National Freight Data Hub: Discussion Paper #1 Response

Respondent details

<table>
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<tr>
<th>Organisation name</th>
<th>GS1 Australia Limited</th>
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<td>Contact details</td>
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Why your organisation is interested in the National Freight Data Hub

GS1 Australia has been working with the Australian Freight & Logistics sector for many years to ensure the availability of relevant global data and business messaging standards (GDS) that will enable the digitalisation of a range of processes in relation to the movement of goods across global and domestic supply chains.

From a macro perspective, the GDS toolkit incorporates physical identification, Automatic data capture and data exchange standards that underpin the digitalisation of supply chain processes including [but not limited to] sophisticated applications such as order to cash, physical distribution, traceability and supply chain visibility.

GS1 standards are already widely used by some 2 million organisations across the world and over 20,000 in Australia in many sectors. Our investment in the Freight & Logistics sector has been from the perspective that existing capabilities and investments within vertical sectors such as retail and healthcare can be further leveraged to enable significant productivity improvements in the freight component of their supply chain activities.

Enhancing supply chain visibility to improve performance has been a key focus area and in recent years has been recognised as an economic productivity lever as indicated in the Austroads¹ report which contributed to the Inquiry into the National Freight & Supply Chain Priorities report.²

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¹ Austroads Research Report AP-R538-17 (2017): Investigating the potential benefits of enhanced end to end supply chain visibility
Our specific interest in the National Freight Data Hub initiative, is to provide relevant expertise around:

1. Technical considerations in relation to which components of the ISO certified GDS would be relevant to any national freight data framework;
2. The design of a potential national data set that could facilitate guidance to industry as to “what” data is required to be captured and exchanged to drive supply chain efficiencies;
3. Industry engagement competencies that consider the critical factors that support successful industry wide change programs such as the Freight Data Hub initiative;
4. The challenges, benefits and trends in relation to the efficient movement and handling of freight as it travels from origin to destination across our national network.

The body of work undertaken with Industry and Government over recent years is being leveraged by the iMOVE Freight Data Exchange Pilot which is utilising a range of GS1 GDS as well as the Location Registry Pilot currently underway. Both projects aim to ultimately provide key data feeds to the National Freight Data Hub.

GS1 Australia is the national administrator of the GS1 System of [ISO certified] Global Data Standards (GDS). We are one of 114 not for profit national GS1 organisations licensed by GS1 Global Office (based in Brussels) to administer the standards in our respective jurisdictions. GS1 Australia was established by local industry in April 1979 to facilitate the digital scanning of products at the retail point of sale by the introduction of the now very well-known humble barcode on all retail products.

Since that time, GS1 Australia has grown into a leading data standards and services organisation with over 160 staff serving a membership base of over 20,500 companies domestically across over 20 different sectors, including Freight & Logistics. Some key members in this sector are Australia Post, Toll Group, Linfox and DHL to mention a few.

Our long term engagement with industry in the freight sector has developed a deep understanding of the digital building blocks and data exchange requirements necessary to enable productivity and performance improvements through the efficient movement of goods and in so doing, improve the overall efficiency of Australian supply chains.
Question 1

a) Of the following, what are the most important purposes of the Hub?

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Importance rank (High/Medium/Low)</th>
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<tr>
<td>Support operational decisions</td>
<td>High</td>
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<tr>
<td>Improve investment decisions</td>
<td>High</td>
</tr>
<tr>
<td>Performance measurement and benchmarking</td>
<td>High</td>
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b) What other purposes should the Hub have?

There is an opportunity for the hub to become a national point of reference, be it explicit or implicit when it comes to freight data. If one of the deliverables of the hub initiative were to be the publication of a national freight data set or sets, industry would be better placed to understand what data is required and for what purpose. This would also provide an opportunity to determine what data has competitive or non-competitive value and therefore assist with communication of same in order to address some of the commercial sensitivity concerns around data sharing.

The publication of a national data set(s) would:

a) Provide a common digital language for the freight sector – today this is missing and hence the industry suffers under the weight of high cost and inefficient integration efforts when trying to achieve system interoperability in an increasingly digital landscape;

b) Ensure no duplication of data elements, eg. What standard will be used to identify an asset or asset type?

c) Provide confidence in the universality of the range of standards selected, eg. TCA for telematics, GS1 for freight etc – must be ISO standards to support global supply chain parameters.

d) Provide certainty to the technology sector to invest in the development of solutions that are interoperable;

e) Add to the hub’s repertoire of tangible outcomes – a ‘digital’ recipe book if you like. Industry is better positioned then to focus on adding value through creative use and analysis of data rather than expending cost and effort in gathering data or creating non compatible data sets. For example, a freight tracking identification number is re-invented several times in a multi-leg transport journey, causing visibility gaps and adding cost rather than all parties leveraging a single number for the freight’s entire journey. Ensuring standard freight identification for the life of the journey has been proven to improve supply chain visibility and reduce cost of integration between disparate systems.
**Question 2**

**a) For each purpose, what are the most critical things to include in the Hub?**

(List all elements and data sources that you see as important)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Data element</th>
<th>Current/new data sources</th>
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<tbody>
<tr>
<td><strong>Support operational decisions</strong></td>
<td>Key Data elements for Freight/Logistics:</td>
<td><strong>GS1 Standards &amp; Guidelines</strong> relevant for Freight &amp; Logistics:</td>
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<td></td>
<td>- GLN – Global Location Number for party and location ID;</td>
<td>- <a href="#">Freight Labelling Guideline</a> – used for the consistent and standardised identification and labelling of freight units</td>
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<td>- SSCC – Serial Shipping Container Code for freight unit ID;</td>
<td>- <a href="#">Transport Instruction Message and Transport Status Notification Message</a> – used for the exchange of transaction data between a buyer and provider of transport services, ie a shipper of freight and a transport carrier</td>
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<td>- GSIN – Global Shipment Identification Number for identification of groupings of freight units into a single shipment;</td>
<td>- <a href="#">Visibility event standard</a> – EPCIS is the standard used for the digital recording of physical activities. For freight, this could be, eg. Loading goods onto a truck or aggregating shipments into a container at a particular place and time.</td>
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<td>- GINC – Global Identification Number for Consignments used by transport service providers to identify transport journeys/legs.</td>
<td>- <a href="#">Scan 4 Transport standard</a> - NEW (due to be ratified early 2020; based on GS1 Digital Link) – this standard is still in development; it will provide standards for how data needs to be encoded into 2D barcode labels typically affixed to freight units. It will resolve issues of interoperability between carriers where there is no data file exchange of information between parties – it will enable the elimination of paper-based systems at the lowest common denominator, the single transport contractor driving efficiencies at the last mile process.</td>
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<td>- GIAI – Global Individual Asset Identifier to identify fixed/returnable assets</td>
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<td>- <strong>GTIN – Global Trade Item Number</strong> widely used globally to uniquely identify all manner of end user products (this ID key has been recently mandated by China Customs for its single window import declaration system)</td>
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<td>- UNSPSC – United Nations Standard Products and Services Code is a classification taxonomy for use in eCommerce that contains over 50,000 commodities</td>
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**GS1 Location Data Registry** – master data registry for location attribute data. The GLN is the primary key to uniquely identify physical locations. To date only being used by the Healthcare sector, this is currently in pilot phase for
| Improve investment decisions | Freight movement data dimensions:  
- What  
- Where  
- When  
- Why  
Standardised data that answers the above questions could be aggregated to provide better insight into what is moving where and when, thus enabling more informed planning and investment decisions. | This information is currently held in silo systems across many industry actors or indeed not held in systems at all but rather still residing in manual consignment paperwork and therefore not able to be captured or shared. |
| Performance measurement and benchmarking |  |
| Other purposes |  |

b) Are there other critical data elements that should be included in the Hub?
Question 3

a) What are the barriers to sharing data? (Please provide examples in the table below)

b) How could these barriers be overcome?

c) What are the benefits of greater data sharing?

<table>
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<tr>
<th>Barrier to sharing</th>
<th>How to address?</th>
<th>Potential benefit?</th>
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| Natural human resistance to change | Undertake change management program through a mix of:  
- Education  
- Communication  
- Incentive initiatives  
- Public good requirements | - Improved system efficiencies  
- Lower cost of system integration  
- Re-use of data = less errors  
- Increased accuracy  
- Reduced data entry = less cost  
- Unlocks untapped opportunities for improvement across all processes/systems  
- Effective data sharing will streamline the supply chain  
- More effective forensic analysis when there is a unexpected deviation to plan |
| Data is increasingly seen as an asset and potentially a competitive advantage so reluctance to share it. Lack of understanding as to what is competitive and what is not competitive. | Guidance required | Increases confidence to release appropriate nominated and agreed subsets of data – systems can then be built accordingly. |
| Lack of digital tools – many small/medium supply chain actors are still heavily dependent on very manual systems and processes and therefore do not have the capability to electronically capture and share data. | Remove the complexity of how to digitalise, it must be easy and not cost prohibitive to the lowest common denominator. eg. Everyone uses email but most people don’t know or care how it works technically, it just works and its cost effective.  
Access to grants to assist industry with digital investment | Lifts the digital capabilities of all, particularly smaller actors in the supply chain |
Silo culture – supply chain actors simply do not typically see themselves as part of a larger supply chain that serves the same end customer, they only focus on who pays them directly, they do not consider the cost of the overall supply chain and often the part they play in that cost, particularly if they are not operationally efficient – the cost just gets passed on and it is borne by the whole supply chain.

Must change from a viewpoint of company vs company to a culture of supply chain vs supply chain – the whole must be efficient to be truly effective.

Need for collaboration – however this is the most challenging aspect of data sharing initiatives.

Highly efficient, proactive supply chain practices delivering on promise every time at the least possible cost. The extrapolation of such would result in huge nett gains in national GDP.

Increased utilisation of operational assets

Better utilisation of infrastructure assets

Concerns about data security, how it is used and for what purposes.

Comprehensive and effective governance

Instils confidence around use of data provided and appropriate security and data management

**Question 4**

**a) What products are required?** (Please provide examples in the table below)

**b) What is the best way for Hub products to be made available?**

Envisage products would be made available in a range of formats from manual download on an ad hoc basis to fully automated API connectivity depending on sophistication and requirements of the user.

**c) How frequently should data be updated?**

As close to real time as possible where practicable and cost effective to do so.

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<thead>
<tr>
<th>Product</th>
<th>Method of reporting</th>
<th>Frequency</th>
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