

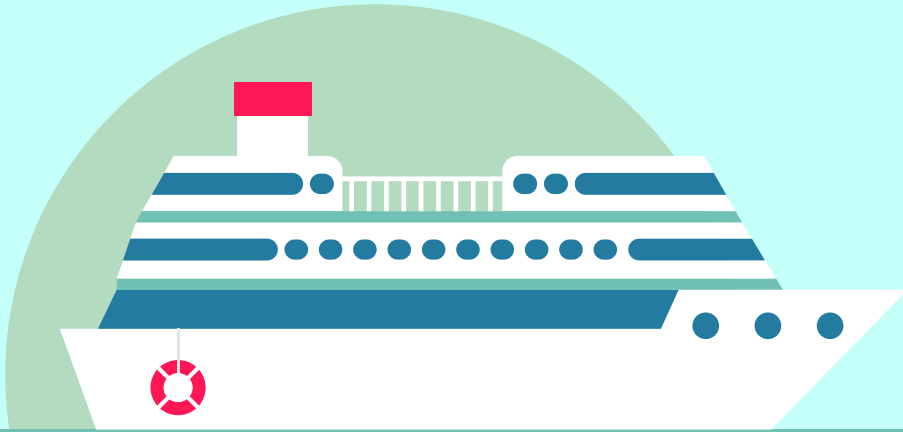


SHIPMENT LOG

BLOCKCHAIN INTEGRATION IN
FREIGHT SHIPPING INFRASTRUCTURE

- JUSTIN J DANIEL

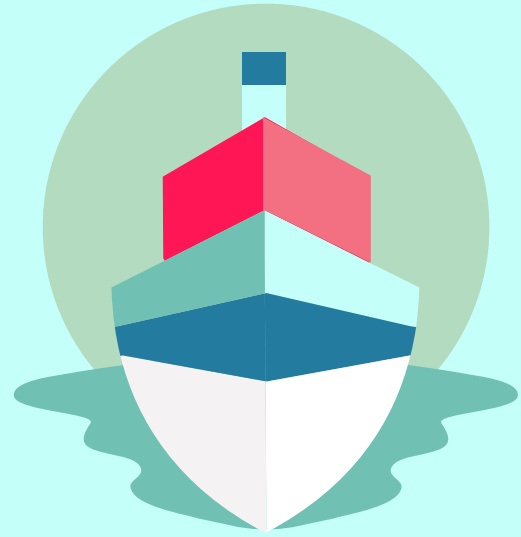
01 CHALLENGES

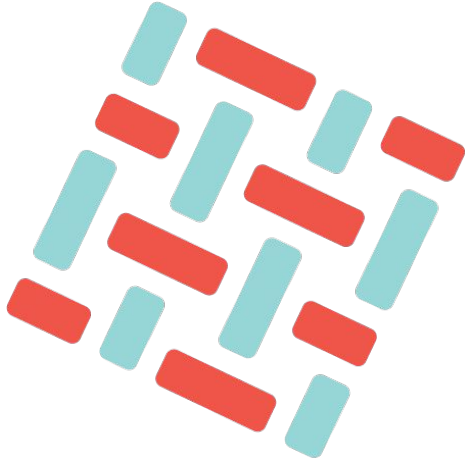


Shippers need to fill out and prepare documentation to identify freight classes to get approval and authorizations. One misstep can result in surcharges, delays or customs freight holds. Each Organization has different approval methods thus shippers need to repeat these tasks. Due to many verification processes, many shipments take a lot of time to get clearance.

02 SOLUTION

- Integrating blockchain technology in freight shipping will widely reduce the clearance time.
- It also improved the security and traceability of shipments.
- Can easily implement policies and contracts into the system.
- Thus reduce the paperwork and will improve efficiency.
- Enables to know the progress of shipments.





03 WHY FABRIC ?

- As it is a permission-based distributed ledger platform, it provides more security to the system.
- More control of the network enables authorizations for read-write access
- Enables performance at scale without compromising privacy.
- Smart contracts enable to self-execute of terms and policies between organizations.
- Transactions are trackable, irreversible and comparatively fast which enhance security, reduce costs and time.

WORKFLOW

SENDER

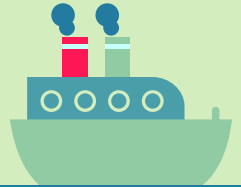
01

CUSTOMS
AUTHORITY

02

PORT
AUTHORITY

03



WORKFLOW



**PORT
AUTHORITY**

04

**CUSTOMS
AUTHORITY**

05

RECEIVER

06

WORKFLOW CONTENTS

01

SENDER

Sends shipment

02

CUSTOMS - I

Verify and approve shipment

03

PORT - I

Verify the approval documents and ships

04

PORT - II

Verify approval documents with **PORT - I**

05

CUSTOMS - II

Cross-check documents and shipment and give clearance

06

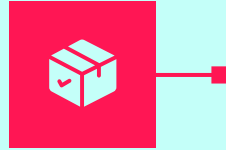
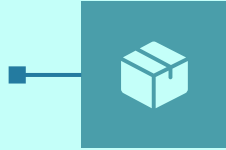
RECEIVER

Receive shipment

ASSETS

SENDER

Shipment ID
Timestamp
Shipment Details



CUSTOMS - I

Approval ID
Approved By
Approval Timestamp

PORT - I

Verification ID
Dispatch Timestamp
Port Address

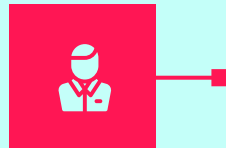


PORT - II

Arrival Timestamp
Verification Certif
Port Address

CUSTOMS - II

Clearance ID
Clearance Timestamp



RECEIVER

Received Timestamp
Receipt

PARTICIPANTS



SENDER

Sends shipment



CUSTOMS

Verify content and approve shipment



SENDER PORT

Verify approval & ship shipment



RECEIVER PORT

Verify received documents and shipment with PORT-I and provide clearance



RECEIVER

Receives shipment

#: For development purpose PORT-II & CUSTOMS -II are unified into a single Org.

TRANSACTIONS

Shipment

Details about shipment

Approval

Details about shipment and approval details

Dispatch

Details about the dispatch of the shipment and port details

Clearance

Details about the shipment arrivals and verification details and clearance details

Receipt

Overall details about the shipment and received details

Status

Journey of the shipment (Timeline)

FURTHER ENHANCEMENTS

Some are listed here

- Cancellation of approved shipment
- Improved traceability.
- Real-time notifications about shipment progress.
- Automated document verifications from PORT to PORT



THANK YOU