Updates to colour management in PDF and spot color data communication

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Objectives

Designers can create a printable product that meets the brand requirements for colour

Design can be proofed accurately on monitor or on hard copy proof

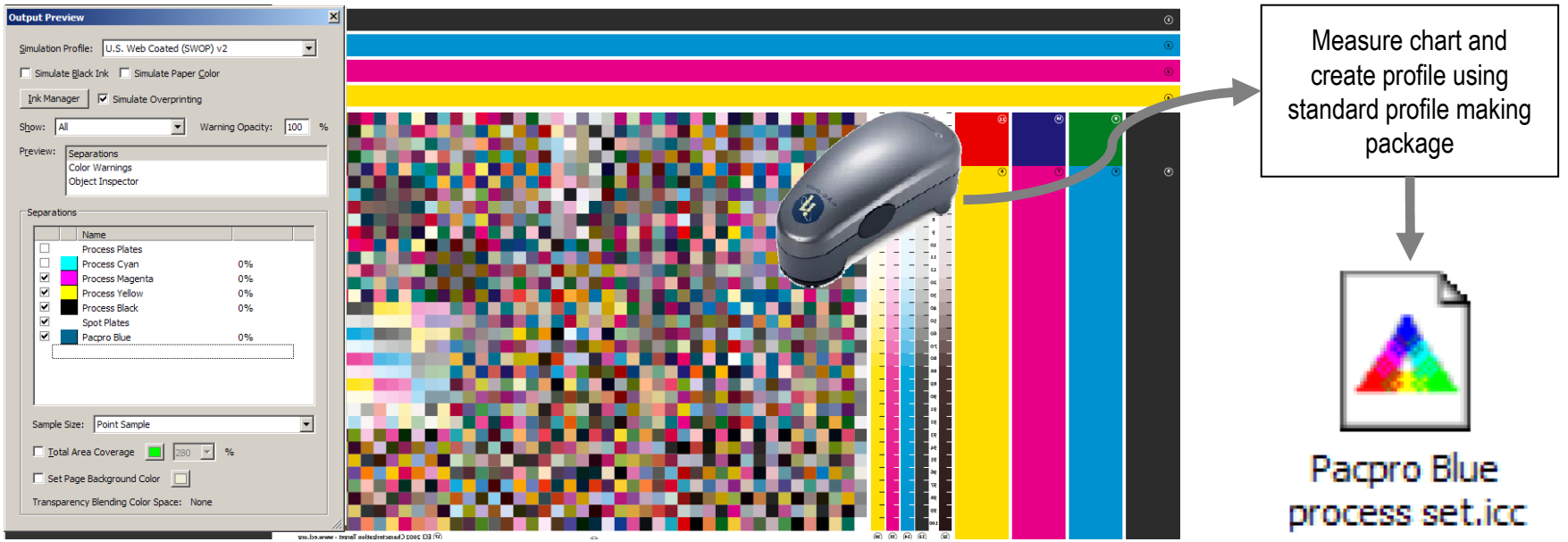
Package (or other product) can be printed as the designer intended

Ink model for packaging printing (process inks)

These inks will be used as the process inks – ***Pacpro Blue*** will be used in place of ***Process Cyan***

- **Process set of inks**
  - may be CMYK or arbitrary set of spot coloured inks
  - printing sequence may change for each job
  - when image colour accuracy is important an ICC profile for each set must be generated as this is the ‘target’ for image content

Process ink characterisation



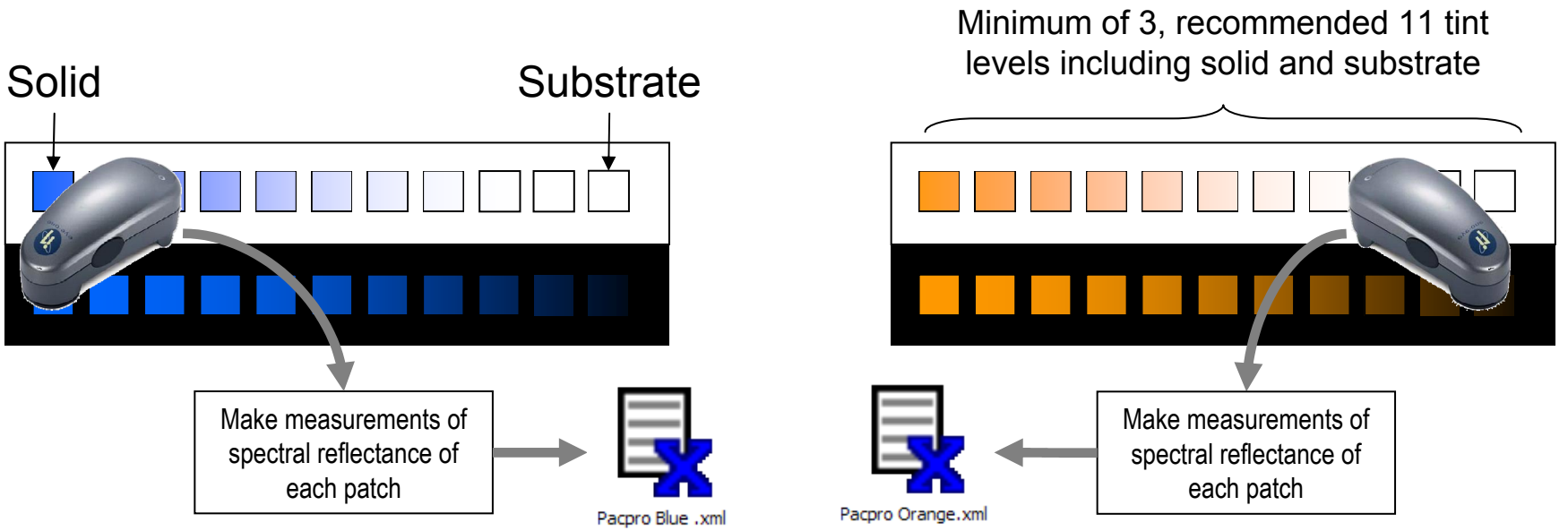
- **Process inks characterisation**
  - ***Pacpro Blue*** is used in place of ***Process Cyan*** when printing a standard characterisation chart
  - this chart is measured and profiles are made in the usual way
  - note that in cases where the process ink set is significantly different from CMYK inks the profile quality from some profile making packages can be quite poor

Ink model for packaging printing (spot inks)

In this case ***Pacpro Blue*** and ***Pacpro Orange*** have been selected as the brand colours and their reproduction must be carefully controlled

- **Spot set of inks**
  - each ink characterised individually in some cases for each substrate on which it is printed (especially brand colours)
  - it is not usually practical to generate an ICC profile for all inks in combination
  - for precise matching, spectral measurements of tints of each ink printed on substrate and on process black are used

Spot ink characterisation



- **Spot ink characterisation**
  - spot colour measurement data provides the information necessary to estimate the ink opacity and hence the colour produced when this ink is printed on top of another colour
  - there is currently no standard way to communicate the spot colour measurement information from the document designer to the printer although there are a number of proprietary solutions
  - ISO TC130 plans to define a standard way to communicate spot ink measurement data using CxF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Proposed PDF support

Output intent dictionary
- DestOutputProfile
- MixingHints
- SpectralData

EMBEDDED
Pacpro Blue process set

MixingHints dictionary
- Solidities
- PrintingOrder

Solidities dictionary
- Pacpro Blue (0.6)
- Packpro Orange (0.3)

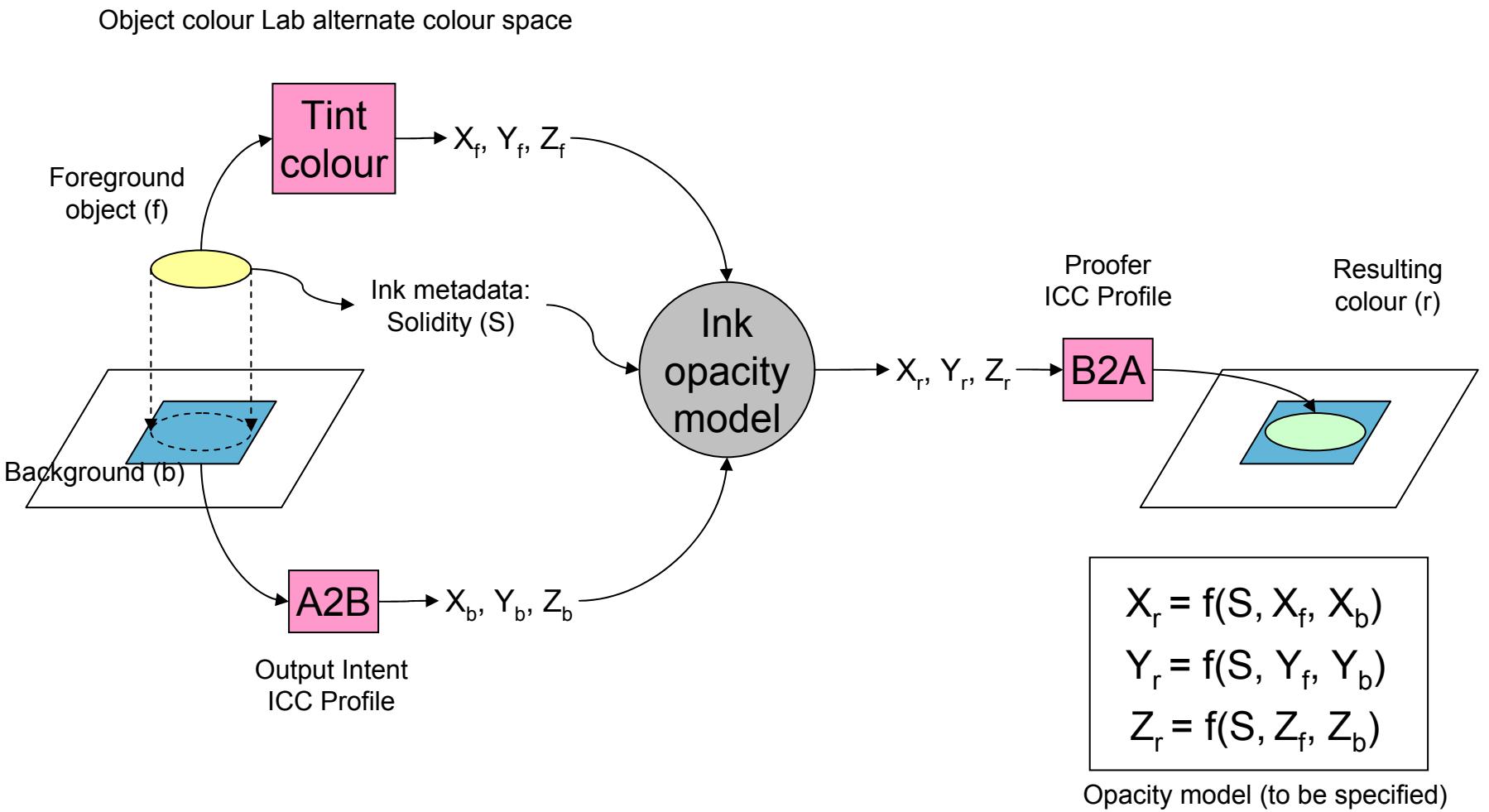
PrintingOrder dictionary
- Black
- Pacpro Blue
- Magenta
- Yellow
- Pacpro Orange

SpectralData dictionary
- Pacpro Blue
- Pacpro Orange

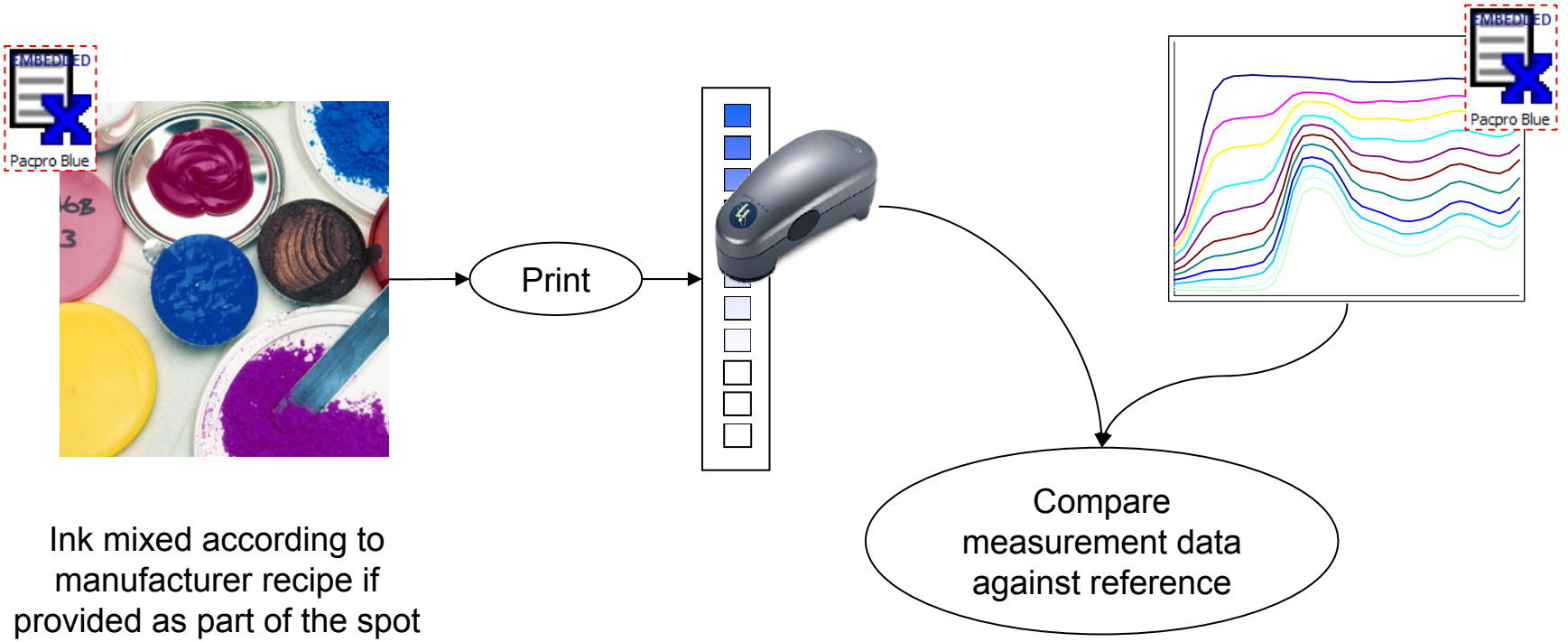
EMBEDDED
Pacpro Blue

EMBEDDED
Pacpro Orange

Using ink opacity (solidity) for proofing



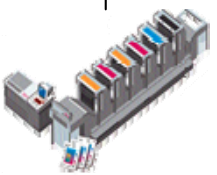
Using ink spectral reflectance for printing



Ink mixed according to manufacturer recipe if provided as part of the spot ink definition

Meeting the objectives

Brand manager selects colours based on print data



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Current status

- **TO BE DONE**