VICT – A Revolutionary Road To Efficiency

Victoria International Container Terminal

An ICTSI Group Company

Friday 26 February 2016

How did I get here?

- IT graduate through Victoria University of Technology (VUT)
- Extremely tough finding an IT Role so! I Gave up the IT dream
- In Mid 1996 – applied and was successful in getting a job on Melbourne's waterfront
- Part of 4 Generations of stevedores through Melbourne
- 20 yrs. experience in operations and management on the Melbourne waterfront

Previous Responsibilities:

- STS Crane Operator & Straddle Carrier Operator
- VBS Supervisor
- Vessel Planner & Yard Planner
- IT & Systems Manager
- Worked on Automation Integration in the Port of Brisbane

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Joining the Road to Revolution

Role at VICT

- Joined VICT in October of 2014 as the Operations Manager
- Opportunity - The level of Automation Advancements have now allowed me the opportunity to work in an area I first went to university to study
- Introduce the new opportunities and efficiencies that will be brought about by an unprecedented level of automation to the supporting industries in the supply chain
- Ensure the integration of the new technology is introduced as seamlessly as possible
- As a new employer, being able to provide the opportunity for people to work in one of the safest container terminals delivered through good ideas and innovation is extremely important to VICT

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Who is ICTSI?

- ICTSI our parent company, international operations:

- 29 terminals around the world across 6 different continents
- 2nd May 2014 – awarded Webb Dock concession (26 yr. contract)
- Confronted with challenges at Webb Dock
- Utilising a combination of systems & plan to adopt state-of-the-art technological solutions
- VICT will be a game-changer on the Melbourne waterfront

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What does VICT bring to the table?

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- Investing US$397 million
- Construction began Q3 2014
- Commence operations Q4 2016
- Initial development includes 660m berth
- Enabling access to new larger generation 8000+ TEU ships
- Introducing revolutionary operational efficiencies
- All containers will be weighed
- Providing easy access for HPFVs
- ISCA Certification- only national sustainability rating tool for infrastructure

VICT is registered to pursue an **ISCA** rating

- 5 STS Neo-Panamax cranes
- Fully-automated on-dock operations
- Full Integration of a paperless Vehicle Booking System (VBS)
- Two-way Running to eliminate inefficient, empty truck trips into & out of our container terminal
- Direct Empty Returns (DER)
- Supplying off-peak slots
- Block stacking via Group Codes

Where is VICT located?

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Key Project Milestones

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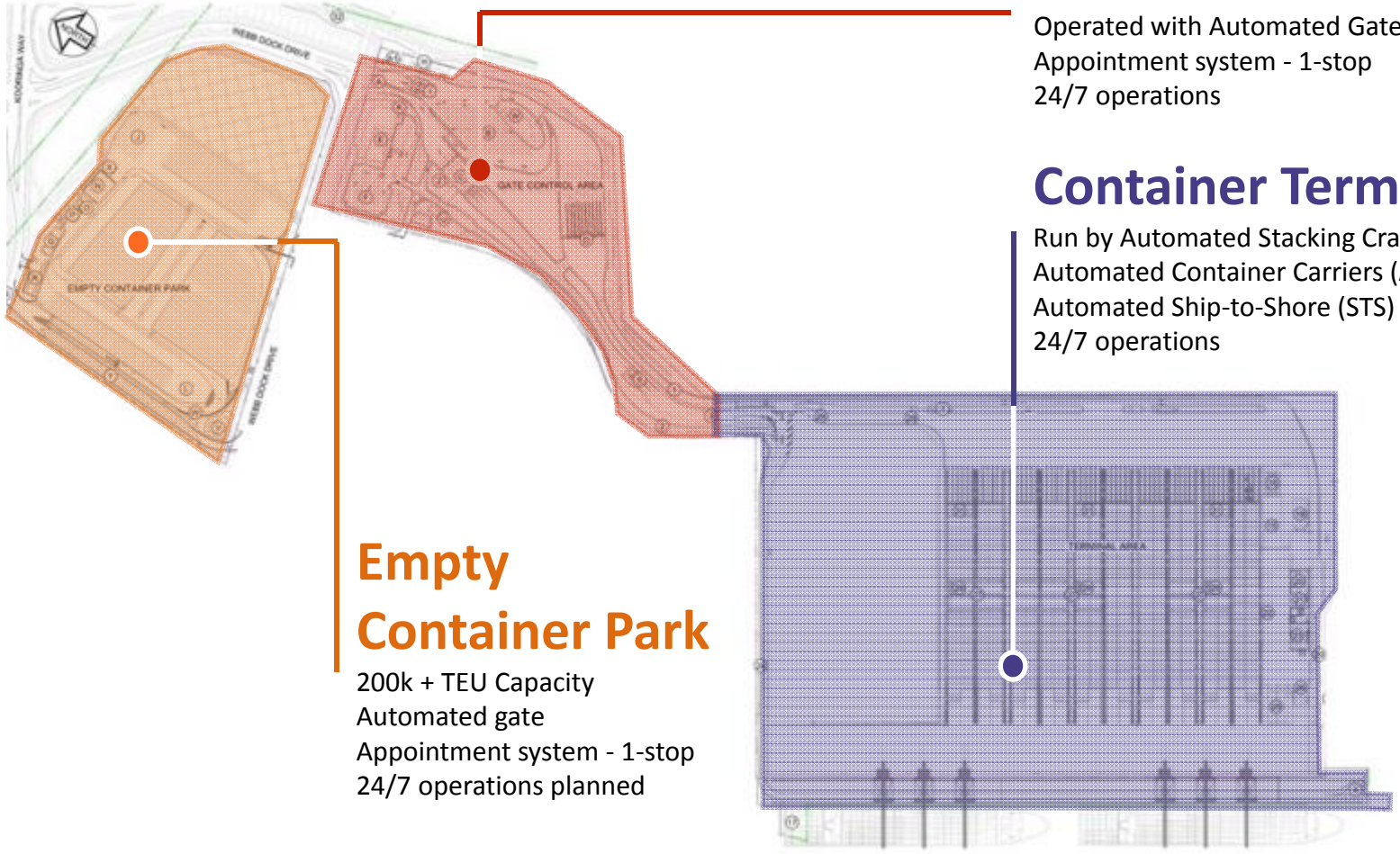
High Level Implementation Plan	Timeline
Civil Construction Commenced	OCT 2014
Automation/Operations System Integration and Commissioning	MAY 2015 Go-Live
Phase 1 Equipment Deliveries ▪ 8 x ASC - (MAR 2016) ▪ 11 x ACC - (APR 2016) ▪ 3 x STS - (MAY 2016) ▪ 4 x ASC - (MAY 2016)	MAR to MAY 2016
Live Site Commissioning (6 months)	MID 2016
Phase 2 Equipment Deliveries ▪ 2 x STS - (NOV 2016) ▪ 8 x ASC - (DEC 2016) ▪ 7 x ACC - (TBC)	LATE 2016
Phase 1 - Go Live ▪ 1 Berth of 340m quay line ▪ 3 x STS, 6 x Container Blocks with 12 ASC's ▪ 11 x ACC	Q4 2016
Phase 2 – Go-Live ▪ 2 Berths of 664m quay line ▪ 5 x STS, 10 x Container Blocks with 20 ASC's ▪ 11-18 x ACC	Q1 2017

Industry-leading design and engineering

Currently well on track to Go-Live in DEC 2016



Gate Control Area

Operated with Automated Gate Systems
Appointment system - 1-stop
24/7 operations

Container Terminal

Run by Automated Stacking Cranes (ASC),
Automated Container Carriers (ACC) and
Automated Ship-to-Shore (STS) Cranes
24/7 operations

Empty Container Park

200k + TEU Capacity
Automated gate
Appointment system - 1-stop
24/7 operations planned

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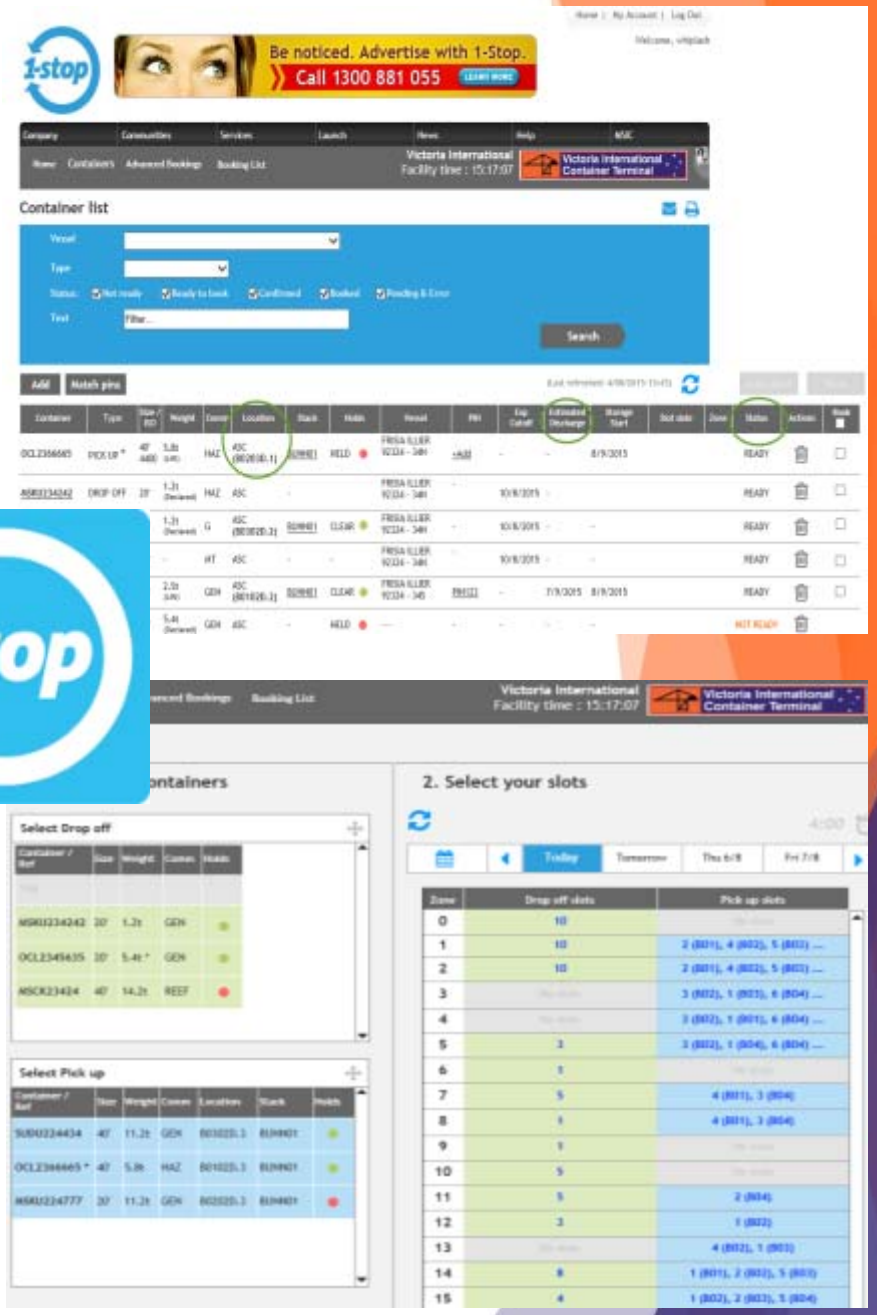
Land-side Innovations

- Enhancements to Container List & Booking Screens
- **Dynamic Bookings** when Import Container are placed in block
- 1-Stop Gateway for PRA & eIDO
- Estimated Discharge time
- Measured weights for Exports
- Container Position in Block
- VBS will assist in two way running
- Group Codes to facilitate homogenous stacking



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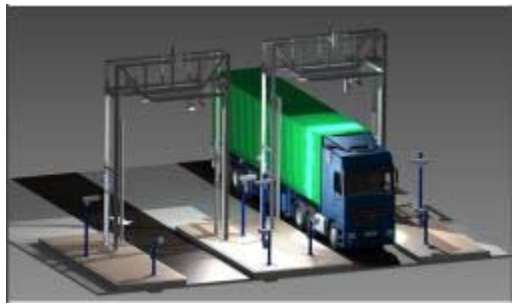
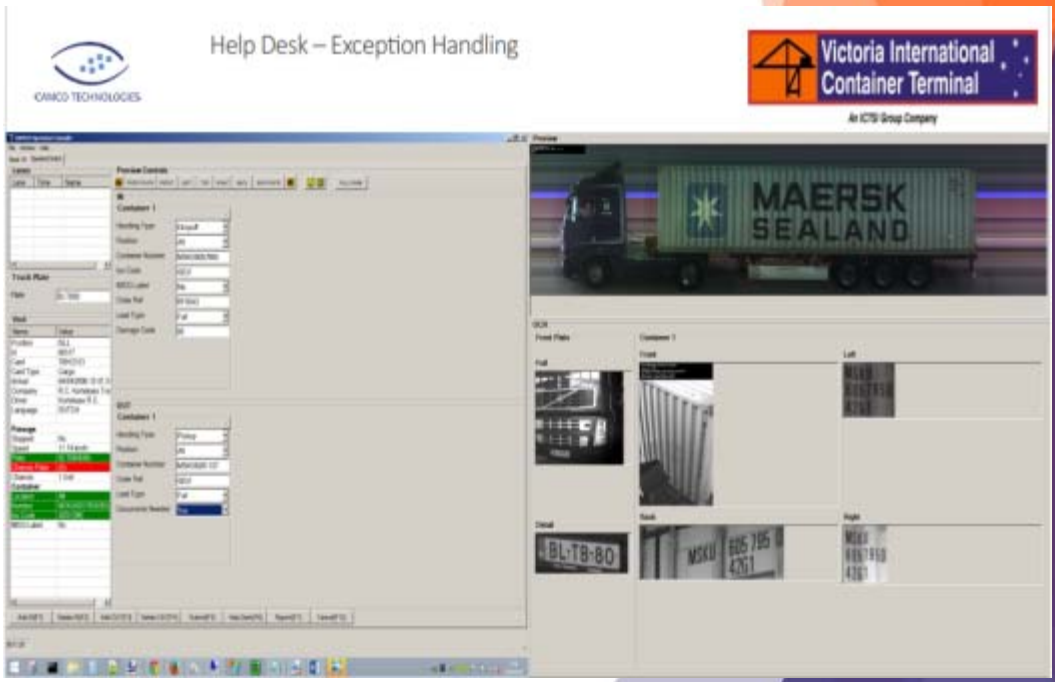
Land-side Innovations

CAMCO TECHNOLOGIES

CAMCO Gate Operating System

- Optical Character Recognition Portals (OCR)
- License Plate Recognition (LPR)
- Maritime Security Identification Card (MSIC)
- Truck Driver Kiosk Interfaces
- Exception Handling
- 11 inbound lanes
- 4 outbound lanes
- Ticket or SMS option
- O/H and WIM at out-gate
- 5 Exchange Lanes per ASC Block





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TOS Innovations & Integration

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Terminal Operating System (TOS)

- VICT has proudly partnered with **NAVIS** to provide the solution for the Terminal Operating System
- The NAVIS N4 3.x version of the TOS provide VICT with the necessary elements of integration to support the **KALMAR Automation, CAMCO GOS, ABB STS Interface & APS STS OCR**
- The TOS and Automation will be commissioned with the help of **IGO Solutions**

Innovation in Automation

navis N4

KALMAR

1-stop

CAMCO TECHNOLOGIES

ABB ROBOTICS

APS Technology Group, Inc.
Automated Technologies With A Vision

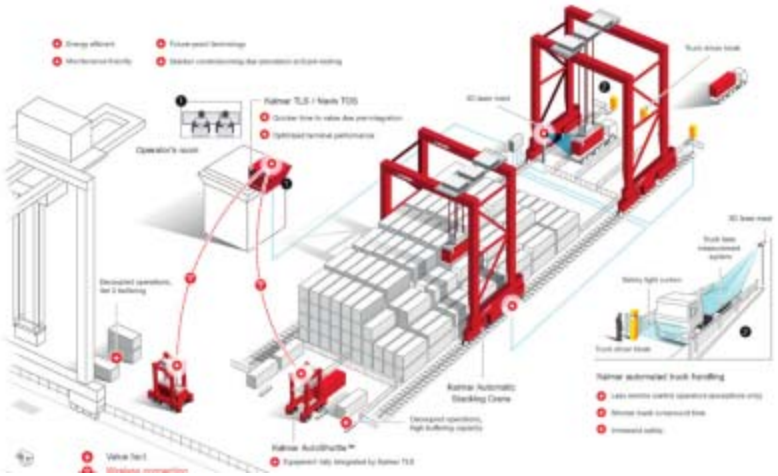
igo Solutions

ZPMC
Shanghai Zhenhua Heavy Industry Co.Ltd

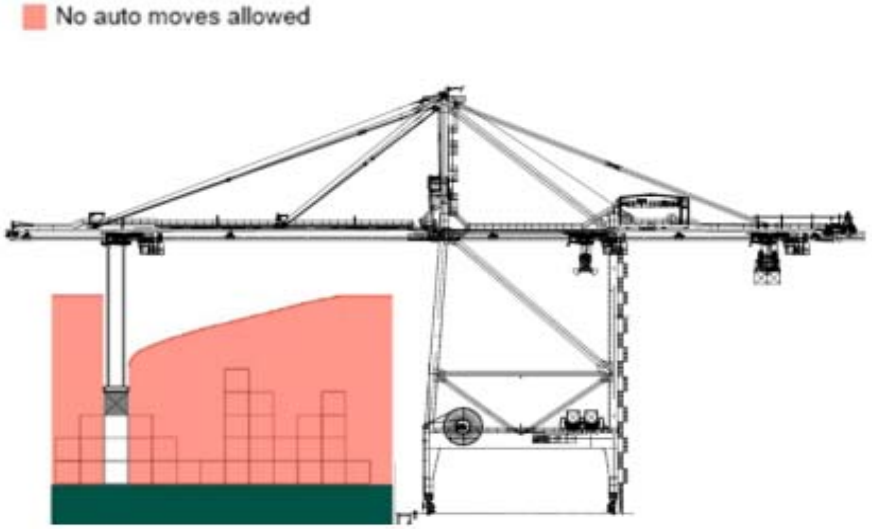
Quay-side Innovations

- 5 x ZPMC Twin- Lift STS Cranes
- QCLP on cranes
- 11 x KALMAR ACC's
- 3 x Back Reach Lanes for ACC's
- 20 x KALMAR ASC's,10 dedicated for Land-side Ops & 10 dedicated for Water-side Ops
- ABB Remote STS Operation
- Exception Handlers to handle OCR Exceptions

Full Automation



Remote STS Operation



Quay-side Innovations

Shanghai Zhenhua Heavy Industry Co.Ltd

Phase 1 STS cranes complete

Innovations in Sustainability

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Bio Retention Swale

Drainage Objectives

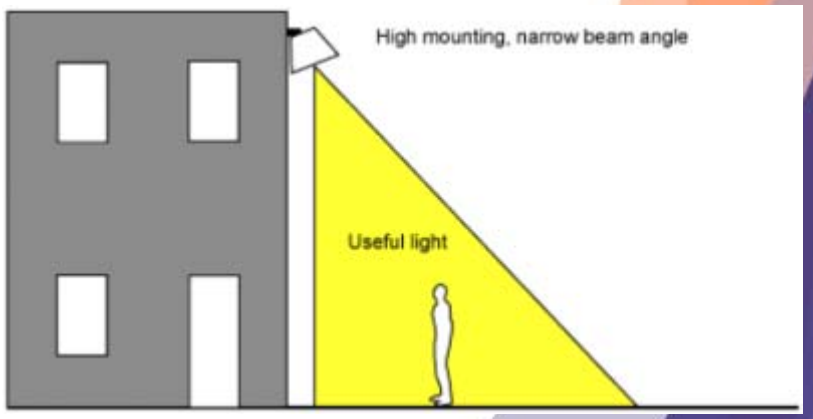
- Improve local receiving water quality
- Harvest water for re-use

Innovations in Sustainability

Lighting Requirements

- Legislative (OH&S Act, Maritime Act) Australian Standards for lighting, Port Development Guide
- Residential Obtrusive Lighting Assessment
- Infrastructure Sustainability Council of Australia (ISCA)

- Directional lighting and recessed light source to prevent light spill & night sky glow



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3D Video – Terminal Operations

Click the link below for video:

www.transportevents.com/presentations/melbourne2016/VICTvideo.wmv

Thank you & Q&A…

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