Internet Commerce Australia

Supply Chain & Logistics ICT Communities Consulting
(incl Single Window Projects)

Victorian Department of Infrastructure – Smart Freight Initiative

Over the period of 18 months ICA has undertaken a number of consulting assignments for the Victorian Department of Infrastructure Smart Freight project**.**

The Department of Infrastructure had identified the need to increase the uptake of ICT and e-commerce to improve the state's supply chain performance. In the quest to maintain Victoria's status as the "state for freight" $4M has been assigned to the Smart Freight initiative to develop systems that will have a direct impact on the efficiency of the industry, particularly in the operations of the Port of Melbourne and the Dynon Rail Precinct.

The projects that comprised the Smart Freight initiative aimed to engage importers, exporters, freight forwarders, transport carriers, terminal operators, as well as government and are expected to lead to measurable gains for the Victorian economy. The overall objective of the project was to develop a strategy for the on-going development of the SmartFreight initiative.

Initially the Department has promoted development of the freight and logistics industry and undertaken a variety of projects in support of government and corporate initiatives to improve transit of goods through the Port of Melbourne, it was initial desired that an overarching strategy be developed that will facilitate the communication of the development activity to the wider community.

Project 1 – 4 Year Strategy
The first project under Smart Freight was to develop a 4 year strategy that could be communicable to the general public in concise but accurate detail to facilitate promotion of the industry support being provided by the Brack's government. This project was broken down into two parts

Stage 1
The Victorian Freight and Logistics Strategy (VFLS) is currently being drafted, and Section 3.9 of the VFLS refers to ICT. It is intended that section 3.9 will build upon learnings from various government initiatives in the ICT field, including Smart Freight and initiatives that are currently underway. Copies of Chapters 1, 2 and 4 of the VFLS have been provided as context, as well as section 3.4 and a draft of section 3.9 (point form only).

Stage 2
After the completion of 10 consultancy studies for the DoI Smart Freight initiative, and confirmation of a possible 5 projects for the next two years, consultancy input was needed on the central Smart Freight concept and its development. Reports by AEC and Red Wahoo (refer to DOI website and links to the Smart Freight project) provide the latest thinking on the subject, however, more tangible deliverables to assist the trade community and supply chain industry needed to be identified and specified. Specific deliverables from the initial project was

- An interim and final version of section 3.9 of the VFLS.
- A report identifying options and the highest priority developments for immediate implementation within the next two years.

ICA was selected for this project because of the requirement for the need to reflect the strategic views of very experienced ICT strategists. These views needed to be acceptable to the trade (Import, Export & transport) community in the Victorian hinterland, and needed to consider previous strategies for trade community systems, technology applications, overseas successes and portals. The focus was to be on practical projects that would make a difference for industry and/or government, are economically feasible, and probably commercially justifiable. While standards, principles, data, or more studies will be necessary for eventual implementation, the emphasis in the first phase project needed to be on practical and workable business proposals.

Project 2 – Business Requirements Specification

Following the initial project ICA was retained to complete a second project which was to undertake a Business Requirements Analysis for the Smart Freight Single Windows project.

The Port of Melbourne is Australia's largest port for containerised and general cargo handling approximately 40% of the nation's cargo. The Port of Melbourne supply chain involves 3200 ships from over 40 shipping lines. Nearly 2M containers and 50M tonnes of bulk cargo transiting the wharves of two stevedores, serviced by three train operators and 250 trucking companies. This trade generates an average of 80,000 shipping transactions per day between the involved parties.
The supply chain is characterised by a few large freight forwarders and transport operators accounting for nearly half of the container moves through the port, and a large number of small to medium enterprises (SMEs) accommodating the balance. The current ICT systems that support the participants in the supply chain cater for the large organisations but are less useful to the smaller companies due to the cost of developing a capability to effectively use the services (subscription costs, inadequate infrastructure etc.).
This leads to the maintenance of manual links between supply chain participants which affects the reliability and performance of carriers, shippers and terminal operators.
Increasingly the lack of effective information sharing among stakeholders is creating bottlenecks and unnecessary delays in the efficient movement of freight. These inefficiencies increase supply chain costs which directly impact the economy of Victoria. It is anticipated that these inefficiencies will be amplified as more security and other regulation is imposed on supply chain participants.
The SFSW initiative therefore seeks to develop the ICT support for the participants in the Port of Melbourne supply chain by:

- Developing appropriate sub-systems to automate procedures and improve interoperability between parties in the port of Melbourne's supply chain.
- Providing easy and equitable access to trade and transport systems to move cargo from exporter to port and port to importer.
- Promoting new ICT solutions to supply chain impediments, particularly where they assist the optimisation of public infrastructure.
- Providing appropriate governance to the trading environment through the endorsement of open standards and the support of industry regulatory bodies.
- Addressing the need for appropriate security and protection of critical infrastructure.

This project was aimed at building on the consulting reports already performed under contract to the department: by a number of consulting companies. outlines a program of ICT development that is aligned with international direction in the deployment of port supply chain systems while taking into account the work of these previous consulting reports and especially the recommendations of the BAHS ICT systems and documentation sub committees.

The recommended Smart Freight development activity is aligned with industry direction and supports the current growth in the 3PL (third party logistics) sector as more service providers enter into partnerships with their clients to manage and control strategic, tactical and operational elements of their businesses. With more importers and exporters engaging these

organisations, demand for services such as those that the Single Window platform can provide will only increase.
The platform becomes the vehicle for government engagement with the industry:

- it provides infrastructure upon which the industry can deploy specific applications that otherwise would not be developed
- it becomes a catalyst to encourage development in a way in where all participants benefit.

Project 3 – Enterprise Model of the Port Community

In 1990 the Port of Melbourne Authority released the outcomes of a report which was entitled the 'Results of the Enterprise Model of the Port Community in the Port of Melbourne'. The report itself had limited circulation but a chart of the information flows that accompanied the report entitled 'Information and Document Flow' became widely used by the Port Community in understanding the information and cargo movements that existed. In fact many copies were distributed as part of a Port of Melbourne Authority Trade Community Systems project called TradeGate Express as a way of thanking participants involved in the extensive consultative exercise which was undertaken as part of the project. The chart illustrated the complexity of the task at hand and it became known as the 'Spaghetti Chart'.

In the intervening period between 1990 and 2006 many processes have been re-engineered due to a host of reasons including technology, third party providers, improved infrastructure, workplace industrial arrangements and the emergence of corporations that have fostered change on the Supply Chain

Recently the SmartFreight project team realised that those changes had made a significant affect on the operational and communicative aspects of the Port and its supply chain. It determined that a new and updated view of the operational and communication processes was required and so commissioned ICA to undertakr a redrawing of the original Information Map using modern computer tools and by validating the eventual updated map ith various industry representatives..

As with the 1990 flow chart, the 2006 Information Map is expected to provide a catalyst for further efficiency gains particularly through re-engineering of processes and a wider use of information technology amongst the many Port Community members.

Project 4 – Ownership & Funding Study

This project under the Smart Freight initiative sought to investigate and document a funding and ownership model for developing the Single Window platform as the vehicle for government engagement with the industry:

- it provides infrastructure upon which the industry can deploy specific applications that otherwise would not be developed
- it becomes a catalyst to encourage development in a way in where all participants benefit.

It is therefore paramount that the correct mix of component ownership is reached and that a realistic funding model be established.
This document provides a set of recommendation as to the ownership and funding for the Smart Freight Single Window initiative.

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The SFSW initiative therefore seeks to develop the ICT support for the participants in the Port of Melbourne supply chain by:

- Developing appropriate sub-systems to automate procedures and improve interoperability between parties in the Port of Melbourne's supply chain especially those identified in the BAHS Stage 3 report.
- Providing easy and equitable access to trade and transport systems to move cargo from exporter to port and port to importer.
- Promoting new ICT solutions to supply chain impediments, particularly where they assist the optimisation of public infrastructure.
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As the demand for information increases, at all points in the supply chain, the Single Window system becomes the ideal vehicle for satisfying the demand, and a competitive advantage for the Port of Melbourne.

Project 5 – Initial Project Plan

The Single Window platform will be the vehicle for government engagement with the participants in the Port of Melbourne supply chain:

- it provides infrastructure upon which the industry can deploy specific applications that otherwise would not be developed
- it becomes a catalyst to encourage development in a way in where all participants benefit.

The correct mix of ownership and funding of the various components of the Single Window system is a complex task requiring the co-ordination of multiple projects in a coherent program.

ICA was retained on Project 5 to undertake an initial project plan for the delivery of the Smart Freight project. This project under the Smart Freight Single Window initiative sought to provides a high-level description of the work involved in managing the activities that will deliver the projects that comprise the Single Window program. More detailed work will be required to generate a project plan for the whole Smart Freight Single Window Project.

Project 6 – Functional Requirements Specification for SFSW

In consideration of the department's desire to investigate options for the operation of the proposed Single Window platform, this project documented the proposed deployment of a Pilot system that will serve to test the community's interest in the SFSW concept and evaluate the potential level of adoption of the full system as proposed in the Potential Trade Community System document.

It was noted that the Ownership and Funding document indicated that the SFSW should be owned and operated primarily by government, and the PoMC should take a lead role in this regard. It was proposed that representatives from prospective operators of the Pilot system should be involved in the project.

This Functional Requirements Specification defined a subset of the SFSW system functions to be deployed in the Pilot system so that supply chain participants can gauge its usefulness and effectiveness. The Pilot will allow Smart Freight to assess the interest in, and acceptance of, the SFSW concept within the supply chain community.

The features to be deployed in the PoC system are those services not currently provided to participants in the supply chain but are of sufficient community-wide interest so as to encourage traffic to the site. The hazardous goods component will be of immediate benefit to companies importing, exporting and transporting dangerous goods, and has the potential to be of significant economic benefit to the public at large. It will also be of interest at a national level.

The Functional Specification for the Pilot system was to be used in discussion with selected participants to refine the system functionality to be provided in the initial deployment. Discussions with appropriate persons will also be required to determine their interest in potentially hosting the system.

It was intended that this Functional Specification be used, in conjunction with appropriate tender documentation, to form the basis for a formal tender process for seeking quotations from prospective service suppliers and system vendors for the development, deployment and operation of the system.

Project 7 – Pre Budget Estimates

The Department of Infrastructure wished to pursue the development of the Smart Freight Single Window (SFSW) system to provide easy access, for participants in the Port of Melbourne supply chain, to the main systems used to move cargo through the port. It will also serve as a platform upon which other value-added services can be deployed.

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ICA on this project was retained to develop a set of pre-budget estimates for the development and deployment of the Single Window pilot system.

The pilot will trial the Single Window concert by providing a system with components of the Single Window that will gauge industry acceptance of the concept. The components that have been selected for deployment in the proof of concept are features not currently provided by other suppliers to the supply chain. The selected applications also have the potential to encourage use of the site and provide an indication of the uptake to be expected on the full Single Window site when it is deployed.

The output of this activity was a spreadsheet indicating the estimated cost of the various elements that comprise the pilot system.

Project 8 – SFSW Technical Specification

ICA was then retained to produce a document providing an outline specification for an initial deployment of the Single Window to test the viability and user acceptance of the concept. Successful deployment of this pilot would allow the addition of value-added services provided by other supply chain participants. The pilot was to run for a twelve-month period with possible extension of up to three years.

The Single Window Pilot provided the following facilities:

- Directory of participants - initially to include entries for the entire community of interest, basic contact details will be provided as well as a white pages function to allow users to perform searches on a variety of attributes such as name, type of industry and location.
- Ship arrival and departure information - showing detail of arriving ships and their estimated sailing dates; the system will also allow shipping lines to advise PoMC of updated arrival information.
- Hazardous cargo submission and distribution.. The system will allow exporters, or their agents, to generate the MO41 form on line and then submit the form to the appropriate authorities. The system will also receive the hazardous cargo import manifest and allow submission of the form to the appropriate authorities.
- Berth services booking – shipping lines, or their agents, will advise the PoMC of estimated ship arrival and advise terminal berth allocations. The required services (pilot, tugs and linesman) will also be indicated.
- Container status – basic container status information for imports will be provided; this will include the ability to enter container numbers for containers being off-loaded at the PoMC and the system will return available time and gate out time. For those containers being handled via Importnet the additional detail such as container type and return depot will be shown.

The pilot system aimed to be basic in its operation in order to limit the development time and the impact on source systems (SHIPS, 1-Stop and MaxeTrade). Since the system will be expanding the user-base from the current “process-knowledgeable” users of such systems as ICS, 1-Stop and MaxeTrade to a wider cross-section of the supply chain community, operation of the site must be as intuitive as possible.
The objective of this document is to define the technical specifications of the system to allow comprehensive budget estimates to be compiled. The budget estimates will support a budget allocation for the deployment of the Single Window pilot.

It is intended that this Technical Specification will guide the procurement process identifying the preferred deployment option. It will be used, in conjunction with the Functional Specification to form the basis for a formal tender process for seeking quotations from prospective service suppliers and system vendors for the development, deployment and operation of the pilot system

Project 9 – Preparation of Expressions of Interest Documentation

As the next step of the Smart Freight Single Window system project, ICA was retained by the DoI to develop an EOI which was used to solicit interest, from experienced organisations, in building/operating a pilot system to achieve a range of critical success factors.

Project 10 – EOI Evaluation

ICA was then retained in conjunction with other parties to undertake an evaluation of EOI respondents and shortlist candidates fore possible issuance on a closed tender response**.**

Port of Melbourne Corporation (POMC)

The Port of Melbourne Corporation (PoMC) is responsible for the management of the movement of vessels into and out of the Port and for the safe movemnt of cargo to and from the port and overall responsibility for Hazardous Cargo.

The objectives of this project were:

- To assist POMC in developing and documenting a policy for interworking of the hazardous cargo interactions with the Single Window Pilot, and the associated high level costs and benefits
- To assist Department of Infrastructure Smart Freight Single Window Project team in documenting the operational processes for interworking with the Smart Freight single window
- To assist the POMC in identifying and documenting the operational and policy matters relating to the reporting, control and management of Hazardous Cargo movement through the POMC
- To identify and document the IT system, procedural, and regulatory changes required to interwork on hazardous cargo information exchange with the Single Window and refine the costings
- To develop a project plan for any changes or developments required to achieve effective hazardous cargo interworking

Port of Melbourne Corporation (POMC)

The Port of Melbourne Corporation (PoMC) is responsible for the management of the movement of vessels into and out of the Port. Shipping companies, or their agents, forward a request for berth form to the Port to advise of a vessel's planned arrival and the associated services (pilots, tugs and linemen). The procedure within the Port to respond to these requests and manage the movement of vessels is manual and dependent upon real-time communication with involved parties.

The PoMC wished to document the procedure used to manage vessel arrivals/departures in order to:

- investigate potential business process improvements
- determine the relationships between the PoMC and the Victorian Department of Infrastructure's Single Window initiative.

The Smart Freight Single Window aims to complement the business environment of Victoria, improving the flow of both goods and information. It is not intended to replace or compete with the private sector or existing service providers; it is a market enabler, rationalising the technology directions within the industry and enabling cost effective electronic business-to-business commerce. To this end it is envisaged that the Single Window will be a single location to which supply chain participants will connect to access all the facilities they require to move containerised freight through the Port of Melbourne.