# Challenge in real world color management for textile printing workflows

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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

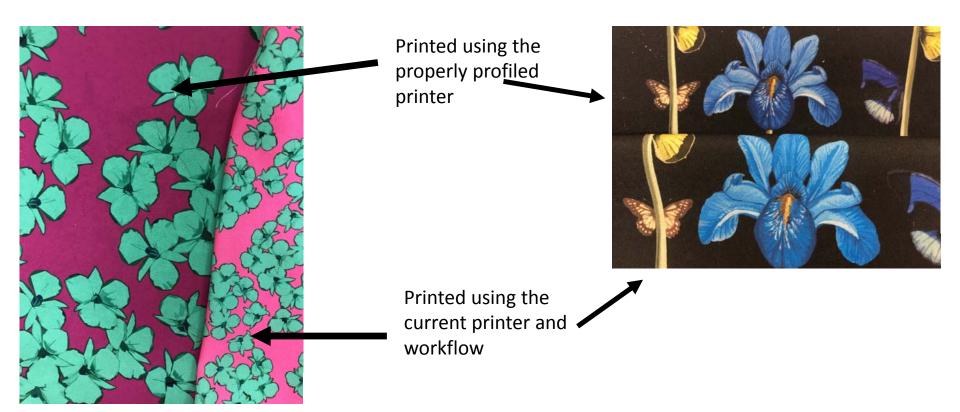
- The top three problems you might face when walking into an existing workflow:
  - The colors are approved by a designer and often based on taste
  - The printers are often not profiled correctly, creating huge delta E's between design and output
  - Different batches of textiles cause different color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







# Reference vs technically correct output







## 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?**



