



Regional Logistics Expo 2019

*“Innovative & Sustainable Solutions for Freight Logistics.”*

Block Chain Enabled Logistics Management for Efficiency and  
Traceability

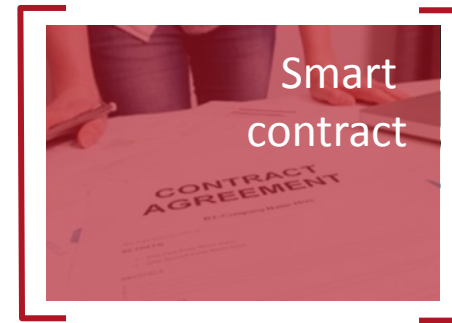


# Addressing Underlying Challenge

**A shared replicated, permissioned ledger ensures consensus, provenance, immutability and finality**

**Append-only distributed system of record shared across business network**

A network of trusted, neutral participants maintains a distributed, permissioned ledger with copies of document filings, relevant supply chain events, authority approval status, and full audit history; every change results in a new, immutable block.

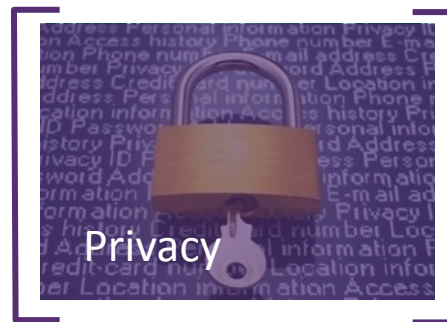


**Business terms embedded in transaction database & executed with transactions**

The export and import documentation requirements and authority approvals are pre-programmed and built into Blockchain and distributed to and endorsed by the network

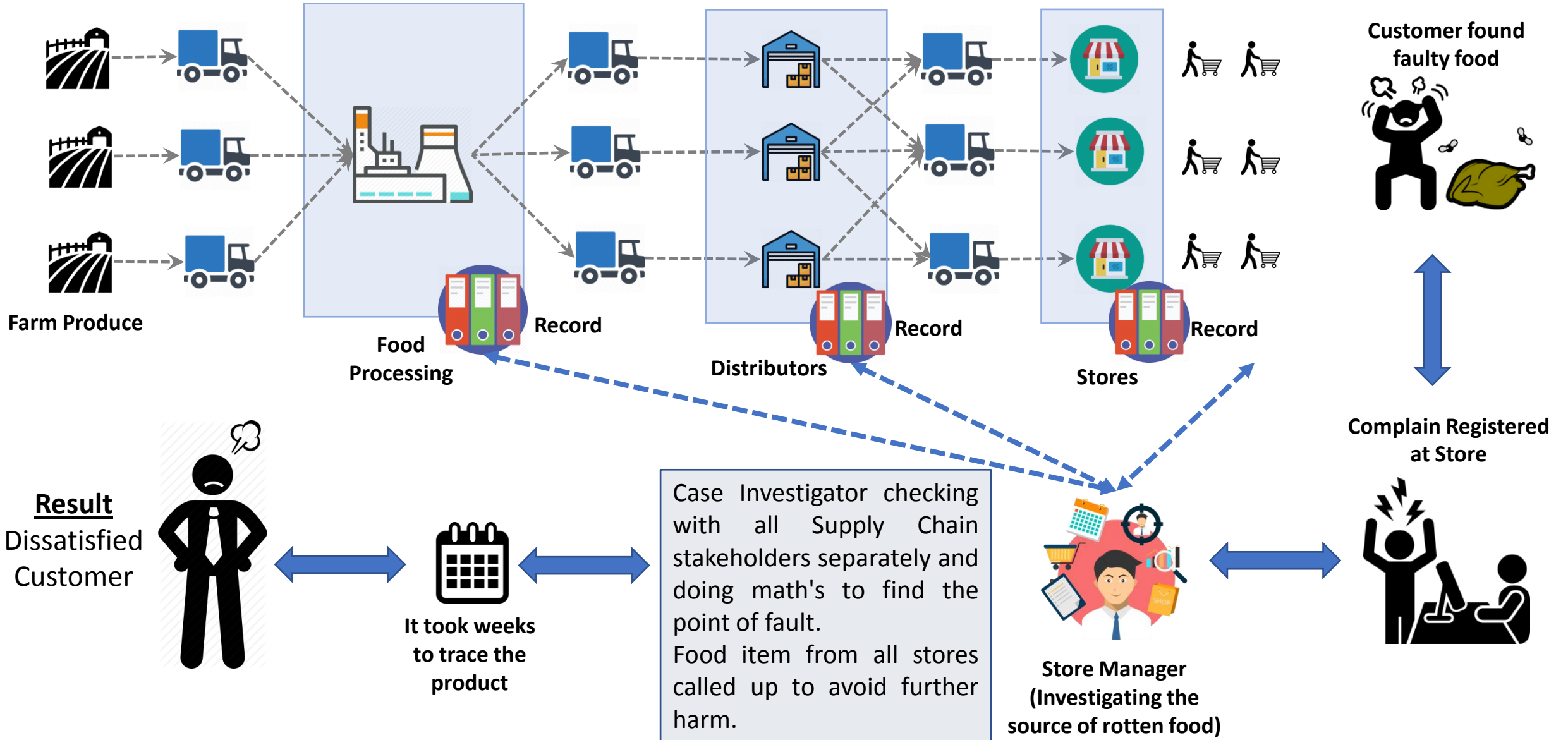
**Ensuring appropriate visibility; transactions are secure, authenticated & verifiable**

Cryptography enables permissioned access for only participating parties in a specific shipment can submit, edit or approve related data

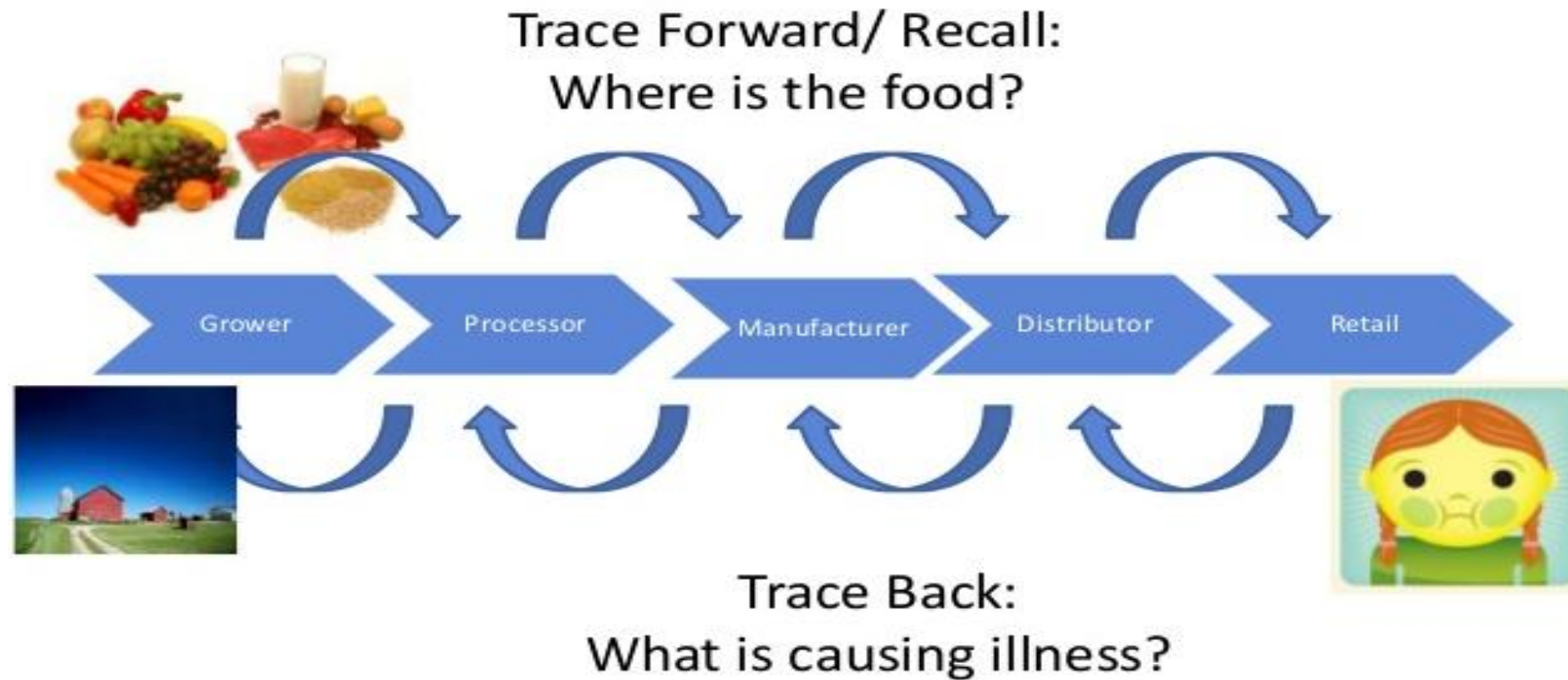


**Transactions are endorsed by relevant participants**

Information such as documentation filings and authority approvals can only be changed if endorsed by the parties taking part in the shipment; full audit history maintained on the Blockchain

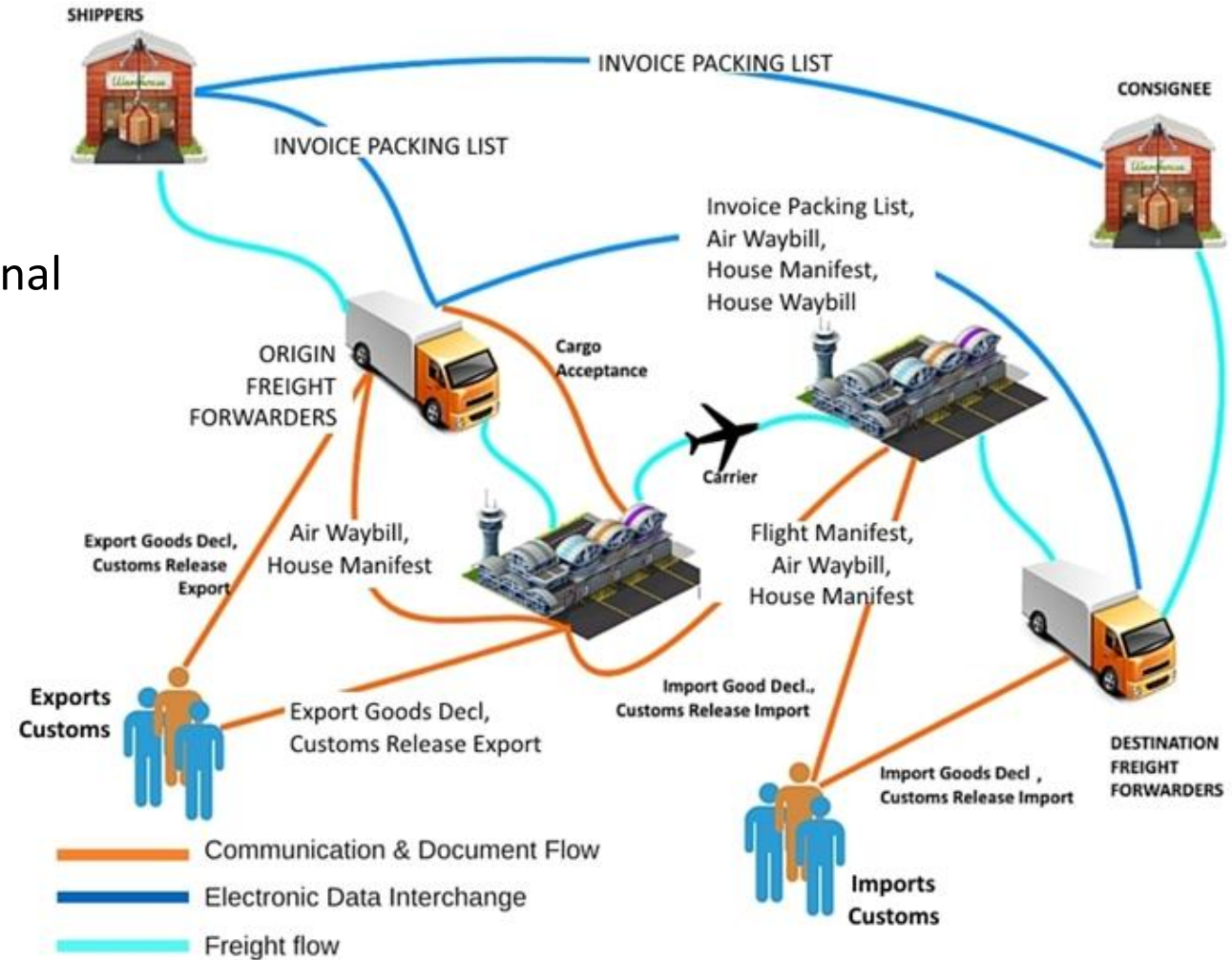


Traceability is the ability to identify the origin of food and feed ingredients and food sources, particularly when products are found to be faulty. It is also called one step back one step forward principle.

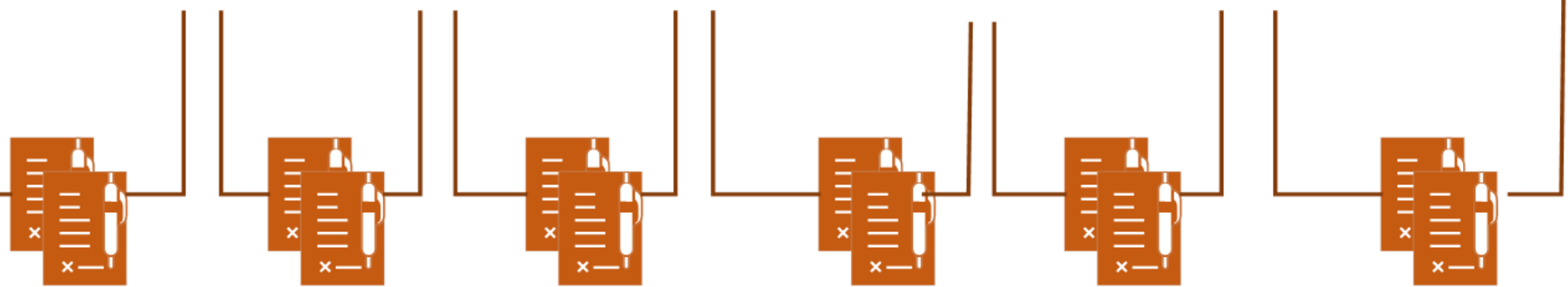
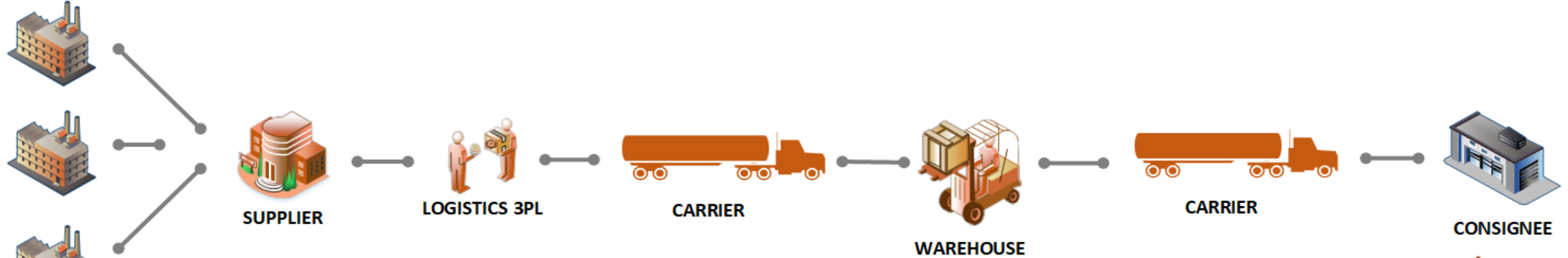


# Middlemen & Document Processing

- Lengthy documentation process
- Duplicate/ repeated information entry at international borders
- Lengthy manual compliance process post clearance
- Multiple middlemen interventions and decrease customer experience and border congestions



**MANUFACTURERS**



- Certificate of Origin
- Batch Number
- Processing Data
- Barcode
- Shipment Date

- Packing List
- Order Number
- Batch Number
- Production Data
- Shipment Specification

- Routing Instruction
- Shipment Date
- Destination

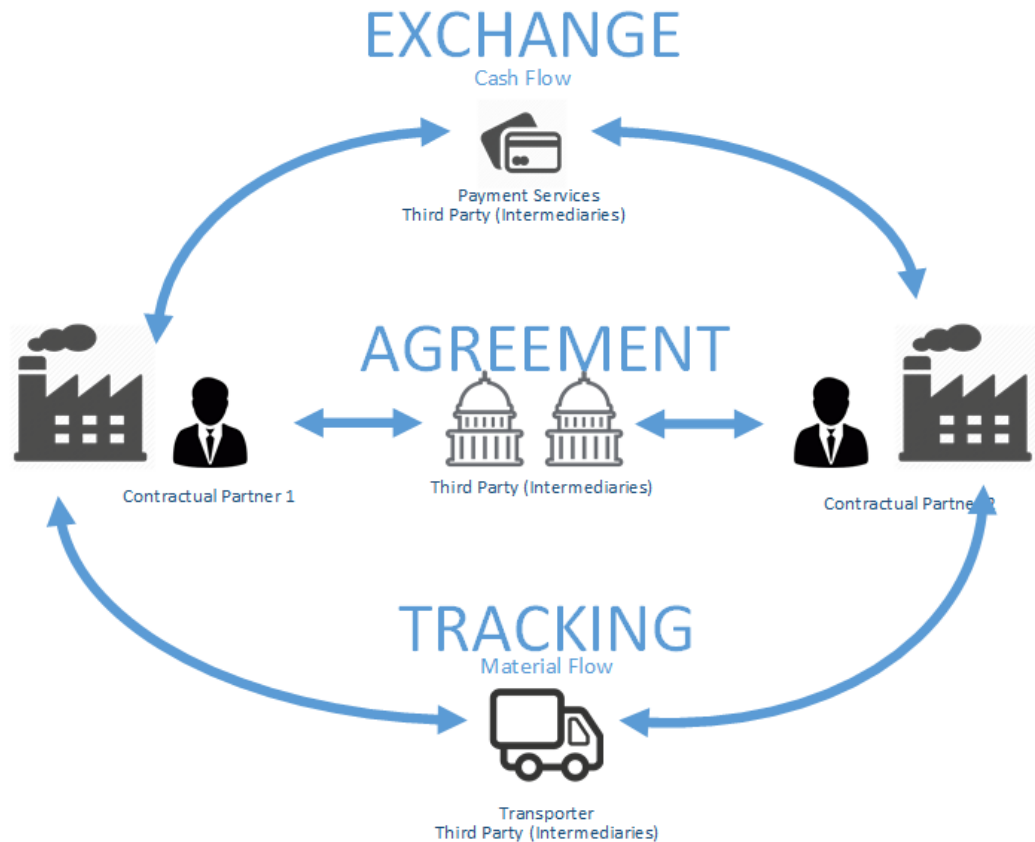
- Delivery Signature
- Shipment Status
- Temp and Humidity

- Routing Instruction
- Pick Date
- Packaging Specification
- Barcode

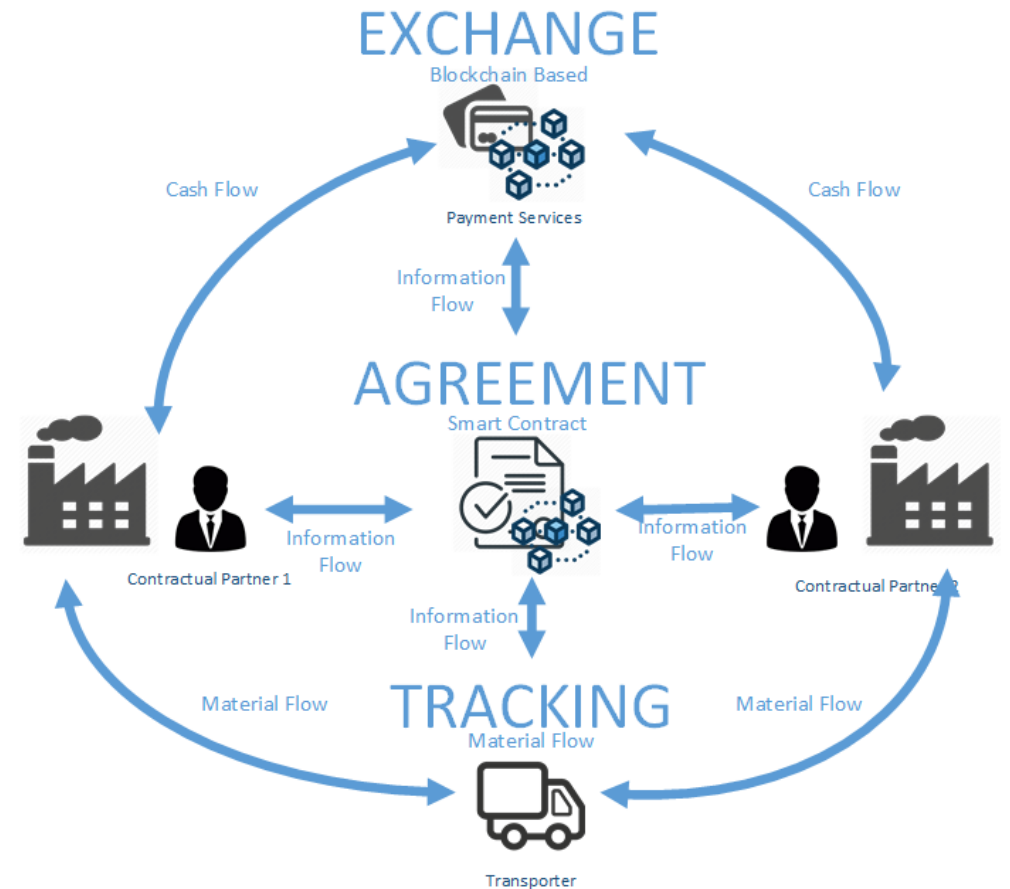
- Receive Date
- Invoice Number
- Customer ID
- Shipment Status
- Delivery Receipt

## Logistics Blockchain Consortium

Blockchain can manage **the Payments, Agreements, or Tracking Process** effectively in typical supply chain process where multiple stakeholders are involved (partner, supplier, and clients).

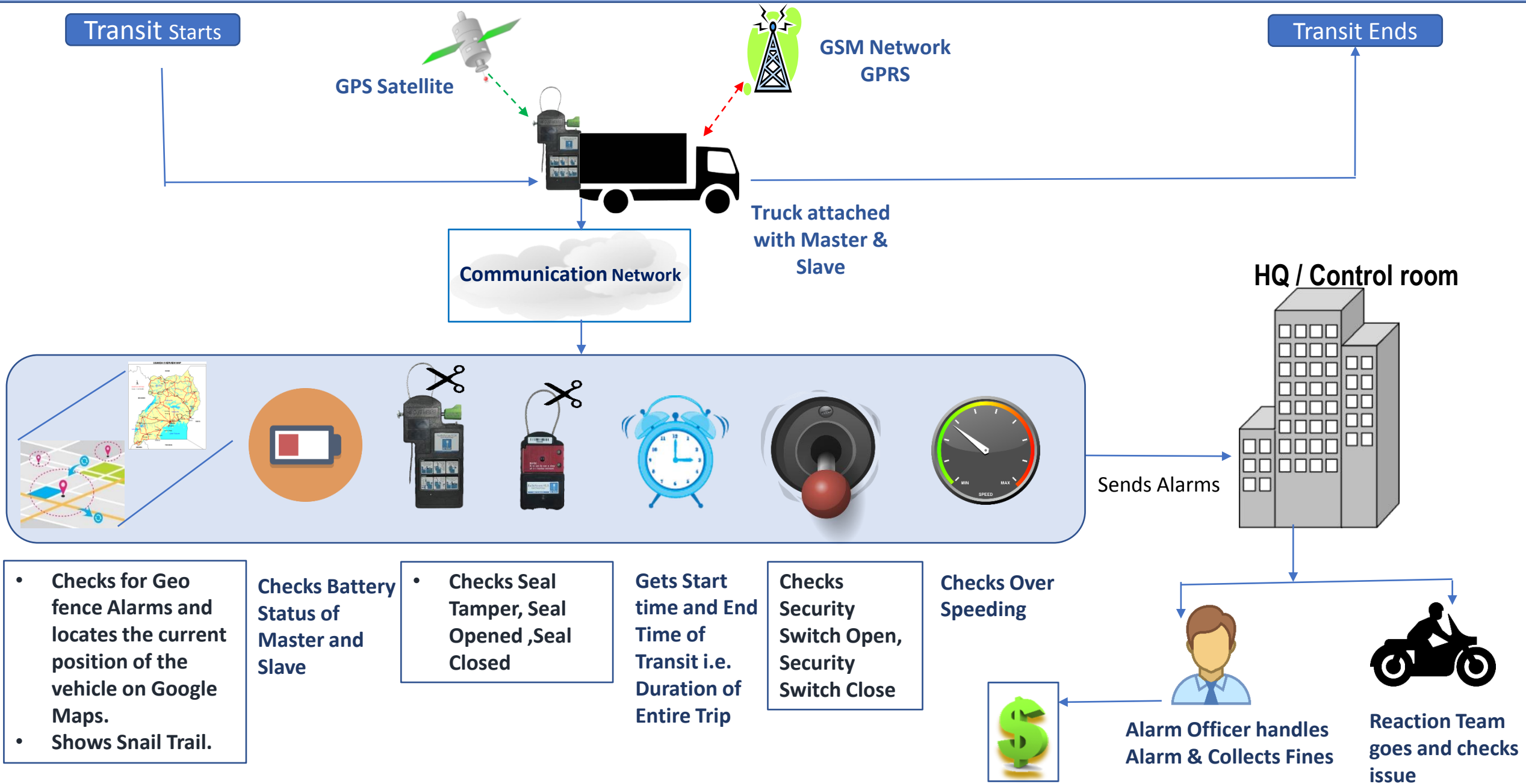


Traditional Supply Chain



Supply Chain using Blockchain

# Functional Flow





# How it works? Our Approach and Design

## 1. Durban Port

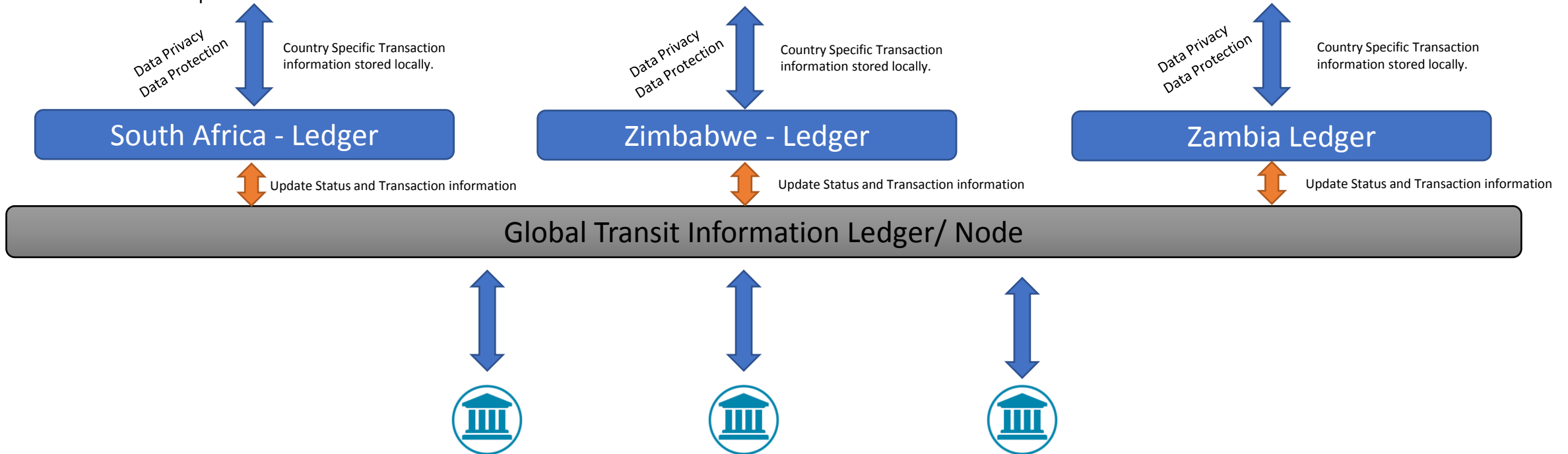
- Shipment Cleared from Durban Port
- Transaction Initiated and Recorded
- Shared Ledger Created based on Destination
- SARS starts transit cargo management process.
- Alarms and Exceptions recorded and handled
- Global status updated

## 2. Zimbabwe

- RIT received at Beitbridge
- Automatic transaction handshake at border
- Transaction Validated and recorded
- ZIMRA starts transit cargo management process.
- Alarms and Exceptions recorded and handled
- Global Status Updated

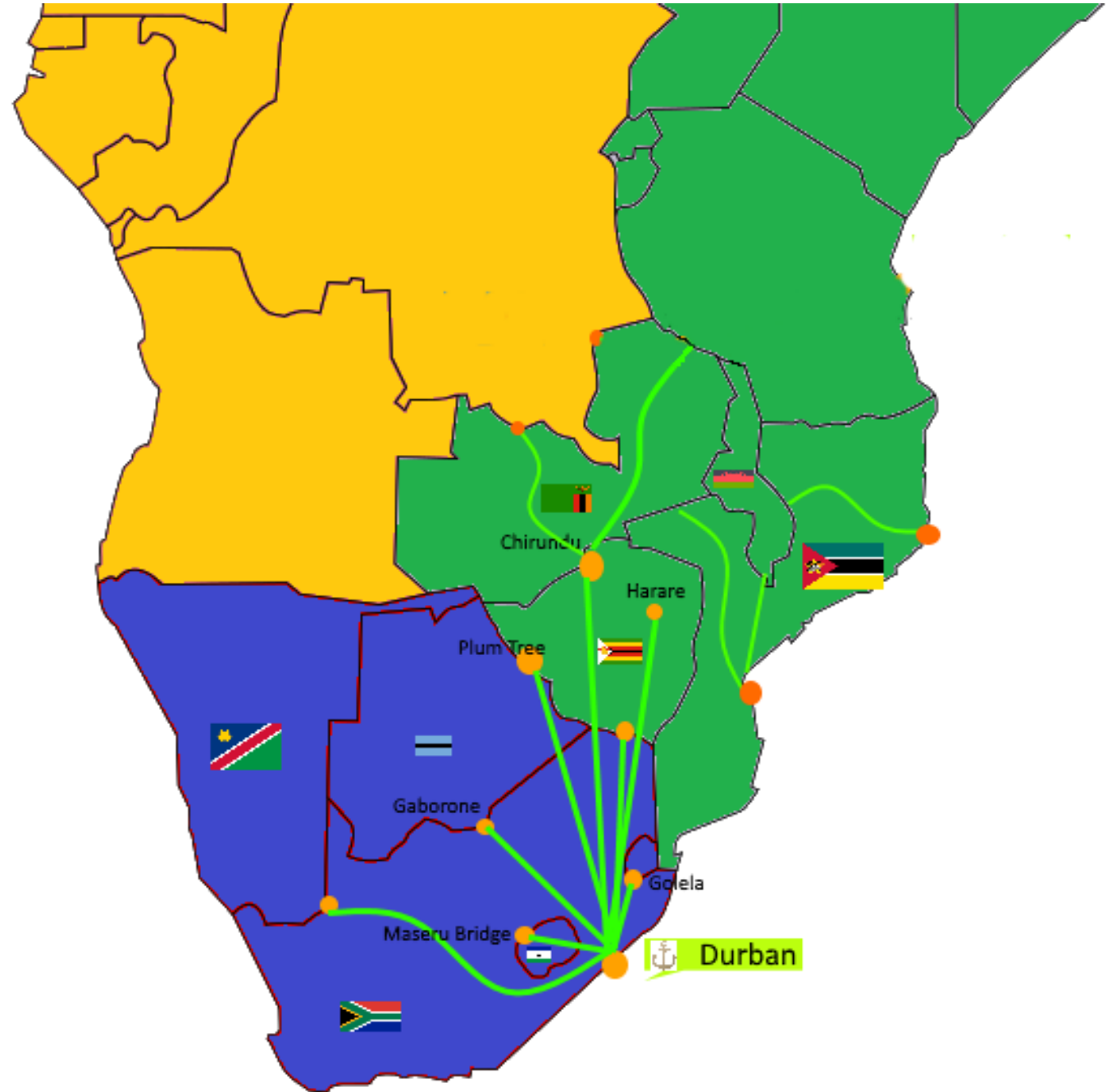
## 3. Zambia

- Shipment received at Chirundu.
- Automatic transaction handshake at border
- Transaction Validated and recorded
- ZRA receives cargo for customs clearance.
- Shipment marked closed in Blockchain
- Global Status Updated



## What is Missing?

- Single Transit Corridor – Fast tracking transit handover at Entry / Exit Border Stations
- Shared Transit Information from Port of Origin
- Data Privacy on Shared Transit Ledger – Controlling country specific data on shared network
- Immutable transaction for increased transparency and increased trade facilitation between countries.



**Efficient Shipping Process**



**Transparent and error free Invoicing and Payments**



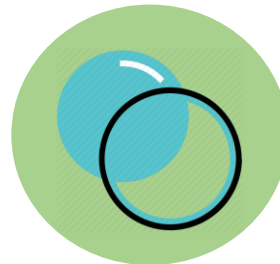
**Inventory Tracking**



**Settling Disputes**



**Better Transparency**





**Deloitte.**

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Ranked 6<sup>th</sup> in KPMG Top 100 Mid-Sized  
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Year

*Thank  
You*