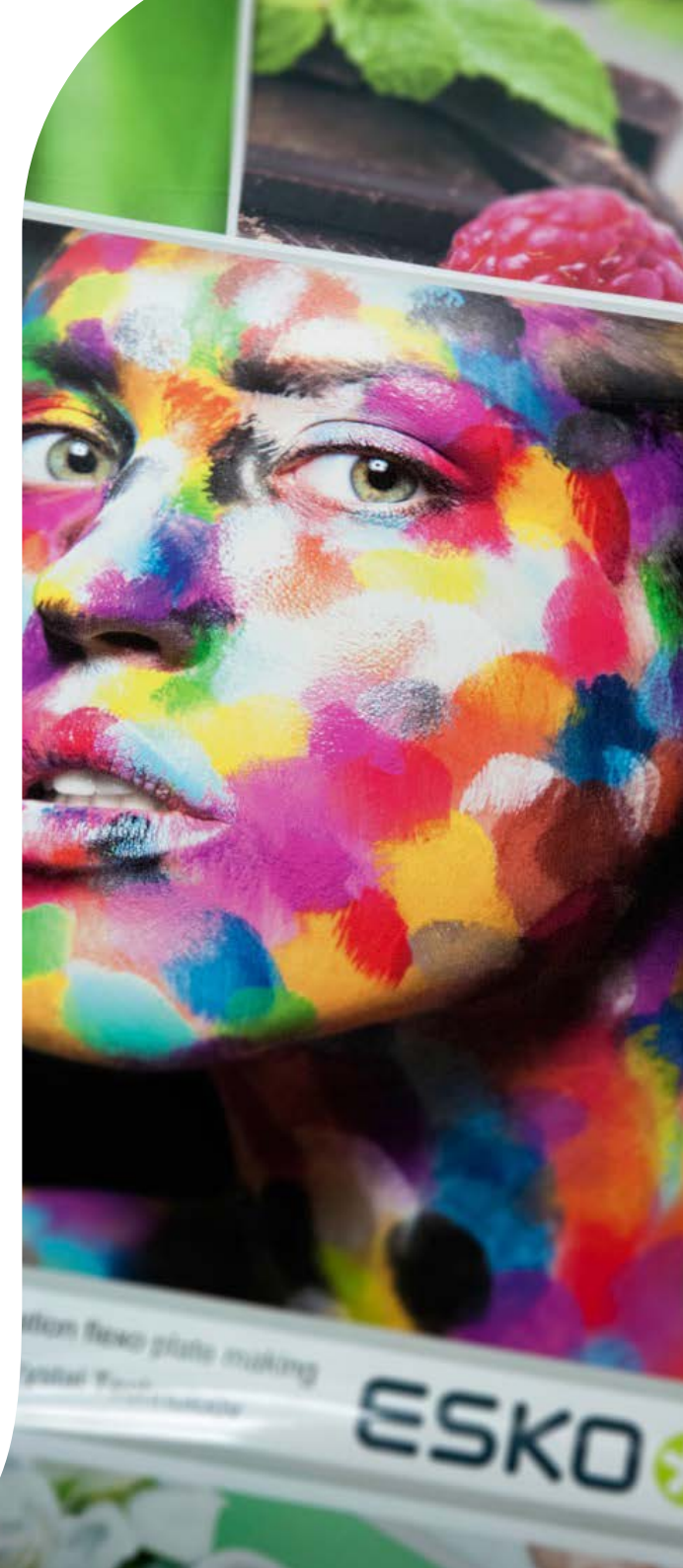
7 colors all the time?

As much as the printed colors are not built out of all of the available inks, it is equally true that not each job should be printed with all the available inks.

Equinox only converts the smartest way. This means a print job could very well use only six inks on a 7-ink press.

“ Our 8-color press allows us to reap the full benefits of Equinox, with one printing unit still available for specific spot colors such as gold, silver and some shades of purple, that are difficult to reproduce.

—
Cédric Ladroue, General Manager, Statim, France

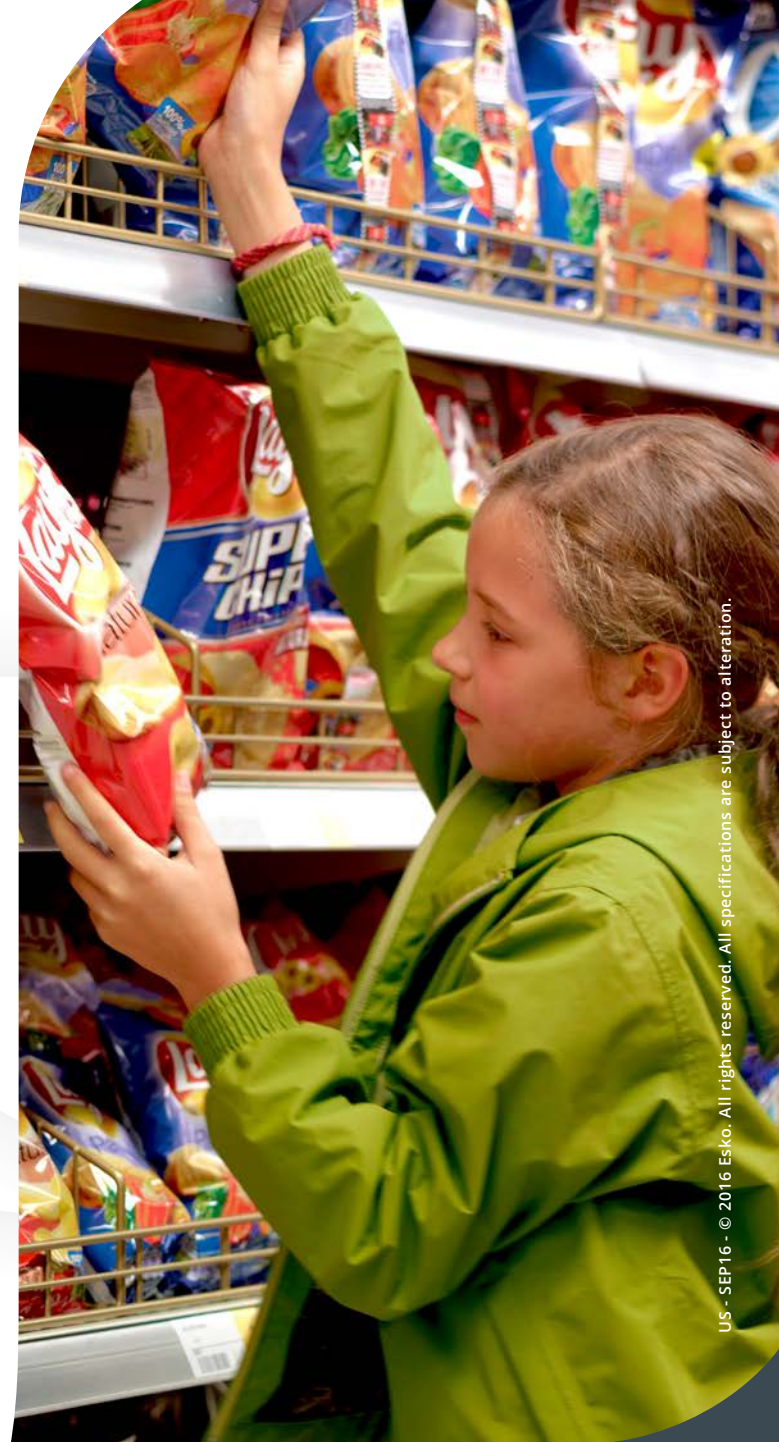


| Seeing is believing

Still wondering how expanded gamut printing could be beneficial to your specific situation?

We are happy to visit your printing site, assess the possibilities and project your ROI.

Talk to us on info.eur@esko.com.



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