Blockchain doesn’t protect your supply chain. Not on its own

Webinar materials

About Walimai

Founded in： **2013**

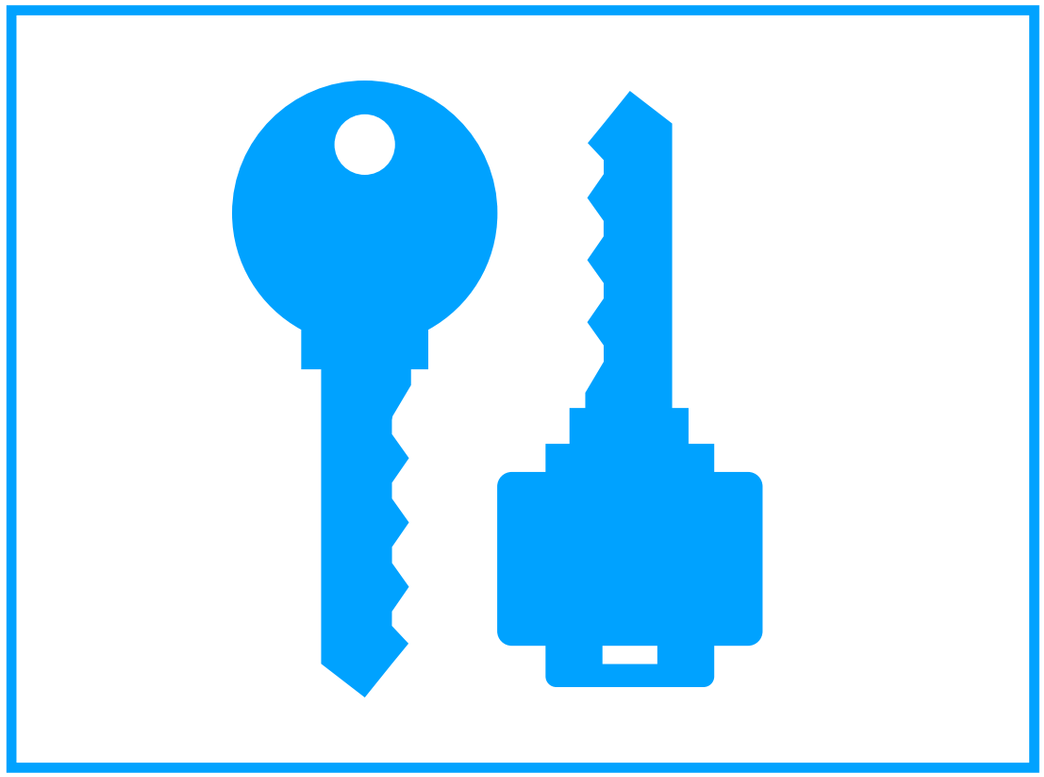
Company Size： **20 employees across Europe and Asia**

Key Locations: **Shanghai, Singapore, Minsk**

Featured in：

https://www.washingtonpost.com/video/business/smart-label-helps-beat-counterfeits/2017/11/26/e133327e-d28d-11e7-9ad9-ca0619edfa05_video.html?utm_term=.d59b715ae0a8
http://www.bbc.com/news/business-42152892
http://www.businessinsider.sg/a-startup-is-using-blockchain-technology-to-tackle-counterfeit-milk-powder-heres-how/

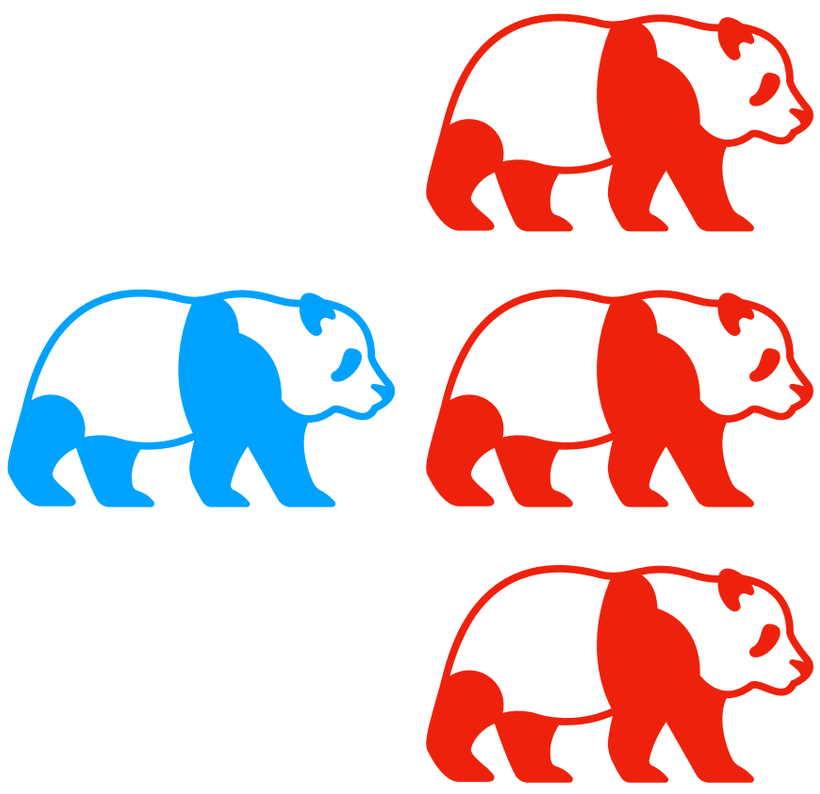
Blockchain can solve the problem of uniqueness and authenticity of digital assets but cannot secure physical assets on its own 1/4



Blockchain opened new horizons by creating

- **Decentralised** and secure data **storage**
- A standard to ensure the **uniqueness** of **digital assets**
- A secure and t**rust-independent** environment to **transact** with **digital assets**

Blockchain can solve the problem of uniqueness and authenticity of digital assets but cannot secure physical assets on its own 2/4



… However blockchain suffers from the "**Garbage In, Garbage Out** problem"

- Blockchain works when **100% of transactions** with the asset are passed through it.
- For physical assets there has been **no cost-effective system** to ensure a **1:1 correspondence** between **actual** transactions and the **record**

Blockchain can solve the problem of uniqueness and authenticity of digital assets but cannot secure physical assets on its own 3/4

The problem of digital-physical link has been solved for high-end items like diamonds (www.everledger.io)

- **Physical parameters** of every diamond are **unique**. This data could be scanned with lasers and uploaded onto the blockchain.

- This method works for diamonds because the **value** of every **transaction** is high enough to justify **costly rescanning**

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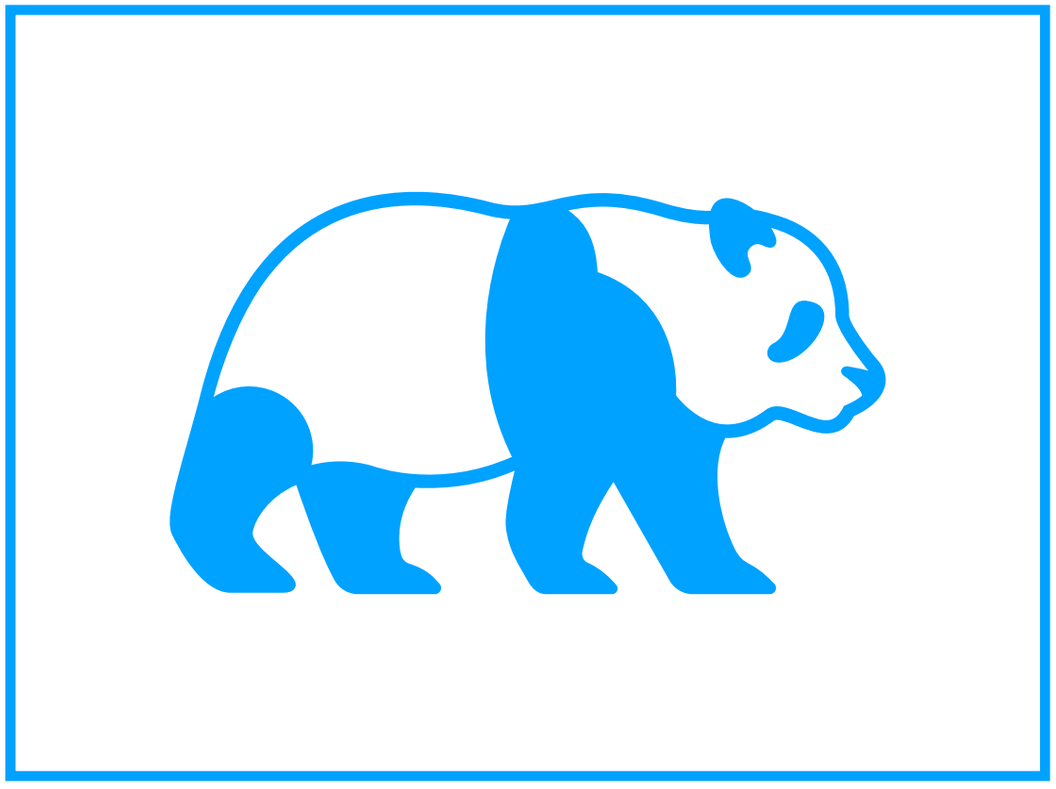

Walimai developed a solution that allows to securely **link** a **physical asset** to its **digital representation** in a way that is

- **Cost effective** enough to deploy on a **scale** required for the **FMCG industry**

- Consumer friendly enough to enable **tracing** to the **end consumer** without requiring any specialised verification hardware

Standard anti-counterfeiting/identification solutions are not secure enough

QR codes/ other unique identification

- QR code is an image. Very simple to photograph and reproduce

QR codes partly/ fully covered (e.g with a scratch line)

- **Only** works **post-purchase**
- **Multiple duplicate tags** can be produced after removing the scratch line
- Requires a **very proactive** consumer

But it’s possible to have a secure and consumer friendly solution to link products with blockchain 1/2

Comprehensive protection - anti-reuse and anti-cloning

One of the key challenges in designing the Walimai label was to find a perfect balance between:

ROBUSTNESS - The label needed to remain securely attached to the product throughout its journey to the consumer without a chance of accidental breakage

FRAGILITY - The label needed to break easily if the product’s packaging is opened or if there’s a counterfeit or ‘refilling’ attempt

Physical

Digital

MICRO SECURITY: Individual tags are securely protected against falsification or copying

SYSTEM-WIDE SECURITY: On the macro-level, the system prohibits any unauthorised tampering

But it’s possible to have a secure and consumer friendly solution to link products with blockchain 1/2

Real-time Synchronisation

- Data is transmitted to server for verification
- Response and new security credentials sent back

- Verification results are displayed to the consumer

- Data read from the label by consumer’s phone
- Updated data is rewritten on the label