Kale Info Solutions

Technology that Transforms

Next Generation Port Community Systems

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Speaker Introduction

Amar More
Cofounder & CEO
Atlanta, GA
Amar.more@kalelogistics.com
+14707269258

- Domain Co-ordinator for **Cross Border Management** at **United Nations** (UN/CEFACT), Geneva
- On the **panel of experts for trade facilitation** at UN/CEFACT (**United Nations** Centre for Trade Facilitation and Electronic Business), Geneva
- Chaired Asia Pacific region on the executive committee on the **International Port Community Systems Association** (IPCSA), UK
- Board member of **The International Air Cargo Association** (TIACA), Miami
- Member of **National Council** for Logistics with Chartered Institute of Logistics and Transport, India
- Empaneled with several **governments globally** on conceptualizing trade facilitation initiatives to usher in “Ease of Doing Business” using digital technology.

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Kale Logistics Solutions

Brief Overview

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Kale Logistics Solutions – Bird's-eye view

14+ Years of existence

5500+ Customers across 40+ countries

Presence at the United Nations, TIACA, IPCSA, IAPH FIATA, ACI, AAPA etc.

2 Awards from United Nations and Case Study in Kellogg's Business School's publication

Offices in 10 regions: Americas, Europe, ME, Africa, Asia with 400+ employees

Currently working with 150+ Global Airport/Ports

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Kale's Global Footprint

Customers in 40+ countries

Team Presence in 14 locations

400+ Employees

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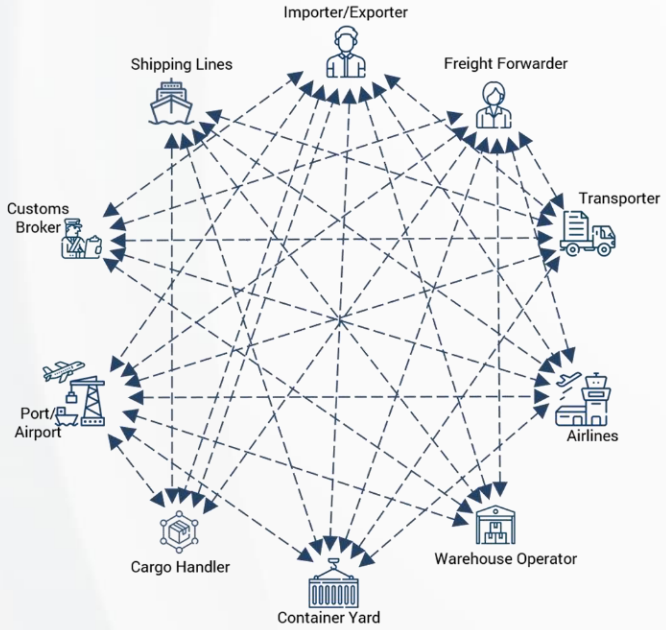
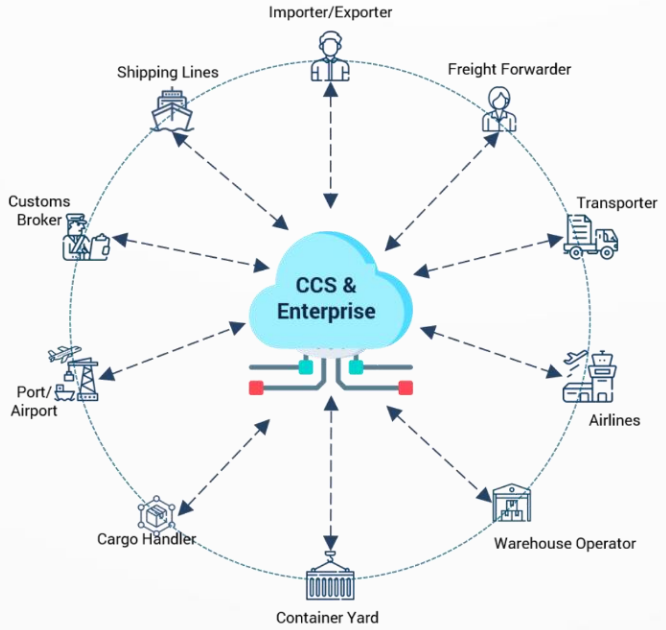
What are We Aiming to Achieve?





Current scenario

Global Airports & Ports are characterized by

- Congestion Inefficient information exchange – manual documentation
- Higher dwell times for cargo
- Opaqueness in operations

Transformation through CCS

Transforming cargo handling at Airports & Ports through Cargo community Systems (CCS)

- Elimination of congestion through scheduling tools
- Streamlined documentation – elimination of huge number of paper copies
- Faster movement of cargo – higher throughput
- Visibility in supply chain – real time information
- Creation of large logistics marketplaces at Ports/Airports

Digital Corridors

Creating such Airport/Port CCS globally and linking them through digital corridors

- Global visibility
- Global logistics marketplaces
- Transforming global regulatory and commercial processes through data reusability

Global Impact	Annual Savings		
	$50 Bn	10 Bn	625,000
	Air/Ocean movements	Copies of paper	Trees

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The Issues and Improvement Opportunities

Key Issues concerning the Maritime Industry

Operational Inefficiency:

Trucks arrive in bunches, paperwork at ports, no advance visibility.

Sustainability Challenges:

Each shipment needs 200 paper copies, causing delays and duplicate data.

Opaqueness in operations:

Lack of consolidated, real-time shipment updates increases inventory and storage costs.

Security loopholes:

No advance information on trucks, drivers, or cargo for handlers.

Unavailability of reliable Data:

Lack of real-time, reliable cargo data hampers strategic decision-making.

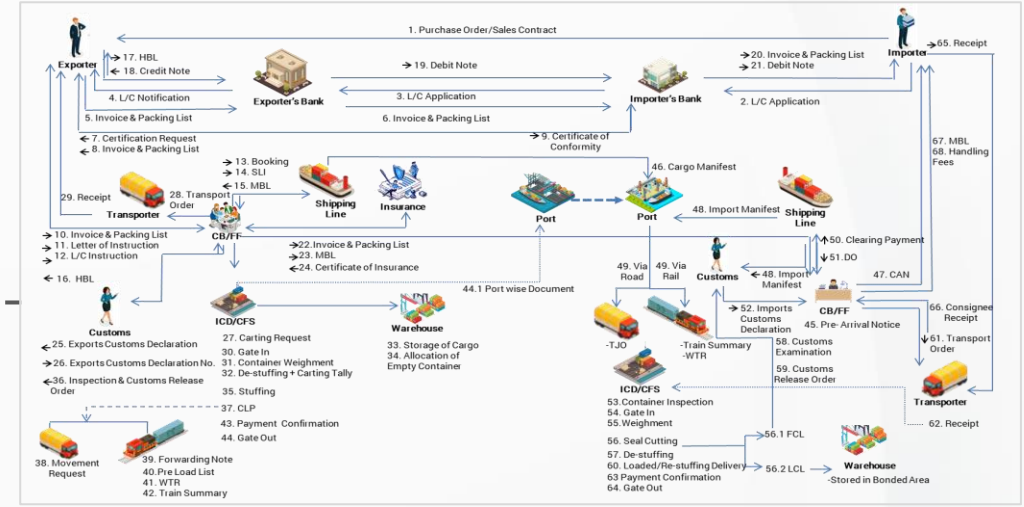
Unattractiveness to cargo customers:

Cargo diverts to other ports due to inefficiencies and visibility issues.

Compliance to global best practices and standards:

IMO FAL UN CEFACT Recommendation 33 best practices are not followed.

The current state of the Maritime industry
65+ distinct disparate processes,
200+copies of paper



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Maritime Ecosystem - Land and Portside View

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The Solution – the port Cargo Community System

PCS

Vessel Declaration
Harbour Marine Ops

Port

Discharge/Loading Details
EIR

Terminal

Empty Cntr. Release Order
SI & Bill of Lading

Shipping Line / Shipping Line Agents / NVOCC

Freight Booking
Delivery Order

Consolidator / FF/ Customs Broker

Transportation Request
Slot Booking

Transporter

Imp / Exp Manifest
Seal / DO Verification

Customs

Certificate of Origin
Reports

Importer/Exporter

Gate Operations
MNR

Empty Depots / Container Depots

The Port Community System (PCS) significantly enhances the Cargo throughput

What is a PCS?

A PCS is a neutral and open electronic platform enabling intelligent and secure exchange of information between public and private stakeholders in order to improve the competitive position of the sea ports' community. It optimises, manages and automates port and logistics processes through a single submission of data and connecting transport and logistics chains.

PCS – addressing the concerns and improvement areas in Maritime cargo – Key Highlights

1. A web portal for the maritime cargo stakeholders at that enables
2. Paperwork to be completed online before coming to the port
3. Booking an appointment for trucks to come to the port
4. Exchanging data on the system as opposed to on paper – eliminating several paper copies
5. Source of visibility for the shipment
6. Several other value-added digital services to the community
7. Potential e-marketplace for further optimization of maritime cargo
8. No duplication of work for stakeholders and customers – portal to have backend connectivity with stakeholder systems
9. Next-gen Mobile app and AI engine
10. Creating infrastructure for multi-modal (Sea-Air, Sea-Road, Sea-Rail) movements

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Port Community Systems aligning with the National Maritime Strategy

The DoT 2023 National Strategy includes 25 actions under the following five priority areas:

Strengthen Unity of Effort in the MTS

Enhance the Safety and Security of the MTS

Advance the Health, Welfare, Diversity, and Growth of the MTS Workforce

Strengthen Unity of Effort in the MTS

Action Item 21: Support port operations efforts toward climate change mitigation and adaptation.

Support Optimal Performance of the MTS Supply Chain

Action Item 23: Share interagency MTS expertise in support of the reduction of system congestion and supply chain bottlenecks and provide opportunities to educate and inform on new and emerging issues in a way that ensures safety, security, and sustainability of MTS.

Action Item 24: Increase data access, availability of data services, linkages and integration of authoritative data from agencies and organizations with mission areas related to the maritime industry and the broader intermodal freight flow network.

Action Item 25: Support collaborative, innovative new and emerging technologies and processes, including advancements in automation, information systems (IT) and operational control systems (OT) for a more efficient MTS.

Action Item 26: Continue analytical assessments and understanding of MTS resilience and recovery capabilities in a changing climate, and encourage incorporation into waterway and port design principles to support an efficient and effective maritime transportation supply chain.

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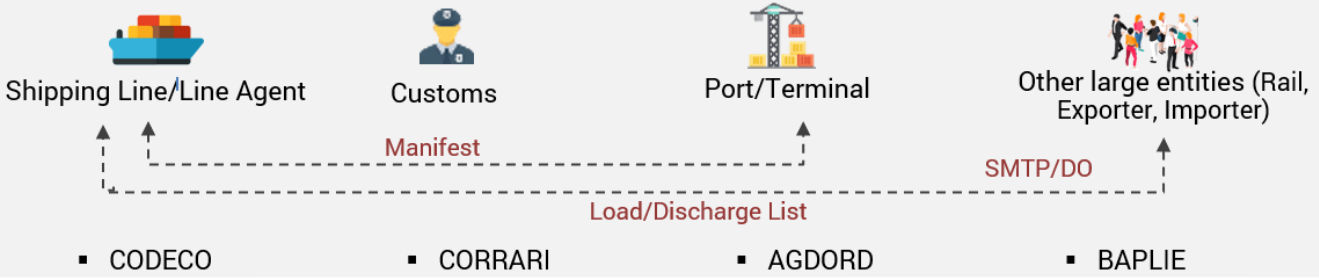
Port Community System - Evolution

1st Gen

EDI

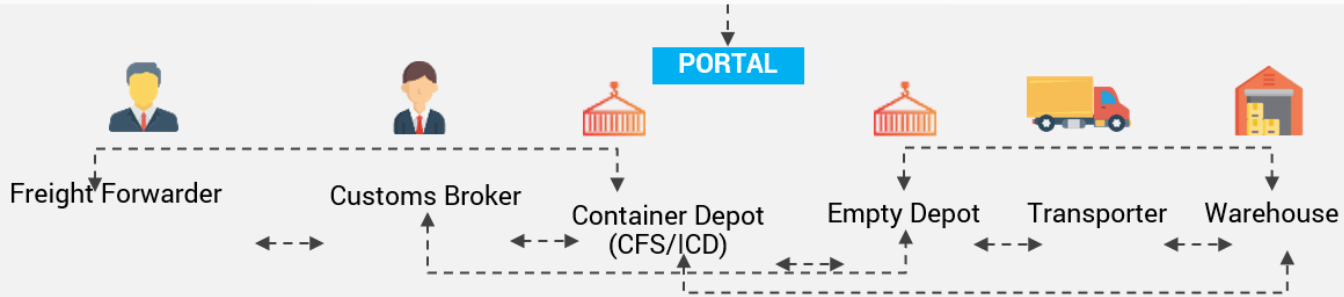


- CODECO
- CORRARI
- AGDORD
- BAPLIE

Peer-to-Peer through EDI

2nd Gen

Information exchange



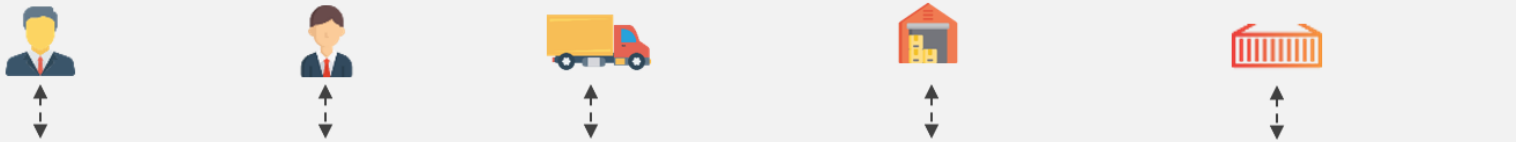
- Export request
- Import/export declaration
- Transport request
- Request

1st Gen +

Many-to-Many Stakeholder engagements

3rd Gen

New Technology + SME Features



Freight Forwarder
- Enquiry
- Booking
- Pricing
- Invoicing
- Milestones

Customs Broker
- In-Bond / Ex-Bond shipment
- Invoice and duty calculation
- Invoicing
- Milestone tracking

Transporter
- Customer Contracts
- Trip Sheet
- Tracking
- POD Management
- Demand Management

Warehouse (Bonded & Gen)
- Inbound – ASN/GSN/Put-away
- Outbound - Order Mgmt./Pick Processes/Dispatch
- Cycle Count
- Stock & Location Transfer

Empty Depot
- Empty Container Operations
- Gate-Out Empty Container Operations
- Release order Management
- Track & Trace
- Codeco EDI messages

2nd Gen +

AI/ML and Blockchain use cases

+ SME Logistics ERP

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Functional Overview

CODEX PORT COMMUNITY SYSTEM

Containerized | Bulk | Break-bulk | Liquid | Fishery | Cruise

EXPORT & IMPORT

Ocean Schedules	Container Booking	Empty Release Order	Auction & Disposal
Transportation Mgmt.	Shipping Instructions	e-VGM	Export Manifest
Export Advance Listing	Gate Management	Seal Verification	Payments & Invoices
e-BL	Import Manifest	Hazardous Cargo	Truck Slot Management
e-DO	Maintenance & Repairs	Container Scanning	Import Advance Listing

VESSEL

IMO – FAL (Maritime Single Window)

Vessel Registration	Vessel Call Number	Pre-arrival Notification	Berth Management
Harbour Marine	Dangerous Cargo	Vessel Routes	Licenses & Permits

TRANSSHIPMENT

Declarations & Permits	Sea to Air

ADMIN

Organization Profile and Users	Branch Profile and User
Masters, Roles & Rights	Track & Trace

OTHERS

Contracts Management	Invoices & Payments	Licenses & Permits

COMMUNITIES

Maritime | Regulatory | Trade | Landside
Finance | Airport | Free zone | Rail

UTILITES

Notifications | BI | MIS & Reports | SLA Management
Mobile App | Digital Signature | e-Docket

INTEGRATION MECHANISM

APIs | EDI

MAJOR SYSTEM INTEGRATIONS

POS | TOS | Customs/OGA | Payment Gateway
Container Depot | Rail Operator | Shipping Line

TECHNOLOGIES

Cloud | 5G | IoT | AI/ML

Overall 100+ use cases available for various processes

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Stakeholder-wise Features

Port Authority

- Vessel and Voyage Registration
- Allotment of VCN
- Berth Management
- Permits & Licences Management
- Gate Management

Port Health / Port Marine

- Harbour marine operations
- Vessel Inspection
- Vessel Releases & HOLD
- Free Pratique Issuance
- Health Declaration Certificate

Terminal

- Slot Configuration
- Imports / Exports Advance listing
- Imports Delivery Order
- Gate Management
- Track & Trace (Vsl & Shipment)

Shipping Line / Agent / NVOCC

- Vessel and Voyage Management
- Harbour marine operations
- e-Manifest Filing
- Imports Delivery Order
- Shipping Instructions & BOL Management

Freight Forwarder/Customs Broker

- Ocean schedules
- Freight Rates
- Empty Container Booking
- e-Delivery Order and Revalidate e-DO
- IMO compliance e-VGM

Transporter

- Online Transportation Request
- Vehicle Assignment
- Cargo / Container Management
- Slot management
- Track & Trace

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Stakeholder-wise Features

Customs

- Seal Verification
- Let Export Order / Allowed for Shipment
- Manifest Management
- Auction and Uncleared Cargo
- Vessel Clearance

Immigration Department

- Documents Management
- Passenger-Crew Management
- Sign on- Sign off Management
- Shore pass Management
- Vessel Track & Trace

Chamber of Commerce

- Document Management
- Online Payment Authentication
- Issuance of Certificate of Origin
- PDA Account management
- Digital Signature Authentication

Empty Depot

- Container Management
- Gate-In / Out Operations
- Release order Management
- Track & Trace with real-time status
- Generation of Codeco files for Various Container movements

Container Depot (CFS/ICD)

- Release Order Management for EXIM
- Gate Pass Management
- Drivers & Trailers Management
- Generation of Codeco files
- Notices, Pre-Bidding, Cargo Valuation, Auction & Cargo Delivery

Importer / Exporter

- RFQ Management
- Freight Rate Request
- Imports Delivery Order
- Container Booking
- Transportation Management
- Track-n-Trace of shipment

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PCS – Benefits to port and MTO

Economic Benefits
Digital services rollout can generate revenue without significant costs, impacting $100 per TEU.

Compliance Benefits
Adhere to best practices from IMO Maritime Single Window, UN Reco. 33, and US CBP Green Trade Initiative.

Sustainability Benefits
Reduce 4,000 grams of CO_2 emissions and save 3 trees per thousand tons.

Planning Benefits
Reliable, near real-time cargo data aids infrastructure planning and understanding partners.

Security Benefits
Ensure advance information on truck drivers and cargo is available for compliance.

Marketing benefits
Create an image of a tech-savvy port & provide a better customer satisfaction

Supply Chain Resiliency benefits
Enable remote cargo operations via cloud documentation, reducing paper and managing disruptions.

Demand Generation Benefits
Attract more cargo by connecting with the airport and partner ports.

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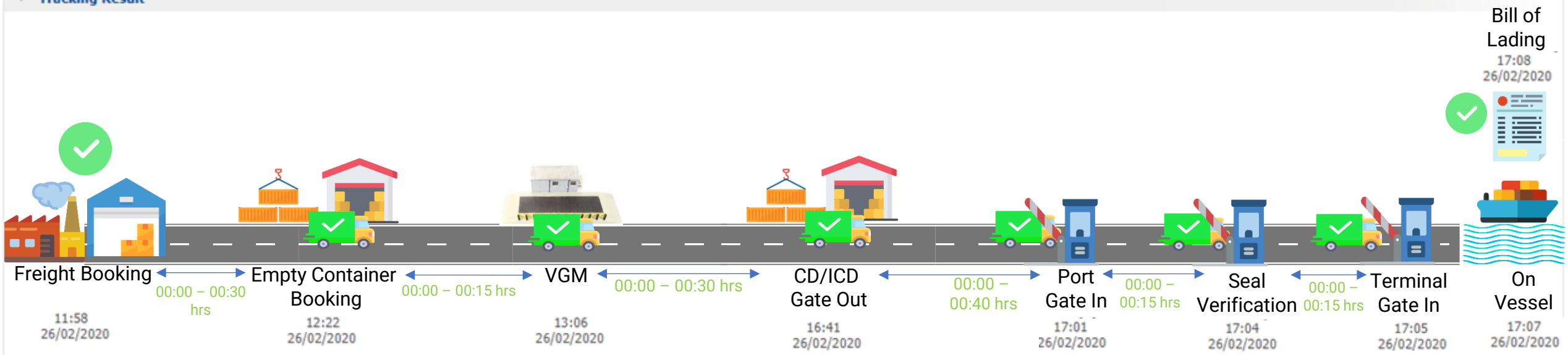
Sample Screens - Tracker

BI | Pricing | Booking | HAZ Cargo | e-VGM | EAL | SI | Tracking | EGM | MIS

Quick Search

Container No. : MSKU7485969 Search Clear

Tracking Result



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Mobile App: Trucker Slot Booking

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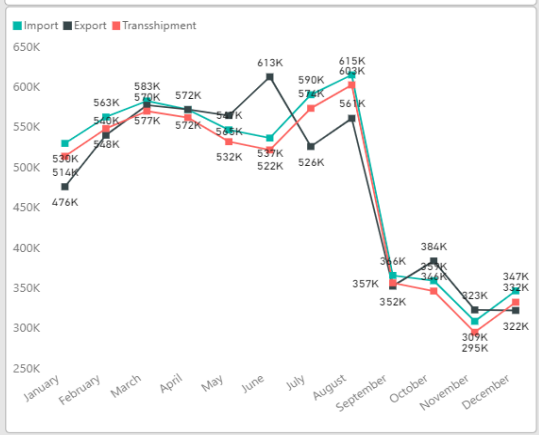
Dashboards & Forecast

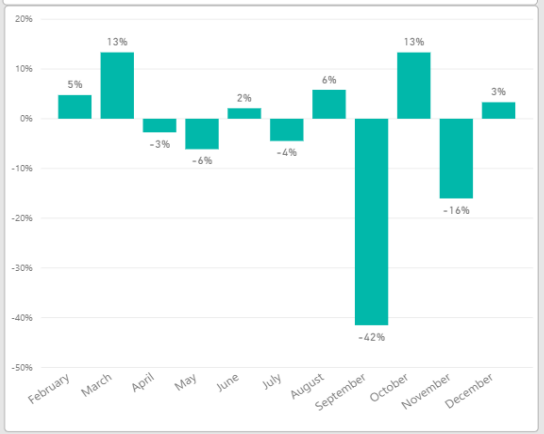
Volume Throughput growth rate by month

Weight Figures | Total Weight 17.68M | Year

Volume Throughput by Month



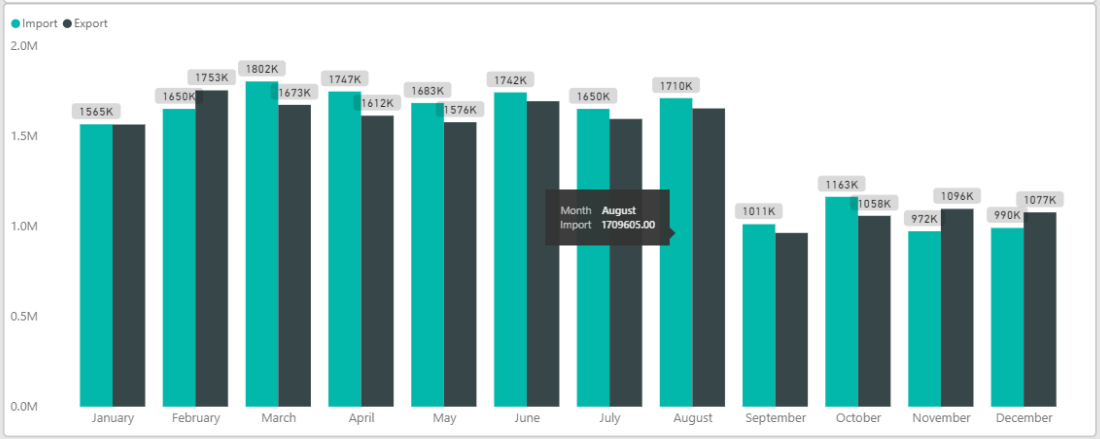
Volume Throughput Growth Rate by Month



Import and export revenue growth by month

Revenue | Import Total Revenue 17.68M | Export Total Revenue 17.31M

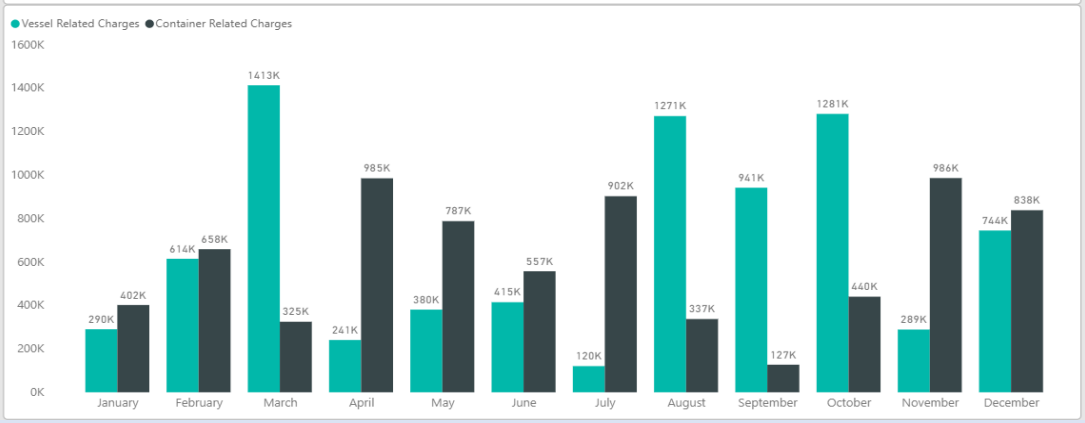
Import and Export Revenue by Month



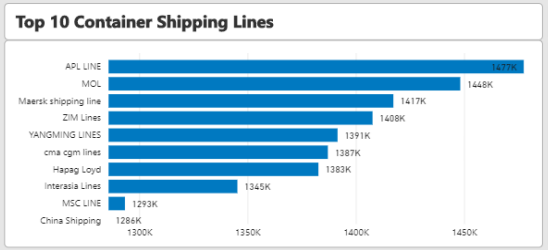
Vessel and container related charges

Invoice Details | Total Vessel Related Charges 40 | Container Related Charges 36

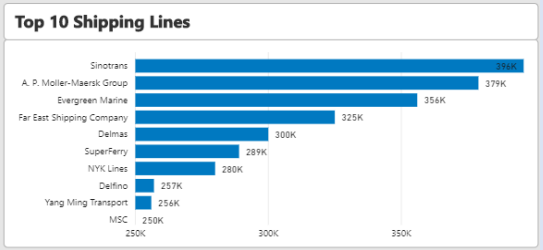
Vessel Related Charges and Container Related Charges by Month



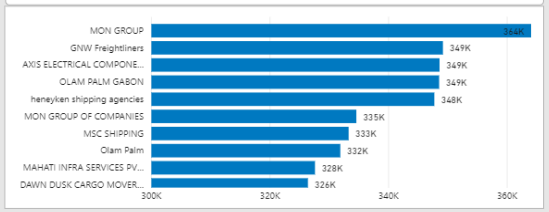
Top 10 Container Shipping Lines



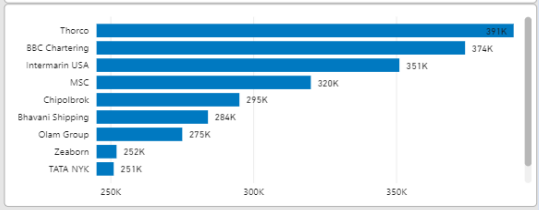
Top 10 Shipping Lines



Top 10 Bulk Customers



Top 10 Break Bulk Customers



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Digitizing 34 ports in Malaysia – Large Maritime Economy

Digitizing, providing seamless information and paperless vessel processing in Malaysia

13 Mn
TEU's + (Container Volume)

10,000+
Vessel Operators

Among Top
15
Container Ports

BUSINESS CHALLENGE

- Manual vessel handling process
- Disparate systems with no information exchange
- Non-standardized processes
- Paper-based regulatory processes
- Delays in clearance process

National level Project
in (Port Klang)
Malaysia

KALE'S SOLUTION

- Digitized vessel, crew, passenger & cargo processes
- Seamless information exchange between stakeholders securely
- Standardized national level process and measures implemented
- Quick and paper-free vessel clearance process

50+
berths across 3
Terminal / Port Operators

Connected to
300 +
Ports

500+
weekly vessel services

Vessels & Cargo – Container, Liquid, RoRo, Bulk, Break-bulk, General Cargo, Cruise

Integrated with – 7+ systems including customs, etc.

250+ organizations

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Improving Container throughput in Tuticorin Port, Southern India

Accelerating throughput at Southeast Asia's key Ocean Port : VOC Tuticorin Port

18
CFS/ICD

12
Vessel Operators

300+
Transporters

Business Challenges

- Congestion at Land Side
- Repetitive paperwork and errors
- Limited shipment visibility
- Stakeholders on disparate systems

Digital Exchange at **Tuticorin Port**

Recipient of United Nations' Trade Facilitation Award

Kale's Solution

- Electronic connection with all stakeholders
- Ease of operations and transparency
- Reduced Dwell time due To connected systems
- Standardisation of trade documents

1.1Mn
TEU/annum

400+
Agents

2500+
Exporter/Importers

Parameter	Pre	Post
Document handled (including copies)	16	1
Average Dwell Time for Trucks	6-8 hours	Less than 1 hour
Average processing time for Tax refunds	90-120 days	Less than 7 days
Average time per export doc handling	145 minutes	25 minutes
Average time per import doc handling	65 minutes	15 minutes
Availability of advance data for planning	Limited	Nearly 100% real time
Availability of shipment status	Limited to telephone calls	On demand and end to end
Availability of data to stake holders	Through Mail, calls and in person	Portal, EDI, App, On Demand

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How do ports go about creating a PCS?

01 Signing a MoU for creation of PCS

02 As-Is-To-Be process mapping

03 Identification of Pilot Members

04 As-Is-To-Be process mapping

05 Proof of Concept with pilot members

06 System fine tuning based on POC

07 Commercial model agreement

08 Parallel run

09 Go-live

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Mark Condon

Mark Condon
Senior Account Executive
mark.condon@kalelogistics.com
843-670-4243

- Executive Director of the South Carolina World Trade Center – Charleston and served on the Board of Directors WTC New York 1997-2007
- South Carolina International Trade Conference Board of Directors and former Conference Chairman in 2010
- BDM and Analyst for PIERS/Journal of Commerce and Descartes/Datamyne 2010 - 2020
- Promoting port innovations using digital technology with the global tech firm - **Kale Info Solutions**

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Maureen Kam

Maureen Kam
Vice President, Sales
Maureen.kam@kalelogistics.com

- + 20 Years of aviation experience across 4 carriers (Air Canada, Air New Zealand, Cathay Pacific, Cargojet)
- Led transformation initiatives in Canada and New Zealand across key cargo and passenger projects which included leading the country's largest new cargo terminal warehouse build; both infrastructure and digital solutioning.
- North America's 1st ever e-Commerce solution, RIVO(www.rivolution.com).
- Developed and led the global partnerships team at Air Canada Cargo to reaching over +28% annual growth.
- Increased capacity by +20% at Air New Zealand to drive increased air service; improved yield and grew passenger demand by over +35%

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THANKS

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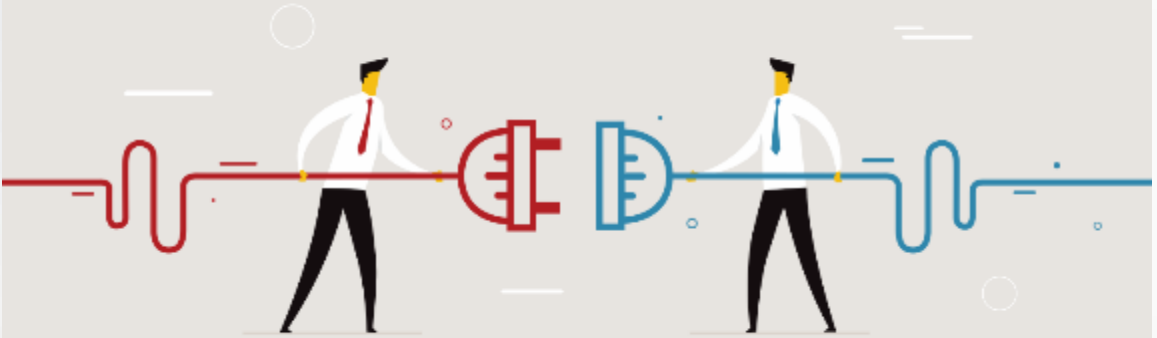

Kale Info Solutions Inc. - USA Office
100 Hartsfield Centre Parkway, Suite 500, Atlanta, GA, 30354, USA.

404-429-6341

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

+91 22 4113 4113 info@kalelogistics.com www.kalelogistics.com

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