What is new in Color Engine 14

- Support for eXact spectro
- Improved support for XRGA and measurement standards
- Profile compare tool
- Spot color refinement wizard
- Quality and reliability improvements to FlexProof
- Equinox enhancements
- New PANTONE+ colors
Support for eXact Spectro

● New device from x•rite – more information on their [website](#)
● High accuracy
● Supports multiple measurement modes
  – M standards allow correct handling of substrate with OBA’s
  – More information on the [xrite website](#)
● Recommended device for PantoneLIVE
● USB interface
XRGA and measurement standards

- XRGA is a standard for measurement devices
  - Significantly reduces error between different device models
  - New x•rite instruments all measure to the XRGA standard
  - More information from x•rite in their white paper

- Color Engine Pilot will convert old profile measurements to XRGA
  - Allows existing databases to be adapted to the new standard

- Color Engine records measurement conditions for profiles
Profile compare tool

- Compare two profiles: useful to decide on quality of measured data, for example
  - Inspect details of the patches...
  - View $\Delta E$ using a choice of formulae
  - Highlight patches of primaries, patches with high $\Delta E$...
Refine inks wizard for FlexProof

- How accurately are spot colors matched on the proof?
- Profile conversion gives only a “basic” level of color accuracy
  - And no easy way to improve the accuracy
- This allows the accuracy to be easily improved
  - Preserving the benefits of ink profiling and spot color overprint model
Refine inks wizard for FlexProof

- Allows iterative refinement of inks, based on measured values
- Select a number of inks to refine
- Test charts are automatically generated

Select Inks

Select inks to refine on proofer Epson 1000 (Matt):
Refinements for inks with more profiling are better than those for inks with little or no profile information

![Ink Selection Table]

Add the inks that you want to refine and click Next.
Refine inks wizard for FlexProof

- Set the desired $\Delta E$ tolerance
- Comprehensive report on progress and accuracy

Iteration 3: Result of measuring test chart

<table>
<thead>
<tr>
<th>Ink Name</th>
<th>Ink Book</th>
<th>Gamut</th>
<th>$\Delta E$ (1)</th>
<th>$\Delta E$ (2)</th>
<th>$\Delta E$ (3)</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANTONE 624 C</td>
<td>PANTONE = Solid Co...</td>
<td>3.64</td>
<td>1.59</td>
<td>0.74</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 625 C</td>
<td>PANTONE = Solid Co...</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 340 C</td>
<td>PANTONE = Solid Co...</td>
<td>5.91</td>
<td>5.91</td>
<td>5.91</td>
<td>Could not improve further</td>
<td></td>
</tr>
<tr>
<td>PANTONE 7723 C</td>
<td>PANTONE = Solid Co...</td>
<td>2.69</td>
<td>0.71</td>
<td>0.71</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 7724 C</td>
<td>PANTONE = Solid Co...</td>
<td>4.65</td>
<td>1.94</td>
<td>0.90</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 7730 C</td>
<td>PANTONE = Solid Co...</td>
<td>2.06</td>
<td>1.00</td>
<td>0.40</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 7731 C</td>
<td>PANTONE = Solid Co...</td>
<td>9.90</td>
<td>1.22</td>
<td>0.87</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 7736 C</td>
<td>PANTONE = Solid Co...</td>
<td>16.95</td>
<td>6.75</td>
<td>1.84</td>
<td>Could be improved</td>
<td></td>
</tr>
<tr>
<td>PANTONE 7489 C</td>
<td>PANTONE = Solid Co...</td>
<td>9.13</td>
<td>1.99</td>
<td>1.13</td>
<td>Could be improved</td>
<td></td>
</tr>
<tr>
<td>PANTONE 7490 C</td>
<td>PANTONE = Solid Co...</td>
<td>10.73</td>
<td>1.69</td>
<td>0.43</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 577 C</td>
<td>PANTONE = Solid Co...</td>
<td>2.36</td>
<td>0.92</td>
<td>0.92</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 576 C</td>
<td>PANTONE = Solid Co...</td>
<td>10.48</td>
<td>2.19</td>
<td>0.97</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 5807 C</td>
<td>PANTONE = Solid Co...</td>
<td>1.80</td>
<td>0.57</td>
<td>0.57</td>
<td>✔️</td>
<td>On target</td>
</tr>
<tr>
<td>PANTONE 5797 C</td>
<td>PANTONE = Solid Co...</td>
<td>2.60</td>
<td>0.95</td>
<td>0.95</td>
<td>✔️</td>
<td>On target</td>
</tr>
</tbody>
</table>

Iteration Details
- Total number of spot colors: 357
- Initial average measured $\Delta E$: 7.29
- Previous average measured $\Delta E$: 1.37 (Iteration 2)
- Current average measured $\Delta E$: 0.69
Quality and reliability improvements for FlexProof

- Updated “Check and recalibrate” function
  - Includes a linearization step to improve accuracy of the proofer
  - Standard profiles can be used
  - Profiles can more easily be transferred between devices
  - New user interface

- **Ease of use!**
Quality and reliability improvements for FlexProof

- Improved profiles and linearizations
  - Smoother separations and gradations
  - Larger color gamut, especially in green colors
- Improved profiling charts
- **Improved Quality!**
Equinox enhancements

● Tool in Color Engine Pilot to print a color swatch book
  - Select one or two Equinox strategies, and an ink book (eg Pantone book)
  - The tool generates a PDF file showing the inks as they are converted via Equinox
  - Print this PDF to obtain a “Pantone like” swatch book
  - When choosing 2 strategies you get “split patches” (for example showing a CMYK conversion vs a CMYKOGV conversion of the ink)

● Extra control for Blue-Black builds
  - Only avoid Blue-Black mix when the tone values are between 10% and 80% for example
  - No need to avoid mix for very large or very small tone values (no risk of moiré)

● Display color values in Lch (as alternative to Lab)
The Color Engine now includes the 336 additional colors that were added to PANTONE+ in 2012.

The Color Engine also includes 84 new PANTONE+ colors that were announced by PANTONE in March 2014:
- These colors have numbers from 2337 to 2427.

The data for earlier PANTONE+ colors has not been changed.

These new colors will be automatically installed on updating to Suite 14.