Asia-Pacific Model E-port Network (APMEN) Visualisation of Sea Freight Logistics
亞太示範電子口岸網絡的海運物流可視化計劃
Improving visibility, integrity and transparency of cross-border trade in the Asia-Pacific
改善亞太地區跨境貿易的可見度、完整性及透明度

Background

Ports play an important role in the supply chain acting in the first place as a transportation hub, as well as an information hub. Yet, finding the most suitable and accurate source of information is not an easy task in a global supply chain. Shippers and logistics operators need to be able to share information documents with operators and administrators of other ports to achieve "end-to-end" visibility.

Thus, the APMEN Visualisation of Sea Freight Logistics Phase I project was commissioned to improve the visibility, integrity and transparency of cross-border trade in the Asia-Pacific by automating the exchange of Sea Freight data between APMEN members and using GS1 Global Data Standards.

Project Overview

The project was undertaken by APMEN and its members (NSW Ports, Xiamen E-port and Shanghai E-port, DP World (Australian port operator), GS1 Australia, GS1 China, GS1 Hong Kong, and GS1 Global Office).

The initial challenge of the project was to map and review the end to end processes for both imports and exports between participating ports. Through this process of mapping exercise, the project team identified common process "events" which were deemed critical, and which would trigger the exchange of Sea Freight data between participants for improved visibility.

Project Approach

For each critical event, data standards were developed to capture information about these events as the basis for the data exchange. Data attributes such as Container ID, Vessel ID, etc. were agreed and aligned to the GS1 EPCIS Standards.

GS1 EPCIS is a global data standard that enables physical supply chain critical tracking events (e.g. a container being loaded on a vessel) to be defined, and for event data (e.g. what, where, when, why) to be captured and shared across enterprises so that users can gain a shared view of inventory as it transitions between process steps across an extended supply chain. It is necessary to achieve inter-port information connectivity through the world’s prevailing standards, which is the foundation of realisation of the ‘global e-port community’

A single technical platform (ezTRACK™ - an EPCIS-Compliant cloud-based traceability solution) developed by GS1 Hong Kong was used. The platform was configured specifically to meet the process and data requirements, so that participants could record actual event data for each critical event onto ezTRACK™ which enabled data exchange and reporting.

背景

港口往往是運輸網絡的首站，亦是承載資訊的關鍵節點，在供應鏈上擔當著重要的角色。然而，在全球供應鏈中找
出最適合及準確的資訊來源卻非易事。航運及物流業者
需要與其他港口的業界同業及監管機構分享資訊文件，才
能達到端到端的透明度。

亞太示範電子口岸網絡(APMEN)的海運物流可視化首階
段計劃因而展開，運用GS1全球數據標準將APMEN會員
間的航運數據溝通自動化，目標是改善亞太地區跨境貿易
的可見度，完整性和透明度。

項目概覽

APMEN與其成員新南威爾斯口岸(NSW Ports)、廈門電
子口岸及上海電子口岸；塞恩DP World(澳洲港口營
運商)、GS1澳洲、中國商標編碼局、香港貨品編碼協
會(GS1 HK)及GS1總部一同推行本項目。

項目初期的難點，在於對接和審覈參與口岸之間的出入口
貨品，整個過程的透明度。在對接過程中，團隊確立了多
項關鍵的恆定流程，統稱「事件」，這些「事件」會引發
參與者之間的航運數據交流，提升流程可見度。

推行項目方法

團隊會就每一項重要「事件」而發展出一套數據標準，方
便獲取這些資料以作交流。團隊會應用GS1 EPCIS標準
－協調不同數據如貨運號碼、船名碼等的標準。

GS1 EPCIS是全球數據標準，能夠確定貨物供應商發生
的重要追蹤「事件」（如貨運運送上船）變成數據，讓該
些數據（什麼物件、在什麼地方、什麼時候、為何）被收
集及分享至不同企業。貨品在供應商上不同過程流動時，用
戶都可獲取存儲資料。利用全球最普通的標準將口
岸之間的資訊連結起來，是達成「全球電子口岸社區」願
景的基礎。

團隊使用了GS1 HK開發的數據網(TM)的技術平
台(數據網(TM)是符合EPCIS標準的進階追蹤雲端解決
方案)。平台根據項目的流程及數據要求而作出了調整，
讓參與者能在數據網(TM)中記錄真實的關鍵「事件」數據，
方便數據交換及匯報。
GS1 HK had contributed to the development of comprehensive GS1 Global Data Standards to support the exchange of critical Sea Freight data between ports and other key stakeholders including Freight Forwarders, Cargo Owners, Transport and Logistics providers and Government Agencies. The team had also made modifications to ezTRACK™ to deliver additional query, display, report, integration functionality and other technical support.

The scope of Phase 1 involved the tracking of inbound and outbound containers between three ports - NSW Ports in Australia, Shanghai ePort and Xiamen ePort in China using the ezTRACK™ solution.

Benefits

The exchange of critical Sea Freight data between ports can deliver benefits to participants, including:

- Greater transparency in container movements;
- Improved planning of port operations through increased visibility;
- More efficient track and trace operations;
- Better access to data for port management systems;
- Better customer service support to port community stakeholders.

The majority of participants provided insights into potential benefits, and particularly that the sharing of data and events would deliver:

- Implementation of early warning systems;
- Visibility of vessel location and status;
- Improved track-and-trade;
- Strengthening regulatory and operational effectiveness.

GS1 HK participated in the pilot project implemented in the GS1 EPCIS Sandpit (ezTRACK™) project. The project implemented a basic process flow that enabled participants to capture four export and four import events and record these in the GS1 EPCIS Sandpit (ezTRACK™).

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International Cooperation Manager
E&P International, Shanghai ePorts-Easipass
上海電子口岸電動國際業務經理

"It is suggested that the next step is to promote the model within APMEN members to improve the efficiency of data connectivity between other member ports in the future."

"建議下一步在APMEN成員間展推項目，期望未來可改善成員口岸之間的數據連通效率。"

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GS1 Standards used 應用的GS1標準

Global Location Number (GLN) 全球位置編碼
Global Trade Item Number (GTIN) 全球貿易品項編碼
Serial Shipping Container Code (SSCC) 貨運容器代碼
Electronic Product Code Information Services (EPCIS) 產品電子代碼訊息服務
Global Individual Asset Identifier (GIAI) 全球個體資產識別碼
Global Shipment Identification Number (GSIN) 全球貨運識別碼

Solution(s)/Service(s) applied 應用的解決方案 / 服務

ezTRACK™ 優途網™