Case Study:
Supply Chain with Blockchain

GLOBAL DIALOGUE on Seafood Traceability

Enabling the conveyance of traceability data on tuna using Global Standards 1 (GS1)'s Electronic Product Code Information Services (EPCIS) XML schema.

Use Case Tested

This pilot validated traceability in a canned MSC Skipjack Tuna supply chain that featured blockchain with consumer-facing traceability from catch, to transshipment, to landing, to shipment to cold storage and processing, to shipment to retail.

Challenges

Mixing of product from multiple catch events during a single fishing trip and even from multiple trips at the transshipment or processor stage makes 1:1 resolution of a lot of tuna cans back to a single vessel difficult, even with a mass balance approach.

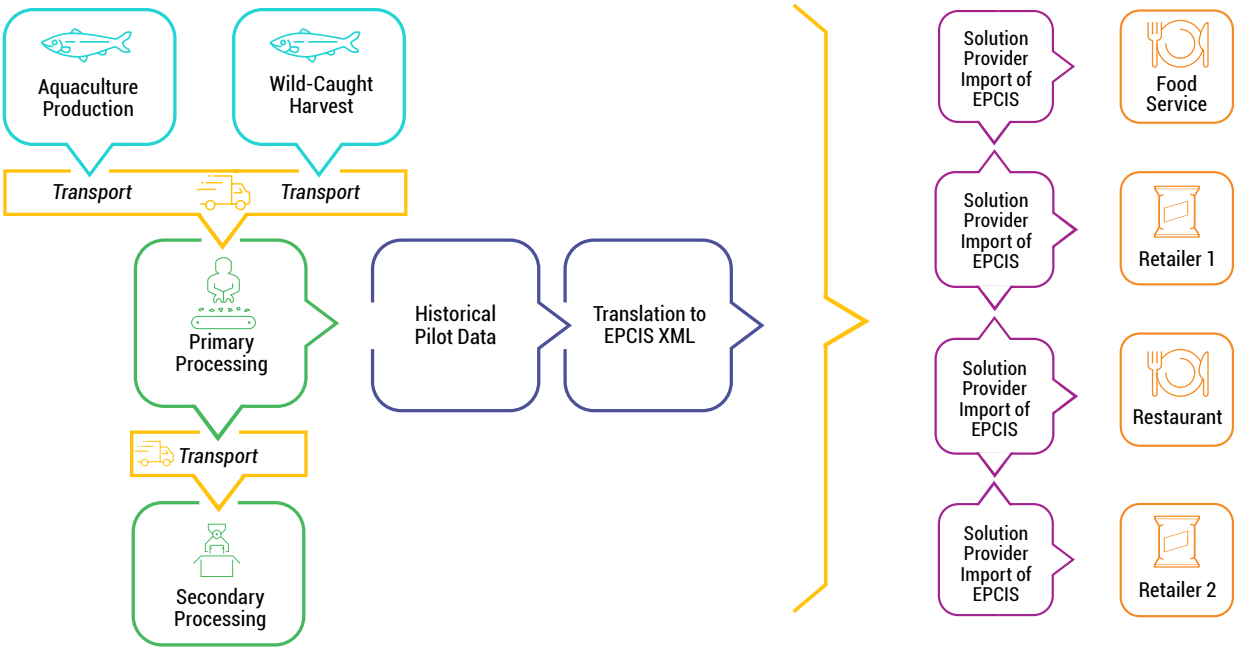
Next Steps

Defining acceptable levels of mixing to occur at the processing stage via mass balance approach, as well as label printing best practices when resolvability back to a single vessel is not aligned with batch lots at the processor.

Methodology

Traceability data was collected a retail partner in the GDST, using their end-to-end blockchain traceability solution. GDST mapped blockchain-derived data onto their basic universal list of Key Data Events (KDEs) to confirm utility of proposed interoperability framework.

The advantages of EPCIS are that it is designed to be used to represent visibility data within the supply chain and is well-suited for housing traceability data through its Critical Tracking Events (CTEs). Many supply chain partners, especially processors, distributors, and retailers used GS1 standards of identification and data sharing, including EPCIS. The file was developed through the collection of historical traceability data, translation to EPCIS, and testing with retail partners and their respective solution providers.



GDST

Data Collection of Supply Chain KDEs/CTEs (Simplified Example Shown)

Data Conversion

Interoperability Testing Downstream from Processing

Critical Tracking Events

Catch	Transshipment	Landing	Pack/Unpack	Ship/Receive	Pack/Unpack	Ship/Receive

Supply Chain

Catch in Central Pacific → Transshipment in Marshall Islands → Land in Bangkok → Process in Thailand → Retail in Europe

Catch Method

Surrounding Nets - One boat operated purse seines

Commodity

Canned MSC Skipjack Tuna *(Katsuwonus pelamis)*

Geographic region

Catches in East Central and West Central Pacific; transshipment in the Marshall Islands; landing in Bangkok, Thailand; processing in Thailand; retail in Europe

Participants

GLOBAL DIALOGUE on Seafood Traceability

The Global Dialogue on Seafood Traceability (GDST) (also referred to as the Dialogue) is an international, business-to-business platform established to advance a unified framework for interoperable seafood traceability practices. The Dialogue brings together a broad spectrum of seafood industry stakeholders from across different parts of the supply chain, as well as relevant civil society experts from diverse regions.

The Dialogue is catalyzing the development of interoperable practices that will:

- Improve the reliability of seafood information
- Reduce the cost of seafood traceability
- Contribute to supply chain risk reduction
- Contribute to securing the long-term social and environmental sustainability of the sector.

traceability-dialogue.org

Get involved

Is your company involved commercially in the seafood supply chain?

Would you like to participate in the Dialogue?

Please fill out our application form or contact us:

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