Interactive cargo pilots

Lessons learned

Introduction

The purpose of the document is to capture the feedback received from the stakeholders participating in Cargo Interactivity pilots launched in the previous years; to utilise the insights to develop and improve standards for the air cargo industry; and enhance the use of ONE Record for data sharing.

Objective of the pilots

The different pilots all have specific objectives defined, thought the common goal of the trials is to:

- Test, confirm and adopt the recommended practices related to cargo interactivity defined by IATA and endorsed by the CSC
- Trial the use of BLE devices for tracking shipments
- Provide end-to-end visibility of shipments via real time tracking and monitoring
- Assess the use of the ONE Record data model and data sharing in cargo interactivity

Achievements

Several pilots with different industry stakeholders (airlines, forwarders, device manufacturers, IT solution providers) were initiated around the world; the following projects has reached execution phase.

- A Hong Kong based airline *(Cathay Pacific)* implemented the use of PED devices in real shipments flying in their network and are tracking the location, the temperature and other attributes of the shipments real time. In addition, they also piloted connection to customers using the ONE Record API standard for connection.
- A North American Airline (*Air Canada*) has installed BLE readers and tags of a cooperating stakeholder (*ONAsset*) on their aircraft and facilities to track temperature and use this data to monitor pallets, ULDs, maintenance equipment, warehouses, etc.
- A Northern-European technology solution provider (*Vedia*) implemented a mobile application to collect data on shipments, including the driver, the truck, the trailer and about the cargo ID. This information is then shared with the customs and is used to speed up border crossing of the truck by automated crossing. They have also integrated ONE Record data architecture into their data solution.
- Southeast – Asian airline (*Singapore Airlines*) has successfully employed the PED approval checklist and process defined in the IATA RP1693 and confirmed that following the recommendation shortens the device approval process.
- 6 stakeholders (*MSD, Air Canada, 7P Solutions, Nexshore, Swissport and UPS*) jointly executed an IoT data collection pilot with the objectives: Data collection from IoT devices in cold-chain transport measuring temperature & location; Real-time alerts to stakeholders on cargo movements & on potential temperature excursions; Aggregation of IoT and consignment data from multiple sources; Enable data access and data sharing using ONE Record; Visualization of route failures and risk areas using heat map overlays; Utilize learnings from pilot to develop deviation control operational procedures.

Challenges identified

The challenges identified during these pilots can be grouped into two main categories: i) market approach, ii) technical challenges.

Market approach

- Need for recognition of the ONE Record API standard not only among air freighters but also all other players on the supply chain
- No real interest from certain stakeholders to engage with data sharing using ONE Record
- Not all relevant stakeholders value the potential of standard device approval process and continue to stick to individual processes defined by their organisation
- Use of different tracking solutions without standard data sharing upholds lack of transparency

Technical

- Difficulties encountered to transform legacy database to fit ONE Record data model
- Providers not willing to update their systems

Improvements

- Shift in the industry approach is needed to get more engaged with the use of tracking devices and adoption to ONE Record standard.
- Definition of further practical use cases is necessary to better shed light on the benefits of real time data collection and monitoring so organizations would understand real-world benefits and could translate these benefits into own business objectives.

IATA involvement

IATA is playing the role of the coordination, matching companies, facilitating discussions and cooperation, keeping the momentum, and generally acting as the secretariat so that stakeholders can concentrate on trials and improvement.

Actions moving forward

- Boost industry engagement for the use of the ONE Record standard for shipment tracking and data sharing for increased visibility
- Enhance piece level shipment tracking
- Engage industry to the use of the IATA Air Cargo Device Assessment program that has been launched in 2024, to ensure standardized device approval process
- Identify further use cases featuring cargo interactivity, the use of tracking devices for real time monitoring, data collection and data sharing