Digital CoO flow: Singaporean Experience

By Nancy Chen
Agenda

About GUUD

The GUUD Certificate of Origin (CoO) experience

- eCO Journey in Singapore
- eCO implementation for the Singapore International Chamber of Commerce (SICC)
- Cross-border sharing eCO between Singapore and Belgium (Pilot)

How to get started
Our mission is to trade for good.

We aim to make global trade simpler, more efficient and more inclusive, so anyone and everyone can become a player in global trade.
GUUD’s unique ecosystem makes it all possible.

It is the only one of its kind in the world to bypass long-standing barriers to entry in global trade, digitalising and radically simplifying the processes in UN/CEFACT’s BUY-SHIP-PAY model.
GUUD CoO experience

✓ Implemented non-preferential eCO for the Singapore International Chamber of Commerce (SICC)

✓ Implementing non-preferential and preferential eCO for Qatar Chamber

✓ Launched world’s first blockchain-based eCO

✓ Cross-border sharing of non-preferential eCO between Singapore and Belgium
World’s first eCO on Blockchain
The GUUD Certificate of Origin experience
## eCO Journey in Singapore

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Submission And Process</th>
<th>Authenticating</th>
<th>Technology</th>
<th>Sharing e-copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manual submission and processing of Certificate of Origins</td>
<td>Manual and be presented in person</td>
<td>Physical verification and authentication of printed copy</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>Traditional electronic Certificate of Origins</td>
<td>Online</td>
<td>Physical verification and authentication of printed copy</td>
<td>Print on pre-printed form. Manual signature and stamp. Special equipment.</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Modern Technology integrated electronic Certificate of Origin</td>
<td>Online</td>
<td>Online verification and authentication by scanning QR</td>
<td>Print on normal paper. Digital signature and stamp. Blockchain and QR technology</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Connected electronic Certificate of Origin</td>
<td>Online</td>
<td>Online verification and authentication</td>
<td>Blockchain</td>
<td>Yes – A connected eCO system with stakeholders</td>
</tr>
</tbody>
</table>
Challenges

Manual submission and processing

Cost. High cost in courier and manpower

Productivity. Inefficiency and productivity losses.

Time consuming and delays. Need for manual human processing causing delays. Need to be in person at chambers and other government agencies for submission and processing.

Fraud. Easily subjected to fraud and mishandling of documents.
Challenges

Traditional eCO system

Technology. Uses old technology in eCO system for the past decade even though disadvantages are apparent

<table>
<thead>
<tr>
<th>Existing Technology</th>
<th>Disadvantages</th>
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</thead>
<tbody>
<tr>
<td>Microprint</td>
<td>• Need a high-resolution laser printer.</td>
</tr>
<tr>
<td></td>
<td>• Have to use a magnifying glass to verify.</td>
</tr>
<tr>
<td>Digital watermark</td>
<td>• Need a high-resolution laser printer.</td>
</tr>
<tr>
<td></td>
<td>• Costly to implement as the technology need to be</td>
</tr>
<tr>
<td></td>
<td>licensed.</td>
</tr>
<tr>
<td>2-D barcodes</td>
<td>• Need a special software or barcode scanner to verify.</td>
</tr>
</tbody>
</table>

Fraud. eCO system’s features are mainly for electronic submission/approval and do not prevent fraud.

The technology of scanners and copiers has also caught up, circumventing traditional fraud prevention methods.
Improvements

Modern technology integrated eCO

Blockchain technology prevents data reproduction of digital assets through a distributed shared ledger.

QR Code technology. Enabling quick verification of authenticity of eCO without requiring importer/exporter to be present in person.

Being ubiquitous in our everyday life and is an effective and simple way to encode data creates easy adaption.
Improvements

How eCO with Blockchain works
With Singapore International Chamber of Commerce (SICC)

1. Export applies CO online with attached documents
2. Chamber approves and issue a CO where the exporter can print
3. A digital copy of the CO gets added to the blockchain
4. The smart CO is propagated to all blockchain nodes
5. The importer and bank can verify the authenticity of the certificate via blockchain
6. Fingerprint is added into the blockchain to mark utilisation
Improvements
Modern technology integrated eCO

Prevent Forgery and Fraud
Applying blockchain technology to prevent data reproduction and modifications of a digital asset.

Simple verification process
Easy process to verify authenticity through simply scanning a QR code.

Distributed database
Database is not dependent on a single source of truth.

Smart Capabilities
Embedded on the platform; fingerprinting, dynamic certification and product linking.

Low cost of implementation
No ongoing cost of implementing temper-proof printing.
Improvements

Connected electronic Certificate of Origin

End-to-end digitalisation
Numerous platforms for issuing or processing CoO's already exist. The challenge is making the process end-to-end digital, across several existing platforms and initiatives (both cloud-based and blockchain-based).

Experience the benefits hands-on
Allow both economic operators and authorities to experience the benefits of an end-to-end digital process.

Proof of scalability
Not just a technology demo – we did that in 2018 with phytosanitary certificates and insurance bonds – but a “Proof of Business” to show it can scale and gain adoption. Including a suitable financial model.
Connected electronic: Certificate of Origin

Cross-border sharing of eCO between Singapore and Belgium (pilot)

1. Exporter applies for a CoO using DigiChambers 2.0
   Recorded on blockchain

2. Chambers of Commerce issues a digital CoO, DigiChambers submits the CoO to the blockchain network

3. Exporter ships to Singapore, and transfers the digital CoO to the importer
   Recorded on blockchain

4. Logistics provider receives the digital format of the CoO that accompany the goods
   Recorded on blockchain

5. Importer receives the goods, and shares access to the digital CoO with Customs
   Registered on blockchain

6. Audits Verify on blockchain

7. Customs Authority can verify the authenticity of the digital CoO
   Registered on blockchain

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Cross-border sharing of eCO between Singapore and Belgium (Pilot)

Inbound to Singapore (Singapore Custom’s Networked Trade Platform)

The Networked Trade Platform (NTP) is a one-stop trade and logistic ecosystem which supports digitalisation efforts and connects players across the trade value chain – in Singapore and abroad. It aims to provide the foundation for Singapore to be a leading trade, supply chain and trade financing hub.
Cross-border sharing of eCO between Singapore and Belgium (Pilot)

Outbound from Singapore (Singapore International Chamber of Commerce)

The Singapore International Chamber of Commerce (SICC) was founded in Singapore in 1837. It is a wholly independent, non-profit business association.

SICC began by standing up for Singapore as a business hub and for its members’ business interests. This is still its mission today. SICC achieves its mission by understanding its members’ business concerns. It advocates these to the government with the aims of achieving greater mutual understanding and practical solutions. This win-win approach benefits policymakers and the businesses which sustain Singapore’s economy. SICC members include global corporations, large local companies as well as SMEs from 20 industries. The Chamber also works to facilitate international trade via its Certification Services.
How to get started
New technology eCO

1. Develop buy-in before the project starts
2. Secure budget
3. Map business processes
4. Stakeholder involvement
5. Evaluate Blockchain technologies
6. Choose a suitable product/vendor
7. Change control
Exchange CO cross-border

1. Focus on the business case and proof of adoption, the technology has already been tested and validated. Choose an existing blockchain framework over building your own technology.

2. Choose a technology platform and pilot architecture that allows you to scale to production if the pilot is successful. Plan for the production phase. This includes thinking about (financial) incentives for the different types of participants.

3. Join a broad consortium that represents your target market, be a forerunner but make sure you get the laggards on board.

Blockchain is about cooperating / co-creating with your peers/competitors.
Thank you.

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