



# Digital Print: Matching Offset vs. Digital

William Li  
ICC Prague Graphic Arts Experts' Day  
June 29, 2017

LED 50000

KO

Ryu

99

Dee Jay

ROUND 1

BATTLE 01

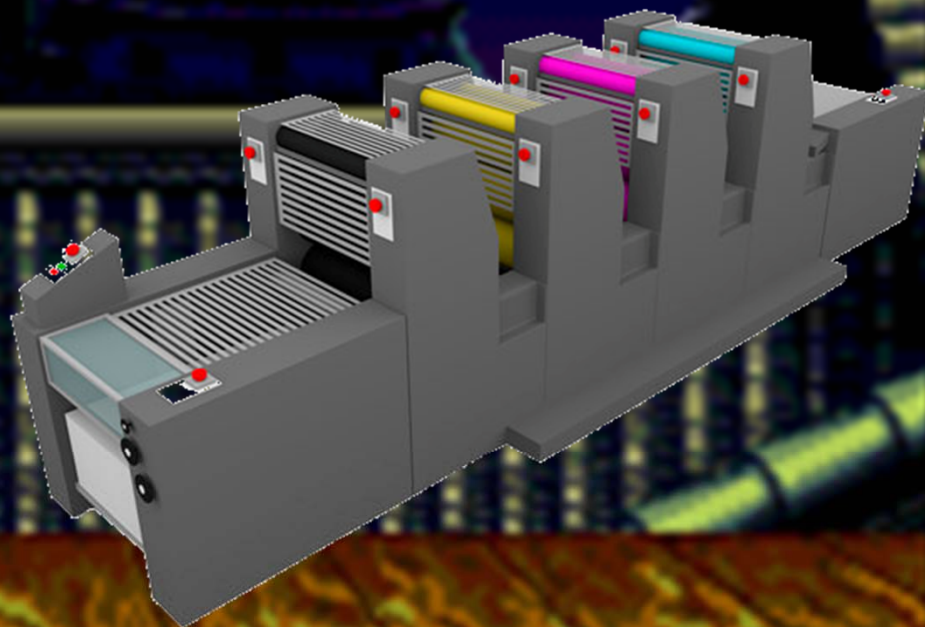
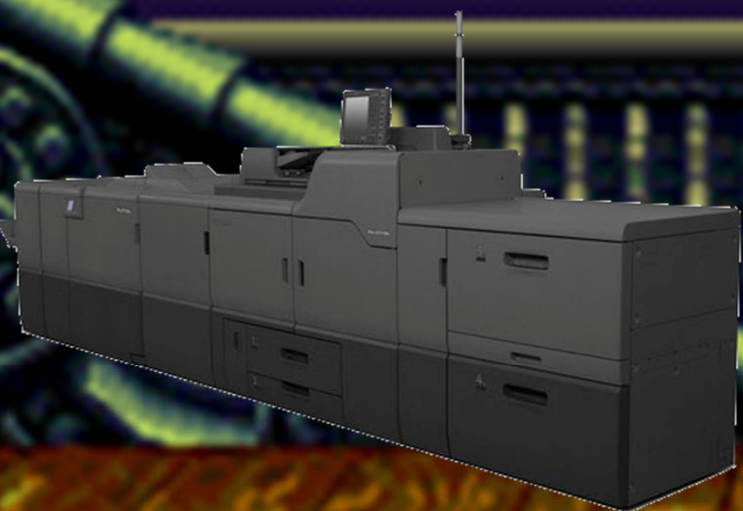


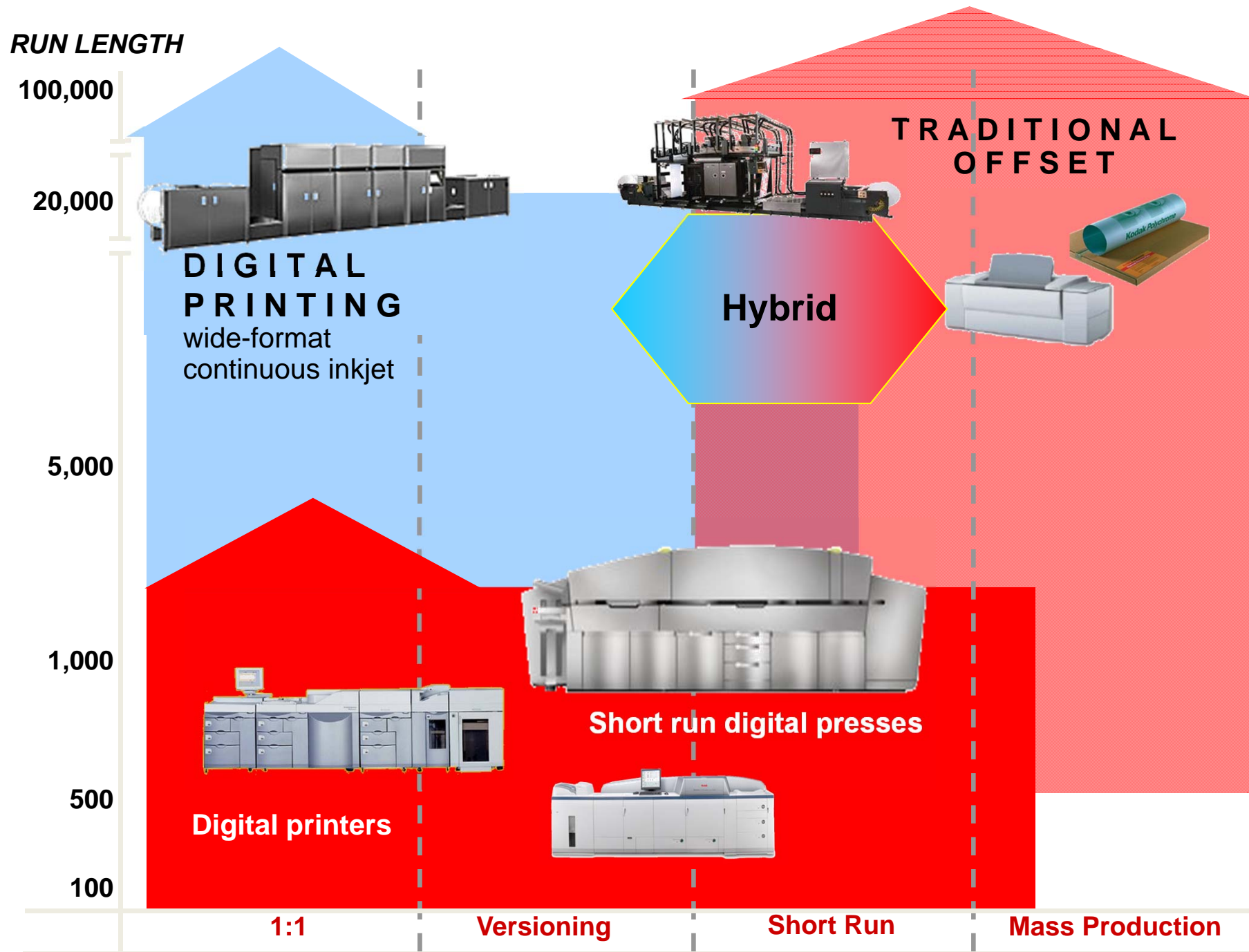
YLM 50000



KO

VS



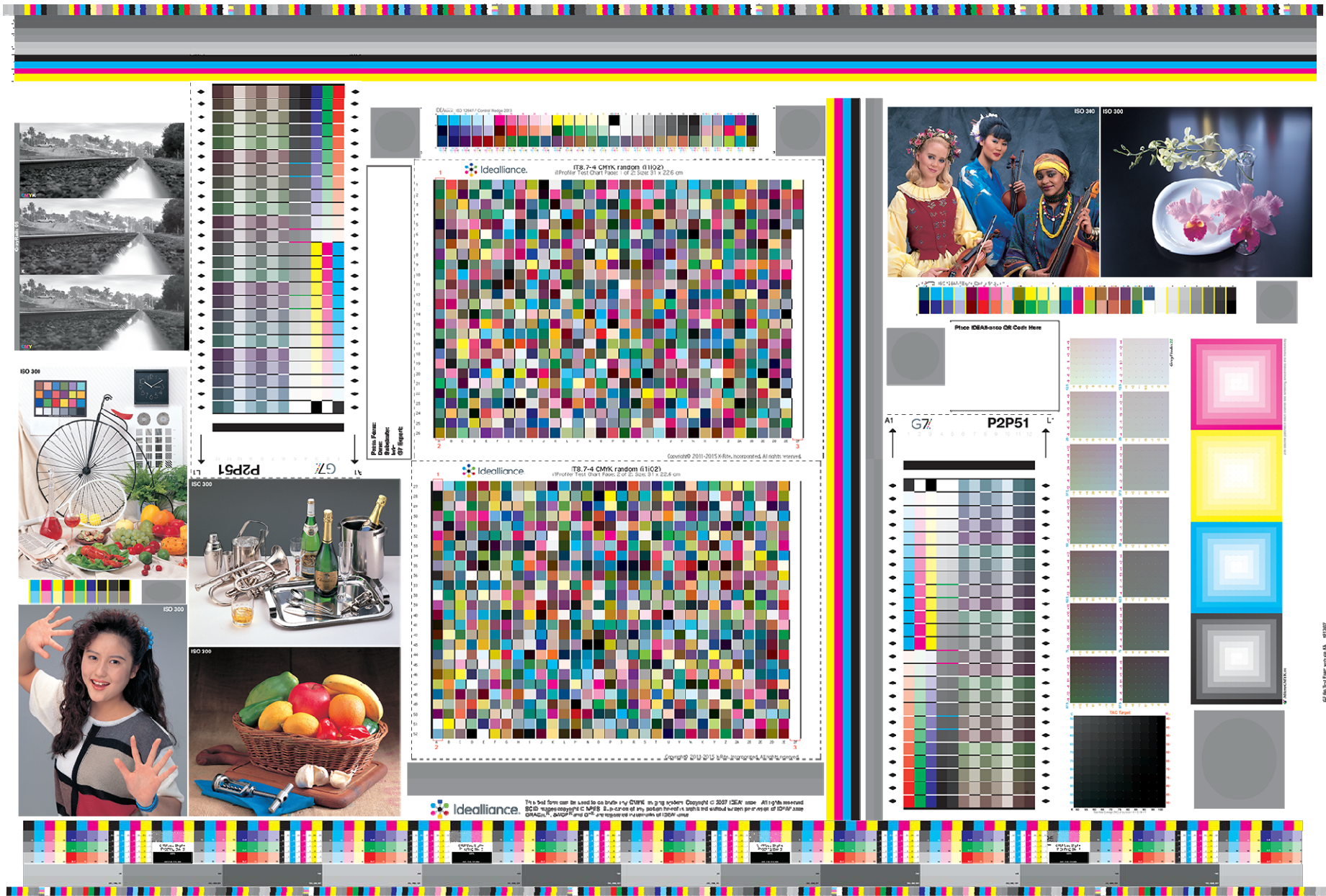


# Matching...

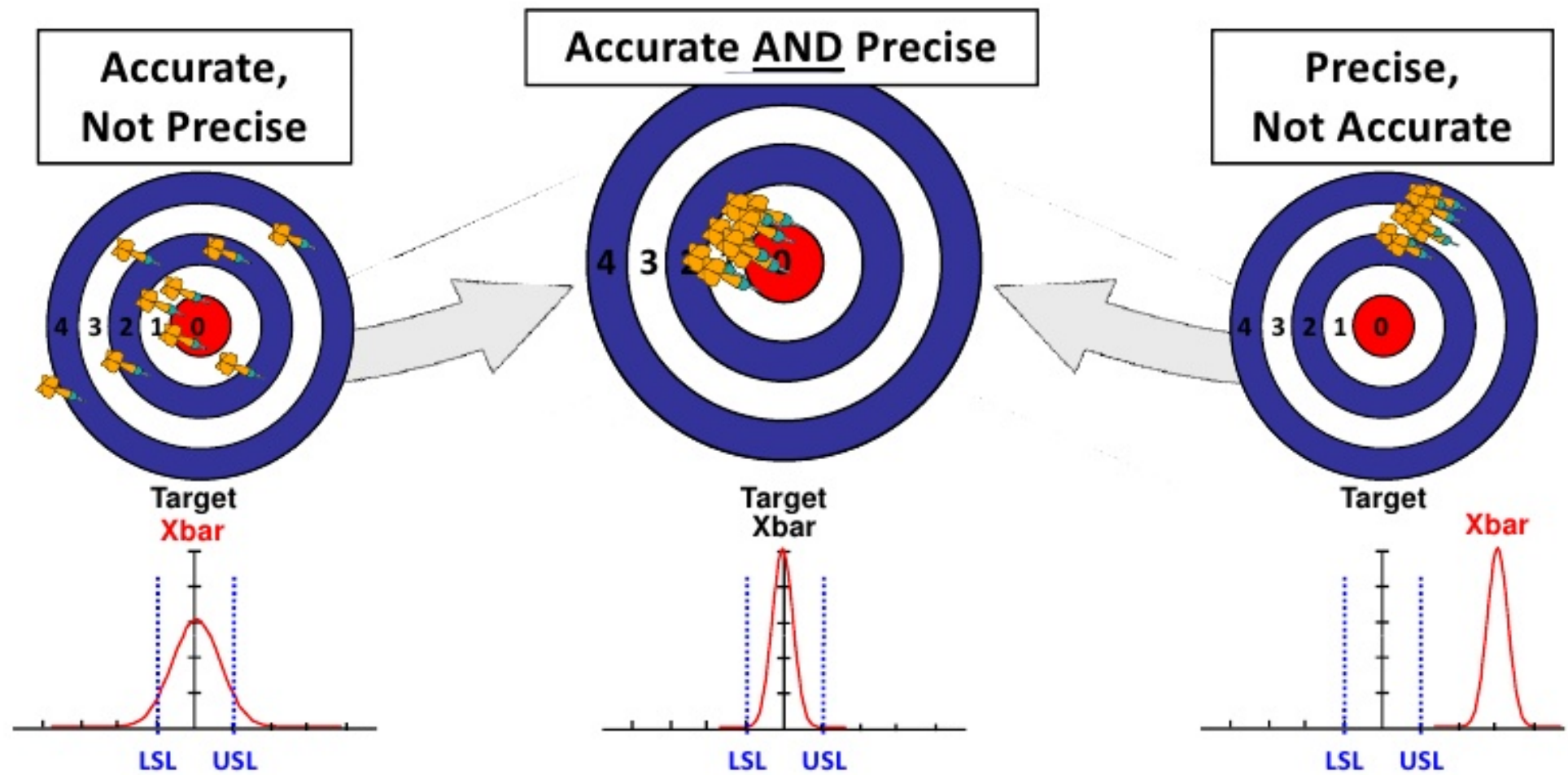




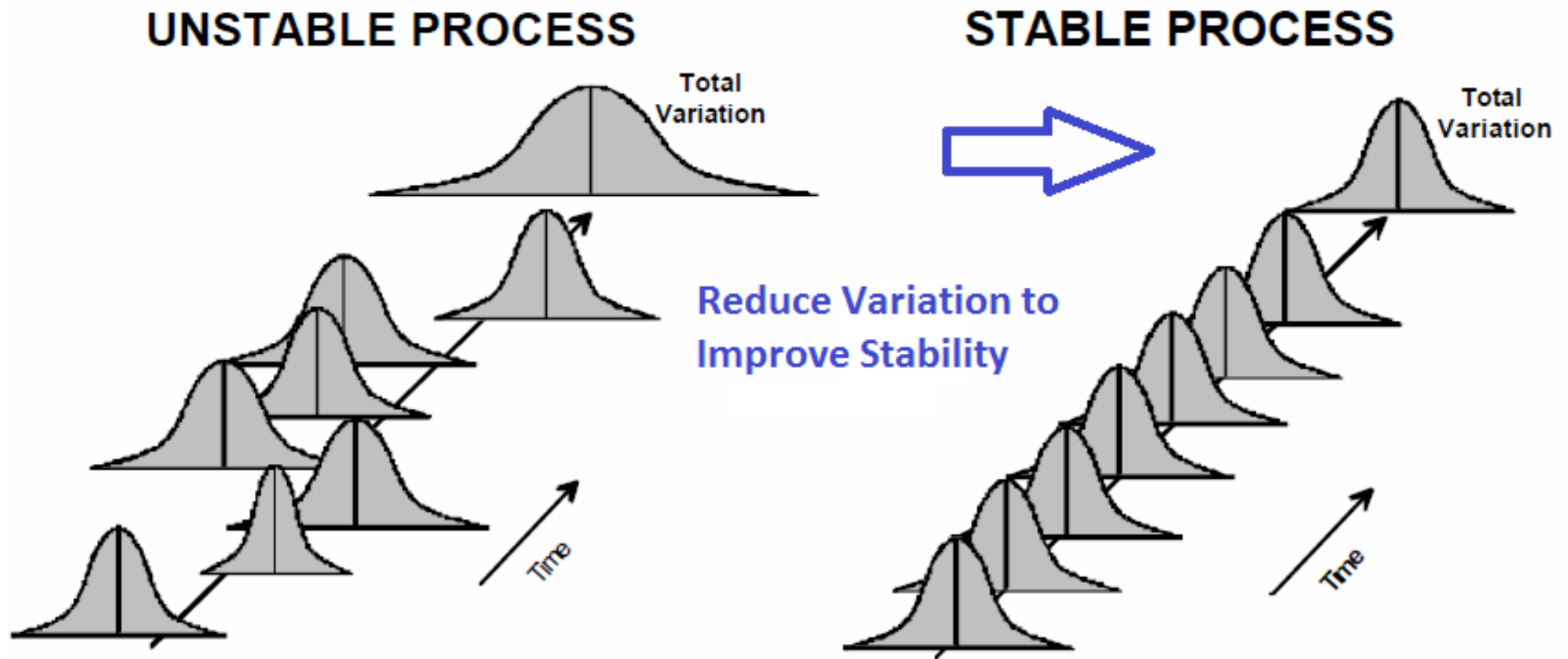
# Tempting...



# Accuracy and Precision



# Variation and Stability

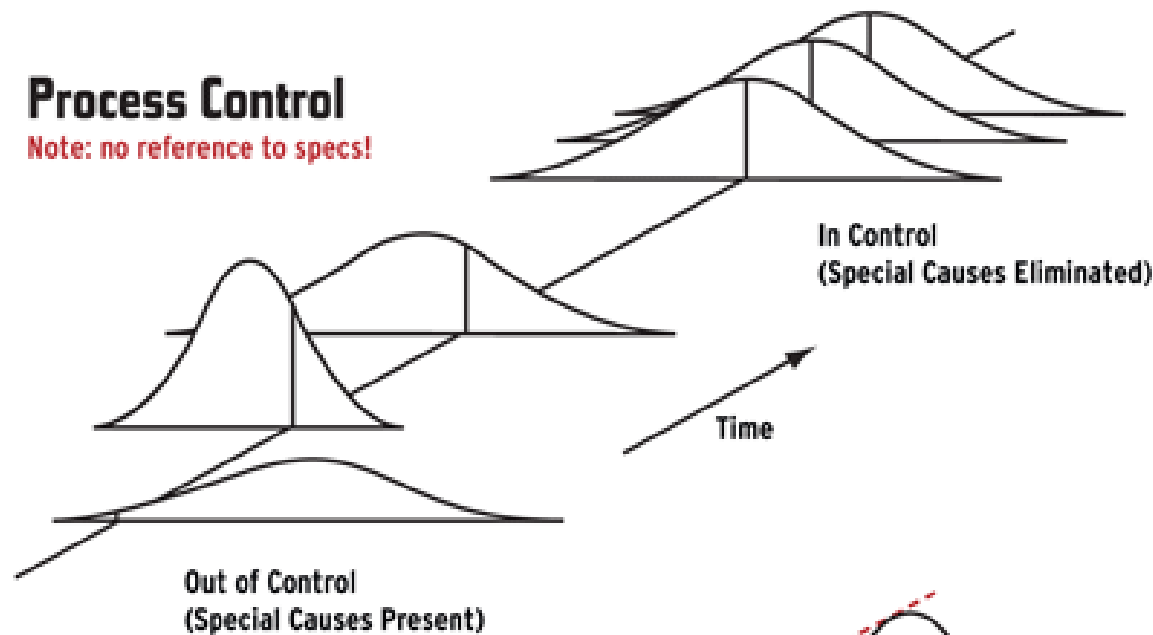




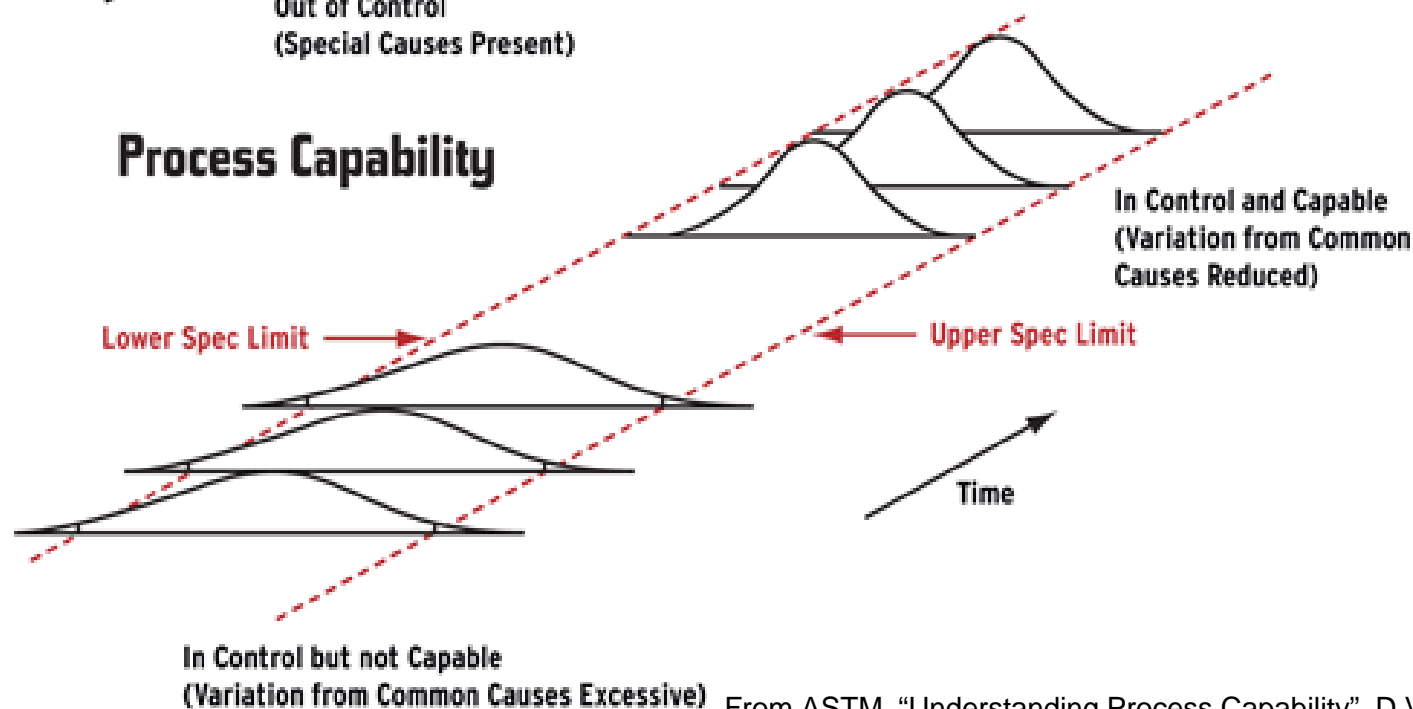
# Control and Capability

## Process Control

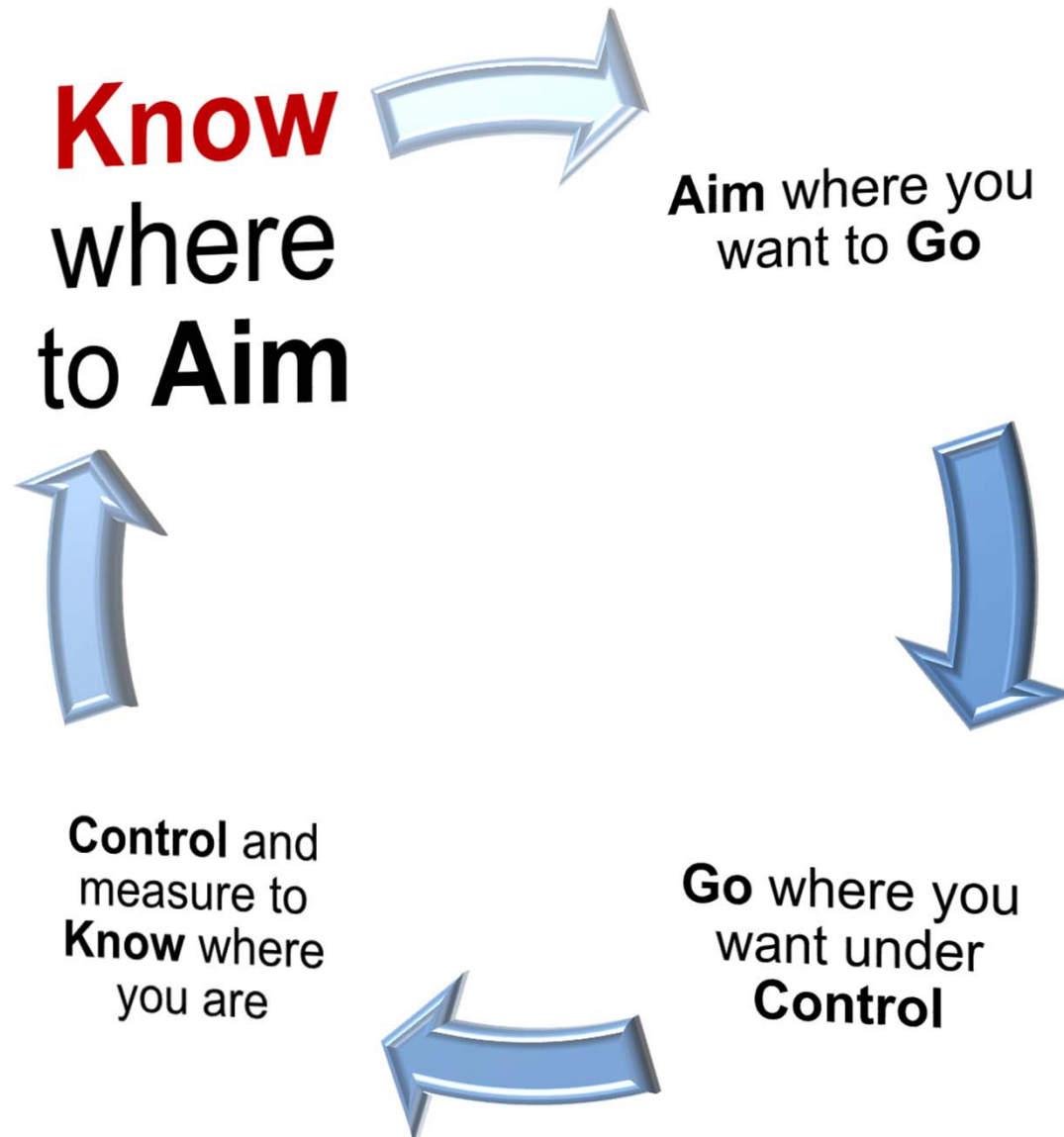
Note: no reference to specs!



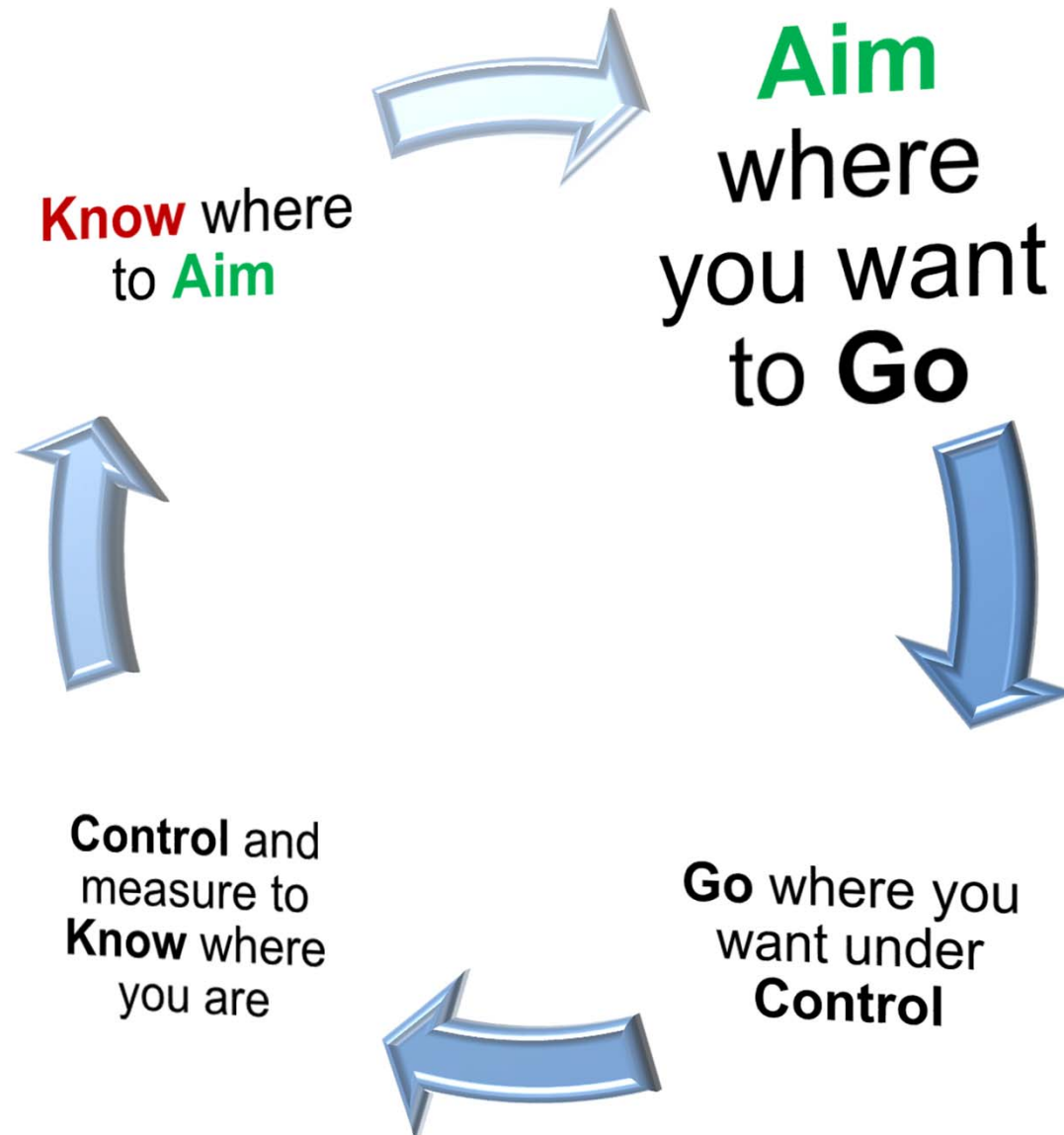
## Process Capability



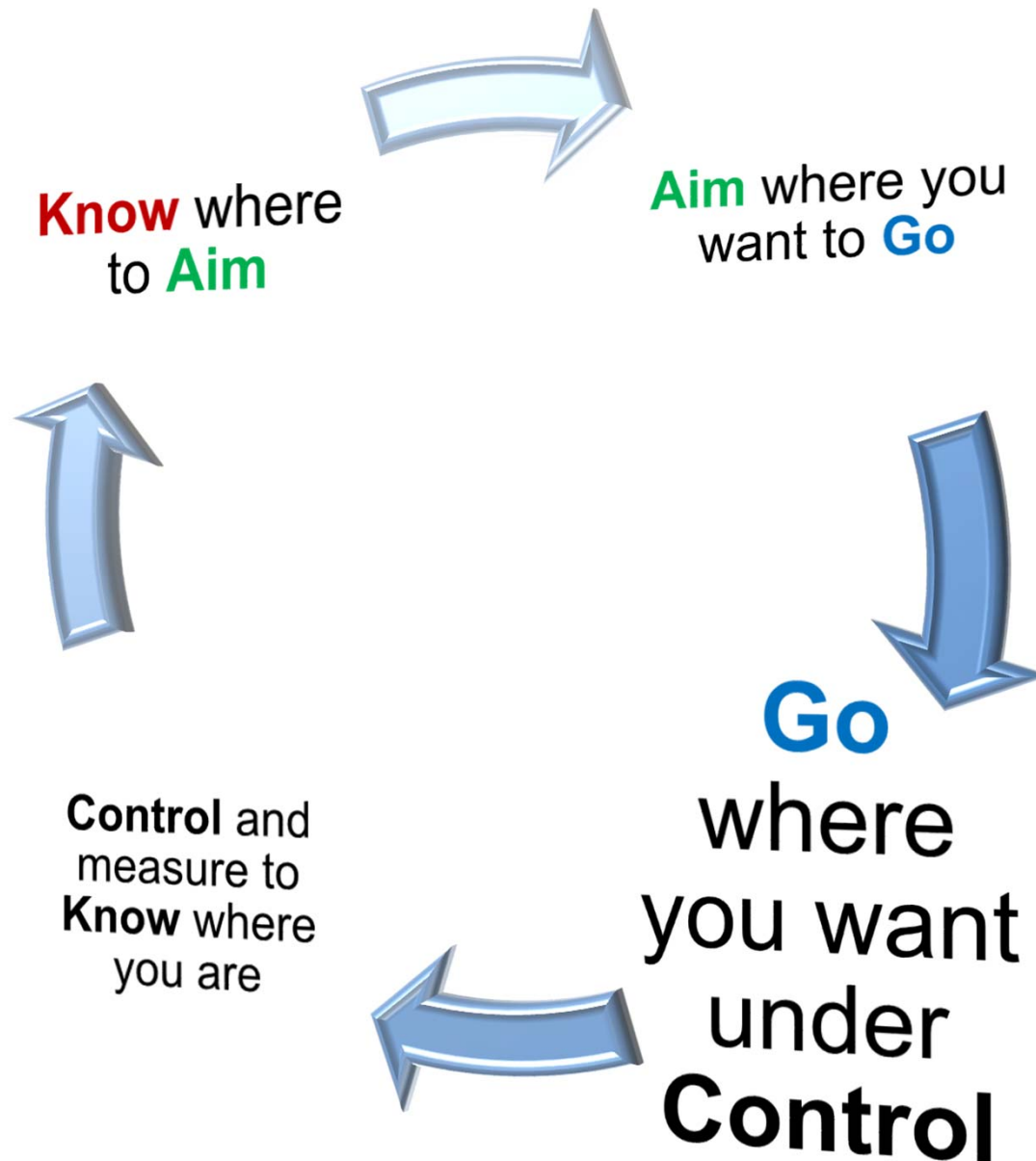
# Guiding Principles for Matching Color



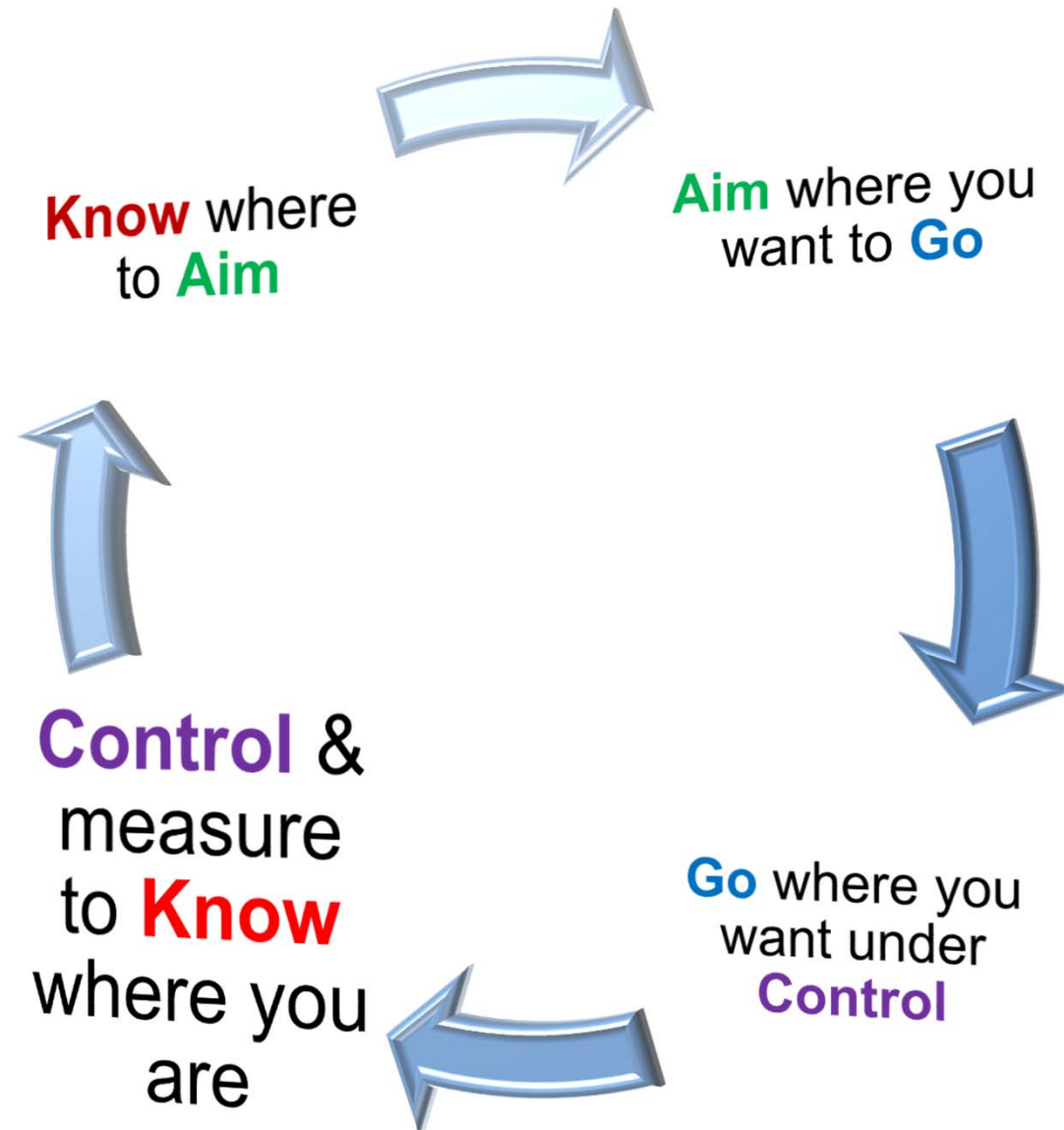
# Guiding Principles for Matching Color



# Guiding Principles for Matching Color



# Guiding Principles for Matching Color





# Where to Aim: **Standards** vs Press



## **Standards:**

- Median for printing category.
- Easy to set up color management.
- Assumes fixed substrate properties.\*\*

Standard  
Characterization:  
Fogra 51  
GRACoL 2013 C1  
...

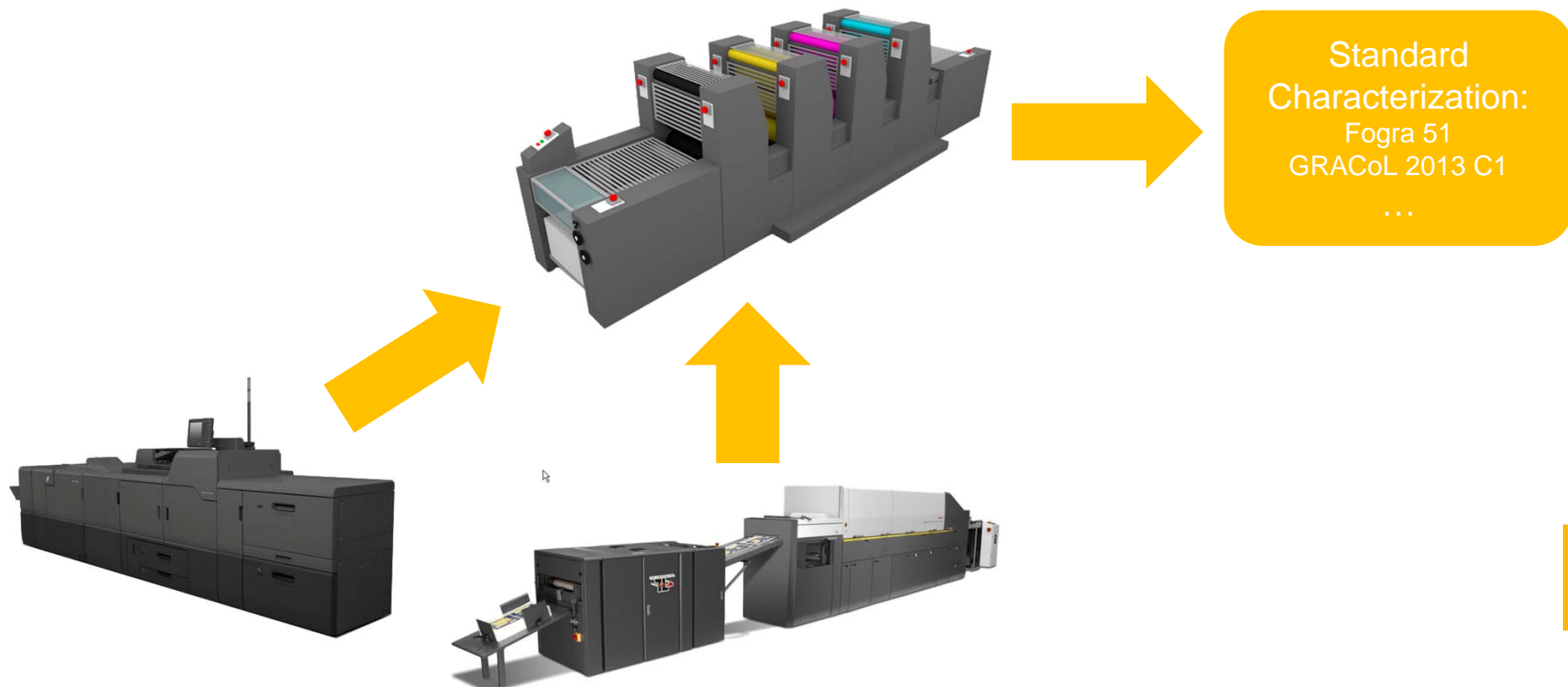


# Where to Aim: Standards vs **Press**

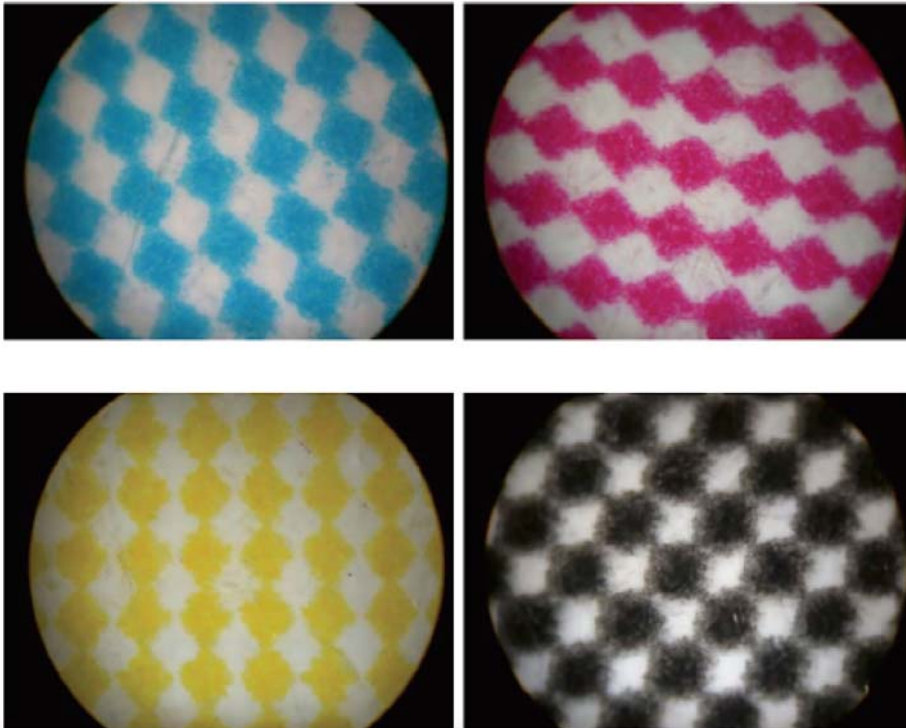


## **Press:**

- Primary product.
- More steps to set up color management.
- More potential process variation.



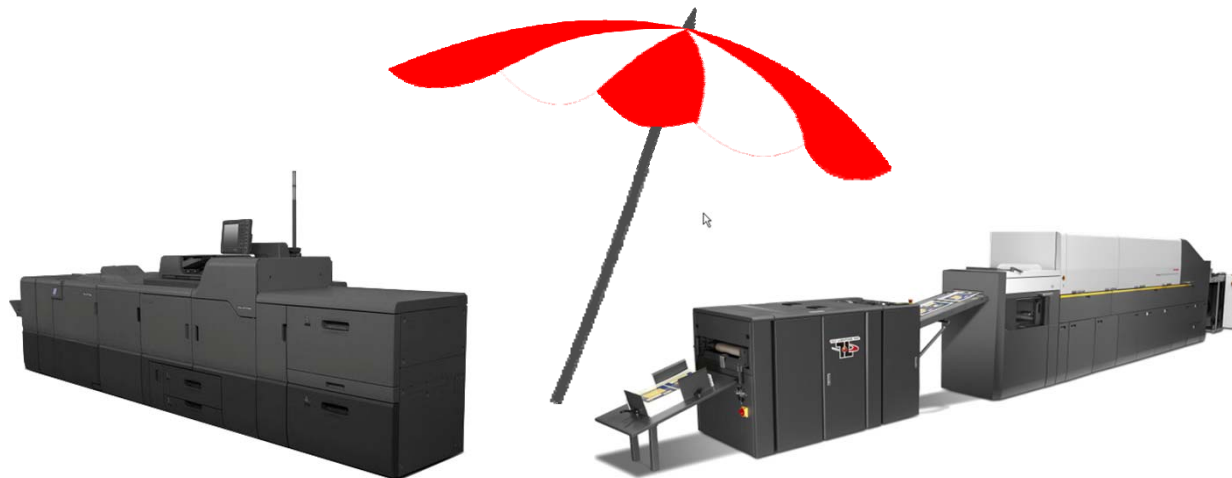
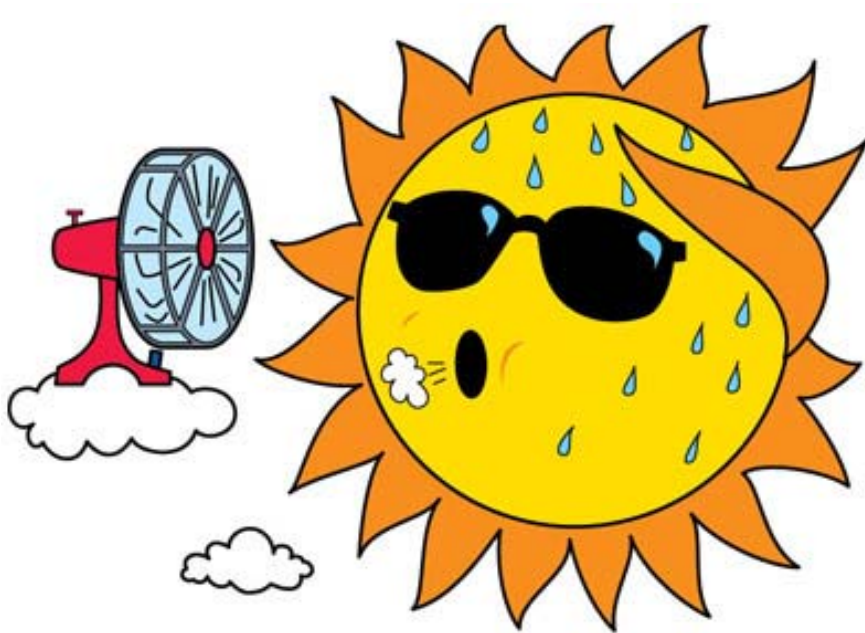
# Print Quality Matters







# Environment Matters





# Tools for Knowing Where You Are



Contract Proof Creation | 23489



**Certified Process**  
 for Color Confirmation

**Proof ID: 940-KUJ-1**  
 T1SM240P 7x14 F39U wedge v3 ILS U  
 16/01/2014 4:00:05 PM  
 See report for details

- ✓ Average:  $1.29 < 3.0\Delta E$
- ✓ Maximum:  $3.14 < 6.0\Delta E$  (C16)
- ✓ Substrate:  $1.21 < 3.0\Delta E$
- ✓ Primaries:  $1.07 < 5.0\Delta E$  (A1)
- ✓ Primaries  $\Delta H$ :  $0.37 < 2.5\Delta H$  (A1)
- ✓ Composed Gray Avg:  $0.67 < 1.5\Delta H$



# About Control...



# Management of Color

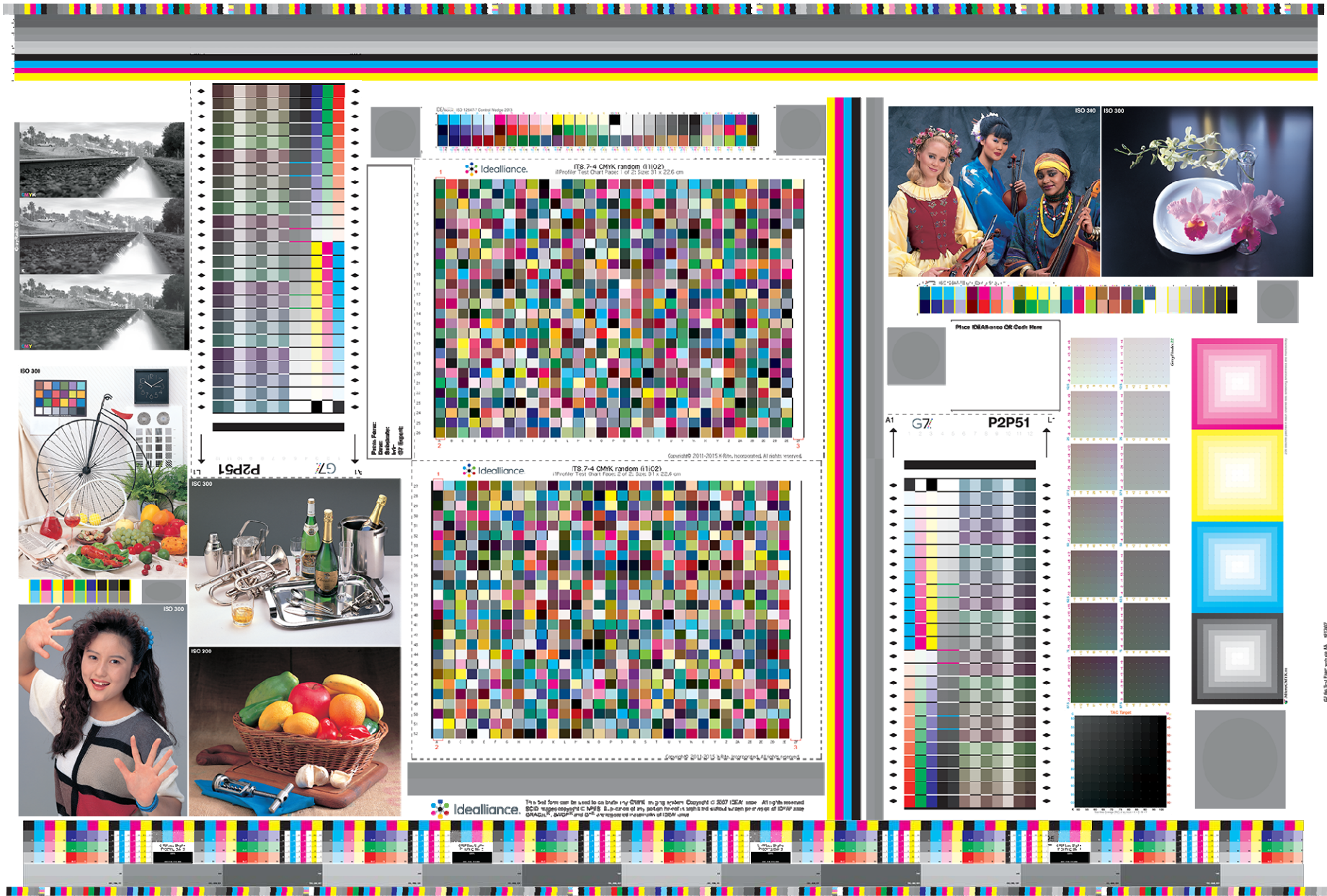


# Avoid This





# ... And Then Color Manage







Thank you