



open logistics
foundation

Open Customs Blockchain

April 2023

Open Logistics Foundation – Working Group Open Customs Blockchain

Challenges in customs processing



Exporter

- Countless regulations and documents to consider
- Great manual effort
- Lots of paper documents



LSP

- Slow or incomplete data exchange
- Lots of paper documents
- Risk of incomplete data sets



Importer

- Risk of incorrect declaration
- Slow or incomplete data exchange
- Great manual effort



Customs

- Customs world is always evolving
- Countless regulations and documents
- Responsibility for complex risk assessments



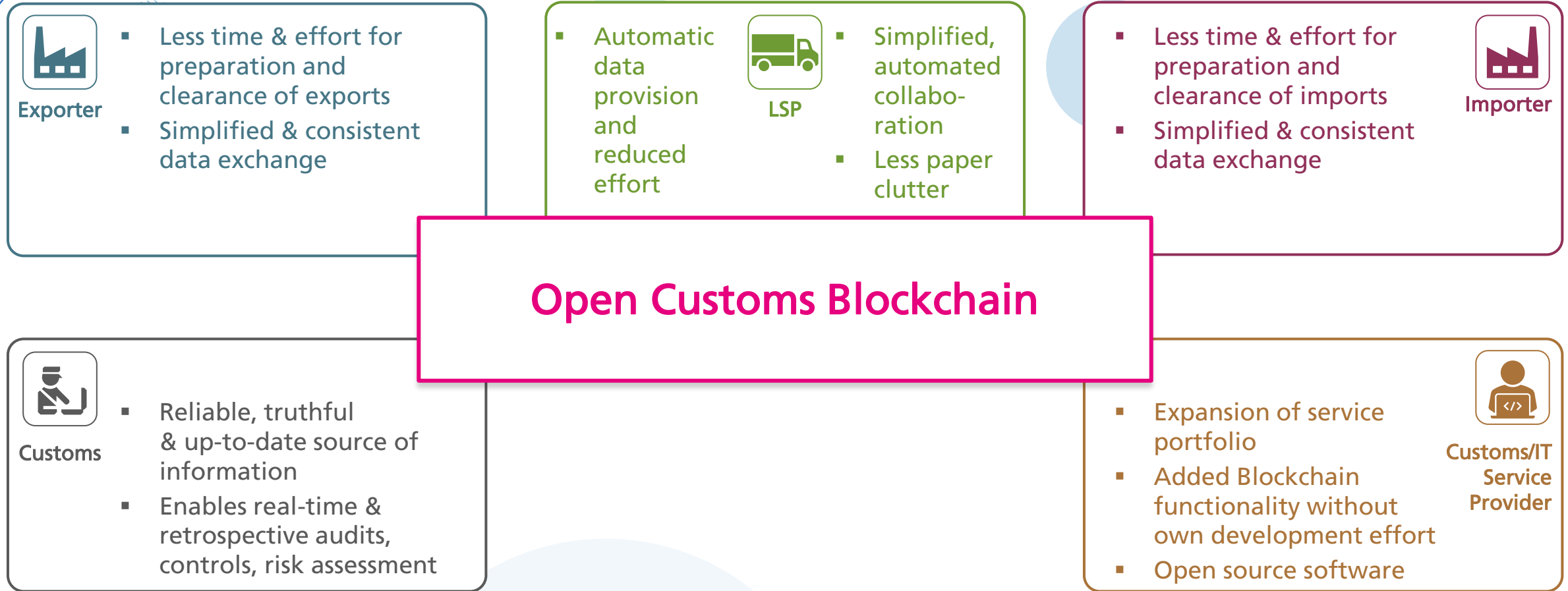
Customs/IT
Service
Provider

- Service portfolio must be maintained up-to-date
- Combined challenge of changing regulations and evolving technology
- Scarce resources



No shared truth on process progress

Potential of blockchain-based solutions in customs



Open Customs Blockchain - Concept

Vision

Development and creation of a European-made, **open source** blockchain solution and transition into a **blockchain network**

Goals:

- Simplify data exchange in Supply Chains
- Increase transparency
- Speed up border processes, decrease transit times and physical inspections
- Increase the sustainability in international trade

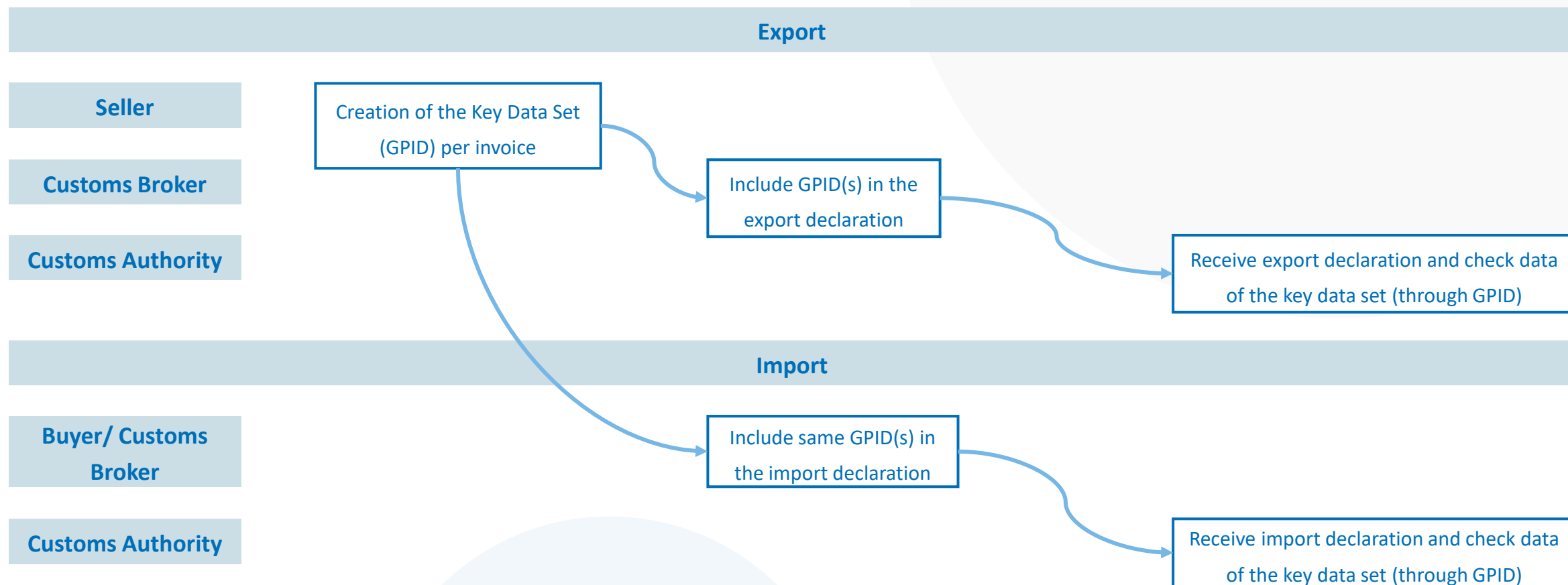
Pilot project: Goods passport ID

Focus on blockchain-validated key data set as a trustworthy base for all steps in the process

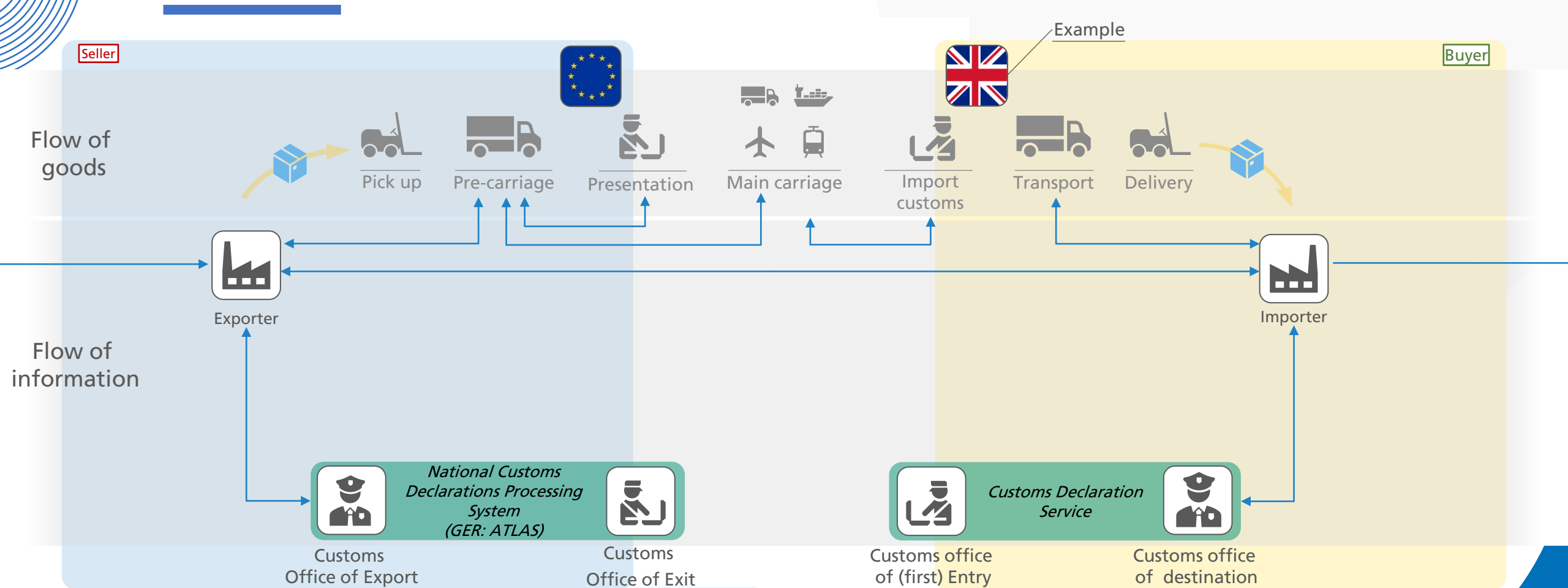
- Contains data that is used recurrently in most customs processes
 - Seller information
 - Buyer information
 - Invoice information
 - Goods information
- Based on the actual invoice
- Creation early in the customs process

Open Customs Blockchain – Process model

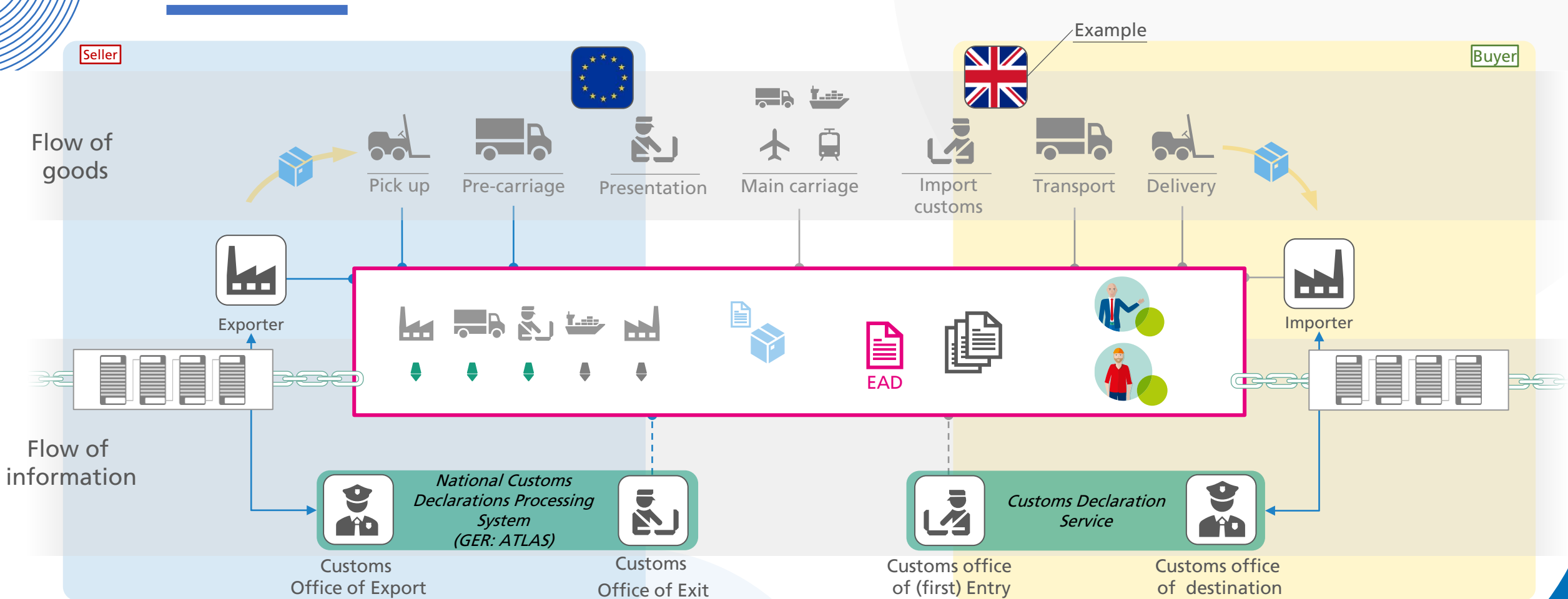
Goods Passport ID (GPID)



BORDER – EAD on Blockchain



BORDER – EAD on Blockchain



Open Customs Blockchain

Key Data Set + BORDER combined



Benefits for Customs Authorities

- Improved Oversight
- Increased trust



Customs



Customs

Key Dataset on Blockchain



Open Source Status

Intended for Open Source Release

To be determined

Document Integrity Verification



Export Dataset / EAD on Blockchain



Open Source Release complete



Exporter/Trader



Customs Broker/
IT Service
Provider



LSP

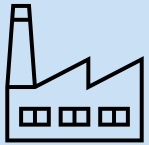
Benefits for Supply Chain Partners

- Consistent data exchange
- Faster ex-/import processes
- Increased trust in data correctness

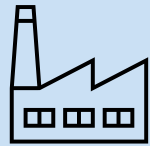


Importer

Ways to participate



Economic Operator
Participation in the
use case only

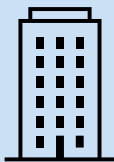


Proprietary
Application

Economic Operator with
own proprietary application
Participation in the use case
and connection to the
blockchain



Authority
Use Case
Validation

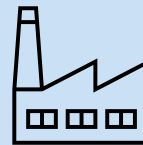


Proprietary
Application



Full Node

Economic Operator with
proprietary solution and
knot hosting
Participation in the use
case and blockchain



Full Node

Node Hosting Party
No further participation in
the customs use case



Working Group Open Customs Blockchain

- Goal: Improved integration and interconnection of digital customs procedures and data exchange
- Open Customs Blockchain
 - BORDER – Export Data on Blockchain based on EAD
 - GPID – Simple dataset to speed up cross-border data exchange

Working Group Lead



Michael Douglas
ALS Customs Services /
Rhenus



Roman Koller
Fraunhofer IML

Contact:
Michael Douglas
mdouglas@als-cs.com
Roman Koller
roman.koller@iml.fraunhofer.de

