Challenge in real world color management for textile printing workflows

Marco Roos
CEO – Color Concepts

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“Real world color management”

• The owner of the print shop believes they’re the best
• The pre-press operator thinks it is a mess
• The printer operator is scared
• The most common color management system is yellow…..and self adhesive......
Different applications – different goals

- Digital textile printing can roughly be divided into three segments:
  - Soft signage (flags, signs, decoration)
  - Sportswear
  - Fashion and home decoration

- Each of the segments handle color requirements differently
  - Soft signage → same goals as we know from mainstream printing methods. Corporate identity and accurate color is key
  - Sportswear → similar to soft signage, with often an emphasis on “effect” colors
  - Fashion and home decoration → what the designer approves
Highlighted: Fashion and home deco textile

• The top three problems you might face when walking into an existing workflow:
  • The colors are approved by a designer and often based on taste
  • The printers are often not profiled correctly, creating huge delta E’s between design and output
  • Different batches of textiles cause different color perceptions
Reference vs technically correct output

Printed using the properly profiled printer

Printed using the current printer and workflow
Measuring color vs perception

• Textile is a complex material due to it’s surface structure and the (often) excessive use of OBA’s
• Different production batches use the same material or yarn, but often show slight differences in appearance → causing different perceptions
• Color matching between different textiles always results in a trade off
• Spectral technology, appearance measurements and device link technology are all existing but not available in most workflow software used by textile printing companies → lots of manual labor and matching involved
Challenges

• The most common solution would be to use DeviceLink profiling technology to simulate the (incorrect) reference printer
  • Not many RIP software solutions in this field supports device link

• The printing and measuring process is time consuming:
  • Printing onto paper → sublimating onto fabric → measuring and adjusting → printing onto paper again etc. etc. (although HP is taking big steps here...)
  • Average profile creation process takes 3 hours

• Not many printing companies own proper measurement equipment
Introduction of “real” color management

• 40% of the challenge is psychological
  • “we are great already”
  • “our customers are happy”
  • but........what they’re really saying is: “we hate change”

• 40% is economical
  • Education and training is lacking, catching up will take time and money
  • Profiling and setting up workflows cause downtime in production
  • Measurement equipment, software tools are expensive in the hands of inexperienced operators

• 20% is technical
  • Difficulties in measuring, calculating and matching colors due to textile properties
Questions?