



# Asia-Pacific Model E-port Network Visualisation of Sea Freight Logistics

## Phase 1 – Findings & Recommendations



## APPENDIX A: Event & Data Definitions



Export Events	Steps	Definitions	Data Attributes Captured
Container Receipt	1.0 Export: Container arrives at Port from landside	<ul style="list-style-type: none"> <li>Container arrives at Port</li> <li>Containers unloaded</li> <li>Containers stored</li> </ul>	Time zone, Event Time, Container BIC Code, Bill of Lading Number, Read Point, Biz Location
Customs Clearance Status	2.0 Export: Customs Status	<ul style="list-style-type: none"> <li>Export Customs clearance status include:                             <ul style="list-style-type: none"> <li>Export Released</li> <li>Export Not Released</li> <li>Information not available</li> </ul> </li> </ul>	Time zone, Event Time, Container BIC Code, Bill of Lading Number, Export Customs Status, Read Point, Biz Location
Load Vessel	3.0 Export: Load Containers on to Vessel	<ul style="list-style-type: none"> <li>Container loaded onto vessel (ship)</li> </ul>	Time zone, Event Time, Container BIC Code, Vessel IMO Code, Voyage No., Estimated time of Arrival at Destination, Time Zone at Destination, Read Point, Biz Location
Vessel Departs	4.0 Export: Vessel Departs	<ul style="list-style-type: none"> <li>Container leaves terminal</li> <li>Vessel departs</li> </ul>	Stakeholder
Import Events	Steps	Definitions	Data Attributes Captured
Vessel Arrives	5.0 Import Vessel Arrives	Vessel Arrives	Time zone, Event Time, Vessel IMO Code, Voyage No., Read Point, Biz Location
Unload Vessel	6.0 Import: Unload Container from Vessel	<ul style="list-style-type: none"> <li>Unload containers from vessel</li> <li>Containers stored</li> </ul>	Time zone, Event Time, Container BIC Code, Vessel IMO Code, Voyage No., Read Point, Biz Location
Customs clearance Status	7.0 Import: Customs Status	<ul style="list-style-type: none"> <li>Import Customs clearance status include:                             <ul style="list-style-type: none"> <li>Import Released</li> <li>Import Not Released</li> <li>Information not available</li> </ul> </li> </ul>	Time zone, Event Time, Container BIC Code, Bill of Lading Number, Import Customs Status, Read Point, Biz Location
Container Departs	8.0 Import: Container departs the Port to landside	<ul style="list-style-type: none"> <li>Container loaded onto carrier</li> <li>Carrier leaves terminal</li> </ul>	Time zone, Event Time, Container BIC Code, Bill of Lading Number, Export Customs Status, Read Point

**Data attributes:**

Data	Definitions	Capture
Time Zone	Time Zone base on location of data capture and daylight-saving time changes	Mandatory - Sydney – GMT+10 - Sydney – GMT+11 - Beijing – GMT + 8
Event Time	The date/time of the event	Mandatory 2018/08/31 16:00
Container BIC Code	A unique container code number registered with BIC (Bureau International des Containers) to identify each container uniquely	Optional - Free Text
Bill of Lading Number	A unique number allocated by the shipping line and is the main number used for the tracking of the status of the shipment. The bill of lading number is generated and issued by the entity that is issuing the bill of lading – whether it is a shipping line or a freight forwarder	Mandatory - Free Text
Export Customs Status	Export Customs Status	Mandatory - Export Released - Export Not Released - Information not available
Vessel IMO Code	The International Maritime Organisation (IMO) number is a unique reference for ships, registered ship owners and management companies	Mandatory - Free Text
Voyage No.	A number identifying a voyage	Mandatory - Free Text
Estimated Time of Arrival	Estimated Time of Arrival (ETA)	Mandatory 2018/08/31 16:00
Time Zone at Destination	Time Zone at Destination	Mandatory - Sydney – GMT+10 - Sydney – GMT+11 - Beijing – GMT + 8
Import Customs Status	Import Customs Status	Mandatory - Import Released - Import Not Released - Information not available
Read Point	A location where data is captured	Mandatory - Port Botany Container Terminal - Port Shanghai - Port Xiamen
Biz Location	A business location	Mandatory - Port Botany Container Terminal - Port Shanghai - Port Xiamen

## XML Examples:

### Object Event: SC-Ports – Export01 – Container Receipt

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><ObjectEvent><eventTime>2018-08-14T08:08:00.000+08:00</eventTime><recordTime>2018-09-17T08:17:49.970+08:00</recordTime><eventTimeZoneOffset>+10:00</eventTimeZoneOffset><epcList><epc>urn:tlspilot:epcis:id:obj:EXFU0718868</epc></epcList><action>OBSERVE</action><bizStep>urn:epcglobal:cbv:bizstep:arriving</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:AUBTB</id></readPoint><bizLocation><id>urn:tlspilot:epcis:id:loc:AUBTB</id></bizLocation><bizTransactionList><bizTransaction type="urn:epcglobal:cbv:btt:bol">urn:tlspilot:epcis:bt:AEL0780041</bizTransaction></bizTransactionList><eztrack:system eventID="0050560100a9999a644c0165f7920129" owner="9348585260015" user="9348585260015_nswuser1" batch="0050560100a9999a644c0165f7920128"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Export01</eztrack:vsstep></ObjectEvent></EventList></EPCISBody></epcis:EPCISDocument>
```

### Object Event: SC-Ports – Export02 – Customs Clearance Status

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><ObjectEvent><eventTime>2018-08-14T08:17:00.000+08:00</eventTime><recordTime>2018-09-17T08:18:49.655+08:00</recordTime><eventTimeZoneOffset>+10:00</eventTimeZoneOffset><epcList><epc>urn:tlspilot:epcis:id:obj:EXFU0718868</epc></epcList><action>OBSERVE</action><bizStep>urn:epcglobal:cbv:bizstep:inspecting</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:AUBTB</id></readPoint><bizLocation><id>urn:tlspilot:epcis:id:loc:AUBTB</id></bizLocation><bizTransactionList><bizTransaction type="urn:epcglobal:cbv:btt:bol">urn:tlspilot:epcis:bt:AEL0780041</bizTransaction></bizTransactionList><tlspilot:Export_Customs_Status xmlns:tlspilot="http://epcis.gs1au.org/ns/extensions">Export_released</tlspilot:Export_Customs_Status><eztrack:system eventID="0050560100a9999a644c0165e0b7012d" owner="9348585260015" user="9348585260015_nswuser1" batch="0050560100a9999a644c0165e0b7012c"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Export02</eztrack:vsstep></ObjectEvent></EventList></EPCISBody></epcis:EPCISDocument>
```

### Aggregation Event: SC-Ports – Export03 – Load Vessel

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><AggregationEvent><eventTime>2018-08-18T04:45:00.000+08:00</eventTime><recordTime>2018-09-17T08:20:31.738+08:00</recordTime><eventTimeZoneOffset>+10:00</eventTimeZoneOffset><parentID>urn:tlspilot:epcis:id:obj:9235103</parentID><childEPCs><epc>urn:tlspilot:epcis:id:obj:EXFU0718868</epc></childEPCs><action>ADD</action><bizStep>urn:epcglobal:cbv:bizstep:loading</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:AUBTB</id></readPoint><bizLocation><id>urn:tlspilot:epcis:id:loc:AUBTB</id></bizLocation><tlspilot:routelIdentifier xmlns:tlspilot="http://epcis.gs1au.org/ns/extensions">092N</tlspilot:routelIdentifier><tlspilot:plannedArrival xmlns:tlspilot="http://epcis.gs1au.org/ns/extensions">2018-08-17T00:47:00.000Z</tlspilot:plannedArrival><eztrack:system eventID="0050560100a9999a644c01656f7a0132" owner="9348585260015" user="9348585260015_nswuser1" batch="0050560100a9999a644c01656f7a0131"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Export03</eztrack:vsstep></AggregationEvent></EventList></EPCISBody></epcis:EPCISDocument>
```

### Object Event: SC-Ports – Export04 - Vessel Departs

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><ObjectEvent><eventTime>2018-08-19T04:00:00.000+08:00</eventTime><recordTime>2018-09-17T08:21:06.626+08:00</recordTime><eventTimeZoneOffset>+10:00</eventTimeZoneOffset><epcList><epc>urn:tlspilot:epcis:id:obj:9235103</epc></epcList><action>OBSERVE</action><bizStep>urn:epcglobal:cbv:bizstep:departing</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:AUBTB</id></readPoint><tlspilot:routelIdentifier xmlns:tlspilot="http://epcis.gs1au.org/ns/extensions">092N</tlspilot:routelIdentifier><eztrack:system eventID="0050560100a9999a644c0165f7c20138" owner="9348585260015" user="9348585260015_nswuser1" batch="0050560100a9999a644c0165f7c20137"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Export04</eztrack:vsstep></ObjectEvent></EventList></EPCISBody></epcis:EPCISDocument>
```

### Object Event: SC-Ports – Export05 - Vessel Arrives

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><ObjectEvent><eventTime>2018-09-08T23:30:00.000+08:00</eventTime><recordTime>2018-10-10T14:25:35.835+08:00</recordTime><eventTimeZoneOffset>+08:00</eventTimeZoneOffset><epcList><epc>urn:tlspilot:epcis:id:obj:9235103</epc></epcList><action>OBSERVE</action><bizStep>urn:epcglobal:cbv:bizstep:arriving</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:CNSHG</id></readPoint><bizLocation><id>urn:tlspilot:epcis:id:loc:CNSHG</id></bizLocation><tlspilot:routelIdentifier xmlns:tlspilot="http://epcis.gs1au.org/ns/extensions">029N</tlspilot:routelIdentifier><eztrack:system eventID="0050560100a9999a644c0166ee5b0969" owner="6929020000767" user="6929020000767_shuser1" batch="0050560100a9999a644c0166ee5b0968"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Import05</eztrack:vsstep></ObjectEvent></EventList></EPCISBody></epcis:EPCISDocument>
```

### Aggregation Event: SC-Ports – Export06 - Unload Vessel

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><AggregationEvent><eventTime>2018-09-09T18:02:00.000+08:00</eventTime><recordTime>2018-10-10T14:29:00.937+08:00</recordTime><eventTimeZoneOffset>+08:00</eventTimeZoneOffset><parentID>urn:tlspilot:epcis:id:obj:9235103</parentID><childEPCs><epc>urn:tlspilot:epcis:id:obj:EXFU0718868</epc></childEPCs><action>DELETE</action><bizStep>urn:epcglobal:cbv:bizstep:receiving</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:CNSHG</id></readPoint><bizLocation><id>urn:tlspilot:epcis:id:loc:CNSHG</id></bizLocation><tlspilot:routelIdentifier xmlns:tlspilot="http://epcis.gs1au.org/ns/extensions">029N</tlspilot:routelIdentifier><eztrack:system eventID="0050560100a9999a644c01660f890978" owner="6929020000767" user="6929020000767_shuser1" batch="0050560100a9999a644c01660f890977"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Import06</eztrack:vsstep></AggregationEvent></EventList></EPCISBody></epcis:EPCISDocument>
```



### Object Event: SC-Ports – Export07 - Customs clearance Status

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><ObjectEvent><eventTime>2018-09-10T13:47:00.000+08:00</eventTime><recordTime>2018-10-10T14:44:52.114+08:00</recordTime><eventTimeZoneOffset>+08:00</eventTimeZoneOffset><epcList><epc>urn:tlspilot:epcis:id:obj:EXFU0718868</epc></epcList><action>OBSERVE</action><bizStep>urn:epcglobal:cbv:bizstep:inspecting</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:CNSHG</id></readPoint><bizLocation><id>urn:tlspilot:epcis:id:loc:CNSHG</id></bizLocation><bizTransactionList><bizTransaction type="urn:epcglobal:cbv:btt:bol">urn:tlspilot:epcis:bt:AEL0780041</bizTransaction></bizTransactionList><tlspilot:Import_Customs_Status xmlns:tlspilot="http://epcis.gs1au.org/ns/extensions">Import_released</tlspilot:Import_Customs_Status><eztrack:system eventID="0050560100a9999a644c016693120983" owner="6929020000767" user="6929020000767_shuser1" batch="0050560100a9999a644c016693120982"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Import07</eztrack:vsstep></ObjectEvent></EventList></EPCISBody></epcis:EPCISDocument>
```

### Object Event: SC-Ports – Export08 - Container Departs

```
<?xml version="1.0" encoding="UTF-8"?><epcis:EPCISDocument xmlns:eztrack="http://epcis.eztrack.org/ns/event" xmlns:epcis="urn:epcglobal:epcis:xsd:1"><EPCISBody><EventList><ObjectEvent><eventTime>2018-09-13T09:19:00.000+08:00</eventTime><recordTime>2018-10-10T14:45:44.393+08:00</recordTime><eventTimeZoneOffset>+08:00</eventTimeZoneOffset><epcList><epc>urn:tlspilot:epcis:id:obj:EXFU0718868</epc></epcList><action>OBSERVE</action><bizStep>urn:epcglobal:cbv:bizstep:departing</bizStep><disposition>urn:epcglobal:cbv:disp:in_progress</disposition><readPoint><id>urn:tlspilot:epcis:id:loc:CNSHG</id></readPoint><bizTransactionList><bizTransaction type="urn:epcglobal:cbv:btt:bol">urn:tlspilot:epcis:bt:AEL0780041</bizTransaction></bizTransactionList><eztrack:system eventID="0050560100a9999a644c01665f490989" owner="6929020000767" user="6929020000767_shuser1" batch="0050560100a9999a644c01665f490988"/><eztrack:vschain>SC_Ports</eztrack:vschain><eztrack:vsstep>SC_Ports-Import08</eztrack:vsstep></ObjectEvent></EventList></EPCISBody></epcis:EPCISDocument>
```



## APPENDIX B: Project Methodology & Execution

### Phase 1 – Timelines

- Week commencing Sep 3  
**Regroup with project team, EPCIS re-fresh and pilot planning**
- Week commencing Sep 10  
**Pilot Week 1 - Data Capture starts – all ports**
- Week commencing Sep 17  
**Pilot Week 2 - Data Capture– all ports**
- Week commencing Sep 24  
**Pilot Week 3 - Data Capture– all ports**
- Week commencing Oct 1  
**National Holiday in China** (From October 1st to October 7th)
- Week commencing Oct 8  
**Pilot Week 4 - Data Capture– all ports**
- Week commencing Oct 15  
**Pilot Week 5 - Data Capture– all ports**
- Week commencing Oct 22  
**Pilot Week 6 - Data Capture** (extension to original timeframe)
- Week commencing Oct 29  
**Pilot Week 7 - Data Capture** (extension to original timeframe)
- Week commencing Nov 5  
**Draft report Finalisation**
- Week commencing Nov 12  
**Draft report presentation to APMEN**

## Process Flows

### Pilot Export Flows: NSW Ports to Shanghai & Xiamen



### Pilot Export Flows: NSW Ports to Shanghai & Xiamen



### Pilot Export Flows: NSW Ports to Shanghai & Xiamen



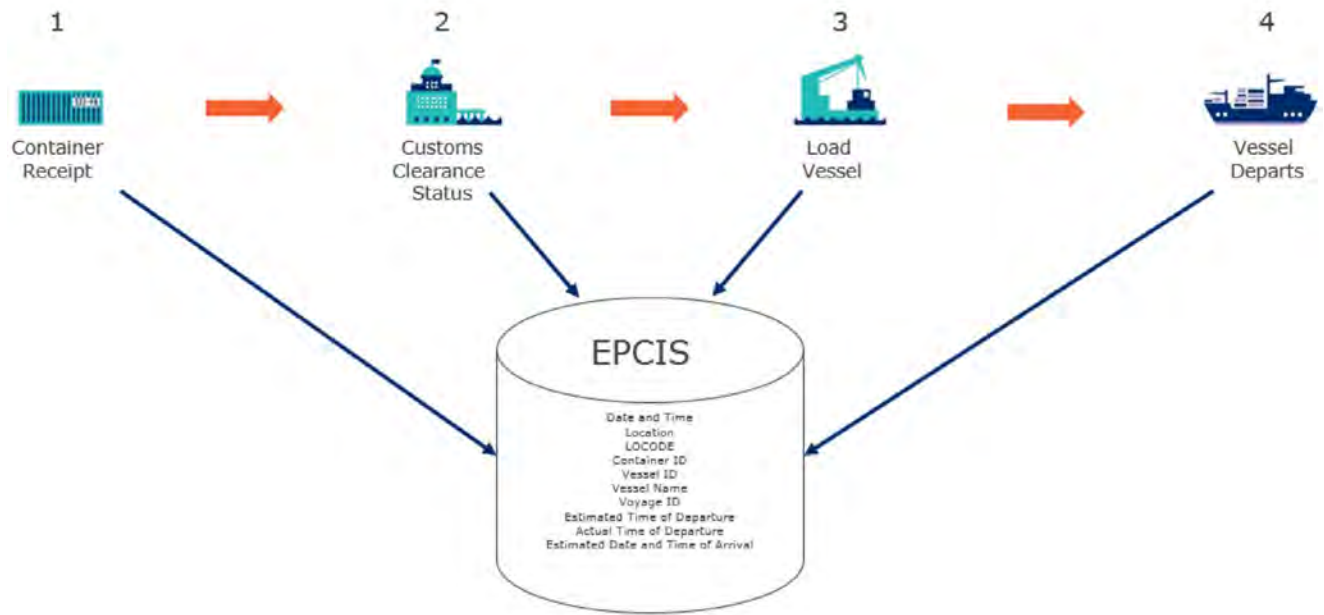


## Data Capture

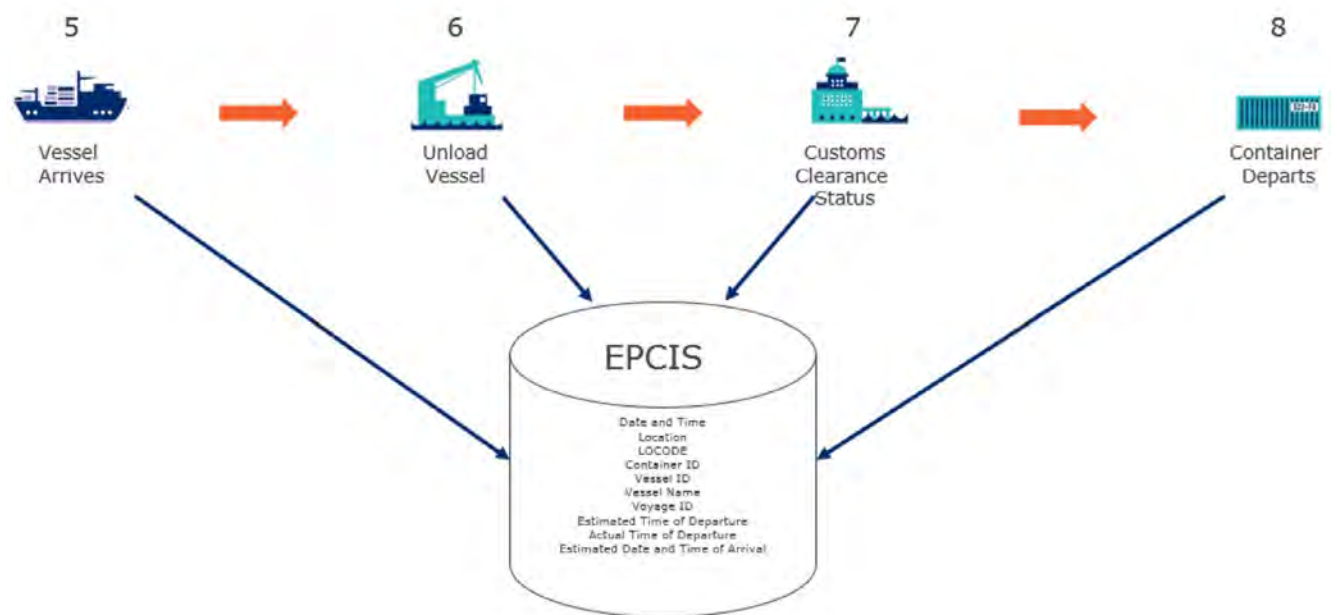
The scope of Phase 1 required the manual data capture of sea freight export and import events into the GS1 EPCIS Sandpit, and the sharing of vessel and container movement data between ports and other key process stakeholders, via reporting queries.

### The Information Capture Model

#### Process Flow & Data Standards (Export)



#### Process Flow & Data Standards (Import)



### Data Capture Rules

The following rules were agreed and applied for the Phase 1 pilot period:

- All pilot events made visible to all participants
- GLNs (Company Ids):
  - Shanghai E-Port : 6929020000767
  - Xiamen E-Port : 6929020001948
  - NSW Ports : 9348585260015
- Only Port Logins were created for use by the respective data capture team members at each port
- Terms & Conditions of the EPCIS system is acknowledged upon login
- Pilot dates for capturing ranging from September through to November 2018
- Time required for data capture of each process step is less than 10 minutes
- For testing - use July 2018 dates only so as to ensure that test data will not interfere with the Pilot event dates

### Export Flows: NSW Ports to Shanghai

Nominate container numbers for data capture. These are also the nominated container numbers that make up the Import Flow to Port of Shanghai (from NSW Ports).

### Containers IDs from NSW Ports to Port of Shanghai

Container ID	ETD SYD	ETA SHI	1. Container Receipt	2. Customs Clearance Status	3. Load Vessel	4. Vessel Departs	5. Vessel Arrives	6. Unload Vessel	7. Custom Clearance Status	8. Container Departs
<del>DFSU7321356</del>	<del>19/8</del>	<del>7/9</del>	✗	✗	✗	✗	✗	✗	✗	?
EXFU0718868	19/8	7/9	✓	✓	✓	✓	✓	✓	✓	✓
CCLU7943456	19/8	10/9	✓	✓	✓	✓	✓	✓	✓	✓
OOLU2833678	19/8	10/9	✓	✓	✓	✓	✓	✓	✓	✓
TCLU1725350	26/8	20/9	✓	✓	✓	✓	✓	✓	-	-
UETU2212382	26/8	20/9	✓	✓	✓	✓	✓	✓	-	-
TGHU6858720	6/9	27/9	✓	✓	✓	✓	✓	✓	-	-
CRSU6113567	6/9	27/9	✓	✓	✓	✓	✓	✓	-	-
CMAU7328927	9/9	4/10	✓	✓	✓	✓	✓	✓	-	-
CBHU4412158	9/9	4/10	✓	✓	✓	✓	✓	✓	-	-
<del>CGMU5014544</del>	<del>17/09</del>	<del>10/10</del>	✗	✗	✗	✗	?	?	?	?
<del>CSNU5757054</del>	<del>17/09</del>	<del>10/10</del>	✗	✗	✗	✗	?	?	?	?
GATU1324261	20/9	16/10	✓	✓	✓	✓	✓	✓	✓	✓
OOLU1558632	20/9	16/10	✓	✓	✓	✓	✓	✓	✓	✓
TGCU2048487	25/9	22/10	✓	✓	✓	✓	✓	✓	✓	✓
CGMU6524420	25/9	22/10	✓	✓	✓	✓	✓	✓	✓	✓

**Note: DS = Direct Shipment, TS = Trans-Shipment**

### Export Flows: NSW Ports to Xiamen

Nominate container numbers for data capture. These are also the nominated container numbers that make up the Import Flow to Port of Xiamen (from NSW Ports).

## Containers IDs from NSW Ports to Port of Xiamen

Container ID	ETD SYD	ETA XMN	1. Container Receipt	2. Customs Clearance Status	3. Load Vessel	4. Vessel Departs	5. Vessel Arrives	6. Unload Vessel	7. Custom Clearance Status	8. Container Departs
DS - TTNU8020193	23/8	6/9	✓	✓	✓	✓	✓	✓	✓	✓
TS - SEGU5153932	23/8	13/9	✓	✓	✓	✓	✓	✓	-	-
DS - CAIU9481439	30/8	13/9	✓	✓	✓	✓	✓	✓	-	✓
DS - MSCU7292277	30/8	13/9	✓	✓	✓	✓	✓	✓	-	✓
TS - CCLU7933150	26/8	15/9	✓	✓	✓	✓	✓	✓	-	-
DS - TCNU6431720	26/8	15/9	✓	✓	✓	✓	✓	✓	-	✓
DS - TCNU1925232	6/9	20/9	✓	✓	✓	✓	✓	✓	✓	✓
DS - BMOU6804543	6/9	20/9	✓	✓	✓	✓	✓	✓	✓	✓
DS - TCLU6546189	28/9	24/10	✓	✓	✓	✓	✓	✓	✓	✓
DS - TGHU6314921	28/9	24/10	✓	✓	✓	✓	✓	✓	✓	✓

## Containers IDs from NSW Port to Port of Xiamen

Container ID	ETD SYD	ETA XMN	1. Container Receipt	2. Customs Clearance Status	3. Load Vessel	4. Vessel Departs	5. Vessel Arrives	6. Unload Vessel	7. Custom Clearance Status	8. Container Departs
DS - TCNU1925232	6/09	20/9	✓	✓	✓	✓	✓	✓	✓	✓
DS - BMOU6804543	6/09	20/9	✓	✓	✓	✓	✓	✓	✓	✓
DS - FCIU9264447	13/09	29/9	✓	✓	✓	✓	✓	✓	-	✓
DS - MEDU7923888	13/09	29/9	✓	✓	✓	✓	✓	✓	-	-
TS - OOLU9810360	17/09	6/10	✓	✓	✓	✓	✓	✓	-	-
TS - CCLU7218655	17/09	6/10	✓	✓	✓	✓	✓	✓	-	-
DS - CSNU6408915	16/09	8/10	✓	✓	✓	✓	?	?	?	?
DS - TEMU7105375	24/9	18/10	✓	✓	✓	✓	?	?	?	?
DS - CCMUS239015	16/09	8/10	✓	✓	✓	✓	?	?	?	?
DS - DRYU9965429	24/9	18/10	✓	✓	✓	✓	?	?	?	?



### Export Flows: Port of Shanghai to NSW Ports

Nominate container numbers for data capture. These are also the nominated container numbers that make up the Import Flow to NSW Ports (from the Port of Shanghai).

## Containers IDs from Port of Shanghai to NSW Port

Container ID	ETD SHA	ETA SYD	1. Container Receipt	2. Customs Clearance Status	3. Load Vessel	4. Vessel Departs	5. Vessel Arrives	6. Unload Vessel	7. Custom Clearance Status	8. Container Departs
TLLU2109677	24/8	7/9	✓	✓	✓	✓	✓	✓	✓	✓
TCKU3508634	24/8	7/9	✓	✓	✓	✓	✓	✓	✓	✓
FCNU3987510	25/8	11/9	✓	✓	✓	✓	✓	✓	✓	✓
CCLU5141981	25/8	11/9	✓	✓	✓	✓	✓	✓	✓	✓
CATU8961027	25/8	11/9	✓	✓	✓	✓	✓	✓	✓	✓
CCLU5232802	26/8	9/10	✓	✓	✓	✓	✓	✓	✓	✓
SLZU7404010	26/8	9/10	✓	✓	✓	✓	✓	✓	✓	✓
CSNU7075510	24/9	14/10	✓	✓	✓	✓	✓	✓	✓	✓
ECMU4540257	24/9	14/10	✓	✓	✓	✓	✓	✓	✓	✓

Wk1: TLLU2109677, TCKU3508634, FCNU3987510, CCLU5141981, CATU8961027

Wk2: CCLU5232802, SLZU7404010, CSNU7075510, ECMU4540257

### Export Flows: Port of Xiamen to NSW Ports

Nominate container numbers for data capture. These are also the nominated container numbers that make up the Import Flow to NSW Ports (from the Port of Xiamen).

## Containers IDs from Port of Xiamen to NSW Port

Container ID	ETD XMN	ETA SYD	1. Container Receipt	2. Customs Clearance Status	3. Load Vessel	4. Vessel Departs	5. Vessel Arrives	6. Unload Vessel	7. Custom Clearance Status	8. Container Departs
TCKU9512400	18/8	5/9	✓	?	✓	✓	✓	✓	✓	✓
MSKU100881	?	5/9	?	?	?	?	?	?	?	?
TRHU2878838	13/9	11/9	✓	✓	✓	✓	✓	✓	✓	✓
MSKU8271339	23/8	11/9	✓	✓	✓	✓	✓	✓	✓	✓
OOLU3032740	8/9	28/9	✓	✓	✓	✓	✓	✓	✓	✓
CMAU786221	9/9	28/9	✓	?	✓	✓	✓	✓	✓	✓
CMAU1101746	30/8	4/10	✓	✓	✓	✓	✓	✓	✓	✓
MRKU8664653	30/8	4/10	✓	✓	✓	✓	✓	✓	✓	✓
INBU5456309	26/8	9/10	?	?	✓	✓	✓	✓	✓	✓
DFSU7398800	26/8	9/10	✓	✓	✓	✓	✓	✓	✓	✓
ECMU4632950	24/9	14/10	✓	✓	✓	✓	✓	✓	✓	✓
OOLU7547867	24/9	14/10	✓	✓	✓	✓	✓	✓	✓	✓

Wk1: TCKU9512400, MSKU100881, TRHU2878838, MSKU8271339

Wk2: OOLU3032740, CMAU786221

Wk3: CMAU1101746, MRKU8664653, INBU5456309, DFSU7398800

### Data capture results

Shipment Type	NSW -> Shanghai	NSW -> Xiamen	Shanghai -> NSW	Xiamen -> to NSW	TOTAL
Direct Shipment (DS)	7	9	8	11	35
Transshipment (TS)	6	5	0	0	11
<b>TOTAL</b>	<b>13</b>	<b>14</b>	<b>8</b>	<b>11</b>	<b>46</b>



## Data Queries

The following are the three (3) types of queries that were used to verify data capture progress and status on a progressive basis throughout the duration of the pilot, for each container movement between the respective ports.

All these queries are predicated on an Event Date search, together with the selection of an Even Date Range comprising: Time Start, Time End, Query Method (i.e. Simple Event Query or Pedigree Event Query) and Data Translation (defaulted to Pure Identity).

### Simple Event Query

The Simple Event Query displays the following Event Types:

- **Export Events**
  - 1.0 Container Receipt (Object Event: Biz Step – Arriving)
  - 2.0 Customs Clearance Status (Object Event: Biz Step – Inspecting)
  - 3.0 Load Vessel (Aggregation Event: Biz Step – Loading)
- **Import Events**
  - 6.0 Unload Vessel (Aggregation Event: Biz Step – Receiving)
  - 7.0 Customs Clearance Status (Object Event: Biz Step – Inspecting)
  - 8.0 Container Departs (Object Event: Biz Step – Departing)

### Pedigree Event Query

The Pedigree Event Query displays **ALL** Event Types:

- **Export Events**
  - 1.0 Container Receipt (Object Event: Biz Step – Arriving)
  - 2.0 Customs Clearance Status (Object Event: Biz Step – Inspecting)
  - 3.0 Load Vessel (Aggregation Event: Biz Step – Loading)
  - 4.0 Vessel Departs (Object Event: Biz Step – Departing)
- **Import Events**
  - 5.0 Vessel Arrives (Object Event: Biz Step – Arriving)
  - 6.0 Unload Vessel (Aggregation Event: Biz Step – Receiving)
  - 7.0 Customs Clearance Status (Object Event: Biz Step – Inspecting)
  - 8.0 Container Departs (Object Event: Biz Step – Departing)

### Owner GLN Query

The Owner GLN Query displays all events captured by a single port, using its unique Global Location Number (GLN).

This query is achieved by first selecting keying in the Even Date Range attributes, as explained above, including Owner GLN attribute.



## APPENDIX C: About the Participants

### About APMEN

At the November 2014 APEC Economic Leaders Meeting, APEC Leaders agreed to establish the Asia-Pacific Model E-port Network (APMEN) and instruct officials to make further efforts to contribute to regional trade facilitation and supply chain connectivity. The leaders welcomed the first batch of Model E-ports nominated by the APEC economies and agreed to set up the APMEN operational centre.

So far, APMEN has 19 members from 11 APEC economies.

Member Economies	Member Ports
Australia	New South Wales
Canada	Port of Vancouver
China	Shanghai Xiamen
Chile	Lirquen Port
Chinese Taipei	Kaohsiung
Hong Kong, China	TradePort OnePort GLSHK
Malaysia	Port of Klang DNeX
Mexico	Port of Manzanillo Port of Lázaro Cárdenas
Vietnam	Ho Chi Minh Hai Phong
Philippines	Cebu InterCommerce
Peru	Callao Port

## About GS1

GS1 has been involved in developing and piloting GS1 Global Data Standards within APEC since 2010.

GS1's engagement with APEC on the use of GS1 Global Data Standards to address identified "chokepoints" in cross border trade accelerated in 2014 following the endorsement of APEC Statement on Promoting the Use of Interoperable Global Data Standards by APEC leaders at the November 2014 APEC meeting in Beijing.

Since that time, GS1 has managed several cross-border pilots as summarised in the table below:

Year	Number	Lead Economy	Product	Trade Routes	Transportation
2015	1	Hong Kong	Wine	Australia to HK	By Sea
	2	Australia	Boxed Beef	Australia to US	By Sea
2016	3	Malaysia	Durian (Fresh/Frozen)	Malaysia to HK/China	By Air and Sea
	4	Peru	Asparagus	Peru to US	By Air
	5	Mexico	Tequila	Mexico to US	By Land

The pilots clearly demonstrated the benefits in the use of GS1 Global Data Standards in the exchange of data between stakeholders in the cross-border supply chain. APEC Policy Support Unit reports are available outlining the findings of the five pilot projects.

As part of pilots 1 and 2, GS1 Australia engaged with several Australian Port Authorities as project participants. This engagement increased the level of interest amongst Port Authorities in the use of GS1 Global Data Standards for Port Community Systems (PCS) and Single Window.

The conversation with NSW Ports extended beyond PCS into Global e-Port Connectivity given their role in Asia-Pacific Model E-Port Network and their active participation in this group.

During 2017, GS1 Australia assisted NSW Ports in the submission of a pilot proposal to APMEN Operational Centre for e-Port connectivity using GS1 Global Data Standards. This proposal was accepted, and active engagement with Shanghai and Xiamen Ports commenced later that year.

Detailed project workshops were held in Shanghai during March 2018 including all project participants and other APMEN member economies to agree on the scope of the project and next steps. During this visit, Cooperation MOUs were signed between the three ports paving the way for the implementation of these pilots.

## About NSW Ports

NSW Ports is a consortium of leading institutional investors: IFM Investors (including Cbus, HESTA and Hostplus), Australian Super, Tawreed Investments Limited and Q Super.

NSW Ports manages four major infrastructure assets including:

- Port Botany
- Port Kembla
- Enfield Intermodal Logistics Centre
- Cooks River Intermodal Terminal

## About Port Botany

Port Botany is a vital part of the overall logistics and transportation supply chain, facilitating trade in New South Wales.

Port Botany boasts a deep-water shipping channel with a short transit to and from berth facilities. The port precinct also comprises bulk liquid and gas storage areas, empty container parks, container packing and unpacking facilities, transport operations, warehousing, Customs facilities and a truck marshalling area.

Infrastructure to and from the port includes road and rail access to all three container terminals and pipeline links to the bulk liquid and gas berths. The port operates 24 hours per day, seven days a week (24/7).



## About Xiamen E-port

Xiamen Pilot Free Trade Zone E-Port Co., Ltd is a member enterprise of Xiamen Port Holding Group. Its E-port platform is an integrated information platform jointly established by Xiamen Municipal Government, Xiamen Customs and Xiamen Customs Inspection and Quarantine Bureau, facing China (Fujian) Pilot Free Trade Zone Xiamen Area and Port. The company was registered with Xiamen Administration for Industry and Commerce on March 9, 2015. After four years of development, it is willing to cooperate with all walks of life, seek joint development, and keep providing the best products and services for all customers. The company mainly specializes in software development, information system integration service, information technology consulting service, and data processing and storage service. So far it has established long-term steady partnerships with many Xiamen-based companies, retailers and agents of electronic components. With complete products, reasonable prices, powerful strength, good credit, and guaranteed product quality, it has won the trust from numerous customers. The company will keep meeting customer demands and making product innovation and service improvements based on its purpose “seeking truth and dedicated service for your satisfaction” all the time.

## About Shanghai E-Port

In 2001, Shanghai initiated the ‘Integrated Faster Clearance’ project aiming for clearance facilitation and one-entry-point information service; on this basis, in 2004, development of Shanghai E-Port launched with the cooperation memorandum signed between Shanghai Municipal Government and China General Administration of Customs, participated by 17 port related regulatory agencies.

Shanghai E-Port is the sole information platform recognized by China General Administration of Customs that provides integrated clearance service. It functions as the ‘one-entry-point’ interfacing multiple port regulatory agencies. So far, Shanghai E-Port has formed comprehensive port clearance and logistics function suites, serving as the foundational platform for Shanghai Single Window.

## About EPCIS

Electronic Product Code Information Services (EPCIS) is a global GS1 Standard for creating and sharing visibility event data, both within and across enterprises, to enable users to gain a shared view of physical or digital “objects” within a relevant business context.

EPCIS enables trading partners to share information about the physical movement and status of products as they travel throughout the supply chain – from business to business and ultimately to consumers. It helps answer the “what, where, when and why” questions to meet consumer and regulatory demands for accurate and detailed product information.

The goal of EPCIS is to enable disparate applications to create and share visibility event data, both within and across enterprises. This sharing is aimed at enabling users to gain a shared view of physical or digital objects within a relevant business context.

EPCIS is intended to be used in conjunction with the GS1 Core Business Vocabulary (CBV) standard. The CBV provides definitions of data values that may be used to populate the data structures defined in the EPCIS standard. The use of the standardised vocabulary provided by the CBV standard is critical to interoperability and critical to provide for querying of data by reducing the variation in how different businesses express common intent.

“Objects” in the context of EPCIS typically refers to physical objects that are handled in physical steps of an overall business process involving one or more organisations.

Examples of such physical objects include trade items (products), logistic units, returnable assets, fixed assets, physical documents, etc. “Objects” may also refer to digital objects which participate in comparable business process steps. Examples of such digital objects include digital trade items (music downloads, electronic books, etc.), digital documents (electronic coupons, etc.), and so forth.

The EPCIS standard was originally conceived as part of a broader effort to enhance collaboration between trading partners by sharing of detailed information about physical or digital objects. The name EPCIS reflects the origins of this effort in the development of the Electronic Product Code (EPC). However, EPCIS does not require the use of Electronic Product Codes, nor of Radio-Frequency Identification (RFID) data carriers, and as of EPCIS 1.1 does not even require instance-level identification (for which the Electronic Product Code was originally designed). The EPCIS standard applies to all situations in which visibility event data is to be captured and shared, and the presence of “EPC” within the name is of historical significance only.

ISO/IEC approved GS1 EPCIS standard for improved traceability and anti-counterfeiting in 2015 and 2017 i.e. ISO/IEC 19987:2015 and ISO/IEC 19987:2017.

## About ezTrack

GS1 System of Standards provides a means for structuring and sharing visibility information. GS1 Hong Kong, building on the success of the HKSAR government-funded EPCNetwork Project, has developed ezTrack™ - a service that addresses today's companies' critical need for a highly reliable solution that can effectively track and trace the flow of goods and product information from point of manufacture to point of sale through a robust Electronic Product Code™ (EPC) standard-based platform.

As a cloud-based Internet-of-Thing (IoT) platform compatible with various technologies including Radio Frequency Identification (RFID), bar code, Global Positioning System (GPS), sensors, ezTrack™ runs various solutions that allow enterprises to instantly access business-critical product information related to work-in-progress status, product inventory data, delivery schedules, etc.

It enables enterprises to:

- Gather real-time product or asset status information using data capturing devices such as (RFID) readers and barcode scanners, at various checkpoints along the supply chain for easy retrieval.
- Easily retrieve real-time product information. Movement of goods can be monitored at every stage of the supply chain obtaining clear picture of goods' status.
- Round-the-clock availability of critical business information Obtain critical business information they need, allowing effective business reporting process to track manufacturing progress, business steps, inventory levels and other similar procedures.

Connect and work with any EPCglobal standard-based network infrastructure worldwide, providing supply chain and global trading partners with relevant product information anytime and anywhere - the true value of global supply chain visibility.

## About EPCIS (ezTrack - Sandpit)

ezTrack - Sandpit Configuration and Logins

- <https://Sandpit.ezTrack.org/>
- Port logins
- Acknowledge Terms & Conditions
- Proceed to data capture container movements