



TAKKO
FASHION

Caddon

Digital colour management

In the world of fashion, colour plays a particularly important role, not only in terms of the design but also the collection's downstream production processes. The precise reproduction of the colours has a strong bearing on the quality of the final product. Thanks to the new technology from Caddon, it is now possible to share true-colour digital samples between departments and companies.

In need of a digital colour management system, textile company Takko Fashion opted for the innovative multispectral systems from Caddon, saving plenty of time and money in the process.

The technology developed by the colour and printing expert measures the colours of fabrics multispectrally. In contrast to conventional imaging data, each pixel is a spectral measurement value. The exact measurements and the visual impression come together to create an inseparable, non-manipulable unit. At the heart of the solution is the can:scan imaging system, which Takko Fashion uses at its facility in Hong Kong.

This is where the digital colour samples are created for garments made of cotton, polyester, viscose and other materials and where the lab-

dip samples of suppliers are recorded and tested against the colour specifications before being approved. The digital measurement values are subsequently shared with partners and suppliers so that they can dye and process textiles for Takko Fashion with high levels of accuracy.

"We see precision colour matching as a key discipline in the design, production and sale of our products," says Melanie Richard, Head of Quality Management Takko Fashion. "After all, we of-

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fer a wide selection of collections which makes it even more important to get the colours right. In a move to enhance quality and appearance whilst cutting production times, we decided two years ago to opt for the digital colour management system from Caddon."

Centrepiece in Hong Kong

The complete Caddon solution is known as color:communication and comprises the can:scan imaging system, the can:view viewer and the can:connect software. Takko Fashion invested in a can:scan imaging system at its location in Hong Kong which multispectrally measures the colours and structures of textiles. These digital colour measurements form the basis for channelling spectral values into the con-

Founded in 1982 under the name "Modea" the Takko Holding GmbH, Telgte, Germany company is today a leading fashion retailer with 1,900 stores in 16 European countries, employing approximately 18,000 staff.

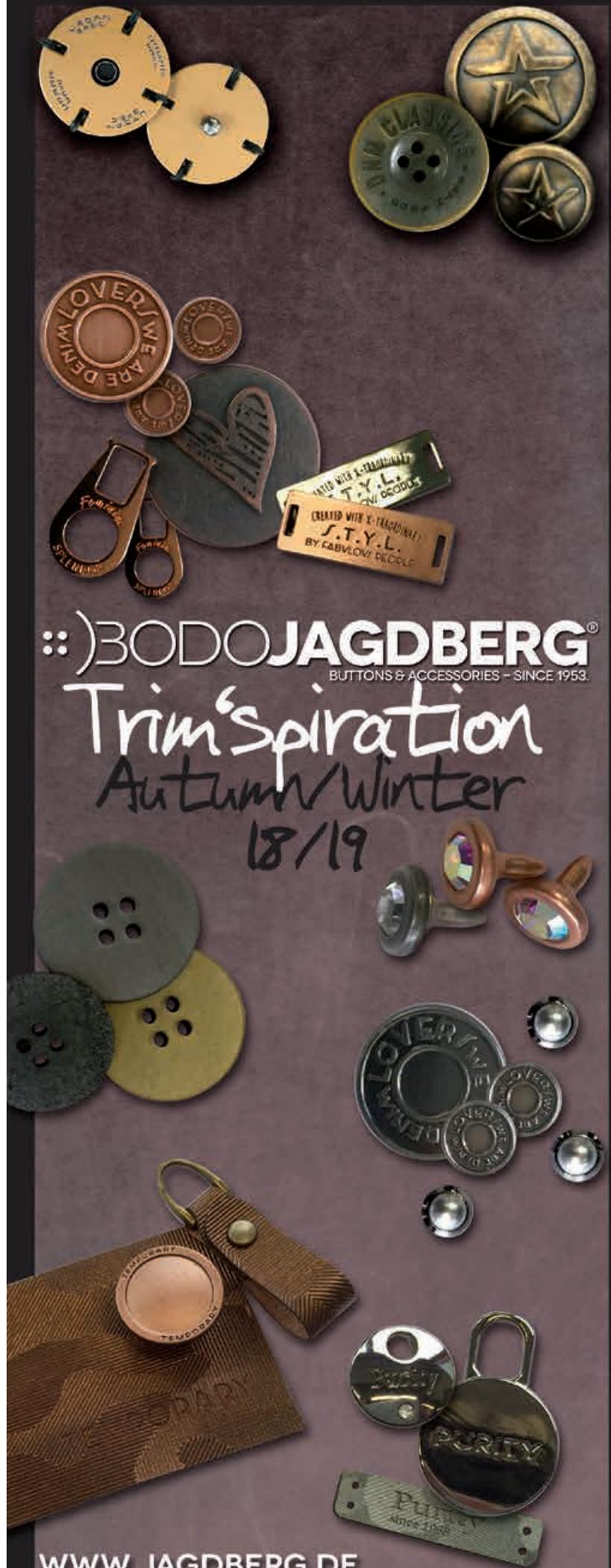
Since October 2011 the company is a member of the Fair Wear Foundation. The Fair Wear Foundation works with brands, factories, trade unions, NGOs and sometimes governments to verify and improve workplace conditions in 11 production countries in Asia, Europe and Africa. The FWF's more than 80 member companies represent over 120 brands, and are based in Europe; member products are sold in over 20,000 retail outlets in more than 80 countries around the world.

[www.fairwear.org]

ventional data formats QTX (Data-color) and CXF (XRite).

Takko Fashion can share this information with partners in different locations in real time. The digital process not only replaces the time-consuming task of sending and receiving physical samples but it also paves the way for the creation of a digital archive. In contrast to physical samples, digital samples never age nor fade, nor do they require a lot of storage space. "Thanks to can:scan we're now in a position to create around 90 percent of our samples digitally. This enables us to establish clearly defined colour val-

The digital specifications form the foundation for the production of more than 140 million garments sold by Takko Fashion through its roughly 1,900 stores across Europe every year



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► ues, even for materials with different structures such as cotton, knits, jersey and viscose,” states Melanie Richard, Takko Fashion, continuing, “Every day, we use the digital reference colours to compare the colours of more than 8,000 orders which we can then make available to everyone involved in the supply chain.” The digital specifications form the foundation for the production of more than 140 million garments sold by Takko Fashion through its

roughly 1,900 stores across Europe every year. Covering the fashion needs of the modern family, Takko Fashion offers womenswear, menswear, children’s fashion and a large selection of accessories. The company, which is headquartered in Telgte, Germany, employs nearly 18,000 staff around the world. Friedrichsdorf, Germany, is home to Takko Fashion’s quality management facility and also to the can:view soft proofing system which

greatly simplifies previously complex and time-consuming colour checks. Working in close cooperation with its colleagues in Hong Kong, Takko Fashion coordinates digital colour monitoring from Germany, from the first design right the way through to placing the order with the supplier.

“The digital process has replaced the previously complicated procedure of matching colours manually with colour cards,” says Melanie Richard, Takko Fashion. “The manual procedure was extremely prone to errors because even well-trained staff arrived at different conclusions, depending on the ambient light and the tolerances of the physical colour cards. And then, of course, other factors such as defective vision or fatigued eyes led to significant deviations which were impossible to iron out retrospectively.”

“Too lemony” or “less fruity” – a problem of the past

Takko Fashion uses the Caddon system to create a digital colour sample. The data format combines objective and precise measurements with the visual impression, thus enhancing the sampling process. Not only are the data sets easier to share but they also simplify colour communication. In the past, requests for alterations were relatively vague and always verbal: statements such as “too lemony” or “less fruity” were usually too hazy to effect precise changes. The digital values, on the other hand, are clear and far easier to modify. To arrive at an exact digital colour measurement, can:scan photographs an object through 16 filters. Each filter only allows the passage of pre-defined wavelengths of light reflected by the object being measured. The software uses these images to calculate the precise spectral measurement value of each individual pixel. This, in turn, paves the way for Takko Fashion to create accurate samples

Caddon – Colour management at its best

Since 2008, Caddon has held a patent for an innovative colour measurement and management system, manufacturing products that are revolutionising colour recognition! Companies such as BMW, Takko Fashion and many others have been relying on Caddon’s expertise and proven track record for many years. Thanks to this latest technology, true-colour digital samples can be passed between departments and companies. The Caddon system comprises four modules: The can:scan scanning device measures the colours. The can:view viewer displays them optimally in different lighting conditions. The can:connect software brings the hardware components together and the can:change Photoshop plug-in permits the simple transfer of the calculated colour values. can:scan is the first system capable of measuring complex surfaces with intricate patterns and textures, delivering true-colour digital samples within 55 seconds. The scanning device photographs the object through 16 filters that only allow the passage of pre-defined wavelengths of light reflected by the object being measured. The software uses these images to calculate the precise spectral measurement value of each individual pixel. Lighting conditions have an enormous impact on our perception of colour. The tone of a garment, for example, will often look very different in daylight when compared to the neon lighting of a department store. This metameric behaviour is taken into account by Caddon’s can:view viewer. The screen on the can:view system displays the digital images perfectly. Multispectral images appear on the screen in true colour, i.e. identical to the pattern. The can:connect software controls the can:scan and can:view modules and allows the user to evaluate and compare the multispectral data sets and to compile corresponding measurement protocols.

“Until now, there has been an ongoing conflict between visual impression, which is indispensable for creative minds and designers, and spectral measurements that serve as proof that colours are being reproduced correctly in the production setting. This stems from the problem that a spectral measurement renders only the physical remission value of an individual colour, whilst ignoring human perception, i.e. the subjective impression of colours and the relationships between them in a design. Our technology reliably combines the visual impression of colours with the spectral objectivity of a non-manipulable image data set.” Michael Nothel, Managing Director of Caddon printing & imaging GmbH
Read more in our online magazine.



The can:view viewing system displays digital colour samples. Colour shades can be compared and errors quickly identified by positioning the physical original on the screen for comparison with the digital image reproduction

Photo: Caddon

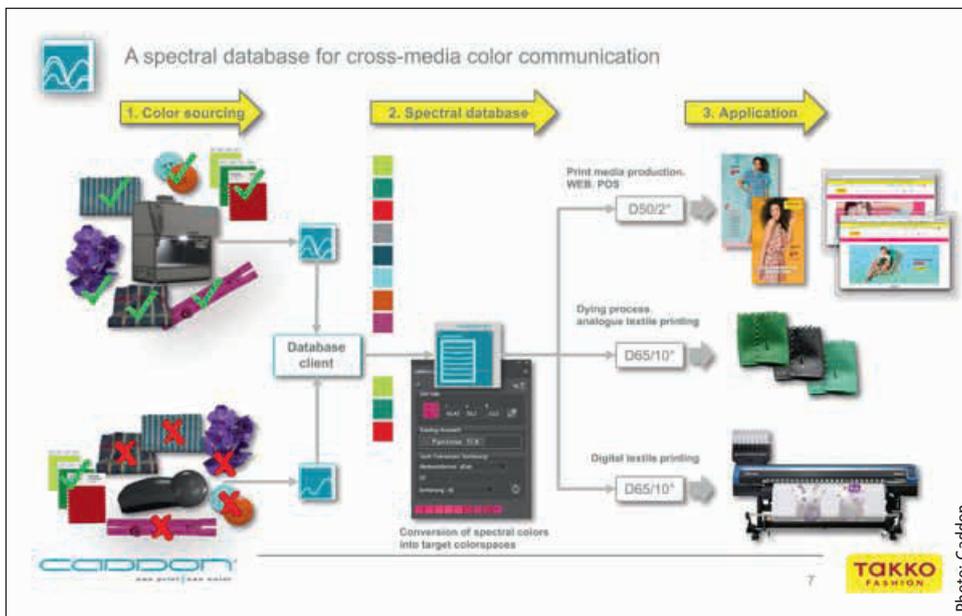


Photo: Caddon

even for textiles with complex patterns or in small batches.

“Our technology enables digital colour measuring always under the same conditions and factors, largely corresponding to the way humans see, and allowing colours to be reproduced with the same precision time and again,” says Michael Nothelfer, Managing Director of Caddon printing & imaging GmbH, continuing: “We reliably combine the visual impression of colours with the spectral measurement values in a non-manipulable image data set.”

In contrast to spectrophotometry, can:scan compiles the digital samples in a contactless process. In order to make a colour measurement, spectrophotometry usually requires direct contact with the fabric or cloth. This leads to inevitable changes in the material structure, influencing the measurement. This, in turn, makes reproducible colour measurements difficult to achieve. “Measurements are made pixel by pixel, leading to true-colour digital samples, whose spectral format also takes into account the effects of light and shade, metamerism and various light sources,” Michael Nothelfer concludes.

Suppliers in Asia are also involved

Since the autumn of 2015, Takko Fashion has incorporated all its suppliers in China, Myanmar, Cambodia, India, Sri Lanka and Bangladesh into its digital colour management system. This has considerably accel-

erated monitoring and coordinating processes, whilst cutting the cost of courier services for all partners. Takko Fashion also uses the Caddon software to enhance the reliability of its colour communication system. The can:connect application brings together the can:scan and can:view modules allowing Takko Fashion to evaluate and compare the multi-spectral data sets in different places at the same time and to create measurement protocols. It is, however, also possible to carry out measurement proofing without a can:view system. Takko Fashion’s media service provider uses the can:change software to retouch and modify photos by measuring all the colour points on the digital sample and transferring them to the photo of the original. The logistical processes and the cost of shipping the physical samples for retouching purposes have consequently become an obstacle of the past. “Since introducing color:communication, we’ve been able to almost halve the number of colour matching cycles with our partners. The reduction in iterations (repetitions) and courier services saves us an average of around two weeks,” states Melanie Richard, Takko Fashion. “The digital colour management system is so compelling that one of our partners in Bangladesh has already invested in the Caddon systems after observing the enormous time-savings we were making. Of course, this also helps to simplify cooperation across the entire supply chain.”

[www.caddon.com]

Digital color communication at Takko Fashion

LECTRA

Strategies for the digital future

At the Fashion 4.0 Conference 2017 organised by Lectra in Bordeaux-Cestas, the more than 100 participants were enlightened about the future of the textile industry. The event delivered an abundance of concise information about the digital (fashion) world whilst shedding light on impressive innovations. Coordinated lectures and presentations highlighted the agility of the value chain, which will enable fashion companies to continue to be successful in the emerging digital market of the future. Be it innovative retail models, insights into the generation of Millennials, or the benefits of a digital supply chain, each of the lectures provided solutions to dealing with these challenges. Lectra took the opportunity at the conference to present its new version of Fashion PLM 4.0. The modular PLM solution is a networked, intelligent switching centre for the digital supply chain – encompassing everything from planning and design to production. It ensures a consistent flow of error-free data between processes, technologies and people. It provides the agility needed to adapt business models flexibly and to react more quickly to trends. Read more about the event and the new PLM 4.0 at textile-network.com.

[www.lectra.com]



Photo: Lectra

Lectra presented in Bordeaux-Cestas the future of the textile industry: Industry 4.0 is not only revolutionizing how manufacturers operate, but also how brands and retailers need to function!