

Secure Product Fingerprint

Combat counterfeits and connect with your customer



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How do you ensure that only authentic products represent your brand in the market? The new Secure Product Fingerprint solution by Bosch.IO offers you unparalleled protection against counterfeiting. Moreover, it can help establish a direct connection with your customer, opening doors to new opportunities.

The Secure Product Fingerprint is a patented solution whose primary function is to ensure product authenticity. Based on computer vision and AI technologies, it creates a “fingerprint” of a product and stores it in the cloud. This “fingerprint,” which is unique for each item, is either an assigned QR code enhanced with micro-features (“Artificial Fingerprint”) or a snapshot of a certain area of a product’s surface (“Natural Fingerprint”). Using a smartphone, customers can then scan the QR code label or the designated area of the product itself and verify the product’s authenticity against the sample stored in the cloud. This can be done via a dedicated app, WeChat, or a standard QR code scanner.

By connecting manufacturers with customers, the Secure Product Fingerprint also provides track & trace capabilities and enables better customer relationship management. The manufacturer receives data whenever a product is scanned and can thus track the product through distribution channels to the customer and further to the warranty service provider. On top of this, the system can push promotional information to the user or redirect to the manufacturer’s website after the product is scanned. At present, the Secure Product Fingerprint is available in China. Please contact us if you are interested in implementing it in your country.

Global value of counterfeit goods is estimated to reach **US\$1.82 trillion** by 2020*.

Secure Product Fingerprint

Artificial Fingerprint
Specially modified QR code
Cost-effective “off-the-shelf” solution



Natural Fingerprint
Digital image of the unique product's surface texture
Customized protection against counterfeiting

You can choose one component of the solution or combine both for extra protection.

Based on Bosch's patented technology
Object's fingerprint generation and comparison patents

* 2018 Global Brand Counterfeiting Report, ResearchAndMarkets.com

The Artificial Fingerprint builds upon a standard QR code and enhances it with embedded micro-features for added security. While in theory it might be possible to copy an enhanced QR code, this is not economically viable – the cost of the equipment required to do so would exceed one million euros. The Artificial Fingerprint thus resolves the problem of QR codes being easily copied while retaining one of their main benefits: they are cheap to produce. To make use of the Artificial Fingerprint, you can simply order the enhanced QR code labels, which are pre-registered in the database, stick them to your products and link them to the backend services in the cloud.

The Natural Fingerprint uses a surface of the product itself for its validation. The manufacturing process leaves certain traces on the surface of the product that make each item uniquely distinguishable. These small variations form the basis of the Natural Fingerprint. To implement the Natural Fingerprint, you need to specify a surface area of the product to be used for verification

and then take a picture of it. This can be done by installing a camera at the production line. The camera is then set up to automatically take a picture of the designated “fingerprint” area. The image is stored in the cloud and used for comparison later on.

How you will benefit

- The solution will help you **increase revenue and minimize reputational losses** by reducing the volume of fake goods sold under your brand
- You will achieve **transparency in the distribution channels** through track & trace capability (e.g. tracking diversions from the designated region)
- You will build a **direct connection with your customer**, enhancing your CRM capabilities (e.g. notifying specific customers about promo programs, simplifying quality and recall control by alerting customer of a faulty batch, facilitating warranty returns)

The Secure Product Fingerprint received a **Shanghai government award** for innovation in 2019.



The integrated solution makes it possible to directly connect manufacturers and consumers, providing anti-counterfeiting, track & trace, and enhanced CRM capabilities.

Secure Product Fingerprint: Key features



Two solutions in one to suit different needs

Cost-effective, off-the-shelf Artificial Fingerprint and customized Natural Fingerprint



Artificial Fingerprint

Easy to use, based on mainstream QR technology. Unlike regular QR code labels, added micro-features provide reliable protection from copying



Natural Fingerprint

Delivers the highest protection against counterfeiting by registering each product in the cloud