Interactive Cargo

Pilot Projects
Our vision

To equip airlines and the air cargo supply chain with responsive air cargo services based on intelligent systems able to:

- **self-monitor**;
- send real-time **alerts**;
- **respond** to deviation to meet customers’ expectations;
- and **report** on the cargo journey to allow data-driven improvements.

Making cargo talk

**Locate**

**Track**

**Monitor**

**Notify / Alert**

**Respond**
Objectives and key deliverables

The goal is to provide stakeholders in the air cargo supply chain with a set of standards and guidance documents to enable and ease the use of IoT devices for interaction with cargo.
Pilot project objectives on Interactivity Characterization

- Test and refine the data model of IoT devices in air cargo
- Integrate the data model of IoT devices into the ONE Record data model
- Validate IATA's standard API for IoT devices in air cargo
- Capture real-time data on cargo conditions
- Share IoT data across the supply-chain
- Develop operational procedures to respond to deviations
Integrate the data model of IoT devices into the ONE Record data model

The data model of IoT devices has been added to the IATA Cargo GitHub

The descriptions of the data elements are available on the IATA Cargo GitHub
Validate IATA’s standard API for IoT devices in air cargo

ONE Record API: Overview of the key features

The ONE Record Developer Portal provides the API specifications
How to implement ONE Record?
https://onerecord.iata.org

How to get started with ONE Record?

ONE Record drives paperless processes and creates a plug and play environment where companies can connect and re-connect their digital relations with ease. Discover the standard in a few steps!

Start Now  Resources  Video Learning  White Papers & Insights  Code Exchange  FAQs
Device Certification
Pilot Project Objectives on Device Certification

- Validate the approval process recommended by IATA
- Standardize the approval request form
- Simplify the approval process for interlines
- Pre-assess cargo tracking devices by IATA (need to be validated by airlines)
- Create a database of approved cargo tracking devices
The Interactive Cargo Task Force developed the recommended practice – Approval of the use of portable electronic devices for air cargo.

This new IATA standard has been endorsed by the Cargo Services Conferences in March 2021.

This recommended practice introduces a simplified 4-step approval process.
The Interactive Cargo Task Force also developed a standard approval request form that can be downloaded at [iata.org/interactive-cargo](http://iata.org/interactive-cargo).
Pilots for Operational Validation
Ongoing Interactive Cargo Pilot Projects
To take part or propose a pilot, contact us at interactivecargo@iata.org

**Interactivity Characterization Pilots**
- Real-time cargo tracking for shipments requiring special handling
- Visibility, tracking and alerts at the piece level
- Smooth border crossing by data sharing and logistics transparency
- Real-time tracking through a web platform compliant with ONE Record
- IoT data collection, distribution and reporting

**Device Certification Pilots**
- Approval of the use of Portable Electronic Device (PED) for air cargo
- IATA pre-assessment of cargo tracking devices
Visibility, tracking and alerts at the piece level

Pilot Description

- Deploying OnAsset’s SENTRY devices for consignment visibility and Sentinel BLE devices to extend the visibility to piece level on Air Canada Cargo shipments.
- Demonstrating autonomous delivery of in-shipment status messaging and sensor-based alerts with availability through OAInsight API. Also, to include CargoIQ milestone mirroring through AC Cargo facilities. Additionally, include the visibility and tracking of Unilode ULDs integrated with the OnAsset Sentinel BLE devices.

Pilot Participants

- Airline
- Ground Handler
- Device Manufacturer
- ULD Manufacturer

Implementation roadmap

- ✓ Install devices
  - JAN-21
- ✓ Define the flow of data
  - FEB-21
- ✓ Monitor shipment movements
  - JUL-21
- Evaluate results
  - JUN-21
Real-time cargo tracking for shipments requiring special handling

Pilot Description

- Track shipments requiring special handling, using Bluetooth Low-Energy (BLE) tags and sensors to capture real-time geolocation, temperature and humidity throughout the journey, except in-flight.
- Display the data in the carrier’s platform and connect with supply chain actors using the One Record protocol.
- The pilot team is looking for shippers and freight forwarders to test the real-time tracking.

Pilot Participants

- Shipper
- Freight Forwarder
- Airline
- Ground Handler
- Device Manufacturer
- IT Service Provider

Implementation roadmap

- Find shippers and freight forwarders to participate in the pilot JUL-21
- Select airports and trade lanes DEC-20
- Install receivers and develop platform MAR-21
- Monitor shipments and test procedure JUL-21
- Evaluate results AUG-21
Real-time tracking through a web platform compliant with ONE Record

Pilot Description

The objectives of the pilot are to enable real-time tracking of shipments and validate the ONE Record data model for IoT devices:

- Visibility of tracking data for temperature-sensitive shipments using the ONE Record data model linking the air waybill and Cargo iQ events on a web platform.
- Display real-time information of temperature and geolocation information.
- Airport-to-airport (or door-to-door with freight forwarder participation).

Pilot Participants

- OnAsset Intelligence
- Singapore Airlines Cargo
- Cargo Community Network

Implementation roadmap

- Find shippers and forwarders to participate in the pilot AUG-21
- Develop web platform OCT-21
- Completion MAR-22
- Interface data JUL-21
- Test Proof of Concept JAN-22
Smooth border crossing by data sharing and logistics transparency

**Pilot Description**

- Vedia is seeking One Record for air-road transport and especially focusing on IoT aspects and data sharing in multimodal logistics chains.
  - Data collection from road transport via mobile app, IoT device and background systems
  - Data sharing between business and authorities
  - Data sharing between road and air transport
- Automated border crossing pilot between Norway and Finland is the first place where Vedia will adapt One Record
  - Data sharing between road transport, authorities and air cargo

**Pilot Participants**

- Airline
- IT Service Provider
- Device Manufacturer

**Implementation roadmap**

- **Vedia ONE Record server for border crossing pilot**
  - Q1-21
- **Finland/Russia/China corridor collaboration**
  - Q2-21
IoT data collection, distribution and reporting

**Pilot Description**
In 2020, the CCS-UK User Group and Nexshore developed a One Record Server which will be enhanced to provide the following:
- Real-time alerts to notify parties about cargo movements.
- Database of en-route personnel involved in handling of special cargoes tracked by IoT devices.
- Publication of datasets to feed into Cargo IQ like platforms and directly back to consignment owners.
- Aggregation of IoT and consignment data from multiple sources.
- Data anonymisation to review and share information for overall shipping improvement.
- Visualization of route failures and risk areas using heat map overlays.

**Pilot Participants**
- Shipper
- Freight Forwarder
- Airline
- Ground Handler
- Device Manufacturer
- IT Service Provider

**Implementation roadmap**
- Find pilot participants
  - AUG-21
- Build new functionalities, consume data and monitor en-route
  - OCT-21
- Analyze data and produce report
  - JAN-22
Approval of the use of Portable Electronic Devices (PEDs) for air cargo

• To adopt the IATA recommended practice and checklists for the approval of Portable Electronic Devices onboard aircraft for air cargo, in order to standardize information required for approval and decrease the total duration required for carriers to complete an approval request.

Pilot Participants

Airline
Civil Aviation
Device Manufacturer

SINGAPORE AIRLINES CARGO

Implementation roadmap

✓ Find device manufacturers to participate in the pilot NOV-20
✓ CAAS to review IATA Recommended Practice
✓ Singapore Airlines to implement the IATA standard approval process
✓ Evaluate total duration of the approval review OCT-21
✓ Validate the new process with device manufacturers
Approval of the use of Portable Electronic Devices (PEDs) for air cargo: First outcomes

66% reduction in approval duration: Average approval time decreased from 93 days to 1 month.

Comprehensive set of documentation received as compared to prior process, reducing the process turnaround time to request for supporting documentation.

Next steps:
- Update the request form to ease the review of supporting documents
IATA pre-assessment of cargo tracking devices

**Pilot Description**

To develop for Device Manufacturers a device pre-assessment by an independent validator that verifies the validity of a request for the approval of a cargo tracking device by airlines. The pre-assessment will validate that:

1. The IATA standard request form is valid
2. and supporting documents that IATA recommends to attach to the request are valid.

**Pilot Participants**

Airline
Device Manufacturer
IATA

SINGAPORE AIRLINES CARGO
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group

**Implementation roadmap**

- **IATA to survey airlines to validate the need** AUG-21
- **Find airline and device manufacturers to participate in the pilot** SEP-21
- **Test the pre-assessment by an independent validator** SEP-21
- **Validate the program with device manufacturers and airlines** OCT-21
SURVEY: How to improve the airline approval process for cargo tracking devices? What are the reasons why requests are rejected?

1. Missing information
2. Battery issues; Lithium batteries exceeding FAA or EASA recommendations
3. Not compliant with regulations
4. No commercial value
5. Intellectual property issues
How to get involved?

Contact us at:
InteractiveCargo@iata.org

Website:
iata.org/interactive-cargo