



KONICA MINOLTA

Counterfeit Protection, Track & Trace, and Product Usage Control



Impact Brand Protection Ltd | www.impactbrandprotection.com



www.cdx.com

Encrypted 2D Barcode: Objective

To provide counterfeit protection, track & trace and product usage control for inks and toners.



Encrypted 2D BC – Multiple Functions

One Encrypted 2D Barcode label on an ink cartridge or toner will serve the following functions:

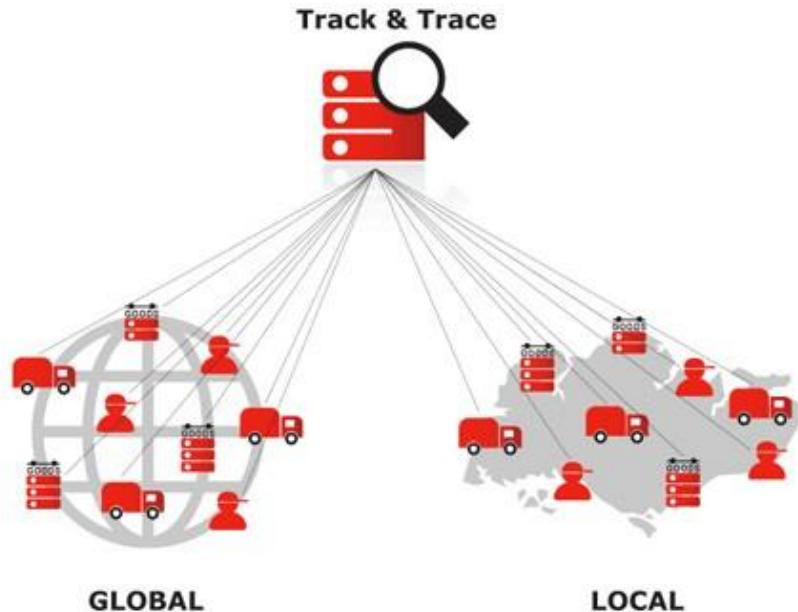
- Track & Trace – Supply chain and diversion control. T&T to the end user.
- Product Usage Control – prevents refilling of ink cartridge or toner with built-in usage control function.
- Counterfeit Protection – Protect against usage of unauthorized ink cartridges or toners (device will not operate with an unauthentic unit).

Generating and Applying Encrypted 2D Label



- Konica Minolta will generate a unique Encrypted 2D barcode label for each ink cartridge or toner.
- Encrypted 2D barcode applied at the primary, secondary, and tertiary level of packaging.

Track & Trace – To the End User



- Track & Trace products collectively and individually through the Supply Chain.
- Monitor for diversion and counterfeit activity.
- Authentication by the end user provides additional layer of security and logistics information.
- Optional incentives to end user through a loyalty program.

[Track & Trace Demo Video](#)

Authentication and Product Usage Control



Prior to inserting a new ink cartridge or toner, the end user must scan the Encrypted 2D barcode directly from the unit using one of the following 3 options:

- Barcode reader peripheral connected to the printer.
- The flatbed scanner on the printer.
- A cell phone connected to the same network as the printer.

Authentication and Product Usage Control

Scanning of the 2D barcode will provide the following:

- Counterfeit protection control for Konica Minolta. Printer will not operate without scanning the 2D code or if a fake is present.
- Product usage control function will deposit the maximum number of prints per unit permitted into the system to prevent unauthorized refills.



Product Usage Control - Example

Example: The toner for the Konica Minolta bizhub PRO C5501 has a maximum print usage of 5,000 pages. The customer has now used 80% of the toner and refills it. Upon inserting the toner back into the device, they will be required to scan the Encrypted 2D label. The printer will “remember” that this unit was previously scanned and that only 20% of it’s life span remains. The refilled toner will only print the remaining 20% regardless if it has been filled. The consumer will then need to discard the remaining toner and insert a new unit to continue operating the device.



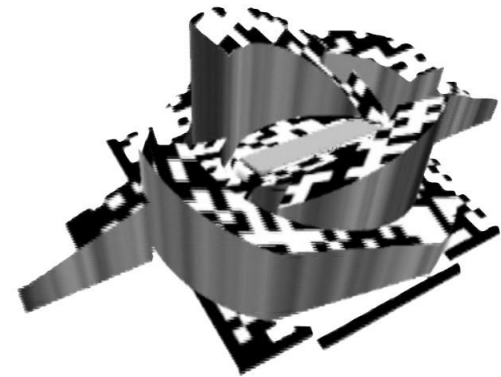
KONICA MINOLTA



About Us

Impact Brand Protection, (IBP) is an authorised marketing and distribution firm for Six Degrees Counterfeit Prevention, LLC (6DCP), who is globally licensed by CryptoCodex LTD to market and distribute MDLE (Micro Database Less Encapsulation), the most effective security solution for detecting superfluous, falsified, or adulterated products and documents, for detecting lost/stolen/diverted goods, and is track & trace ready to meet worldwide regulation.

Encrypted



Protected

Encryption

Encryption technology is the only symmetrical, polymorphic, non-mathematical encryption method in the world. Its key strength (minimum 1 million bit key size) is truly chaotic and based on an innovative, patent pending technology called PHR Pure Human Randomization. PHR replaces the structuring and use of a pseudo-random calculative hash function. PHR is protected against Rainbow Crack, Dictionary Attack, Cryptanalysis and Brute Force

Key Strength – 1 million bit or more

Performance 400% faster compared to AES.

MPU use – Mathematical Process Unit in CPU use 3% – 7% only. Overhead of the file from original 5% +/- (original+5%) +/-



Micro Database Less Encapsulation-MDLE

Other encryption algorithms have a bit overhead of between 300-700% when encrypting small amounts of information. PHR on the other hand uses an unparalleled, non-dictionary compression ratio operational technique which has a bit overhead of 5-7%. Because of this, we are capable of encrypting relevant information into one 2D barcode. A process referred to as MDLE – Micro Database Less Encapsulation.



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