Investigating the Potential Benefits of Enhanced End to End Supply Chain Visibility

15 August 2017
Today’s moderator

Eliz Esteban
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About Austroads

The peak organisation of Australasian road transport and traffic agencies

- Roads and Maritime Services New South Wales
- Roads Corporation Victoria
- Department of Transport and Main Roads Queensland
- Main Roads Western Australia
- Department of Planning, Transport and Infrastructure South Australia
- Department of State Growth Tasmania
- Department of Transport Northern Territory
- Transport Canberra and City Services Directorate, Australian Capital Territory
- Commonwealth Department of Infrastructure and Regional Development
- Australian Local Government Association
- New Zealand Transport Agency
Housekeeping

Webinar = 35 mins
Question time = 15 mins
GoToWebinar

Please type your questions here
Austroads report

Download from Austroads Website:

Today’s presenters

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E: david.mcneil@onesteel.com
## Agenda

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<th>Presenter</th>
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<td>Benefits, Findings and Recommendations</td>
<td>Rose Elphick-Darling</td>
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<td>OneSteel Case Study</td>
<td>David McNeil</td>
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<td>Conclusion</td>
<td>Julian Breheny</td>
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<td>All presenters</td>
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Overview of the Supply Chain Visibility Project
Julian Breheny
Evolution of Supply Chain Visibility (FS2000)

- Discussions with industry stakeholders raised concerns over a lack of supply chain visibility
- Implications for the efficient use of transport infrastructure
- A common tracking standard
- Opportunity to build on ‘proof of concept’ work
- Secured Austroads funding and project commenced in July 2015
- Key finding – an industry led strategy for wider adoption
Benefits, Findings and Recommendations
Rose Elphick-Darling
GS1 System

IDENTIFY: GS1 Standards for Identification

CAPTURE: GS1 Standards for Barcodes & EPC/RIDF

SHARE: GS1 Standards for Data Exchange
Measuring the benefits

Baseline survey

Selection of meaningful metrics and data

Pilot/Implementation

Collection of data

Analysis and reporting
Benefit categories

Efficiency

Visibility

Integrity

Innovation
Anticipated benefits

Benefits

- Product traceability
- Improved efficiency
- Improved planning
- Improved customer service
- Supply chain visibility
- Compliance
Found benefits – TOLL Global

- Delivery in full on time (DIFOT) resolution improved by 20%
- Inbound logistics planning capacity improved and time reduced by 30%
- Diagnostics and decision-making capacity improved
- Responsiveness improved
Found benefits - OneSteel

- Cost savings

<table>
<thead>
<tr>
<th>Location</th>
<th>Months Since Implementation</th>
<th>Variance to Baseline cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>State 1</td>
<td>12</td>
<td>-11.5%</td>
</tr>
<tr>
<td>State 2</td>
<td>4</td>
<td>-5.2%</td>
</tr>
<tr>
<td>State 3</td>
<td>2</td>
<td>-5.0%</td>
</tr>
</tbody>
</table>

- Improved turnaround and pre-delivery planning on-site
- Development of mobile app for carriers

Source: Arrium OneSteel, 2016
Nestle - Work-in-progress

- Faster resolution of DIFOT failures
- Tracking at Serial Shipping Container Code (SSCC) level
- Invoice reconciliation
- Quality of analytics
- B2B capability-building
Findings

- Incremental approach – begin with freight ID
- Partner readiness is critical
- “Pull” power of major customers
- Sufficient firm benefit justifies an industry-led adoption program
- Logistics service providers limited in capturing benefit – perception of cost to deliver visibility
- Prevalence of incompatible bespoke systems and non-standard data formats
- Lack of collaborative mindset
- Transport and Logistics Small and Medium Sized Enterprise (T&L SME) penalty significant if data standards not adopted
Recommendations

1) Encourage adoption of common freight ID labels and messaging standards in Australia’s T&L sector

2) Develop an industry-led *Supply Chain Visibility Strategy* with a 5 year horizon

3) Build on work with focus on T&L SME models

4) Provide industry leadership through freight customers and peak bodies

5) GS1 Australia support data sharing and security protocols development for collaborative supply chain applications

6) Continue telecommunications infrastructure upgrades

7) Explore opportunity for government agency adoption to lead by example

8) Investigate data analytics from supply chain visibility for public applications
Public benefits and future applications

• Capacity optimisation and scheduling → terminals, network infrastructure
• Planning for investment → demand, network utilisation by freight, private sector data
• Linking real time compliance monitoring → container weights, transport security
• Emergency management → real time response data
• Asset lifecycle monitoring
OneSteel Case Study: Supply Chain Visibility and the Role of Global Data Standards (GDS)

David McNeil
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TALKING POINTS

SUPPLY CHAIN VISIBILITY & THE ROLE OF GDS

- About OneSteel
  - Business Units
  - Products
- Why is Visibility Critical
  - Product Identification
  - Transport Visibility
  - Benefits of GDS
- What have been our learnings
AS MUCH AS WE DEAL IN STEEL, WE ALSO DEAL IN FUTURES – YOURS, OURS AND AUSTRALIA’S.

OUR CORE VALUES:
SAFETY | CUSTOMER

OUR BRAND VALUES:
INNOVATION | EXCELLENCE | EXPERTISE | COLLABORATION
OUR BUSINESS

MINING
- Middleback Ranges
- Whyalla Port Operations

STEEL
- Manufacturing
- Distribution
- Recycling
## OUR BUSINESS | MANUFACTURING

### OneSteel Whyalla Steelworks
- **Sites**: 1
- **People**: 950
- **Revenue**: $700m

Reliable supplier of billet in our integrated channel with rail and structurals into our chosen distributor channels.

### OneSteel Rod, Bar & Wire
- **Sites**: 6
- **People**: 1,300
- **Revenue**: $1,450m

Flexible and reliable supplier of rebar, rod, mebar and wire products into our chosen distributor channels.

### Austube Mills
- **Sites**: 2
- **People**: 210
- **Revenue**: $230m

The largest Australian manufacturer of a broad range of high-quality structural steel pipe and tube products.

Revenue in AUD$ & based on FY16 sales and includes sales within the Arrium group.
## OUR BUSINESS | DISTRIBUTION

<table>
<thead>
<tr>
<th>Sites</th>
<th>People</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>720</td>
<td>$580m</td>
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**onesteel**

The leading distributor of a broad range of products leveraging scale in market coverage, product range, operations & supply chain.

<table>
<thead>
<tr>
<th>Sites</th>
<th>People</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>860</td>
<td>$580m</td>
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**onesteel reinforcing**

Australia’s largest reinforcing provider focussed on top-tier projects and helping customers with their construction risks.

<table>
<thead>
<tr>
<th>Sites</th>
<th>People</th>
<th>Revenue</th>
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<tr>
<td>28</td>
<td>680</td>
<td>$480m</td>
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</table>

**ARC X**

The leading provider of reinforcing products to the mid-tier and smaller project markets.

Revenue in AUD$ & based on FY16 sales and includes sales within the Arrium group.

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OUR PRODUCTS

- Long &/or bulky ➔ 6m to 20m
OUR PRODUCTS

- Long &/or bulky ➔ 6m to 20m
- 1.5~5t per bundle/coil
OUR PRODUCTS

- Long &/or bulky ➔ 6m to 20m
- 1.5~5t per bundle/coil
- ~1 million coils/bundles p.a.
- Traceable at a bundle/coil level
WHY IS SUPPLY CHAIN VISIBILITY IS CRITICAL

OUR CUSTOMERS HAVE COMPLEX NEEDS:

- Innovation, Aus certification, compliance, sustainability
- Reliability of delivery through a complex supply chain
- Certainty of cost and on-time delivery
- Scrupulous attention to safety
- Minimise and accurately schedule truck movements
HOW DO WE MEET THE CHALLENGE?

OUR “KITBAG”

- e-Commerce
- Product Identification – OneTag / Scanning
- Track & Trace
PRODUCT IDENTIFICATION – THE PROBLEM

December 2012:

- Different layout & fonts
- Inconsistent content
- Bar-codes - inconsistent

The result?

- Cost of complexity to the business
- Confusion to our customers
- Barrier to technology initiatives
PRODUCT IDENTIFICATION – THE SOLUTION

ONETAG

- Standard product identification and barcoding using GS1 methodology
  - GS1 DataMatrix and GS1-128 barcodes

- Unique identification at a bundle level of steel
  - Use of GS1 Application Identifiers – AI 21 and AI 10
GLOBAL DATA STANDARDS IN ACTION

GS1 ONESTEEL VIDEO

https://www.youtube.com/watch?v=xqIvPwjGeBQ&t
TRACK AND TRACE – THE CHALLENGE

<table>
<thead>
<tr>
<th>Mode</th>
<th>Tonnes Moved ('000t p.a.)</th>
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<tbody>
<tr>
<td>SteelLink</td>
<td>1,400</td>
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<tr>
<td>Rail to FNQ</td>
<td>43</td>
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<tr>
<td>Sea Freight</td>
<td>126</td>
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<tr>
<td>Road Linehaul</td>
<td>229</td>
</tr>
<tr>
<td>Road Shorthaul</td>
<td>1,588</td>
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PERSPECTIVE:
- Numerous T&L providers ranging from SME’s through to large-scale Logistics Providers
- Ongoing challenge of the last mile
TRACK AND TRACE – THE SOLUTION

Working closely with the Australian Logistics Council (ALC), GS1 and transport providers we have developed and implemented two EDI messages for transport and logistics:

1. Transport Instructions
2. Transport Status
TRACK AND TRACE – THE RESULTS

Example of live messaging using the GS1 TI and TS messages

Real-time, triggered by truck telematics/GPS

Freight Order Event Updates in TMS:

<table>
<thead>
<tr>
<th>Event</th>
<th>Actual Event Date</th>
<th>Actual Event Time</th>
<th>Time Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freight Order Start</td>
<td>29.06.2016</td>
<td>05:00:00</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Arrival at Destination</td>
<td>29.06.2016</td>
<td>05:54:10</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Unloading End</td>
<td>29.06.2016</td>
<td>06:06:31</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Arrival at Destination</td>
<td>29.06.2016</td>
<td>06:26:40</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Unloading End</td>
<td>29.06.2016</td>
<td>07:56:25</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Arrival at Destination</td>
<td>29.06.2016</td>
<td>09:02:24</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Unloading End</td>
<td>29.06.2016</td>
<td>09:28:42</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Arrival at Destination</td>
<td>29.06.2016</td>
<td>09:57:35</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Unloading End</td>
<td>29.06.2016</td>
<td>12:15:23</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Arrival at Destination</td>
<td>29.06.2016</td>
<td>09:36:23</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Unloading End</td>
<td>29.06.2016</td>
<td>12:25:10</td>
<td>AUSNSW</td>
</tr>
<tr>
<td>Freight Order End</td>
<td>29.06.2016</td>
<td>13:16:00</td>
<td>AUSNSW</td>
</tr>
</tbody>
</table>
With the implementation of GDS OneSteel has seen a 11.5% reduction in freight costs. This was brought about by the combination of a number of improvements, including, but not limited to:

- elimination of paper-based documents
- reduction in processing errors
- ease in optimising load planning
- efficiencies in communication

The role that the GS1 Global Data Standards played (& continues to play) in the project was to provide an open-source standard for any combination of shipper & transport companies to use for communication & to provide a consistent framework for identifying & sharing key elements of the data exchange necessary for transport planning & execution, for example:

- Pick-up location
- Delivery destination
- Product detail
- Transport means & equipment
BRINGING IT ALL TOGETHER

- ~1,000 pick scans per day nationally
- Automatic QA and inventory checks
- Automatic retrieval and e-mailing of test certificate
WHAT DATA / INFORMATION COULD YOUR COMPANY UNLOCK?

HOW COULD THAT IMPROVE YOUR BUSINESS?

HOW COULD THAT IMPROVE YOUR CUSTOMERS’ BUSINESS?
LEARNINGS

- Understanding and alignment of business processes and master data is critical
- Don’t reinvent the wheel – shared learnings – both local and international
- Collaboration is critical – find and work with industry groups e.g. ASI, ALC, ARA
- GS1 has been critical to our success
- Be stubborn / be patient

EMERGING DRIVERS

- Managing dynamic environment safely
- New Master Data!
  - Location management / ship-to master data
  - Transport means / routing
- Sustainability
Conclusion
Julian Breheny
Next steps Supply Chain Visibility (FS2000)

• National Freight and Supply Chain Strategy

• Informed by the findings of the Inquiry to resolve whether there is sufficient capacity in the freight system for the next 20 years – and recommend areas for investment and reform priorities – not a project list.

• Inquiry consultations have sought stakeholder views on the role technology’s plays in the freight system now and into the future.

• Key finding of the FS2000 report – an industry led strategy for wider adoption – still applies.
Questions?

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