



Whether printed or interactive, innovative tags are introducing new ways in which brands engage and interact with consumers. For educational purposes or enhanced user experiences, change is under way in the world of labels.

The stories labels tell

In addition to traditional tracking and tracing, recent developments in smart labels are building new platforms that could draw consumers into ever more engaging brand experiences. Two trends seem to be at work currently to connect brands with their consumers. The evolution of technology, including Apple's much hyped introduction of near field communications abilities (NFC) in the new iPhones and Apple Watch, coming years after many other smart device makers, is expected to bring the application to the mainstream. The other driver of innovation in labelling is motivated by sustainability and the desire to inspire consumers to rethink how they wash and care for their clothing.

Smart tags, be it barcodes, Quick Response or QR codes, radio frequency identification (RFID) or NFC, have brought many changes to the world of commerce. Now a new layer of interactivity is being introduced with the spread of communication protocols that enable more and more information to be stored directly on the product or accessed online.

The internet of things

QR codes were the first printed labels to connect a physical object to an internet site using a smartphone. The integration of NFC abilities in smartphones and tablets is bringing this connection to new levels with the exchange of data now going in two directions, emanating from a company or a consumer.

In addition to traditional tracking and tracing, HeiQ's Identity also enables more interaction between a brand and its customers.



Dienpi, a label manufacturer based in San Benedetto, Italy, has been working with smart applications for several years and sees NFC as an innovative marketing tool. Its patented and washable microchip can be embedded on paper, textile or leather labels. "The chip comes in several formats, depending on the brand's needs. In certain cases, the retailer can add information, such as inscribing the name of the owner of the garment. These data can be very useful for loyalty programmes," says Doriana Marini, a Dienpi co-founder. Each item of clothing is given a specific code, which can be used for supply chain management and for anti-counterfeiting purposes. Compared to QR codes, Ms Marini says the NFC chip is safer as well as more discreet. "Brands do not necessarily want technical branding to be visible on a garment, whereas the chip can be hidden." The smart label is currently being tested by several brands, including performance sportswear makers. "One of our potential clients wishes to update content on a daily basis," says Ms Marini.

Like Dienpi, iProof, a company based in Florida, also specialises in smart tags. The company first supplied NFC labels to Californian vintners and has since moved on to the fashion and sportswear markets. Upscale denim brand 3x1 and Vibram FiveFingers are some of the current iProof users.

"Each product has a unique identification number that records not only information such as size, colour, or even location, but also acts as an interface for user-specific and user-generated data," says Peter Kostur, iProof's vice-president for Europe. "When a brand can identify where the product is, it can fine-tune its marketing and interact with customers on a one-to-one basis during the life span of each product." iProof has developed a proprietary algorithm offering various features, not all of which, such as quality control or date of sale, need be shared with end users. "There's no limit to the amount of data as it is all stored online," says Mr Kostur. "Two years after a consumer has bought a smart tagged product, the brand can send a promotional code to buy a new one." The ultimate goal is "to generate more sales on mobiles." The basic functions of tracking, tracing and supply chain optimisation, help "reduce costs, but won't generate extra sales," he says.

Sportswear Argentona, a maker of knit fabrics based in Spain, is also working on an NFC labelling system that would be embedded in its clients' made-up garments. "The good news is that the new iPhones have NFC ability," says Sportswear Argentona sales manager Laurent Costello. "But it will take time before all smartphone users are equipped."

Available information on Apple's NFC technology, currently called Apple Pay, seems



to indicate that the company will lock the application for payment purposes only. Once the communication protocol is made accessible to other applications, it will be open to other types of uses. Security issues may also need to be addressed, as smart tags, be they NFC, RFID or QR code, are reported to be hackable. However, it is believed that since NFC requires the two devices to be in very close proximity, the risk is lessened.

Swiss company HeiQ has recently partnered with a German company, Tracekey, to develop a QR code tracking and tracing tool. Called Identity, it applies a random serialised code to each item (as opposed to each reference) and stores data on each stage of a garment's manufacturing. "We create a unique CV for each product that can be monitored for coherence of data. It functions like a black box," says Tracekey managing director, Gerald Wenzel. "We have chosen to work with QR codes because they can include all the information a brand wants. This goes beyond tracking and tracing to interactions with the end user," says HeiQ chief executive, Carlo Centonze. He has identified two main markets for the service: the outdoor industry, "because it needs to communicate sustainability", and high fashion brands, because they suffer the most from counterfeits. As opposed to traditional RFID, Identity stores the information in a database that is "decentralised" from the product. It is therefore similar to iProof's NFC and RFID technologies that also store information remotely.

Eco-conscious consumers now have access to smartphone apps that help them make better buying decisions.

 Orange Harp/Think Dirty Inc.

Closer knit customer relations

Drawing consumers to a brand's website can also be done without the need for a smart tag if they accept to type a code, printed on the garment or its tag, onto a website. This is the case for Icebreaker's Baacode and anti-counterfeit certification services such as those developed by Certilogo. The dialogue between brands and individuals has never been easier. Consumers themselves also contribute, intentionally or not, precious information to brands, as many sports trackers such as Nike+ or Strava already enable this. But not only is the internet of things coming to each individual product we own, now, the products themselves have their own websites. This is the purpose of History Tag. The web-based organisation enables a product's entire history to be recorded, shared and updated at will.

At Hiut Denim, an early user of the concept, each product's story begins in the factory, located in Cardigan, Wales. Workers making the item take photos of the process and post them to the product's History Tag Flickr account. Even before shipment, every item has a web page showing the stages of its creation. Buyers can then access to the product's page on HistoryTag.com and upload their own photos, assign hashtags and post tweets chronicling its "life". In addition to the History Tag code, Hiut jeans are also stamped with their year of manufacture. "When the jeans end up in a second-hand shop, they come with a life story," declared David Hieatt, at a Do Lecture in 2011, stressing that "the power of the internet is to tell stories." The Wales-based social entrepreneur co-founded Hiut Denim, Howies and Do Lectures.

People familiar with Woolpower will already know that each garment is signed by the person who made it in the company's factory in Östersund, Sweden. Sewers make a Woolpower garment from start to finish and inscribe their name on the label.

New rules for wash & care

The other new trend in labelling seeks to engage consumers on the broader issues of where a garment comes from and how to care for it sustainably. Ginetex, the international association that manages textile care labelling, introduced a new logo, known as Clever Care, at the Copenhagen Fashion Summit this April. The programme was initiated by fast fashion behemoth H&M (with Ikea and Stella McCartney) to raise awareness on the impact of wash and care on the planet. The new symbol, a flower, would be printed underneath the traditional care symbols at no extra cost to manufacturers. A multilingual website has also been created to explain the negative effects of washing, ironing, dry cleaning, and so on, and



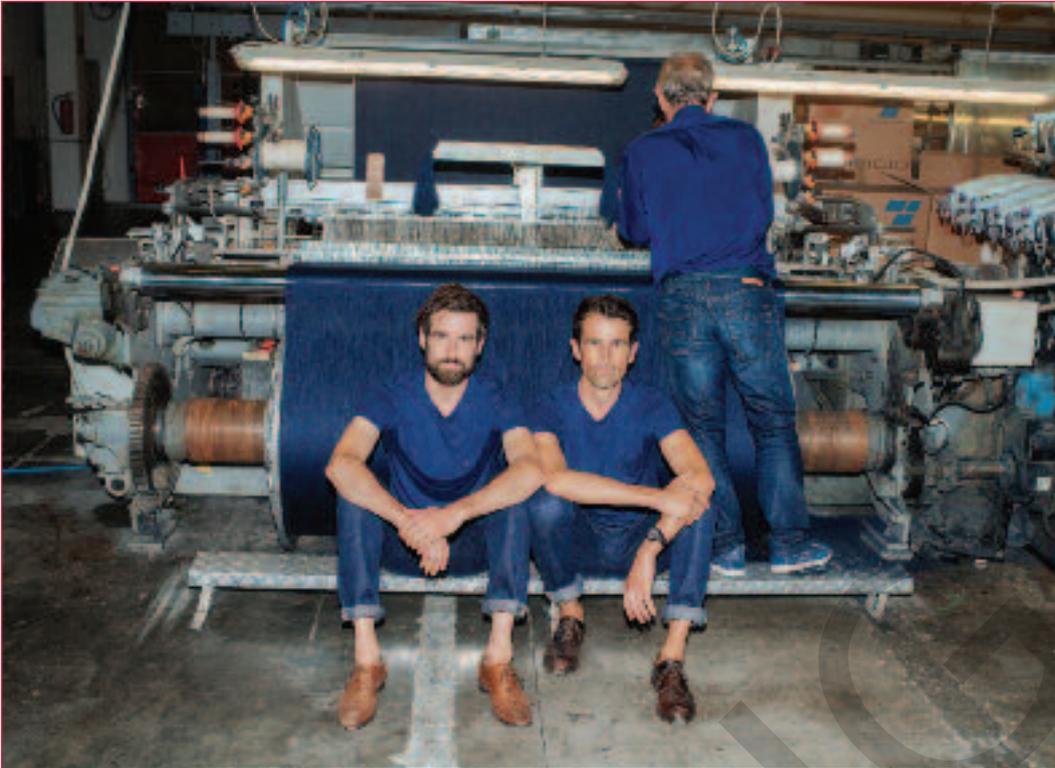
The new Clevercare flower logo which on this label appears just below wash instruction icons, is part of the emerging "no wash" or "wash less" movement.

Emmanuel Nguyen/
COFREET

recommend greener alternatives. For instance, it promotes washing less often, at lower temperatures and line drying clothing. The thinking is that making small changes to everyday habits can help reduce global warming. Besides the fact that "errors in wash and care can destroy a garment," Pascale Florant, secretary general of the French Ginetex branch, says these measures extend the life of a garment. Tumble-drying is seen as having the worst effect on a garment's lifecycle. H&M has already introduced the new logo on its care labels and several members of the Sustainable Apparel Coalition, including Peak Performance, Patagonia and W.L. Gore, plan to follow suit.

Polygiene, a Swedish company that makes an antibacterial finish, also promotes reduced washing as an added perk to the treatment's properties. The company conducted a comparative lifecycle assessment or LCA which showed that wearing a Polygiene-treated garment more than once before laundering "significantly lowers the garment's environmental impact compared to an untreated garment that is washed after every use". Washing less often was also found to extend the life of the garment.

Levi Strauss & Co. may be the first company to have initiated a campaign to encourage washing less often with its "Care Tag for Our Planet" launched in 2009 with Goodwill, a non-profit organisation that collects used household goods and garments to fund job training. Levi's and Dockers branded clothing is now tagged with a care label that urges users to "wash less, wash in cold water, line dry, and donate when no longer needed."



FDaniel and Markus Freitag in the Italian weaving mill. For the launch of its first clothing range, eco-brand Freitag chronicled the entire process of its F_ABRIC range from the linen field to the factory floor.

 Lukas Wassmann

Voice of the consumer

The high media coverage of the collapse of the Rana Plaza factory complex in Dhaka, Bangladesh, may also inspire consumers to take a new look at the “Made in” label that their garments are required to display. This is the goal of Fashion Revolution, an organisation that launched a campaign called “Who Made Your Clothes” and created this year “Fashion Revolution Day” on April 24, one year after the disaster that cost the lives of 1,133 people and injured some 2,500 others. The London-based outfit seeks to challenge consumers to think about “Who Made Your Clothes?” and asks them to show their support by wearing an item of clothing inside out, photographing it and sharing it on social media with the hashtag #insideout on April 24 of each year.

The Internet has the ability to level the playing field and give individuals and small organisations access to a wide audience. This is being put to use to tell other stories, behind the labels. Smartphone apps are yet another type of communication tool being developed to help consumers make more educated or sustainable buying choices. The trend is particularly strong in cosmetics and food, where the presence of toxic chemicals is a source of preoccupation for obvious reasons. Think Dirty and Skin Deep are two of the most prominent apps that provide information on the chemical composition of common cosmetics and household products. In fashion, the Orange Harp app aspires to be a shopping guide for sustainability and ethically minded consumers. One of the outdoor brands well featured on the app is Spanish label Ecoalf.

In addition to shaping the user experience of the future, smart labels and apps are progressively shaping tomorrow’s “ultra-client”, a term coined by the Paris Tech Review, an online international graduate school publication. As brands evolve to become “media striving for an audience” they extend their reach to the post-purchase experience, in addition to collecting data on consumers. But these technologies are also empowering individuals in ways that were not possible before, ultimately changing the rules of the game for all involved. 

Barcode: A barcode is an optical machine-readable representation of data relating to the object to which it is attached. Barcodes store data by varying the widths and spacing of parallel lines, and are referred to as linear or one-dimensional.

QR code: The Quick Response Code is a matrix barcode that most often links to the URL of a website. First designed for the Japanese automotive industry, it has a greater storage capacity than the barcode and is considered the two-dimensional version of barcodes.

RFID: Radio-frequency identification uses wireless electromagnetic fields to transfer data with the purpose of identifying and tracking objects. RFID tags electronically store information. Unlike barcodes, they do not need to be within line of sight of the reader and may be hidden in the object.

NFC: Near-field communication is a form of short-range wireless communication requiring the receiver and transmitter to be in close proximity. It can be used for many operations including mobile commerce, information exchange and social networking.