Session 11

Introduction by CDAS: Industry System for Container Depot and Container Trucking Operations

PORT DEVELOPMENT AND COMPETITIVENESS

Session 11

Introduction by CDAS:

Industry System for Container Depot and Container Trucking operations

Speaker: Dr. Lawrence Liaw

Self Introduction
Who am I?

Dr. Lawrence Liaw holds a doctorate degree in Business Management from the University of South Australia and a Master of Science in Management & Technology from the University of Wales. He also holds a B.A. (Hons) in Social Science (Economics).

Dr. Lawrence Liaw
Senior Manager in CDAS Logistics Alliance (Ltd)

He has well over 38 years of extensive working experience in shipping, marine, transportation, courier and air parcel express services, logistics, freight forwarding and supply chain industries, container depot and warehousing.
Holding various senior positions as General Manager, Country Manager, and Director in both local and foreign companies, he led and managed a wide range of portfolios covering, inter alia: general management; finance and administration; human resources & human capital management; learning and development; sales and marketing; business development & projects; communications & media relations; shipping agency business; documentation & freight; shipping operations; quality management/ISO 9001 and TQM; environmental management/ISO 14001; container depot management & operations; corporate planning; corporate social responsibility (CSR); STP Plus and BizSafe; and risk management.

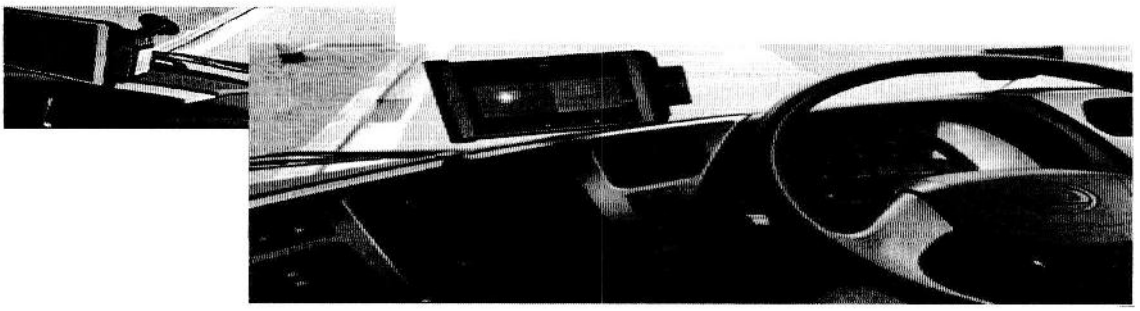
Outline

1.0 Electronic Container Trucking System (eCTS)
2.0 Container Management System (CMS)
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

1.0 Electronic Container Trucking System (e-CTS)

1.1 Information of Electronic Container Trucking System

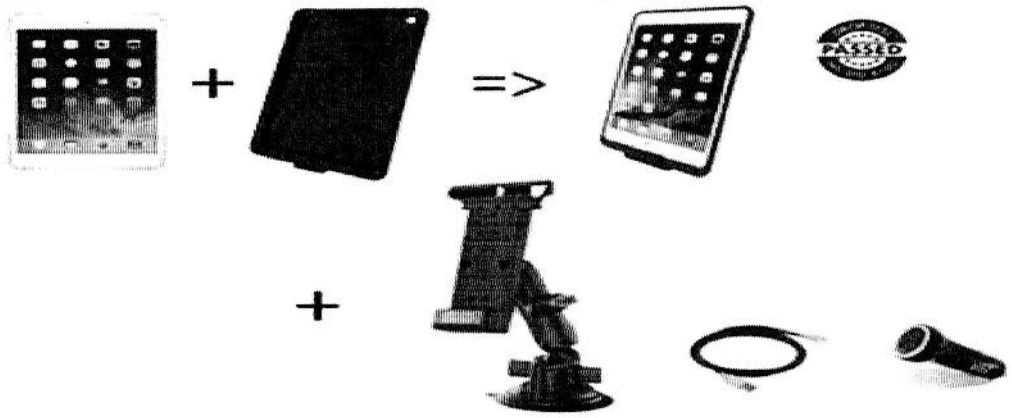
Launch in August 2016, **eCTS** is Electronic Container Trucking System. It provides a common IT platform that allows different players in the container logistics industry to effectively and efficiently communicate with one another. This results in the streamlining of container logistics operations, improvement of container supply chain visibility and provides the foundation for future applications to be developed.



1.0 Electronic Container Trucking System (e-CTS)

1.2 eCTS Devices

eCTS device and mounting



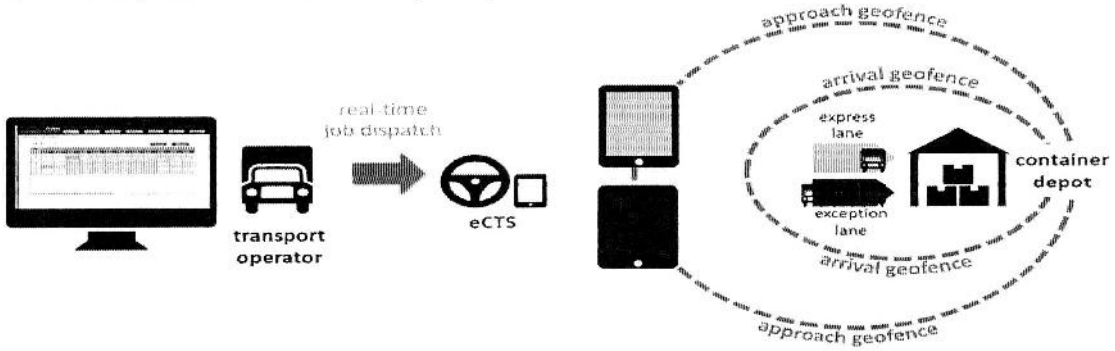
1.0 Electronic Container Trucking System (e-CTS)

1.3 Main Features of the eCTS

#1 Direct link to CMS Live Portal. One single portal to manage your trucking operations. (All under the CMS Live Portal).

#2 Geofence and eGate - Automated Entry (eGate) into Empty Depots.

#3 Pre-trip check – Work Safety Compliance record.



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1.0 Electronic Container Trucking System (e-CTS)

1.3 Main Features of the eCTS (Cont.)

#4 eCTS can run as an application on both Apple (iOS) and Android Operating Systems, allowing users to easily access the platform through smart devices.

#5 By connecting various parties together on a single IT platform, eCTS provides seamless communication, the automation of administrative processes and increased accountability over containers.

#6 The eCTS is designed as an open platform that can be easily connected to other industry systems, e.g. warehousing systems and airfreight systems. In the long term, the eCTS can be connected to these industry systems and the National Trade Platform to achieve a national digital trade infrastructure.

#7 eCTS will also consist of the Container Equipment Interchange Receipt (CEIR) module. CEIR is the technical reference for container conditions recording developed by CDAS to improve accountability of container damages and reduce disputes. The inclusion of the CEIR modules will digitise and automate container conditions recording, making CEIR easy to use.

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1.0 Electronic Container Trucking System (e-CTS)

1.3 Main Features of the eCTS (Cont.)

#8 Other features:

> Notifications Visibility for Drivers. Industry (Depot/Port) broadcast visibility to drivers.
> Manage & Track Haulier's Fleet.
> Real Time Transaction Records.
> Better Communication with Drivers.
> Multi-language message to Drivers.
> Two way text messaging with the depot gates and port (able to send alerts depots on truck's arrival automatically, update on activity status).
> Send documents directly to drivers electronically.
> No software purchase / installation necessary as the solution is completely web-based. Quick and Easy Installation of tablet onto vehicles (no longer require to send truck down to the vendor premises for any firmware upgrading).

1.0 Electronic Container Trucking System (e-CTS)

1.3 Main Features of the eCTS (Cont.)

#9 eGate SOP

- Truck arrives with eGate enabled " Green Lane" means
  - DHC cashless is in place
  - All paperwork is correct
  - Within the notification time slot
- Able to proceed directly to the next point of action, which is getting the container mounted.
- Truck arrives with eGate enabled **"Red Lane"**
  - Apply for all containers which are being drop off at the depot as they require Third Party Survey prior to gate in.
  - Check if required to pay DHC at gate or on account (GIRO)
  - Check if any other charges to be paid in cash, such as detention or demurrage.
  - Check if survey be carried out by surveyor and if need to pay any third party claims.
  - Check if within the notification time slot, too early or too late?

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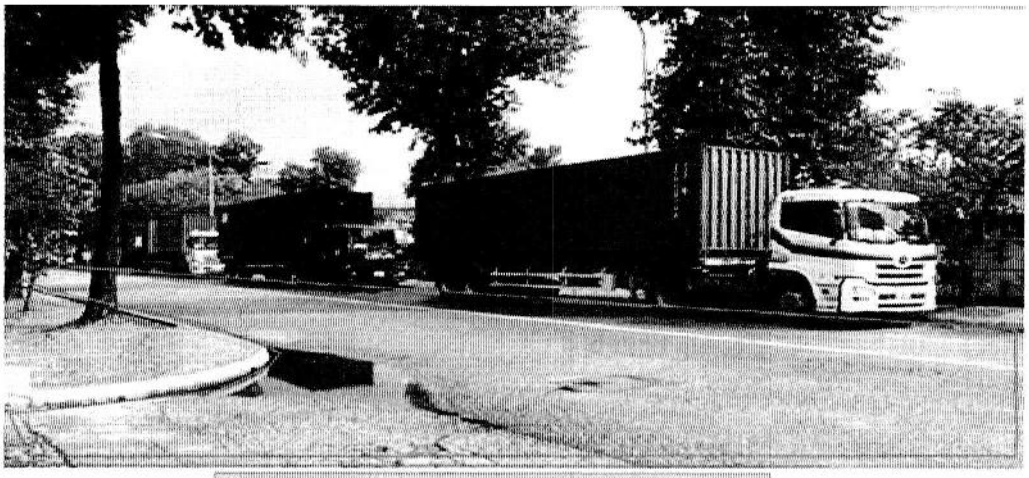
1.0 Electronic Container Trucking System (e-CTS)

1.4 The use of Geofence

Approach and Boundary Geofence

1.0 Electronic Container Trucking System (e-CTS)



Boundary Geofence at the Deopt

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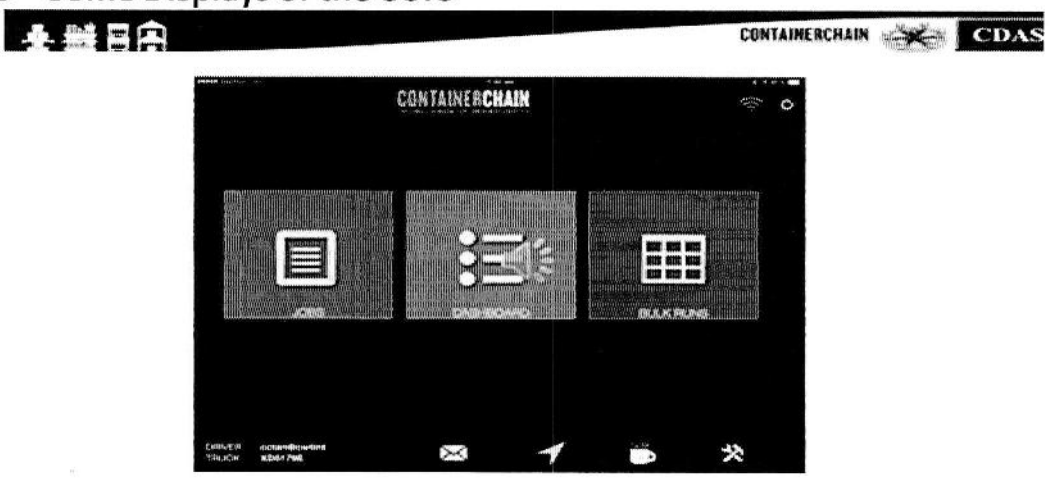
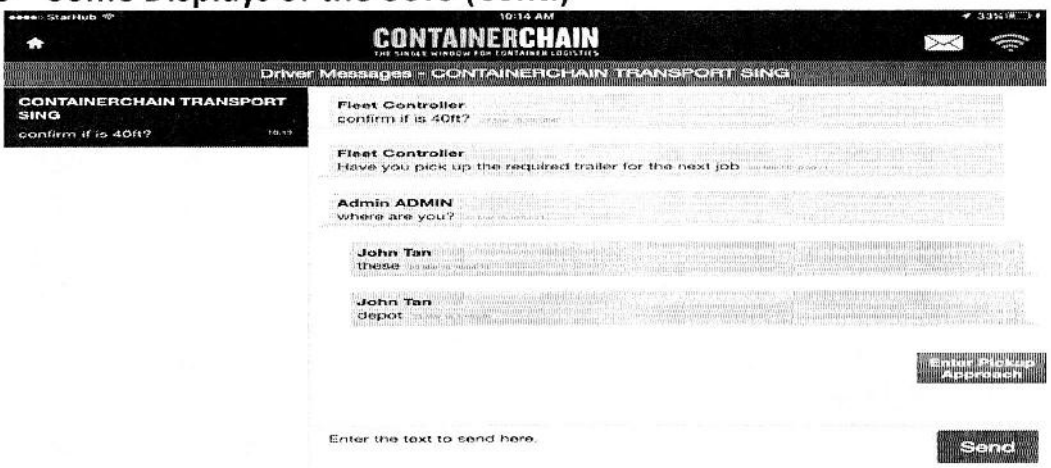
1.0 Electronic Container Trucking System (e-CTS)

1.5 Some Displays of the eCTS



1.0 Electronic Container Trucking System (e-CTS)

1.5 Some Displays of the eCTS (Cont.)



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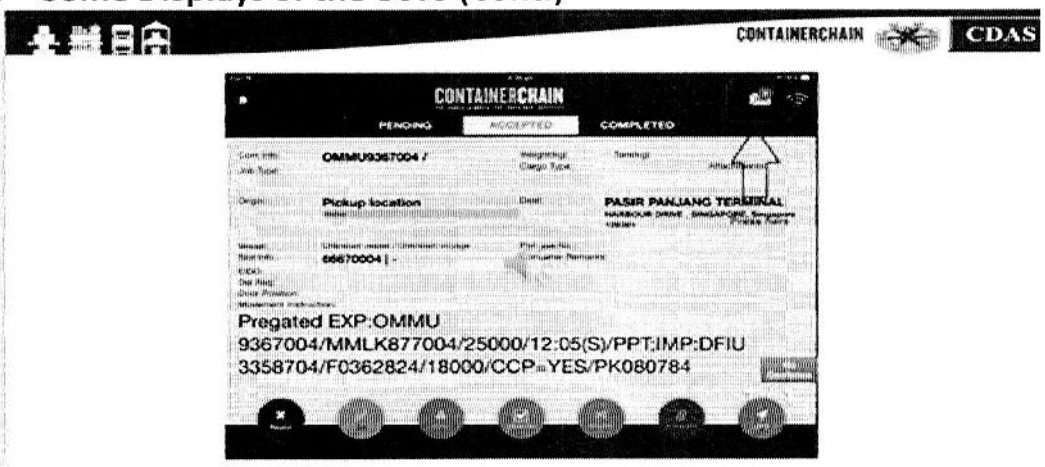
1.0 Electronic Container Trucking System (e-CTS)

1.5 Some Displays of the eCTS (Cont.)



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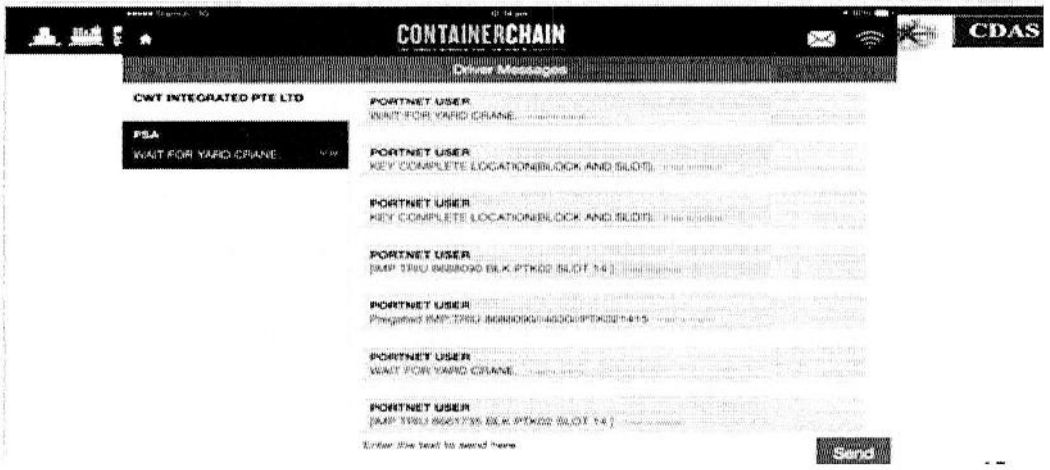
1.0 Electronic Container Trucking System (e-CTS)

1.5 Some Displays of the eCTS (Cont.)



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1.0 Electronic Container Trucking System (e-CTS)

1.6 Benefits of eCTS

(1) Reduction of waiting times at queues at the depot - Waiting time at the container depots estimated to be reduced by 30%.

(2) Reduction of fuel costs due to idling - Idling time for the truck drivers estimated to be reduced by 2 hours/day.

(3) Increase in revenue for container trucking companies - With the time savings $9,600 of potential additional revenue per truck/year.

(4) Better working conditions for container truck drivers - Digitisation of administrative procedures will allow drivers to focus on their core work.

(5) Improve visibility and enhancement of communications of the stakeholders.

2.0 Container Management System (CMS)

2.1 Information on the CMS

(1). The Container Management System (CMS) was officially launched in 2014 and today, the system has been adopted by over 90% of the container depots in Singapore.

(2). CMS is a web-based communication link between hauliers and empty container depots.

(3). It is an information and visibility portal for the entire container logistics community, including shipping lines and cargo owners. It allows the users to view, track and deploy the containers effectively.

(4). New Functions were added to the CMS (wef 01 July 2015):

* DHC cashless collection
* Bulk Run Notification Booking
* Shipping Line Web-portal.

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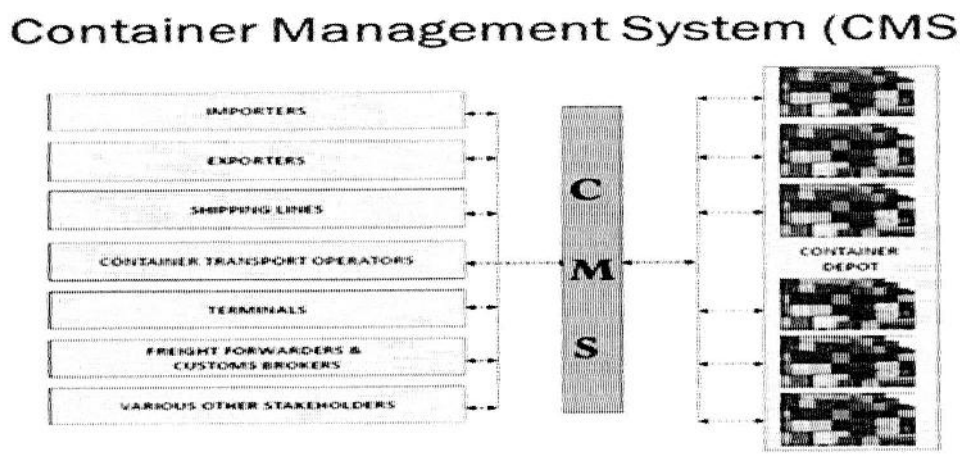
2.0 Container Management System (CMS)



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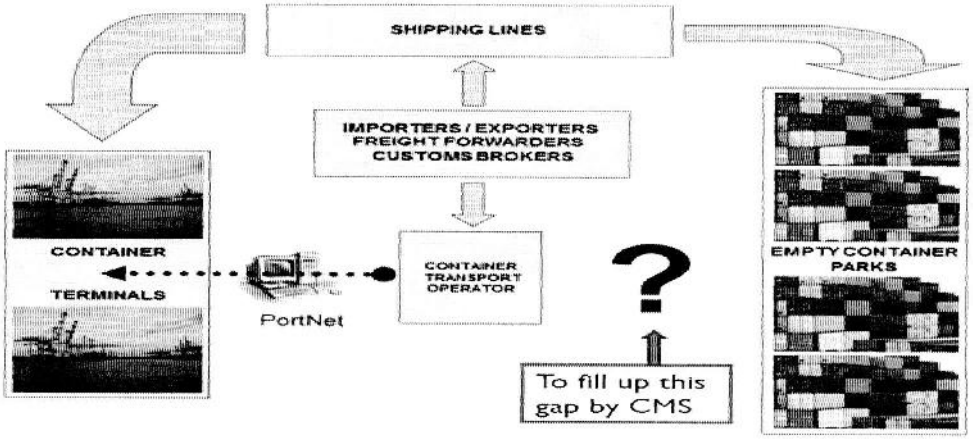
2.0 Container Management System (CMS)

2.2 Plugging the "Information Gap"

CMS fills the **information 'gap'** that existed in the management of empty containers, as depicted graphically below:



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2.0 Container Management System (CMS)

2.3 The Objectives of CMS

#1 The objective of the CMS is to virtually link up all container logistics stakeholders and provide a common communication platform to increase the efficiency and improve the container supply chain productivity and, especially at the empty container depots.

#2 CMS provides a booking system for truck arrivals at the empty container depot.

#3 CMS provides a number of benefits to hauliers as well as other players (such as Importers/Exporters, Freight Forwarders, Customs Brokers, and Shipping Lines) in the industry.

#4 CMS enable automated real time information flow between shipping lines, empty container depots, container hauliers and PSA.

2.0 Container Management System (CMS)

2.3 The Objectives of CMS (Cont.)

#5 CMS provides container supply chain stakeholders the ability to automate existing manual processes.

#6 CMS creates an environment where empty container transport movements are planned in advance.

#7 CMS reduces truck turn-around times at container depots.

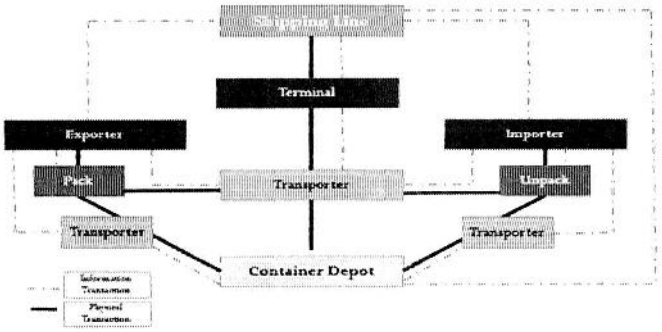
#8 CMS creates a "paperless" and "cashless" interaction between hauliers and depots.

2.0 Container Management System (CMS)

2.4 The Features of CMS

(1) Features of the CMS include pre-advice (booking) for truck arrival, automated gate processes and real-time information on pick-ups and drop-offs to empty container depots.

(2) CMS ensures information flow faster than the container (depicted below).



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2.0 Container Management System (CMS)

2.5 What are the problems faced by Hauliers ?

Issue	Cause
Manual Interaction between truck and depot gate	Current process requires significant paperwork
General visibility	Many different sources to find information
Communications Process	Current process is lengthy due to not knowing who to contact for what – lots of phone calls
Release Number validity	Truck arrives and the depot does not know of the release or there are no containers available
Flexibility across the system	Currently unable (or it is difficult) to redirect releases
Visibility of return options	Hauliers do not have a clear understanding of the depot options they have
Container detention	Hauliers do not always know which container should be dehired first
2 way loading	It is difficult to establish 2 way loading at depots
Truck turnaround times	Unpredictable turnaround times at depots, and no way to know the traffic conditions at depots ahead of time

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2.0 Container Management System (CMS)

2.6 The CMS Solution

2.6.1 CDAS through its vendor, Containerchain, provide the empty container depots with the "engine" (**emptypark@containerchain**) to automate:

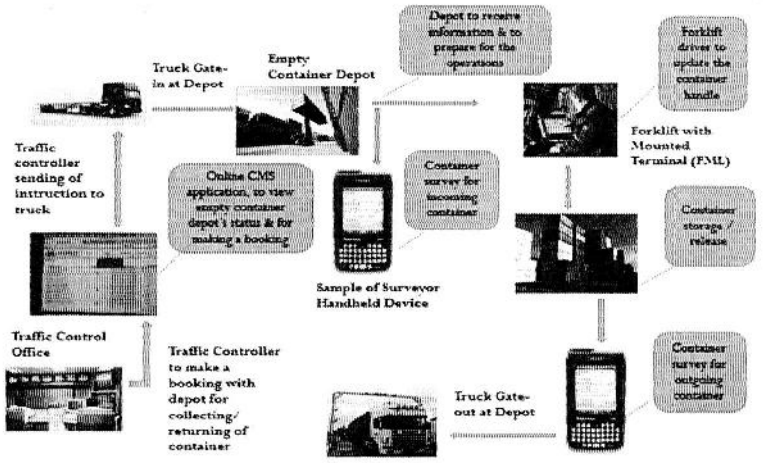
(a). Gate capacity
(b). Paperless gate control
(c). Paperless container survey
(d). Real time forklift job allocations
(e). Real time container status management
(f). Real time revenue capture

2.6.2 CMS provides the entire container logistics industry with the visibility "window" (**cmslive.com.sg**) which includes:

(i). Empty depot queue management
(ii). Paperless interaction with empty depots
(iii). Real time export container availability
(iv). Alternate empty park return locations
(v). Historical data search (drop-off and pickup)
(vi). Real time broadcast alerts to industry from empty depots (by SMS & email)

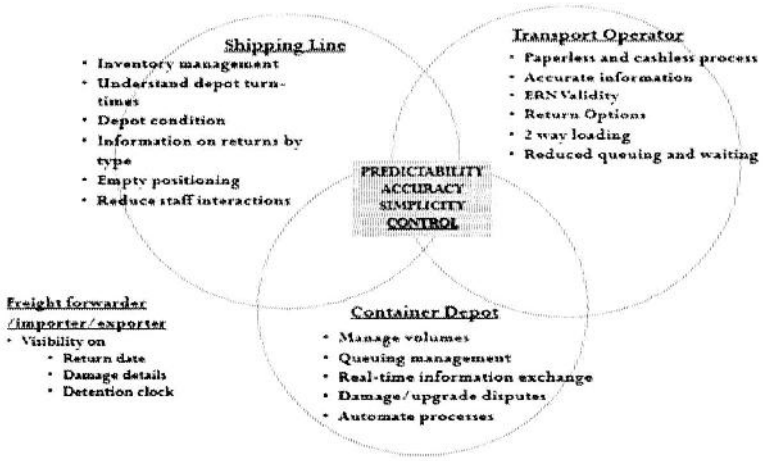
2.0 Container Management System (CMS)

2.7 CMS Application



2.0 Container Management System (CMS)

2.8 Operational benefits of the CMS



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3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

TECHNICAL REFERENCE
（技术参考）
TR39:2015
FREIGHT CONTAINER EQUIPMENT INTERCHANGE RECEIPT (CEIR)
(集装箱/货柜交接单技术参考)
LAUNCHED ON 14 AUGUST 2015

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3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.1 Technical Reference & Usage

Endorse-ment

- Prepared by Technical Committee on Logistics
- Endorsed by Manufacturing Standard Committee (MSC) on 29 Jan 2015

Reference and Guide

- As a guide on the conduct of visual survey and inspection
- For accurate reporting and updating of the condition of the freight container at each point of handing and taking over.
- Establishes the baseline on common definitions and terminologies, visual survey and dissemination of information on the conditions of the freight container to minimise disputes and delays at each point of the interchange.

Who use it?

- Shipping Lines
- Terminal Operators
- Transport Operators
- Freight Forwarders
- Container Depot Operators
- Consignees and Shippers

3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.2 Purpose of TR39

- The new TR 39 : 2015 introduces a survey at each point of interchange to document the conditions of the container with clearly specified reporting criteria.
- This survey will provide guidance and accountability to minimise disputes at each stage of container exchange and bring about increased transparency and visibility to the container supply chain when it is implemented across the whole value chain.

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3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.3 Common definitions on the conditions of container

DENTS
- Structural impressions and marks on the freight containers caused by physical force on any surface, and/or arising from prolonged use.

NORMAL DENTS
- Structural impressions and marks on freight containers deemed non-reportable in the Technical Reference.

COMPRESSION DENTS
- Dents caused by compression that may appear as depressions on adjacent corrugations.

MAJOR DEFORMATIONS
- Any form of distortion, dent, bent or bow that impacts the structure and symmetry of the container, necessitating the rectifications and repairs to enable its continuing safe use.

CUT, HOLED, CRACKED, BROKEN
- Damages characterised by visible separation of materials that may penetrate the entire thickness of the material.

ILLEGIBILITY OF CONTAINER NUMBER
- Container number not legible due to defacing or otherwise.

MISSING
- Loss of parts or missing components of the freight container such as locking bar, handle, hinge or door.

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3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.4 Common definitions on the conditions of container (Cont.)

EXCEPTION

- An incremental variation in the condition of a container where a fresh CEIR is to be made out, synonymous with a reportable condition.
- It may be an addition to the immediate past visual survey and inspection documented.
- Exceptions include but are not limited to reportable dents, cut / holed / cracked / broken, of container number, major deformations, missing parts, and uncleanliness.

REPORTABLE

- A condition is deemed reportable if it satisfies the reporting criteria stipulated in Clause 4 of the TR and shall be reported in accordance with requirements stipulated in the TR.
- Such conditions include reportable dents, cut/holed/cracked/broken, major deformations, uncleanliness, missing and illegibility of container number.
- Sample photographs of various reportable conditions are given in the TR in Annex C.

REPORTABLE DENTS

- Dents meeting the criteria as detailed in Clause 4 of the TR.

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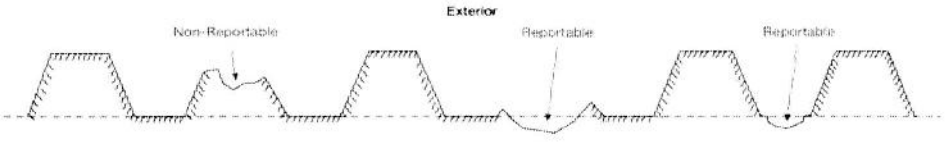
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.5 Reporting criteria for conditions of freight containers

Sec. 4.2 Dents found on corrugated surfaces



Isolated Dents

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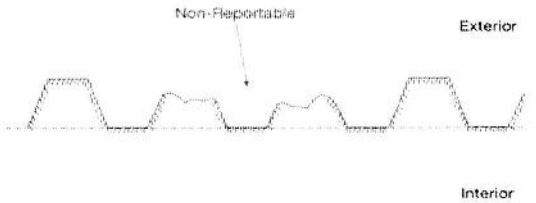
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.5 Reporting criteria for conditions of freight containers

Sec. 4.2 Dents found on corrugated surfaces = Compression dents are multiple dents that appear on adjacent corrugations on corrugated surfaces.



Compression Dents

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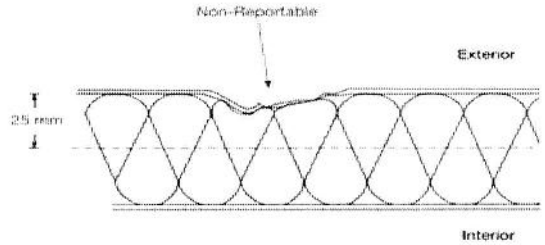
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.5 Reporting criteria for conditions of freight containers

Sec 4.3 Dents found on non-corrugated surfaces - Reporting criteria for dents found on non-corrugated surfaces (such as the panels of a refrigerated container



Reefer Dents
(冷藏凹损)

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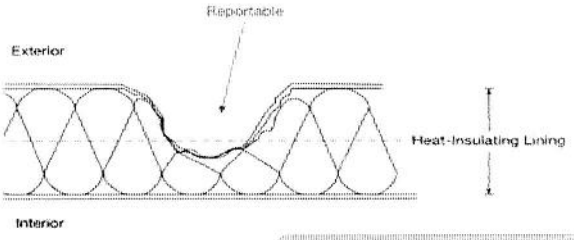
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.5 Reporting criteria for conditions of freight containers (Cont.)

Sec 4.3 Dents found on non-corrugated surfaces - Reporting criteria for dents found on non-corrugated surfaces (such as the panels of a refrigerated container)



Reefer Dents

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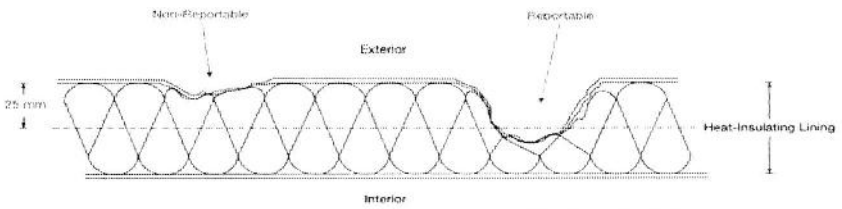
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.5 Reporting criteria for conditions of freight containers (Cont.)

Sec 4.3 Dents found on non-corrugated surfaces - Reporting criteria for dents found on non-corrugated surfaces (such as the panels of a refrigerated container)



Reefer Dents

3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.6 Reportable Damage

How to measure 25 mm?

- 25mm = 1 inch

Singapore's 1-dollar coin (third series)

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3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.7 Reporting

- An act of due diligence carried out by the party taking over the custody of the container.
- It involves recording on the CEIR, photograph taking and transmission of the conditions of the container, according to the requirements stated in the TR.
- Joint endorsement with the party handing over the custody of the container as reporting of any damage or missing component exempts the party taking over the custody of the container from liability for the said reported damage or missing component.
- In case of any dispute over under- or over-reporting, reference shall be made to the TR.

3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.8 Guidelines on the conduct of visual survey and inspection of freight containers

3.8.1 Survey on the container shall be carried out on all visible areas of the container.

For Laden Container	For Empty Container
Areas of visual survey and inspection shall include: • Left side – exterior • Front side – exterior • Right side – exterior • Door - exterior	**Areas of visual survey and inspection shall include:** • Left side – exterior and interior • Front end – exterior and interior • Right side – exterior and interior • Door – exterior and interior • Interior of top panel • Interior of the container

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3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.8.2 CEIRs shall be raised and endorsed in duplicates whenever Exceptions are noted.

- The parties handing over and taking over the equipment shall retain one copy each.
- Failure to raise the CEIRs or non-presentation of the CEIR when required, due to misplacement, loss or otherwise, shall be interpreted as no Exception noted during the interchange.

On the same basis, no CEIR shall be necessary if there is no Exception noted during the interchange.

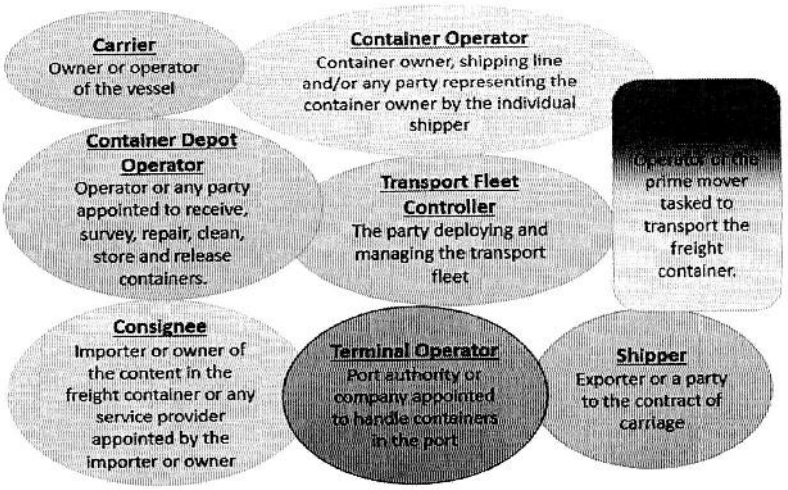
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.8.3 Taking Photograph

Photograph resolution	Photograph Capturing
• For all reportable condition(s), photographs of resolution no less than 640x480 pixels or 0.3MP shall be taken • This is to facilitate the subsequent reporting via any electronic transmission	• The container condition(s) together with container number. • Close-up view of the condition(s) • The position of the condition(s) marked out clearly in the prescribed CEIR for cross reference.

3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.9 Parties involved in Handing and Taking Over



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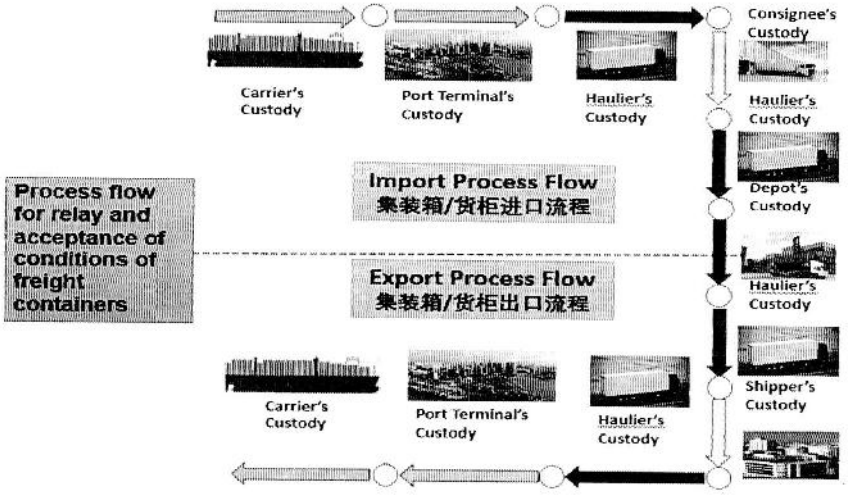
3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.10 Relay and acceptance of conditions of freight containers



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3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.10 Relay and acceptance of conditions of freight containers (Cont.)

Shipper-owned container

- For shipper-owned container, the process shall be similar but the liaison shall be direct with the container operator.

Absence of receiving party

- In the absence of a receiving party to raise a CEIR, the receiving party shall raise the CEIR by a reasonable time as agreed by the two parties involved and send it to the handing over party for endorsement.
- The receiving party shall send the endorsed CEIR to the container operator and its appointed container depot operator for notification.

3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.11 Condition codes and Container type codes for indication on CEIR

Explanatory notes on container condition codes

Table 1 – Condition codes for indication on CEIR

Code	Description			
D	Dent	Bent	Frame or structure bowed	
C	Crack	Cut	Hole	Broken parts
U	Dirty condition	Dunnage	Debris	
M	Missing parts or components	Features defaced or faded		

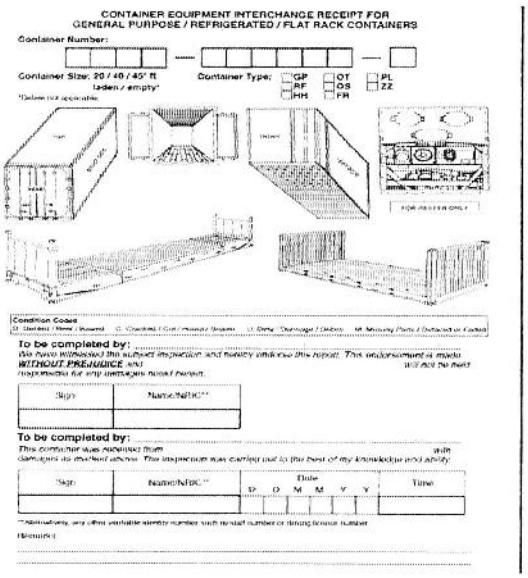
Explanatory notes on container type codes

Table 2 – Container type codes for indication on CEIR

Code	Container Type	Code	Container Type
GP	Dry van or general purpose	FR	Flat-rack (collapsible or non-collapsible)
OT	Open-top	PL	Platform
OS	Open-side	RF	Refngerated
HH	Half-height	ZZ	Others

3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.12 Standardised Container Equipment Interchange Receipt for GP, Reefer and Flat-rack Containers



CONTAINER EQUIPMENT INTERCHANGE RECEIPT FOR
GENERAL PURPOSE / REFRIGERATED / FLAT RACK CONTAINERS

Container Number:

Container Size: 20 / 40 / 45' ft
laden / empty*

Container Type: GP RF HH OT OS FR PL ZZ

*Delete not applicable

Condition Codes

To be completed by:

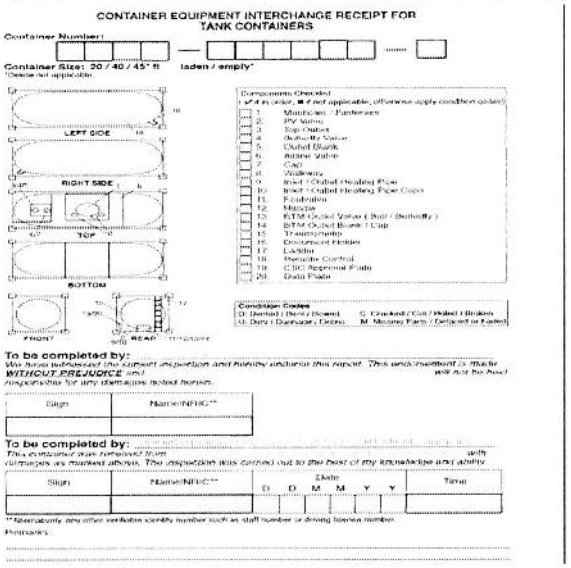
Sign | Name/NRIC**

To be completed by:

Sign | Name/NRIC** | Date D D M M Y Y | Time

3.0 Electronic Container Equipment Interchange Receipt (e-CEIR)

3.13 Standardised Container Equipment Interchange Receipt for Tank Containers



CONTAINER EQUIPMENT INTERCHANGE RECEIPT FOR TANK CONTAINERS

Container Number:

Container Size: 20 / 40 / 45* ft laden / empty*

*Delete as applicable

LEFT SIDE

RIGHT SIDE

TOP

BOTTOM

FRONT REAR

Components Checked

If ✓ in color, ■ if not applicable, otherwise apply condition codes)

1. Manhole / Fasteners
2. PV Valve
3. Top Outlet
4. Butterfly Valve
5. Outlet Blank
6. Airline Valve
7. Cap
8. Walkway
9. Inlet / Outlet Heating Pipe
10. Inlet / Outlet Heating Pipe Caps
11. Insulation
12. Nameplate
13. BTM Outlet Valve (Ball / Butterfly)
14. BTM Outlet Blank / Cap
15. Thermometer
16. Document Holder
17. Ladder
18. Remote Control
19. CSC Approval Plate
20. Data Plate

Condition Codes

D: Dented / Bent / Scored S: Cracked / Cut / Holed / Broken

O: Dent / Damage / Extra M: Missing Part / Detached or Failed

To be completed by:

We have witnessed the current inspection and hereby endorse this report. This endorsement is made WITHOUT PREJUDICE and will not be held responsible for any damages noted hereon.

Sign	Name/NRIC**

To be completed by:

This container was received from ..... with ..... damages as marked above. The inspection was carried out to the best of my knowledge and ability.

Sign	Name/NRIC**	Date (D D M M Y Y)	Time

**Alternatively, any other verifiable identity number such as staff number or driving license number

Remarks:

Introduction by CDAS: Industry System for Container Depot and Container Trucking operations

Question?