



Xerox fights product counterfeiting

A Smart Packaging Use Case



image © Xerox

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A [report in April 2016 by the OECD](#) and the EU's Intellectual Property Office concluded that imports of counterfeit and pirated goods are worth nearly half a trillion dollars a year, or around 2.5% of global imports. U.S., Italian and French brands the hardest hit, with many of the proceeds supporting organized crime.

Last fall, Xerox unveiled two new weapons in this war (see [Manufacturing Minute video segment](#)), its Xerox Printed Memory and Xerox Printed Memory with Cryptographic Security labels.

Traditional anti-counterfeiting methods such as invisible ink, holograms and RFID tags can be copied, and are often expensive to implement. These two new printed electronic labels from Xerox, on the other hand, give brand owners a solution that is inexpensive and difficult to counterfeit because every label is uniquely encrypted.

Xerox's labels were developed with Thinfilm's proprietary printed memory, the only printed, rewritable memory commercially available today.

How the technology works

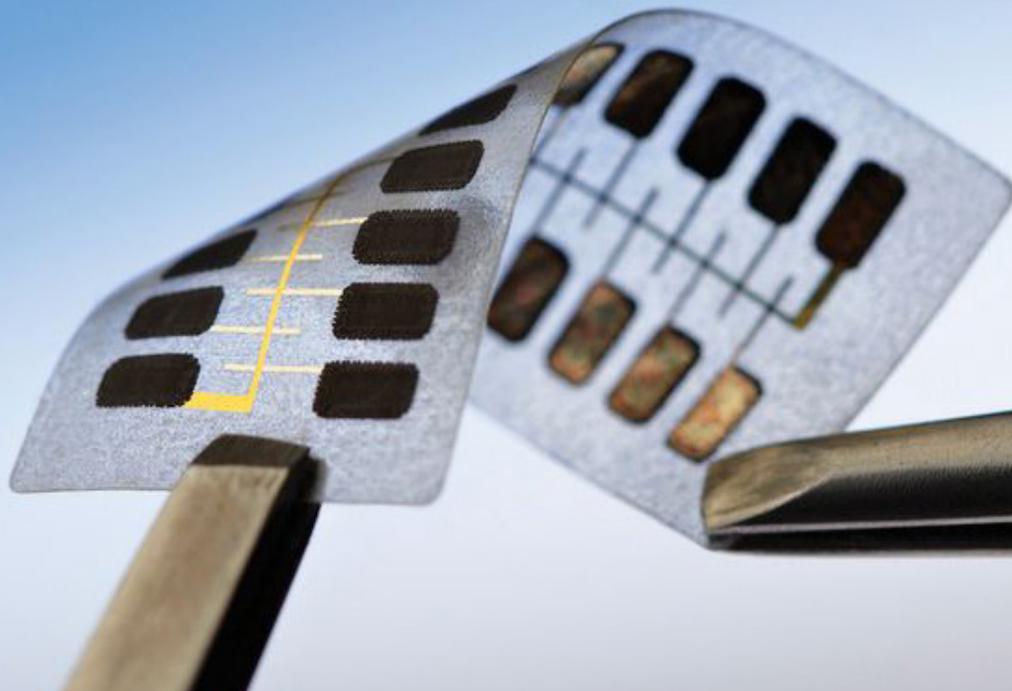
Here's how they work:

1. Xerox Printed Memory is a highly secure, printed label containing up to 36 bits of rewritable memory which can store up to 68 billion points of data. It can be used to determine if a product is genuine and to track how it's been handled during distribution.
2. Xerox Printed Memory with Cryptographic Security adds a unique, encrypted printed code (such as a QR bar code) to the memory. This can only be read by authorized personnel using a reader which interfaces with a secure smartphone application. This combination of printed memory with an encrypted printed code creates one of the most secure anti-counterfeit solutions on the market.

Securing the supply chain

These labels are designed to secure the supply chain and prevent counterfeiting of consumables/refillable items, fashion items and accessories and other consumer goods, to protect brands and consumers alike from knock-offs that are potentially harmful and of lower quality.

For example, rewritable data within each tag can identify if a medication refill has been authorized, a shipping tax has been paid, or whether a package passed through an authorized distributor.



The system is also protected from hacking. Xerox Printed Memory does not need an Internet connection for a reading device to extract the data, which means there is no possibility of incursions.

Patrick de Jong, marketing manager, Xerox Printed Memory, told industry magazine Printed Electronics Now:

“With Xerox Printed Memory with Cryptographic Security, the reader can be attached to a smart phone, and will deliver an authentication code. When it reads the code, it will generate an algorithm, and the smart code will compare the two codes. These labels can be used on applications ranging from pharmaceuticals to tax stamps for liquor and the tobacco industry.”

Massive potential market

While it remains to be seen how the market will take to this new technology, Xerox Printed Memory and similar new technologies built with printable and flexible electronics have the potential to be a global industry worthy billions of dollars.

Major brands the world over are eager for new technology solutions that can add intelligence to everyday objects for at a low cost point, to fight piracy and counterfeiting, reduce product loss and waste, and better engage with consumers. Trillions of products and everyday objects could be equipped this way at a cost point low enough for mass adoption to be financially viable.

About

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intelliPACK is a smart packaging innovation accelerator co-founded by intelliFLEX Innovation Alliance, PAC, Packaging Consortium and their Members. intelliPACK collaborates with supply chain stakeholders to create awareness, educate and facilitate the broad adoption of solutions for smart packaging – an active or intelligent interactive packaging system that delivers benefits and added functionality to the value chain. intelliPACK unites leading organizations across the packaging value chain, to collaboratively explore, evaluate and mobilize innovative smart packaging solutions. intelliPACK serves North America while sharing solutions globally.

Learn more at: intelliflex.org or pac.ca

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INNOVATION ALLIANCE

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intelliFLEX, a not-for-profit industry alliance, is a vital partner for accelerating the growth of the printable, flexible, hybrid and related electronics sector in Canada. Our technologies add intelligence and connect ordinary objects to enable the Internet of Everything. We unite our 100+ members to build an effective ecosystem of supply chains for flexible, 3D printable electronics, 2D large area printable electronics, wearable electronics, smart textiles and hybrid electronics including related semiconductors, integrated circuits and software. Our programs accelerate the adoption of these innovations for Smart Packaging, Intelligent Buildings and Connected Homes, Aerospace and Defence, Automotive and Industrial Applications, Health and Wellness, Intelligent Documents, and Consumer Electronics.

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