



HICOF ALPHA

The next generation of brand protection

Nowadays, companies are operating on a global scale. They ship branded products from their factories and warehouses to customers. To do so, the brand owners rely on complex and to a certain degree uncontrolled supply chains. These complex supply chains are vulnerable to criminals attempting to introduce counterfeited products into the market. Counterfeits and tampered products represent a serious threat for the brand owners. They can lead to unjustified customer claims and the loss of consumer confidence and market shares.

Currently, many companies are investing in product tracking systems, also called serialization infrastructures. They mark each individual item with a unique random number, which is then stored in a database. Through the serialization the supply chain becomes more transparent, making it harder for criminals to introduce counterfeits into the market. Nevertheless, compromising these serialization infrastructures is possible because standard ISO barcodes are used for marking the items. These standard barcodes can be easily regenerated or copied with off the shelf equipment. Today's serialization infrastructures cannot detect manipulations. This weakness is known by criminals and in fact counterfeits of serialized products have already been reported.

Hicof has the solution to eliminate this risk, by offering a software with the ability to differentiate between an original barcode and reprints. The Hicof Alpha software uses the fact that in each print of a barcode micro tolerances appear naturally, making each code individual (see The Hicof Principle). By identifying these tolerances for each printed barcode, the Hicof Alpha software crea-

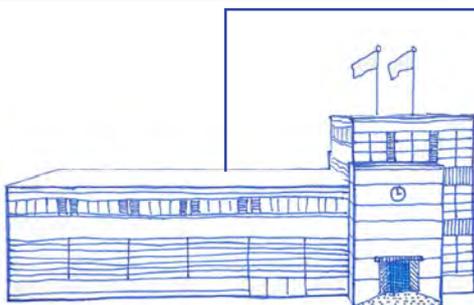
tes a unique copy detection key that is stored in the Hicof Cloud. By using a smartphone camera, we can check if a printed barcode has the same properties as the original by comparing with the copy detection key that was saved in the cloud. Consequentially, the supply chain becomes more secure and the consumer's interests are better protected.

Hicof finally offers a integrated brand protection system, that is very simple to integrate into existing serialization installations. Additionally, the creation of the copy detection keys does not imply any change to the existing IT infrastructures, product artworks, printers and cameras. To summarize, the Hicof brand protection solution includes:

- a highly protected, cloud database for managing the copy detection keys
- a management interface (called Tactical Security Center) to get real time information about your supply chain status
- and smartphone apps to deploy the system to whoever you want

The Hicof Key is being stored in the Hicof Cloud that is operated 100% in Switzerland under strict data protection laws. At the same time the cloud acts as platform for the Hicof analytics.

On existing packaging lines Hicof works in most cases with the already installed cameras for grading the barcode. Beside this, Hicof infrastructure can be integrated as a pure software solution e.g. based on virtual machines that are already in the company network.



Flow of serialized products

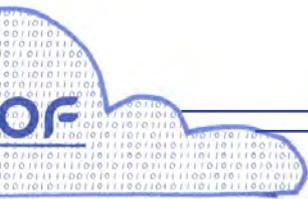


The Hicof Principle

Hicof technology bases on the fact that during each print process micro tolerances appear. Such imperfections can have various reasons, e.g. clogged nozzles of inkjet printers, vibrations of galvanometers in laser printers, natural variations in the substrate... Hicof developed with Hicof Alpha a software that is capable to reliably measure these properties and transform them into a key. As consequence, other than classical security technologies, the Hicof Key is not manmade and therefore copying and reproduction is impossible.



The Hicof Tactical Security Center is always part of a successful implementation. As web application it provides detailed statistics about all scans that have been done, including the country and geo information for each individual pack. At the same time, it acts as marketing cockpit where the displayed information in the apps can be managed.



Flow of serialized products



For authentication Hicof works with off the shelf smartphones including even those from the last generation. In order to check suspect products simply the Hicof App needs to be installed. The App is available for the most common operating systems and is optimized to scan codes in dark environments without the need for special lenses or special lamps.

Hicof is a young and dynamic engineering and software company, focussing on the development of innovative and patented systems for protecting products against criminal attacks such as counterfeiting. We have a team of passionate, highly qualified and experienced experts, enabling us to create outstanding products that open the door for 21st century product security. Located in Switzerland, we can offer highest standards in quality and security while being able to support projects all around the world.



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