

# OUR STORY



**D-Engraver** is dedicated to provide reliable solutions of information storage, notarization and authentication by blockchain technology. We resolved the issues regarding the validity, security, and legality of digital contract signature and document management.

## VISION

To eliminate the crisis of trust in the information sharing process.

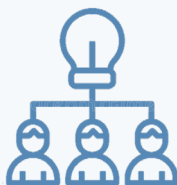
## MISSION

Breakthrough the information isolation in order to create a sharing mechanism in any topics by engraving important credentials.

Granted several patents in **blockchain algorithm** and **data encryption method**



Founded by **HKUST Alumni & Professor** in 2018, we are the first batch of companies that received a **strategic funding** invested by **HKUST E-Fund**, as well as being an Incubatee of **Incu-tech program** of **HKSTP**.



D-Engraver core team consists of **talents** and **professors** from **HKUST** and **top universities**, as well as supported by a strong consultant team with **industrial** and **academic experts**.



Under the lead of our strong core team, we have been awarded the **Hong Kong ICT 2021 Gold Award** under **ICT Startup Award (Software and Apps)**

# The problems we solved

Post epidemic, the **digitalization of business activities** and **daily operations** become a common practice.



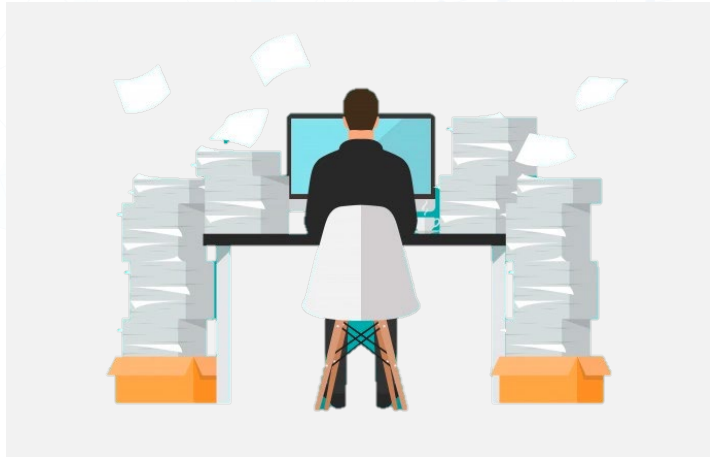
## Legislation Operation Approval Process Delays

Under Pandemic, **multiple departments** are **non-operational**, leading to unobtainable important signatures in documents, **thus delaying the legislation operational approval process.**



## Public service delays and long waiting time of applicants

Remote operation would cause **delay in Public Service** that required signature from a **Civil Servants** or to be approved by multiple departments.



## High Carbon emission in paperwork

On average, A **single office worker** would use up to **10,000 copy papers**. And more than **45% of these paper** are discarded to landfill, generating **large amount of carbon emission.**



Green Solution,  
Working towards  
"Carbon Neutrality"



Gold Award  
金獎

HONG KONG  
ICT AWARDS  
2021 香港資訊及  
通訊科技獎



Encrypted Digital Signature with  
Diverse ID Traceability with Workflow  
2-Factor Identity Authentication

## Blockchain Contract Signature, Document Security Management Platform



Digital  
Agreement  
Signature



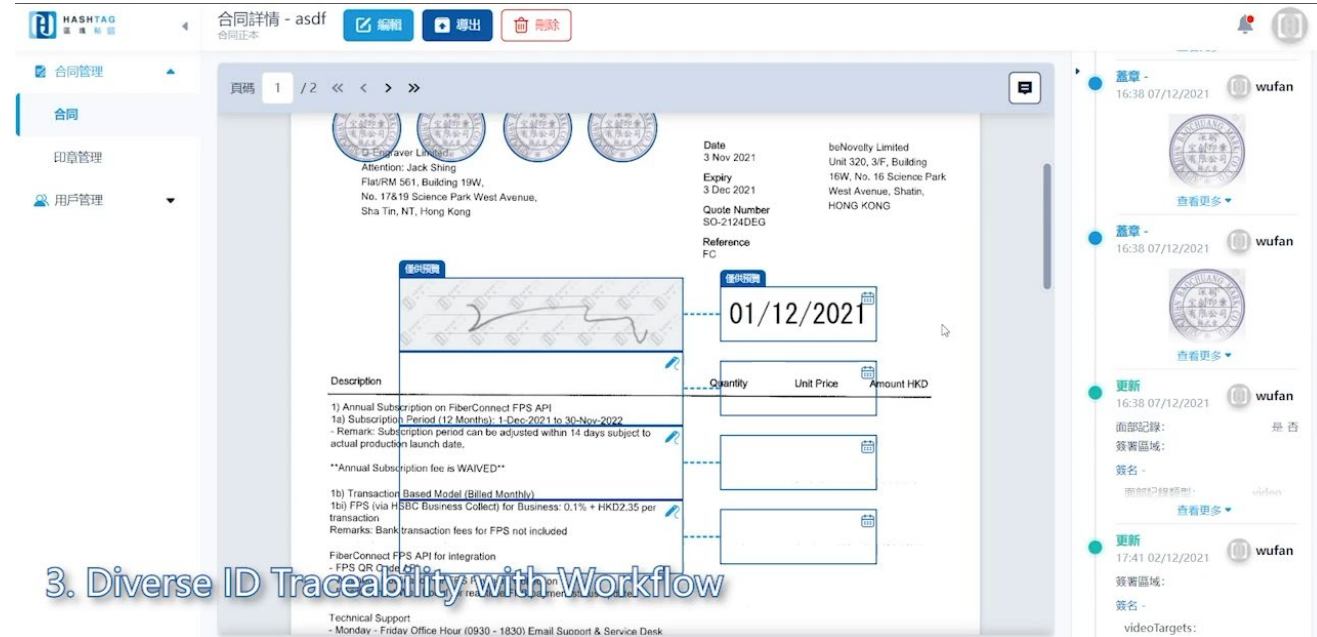
Version  
Control



Fact  
Checking



Workflow  
Process  
Management



3. Diverse ID Traceability with Workflow





Transport



Time



Labour

**HashSign**

**HASHTAG**  
區塊貼

Hashtag and HashSign  
turn the costs into **Zero**



And help to achieve **carbon  
Neutrality** to save the cost of



**10000** sheets/year  
of Copy paper **per officer**



Complies with Electronic  
Transaction Ordinance,  
Having the same legal  
standing as Paperwork



# Value Proposition



Increases public service efficiency and operation  
approval efficiency for any legislation's execution  
through digital signature.



Validate Data source and Trace each  
individual ID's accountability.



Achieving Green, Paperless office and  
business activities, Empowering the society  
to achieve the goal of Carbon Neutrality.



Breakthrough the information isolation between  
government departments.

# D-Engraver Chain

Our Blockchain platform is built based on edge computing, IoT technology with multiple layers of chain structure, supported by high and lower levels of consensus that can fit in different layer of nodes.



## High Performance

Ultra High TPS Efficiency  
Up to 10,000-fold TPS level of  
Bitcoin Network



## Low Consumption

Only basic network, data storage and computing  
capability are required for edge nodes Applicable to  
different nodes



## High Security

Data encrypted by patented method  
before stored on the Blockchain

	Consensus	Transaction per second ( TPS )	Smart contract
<b>Bitcoin network</b>	POW	7~8	Using script, though multiply signature and Timeclock, simulate asset lock and unlock processes
<b>Ethereum network</b>	POW	15	Directly write the smart contract into the code with Turing completeness
<b>D-ENGRAVER CHAIN network</b>	POW + Low level of consensus	<b>Ten Thousand times faster</b> than Bitcoin	A smart contract with <b>single-person accounting</b> in low level of consensus, with Turing completeness, focusing on describing more complex data processing processes and ensuring that they are not tamper-evident.

# How does D-Engraver Chain support Hashtag and HashSign Platform?

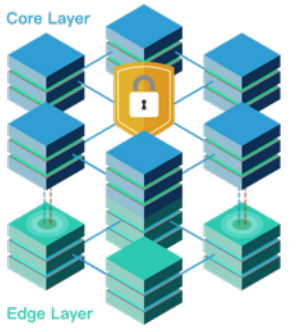
Promote Blockchain from just Virtual Currency Trading, to Mass Business Adoption

## D-Engraver Chain Network

## VS Ethereum/BitCoin

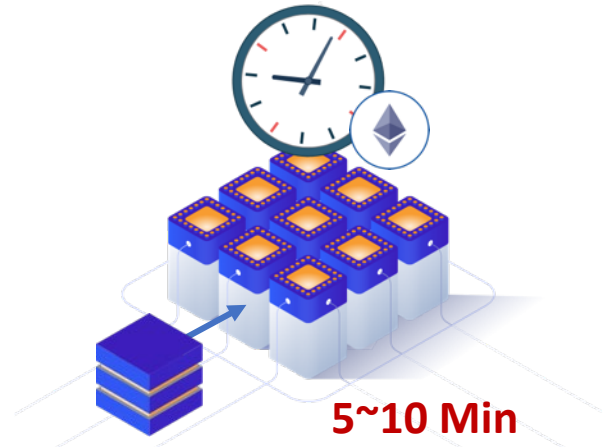
## D-Engraver Chain Network

## VS Ethereum/BitCoin



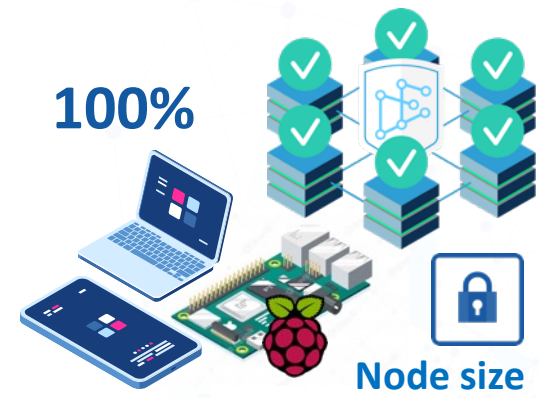
Real Time

Patented Layered Network ensures Transaction are instantaneous



5~10 Min

High Frequency Transaction causes blockchain network congestion



100%

Node size

With patented algorithm, growth in Node Data over time does not affect process speed and scalability



<1 TB (95%↑)

>1 TB (5%↓)

Node size

Growth in Node Data over time hinder process speed and scalability

## Implications on HashTag and HashSign Platform



## Sustainable support on HashTag / HashSign Platform



0-Delay

Unlike regular blockchain based platform, which are slow to use,

We could offer **real-time transaction speed** with **Hashtag and HashSign Platform**, providing a similar experience to regular APPs.

Data Increases over time



Good Network Scalability  
Low unit cost of Node

VS



Bad Network Scalability  
High unit cost of Node

# Patents



## Patent 1 - Data storage method, Data enquiry method and system

Patent ID: [2019100127414](#)

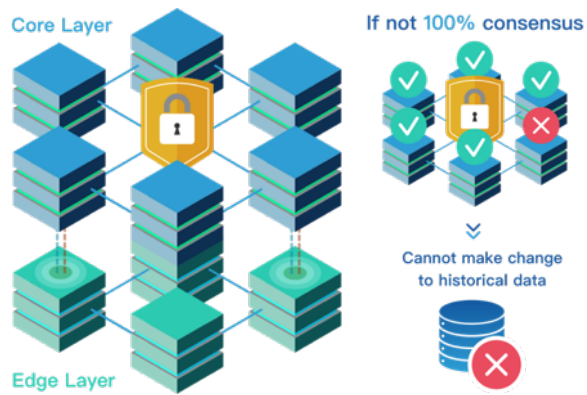
HashTag's patented encryption method to pairs **single data ID** with a **private key** to enable **ID level precision access right control**

### Encrypt

In addition to blockchain encryption, we introduced new mechanism of data encryption and storage, including designated control and record terminal.

### Enquire

We use symmetric decryption algorithm to enquire data from the blockchain, including designated control and enquiry terminal.



## Patent 2 - The single node accounting and multi-node backup anti-tampering mechanism

Patent ID: [201911380564](#)

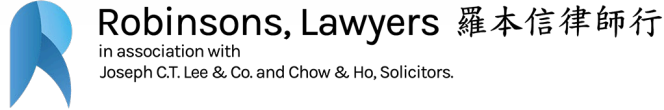
Based on our bottom-chain, a patent about the single node accounting and multi-node backup anti-tampering mechanism based on distributed network has been conceived. With this, any network attacker must fulfill **100% consensus attack** in order to **change any data** on our system.

## Patent 3 - Concurrent and instant Information Rollback mechanism based on blockchain

HashTag's patented rollback mechanism allows any Information ID on HashTag to be **concurrently rolled back** by multiple parties along the timeline to **different historical states, without any cost of affecting the current system data.**



# Partnership



## Formed Strategic Partnership with Robinsons, Lawyers

Being a **well-established Law firm** in Hong Kong, **Robinsons Lawyers** could provide a **sizable user base** from existing client base, as well as **significant connections** with companies and authorities from the legal sector.



## Partnership



## Partnership with digital solution providers

HashSign could be directly used **within Zoom / Cisco Webex** as the **digital signature solution to sign contracts** through API Integration.

## Technologies Transfer by Universities

**Talents and Professors from HKUST** provided a strong technological foundation for us to build our **patented blockchain architecture** and **data encryption mechanism**, supporting the unique features of **HashSign**.



# Form an evidence chain through cross-systems for governmental implementations

Examples of Government System in use

HashSign could be integrated with any existing infrastructures and systems from different departments through **cross-chain implementation**, as shown:

This also enables a **reliable** and **immutable evidence chain** to be formed across multiple departments.

ISO 27001:2013 Certified



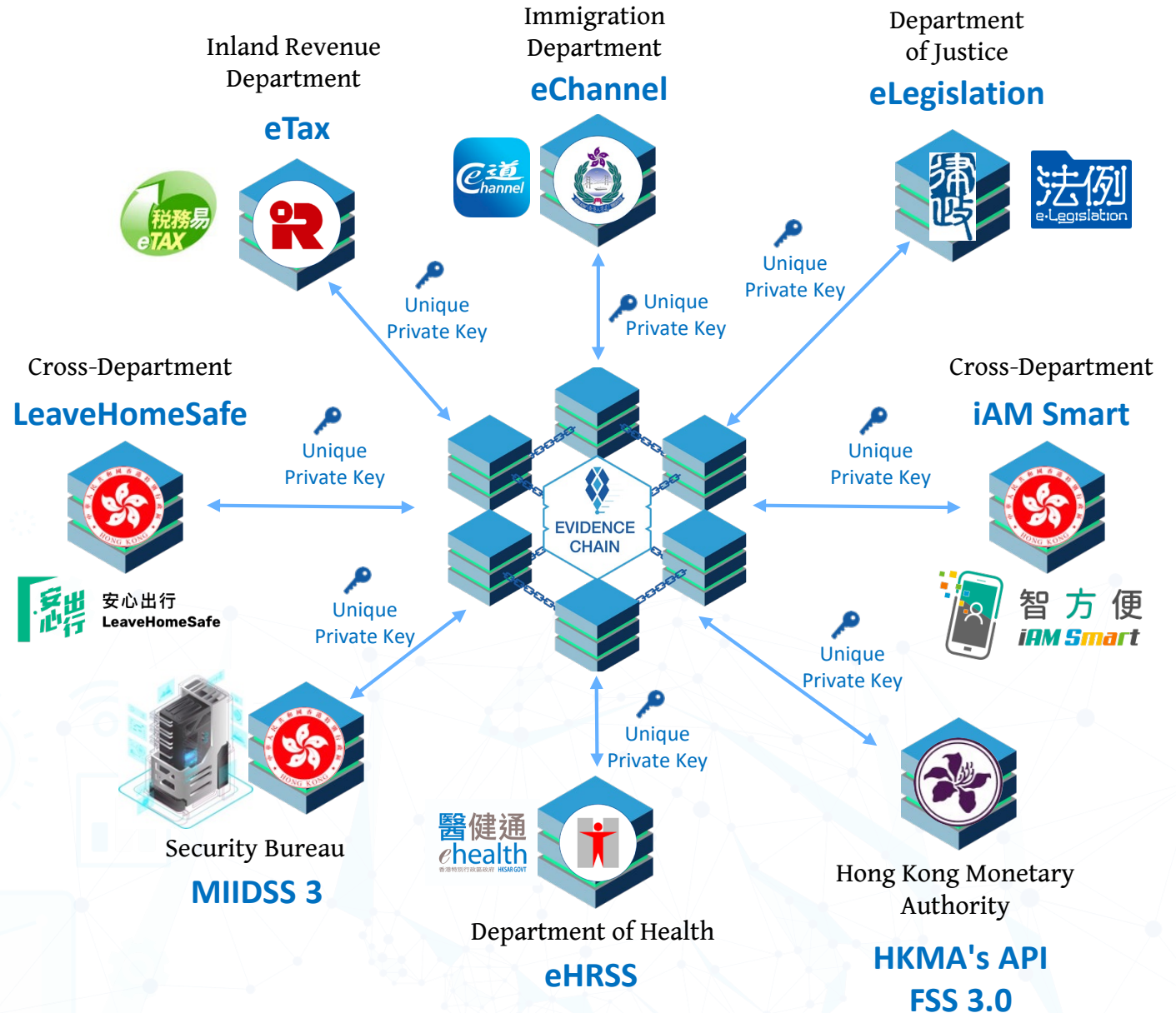
## Highly Secure and Regulatory Compliant

HashSign is highly secure, achieving **ISO27001:2013 certification**, and **legally compliant** with the **Electronics Transactions Ordinance**.



## Data Localization

HashSign could be deployed to utilize the **existing 52 Colocation Data center in Hong Kong** to achieve **100% localized data storage**



# Highlights:



## Difficulties: Under Pandemic

Remote office operation causes **Public service provisional difficulties** and **legislation operational approval process delays**



## Our Solution: HashSign

A Blockchain Contract Signature, Document Security Management Platform that empowers remote operations with **efficiency, trusted traceability and legality.**



## Technology: D-Engraver Chain

Patented Blockchain Technology, Support the platform with unparalleled **security and privacy, processing speed and tracing capability.**



## Partnerships: Provide strong legal, technology backing and integrations for HashSign

- Forming Strategic Partnership with Robinsons, Lawyers
- API integration with Zoom / Cisco Webex
- Technology Transfer from HKUST



## Use-case highlight: Secure and localized legal evidence deposit

Robinson, Lawyers utilizes HashSign to invite their clients to **digitally sign** contracts securely, then **notarize contact** and store on **blockchain** with **100% localized data storage.**



## Cross-Department System Integration: HashTag Cross-Chain implementation

Utilizing Cross-Chain Implementation, HashSign could integrate with **any existing government systems** from different departments, and forming a **reliable evidence chain** between departments.