



Kale Logistics

Technology that Transforms



- 1 Kale – Company Overview
- 2 Introducing Port Community System (PCS)
- 3 Overall Process Flow of PCS
- 4 Functional Overview of PCS
- 5 Stakeholder wise features of PCS
- 6 PCS- BI Dashboards & Forecast
- 7 Suite of Block Chain & AI based use cases in PCS
- 8 KPI for PCS services
- 9 Benefits of PCS
- 10 Technical Details of PCS
- 11 Mobility Applications
- 12 Kale's PCS Success Stories



Kale Logistics Solutions

Port Community System

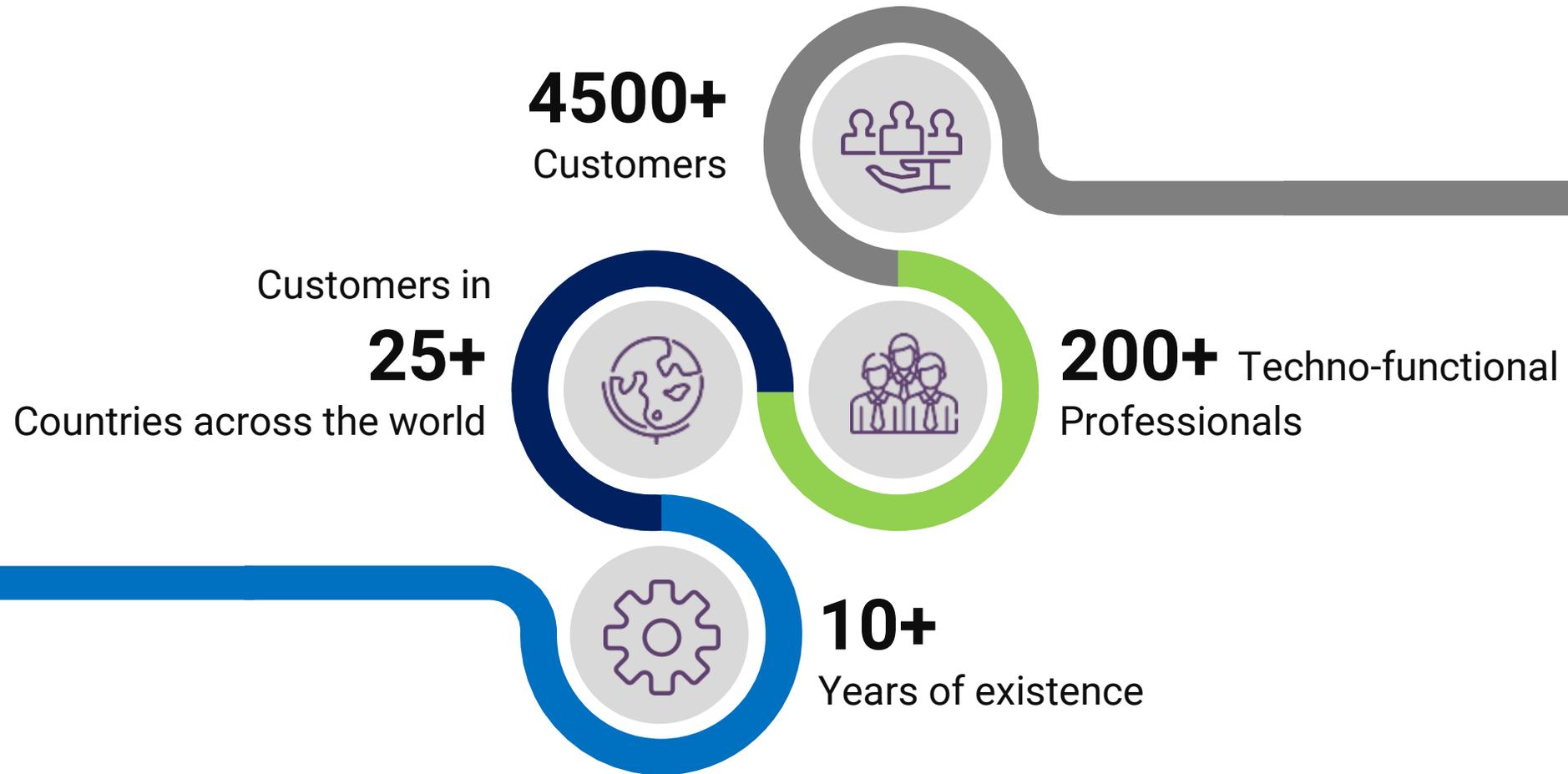


Company Overview



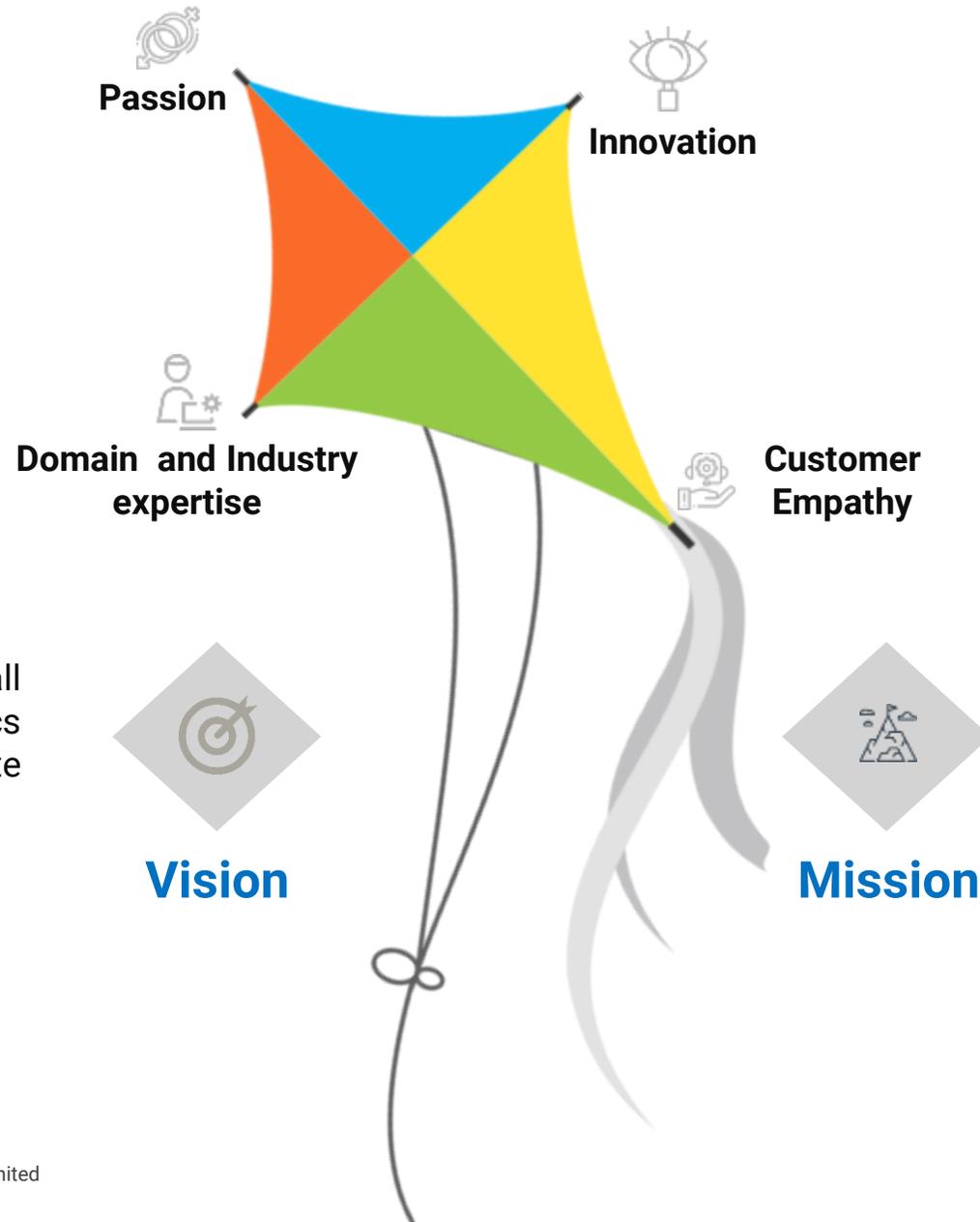


Leading Provider of Operational and Community Integration Solutions to the Government, Maritime, Aviation & Logistics Industry





Vision, Mission and Values



We will empower & integrate all stakeholders of the logistics value chain to enable, accelerate and facilitate global trade

To passionately create innovative digital technology platforms that help the stakeholders of the logistics industry interact with each other digitally and automate their own businesses. We accomplish this through our deep and focused understanding of the global logistics industry and a strong empathy towards the customer



Kale provides the Technology that Transforms the way information is exchanged across the Logistics Trade value chain

Business Focus

- Customs and Government/Trade Agencies
- Logistics Service Providers
- Airports & Ports
- Warehouses
- Transporters & Fleet Operators
- Exporters and Importers

Solution Categories

- **Enterprise Solutions** automating the internal business processes of Logistics Service Providers and Users
- **Community Solutions** which help various players in the Regulatory and Logistics value chain to communicate and transact with each other electronically





First and only Indian IT products company to have global industry platforms

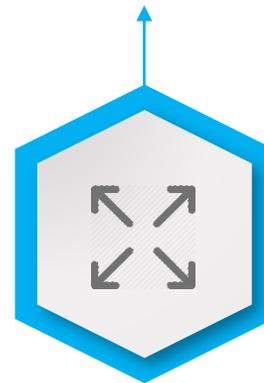
A company recognized as the **“Best IT solution provider to logistics industry”** consistently for last 9 years



Industry recognition - Top 10 innovations in Logistics industry by **KPMG**, case study feature in **Kellogg's Business School** publication, adopted by **Indian Customs** and presented as a case study to **PM of India**



Widest range of solution offerings for the industry



Recognized partners of industry trade bodies like **WCO, IATA, UNCEFACT, FIATA, TIACA, ASA, TIFFA, ACAA, PAA, IPCSA**

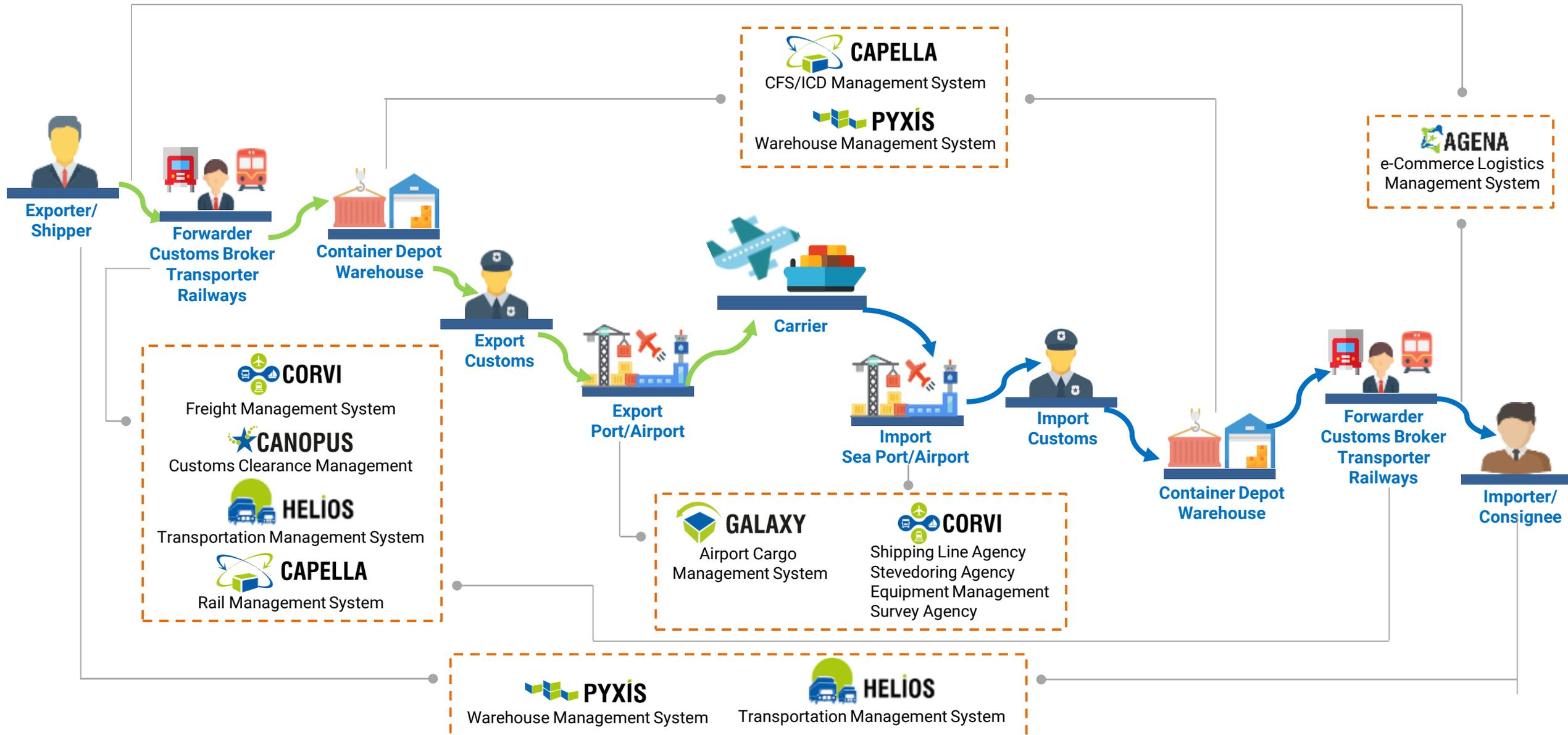


Experience of working with **Customs Authorities, Trade Bodies, leading carriers, terminals, handlers, freight and shipping management companies** globally



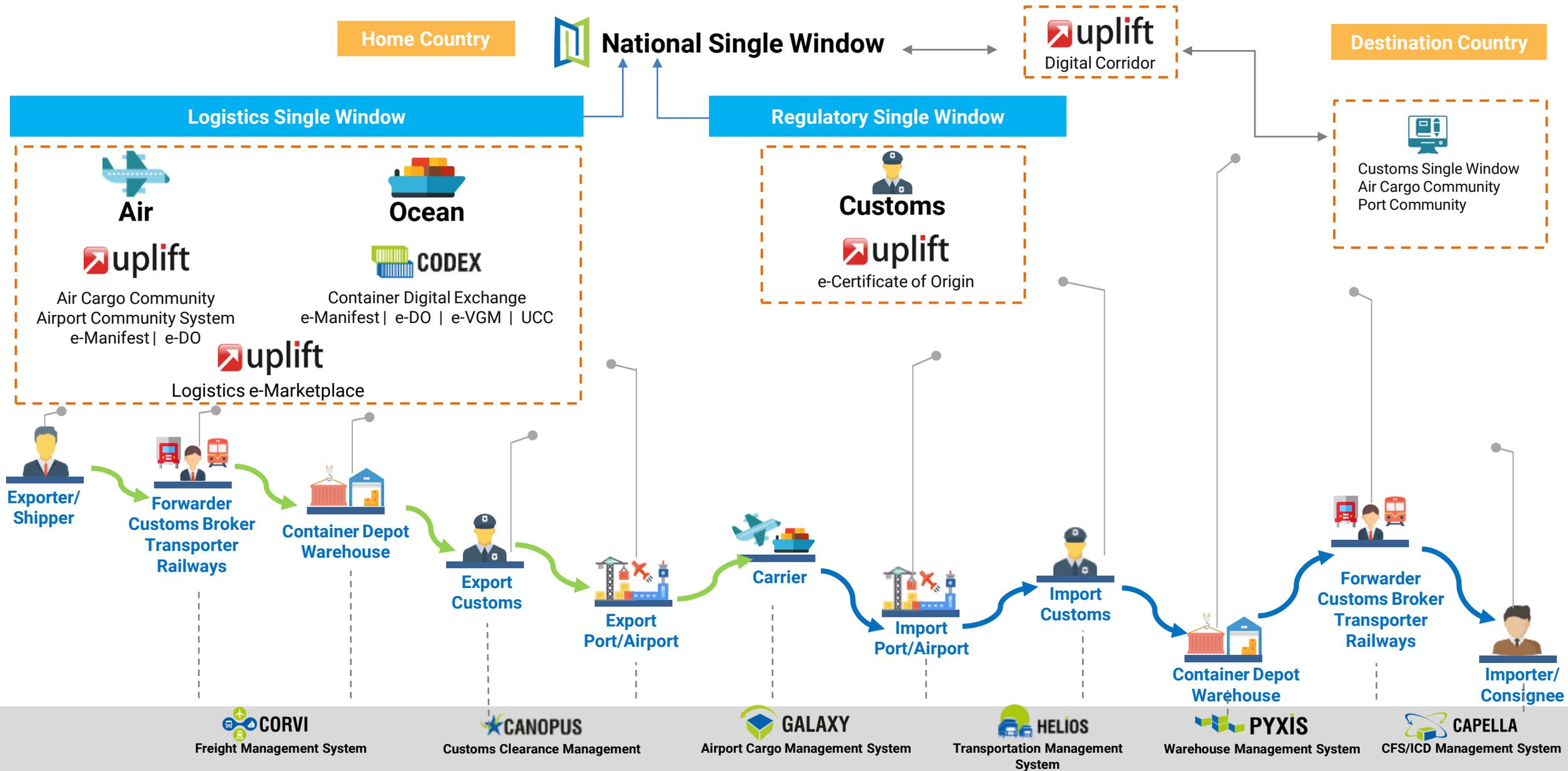


Enterprise Solutions: Comprehensive Turnkey Offerings





Trade Facilitation Platforms: Full Services Play





Capability Map



Hosted, on-premises & Cloud

Technology

- .Net Core
- ASP.Net
- BizTalk
- SQL Server
- SharePoint
- Power BI
- Office 365

Mobility

- iOS and Android
- Xamarin
- Apache Cordova
- Windows Mobile

Infrastructure

- Azure Cloud
- AWS



Resources and certifications

- 200+ tech-functional professionals
- Business Consultants, project managers, QA, software developers, business analysts,
- Resources certified in PMP, Microsoft (MCPD, MCTS), International Software Testing Qualifications Board (ISTQB),ITIL



New technologies

- Blockchain
- Internet of Things
- Machine Learning
- Artificial Intelligence
- Conversational Platforms
- RFID



Technology

PING – Machine Learning

- Document to EDI Converter Service
- Trade Documentation Service
- Cargo Track and Trace Service
- Rate Management Service
- Freight Audit Support

Blockchain based Digital Corridor

- Developed first digital air freight corridor between India and Netherlands to optimize flow of cargo data.



Products

Innovation

- RIGEL - India's first online e-Booking platform for the air cargo industry

International Acclaim

- Case study published in "Supply Chain Management" Journal by Kellogg's Business School
- Considered in Top 10 innovations by KPMG



Industry Engagement

Centre of Excellence (CoE) & Research

- CoE for IT in Logistics along with Chartered Institute of Logistics and Transport (CILT)
- Commissioned industry research on Technology Adoption in Logistics Industry and Technology Survey for Indian Logistics Industry

CLEAR VIEW

- Thought Leadership Summit for Air Cargo is a first of its kind interactive platform



Accolades: Best IT Solutions Provider YoY



2016
2014

IT Provider of the Year

CII Industrial Innovation Awards - Winner

2018



The **30** Most Preferred Tech Workplaces

2017



2017

eProject of the Year at United Nations, Geneva

2019



Best Air Cargo IT Solutions Provider

Trade Facilitation Innovation Award by UNESCAP & ADB for CODEX

2019



UPLIFT – India's first multi-modal cargo community system

Journey Towards Excellence – CODEX Endorsed by Indian Customs



2020



Best Trade Facilitation Technology Provider

CII - Top 25 most innovative cos in India

2018



75% reduction in container dwell time with CODEX



Best SCM Solutions Provider

2011
2012
2015



Kale played an important role in getting India to rank 6th in eAWB adoption globally.



Global



Regional/ Local



Technology & Quality





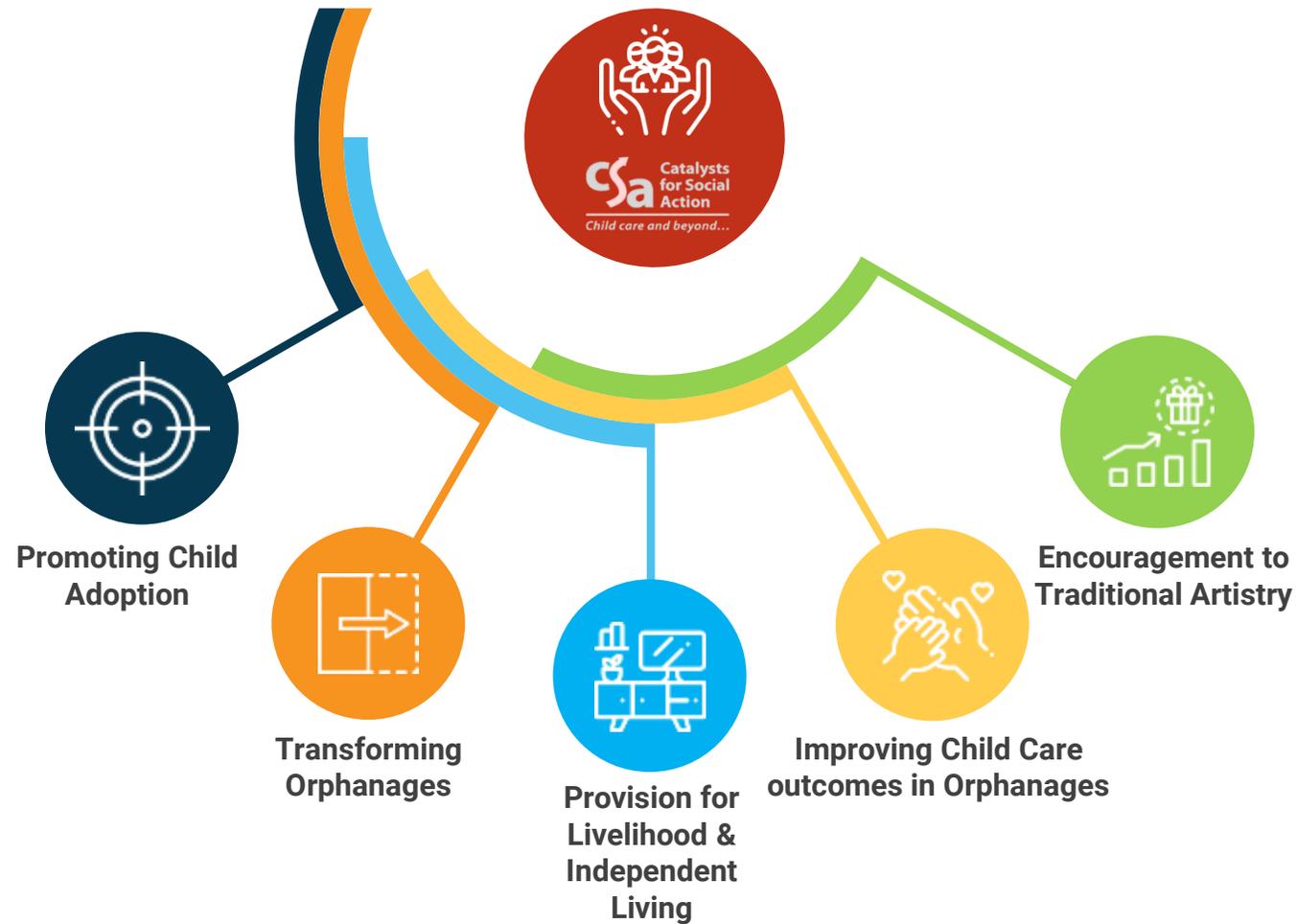
We work with Leading Government and Logistics Entities

Connecting with the Fortune 500 list



Ghana Customs





Kale Logistics Solutions supports 'Catalysts for social action' (CSA) is an Indian NGO (non-governmental, social development organisation) with a mission to create a brighter future for orphans in need of care and protection.

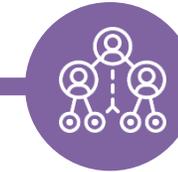


Unrivalled industry and domain expertise – over 800 person years of experience



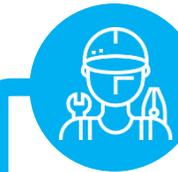
Neutral entity and trustworthy partner

Top-of-mind recall for its solutions across the Logistics industry



Enduring partnerships with prominent industry bodies

Pioneering initiative in creating Community Platforms for the industry



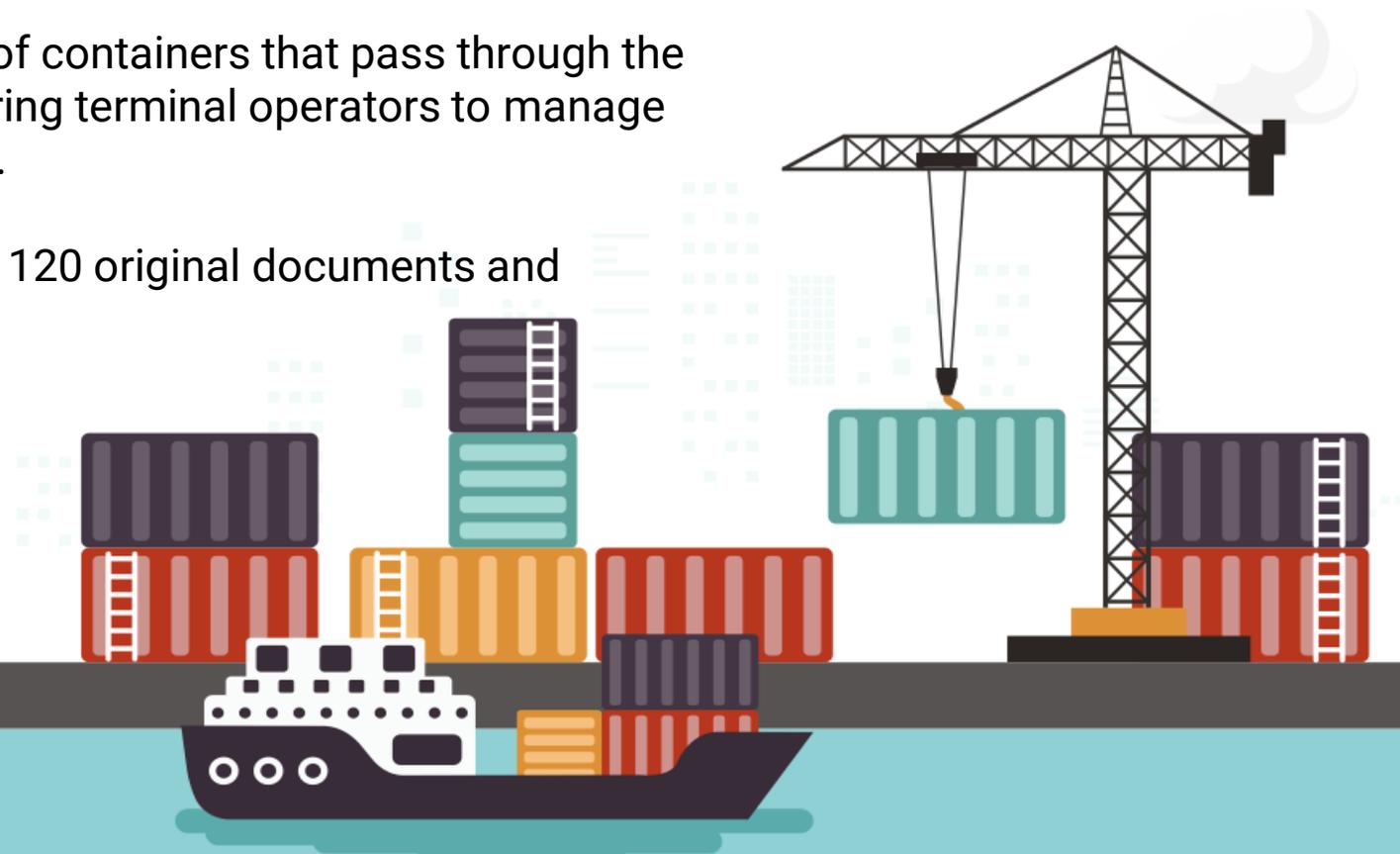
Customers across the globe



Port Community System



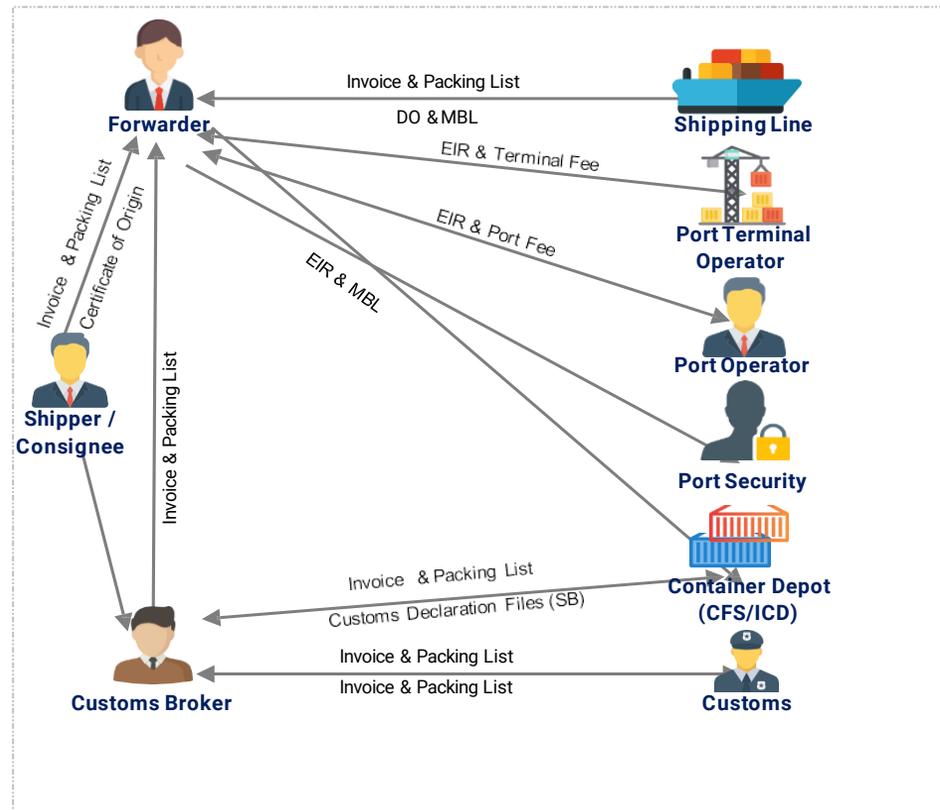
- Almost 90% of international trade is carried out through sea. Ports represent a critical link in the global supply chain.
- In maritime logistics, automation and digitization are constantly advancing, which noticeably affects all involved as business models and processes will change dramatically in the coming years.
- Planning, moving and tracking huge numbers of containers that pass through the maritime trade chain is a herculean task requiring terminal operators to manage a complex matrix of variables and parameters.
- Shipping export transaction utilises more than 120 original documents and their subsequent copies



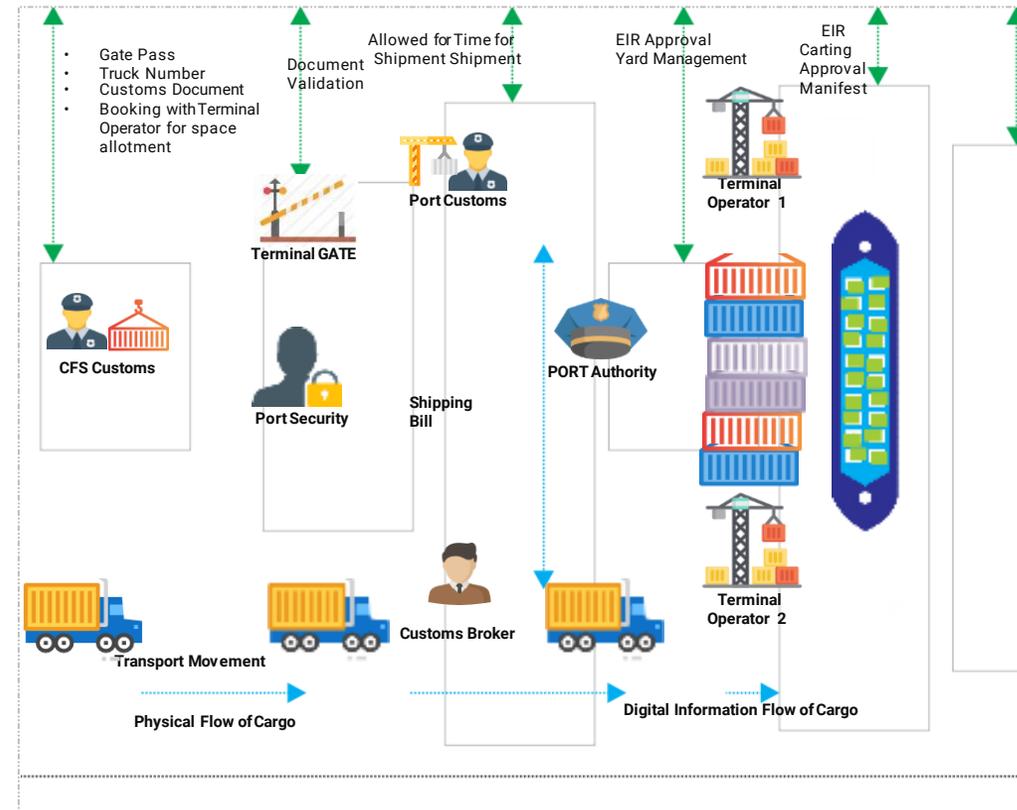
What is an Port Community System?

- A Port Community System is a neutral and open electronic platform enabling intelligent and secure exchange of information between public and private stakeholders in order to improve the efficiency and competitive position of the sea and airports' communities. It optimizes, manages and automates smooth port and logistics processes through a single submission of data and by connecting transport and logistics chains.

Before



After





Maritime Stakeholders



Trader



Freight Forwarder



Shipping Line



Shipping Line Agent



Customs Broker



Container Depot



Inland Container
Depot



Empty Depot



Customs



Terminal



Chamber of
Commerce



Transporter



Port



NVOCC



MMD (Mercantile
Marine Department)



PHO (Port Health
Organization)



Rail Operator



Banks

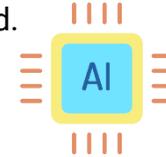


Insurance



Reduced dwell times and congestion

- ✓ Slot Booking : Provisions for FF to request for gate in appointment booking with the Terminal for entry and exit of the Container/Cargo. When truck arrivals are co-ordinated and queues are reduced.



AI enabled prediction on slot booking



Increased Shipment Visibility & Paperless

- ✓ Detailed view of current shipment status : from inside the port/terminal premises till the last milestone is achieved.
- ✓ Provision to capture details of e-DO, Empty Container Booking, Pre advice, Transport Booking Online

Smart Contracts

- ✓ Digitally verifies as well as execute a contract without requiring any third party assistance



Block-chain based Smart KYC and Paperless BL/EIR

Embracing Industry programs

- ✓ IMO -e-FAL is on the anvil
- ✓ Will improve Ease of Doing Business Ranking

Reduction in Logistics Costs

- ✓ PCS can reduce overall costs for doing business by 20%

Improved Business Environment for Growth

- ✓ Enables competitive position in the region
- ✓ Features like Streamlining & Planning of Container Booking process and Marketplace

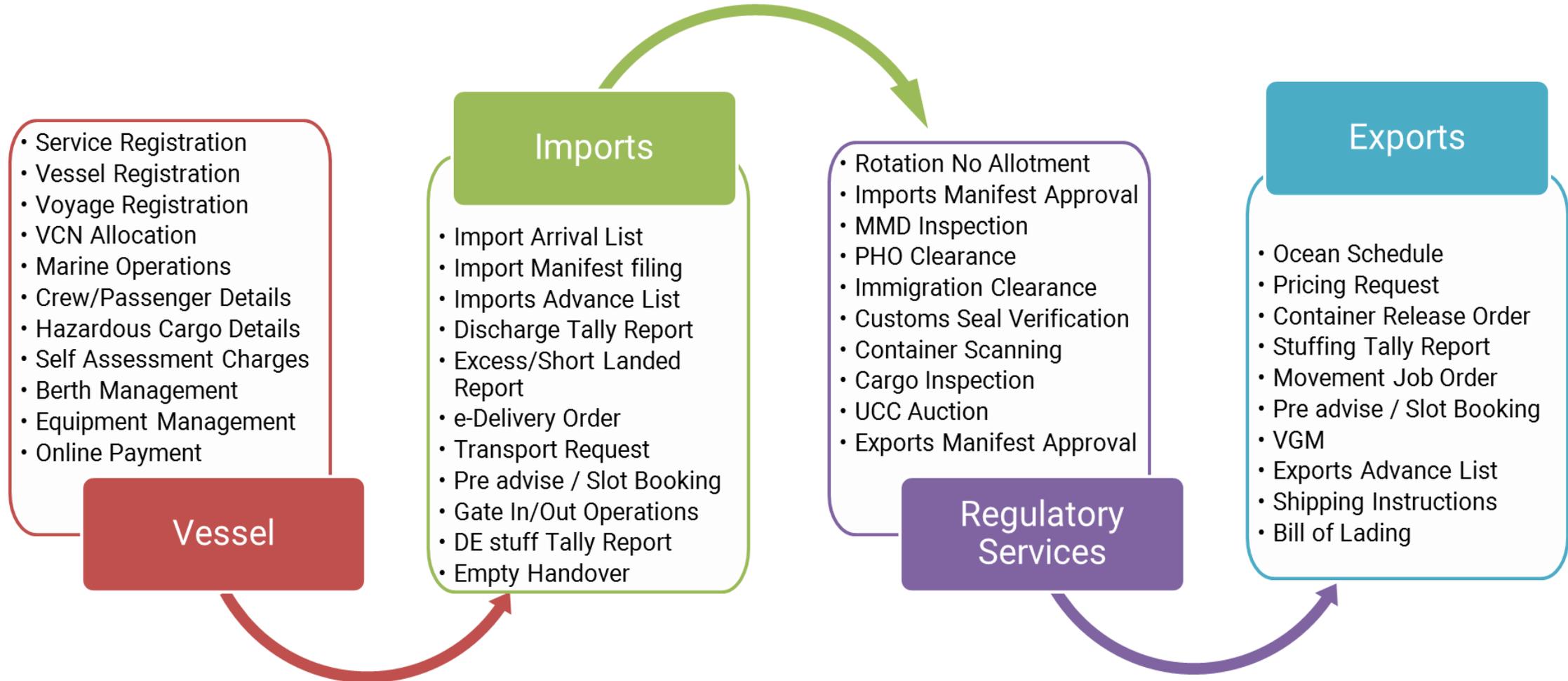


Overall Process flow of PCS



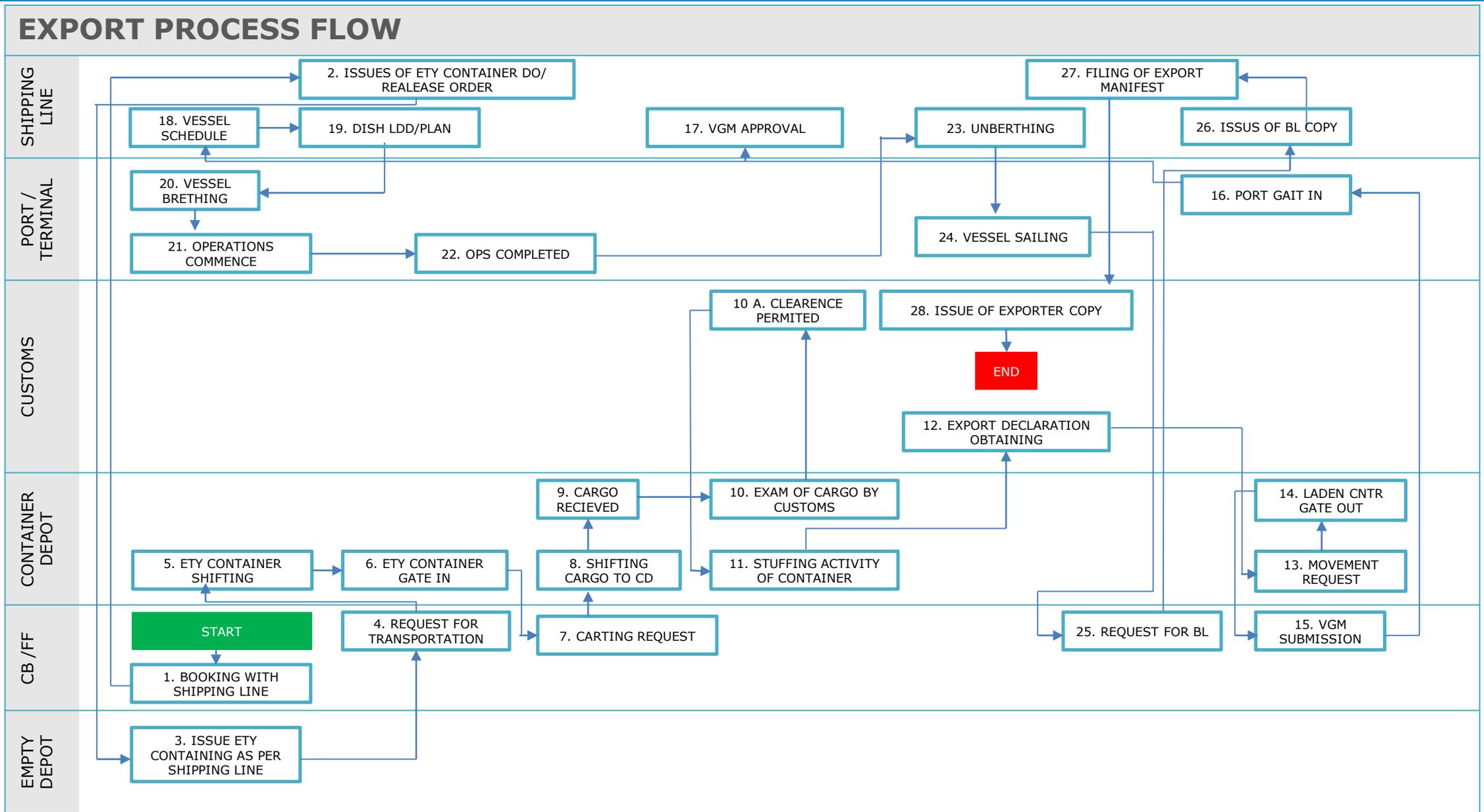


Overall Process flow of PCS



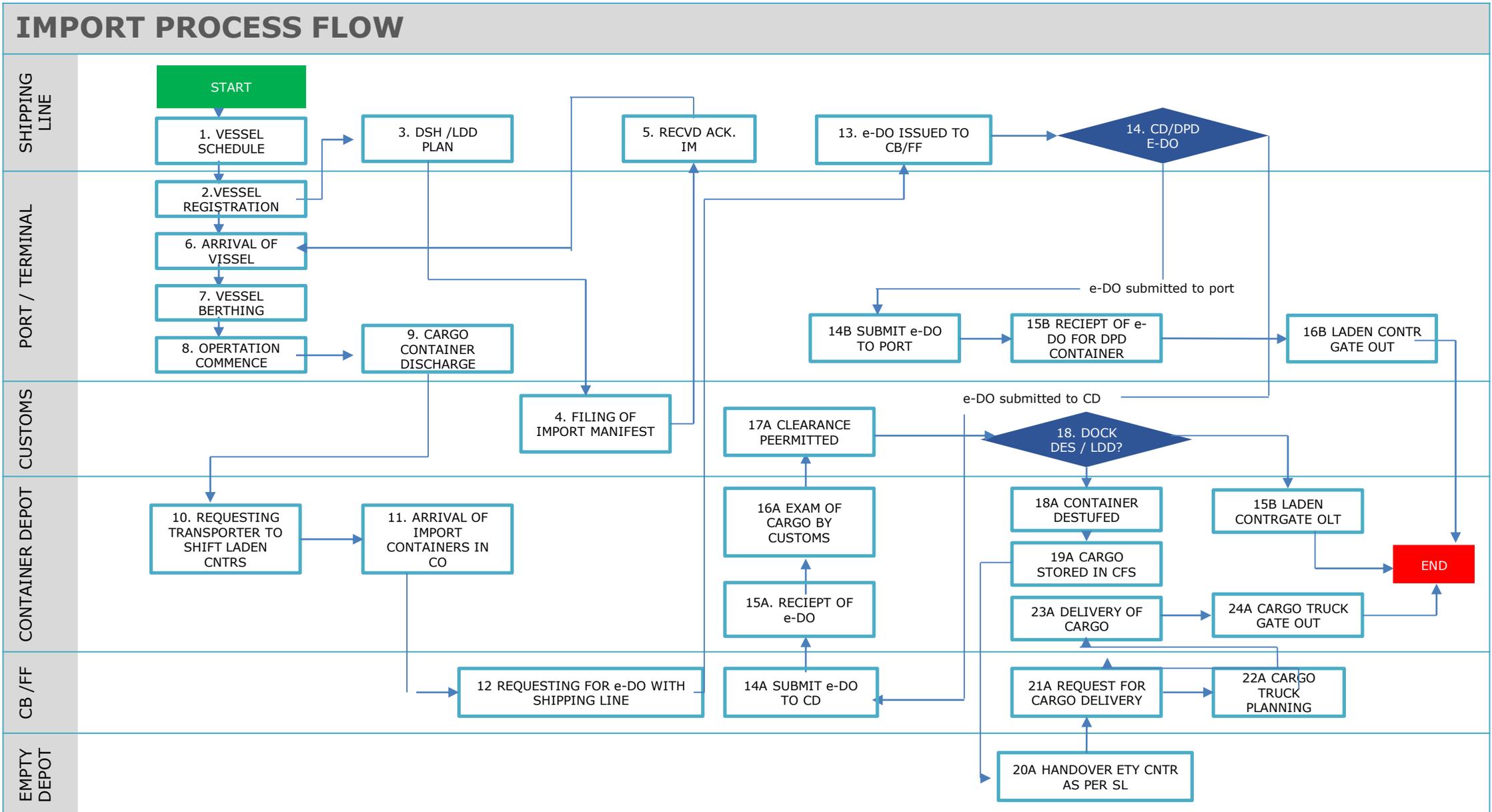


Exports Process Flow



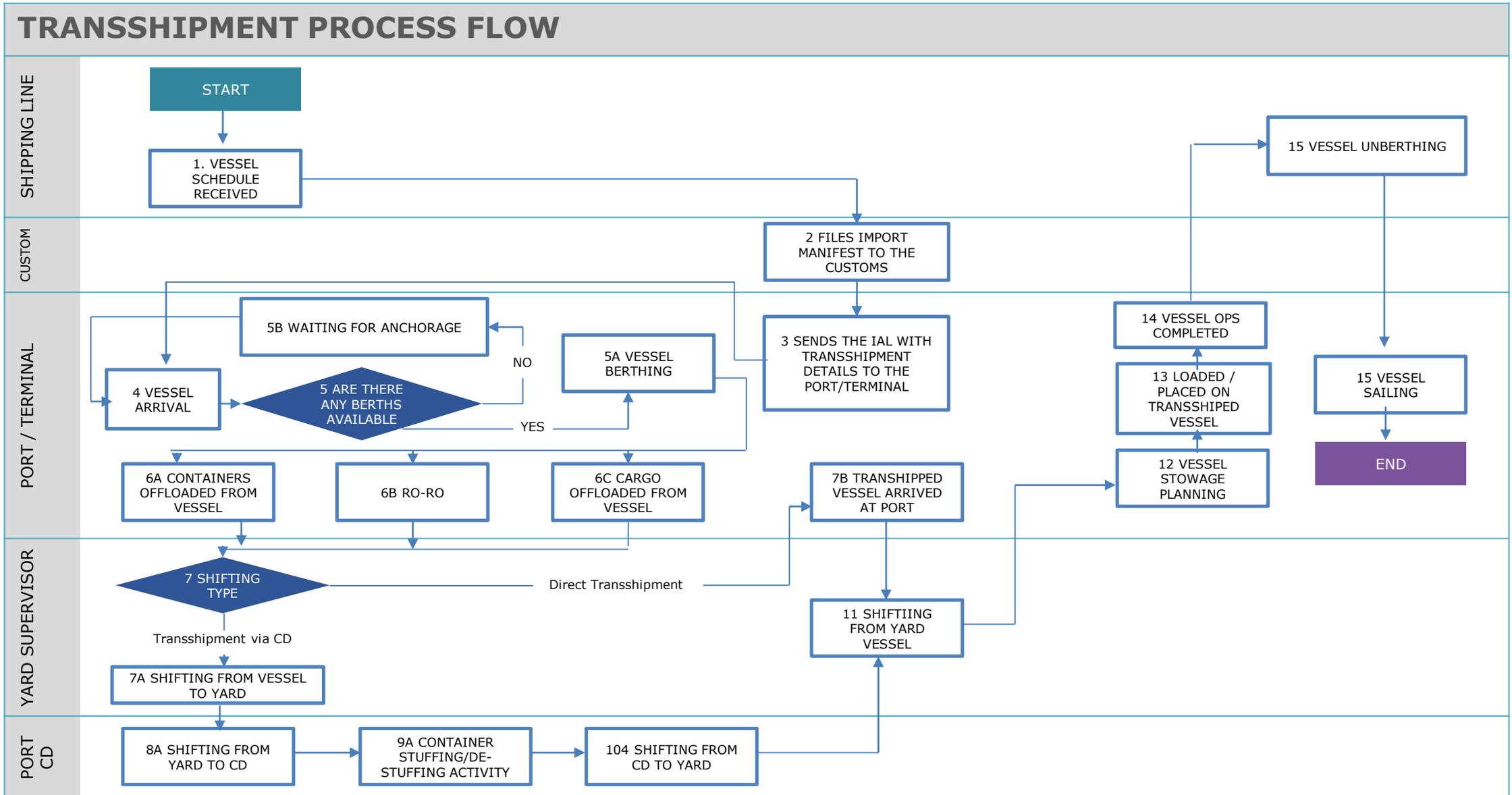


Imports Process Flow





Transshipment Process Flow

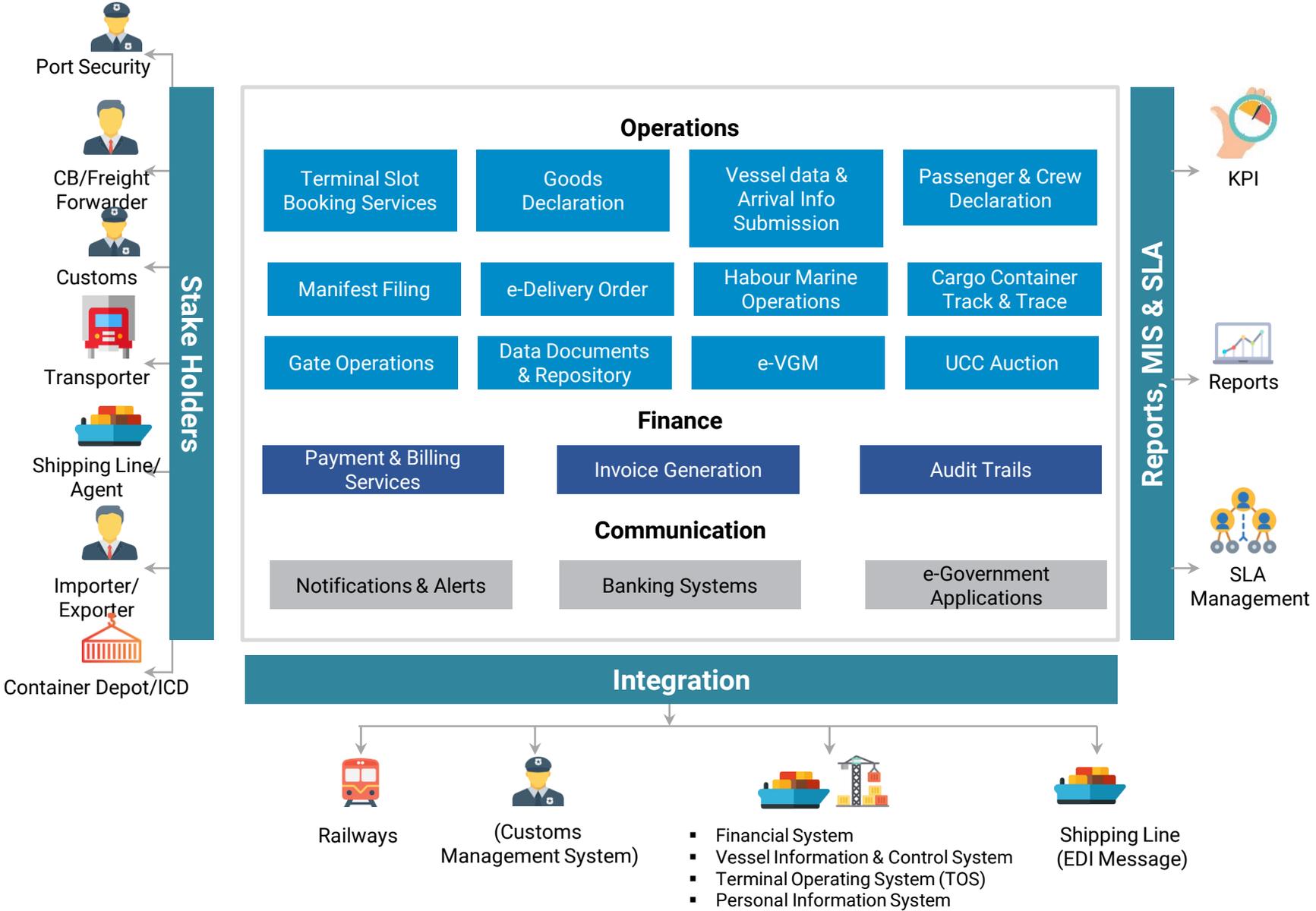




Functional Overview of PCS



Functional Diagram of PCS - CODEX





Ocean Schedule

- Service Name offers specific route information for each carrier.
- Terminal Cut Off details show the latest possible date for a port terminal to receive cargo.
- Detailed view of transit times with ETA and ETD
- Offers details on vessel type with vessel voyage number details

Pricing

- Online Rate Request filing with Shipping Line / Line Agent.
- Speeding transaction quality and reducing back and forth communications.
- Enables pricing differentiation
- Connection with Leading Shipping Line / Line Agents

Container Booking

- One interface with the ocean carrier community.
- Online portal based container booking and release order.
- Respond faster, reduce errors, and improve customer satisfaction.
- Based on real time inventory available on the platform

Shipping Instructions

- Improve accuracy and compliance with electronic shipping instructions.
- Single connection to all Major carriers and NVOCCs
- Reduce manual effort and meet carrier documentation cut-off times
- With accuracy in submission of data, Prevents containers from being rolled or held .



Bill of Lading

- Generation of Draft Bill of Lading.
- Generation of Final Bill of Lading.
- On Line Transmission of Bill of Lading Copies.

Road/Rail Transportation

- Receipt of Online Request for Movement of Empty, Laden and De Stuffed Containers.
- Assigning Vehicles for transportation request received on line.
- Reduce manual effort and meet customer requirements more efficiently.
- Information available as pre advice to the Terminal

e-VGM

- Works as a stand-alone SaaS based Web application with SOLAS compliance
- Allows EDI inbound submission as VERMASEDI messages or XML equivalents
- Clear visibility on status of submission through system dashboard view and through alerts, supporting efficient planning
- Special software for Digital Weighbridge with EDI connectivity to the PCS platform

Manifest

- On Line filing of Exports & Imports Manifest with accuracy and is error free.
- Single platform which allows all major carriers and NVOCCs to file the manifest with Customs
- Consol manifest can also be filed by the consol agent



Track & Trace

- Access to real-time container status events and alerts.
- Increased visibility and more efficient supply chain management.
- Tracking of Container and cargo status events.

Vessel Module

- Allows to add, Update and View the Vessel Profile.
- Allows to add Voyage registration with VCN No allocation.
- Captures Vessel berthing / Un berthing details along with Cargo details and Crew / Passenger list.
- Efficient Equipment and Resource requisition with allocation.

e-FAL

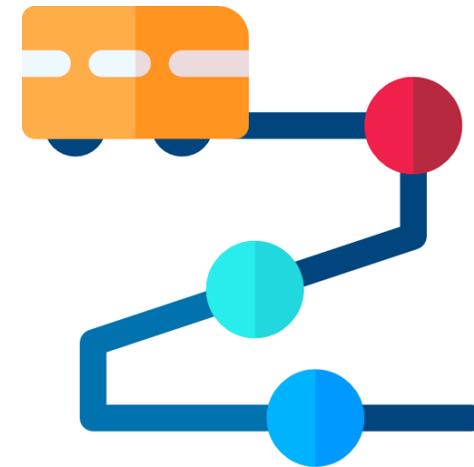
- Online submission of the FAL Forms & e-Certificates
- Generation of EDI/XML messages of FAL Forms
- View/approval rights to Ports and other allied stakeholders
- Business Intelligence based Dashboard

e-DO

- Ability to issue e-DO for multiple carriers on a single platform
- Real time visibility of e-DO released in a secured manner by respective carrier
- Efficient financial transactions through auto calculation of e-Do fees and payment options to support successful payments
- Reduced dwell time in clearance process and Faster revenue realisation with online payments



CODEX Mobile App



Container Tracker



Stevedoring

Vessel Agency

Chartering

Survey

- Enquiry, Quotation and Approval, Vessel Registration
- Job order, Cargo Details and Capturing Cargo Manifest
- Operations for Container, RORO, Bulk, Break Bulk Cargo and Cargo Vessel handling
- Bunker supply, Clearance of Ships spares, Crew Handling
- Survey Operations for Draft, Bunker, Ballast, Vessel, Container, Hatch, RORO
- Reports and Invoicing



Features of PCS





Easy, fast and efficient EDI information exchange, re-use and centralization, available 24/7/365



Customs declarations



Electronic handling of all information regarding import and export of containerized, general, bulk, liquid and RoRo cargo



Status information and control, tracking and tracing through the whole logistics chain



Processing of dangerous goods



Processing of maritime and other statistics



The core benefits for all parties involved are higher efficiency and speed regarding port processes, particularly through automatisisation and the reduction of paperwork. In this way, PCSs contribute to sustainable transport logistics and support the ambitions to meet global carbon reduction requirements.



Eliminating unnecessary paperwork which can clog up cargo handling. Using electronic data exchange, the PCS is an effective real-time information system; fast, focused, flexible and multi-faceted, it aims to improve efficiency at all stages of the process of manifesting, through vessel discharge and loading, Customs clearance, port health formalities and delivery in and out of the terminal.



PCS offers improved security, cost reduction and potentially more competitiveness for each user.



Improve information access for risk assessment of cargoes and passengers.

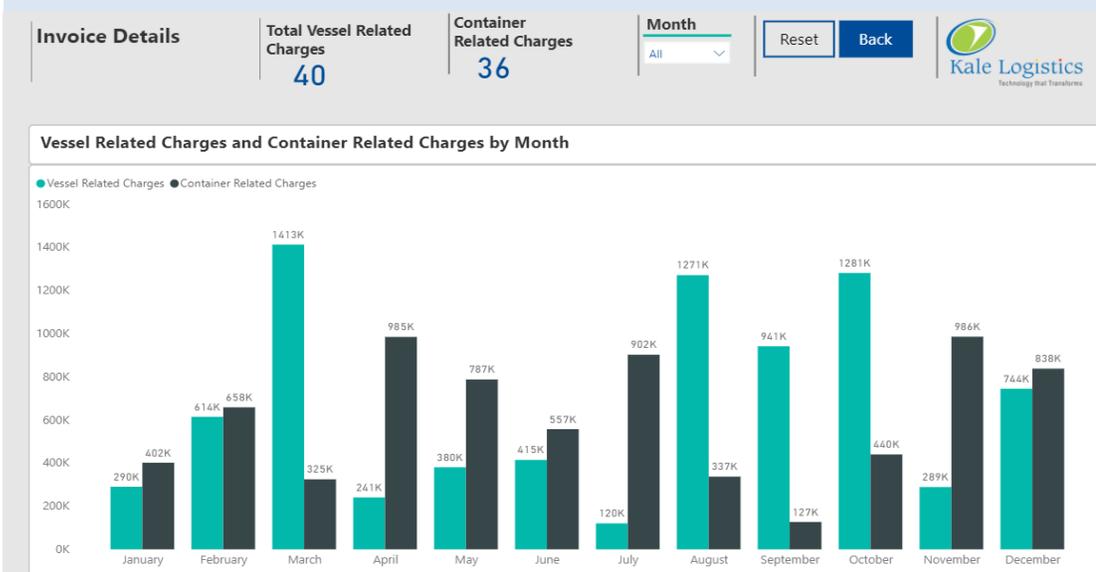
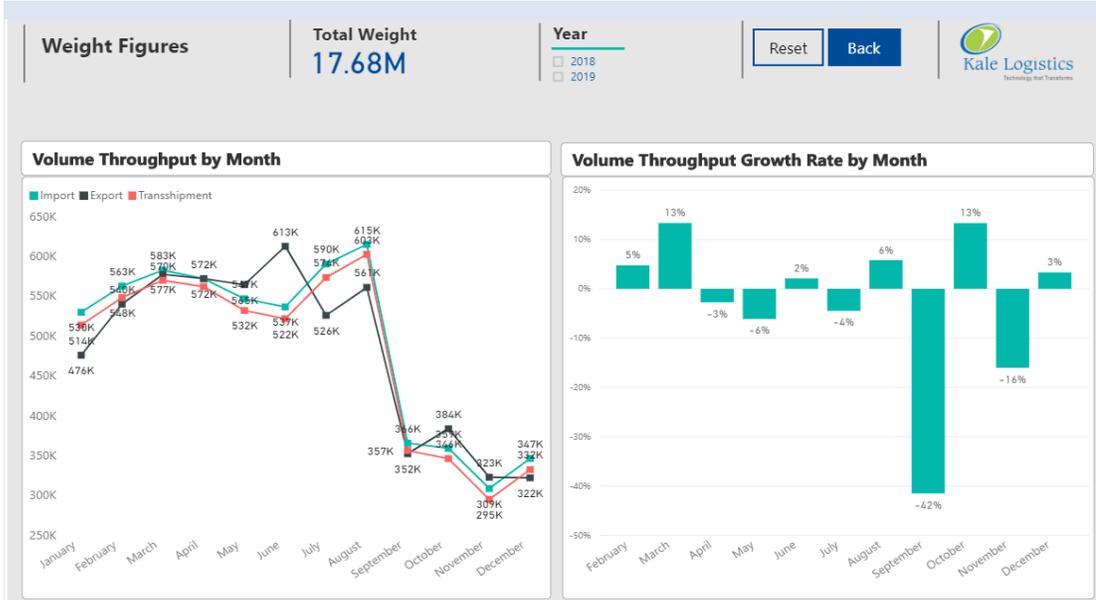


PCS- BI Dashboards & Forecast





PCS BI Dashboards & Forecast

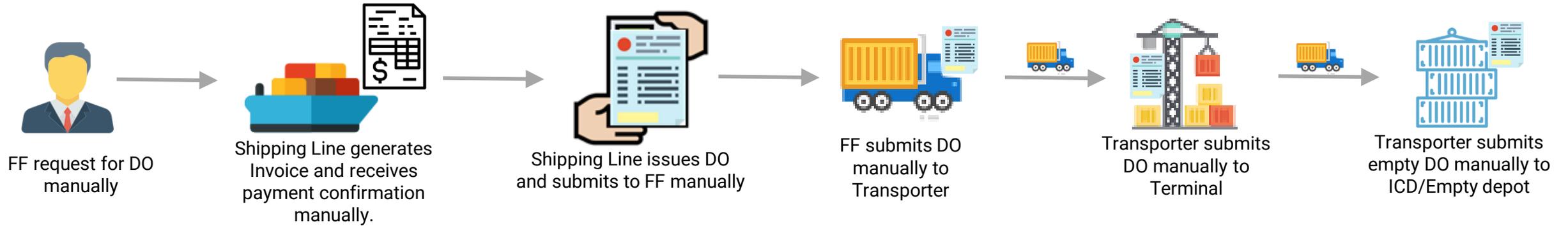




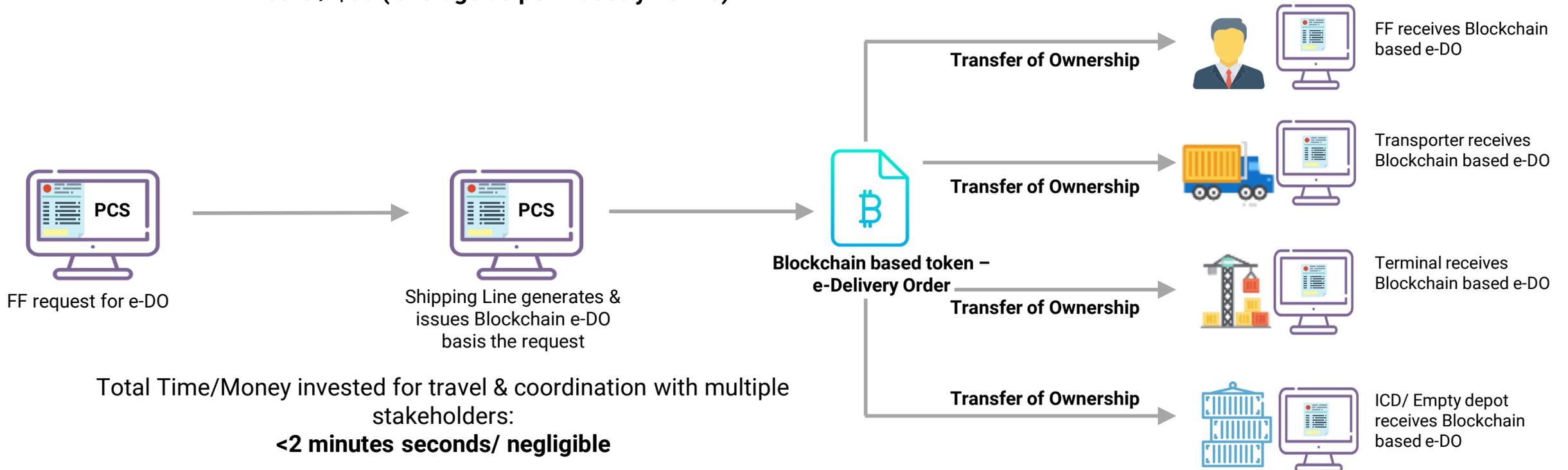
Suite of Block Chain based use cases in PCS



Blockchain based e-Delivery Order



Total Time/Money invested for travel & coordination with multiple stakeholders:
1-2 hours / \$50 (average as per industry norms)



Total Time/Money invested for travel & coordination with multiple stakeholders:
<2 minutes seconds/ negligible



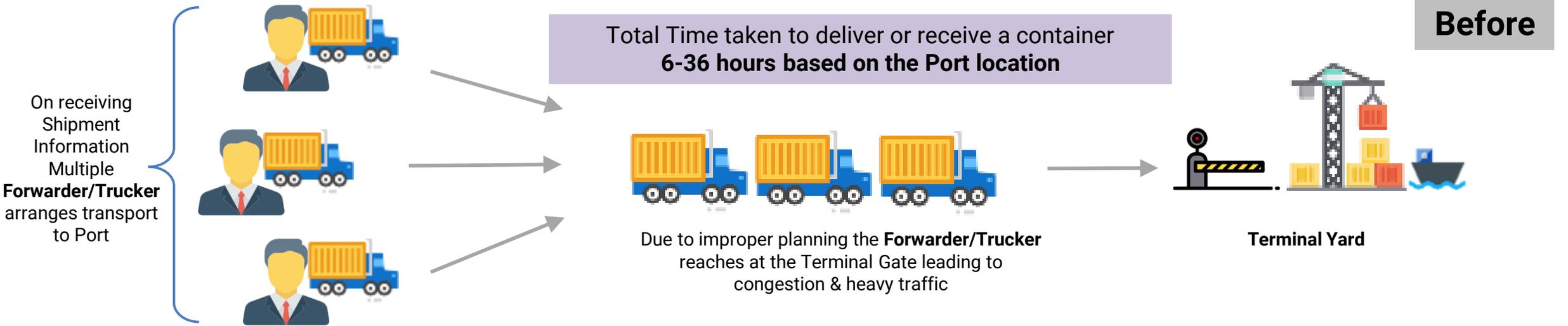
Suite of AI based use cases in PCS



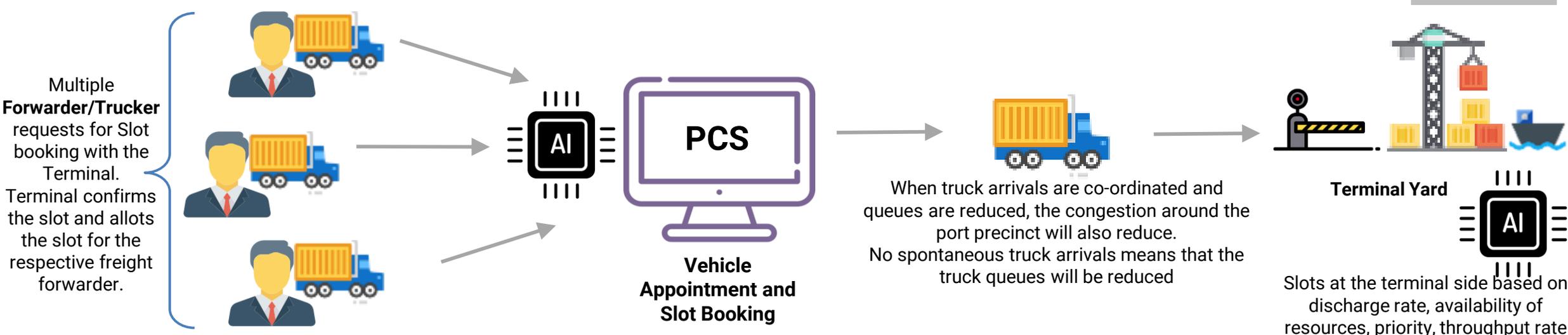


Artificial Intelligence in PCS

Before



After



Total Time taken to deliver or receive a container is reduced by upto 50%



KPI for PCS services





Improved productivity and efficiency of resources and assets



More Customers – with improved various services offerings

Improved volumes of cargo tonnage with efficient planning

Improved customer satisfaction with High Level Services offerings

Better adherence to Compliance

Reduced container dwell time due to elimination of Documents duplications



Benefits of PCS





Benefits to Terminal

- Better compliance to initiatives such as Pre Advice Pass
- Integration with TOS bringing in clear visibility with Vessel Related details.
- Reducing congestion at the port within given infrastructural constraints
- Cost reduction due to reduced errors and reduced data entry
- Better Customer Satisfaction by bringing better visibility to trade
- Vehicle/Vendor/Visitor Pass Registration available online.
- Getting more proactive alerts for preventing service failures
- End to End Shipment Visibility



Benefits to Freight Forwarder/ Customs Broker

- Cost savings resulting from reduced paper-work
- Reduced errors due to automation
- Reduced costs in handling enquiries and bookings.
- Reduced delay in clearance due to online availability of shipment data.
- Availability of Imports Delivery Order and payment options online.
- Reduced communication costs
- Faster and efficient transmission of shipment data to cargo stakeholders (Customs, Carrier, CHA and Custodian)
- Provision to apply for CRO with Shipping Line
- Ability to operate at internationally benchmarked service levels.



Benefits to Exporter / Importer

- Better visibility of shipments / supply chain leading to lower inventory costs
- Proactive alerts on shipment milestones resulting in avoidance of penalties and demurrages
- Efficient digital communication with forwarders / customs house agents reducing papers, faxes, phone calls
- Better audit trail of interactions with agents



Benefits to ICD / Empty Depot

- Online availability of Empty Container Release Order.
- Availability of Pre-Advice process which results in efficient planning and reducing congestion.
- Reduced customer service costs due to online availability of shipment data
- Reduced communication costs
- Faster and efficient transmission of shipment data to cargo stakeholders (Customs, Carrier, CHA and Custodian)



Benefits to Transporter

- Cost savings resulting from reduced paper-work
- Reduced errors due to automation
- Reduced communication costs due to online availability of requests from multiple agents.
- Assigning vehicles through system.
- Reduced costs in handling enquiries and bookings



Benefits to Shipping Line / Line Agent

- Cost savings resulting from reduced paper-work
- Reduced errors due to automation
- Reduced costs in handling enquiries and bookings
- Generation of Import Delivery Order Invoice & Payments online.
- Compliance to global initiatives such as e-freight / C2K
- Reduced costs of keeping systems updated for interfaces with Customs, CFS
- Faster and efficient transmission of shipment data to cargo stakeholders



Long Term Benefits to Stakeholders



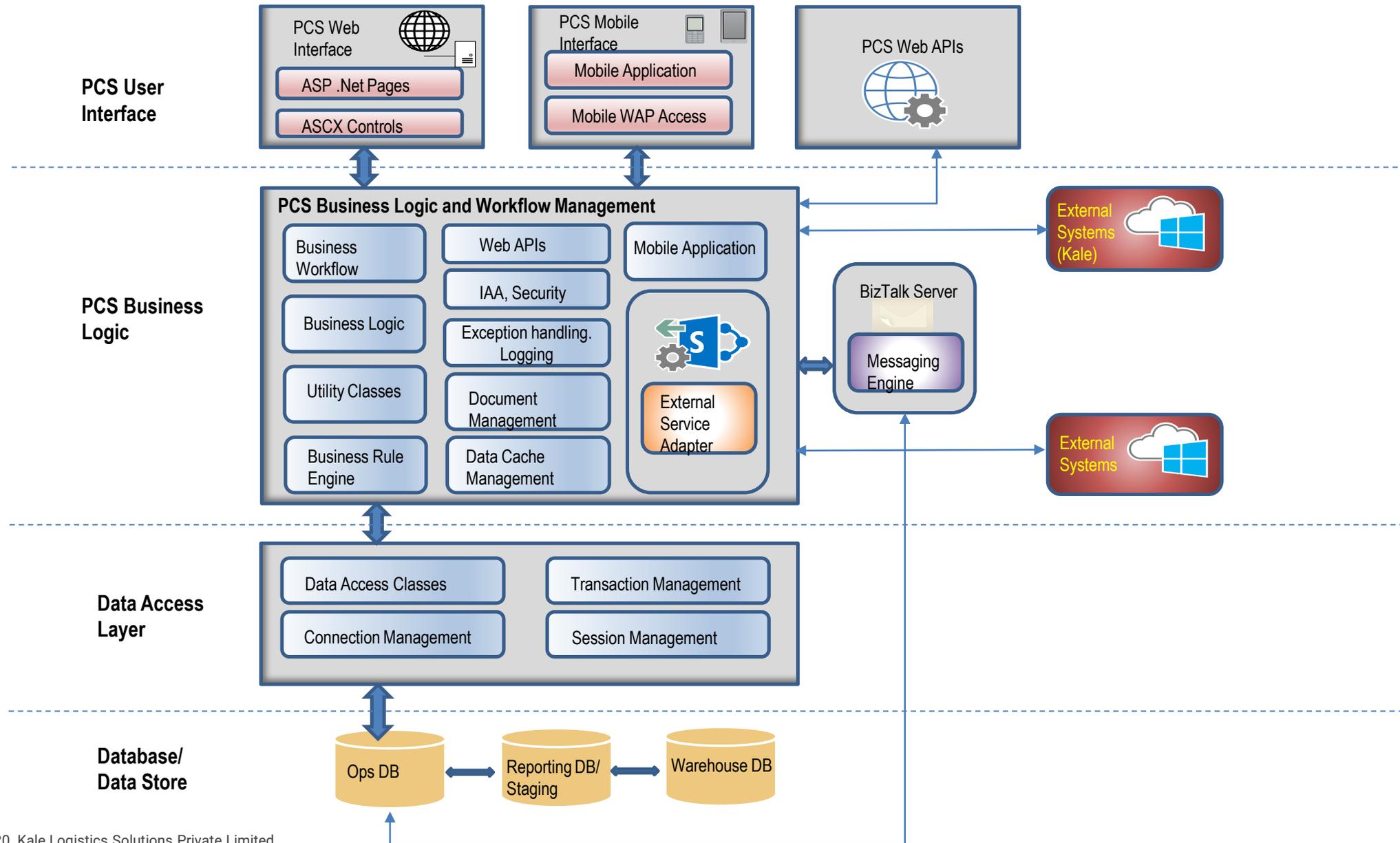


Technical Details of PCS



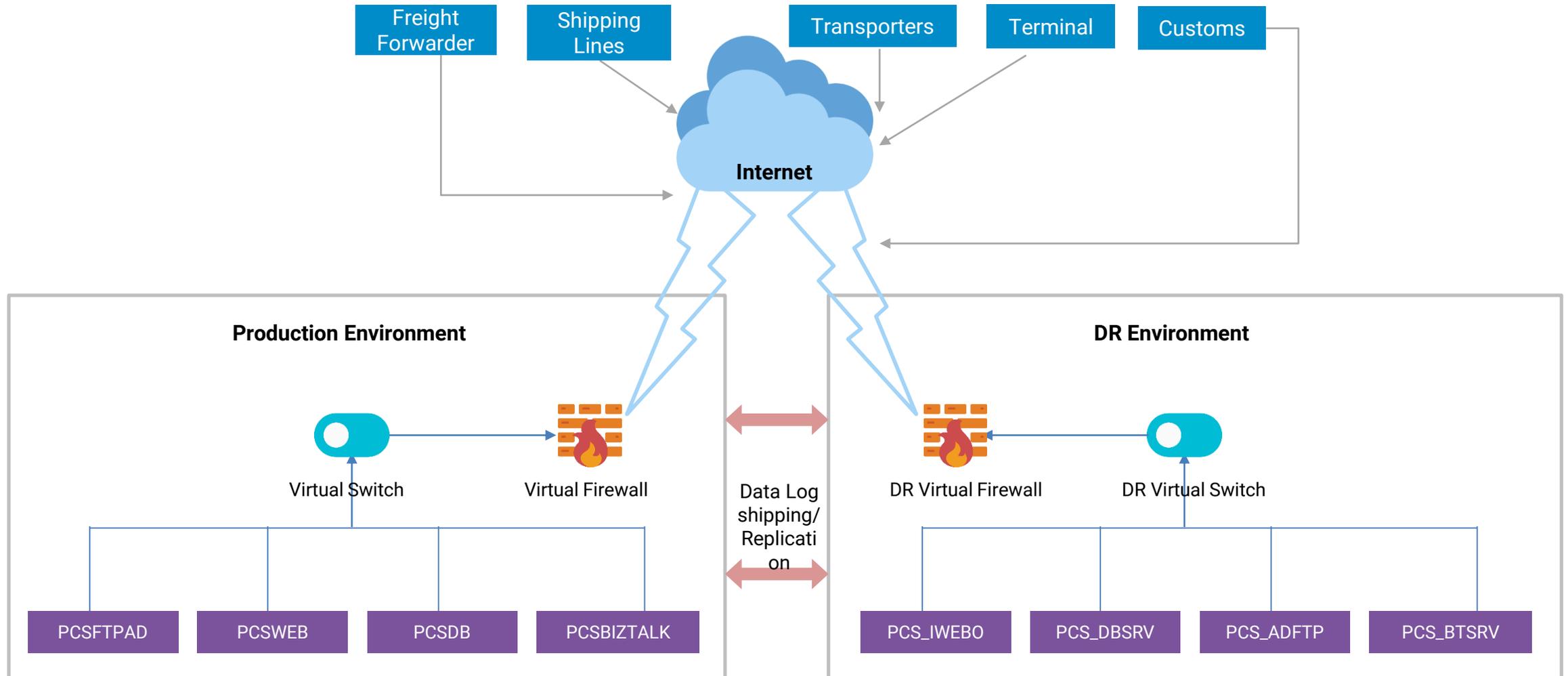


PCS Architecture



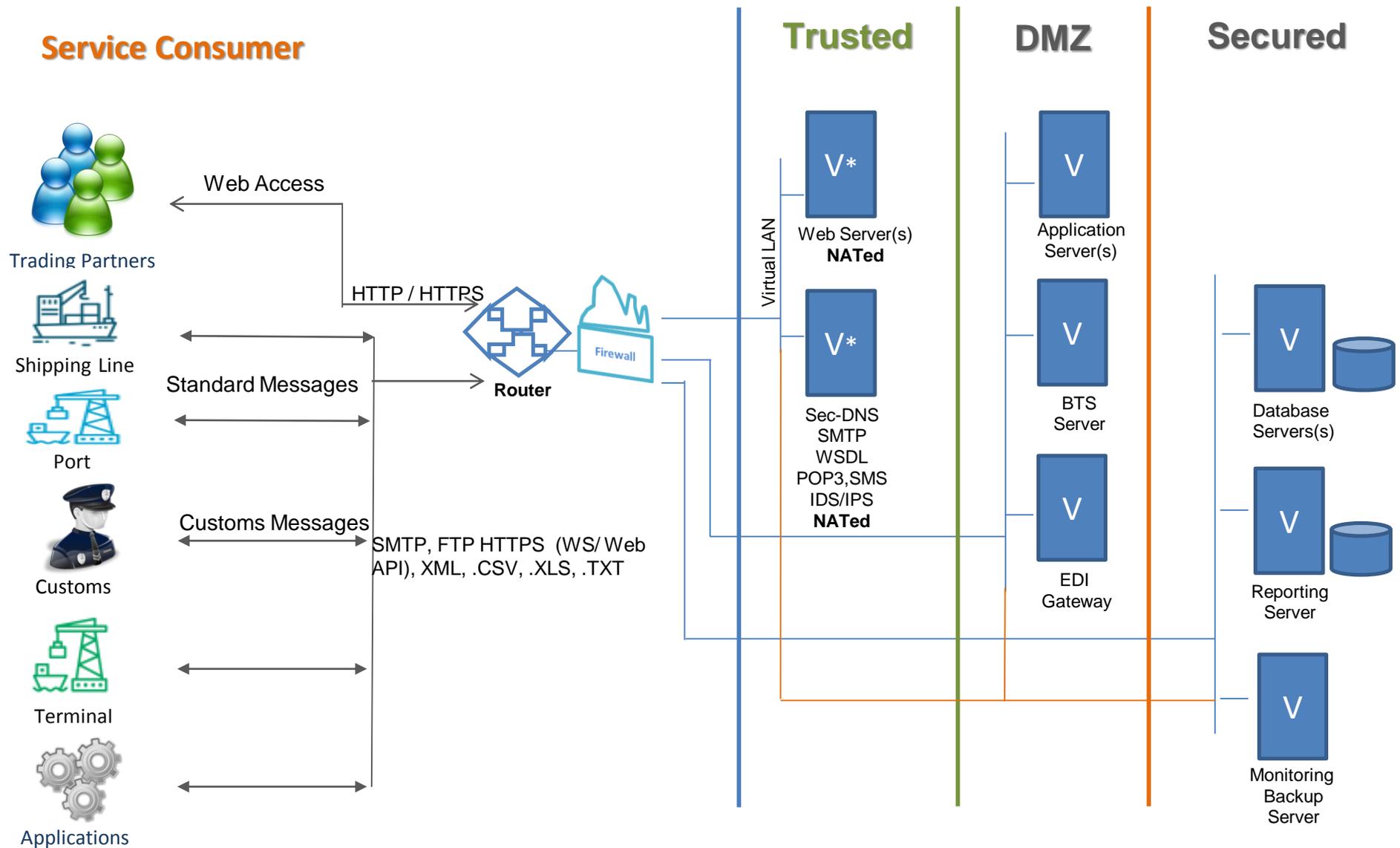


Hosting & Network Diagram



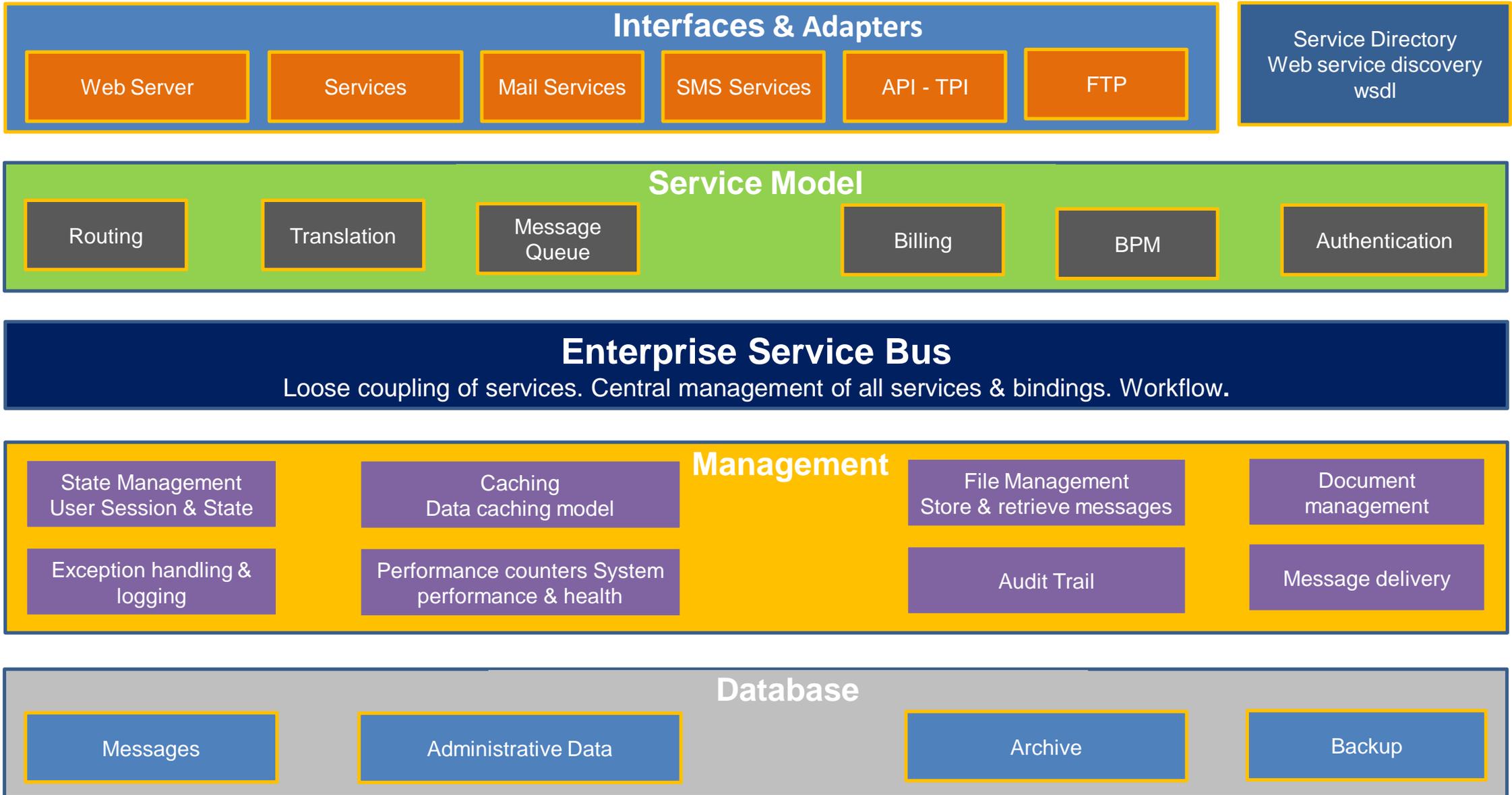


Components Hosting Security Physical Diagram



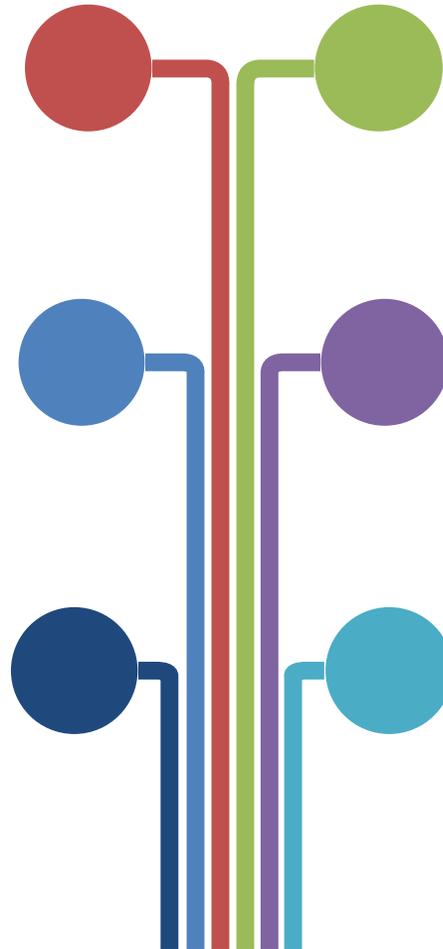


Application and integration Context Diagram





- Data can be transmitted/ shared via SMTP, sFTP, FTP modes
- Each interface shall have an authentication and logging mechanism
- Apart from the service based interfaces, application supports mobile interfaces for iOS and Android to view and update key information in the application by different stakeholders

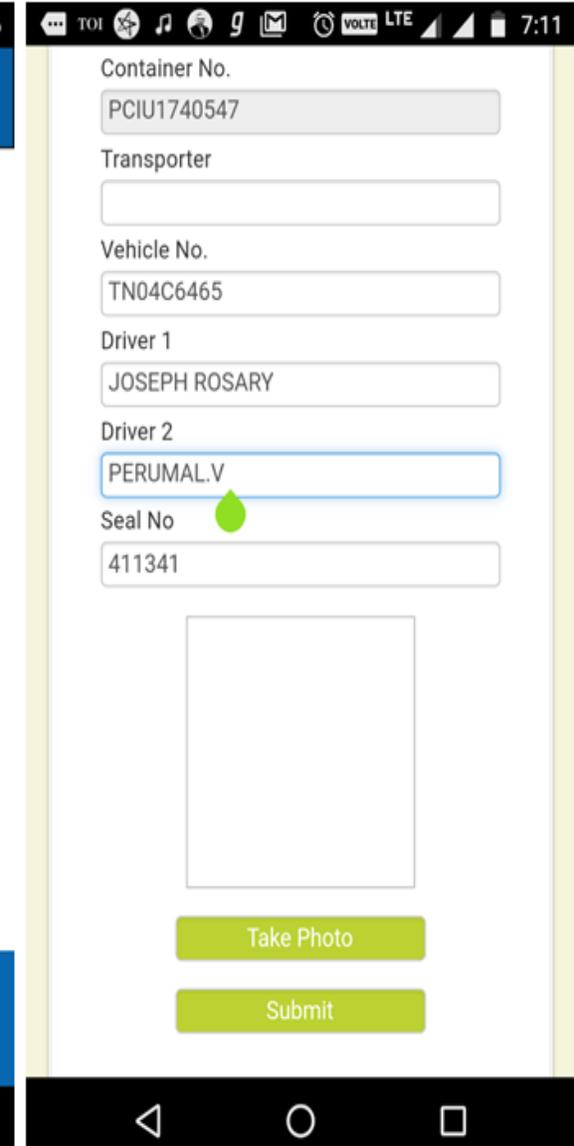
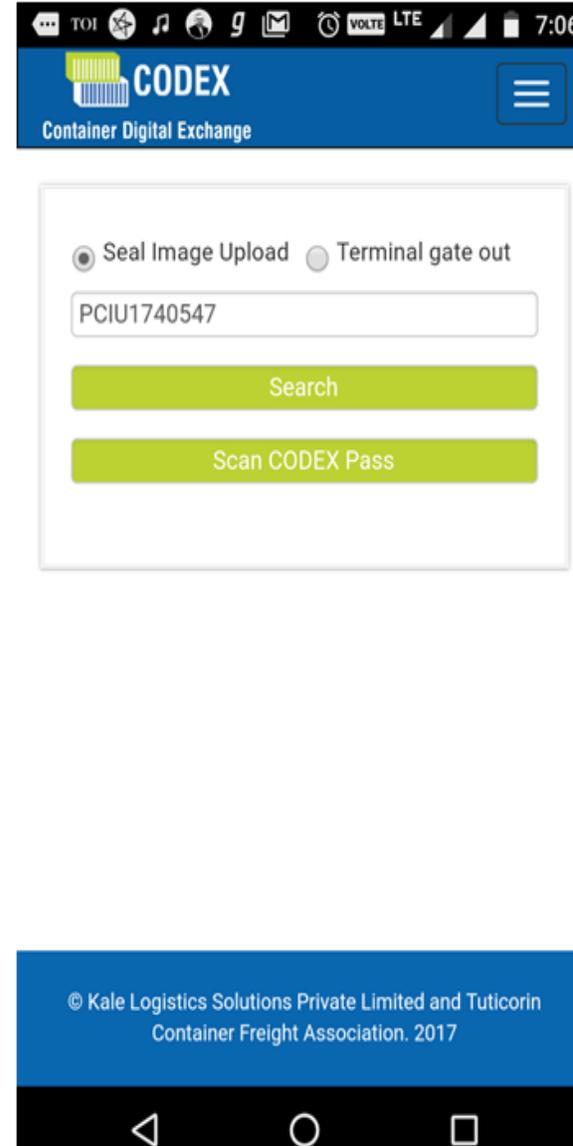


- Following mechanisms can be used for integration/ interfacing with other systems:
 - Point-to-Point connection
 - Message Broker
 - Enterprise Service Bus
- System supports integration using Web Services/ API's to share data between different stakeholders systems
- Interface supports UNEDIFACT standard messages, using xml files, flat files, Excel/ csv files to exchange the data



Mobility Applications







Container No.
PCIU1740547

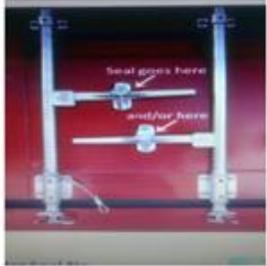
Transporter

Vehicle No.
TN04C6465

Driver 1
JOSEPH ROSARY

Driver 2
PERUMAL.V

Seal No
411341



Take Photo

Submit

CODEX Tracker

Container No./CODEX Pass No.
CECWLD4160132

Search

0 Hr 40 min 0 Hr 57 min

CFS Gate Out	Toll Gate In	Security (GISF)
16:12 14/04/2016	16:52 14/04/2016	17:49 14/04/2016

Terminal Gate In Customs (AFS) Customs (Seal Check)

Powered by Kale Logistics Solutions Private Limited



Port Gate In Details

Codex Pass No.	Container No.
<input type="text" value="CESSL08180486"/>	<input type="text" value="CMAU0191508"/>
Vessel Name	Terminal Name
<input type="text" value="MV.GANTA BHUM"/>	<input type="text" value="DBGT"/>
EIR No.	EIR Status
<input type="text"/>	<input type="text"/>

Vehicle Details

Vehicle No.	Pass
<input type="text" value="TN04D9396"/>	<input type="text" value="348628"/>
Validity	Driver Name
<input type="text"/>	<input type="text" value="PARALOGA ANESTRA."/>
Driver Pass	Driver Validity
<input type="text"/>	<input type="text"/>

Codex Pass No. Container No.

Vessel Name Terminal Name

EIR No. EIR Status

Vehicle Details

Vehicle No.	Pass
<input type="text" value="TN04D9396"/>	<input type="text" value="348628"/>
Validity	Driver Name
<input type="text"/>	<input type="text" value="PARALOGA ANESTRA."/>
Driver Pass	Driver Validity
<input type="text"/>	<input type="text"/>

© Kale Logistics Solutions Private Limited and Tuticorin Container Freight Association. 2020



15:14

CODEX
e-FAL

Username
yangming

Password
.....

LOGIN

[FORGOT PASSWORD ?](#)

15:15

CODEX

Home

- FAL Forms
- e-Certificates
- Track Status
- BI & Reports

© Kale Logistics Solutions Private Limited.



15:15

FAL

FAL Summary Create New

Reference No. : FAL01200000001
vessel Type : Container
vessel Name : EURODIGNITY
Voyage : Voy2020

Reference No. : FAL12190000284
vessel Type : Ro-Ro
vessel Name : YM Wish Excel
Voyage : 214s

Reference No. : FAL12190000283
vessel Type : Livestock Carriers
vessel Name : MV JUNCAN ISLAND
Voyage : tg

Reference No. : FAL12190000282
vessel Type : Container
vessel Name : YM EXCELLENCE
Voyage : IEX905W

Reference No. : FAL12190000281
vessel Type : Specialise Cargos
vessel Name : EURODIGNITY CHS
Voyage : test

FAL e-Certificates Track Status BI & Reports

15:27

FAL Forms

IMO General Cargo Ship Store Crew's E

Vessel & Voyage Details

Ship Agent Name
YANG MING LINES *

Address
Hong Kong *

Remarks
Nil

Certificate Of Registry No
965888 *

Registry Date
2020-01-02 *

Registry Port
GAO | Gaoua | BF *

Port Details

Last Port Of Call

SUBMIT EDI & NEXT



The image displays three screenshots of a mobile application interface for managing E-Certificates. The top bar of each screen shows the time (15:15, 15:27, 15:27) and various system icons.

Left Screenshot: Certificates
Title: Certificates
Section: E-Certificates Summary
Action: Create New
List of E-Certificates:

- Reference No. : EC01200000001
SLName : YANG MING LINES
vessel Name : LAMDA
Voyage : 85
- Reference No. : EC12190000061
SLName : YANG MING LINES
vessel Name : asdf
Voyage : 84
- Reference No. : EC12190000060
SLName : YANG MING LINES
vessel Name : Astron
Voyage : 83
- Reference No. : EC12190000059
SLName : YANG MING LINES
vessel Name : AS MARIANA
Voyage : 82
- Reference No. : EC12190000058
SLName : YANG MING LINES
vessel Name : AS MARIANA
Voyage : 81

Bottom navigation: FAL, e-Certificates, Track Status, BI & Reports

Middle Screenshot: E-Certificates
Title: E-Certificates
Section: Vessel & Voyage Details
Form fields:

- Shipping Line Name: YANG MING LINES *
- Vessel Name: LAMDA *
- Voyage No: Voy2020 *
- Rotation No: 2020
- Port Name: Hall Beach *

Section: Upload Certificates

- International Tonnage Certificate
SubmitTo :Terminal Operator,Port Operator,Customs
File Name : 22.pdf
- International Load Line Certificate
SubmitTo :Terminal Operator,Port Operator
File Name : 22.pdf

Right Screenshot: E-Certificates
Title: E-Certificates
Section: Upload Certificates

- International Tonnage Certificate
SubmitTo :Terminal Operator,Port Operator,Customs
File Name : 22.pdf
- International Load Line Certificate
SubmitTo :Terminal Operator,Port Operator
File Name : 22.pdf
- Minimum Safe Manning
SubmitTo :Terminal Operator,Port Operator
File Name : 22.pdf
- Certificates for Masters/Officers/Ratings
SubmitTo :Terminal Operator,Port Operator
File Name : 22.pdf
- Intact Stability/Damage Control booklets
SubmitTo :Terminal Operator,Port Operator
File Name : 22.pdf
- International Oil Pollution Prevention Certificate



15:25

Track Status

Track FAL Forms / e-Certificate

Vessel Name
EURODIGNITY

Voyage No
voy2020

Track FAL

Track e-Certificate

FAL Forms

- IMO General Declaration
- Cargo Declaration
- Ship's Store Declaration
- Crew's Effect Declaration
- Crew List

FAL e-Certificates **Track Status** BI & Reports

15:25

Track Status

Track FAL Forms / e-Certificate

Vessel Name
LAMDA

Voyage No
voy2020

Track FAL

Track e-Certificate

e-Certificate

- Cargo Securing Manual
- Certificates for Masters/Officers/Ratings
- Document of Compliance & Safety Management Certificate

Customs

Terminal Operator

FAL e-Certificates **Track Status** BI & Reports

15:15

BI & Reports

Year 2020

Month January

Shipping Line Name

FAL Application Status

Year	Applications
2014	10
2015	25
2016	100
2017	75

View Reports Status

FAL e-Certificates **Track Status** BI & Reports



Kale's PCS Success Stories





Tuticorin Port – Seamless Container Movement





Accelerating container movement and throughput at Southeast Asia's key Ocean Port VOC Tuticorin Port

BUSINESS CHALLENGE

 Redundant operations

 Repetitive paperwork and errors

 Limited shipment visibility

 Stakeholders on disparate systems



CODEX SOLUTION

Electronic connection with all stakeholders 

Ease of operations and transparency 

Container tracked by a unique barcode 

Standardisation of trade documents 



Reduced container dwell time by 75%



Reduced documents from 15 to 2



Speedy Tax refunds



Improved capacity planning

Reduces container dwell time by 75%

The system enables on-the-go tracking of containers on a real-time basis making container information availability a reality for all the stakeholders. This was possible with unique barcode attached to each container which enabled information flow without physical documents.



What our clients have to say about PCS





The CODEX platform has proved to be a harbinger of great news for us in our digitalization journey. We are extremely proud of having empowered exporters with speedy IGST refunds and hope to have many more firsts to our credit. We hope that ports across the country and the globe will stand to benefit from our success story.



David Raja, Chairman, National Association of Container Freight Stations (NACFS) – Tuticorin Chapter

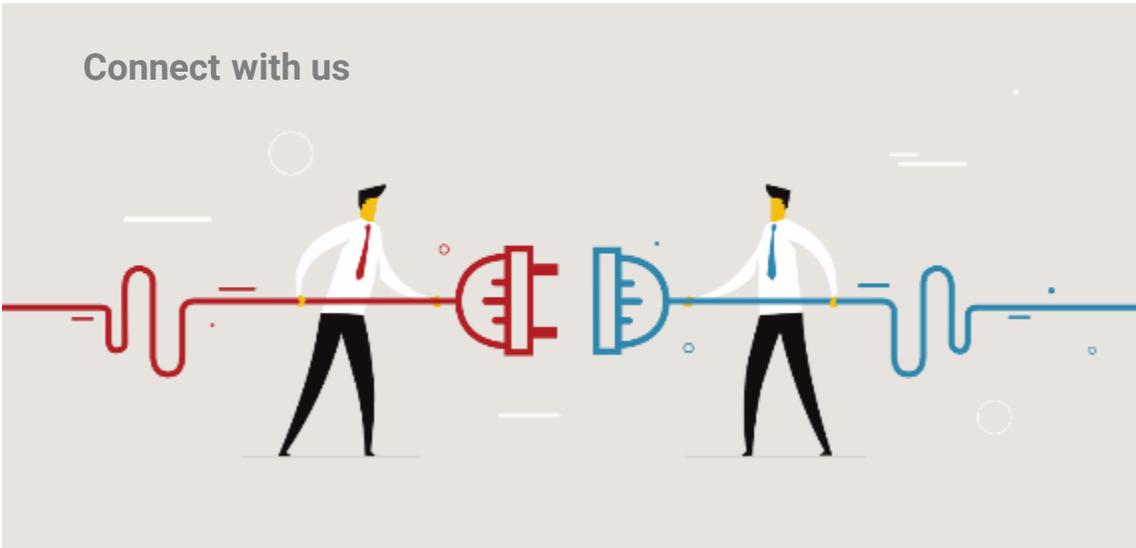


Next steps



Thank You

Connect with us



Kale Logistics Solutions Private Limited

9th Floor, Thane One Corporate Business Park,
Behind CineWonder Mall, Majiwada,
Thane (W), Maharashtra, INDIA - 400 610.

 +91 22 4113 4113

 +91 22 4113 4123

 info@kalelogistics.com

 www.kalelogistics.com



Mumbai | Delhi | Dubai | Port Louis | Amsterdam | Atlanta

© 2020. All Rights Reserved. Data from industry publications has been used for this presentation.

This material was used during an oral presentation; it is not a complete record of the discussion. This work may not be used, sold, transferred, adapted, abridged, copied or reproduced in whole or in part in any manner or form or in any media without the prior written consent. All product names and company names and logos mentioned herein are the trademarks or registered trademarks of their respective owners.