

THE FUTURE OF NFC IN FLEXIBLE PACKAGING

By Gillian Ewers, Contributing writer

Imagine a future where technology makes it possible to verify the shelf life of your favorite products, donate to charity by tapping your smartphone on the sleeve around a bottle of water or access recipe videos and full nutritional analysis from a pouch of microwaveable rice. These types of smart packaging are not something from the realms of sci-fi. No, they are, in fact, perfectly achievable today and fast approaching the point where they will be economically viable for FMCG companies.

New data from *Research and Markets* shows the global smart packaging market is likely to reach approximately \$52 billion by 2025. What's more, the broad flexible electronics market is projected to reach a value of \$13 billion by 2020. It's clear these two trends are set to converge. Rigid packaging with embedded NFC is already becoming more common, and this is a trend that is inevitably going to extend to the flexible packaging arena as well.

NFC can enable a range of interesting interactive features for consumers. For instance, information about promotional offers, recipes and interactive experiences, such as videos and games, can all be accessed with a quick wave of a smartphone.

For example, in Russia this past September, labels on promotional bottles of Miller beer came with built-in NFC tags for its "change the music of the future" campaign. Users could tap on the tags inside the label with a smartphone and go straight to the company's website, where their face is scanned for emotion recognition. Artificial intelligence (AI) then detects changes in the user's mood and suggests music accordingly through the website.

And it's not just consumers who can benefit from this technology. There are a whole host of advantages for the FMCG manufacturers too, whether this is helping gather marketing information on customers or checking that products have not been counterfeited or damaged in transit.

A Flexible Future

Flexible packaging shows particular promise in terms of potential use cases. According to Aptar's 2016 sustainability report, flexible standup pouches, which come with a spout for easy pouring, are one of the fastest-growing formats in food and beverage packaging. In fact, 75 percent of buyers of flexible packaging companies do so with an aim to specialize in food packaging. Imagine what the addition of NFC could do for this industry. Pouches of baby food could be made tamper-proof to reassure customers, diabetics could get useful information about the glucose content of their food and sachets of sauce could come with downloadable games or competitions, enhancing the consumer experience. Engagement with the user could, in fact, continue multiple times both during and post-sale, even up to offering the customer options for re-ordering the product when it has been used.

Critically, some of the NFC solutions currently being pitched into the packaging market are not particularly well-suited to flexible packaging. Traditional silicon-based solutions are brittle and require mounting on a semi-rigid substrate, which is obviously not ideal in flexible packaging. As an example of this, Frito Lay launched limited edition crisp packets during the Super Bowl earlier this year. The snacks came with simple breath analyzers integrated into the bags, plus an NFC tag so that

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