

DigiEye

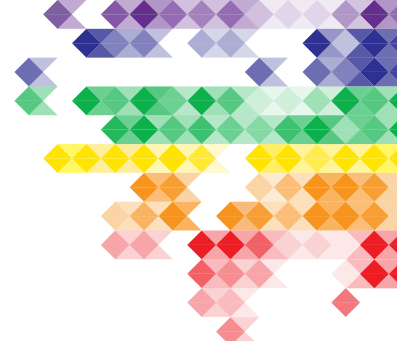
Putting Colour in Context

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DIGITAL NON CONTACT
COLOUR ASSESSMENT



Powerful, fast and flexible colour management

Consistent and reliable colour and appearance measurement
and data capture system



www.verivide.com

DigiEye



Putting Colour in Context

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DigiEye transforms colour management

VeriVide's DigiEye is a highly cost-effective colour data capture and imaging system that helps:

- Assess appearance as well as colour
- Speed up quality control
- Reduce wastage
- Sustain product integrity
- Improve supply chain efficiency
- Detect anomalies, contamination or deterioration

DigiEye instantly, accurately and repeatably measures the colour and appearance of any product, material or substance against user-specified standards.

It is an easy to use, non-contact system that can be integrated effortlessly into most production, quality control or R&D environments.

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Only **DigiEye** is the complete solution

The DigiEye system mimics the way human vision works. It sees colour in context, focusing on the elements that matter and filtering out the rest.

Where it differs from human vision is that it has no facility for subjectivity! All data is captured digitally and assessed with unvarying objectivity against standards set by the system operator and applied by DigiEye's software.

DigiEye has been designed for modern production processes and global supply chains. A major benefit is its ability to share data in real time via the internet with any other DigiEye system, whether in the same building or on a different continent.

DigiEye can be used to sample any solid or liquid ingredient, material or product before, during or after production.

It can benefit any business in any sector where:

- Colour matters to the consumer.
- Colour assessment could help determine product quality, consistency or safety.



"One major advantage of the DigiEye system is that it allows us to turn colour data into a completely new asset for the business. We're still exploring where that can take us but we've already enjoyed significant production benefits from using DigiEye."

What's wrong with traditional methods of colour measurement?

Visual assessment - simply looking - is too unreliable. It's subjective, slow and vulnerable to variations in both viewing conditions and assessor skills.

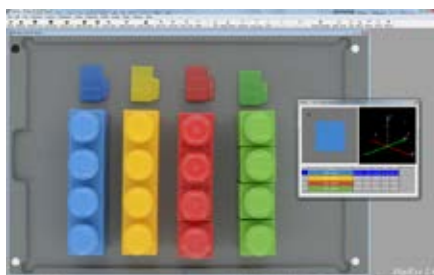
Lighting cabinets - such as VeriVide's Colour Assessment Cabinets (CACs) - provide standardised viewing conditions and are invaluable in many non-automated environments. Nonetheless, they support what is still an essentially subjective process.

Instruments such as spectrophotometers and colorimeters have often severe operational limitations and depend on an averaging of results, which may provide little useful information. Crucially, they can't 'see' colour as the human eye sees it.

DigiEye helps your business...



- Cut time
- Cut waste
- Cut costs



- Measure almost any product
- Lets 'Go Digital' approach for communication of colour



- Improve time to market
- Improve customer concept of product quality



DigiEye is powerful, fast and flexible

DigiEye is really clever. It can differentiate between the sample to be assessed and any packaging or other background detail. This reduces sample preparation time, which in turn increases sample throughput.

DigiEye can be programmed by the user to capture, process, store or communicate exactly the data needed for quality control. It's fast, repeatable, consistent and tireless.

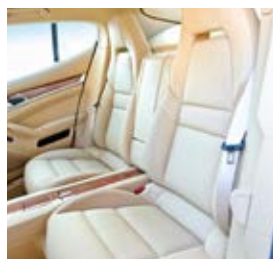
As hardware it's compact, robust, unobtrusive and hygienic.

And for such a smart and feature-rich system, it is extremely easy to use. Almost anyone can learn to operate DigiEye, usually in less than a day.

The DigiEye system is a large and logical stride forward in the never-ending search for greater competitiveness, quality assurance and supply chain efficiency.

Typical end-user applications

The DigiEye non-contact colour measurement system has many proven and potential uses for virtually all industry sectors.



Automotive
High end quality colour matching. Colour in context with texture appearance of fabrics and leathers.



Packaging
QC of packing in context with product. Cardboard boxes, printed POS, printed acetate packs and the imaging and colour measurement of 3D objects inside presents no problems for DigiEye.



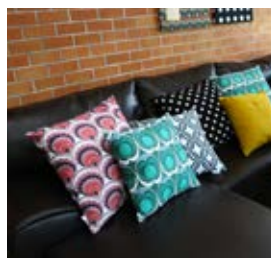
Denim
Colour measurement of finished product, QC of fabrics. Denim shade sorting of washed blankets and roll to roll sorting. Unique sorting parameters and result output.



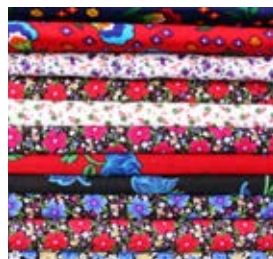
Lace & lingerie
DigiEye excels in the accurate colour measurement of laces and other complex Lingerie fabrics and components. The use of smart-filters seriously undermines all traditional spectrophotometer measurements, and DigiEye continues to be a valuable tool for this area of colour measurement.



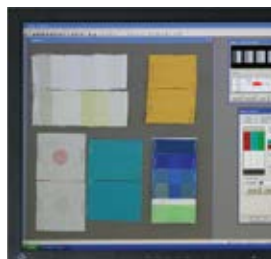
Carpets & heavy pile fabrics
Smart measurement using measurement filters of carpet tufts and pile effects. Measurement of finished carpets, coach fabrics and QC of incoming yarns/blends, and colour in context appearance testing.



Co-ordinating sets
Allows users to co-ordinate the colour and appearance of home-ware. Bathroom and kitchen textiles, and all other homeware. Ensure colour consistency of textiles against plastics and ceramic components, guarantee colour matches of bath towels to bath mats. DigiEye provides fast and accurate colour measurement of same colour but different textures, blends and substrates. Seeing is believing.



Patterns & print
New Smart-Print for colour measurement and QC of prints, ideal for samples, print strike-offs and final production. Multi-colour prints, woven checks and special blends measured easily and accurately using smart-filters.



DigiGrade
Grades samples using a specially calibrated camera that relays images to the DigiGrade software, which then presents and stores results data. Little human expertise or judgement is needed and DigiGrade can be operated by almost anyone with a single day's training. DigiGrade is fully tested and proven. Over several years of trials in design, manufacturing and laboratory environments, it has been approved as the benchmark test process by many major retailers.

Please ask for our separate brochure for DigiEye food and drink sector applications.



Measuring the otherwise unmeasurable

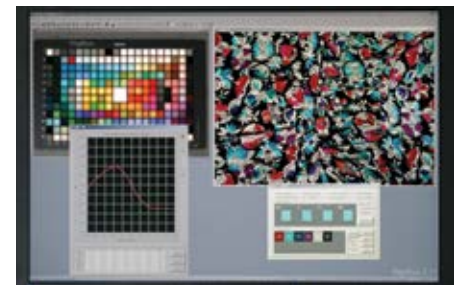
There is probably no product or ingredient that DigiEye can't measure. Its maximum field of view is around 40 x 50 centimetres, yet it can easily measure samples as small as a single thread.

The DigiEye system's footprint is small enough for it to be used in almost any design, production or testing environment.

- Unlike conventional instruments, which average out data, DigiEye 'sees' samples in context - like the human eye - and can instantly pinpoint any variation from a known standard, even among multiple ingredients or components and with packaging present.
- Saved image file transfer enables samples to be compared anywhere in the world, immediately or at intervals. This can, for example, establish supply chain standards or help research product shelf life and colour stability.
- DigiEye is a fully non-contact system and so there is no risk of data being influenced by the act of measurement. Nor is there, in normal operation, any risk of sample contamination.
- DigiEye is proven to be reliable in continuous use and provides consistent high quality data across multiple sites. Installation and training is often completed within one day, with no previous experience of colour measurement required.



How does DigiEye work?



1 Samples to be measured for colour or appearance are placed on a neutral grey background in the DigiEye Cube, which excludes ambient light in favour of controlled, consistent lighting to CIE D65 standard. Different illumination geometries are possible, including angled and diffuse lighting.

2 A digital SLR camera captures data at millions of points. Colour and texture are recorded precisely and in extremely high resolution.

3 DigiEye software relays data to a calibrated monitor and printer for instant comparison and, if needed, colour-accurate printing of images for use as master product standards.

The DigiEye range

NEW DigiEye Standard cube

The new Version 6 cube is our standard offering, the dimensions being approximately 690mm X 730mm. This is a bench top model ideal for laboratories, research institutions and for production quality control areas. We have developed our standard cube to meet the increasing needs of the user.



Larger curved door

Better looking design, gives increased access for positioning larger sized samples, and aids easy fitment and removal of DigiEye accessories, such as imaging mirrors and custom imaging boards and trays.



Soft touch auto shut light lock door

Positive feel, ensuring draw is always shut. The smoother action also eliminates sample movement once positioned. The design ensures light trap to prevent ambient light getting into the imaging cube area.

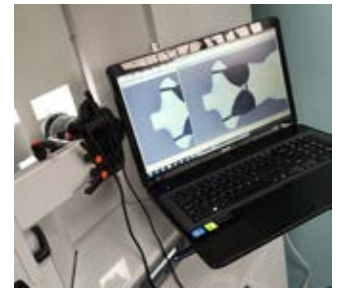
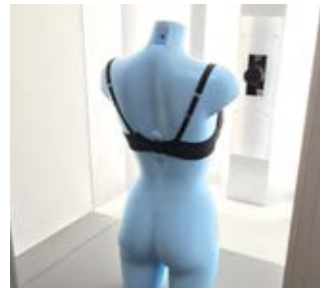


Easy disassemble for cleaning

Base of drawer is now fully removable. It has been redesigned in plastic with a washable paint finish to aid cleaning, keeping the DigiEye Cube clean to prevent sample contamination in laboratories and production units.

NEW DigiEye 1200mm cube

This is our 'Medium Size' Offering, developed for imaging of larger products, and for facial and hair beauty photography. The removable bottom allows a model in a sitting or standing position ideal for real-life photography of hair and facial detail. Lighting and camera positioning is different to our standard cube and this has been designed to give perfectly diffused lighting to aid excellent sample appearance and colour testing of the subject being imaged.



DigiEye Large Area - LAI

This is our largest offering in the DigiEye range, and is intended for studio work and for very large samples such as carpets, full width fabrics, denim wash blankets and colour sort roll maps. Models whether 'live' or life size manikins can be imaged under the carefully controlled artificial daylight (D65). The system uses the same accurate calibration process as the standard cubes and it uses the same profiled Nikon DSLR Camera (currently D90 or D7000), it can be used for product shots, base images for recolouring (virtual sampling), and for colour measurement of large samples, such as full size garments, homeware, kitchen doors and draw fronts, automotive seating, car door panels, large packaging, and many other products.



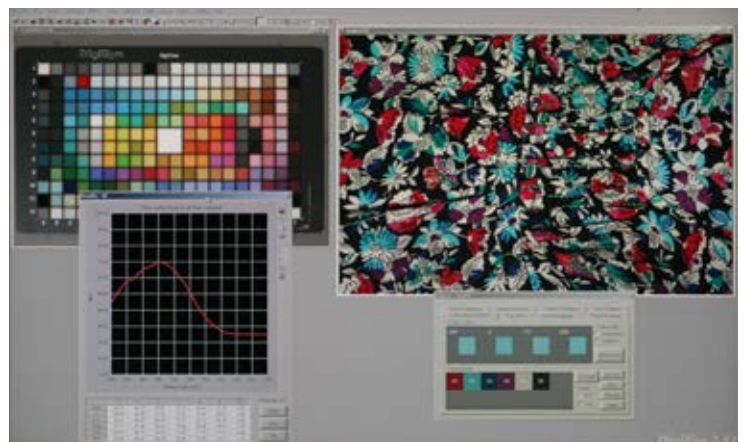


DigiEye Virtual Selector

DigiEye's Virtual Selector can assess the appearance of a product or substrate in any colour, with no need for a physical sample in that colour.

From just one physical or digital sample the Virtual Selector can generate virtual samples in any other colour or colour mix, leaving detail intact such as areas of shadow. A calibrated monitor and printer can then produce onscreen and hard copy visualisations for evaluation.

This can give users of DigiEye a significant advantage over traditional slow and costly methods of sample production.



Digital standards

Virtual Selector high resolution visualisations can be used as colour accurate digital standards for subsequent production. Once digital standards and production tolerances are defined, they can immediately be shared electronically or by hard copy – with any part of the supply chain or production process with no loss of visual accuracy. Shade bands and min/max levels can be agreed and produced as target standards.



Virtual Sampling

Reduce Costs – Reduce Time – Reduce Wastage

Virtual selection of colour ranges can be produced, eliminating expensive sampling costs, reducing wastage and improving time to market. Work smarter not harder - DigiEye technology allows brands and manufacturers to gain a competitive edge.



Colour 1



Original



Colour 2

Once production begins, DigiEye can image physical samples as they emerge and submit those images as virtual samples to any point in the supply chain. DigiEye clearly indicates pass or fail status, and a

virtual light box allows the use of up to three illuminants to check visually or numerically for any metamerism.

Quality control data can be emailed or uploaded for approval in a choice of file formats, all of which can be evaluated

on a calibrated monitor.

The accuracy and reliability of DigiEye images and data allows users to make rapid quality control decisions about product colour and appearance. This can significantly speed up production.

Sample evaluation

DigiEye can measure the colour or appearance of anything from a full sample to a specific area of interest as small as a single thread of yarn. DigiEye thus completely frees users from the limitations of traditional instruments, and converts 'non-measurables' easily and quickly into accurate, archivable data.

For example, multi-component, multi-textured or multi-hued products such as lingerie, home furnishings and patterned or printed products can be assessed for quality control in minute detail.

DigiEye is not just for the retail sector. It can be programmed to measure the surface characteristics of almost any industrial product. And measuring liquids and semi-solids is as easy for

DigiEye as measuring solid surfaces!

For example: non-slip industrial flooring requires correct aggregate distribution, while home flooring requires correct graining distribution. In both cases DigiEye's colour clustering function measures the percentage of each colour on the visible surface, and its sort and replace function identifies where these colours are within the sample.

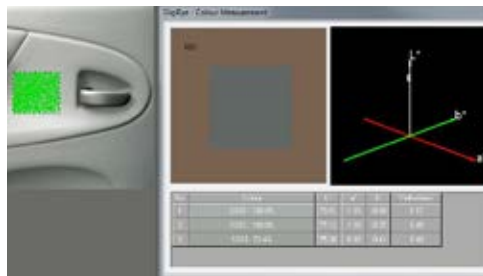
Without DigiEye's fast and objective data capture, the only way to conduct these quality-critical checks is by slow, subjective and fallible human visual assessment.

DigiEye facilitates fast and totally objective quality control decisions that benefit not just the individual enterprise but potentially the whole supply chain.



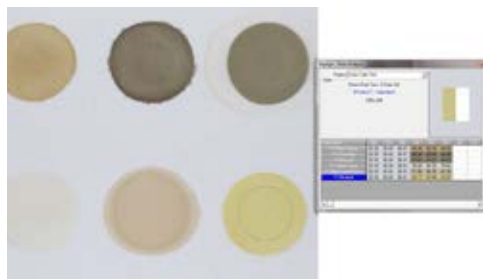


Seeing is believing



Automotive

The control of various components' colour is most critical in the automotive sector. Leather, paints, plastics, textiles and carpets. Colour constancy and tight pass/fail tolerances are essential. Seeing colour in context is one of DigiEye's strengths. 3D products are easily imaged and measured for colour.



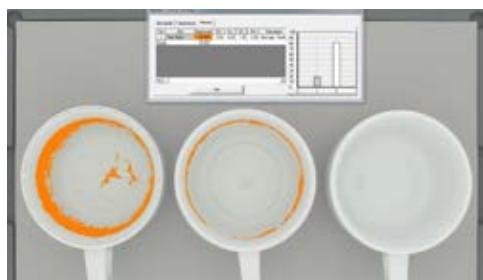
Stain analysis

The analysis of before and after washing on stains is a typical example that DigiEye does very well. Stain sets or individual stains are imaged by DigiEye, then laboratory processed before the 'after' images are analysed by the software which calculates the stain removal % (or stain removal index) for each and every stain. High output of laboratory trials can be automated.



Print sorting & QC

Our new print sorting software, allows quick and easy pass/fail of complex print designs. The software allows users to defined style/colour ways and store standards for future use. The user simply images the print, opens the colourway file and selects the standards for which the user requires pass/fail Quality Control results.



Dish washing

This is becoming a popular application for DigiEye, cups, plates or dishes are imaged before 'wash' (using standard stains) and then simply imaged after washing, the software compares the before and after samples and calculates the % stain difference. Decal decoration on glassware can also be imaged and the system can calculate colour loss or colour change using a grey scale grading.



Cosmetics, hair and personal care products

Seeing colour-in-context is important with make-up and cosmetics. The effect of packaging colours, actual product and skin tone greatly influences the perception of colour. DigiEye is able to easily measure colour of lipstick bullets, powders, creams, hair colours, and liquid products such a nail varnish inside bottles or as laboratory draw-downs. DigiEye can also measure colour and calculate % distribution of multi-coloured components within a sample.



Features and benefits

Feature

- Non-contact colour measurement, more capable and versatile than spectrophotometers.
- Totally enclosed area with controlled, consistent lighting for image capture.
- Accurately measures different colours in prints or multi components garments.
- Instant internet/intranet communication of colour, shape, size, texture etc.
- Auto-control and simplicity means almost anyone can operate the system.
- Measures powders and liquids with no need to dispense or decant product.
- Colour replacement.
- Easy retrieval of master production standards.
- Measures colour in any context.



Benefit

- No limit to type of sample that can be accurately measured.
- Reliable, repeatable results with no ambient lighting to affect data integrity.
- Colorimeters can only average colour data. DigiEye calculates the exact percentage of each visible colour.
- Improved visual consistency and product reliability across multi-location production units, with colour data added to product specifications.
- No IT or photographic skills necessary, minimal training required.
- 'Sees' colour or texture exactly as a consumer does.
- Digitally changes on-screen colour to assess differences between new and existing products.
- No more reliance on subjective visual assessment during production. Automated detection of non-compliant product improves quality control and reduces waste.
- Measures colour in any context.
- Measures the whole sample, multiple areas of the sample or specific small areas, depending on what is required to optimise brand integrity.

Need more information?

For any enquiry about VeriVide's ground-breaking DigiEye System contact Russell Thorpe

Call: +44 (0)116 284 7790

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“Colour is getting to be a big supply chain issue and this system helps smaller producers like us compete at a higher level. If we get asked, “Can you meet this colour spec and keep hitting it week in, week out?” the DigiEye system now gives us the confidence to say yes, of course we can.”

Need more information?

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VeriVide is committed to innovation in colour assessment and quality control. From constructing bespoke standardised viewing environments to developing new lighting products to meet industry standards, improving your quality and productivity is always our priority.

VeriVide is BS EN ISO 9001 : 2008 accredited. All our colour assessment and measurement equipment is made in the UK. Design and specification subject to change without notice.

VeriVide

See in Truth

For further technical information
visit: www.verivide.com

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