



JULY / AUGUST 2010



#### **DIY POWER**

CSIRO shows how to generate your own electricity on site

## AHEAD OF THE CURVE

Dexion helps two of Kimberley-Clark's national DCs rise to a new level



**83 Kimberly-Clark** 

Smarter thinking

**SPECIAL FEATURE** 

MATERIALS HANDLING, SAFETY AND MANAGEMENT



## Now there's another reason to buy Australia's Number 1 selling engine powered forklift.

Right now and for a limited time only, you can score a great deal on Australia's favourite\* engine powered Along with class leading features such as outstanding

we're offering sensational savings across the entire range of new 8-Series 1-3 tonne models. For more on the Toyota 8-Series

Material Handling branch today.

1800 425 438

www.tovotamaterialhandling.com.au





JULY - AUGUST '10 **VOLUME 40 - NUMBER 4 ANNUAL SUBSCRIPTION \$70.00** 

#### COMMENT

14 Are you lending your customers money? When selling on credit, you lend customers interest-free money and risk losing it. This article describes how you can miminise your losses.

#### DATA CAPTURE

- 20 Bar codes used to fight obesity Mobile phone technology and the
  - ubiquitous bar code can be harnessed to fight obesity successfully.
- 22 Warehouse Stock Management Rasics 101

Warehouse stock management is a critical part of a company's operations, so it's important to understand the basics of how technology is able to improve it.

#### SMART CONFERENCE **AND EXPO 2011**

24 Special Report No. 1

Time flies and Smart is just around the corner again - our Special Report No. 1 starts on page 24.

#### SPECIAL FEATURE: MATERIALS HANDLING. SAFETY AND MANAGEMENT

28 Mixed-case palletising

Advances in software, robotics and intelligent storage, buffering and sequencing systems have enabled the development of machines building mixed-case pallets.

#### 32 Crown to equip Costco's first Sydney store

Following the successful launch of its Docklands, Melbourne, store, Costco Wholesale is now gearing up for the opening of its first Sydney store with a fleet of Crown forklifts

- 36 Hard-working forklifts for hardware chain Australian hardware chain Mitre 10 has forged a strong and rewarding relationship with Toyota Material Handling Australia.
- 38 VersaCold selects single supplier for national forklift fleet

VersaCold is adding another 93 Linde electric counterbalance forklifts to a national fleet that will soon number more than 500.

40 High-density storage

How do you store 50,000 tyres in a 3,000 square metre warehouse?

44 How AS/RS transformed furniture distribution for Tokyo Interior

A new logistics centre with many

# CONTENTS



#### ON THE COVER

16 Ahead of the curve

Kimberly-Clark and Dexion take two National DCs to a new level.

#### SUPPLY CHAIN 2020

58 Exhibition catalogue

Take your MHD with you to Supply Chain



automated logistics systems, including computerisation and automated storage systems, achieved new levels of capacity and efficiency for this retailer.

- 48 Vehicle-mounted optical barcode reader The Sky-Trax optical barcode reader can be fitted to any forklift to read the label of palletised or bulk materials.
- 49 Battery-electric vertical-mast stock picker Haulotte has introduced a new batteryelectric, vertical-mast stock picker.
- 50 Vanderlande lands down under

Major Netherlands-based warehouse, airport and parcel-handling automation company Vanderlande Industries has joined forces with well-known industry identity Jim Christensen in Australia.

52 Automatic shuttles bring goods-to-man technology to the small parts warehouse Knapp has over 5,000 shuttles in

operation worldwide, with several projects in the pipeline in Australia slated for commissioning in 2010.

54 Container straddle carriers

Specialist Irish forklift company Combilift has released two highly innovative container straddle carriers aimed at road transport operators and container yards.

56 Of pallets made of steel and plastic No wood in these pallets.

#### SUPPLY CHAIN

62 DIY power: generate your own energy on site

This is the second of a series of articles reporting on opportunities for distributed energy in the transport and logistics sector, and on research conducted by CSIRO in its Energy Transformed Flagship initiative.

70 Creating the smart supply chain

The transport and logistics industry must focus on productivity improvements now to 'future-proof' itself and ensure it continues to experience steady growth.

74 Time Release Studies: measuring customs clearance process times and delivery performance

> TRS data is a useful tool for logistics providers and traders alike to estimate delivery times.

#### DEPARTMENTS

- - Industry news and developments.
- 28 Materials handling and management Managing movement.

#### REGULARS

- 45 Subscription form
- 76 Logistics Association of Australia news and information
- 78 APICS contacts, courses, news
- 81 Australian Warehousing Association
- 82 Chartered Institute of Logistics and Transport Australia
- 82 Supply Chain and Logistics Association of Australia





### TIME RELEASE STUDIES: MEASURING CUSTOMS CLEARANCE PROCESS TIMES AND DELIVERY PERFORMANCE

ime Release Studies (TRS) are a particular trade facilitation tool utilised to quantify the average time taken for goods to clear through Customs. Adopted for the first time by the USA and Japan at the beginning of 90s, their use has been recommended by the World Customs Organisation (WCO) since 1994.

In measuring the total time taken to clear an import consignment, TRS data is a useful tool for logistics providers and traders alike to estimate delivery times. The findings of the TRS are particularly useful as they serve to identify constraints, delays and bottlenecks in the customs clearance process that can impede the swift flow of goods. TRS data are a valuable source of information providing the basis for any decision, corrective action and initiative in which Customs has primary authority.

TRS data allow the creation of detailed and precise customs clearance time diagnostics, including release times for different types of merchandise and country of origin, at the various sea ports, airports, and other customs import clearance locations. The measurement of customs clearance timelines is useful both to exporters in estimating delivery dates, and to importers in anticipating the arrival of inventory from a foreign supplier. This enables traders to operate with a higher degree of certainty in relation to product delivery across international borders. Indeed, the predictability of controls over customs clearance matters is one of the principles of the International Convention on the Simplification and Harmonisation of Customs procedures ("Revised" Kyoto Convention, 1999), a legal instrument of the World Customs Organisation (WCO) on the harmonisation of Customs techniques, that covers all aspects

#### ROBERTO BERGAMI AND DANILO DESIDERIO

of Customs legislation and aims to standardise existing Customs procedures around the world.

Logistics and distribution activities of any business following 'just-in-time' principles would benefit greatly from enhanced accuracy on customs clearance process timelines, as this would enable a greater optimisation of resources and provide a benchmark for performance for both internal and external logistics providers, including 3PL providers.

The measurement of customs clearance process, as a true indicator of the performance of Customs, is increasingly used by the international trading community as "a measure by which the international trading community assesses the effectiveness of a Customs administration" (World Customs Organisation, 2002, p.1), in discharging its duties. The aim is to identify further causes of delays and costs overruns concerning particular types of goods, or points of entry of the customs territory, in order to develop the necessary corrective measures.

Additionally, TRS data are helpful in monitoring and evaluating the impact of customs reforms by comparing data across different studies. Importantly, cross-country comparison may also be possible, where identical methodology has been adopted to calculate relevant timelines. To encourage the adoption of a standard measure for international comparisons, the World Customs Organisation (WCO), in 2002, developed special guidelines to measure release times. In 2005, jointly with the World Bank, the WCO created specialist software for the design of the TRS which is fully compatible with the various IT systems currently adopted by Customs authorities around the world.

WCO's TRS guidelines (World Customs Organisation, 2002, pp. 19-20) describe a fifteen data point process that import consignments are subject to from time of arrival to release. A sevenstep summary of this process is provided below:

- 1) Arrival of the goods: the date and time of the arrival of the means of transport conveying the goods at importation or under customs control.
- 2) Unloading of the goods: the period of time elapsed between the beginning and the end of unloading of the goods from the means of transport that brought them to the customs territory.
- 3) Delivery to temporary storage: the time from the arrival to the removal of goods from the temporary storage location for customs clearance purposes.
- 4) Lodgement and acceptance of the declaration: the date and time from the lodgement of the customs declaration at the Customs office to its acceptance.
- 5) Inspection: the time from the beginning to the end of the examination process carried out on the customs declaration and accompanying documents (documentary control). The inspection may be based on a risk management approach from intelligence sources, or random sampling. Initially the inspection may be conducted by X-Ray equipment or other nonintrusive measures. Inspections are not limited to Customs authorities and include other regulatory agencies. In the Australian context these may include the Australian Quarantine and Inspection Service, Therapeutic Goods Administration, etc.). The inspection may also include other interventionist measures, such as fumigation, disinfection and disinfestation.

- 6) Release of goods by Customs: indicates the date and time at which release of goods is granted by Customs. It should be noted that in the case of advanced declaration or release (e.g. pre-clearing), the date and time of release may precede the date and time of arrival.
- 7) Removal of goods: identifies the date and time when the goods leave the area of customs control

Each of the seven steps measures a portion of the overall period of time from arrival of cargo into areas under customs supervision or control, until its physical release by Customs authorities. There may be slight differences to the sequence of events listed above due to country-specific considerations and the type of imported goods.

#### Australian TRS 2008

In Australia, the first TRS was conducted in 2007, followed by a second study adopted in 2008. Both documents are available on the Australian Customs Border and Protection Service website, in the 'Media, publications and forms' area. As the final results of the 2009 TRS were not available at the time of writing this article, comments will be limited to two selected aspects of the 2008 results. Unless otherwise indicated, all page numbers are to the Australian Customs and Border Protection Agency Time Release Study 2008.

The TRS data is the measurement of import performance for the period 24 to 30 September 2008. Its is acknowledged that this is only a sample, however, the TRS provides a useful basis from which to set benchmarks and investigate problem areas with corrective action in mind.

#### Documents

'Documents' is defined as "when a consignment is fully reported and declared to Customs and Border Protection, including all cargo reports and declarations" (p. 17). Documents remain a significant issue, with 17% of sea cargo and 13% of air cargo experiencing documents incomplete problem, as shown in Table 1.

The TRS data shown in Table 1 suggest that there is room for improvement in documents/ declaration processes in a significant proportion of transactions. Given that the availability of information for import processing is dependent on the exporting party, a higher level of communication and co-operation is required between importers and exporters to ensure that adequate information is available prior to the arrival of the consignment, in order for customs formalities to be completed in the shortest possible time frame, as delays in customs clearance may slow delivery of goods, resulting in increased costs both for companies and final consumers.

#### Country of export

The TRS data shows the breakdown of country of export for major partners, based on arrival to document submission, arrival to release and arrival to clearance. A summary of arrival to clearance is shown in Table 2. As the data does not analyse commodity type and cargo type (FCL/





LCL breakdown), it is not possible to comment on the country-by-country variations, however, the data can be used as one variable to estimate total travel time from origin to destination, and is thus useful for inventory planning and production scheduling purposes. Additionally, this data may also be used as a benchmark for service providers. Importers may also use the TRS data as the basis from which service level agreements may be developed with customs brokers. Customs brokerage service providers may also use clearance times as part of their benchmark measure. Where clearance times on average exceed those of the TRS, an investigation of the causes is warranted.

#### Conclusion

TRS are a valuable tool for both government and private enterprise to identify and address factors and procedures that contribute to inefficiencies in international trade flows. The TRS data are useful, in particular, to traders and logistics providers, to estimate transit time for shipments from origin to destination, as this directly impacts pipeline and buffer inventory holdings, as well as scheduling of deliveries from foreign suppliers.

Roberto Bergami is a senior lecturer, Practice of International Trade in the School of **Economics and Finance at Victoria University** in Melbourne, Australia. His main areas of research and interest include international regulations, border control activities, market access barriers, delivery terms and payment methods with a focus on their risk elements. Email: Roberto.Bergami@vu.edu.au.

Danilo Desiderio is a councillor at law specialising in international trade and advisor to many governmental and private organisations, both at national and community level. His areas of interest and research include customs law, border control regulations, international contracts, international commerce, European law. Email: d.desiderio@ddcustomslaw.com. mhd

Table 1: Cargo status at arrival			
STATUS (2008)	SEA CARGO	AIR CARGO	
Released	48%	69%	
Ready to pay	24%	1%	
Total unimpeded	72%	70%	
Impeded	11%	17%	
Documents incomplete	17%	13%	

COUNTRY	NUMBER OF CONSIGNMENTS	ARRIVAL TO CLEARANCE (DAYS)
ALL	35,295	1.2
China	12,076	1.2
USA	2473	1.9
Hong Kong	1951	1.6
New Zealand	1679	-0.8
Thailand	1637	1.0
Japan	1350	0.2
Malaysia	130	1.2
Germany	1237	0.7
Indonesia	1087	1.4
Taiwan	1083	1.6