



K:blok

Combining ISO 8000 Authoritative Identifiers and machine-readable data, to address international trade and counterfeiting challenges



Public project description

When any UK business imports or exports goods, it is a requirement to identify the applicable tariff codes so that the correct amount of duty can be collected. Failure to use the correct codes results in import delays, greater administration and possibly lower duties being collected.

The future requires stronger but frictionless land, sea and air border controls based on access to trusted and authoritative data about vehicles, ships, aircraft and their cargoes. Twenty-six different government organisations have an interest in the operation of the border. Assigning the correct tariff codes will become ever more important. The National Audit Office (NAO) predicts Brexit will result in a five-fold increase in customs transactions; 130,000 UK businesses will be drawn into new border control processes.

The HMRC has an online look up and email service to help users identify their correct tariff classifications. Users have expressed concerns regarding possible increased classification errors resulting in import/export delays.

Counterfeiting of products is a global challenge. The International Chamber of Commerce estimated up to 2.6 million jobs were lost globally due to counterfeiting in 2013. EUROPOL estimate counterfeiting impacted 5% of EU imports in 2013, valued at approximately \$85 million. Products infringing intellectual property rights (IPR) now originate from virtually all geographical areas and economies globally, constituting up to 2.5% of all global trade, worth up to \$461 billion in 2013.

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...This R&D project will use Artificial Intelligence, Blockchain technology and ISO 8000 compliant digital data to automate tariff classification and ensure all parties have an authoritative trusted source of data. Resolvable identifiers for product data will follow the physical products through the supply chain using resolvable Authoritative Legal Entity Identifiers to help eliminate counterfeiting. This R&D project will extend an existing software system from KOIOS that currently enables businesses to create ISO 8000 product specifications.

The technology will provide:

- Automated mapping of tariff codes;
- Data provenance - verifying data history through its life cycle;
- Pre-notification of goods adding an additional intelligence layer for HMRC;
- Creation of a risk ranking for trusted traders and routes;
- Efficient targeting of HMRC resource to consignments that pose increased risk;
- Supply chain security using smart contracts;
- Reduction in IPR fraud in the fast growing digital economy;
- Increased productivity for all parties.

The technology will benefit:

- Importers;
- Exporters;
- Manufacturers and Producers;
- Customs and Shipping Agents
- Freight Forwarders
- HMRC
- Regulated sectors - such as Aerospace, Nuclear and Oil & Gas



The ISO 8000 quality data approach



1. Manufacturer

1. Creates consignment, using ISO 8000 to manage product data quality and structure
1. Creates the first 'Block' in the chain
1. Triggers 'Smart Contract' with third party logistics.

Consignment information added to the 'Block'

- Product specifications (ISO 8000-110)
- Automated tariff code mapping using AI algorithms
- Product identifiers (ISO 8000-115)
- Manufacturer location (geospatial standard)
- Date started (ISO 3166)
- Company ALEI (ISO 8000-116)
- Invoice

2. Third Party Logistics

1. Accepts the 'Smart Contract'
1. Takes over custody
1. Triggers 'Smart Contract' with a Freight Forwarder

Consignment information added to the 'Block'

- Location
- Company
- Date
- Employees involved
- Company ALEI (ISO 8000-116)

3. Freight Forwarder

1. Accepts the 'Smart Contract'
1. Takes over custody
1. Triggers 'Smart Contract' with an International Freight Transporter

Consignment information added to the 'Block'

- Location
- Company
- Date
- Employees involved
- Tariff code
- Company ALEI (ISO 8000-116)

4. International Freight Transporter

1. Accepts the 'Smart Contract'
1. Takes over custody
1. Triggers 'Smart Contract' with an International Freight Forwarder

Consignment information added to the 'Block'

- Location
- Company
- Date
- Employees involved
- Invoice
- Company ALEI (ISO 8000-116)

5. Freight Forwarder

1. Accepts the 'Smart Contract'
1. Takes over custody
1. Triggers 'Smart Contract' with a Local Distributor

Consignment information added to the 'Block'

- Location
- Company
- Date
- Employees involved
- Company ALEI (ISO 8000-116)

6. Customs Clearing

Based on the data stored on the 'Distributed Ledger', the Customs officer conducts a thorough analysis.

Consignment information added to the 'Block'

- Inspection decision
- Date
- Employees involved
- Tariff code

7. Local Distributor

1. Knows that the products are genuine
1. Can easily track down any supply chain frauds
1. Knows that customs inspections will not be prolonged

Consignment information added to the 'Block'

- Final acceptance
- Location
- Company
- Date
- Employees involved
- Company ALEI (ISO 8000-116)



Manage customs tariff codes

Map your product data to the UK 10 digit commodity codes, ready for importing into the UK.

Track products through the supply chain

Capture the chain of custody of products throughout the entire supply chain from manufacturer to end buyer

Quality data captured throughout the process

Quality data comprised of authoritative identifiers for products and organizations captured at each change of custody. Product identifiers resolve to the product specification and organization identifiers resolve to the system of record where each entity in the chain of custody is registered

Build a trusted audit of the routes used and the parties involved

View the audit history of the routes used for contracts and the parties that were involved

Manufacturers product data flows from K:spec into the K:blok ecosystem

