



Future of customs: Blockchain@TAXUD experience

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The Digital Single Market

Commission's strategy ensuring access to online activities for individuals and businesses

- Fair competition
- Consumer and data protection
- No geo-blocking
- Limiting copyright issues
- ...



- **22 European countries**
- Leading role for EU in blockchain
- **€300M** to blockchain projects by 2020



EU Blockchain Partnership (APRIL 2018)

Expertise hub to access, share, produce, disseminate knowledge on blockchain technologies



- Mapping initiatives
- Technical developments
- Expertise & community building
- Sectoral & cross cutting issues
- EU interest use cases
- Inputs for EU policies & actions

EU Blockchain Observatory (FEBRUARY 2018)

What's in blockchain for TAXUD?

- **A potentially foundational technology for the Digital Single Market**
- **Unique capabilities and benefits**
- **Enjoying growing momentum and interest**

What blockchain is NOT:

- **A solution to all problems!**

TAXUD started exploration of blockchain technology in 2017

1. Study and PoC in the excise domain (EMCS)

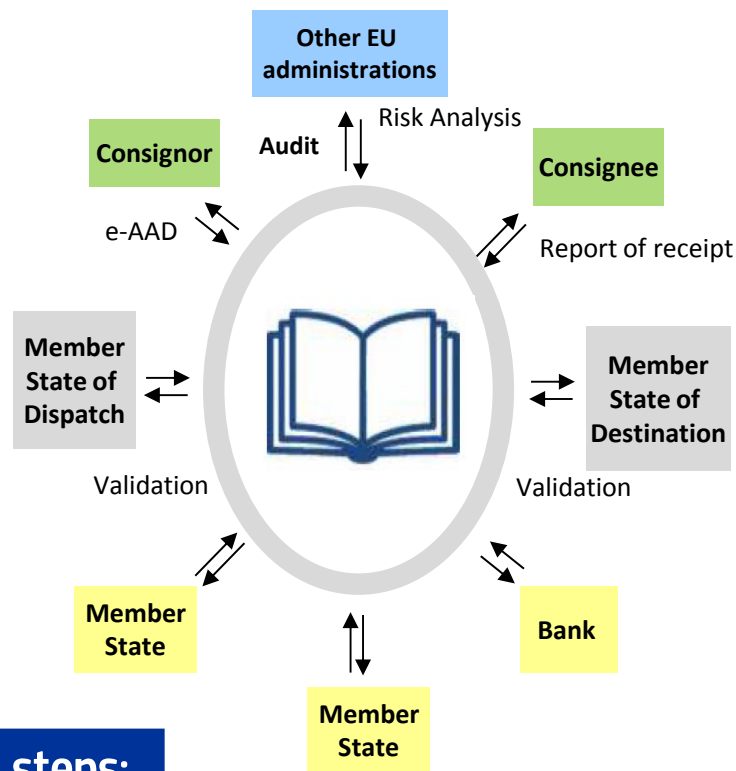
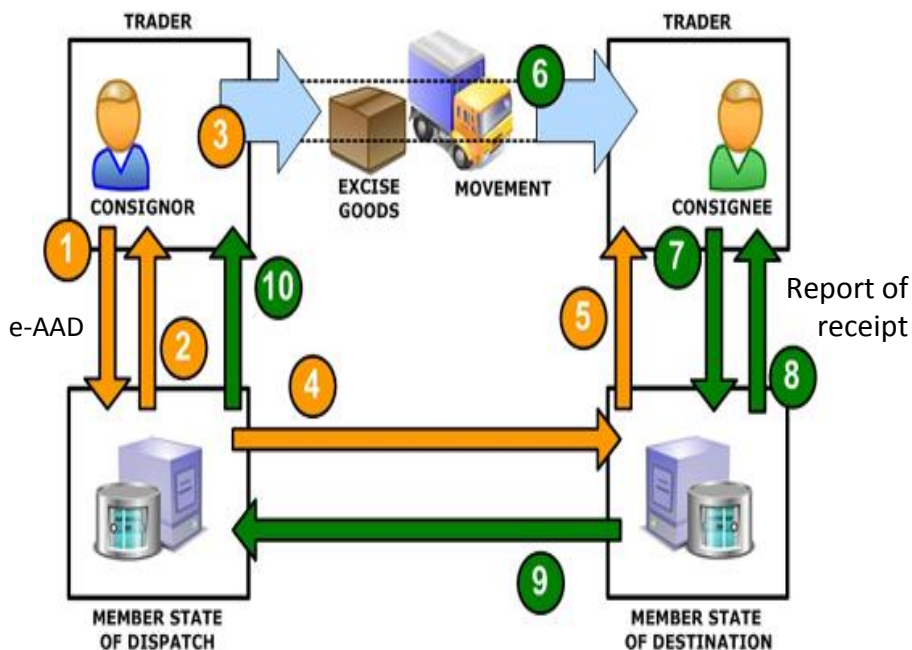
- Test the applicability of the technology as main component of an "illustrative" system
- End-to-end, transaction-oriented pattern
- Permissioned, private blockchain; Hyperledger Fabric (open source)
- No involvement of Member States or Traders
- Technology exploration outside of TAXUD's projects context

2. PoC in the field of temporary admission (eATA)

- Blockchain as an additional layer to ensure trust in a centralised solution
- Data anchoring & notarisation pattern
- Permission-less blockchain, on a private network but anchored to a public blockchain; Ethereum (open source)
- With the collaboration of the International Chamber of Commerce
- Inscribed in TAXUD's electronic customs MASP (project fiche 3.2)

From hub & spoke, message exchanges involving many silo'd databases


... to data sharing on a single ledger visible to all involved actors



From 10 to 6 workflow steps:
40% less complex!

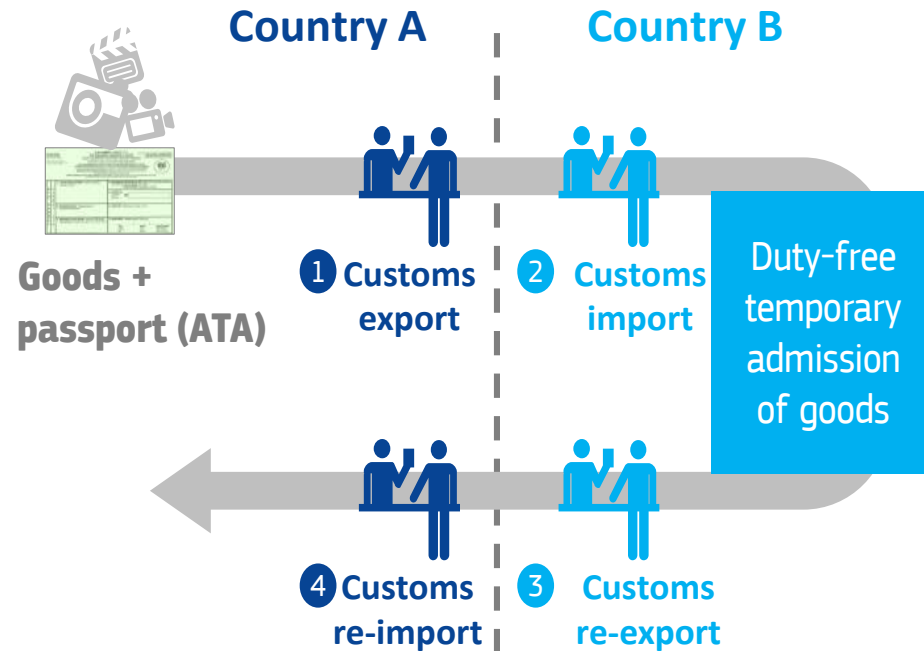
EMCS blockchain Proof of Concept

What is it?

Issuing Association Association émettrice Organisatie van uitgifte Issuende des Carnets de Commerce et douane de l'Europe. <i>Rechts de douane voor de Carnets en Regime de douane</i>		A.T.A. CARNET / CARNET A.T.A. FOR TEMPORARY ADMISSION OF GOODS POUR L'ADMISSION TEMPORAIRE DES MARCHANDISES VOOR DE TIJDELIJKE INVOER VAN GOEDEREN CUSTOMS CONVENTION ON THE A.T.A. CARNET FOR THE TEMPORARY ADMISSION OF GOODS CONVENTION DOUANIÈRE SUR LE CARNET A.T.A. POUR L'ADMISSION TEMPORAIRE DES MARCHANDISES DOUANE-OVEREENKOMST BETREFFENDE HET CARNET A.T.A. VOOR TIJDELIJKE INVOER VAN GOEDEREN CONVENTION ON TEMPORARY ADMISSION / CONVENTION RELATIVE À L'ADMISSION TEMPORAIRE / OVEREENKOMST BETREFFENDE TIJDELIJKE INVOER		INTERNATIONALE AANSPRAKELIJKE ORGANISATIE INTERNATIONAL GUARANTEE CHAIN CHAÎNE DE GARANTIE INTERNATIONALE 
A T A C A R N E T A T A C A R N E T	A. HOLDER AND ADDRESS / Titulaire et adresse / Houder en adres	G. FOR ISSUING ASSOCIATION USE / Réservé à l'association émettrice Voorbehouden aan organisatie van uitgifte FRONT COVER / Couverture / Omslag		
	B. REPRESENTED BY* / Représenté par* / Vertegenwoordigd door*	a) CARNET No. Carnet N° Carnet nr. BE <input type="text"/>		
	C. INTENDED USE OF GOODS / Utilisation prévue des marchandises / Voorgenomen gebruik van de goederen	b) ISSUED BY / Délivré par / Afgegeven door		
		c) VALID UNTIL / Valable jusqu'au / Geldig tot year / année / jaar / month / mois / maand / day (inclusive) / jour (inclus) / dag (inclusief)		

- More than **70 countries**
- +200,000 paper carnets/ year
- ATA carnets digitisation as part of **EU digital customs**

How does it work?

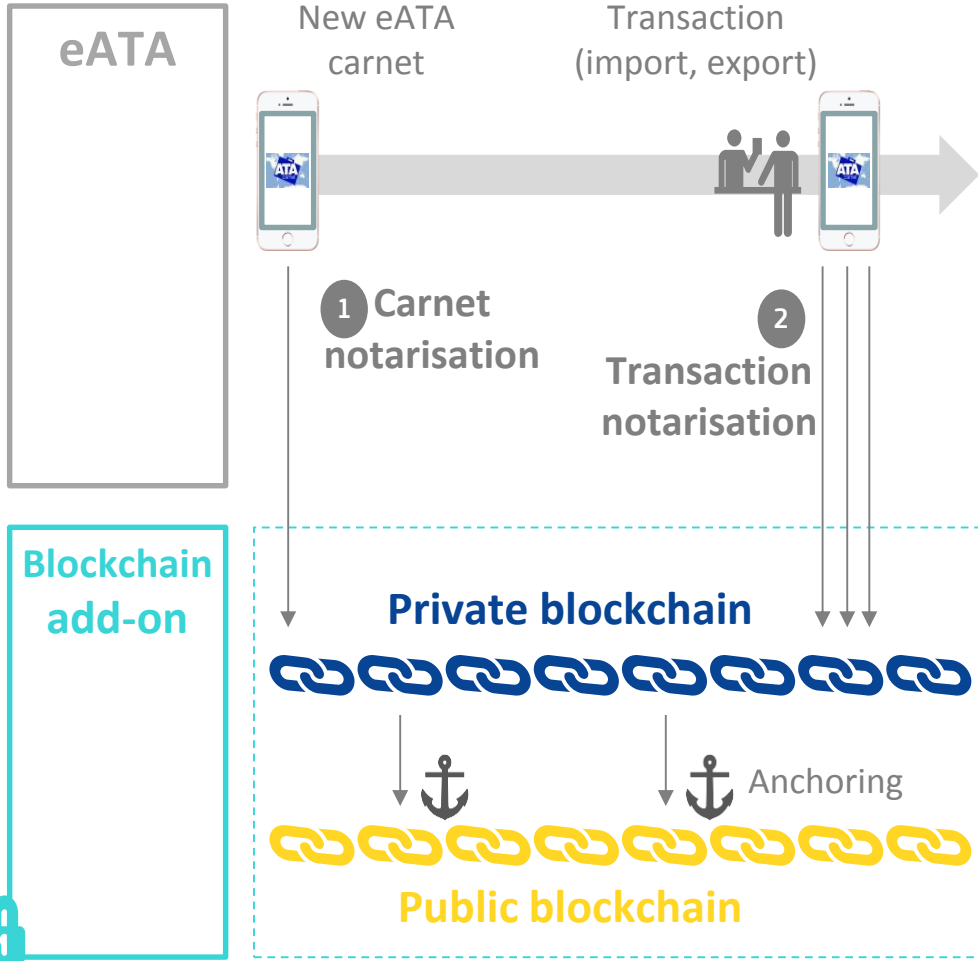


Issue: How can any of the participants be sure that the system is not altered behind the scene ?

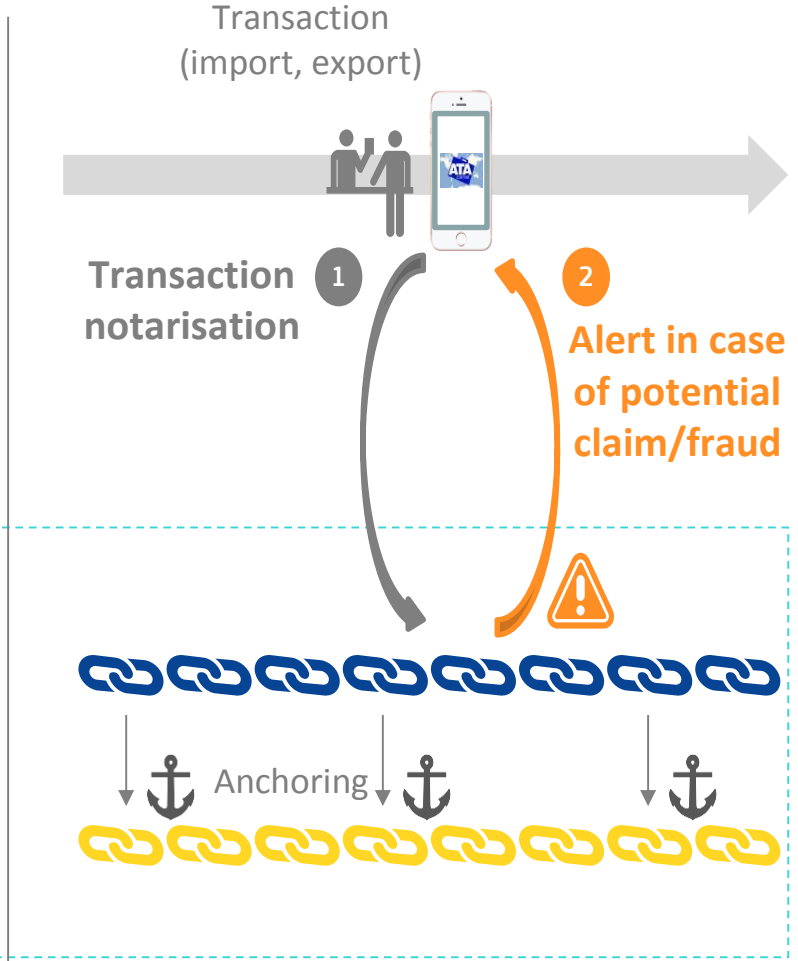


The ATA carnets

1 Notarisation of carnets & transaction



2 Automation of consistency checks



State of play

- **EMCS study and PoC completed; demonstrated blockchain potential**
- **Challenges**
 - Data confidentiality
 - Scalability and performance
 - Security
 - Deployment, operation and re-configuration
 - Compliance to data protection & privacy regulations (GDPR..)
- **eATA PoC completed successfully**

Next steps

- **Objectives for 2019**

- Validate that we can deploy and operate across MS
- Steer system design in the right direction (policy changes, use cases)

- **Actions are being taken**

- Workshop in May 2018
- Awareness and training for Policy Officers & technical staff
- Pilot for SEED on blockchain (registry of economic operators)
- Research activities in several critical areas

Key takeaways

- **Blockchain has characteristics that are interesting for public authorities.**
- **Blockchain is no panacea, no general solution. Additional work required before adopting Blockchain/DLT in our technology portfolio.**
- **Joined discovery and implementation approach between EU Commission and Member States.**

EMCS PoC: cf. video (6 min)

<https://youtu.be/qsmo7VOqATI>

eATA Blockchain PoC: cf. article in WCO News

<https://mag.wcoomd.org/magazine/wco-news-87/digitization-ata-carnets/>

European Blockchain Partnership

<https://ec.europa.eu/digital-single-market/en/news/european-countries-join-blockchain-partnership>

Report from Scientific Foresight Unit (STOA), DG EPRS, European Parliament

[http://www.europarl.europa.eu/RegData/etudes/IDAN/2017/581948/EPRS_IDA\(2017\)581948_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2017/581948/EPRS_IDA(2017)581948_EN.pdf)

Additional information