

Smart bottles make use of printed sensor tags

February 26 2015, by Nancy Owano



You're looking at a commercial future where vendors will seek to leverage new technologies to track customer behavior, buying patterns, user patterns and to send out information realtime, up close, personal, as

never before possible. What if your bottle of Johnnie Walker bottle, for example, turned "smart" and helped to suggest cocktail recipes or promotional offers? That appears to be in the works and will be showcased next month. An NFC-enabled smart bottle was announced Wednesday and will be presented at the Mobile World Congress in Barcelona. Diageo—focused on drinks—and Thin Film Electronics ("Thinfilm")—focused on printed electronics—are teaming up to add something new to the role of the bottle. They have announced a prototype Johnnie Walker Blue Label "smart bottle." The prototype will be on display at Thinfilm's booth at the show.

The bottle makes use of printed sensor tags. The tags feature OpenSense technology which in turn makes use of smartphones' NFC (Near Field Communication) capabilities. OpenSense tags can detect if a bottle is sealed or open with the tap of an NFC smartphone. According to the press announcement on Wednesday, "The technology allows Diageo to track bottle movements across the supply chain, in-store and to the point of consumption, with the sensor tags remaining readable even when the factory seal has been broken, providing an additional layer of security in protecting the authenticity of the product." These tags are permanently encoded at the point of manufacture and cannot be copied or electrically modified.

Senior Writer David Meyer in *Gigaom* commented: these features are largely stock control and anti-counterfeiting measures, said Meyer. Tags will make it possible to track the bottles; it can be discovered, with a smartphone tap, if the bottle seal is broken. At the same time, said Meyer, there is also a marketing aspect. "Customers will be able to tap the tag, which is discreetly stuck underneath the label at the back of the bottle's neck, with their NFC-enabled smartphone in order to get 'personalized' messages. These [messages](#) will be contextual – if they tap the bottle in the store, it may trigger a promotional offer; once bought, it may offer up cocktail recipes or other content."

Davor Sutija, Thinfilm CEO, said, "By leveraging OpenSense, Thinfilm is enabling the 'smart bottles' to carry digital information that can be accessed via NFC smartphones. Diageo can reap the benefits of the intelligence gleaned from our smart sensors and create engaging experiences for its customers. This is how we will begin to build the real Internet of Everything." (Sutija will discuss Thinfilm's OpenSense technology during his keynote address at Mobile World Congress.) Consumers get the marketing messages—promotional offers and recipes, for example—whether at retail or after purchase.

Diageo is a global company with a collection of brands that runs across spirits, beer and wine categories. These brands include Johnnie Walker, Crown Royal, J&B, Buchanan's, Windsor and Bushmills whiskies, Smirnoff, Cîroc and Ketel One vodkas, Captain Morgan, Baileys, Don Julio, Tanqueray and Guinness. Oslo, Norway-based Thin Film Electronics is creating printed systems that include memory, sensing, display, and wireless communication. This smart [bottle](#) prototype was created by Thinfilm in collaboration with Diageo Technology Ventures.

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Citation: Smart bottles make use of printed sensor tags (2015, February 26) retrieved 26 April 2024 from <https://techxplore.com/news/2015-02-smart-bottles-sensor-tags.html>

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