



KONICA MINOLTA

Giving Shape to Ideas

We will continue to give shape to your ideas.



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MEASUREMENT INSTRUMENTS FOR PRECISE COLOR COMMUNICATION: PACKAGING & FOOD

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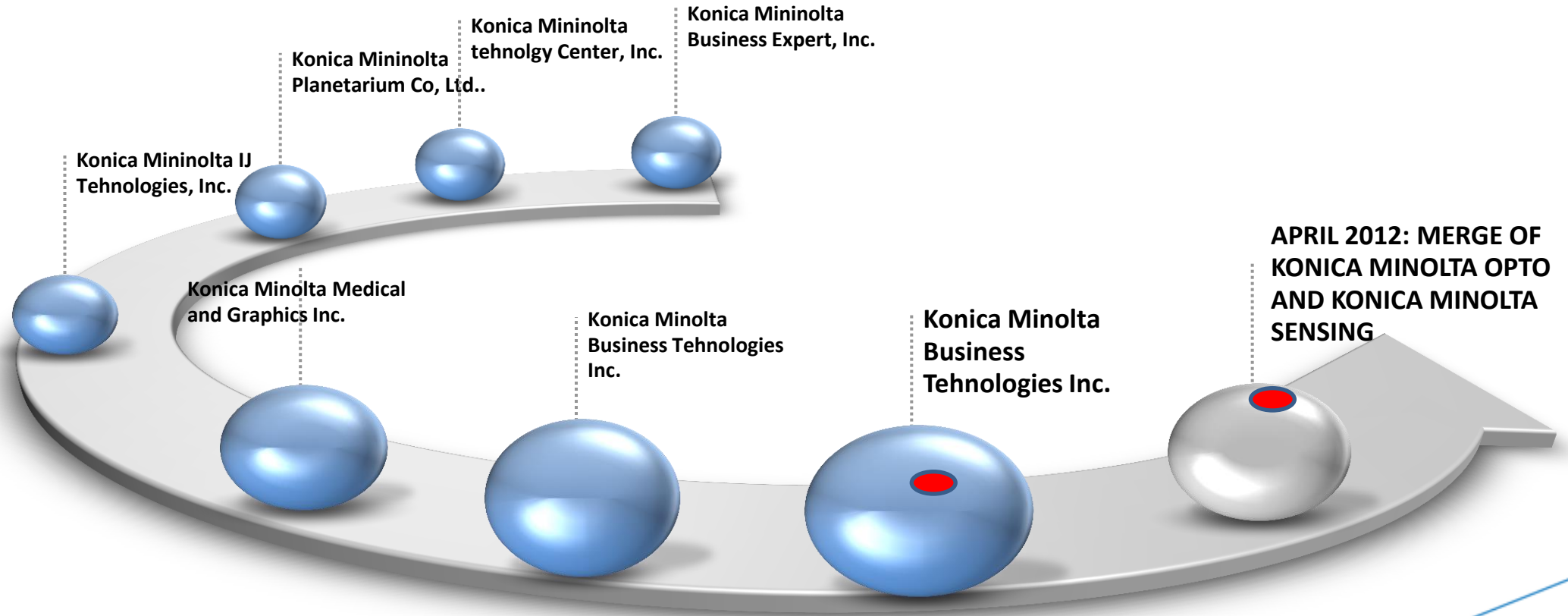


KONICA MINOLTA HRVATSKA



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KONICA MINOLTA HOLDINGS INC.



COLOUR: A SIMPLE SENSATION....



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BOJA: JEDNOSTAVAN OSJET....



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COLOUR: A SIMPLE SENSATION....



COLOUR: A SIMPLE SENSATION....



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COLOUR...IS EMOTION...



Colour is emotion....
Colour is a mechanism
to distinguish the
attractive strawberries
from the
boring leaves...

.....Did you know that dreams are colourful?



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...AND IS IMPORTANT FOR BRAND RECOGNITION



?

...I VAŽNA JE ZA PREPOZNATLJIVOST BRANDA



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...AND IS IMPORTANT FOR BRAND RECOGNITION



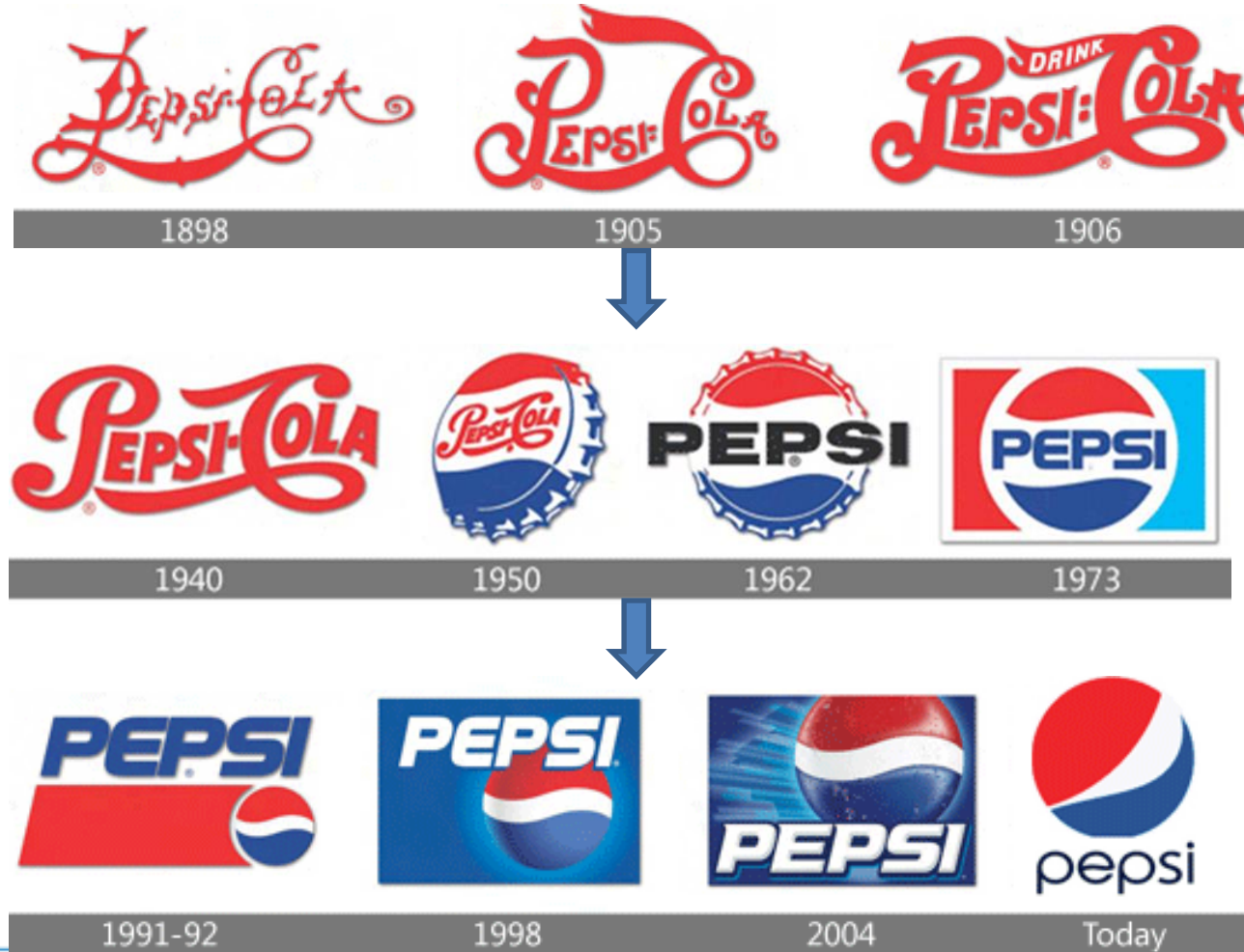
.....brands should use logo colors that are associated with the personality traits they want their brand to have in the eyes of consumers.....

...I VAŽNA JE ZA PREPOZNATLJIVOST BRANDA





BOJA LOGOTIPA OSTAJE PREPOZNTALJIVA



Color is one of the most important and influential branding tools available to you. It can set the mood for your company's website, logo and brand..

Elements of the trademark, such as size, shape and font have changed through the history, but the color as a recognizable element remains the same.





COLOUR MANAGEMENT IS EMOTION MANAGEMENT



■ Problem:

A consumer needs 8 – 12 seconds to decide for or against a product...At the POS this decision is based on emotion and not sanity...12 seconds to manage that this emotion leads to your product

■ Solution: Colour is emotion

■ Colour Management is emotion management

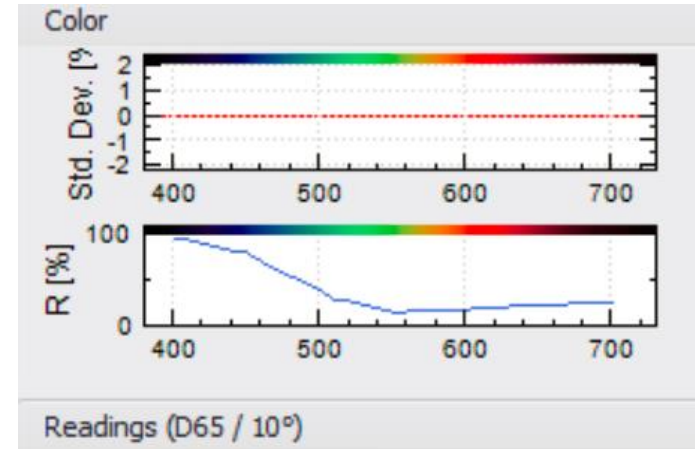




CONSISTENT COLOUR: SPECIFICATION OF STANDARDS



VERSUS



- Inconsistent batches
- Regular changes
- Copyright
- Expensive

- No production variances
- Perfect permanence
- Owned by Brand Owner
- Cheap

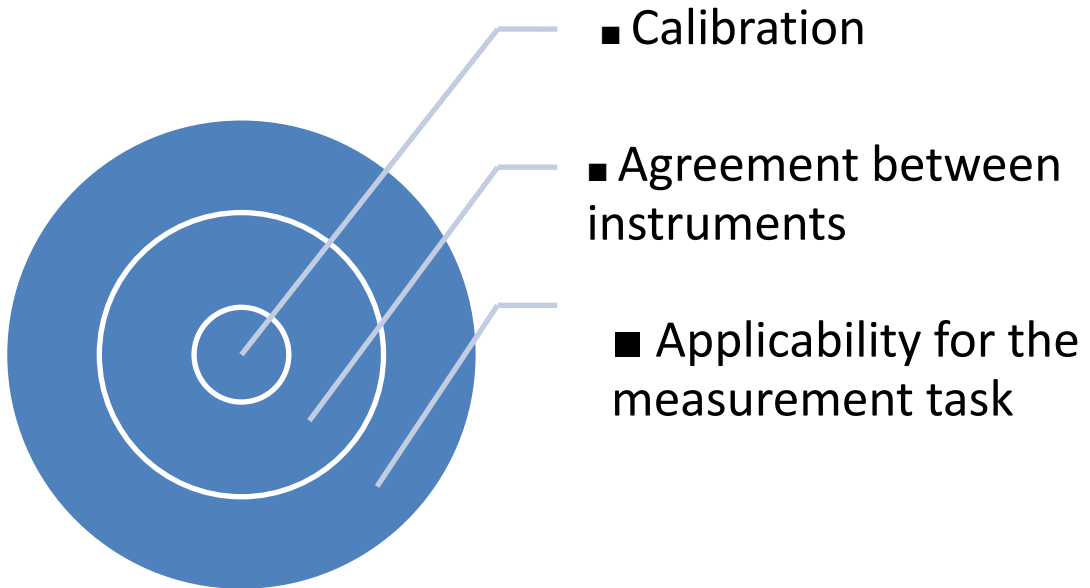




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APPROPRIATE MEASUREMENT EQUIPMENT

- FOR DIGITAL COMMUNICATION OF COLOUR STANDARDS THE MEASUREMENT EQUIPMENT NEEDS TO FULFILL HIGHEST END QUALITY



<http://www.konicaminolta.eu/en/measuring-instruments/technical-service/maintenance-calibration/maintenance-proposals.html>



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SOOLUTION FOR GRAPHIC ARTS- SPECTRODENSITOMETER

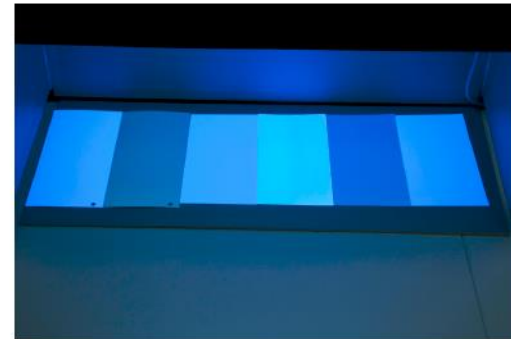
- Based on KMSE's patented "Virtual Fluorescence Standard" (VFS) Technology

Konica Minolta Sensing Inc. launch the first instruments for the Graphic Industry, capable of measuring colour of printed materials on FWA*-treated paper according to ISO 13655:2009

- Spectral measurement devices
- Geometry 45°a:0°
- FW@HM appr. 10 nm
- Diameter 3.5mm
- Light source: LED
- Output of Spectrum, Colour and Density



fluorescent brightening agents (FBAs) or fluorescent whitening agents (FWAs) are chemical compounds that absorb energy in the ultraviolet and violet region (usually 340-380 nm) of the electromagnetic spectrum, and re-emit light in the visible region (typically 420-470 nm). Fluorescent activity is characterized by a rapid emission response, unlike phosphorescence which has a delayed emission. These additives are often used to improve the appearance of color of fabric and paper by providing a "whitening" effect, making materials look brighter and whiter by increasing the overall amount of blue light.



UV-Light

- Fluorescent Whitening Agents absorb energy in the UV-range and emit the energy as light



FOOD INDUSTRY COLOR CONTROL-THE COLOR OF QUALITY

TWO PRINCIPAL COLOR MEASUREMENT TECHNIQUES

- COLORIMETRY
- SPECTROPHOTOMETRY.





HOW COLOR AFFECTS YOUR PERCEPTION OF FOOD?

- Humans have certain expectations of how food should look
- When a food's color is off or is different than what we expect
- Our brain tells us that it tastes different too.

In today's retail world of behind glass, chilled, frozen, boxed, dried, vacuum-packed and plastic wrapped foods, eye-appeal is far more important than nose-appeal.





VISUAL COLOR QUALITY CONTROL

Individual seeing

Sight is something very individual – it is dependent from a lot of biological parameters unique to every human being.

Influences on color sensation include...

- Age (lenses start to become yellow)
- UV (similar effect as aging)
- Stress (hypertension)
- Pharmaceuticals (e.g. Viagra has an effect on blue sensation)
- Diseases (like diabetes)
- Defects on color vision due to genetic defects (“colorblind”)



VISUAL COLOR QUALITY CONTROL-AGE EFFECT



Early age



~15 years



~40 years



~60 years



~70 years



~80+ years



FOOD INDUSTRY COLOR CONTROL...THE COLOR OF QUALITY

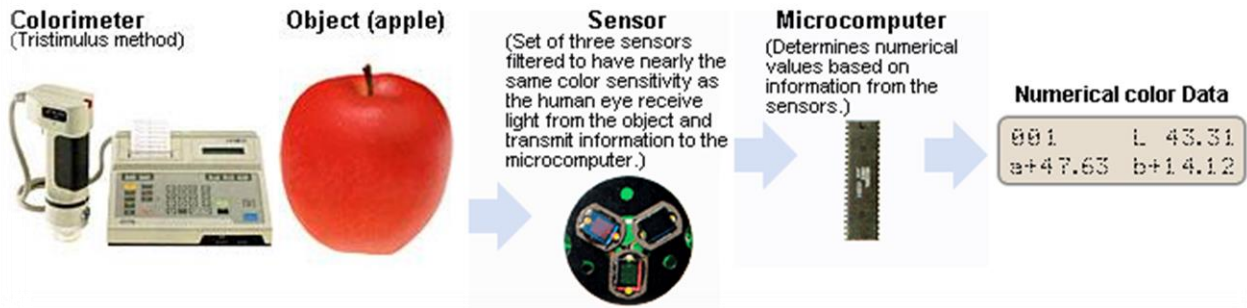
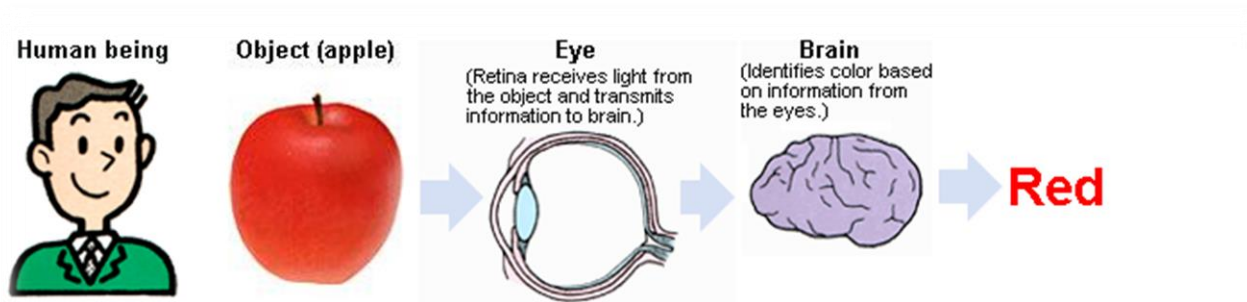
Visual color judgment was simply too subjective.





1. TWO PRINCIPAL COLOR MEASUREMENT TECHNIQUES

COLORIMETRY



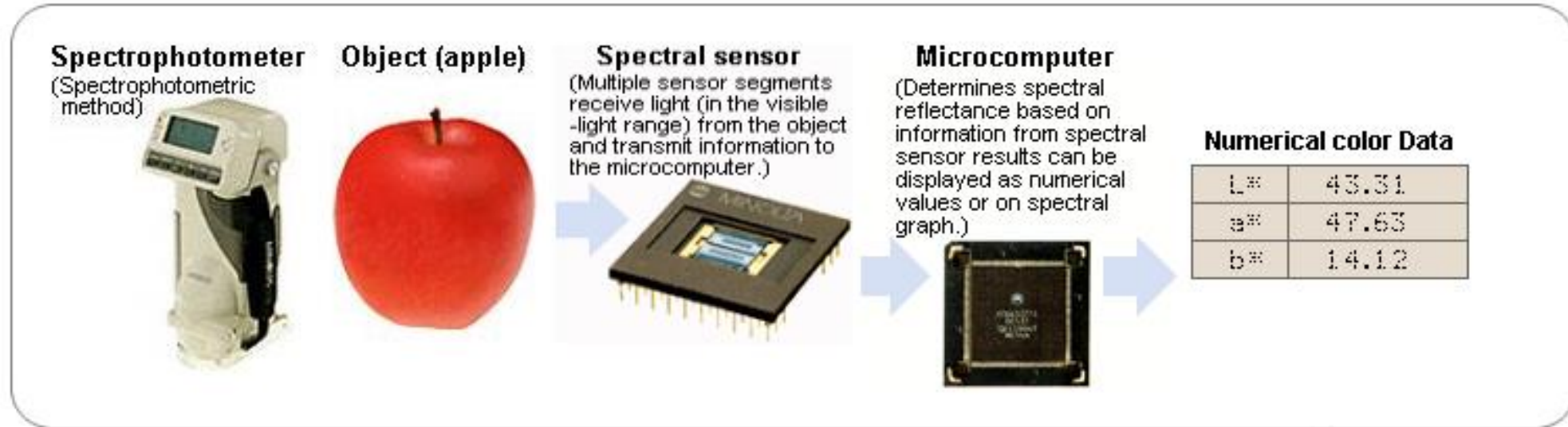
Colorimetry is the technique which quantifies color by measuring three primary color components of light which are seen by the human eye, specifically, red, green and blue (also referred to as “RGB”)





2. TWO PRINCIPAL COLOR MEASUREMENT TECHNIQUES

SPECTROPHOTOMETRY, A SCIENTIFIC “STEP UP”



Spectrophotometer can also display a graph of the color's spectral reflectance

Colors are created by mixing various wavelengths of light in appropriate proportions.

A spectrophotometer measures the light reflected from the object at each wavelength or in each wavelength range; this data can then be displayed on a graph to provide more detailed information about the nature of the color.

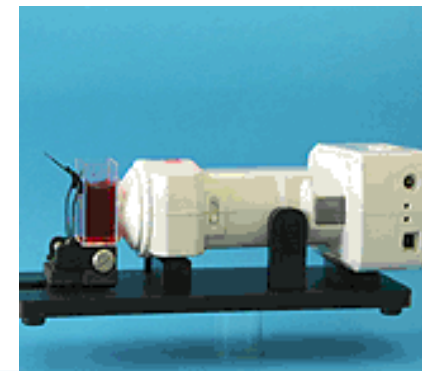




2. TWO PRINCIPAL COLOR MEASUREMENT TECHNIQUES

SPECTROPHOTOMETRY, A SCIENTIFIC “STEP UP”

- Spectrophotometry is the most precise and accurate technique for the measurement, formulation and quality control of desired colors in prepared food products.
- Spectrophotometers offer greater specificity, making them the instruments of choice for food product color formulation, specification of standards and tolerances,
- inter-plant color communication and color quality control in processing operations.
- color standardization and QC inspection of ingredients
- for specification of final product color (particularly in jams, jellies, preserves, beverages, etc.), in research and development of new food and beverage products....





HARDWARE: PORTABLE INSTRUMENTS

COLOR READERS:

- CR-10 Color difference
- CR-11 Munsel notation
- CR-14 White and yellownes
- BC-10 Baking contrast



CHROMAMETERS:

- CR-400 measuring area 8 mm
- CR-410 measuring area 50 mm



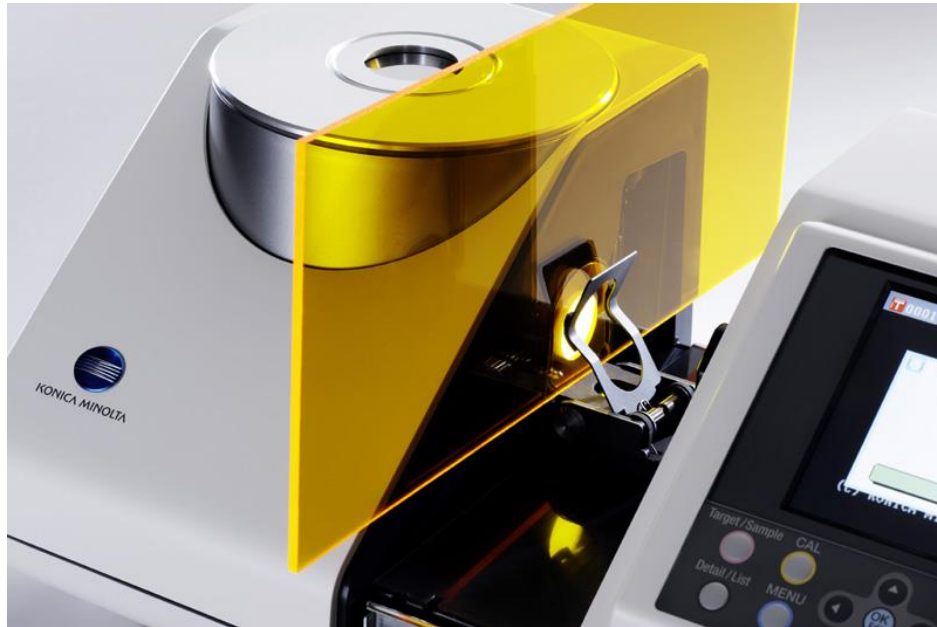
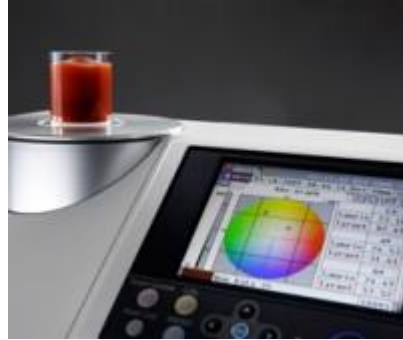
SPECTROPHOTOMETERS:

- CM-512m3A
- CM-2500c
- CM-600d
- CM-700d
- Sphere instruments:
 - CM-2500d
 - CM-2600d



BENCHTOP SPECTROPHOTOMETERS:

- CM-5
- CM-3700A
- CM-3600A
- CM-3610A
- CM-3630
- CM-3220d



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KONICA MINOLTA PRODUCTS:

- COLOUR
MEASUREMENT

-GRAPHIC ARTS

-LIGHT AND DISPLAY
MEASUREMENT

-GRAPHIC ARTS

-LIGHT CABINETS FOR
VISUAL CONTROL

- MEDICAL
INSTRUMENTS



Automotive



Food



Lighting



Arts & Heritage



Plastics



Digital Cinema



Packaging



Pharmaceuticals



Renewable Energy



Digital Media/CGI



Construction



Medical



Consumer Products



Cosmetics



Glass



Government/Defense



Pre-Press & Printing



Electronics



Education



Aerospace



Paint



Displays



Ink



Chemicals



Paper



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ACCURATE COLOUR MEASUREMENT SAFEGUARDS QUALITY AND BRAND PRESENCE - KÄRCHER



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- Yellow and black mean more than just the colours themselves to Kärcher
- they represent the promise of performance from the entire company.
- A meaningful and easily recognisable symbol.
- They are also an emotional bearer of corporate communication with a signalling effect.
- This is because colours give customers orientation when making their purchasing decisions
- They stand for performance, service and quality products.



Kärcher checking its incoming and outgoing goods with Konica Minolta instruments since 2005. The CM-2600d flexible and ergonomically designed portable spectrophotometer was the easiest to integrate into the company's own quality management system



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The WILD Group in Eppelheim near Heidelberg and its allied companies employ 2,500 staff around the world and are market leaders for food additives in many industry sectors. As the producer of Capri-Sonne®, WILD is today the global number one for children's' drinks.



Color Picker & Color Finder





SIX WAYS STANDARDIZING THE COLOR PROCESS IMPROVES MANUFACTURING OPERATIONS

Reduce Company Costs

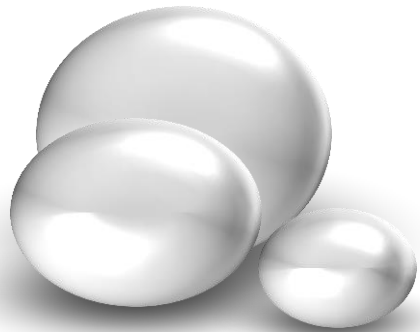
Improve Communication Internally & Supply Chain

Reduce Rework and the Amount of rejects

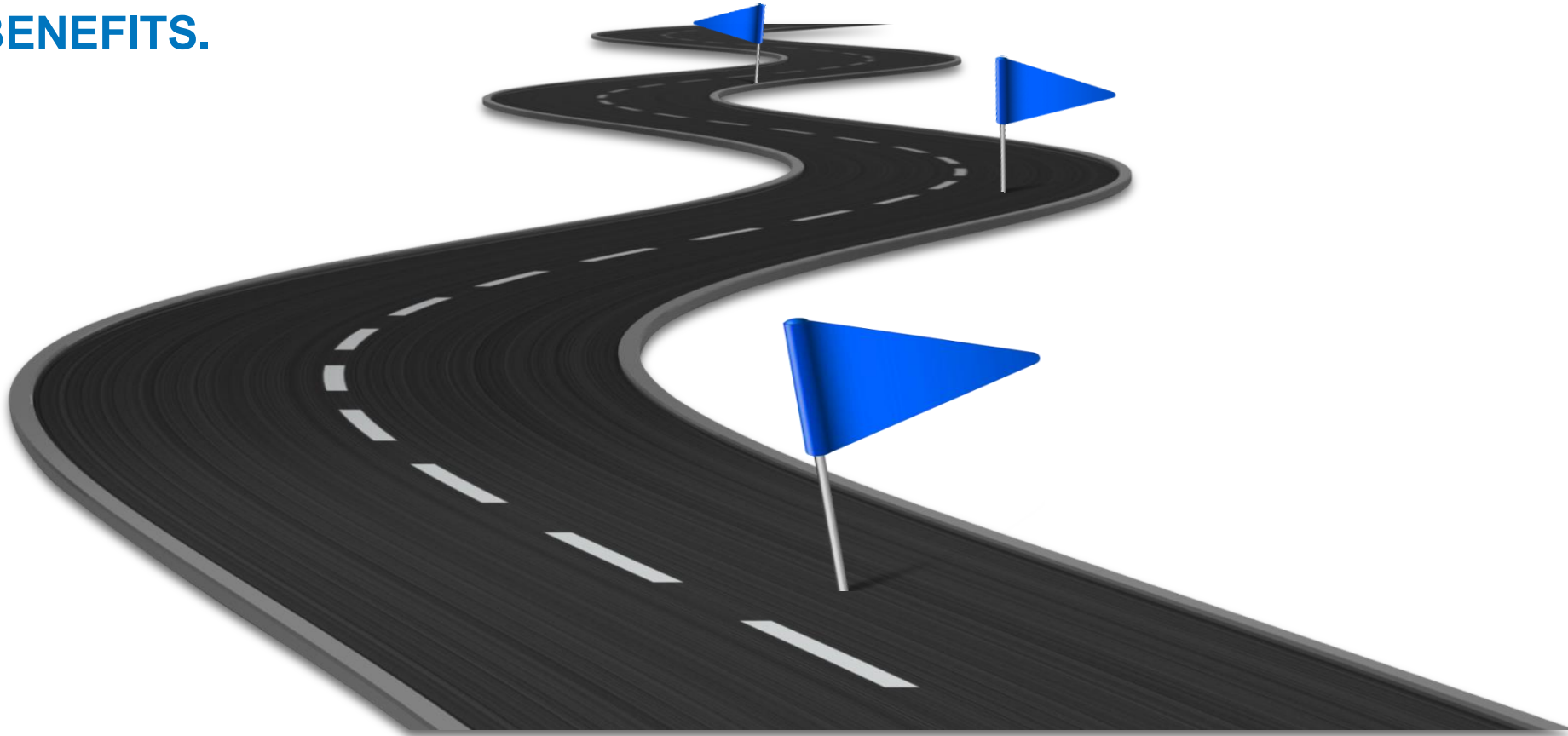
Reduce Lead Time

Improve Operational Efficiency

Establish Color Quality Standards More Effectively



**GET THE COLOR YOU WANT OR YOUR CUSTOMER WANTS,
FOR THE FINISHED PRODUCT, IN ADDITION TO A NUMBER OF OTHER
BENEFITS.**



THANK YOU....

GIVING SHAPE TO IDEAS

