

Supply Chain/Subcontractor Overruns Application

Counterfeiting is a growing problem. It comes in many forms, the most subtle and difficult to monitor occurs when subcontractors make overruns of a product and sell the overrun items directly into the market or existing supply chain. These items are often identical to the genuine products; however the contracting company is robbed of its rightful revenues from the sale of the products. In some cases safety is compromised as the contracting company is not able to undertake the necessary safety tests on the overrun products.

Bilcare Technologies' solution

Imagine that you were able to attach a unique irreproducible barcode to every item you produced. The irreproducible barcodes are inexpensive and can be read from anywhere in the world using a portable reading device that is able to authenticate them by sending a signal back to a remote secure database. The database would provide pertinent information about the individual barcode, and could also track information useful to you, such as when and where the barcode was read. **BILCARE TECHNOLOGIES OFFERS THIS SOLUTION.**

How can you use this solution to protect your brand – particularly to prevent subcontractors from making overruns? First the subcontractor must be instructed to attach, or embed, a tag on or into each product being produced in the factory. Each time this is done, it is logged in the remote database. This means that you can track exactly how many items are being produced each day, and if the factory is inspected each of the items produced must have its own tag matching what has been updated in the database for that day. Similarly when the products leave the factory they must all have active tags registered in the database. When the distributors receive the shipment they can verify that all items are tagged and they can use a reading device to verify that the tags are active in the database. Finally the solution can even be implemented at the point of sale. A reading device at the point of sale will enable the retailer to assure the customer that they are buying a genuine product. This reader can be customized to print a warranty for the customer on site – the database will log exactly when and where the warranty was printed allowing instantaneous secure product/warranty matching. We call this technology Singular ID.



A demonstration swipe card containing a working invisible Singular ID fingerprint.

Technology

Bilcare Technologies' Singular ID solution is based on over five years of intensive research and development. This research has allowed us to use naturally occurring micro- and nanoscale disorder within materials to uniquely identify items of value. Although we are able to make materials each with its own unique structure (or "fingerprint") we are unable to control exactly what formation the disorder takes. This means that we are unable to make two pieces of material with the same fingerprint, and therefore believe that it would be impossible for someone else to control the disorder on this size scale in order to make a replica of any fingerprint. We have developed an asset tracking system around this concept. Key components of the system are:

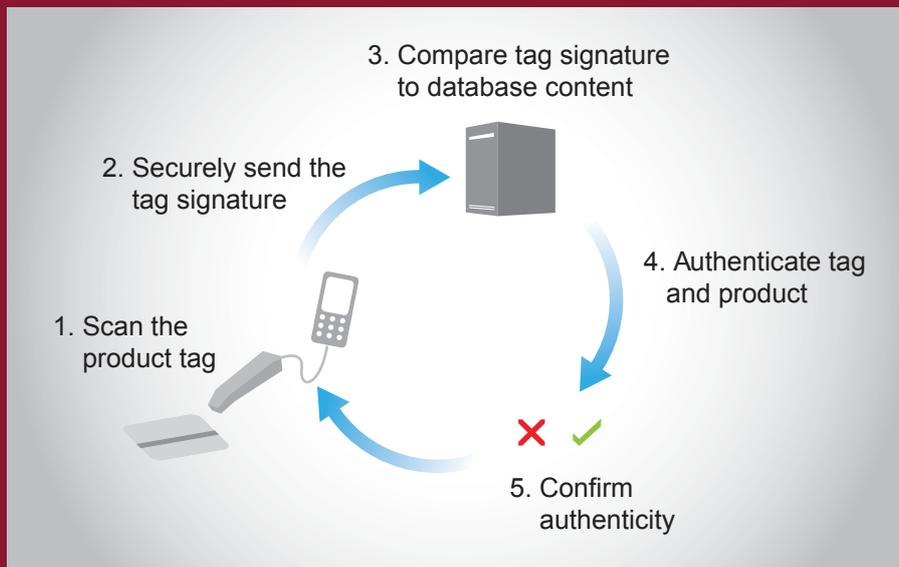
- **Unique tags** attached to, or embedded into, objects during manufacturing. Each individual tag has a fingerprint structure that confers it a unique signature. Singular ID tags can be incorporated overtly or covertly into a wide



A scanning electron micrograph of Singular ID fingerprint technology. The fingerprint consists of micro- or nanoscale features embedded within a material. Each fingerprint produces its own unique signal and even we are unable to reproduce a fingerprint.

range of materials, including leather, fabric and textile, plastic and metal.

- **Portable devices** to read the fingerprints and retrieve information about the objects the tags are attached to. The readers can also be customized to print out a warranty on-site upon successful verification of the fingerprint.



Secure database: At the point of manufacture each fingerprint is stored in a secure database. The portable readers are able to connect to this secure database from anywhere in the world. The database compares the incoming fingerprint with that which has been stored previously, and sends a signal to the reader to verify the identity of the fingerprint. The database is an extremely valuable tool for brand protection since it can contain a wide variety of information about the product, some or all of which can be sent to the reader. It is also able to monitor exactly when and where a fingerprint was read. All this information can be tracked, monitored and analyzed for the benefit of the brand owner. For example, brand owners can store customized information about tags and tagged products including to which distributor tagged products were supplied and in which countries they can be sold. Bilcare Technologies' Singular ID solution is therefore an excellent means to detect and deter product diversion, and to avert fraud.

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