




[3D BARCODES/UNIVERSITY OF BRADFORD AND SOFMAT LTD.]

TITLE	“Industry-first” 3D barcode developed to combat fakes	
COMPANY / ORGANIZATION	 	
KEYWORDS	Anti-counterfeiting, authentication, 3D	
INDUSTRY AREA(S) AFFECTED	Counterfeit prevention Consumer safety	
ISSUE ADDRESSED	The global counterfeit market, including medicines and motor vehicles, is estimated to be worth approximately \$1.8bn USD per year and is forecasted to rise significantly in the next few years. When counterfeited, consumables such as medication and food carry many dangers for consumers, in addition to lost profits for businesses.	
SOLUTION	<p>Scientists at the University of Bradford have developed a 3D Barcode that can be integrated into products during the manufacturing stage – for instance, medical pills could have the barcodes embedded directly on them during their production. The 3D barcode requires a laser scanner to read, as it is almost completely invisible by eye and impossible to feel.</p> <p>Co-developed with Sofmat Ltd., the 3D barcodes feature microscopic indentations, allowing for multiple potential protection applications. These indentations are produced by mould-integrated pins, which are highly adjustable (variations in height, letter scales, numerical scales, etc. allow for multiple unique configurations). This method means the prototype 3D barcode – with its four-pin arrangement – has approximately 1.7 million possible configurations. A six-pin version is hoped to be developed which, with additional height options, should allow for 14 billion possible configurations.</p>	
EXPECTED BENEFITS	Counterfeit prevention/consumer safety: Reproducing the University of Bradford and Sofmat’s 3D barcode will be very difficult, as the barcode itself is applied during a product’s manufacturing process, rather than after. Additionally, the possible variations during the application of the barcodes, including the patterns on the heads of the pins that apply the codes, create additional barriers to copying. Despite their advanced application process, the barcodes can still be applied in bulk or individually, and on the product themselves if required.	
CASE LINK	AIPIA, <i>New 3D Barcode Pins Down Fakes</i> http://www.aipia.info/news-New-3D-Barcode-Pins-Down-Fakes-476.php BBC News, <i>3D barcodes target counterfeit drugs and devices</i> http://www.bbc.com/news/science-environment-34200649	
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