FREMANTLE PORTS



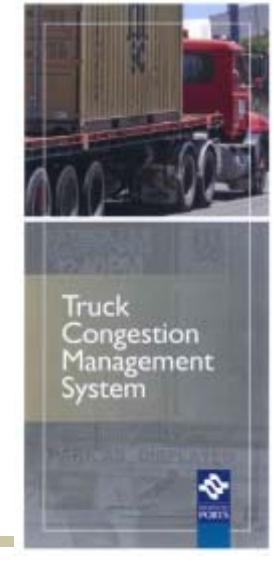
Effective Management of Port Landside Operations - Advanced Systems

Friday 15th July, 2016

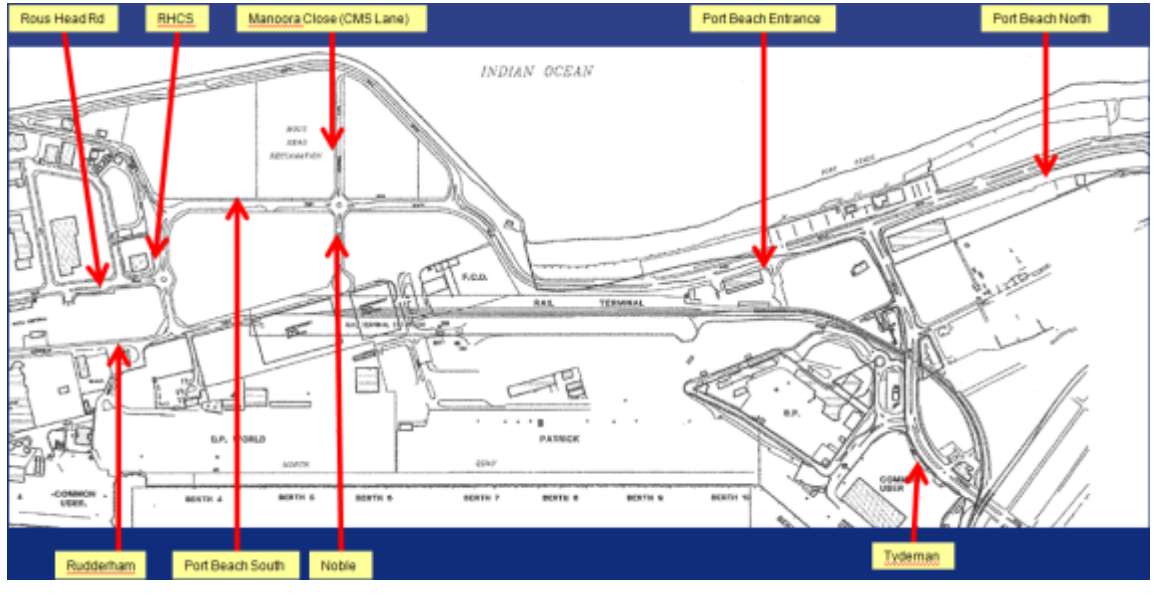
INNOVATIVE TRUCK CONTROL

Congestion Management System

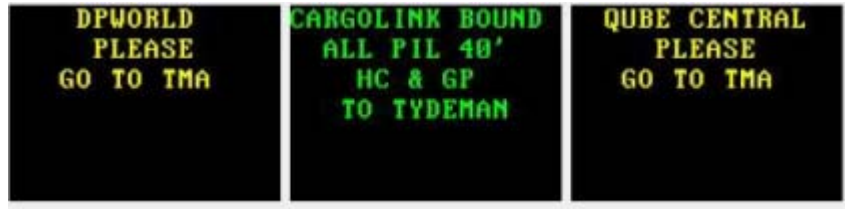
- Xmas 2009 – WA economy strong (high imports), but GFC meant no empty repos
  - Result = high volumes into parks, no containers going out (poor export season and no repos) leading to significant queues.
  - Only alternative was manual traffic management
- Need for Congestion Management System – Deciding Factors
  - Recurring congestion and threat of litigation (interaction public & heavy vehicles)
  - Newly dredged land area (Truck Marshalling Area – TMA from May ‘10)
  - Industry agreement on need for action (Focus sessions, Task Force Work Group)
  - Port commitment to innovation (Mgt. willing to try something new)

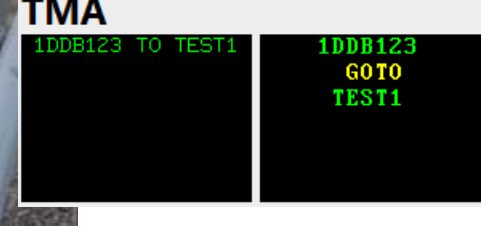


Congestion Management System



Congestion Management System





New Site Key Performance Indicators

Newly created land areas have given the Port the opportunity to guide key quay- and land-side efficiencies.

KPIs included in all new leases – Incentive for good performance

Tenant Operating Performance System measures results

Tenants provide data – Exceptions only managed by port

Financial incentives mean risk of data manipulation

In addition, some KPIs impossible to control without independent verification method

Verification through Intelligent Transport Systems

Future Truck Control System

Performance Indicators (KPIs) include:

- Truck Turnaround Times (TTT - with incentive for handling trucks with multiple containers)
- Queues on Roads
- “Off Peak” (6pm-6am) operations, etc.

Key considerations include: Safety and Security – trucks on roads, trucks taking too long to perform certain activities

Other requirements include congestion detection and providing instruction to drivers

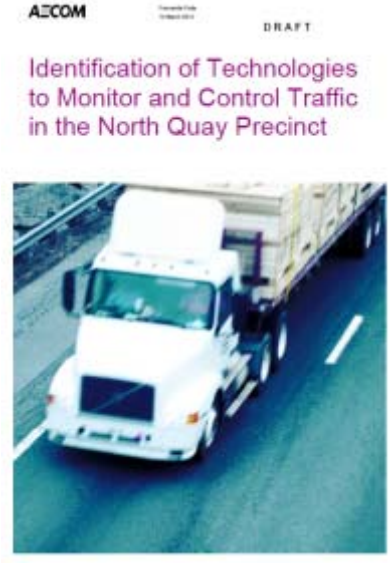
Fremantle Ports provided scope – Industry & consultant = recommendations

Key considerations:

- Minimal involvement of Fremantle Ports personnel ongoing
  (i.e.: no Vehicle/Traffic Control Centre)
- Minimal ongoing cost
- Ease of KPI comparison

Current Developments:

- In action = Queuing control - Video imaging processing
- Under RFQ = TTT – likely RFID/ANPR combination



Truck Control System - Queuing Detection & TTT

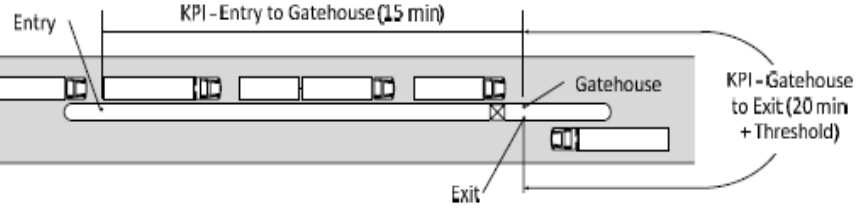
euing

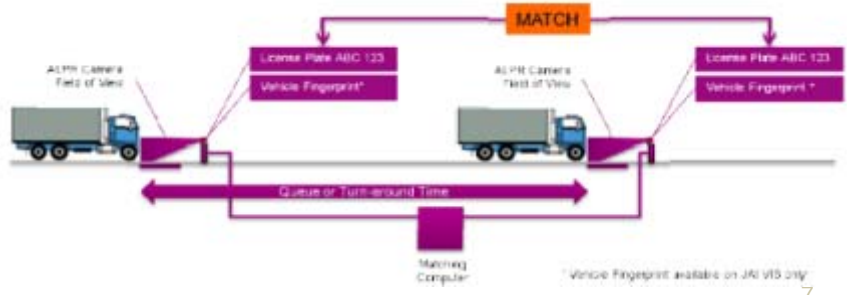
- KPI = No queuing on roads.
- Security concerns about certain vehicles in certain areas on roads
- No practical means of manually determining this
- Port has developed a system using video zoning technology (in implementation – see photo)
- Warnings provided to tenant and Port officer
- Failure to act = discussions with authorities (security) or with tenants (KPIs)

Queuing detection At ICL

hicle Detection (including Truck Turn Time - TTT)

- Security considerations from point-to-point vehicle durations (illicit activity?)
- KPI = Site to service truck in given time period (TTT)
- ANPR to capture vehicles on entry and exit = verification (security) or audit (TTT)



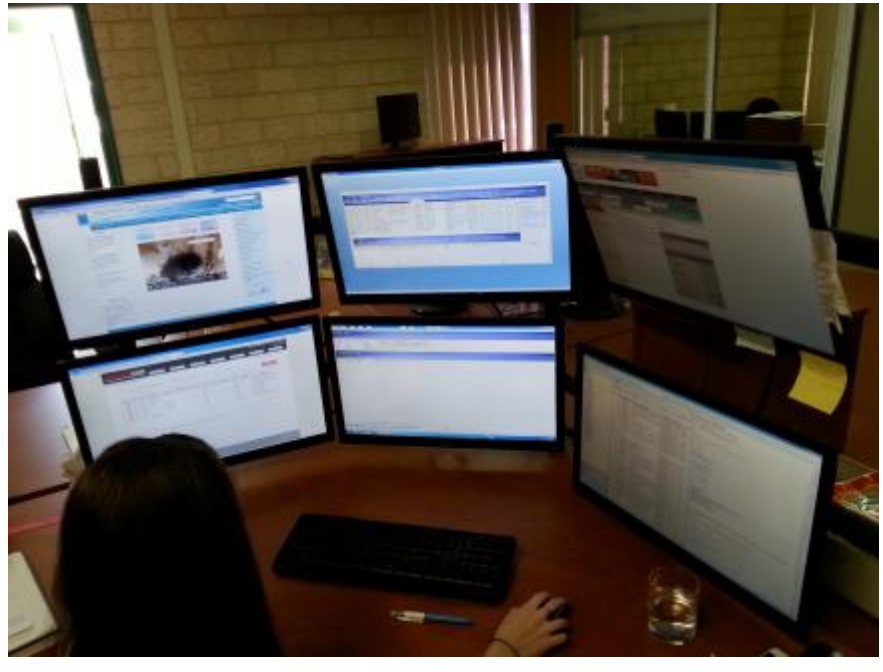


DATA INTEGRATION IN THE INTERNATIONAL CONTAINER SUPPLY CHAIN

PORT COMMUNITY SYSTEM

Imagine having to put up with this, day after day

- This is one transport operator. The scene is repeated with other, often different systems,for Customs Brokers/Freight Forwarders



- Try to tell them there aren't too many unlinked systems. You may think you're connected to one another… as far as they're concerned, you're n

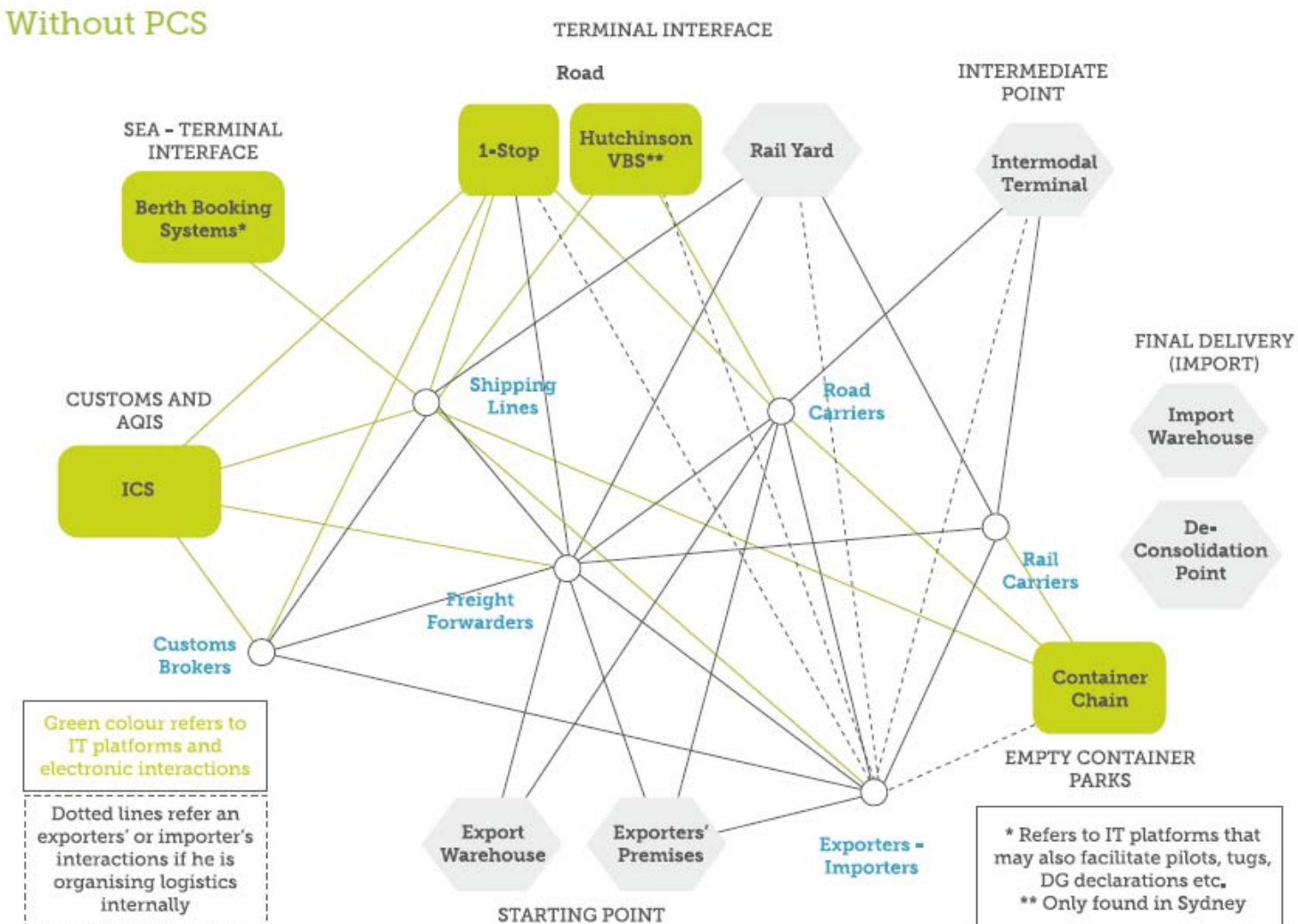
The Issues in Summary

- The NICTA “National Port Community System” study from January found
  - **Multiple screens** (lost information, no comprehensive view, difficult to combine information)
  - **Unnecessary number of communication channels** (connection complexity, manual transactions unavoidable)
  - **‘Problem Discovery’** (no guarantee you will find out the problem in a timely manne manual processes to resolve problem, uncertainty who has what info)
  - **No IT systems in place** (manual handling, small players do not share advantages Interacting parties add manual steps to their automated systems)
  - **Manual transactions** (wasted resources, re-keying errors, los information, conflict disputes, difficult to combine information and optimise resources)
  - **Unnecessary and wasted truck movements** (excessive cost for transport operators, non-optimal use of container terminal infrastructure, road congestion, decrease of port capacity)

Port Community Systems – E-Port Networks

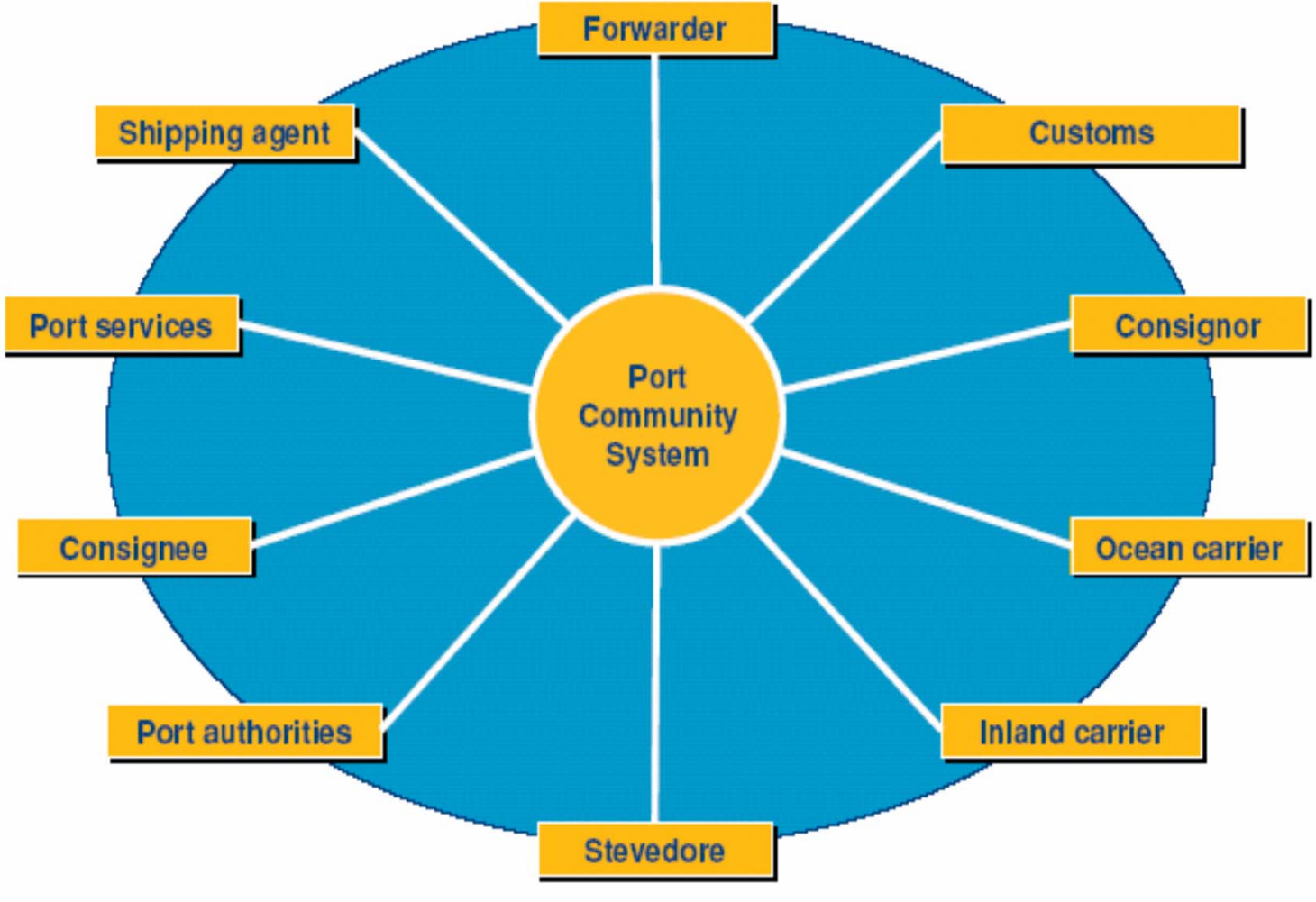
- Widely used overseas
- Concept is to better link Supply Chain Participants through a neutral and open electronic platform to:
  - Improve speed and accuracy of transmissions
  - Reduce unnecessary duplication (submit once but use many times)
  - Broaden reach and availability of Supply Chain information including performance data and “where is my box?”
- Australia has many of the major elements of a PCS, in many respects far in advance of other countries
- Some significant steps forward (booking systems, container tracking, Customs) but no overall strategy as yet

Current Trade Information Paths



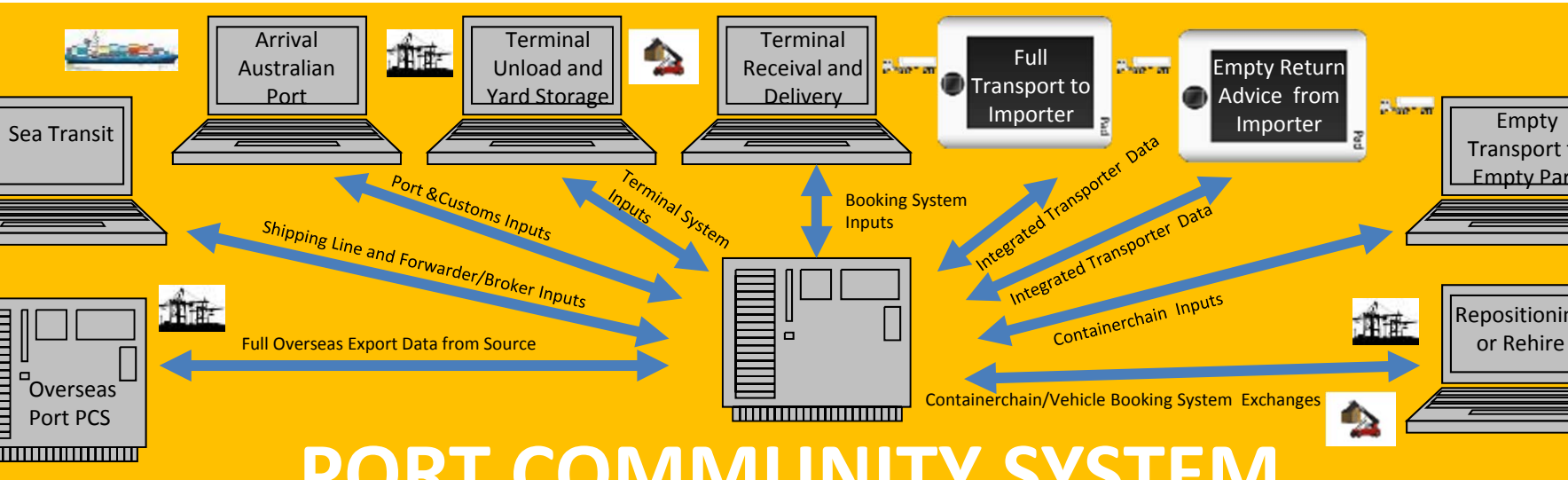
Current Import Process in Australia

Idealised PCS / E-port Network



Current Import Process in Australia

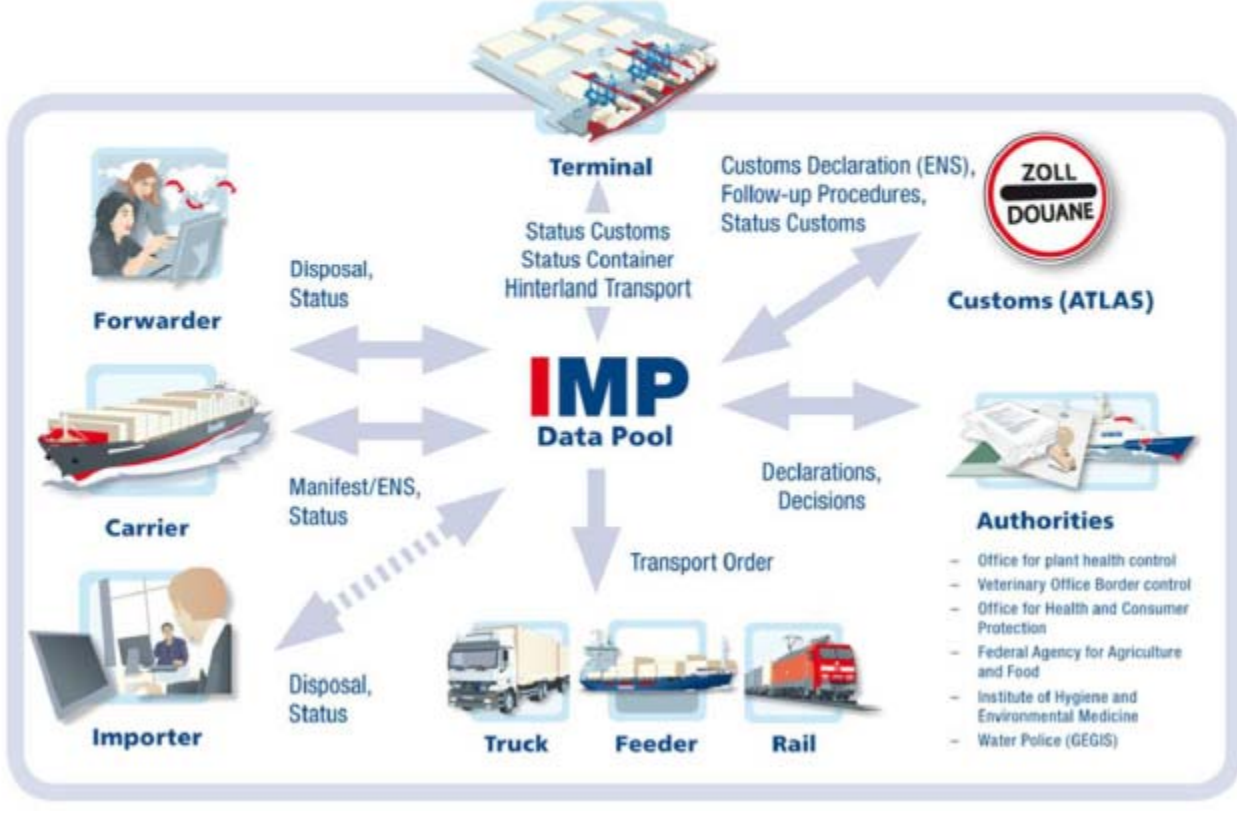
uture PCS



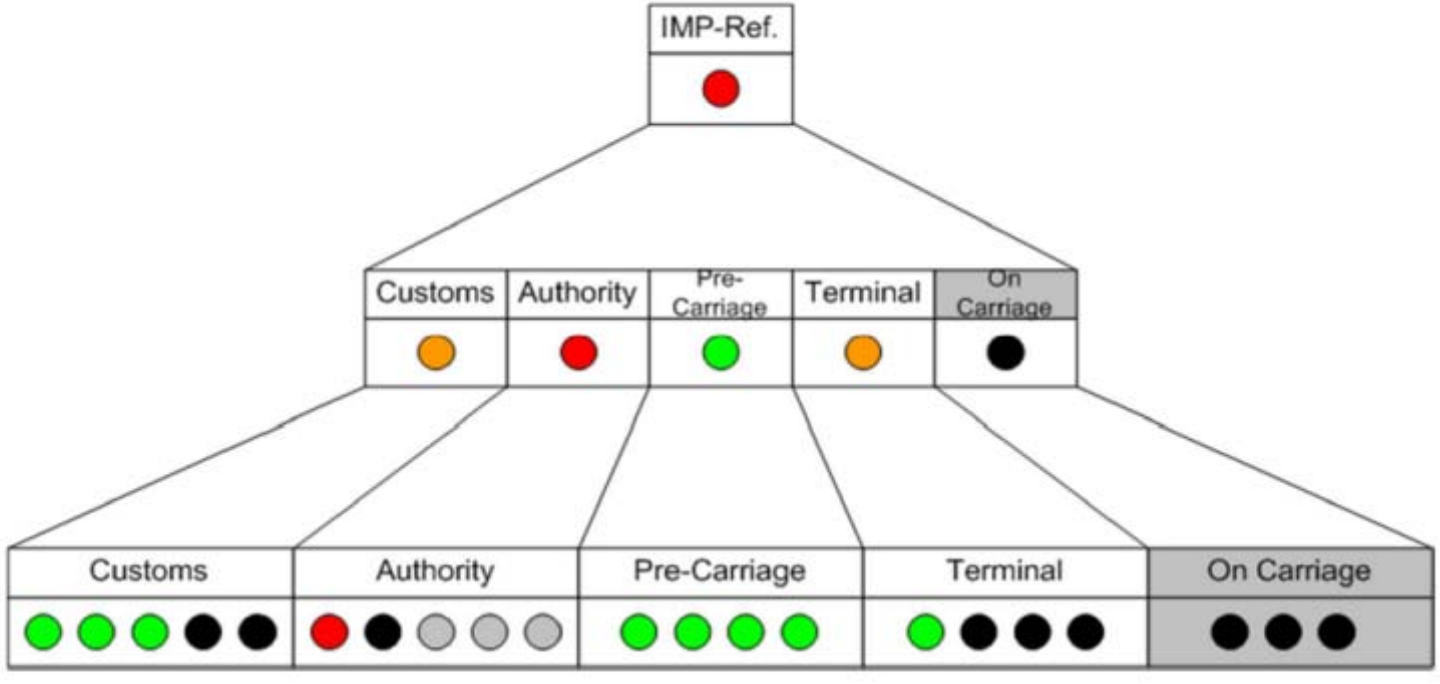
European PCS (Dakosy)

Single Window DAKOSY - Import

DAKOSY



European PCS (Control Panel)



- black : Initial status, import reference without any actions yet
- orange : Processing
- red : Alert, process has been interrupted by customs or authority
- green : Step has been finished successfully.
- blue : Process closed. Messages will no longer be accepted.
- grey : Status irrelevant.

Why now… compared to a few years ago?

- Containerchain fills another of the major gaps in the supply chain alon with systems such as 1-stop, Cargowise, etc.
- Customs have expanded their role to become Australia Border Force and need to adapt their systems to have greater visibility down the cha
- Technology to fill the gaps is more readily available (apps/smart phone
- System providers are already using “smart” technology to fill the gap o universal vehicle tracking (Containerchain E-gate/Live)
- Key industry players are working on products to link the chain
- Increased efforts are clarifying the standards/protocols (GS1, etc.)
- Overseas PCS are now more sophisticated making it not only more possible to link directly to these systems but also worthwhile

The Enthusiasm is there!

- There are multiple projects in the PCS sphere throughout the country
  1. USQ / Port of Brisbane study – Rural product supply chain data integration study
  2. GS1 / Aust. Logistics Council – Have looked at the movements for a distinct customer (one customer at a time) attempting to provide status update information on freight from custome premises through to overseas customer delivery. Initial focus has been on the beef and wir industries.
  3. CCIWA (CADF funding - National PCS pilot model" (a visual representation of a PCS, which will enable stakeholders at different levels of the supply chain to examine and understand th specific interactions with a PCS. It will also demonstrate visibility of transaction information and cargo location throughout the chain)
  4. 1-stop, Containerchain, Wisetech Global - some consideration of an attempt to "continue to collaborate on integration services for the benefit of the community"
  5. DP World Portal initiative
  6. Flinders Ports - consideration of where they take their terminal and ECP system
  7. Victoria University
  8. Containerchain E-gate/Live – use of Containerchain app in every empty container carrying vehicle with the expansion of "other visibility" services to freight forwarders
  9. 1-stop thoughts on PCS future (presentation to International PCS Meeting Hamburg 1 June 2015 and ASEAN Ports Meeting July 2016)
  10. Australian Border Force considerations of the future of ICS

An ASEAN perspective – APMEN (Asia Pacific Model E-port Network)

- APEC targeting 10% improvement in supply chain performance
- Cloud Computing, IoT and “Big Data” mean new opportunities for improving supply chain connectivity

- E-Port
  - Paperless trading
  - “One-stop shop” services
  - Inter-agency, inter-economy co-ordination on cross border supply chain
- Looking at Model E-port networks
  - Exploring pilot programs to eventually establish an APEC E-port network
  - Pilot projects to be discussed further at 2016 meeting in Shanghai
  - Ports Australia (led by NSW and Fremantle Ports) working on an Australia Ports based pilot solution covering entire supply chain.

A final word – MO42 VGM … really that difficult?

- Australia has been working for over a year on the introduction of the SOLAS MO42 VGM Export weighing requirement.
- The shipper always has end responsibility for ensuring the weights are correct.
- To enter a terminal in Australia, you must use the 1-stop Vehicle Booking System (VBS)
- Regardless of how you have legally obtained your export container VGM, once it enters the 1-stop Pre-Receival Advice (PRA) section of your booking and has been “accepted”, you have fulfilled your weighing reporting requirement – no more to do.
- Australia has very stringent weighing standards, however – fine tolerances set by authorities (NMI)

Questions?

Further Queries

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CADF/CCIWA Study Findings

- The Chamber of Commerce and Industry WA (CCIWA) obtained fundi from the Cargo Automation Development Fund (CADF) to carry out a study on PCS in 2013/14:
  - Those who attended study seminars had a positive view toward the conce of a PCS
  - To gain a greater commitment, you have to give people a greater understanding of what it is actually going to "look and feel" like
  - Much of the pre-requisites already exist – in fact we are probably more advanced in many key elements compared to many existing PCS
  - Not just an IT project – more a "change management" project
  - Clarity on governance, on-going security of information, etc. required
  - **Short term** - "Simulator" model, based on case studies, would assist in understanding – possibly even a free "notification app"
  - **Long term** – "Alliances with 'Power Players'" at "public" level (Customs, other authorities), build governance consortium