

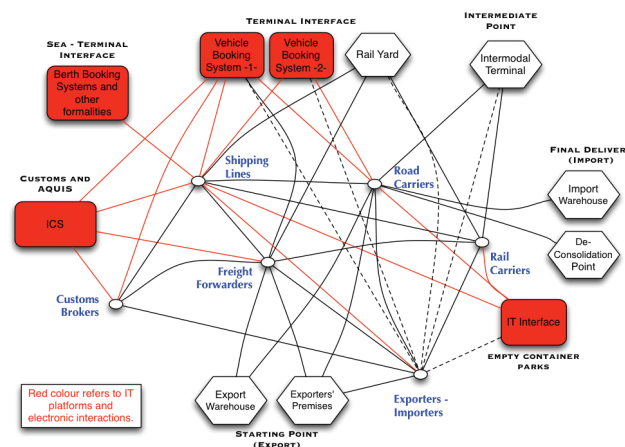
# Developing a Port Community System

The inadequate, inaccurate and untimely exchange of data impacts the competitiveness of Australian port supply chains.

## The Challenge

Australian container freight supply chains suffer massive inefficiencies due to fragmented multi-party transactions, inadequate information sharing and variable IT penetration:

- A single container movement can require 120 transactions with up to 50% having data items unnecessarily repeated, increasing error rates
- Supply Chain Participants (SCPs) communicate through multiple channels and interact with multiple proprietary IT systems via multiple screens
- Issue identification is reactive, not predictive, and exacerbated by limited visibility of container identifiers, and cargo, at many stages across the supply chain.

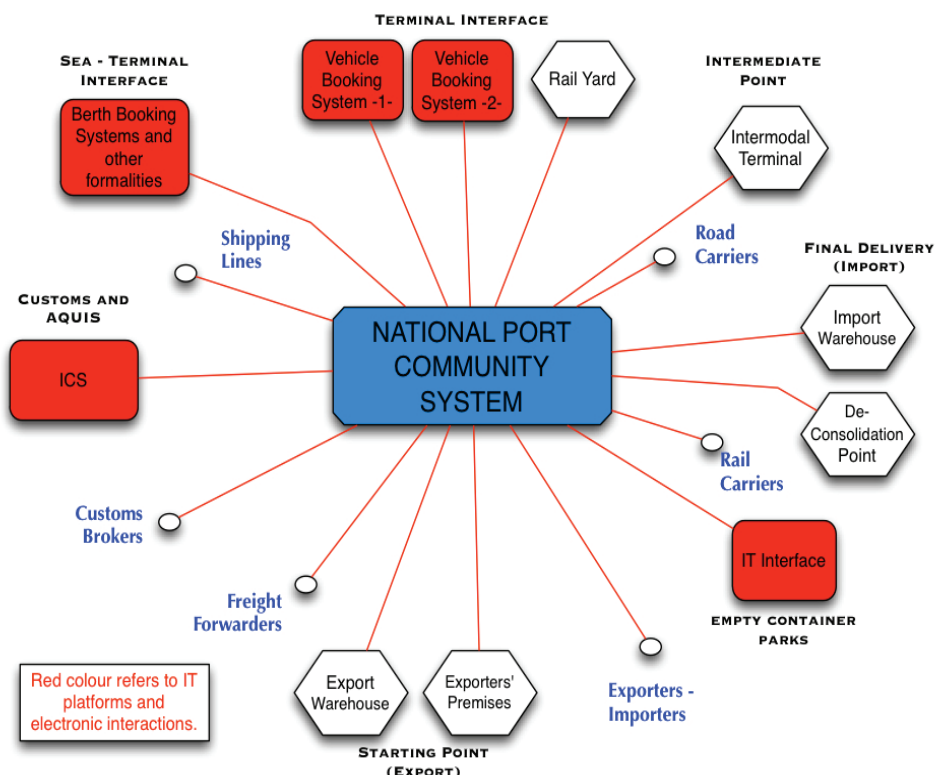


Information Exchange and Transactions - Today

## The Approach: Port Community System development

A Port Community System (PCS) is a neutral and open computer system that allows supply chain participants to rapidly and securely exchange information after a single submission of data. PCSs enable public and private stakeholders to optimise, manage and automate port and logistics processes, facilitating commercial interactions between supply chain participants.

### Port Community System Information Exchange - Potential



## Impact

Lower cost of goods for consumers and higher returns for exporters as efficiency gains delivered in national container supply chains are shared with customers.

- Reduced re-keying information
- Reduced data errors
- Simplified back office processes and automating processes
- More effective fleet (vessels, trucks and locomotives) operations
- Real-time alerts for major events and issue management.

## Industry Engagement

NICTA has developed this work in conjunction with around 200 domestic and international supply chain participants, and with strong support from Chamber of Commerce and Industry of Western Australia (CCIWA) and Valenciaport Foundation.

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This project is part of NICTA's Infrastructure, Transport and Logistics Business Team, which delivers innovative ICT solutions that transform the efficiency, safety and sustainability of transportation systems and infrastructure networks.

**Research Excellence in ICT**  
Wealth Creation for Australia

# Leading the Way

NICTA is Australia's Information and Communications Technology (ICT) Research Centre of Excellence, driving innovation through high quality research, research training, commercialisation and contract research.

NICTA has the largest concentration of ICT researchers in Australia. Our research focuses on use-inspired basic research that benefits industry, the community and the national interest.

Since NICTA's inception in 2002, NICTA has built strong research capability in:

- Software Systems
- Mobile Systems
- Machine Learning
- Computer Vision
- Optimisation.

Our Business Teams are the market focus of our research capabilities:

- Broadband and the Digital Economy
- Infrastructure, Transport and Logistics
- Security
- Environment.

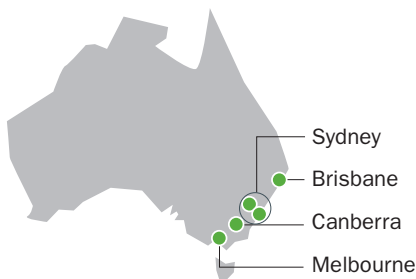
NICTA researchers work on Business Team projects supported by:

- An Engineering and Technology Development Team
- IP, Legal and other professional support.

Our work as a world-class research institute and Centre of Excellence in science and innovation brings together many of Australia's and the world's top ICT researchers. NICTA provides them with the facilities and support they require, making imagination to impact a reality.

NICTA's unique approach fosters and develops ICT research. We work closely with both industry and other research institutions to solve problems and make breakthroughs in ICT with real impact. NICTA's focus on use-inspired research means our projects have direct relevance to the challenges faced by business, government and individuals around the world. The result is breakthrough technologies that provide commercial opportunities and have a positive impact on Australia's export earnings.

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