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.
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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
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.
“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.
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 Opaltone or Hexachrome, Equinox would support this.

**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.

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> 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*
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.

### Conventional Flexo

- **CHANGE INKS** (10 min)
- **CHANGE ANILOX** (10 min)
- **CHANGE CYLINDER** (12 min)
- **ADJUST PRESSURE** (12 min)
- **ADJUST INK** (10 min)
- **REGISTER INKS** (10 min)
- **PRINT**
- total time **64 min**

### Equinox Flexo

- **CHANGE CYLINDER** (12 min)
- **ADJUST PRESSURE** (12 min)
- **REGISTER INKS** (10 min)
- **PRINT**
- total time **34 min**

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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 your customer.

<table>
<thead>
<tr>
<th>1 print run using spot colors</th>
<th>1 print run using Equinox</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADJUST PRESS PRINT CLEAN PRESS</td>
<td>ADJUST PRESS PRINT CLEAN PRESS</td>
</tr>
<tr>
<td>multiple print runs using spot colors</td>
<td>multiple print runs using Equinox</td>
</tr>
<tr>
<td>ADJUST PRESS PRINT 1 CLEAN PRESS ADJUST PRESS PRINT 2 CLEAN PRESS ADJUST PRESS PRINT 3 CLEAN PRESS</td>
<td>ADJUST PRESS PRINT 1 PRINT 2 PRINT 3 PRINT 4 PRINT 5 PRINT 6 CLEAN PRESS</td>
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Extended gamut savings at the press
| 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 changeovers 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.”
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 2ΔE 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.
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.
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.
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.

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Hugh Farrell, Prepress Manager, North State Flexibles LLC, USA
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.

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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.