

## caddon

## NEC technology for color-critical pattern display

Before a piece of clothing can be dyed according to the wishes of the producer, a lively exchange of patterns begins. With the various possibilities for color management, and consequently the profiling and calibration of all the process equipment involved, the problem can scarcely be resolved. Too many uncertainties along the supply chain result in the situation that a large yawning gap appears between hope and reality.

The solution of caddon printing and imaging GmbH, Leinfelden-Echterdingen/Germany, is simpler. The pattern is captured using the "sender" can:scan. On the can:view "receiver" the reviewer can look at and assess a representation of the object which reflects the color as accurately as possible. Direct and rapid feedback of this kind simplifies and accelerates the acceptance procedure enormously. For communication between the hardware components, the company developed the software can:connect, the Photoshop plug-in can:change makes it easy to transfer the computed color values onto photos.

Behind the easy-to-use technology there is, however, a sophisticated process which is unique in this form. Consequently the company does not rely on the relatively inaccurate RGB method of modern camera sensors but rather captures objects spectrally. For this purpose the receiving component of can:scan photographs the object through 16 filters which pass through only a defined wavelength of the light reflected from the target. Overall, the full visible spectrum up to the UV range is scanned in each case at a distance of 20 nanometers. From the photos taken, the software then calculates pixel for pixel the exact spectral value of all image points. That would not work with a spectrophotometer. This measures only the average of the spectra of a colored area within a measuring spot.

The multispectral scanner, however, can also accommodate larger three-dimensional pieces such as complete items of clothing. It captures every detail pattern and structure of the surface as well as nuances of color which may be caused by light and shadow.

The monitor in the can:view system provides digital images optimized to produce the exact color. To this end a software program converts the can:scan spectral photo shot first into the LAB color space and subsequently prepares the data for the RGB representation. This works so well with the caddon solution that a comparison between the original and the reproduction on the can:view is possible



by directly placing the original on the surface of the screen using a patented process. The centerpiece of the system is the SpectraView 241 technology from NEC Display Solutions Europe GmbH, Munich/Germany. This monitor belongs to the absolute top class and is used anywhere where absolute color-accurate work is required. With its 106% Adobe RGB coverage it can be guaranteed for practical applications that the color will be found in the gamut of the monitor. A re-usable trans-

formation of a spectral value in the limiting world of RGB representation is thus much more likely.

The high research costs and production of components has paid off for caddon. Well-known brands in the textile industry regard the product as a success. The number of lab-dips and proofs here can be significantly reduced. As of now, one or at most two loops have already reached the point of production release. ■

## Radio Frequency New high speed, eco-friendly RF web drying system

The new drying system Macrowave RF by Radio Frequency Co., Inc., Millis, MA/USA, provides greater efficiency than conventional convection and infrared systems for the high-speed drying of water-based patterned glue and coatings in the converting and textile industries.

The Macrowave RF drying system selectively heats only the patterned coatings (wetted sec-

tions) on the web and leaves the bound moisture in the substrate intact, thus preventing over-drying, distortion, and shrinking. Capable of operating at speeds up to 2,000 FPM (approx. 610 m/min), this system needs 1/3-1/5 of the floor space required for hot air and IR dryers, permits lower web temperatures, and provides up to 80% energy savings.

Eliminating the long dwell times associated with conventional heating methods, the Macrowave RF system reduces make-ready because RF power is instant On/Off and energy is only consumed with a load in the system. The systems handle webs up to 120" (approx. 9 m) wide and meet OSHA safety regulations and FCC standards on communication non-interference.

The Macrowave RF Drying Systems are priced from US\$ 50,000 upwards, depending upon configuration. ■



Macrowave RF drying system (Radio Frequency)