

# Packaging trends: blockchain, AR and smart sensors

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While South Africa may be slightly behind the curve, blockchain for packaging, AR and smart sensors are setting trends abroad. However, while they're creating much interest, these technologies are still developing. It may take time for consumers to understand the value of this on-pack communication approach - and readily accept it. Until then, it is worth keeping an eye on these smart packaging developments.



This year's AIPIA World Congress, being held from November 19 to 20 in Amsterdam, offers delegates an opportunity to learn about these rapidly emerging technologies. Timothy Beattie and Jacques Loubser from Pyrotec PackMedia will be there to find out how active a brand's largest media asset, packaging, can really be.

According to the Active & Intelligent Packaging Industry Association (AIPIA), Augmented Reality (AR) is already recognised as being highly effective for engaging consumers and getting them buzzing about brands and products. Blockchain, the AIPIA notes, is one of those concepts that everyone has probably heard about but may find difficult to grasp in its entirety; and sensors, they say, is shorthand for all the clever tags and chips that can be embedded into packaging to supply myriad benefits.

So, let's take a look at how active and intelligent packaging adds a whole new dimension to the packaging industry landscape.

## Augmented reality

AR is a mix between the real and virtual worlds and offers brands a new way to catch consumers' attention and make the difference in the purchase decision process. AR displayed on packaging will maintain or even create a new link with consumers' smartphones. When viewed through a mobile device with AR capabilities, packaging can carry an interactive digital overlay that brings products to life and enables consumers to gain a new perspective about the product.

Another other advantage of AR is its low cost. Besides developing an app, AR doesn't involve any other expenses. There's no need to redesign or redevelop your packaging.

## Smart sensors

Chemical and biosensors have developed over several decades and are incorporated into food and pharmaceutical packaging, as prime examples. The sensors can be used to monitor the quality and safety of food – freshness, pathogens, and pH, among others – from manufacturers to consumers. In the pharmaceutical sector, these technologies have the

potential to improve treatment outcomes and even save lives. Sensors embedded in pharmaceutical packaging can provide an accurate indication of the products' quality. They also significantly aid the control of moisture, temperature and oxygen. A Fix-a-Form® informational booklet label from Pyrotec PackMedia can carry user and safety information, dosage instructions and potentially a smart sensor.

## Blockchain for packaging

Blockchain is a word you've probably heard in relation to cryptocurrency, but you may not know that blockchain is making strides in the packaging and supply chain sectors, too.

Just as with cryptocurrency, blockchain is a decentralised record of transactions spread out among many platforms. No single organisation controls or owns the information, which means that there are no transaction fees and data can't be compromised or hacked.

Traditional supply chains are vulnerable to human interference, which can lead to counterfeiting among other things. With blockchain, a decentralised system that interfaces and protects the entire supply chain means that information can be accessed on the spot and records cannot be amended retroactively. Packaging is now able to access all the information about the product's journey. What blockchain means to packaging is scannable codes that are linked to a decentralised system that provides instant and powerful insights.

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