



Digital Cargo Webinars 2021

Episode 4 : Pilots & Hackathons

Your host

Arnaud Lambert
ONE Record Engagement
Manager, IATA





Digital Cargo Webinars calendar

1	Executive session	22 June	14:00 CET
2	Digital Cargo	24 June	14:00 CET
3	Interactive Cargo	29 June	14:00 CET
4	Pilots & Hackathon	1 July	14:00 CET
5	ONE Record	6 July	14:00 CET
6	EU FEDeRATED Project	8 July	14:00 CET
7	Digital Cargo Products & Tools	13 July	14:00 CET

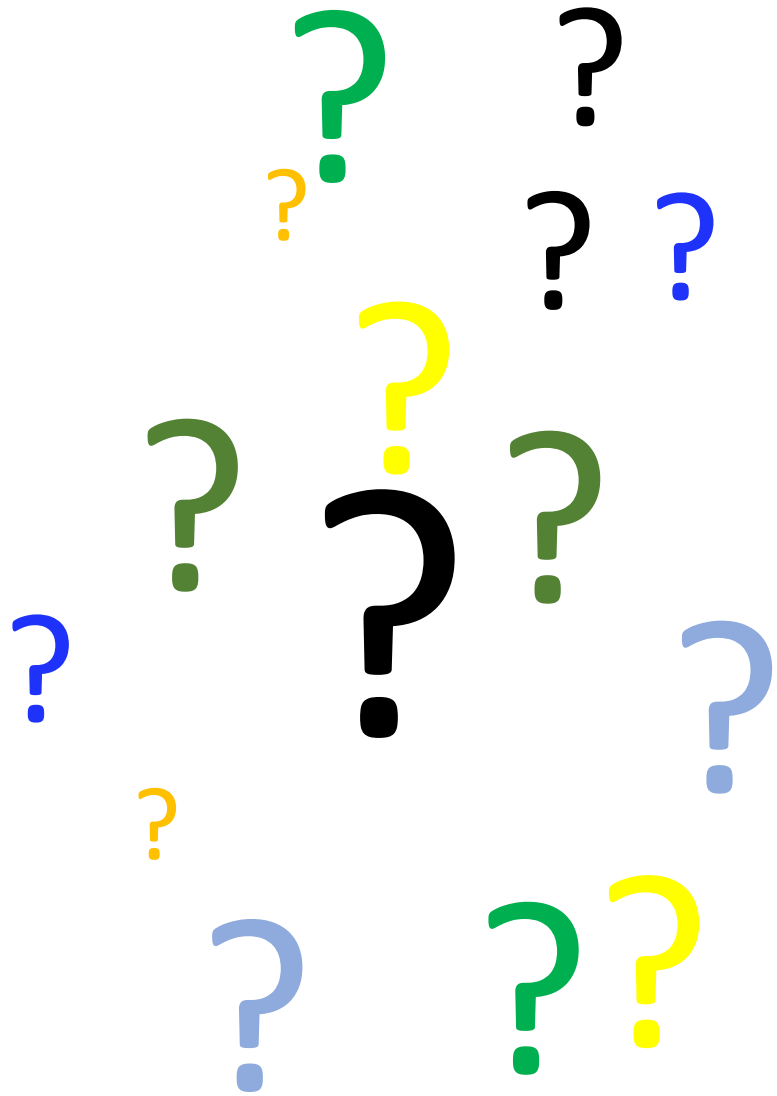
GOOGLE: "IATA digital cargo webinars" for more details



This meeting is recorded for future use

The recording along with questions will be available
shortly after this webinar finishes.

www.iata.org/one-record



Q & A

Please put your question during the presentations in the Q&A.

We will have a Q & A after the individual presentations.

Your speakers today



Arnaud Lambert
Engagement Manager
IATA



Dr Philipp Billion
Senior Manager,
Data Solutions
Lufthansa Cargo



Thomas Gerstner
President
Virtual Control



Pramod Rao
CEO
Nexshore
Technologies

Episode 4: Pilots & Hackathons

Part 1

ONE Record; from piloting to operational implementation

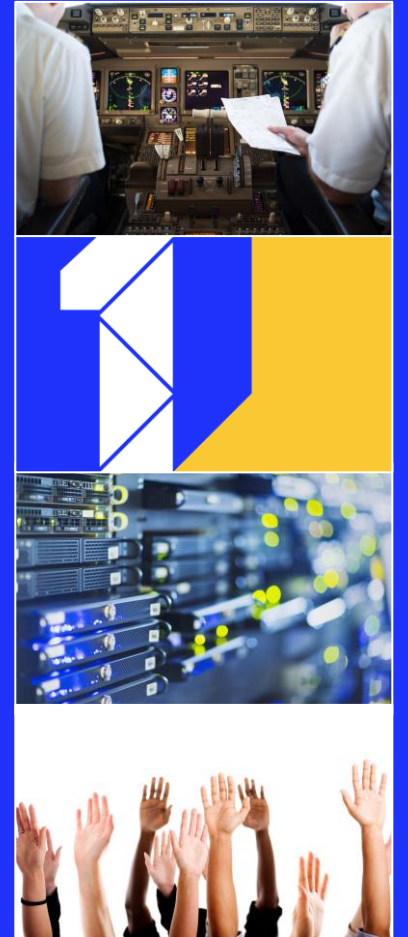
Part 2

From Hackathon to DaaS (Virtual Control)

Part 3

From Hackathon to SaaS (Nexshore Technologies)

Q&A



Digital Cargo Conference 2021

Part 1

**ONE Record:
from piloting to operational
implementation**



One thing to be clear of...

“The electric light bulb did not come from the continuous improvement of candles.” (Oren Harari)

What is possible & what can we share?



Transparency on capabilities enable matchmaking

Implementation Levels of ONE Record

Level 1

Simple Data consumption

- ONE Record Data model
- GET
- Company info as LO
- Linked data
- Retrieving Data from an "open" API

Level 2

Essential data provision

- Level 1 + the below;
- POST, incl Error Model
- PUB / SUB
- Events
- Access Control
- Sharing IoT-Data in a limited environment

Level 3

Secure data exchange

- Level 2 + the below;
- Change Request mechanism (PATCH)
- Versioning / Audit trail
- Certification / Encryption
- Memento function
- Sharing shipment record between FF and Carrier
- Performing booking process

Level 4

Multi-party environment

- Level 3 + the below;
- Publish & Subscribe in multi-link/multi-party scenario
- Access delegation
- Unlimited legal application of ONE Record
- Full supplychain use

Level 5

Full interoperability

- Level 4 + the below;
- FEDeRATED trust integration
- Plug & Play
- Complete open ecosystem

* levels pending final confirmation



ONE Record pilots – 2021 update

* Interactive Cargo (IoT) pilots not included on this map yet



ONE Record Hacked: IATA Cargo Hackathon 10-12 September / Virtual



 **PayCargo**®

Nexshore

 Riege
Software

ibssoftware



What happens?

- Open to everyone around the world
- multiple challenges
- 28 hrs of coding
- First prize \$2,000 prize money
- Additional challenge-specific prizes
- Workshops



REGISTRATION OPENS 12 July!



Teams

- Minimum 2 people per team
- Maximum 6
- Can be located anywhere
- Mix of developers and business experts
- No (previous) experience required!

REGISTRATION OPENS 12 July!





REGISTRATION OPENS 12 July!

Digital Cargo Conference 2021

Part 2

From Hackathon to DaaS (Virtual Control)



Digital Cargo Conference 2021

Part 3

From Hackathon to SaaS (Nexshore Technologies)



Digital Cargo Conference 2021

Part 4

Q&A

Save the date

Hackathon
10-12 September (online)



HACKATHON
10-12 September



Thank You

More info

www.iata.org/one-record





DIGITAL CARGO WEBINAR 2021

From HACKATHON
to a Data-As-A-Service Platform

July 1, 2021

Thomas Gerstner, President

Major Challenges in the Air Cargo Industry



Tracking of ULDs and Cargo is progressing well!

- ULDs upgraded with BLE tags
- Sufficient reader infrastructure at airports & cargo hubs
- However, blind spots in remote location w/o infrastructure

Important questions which still cannot be answered:

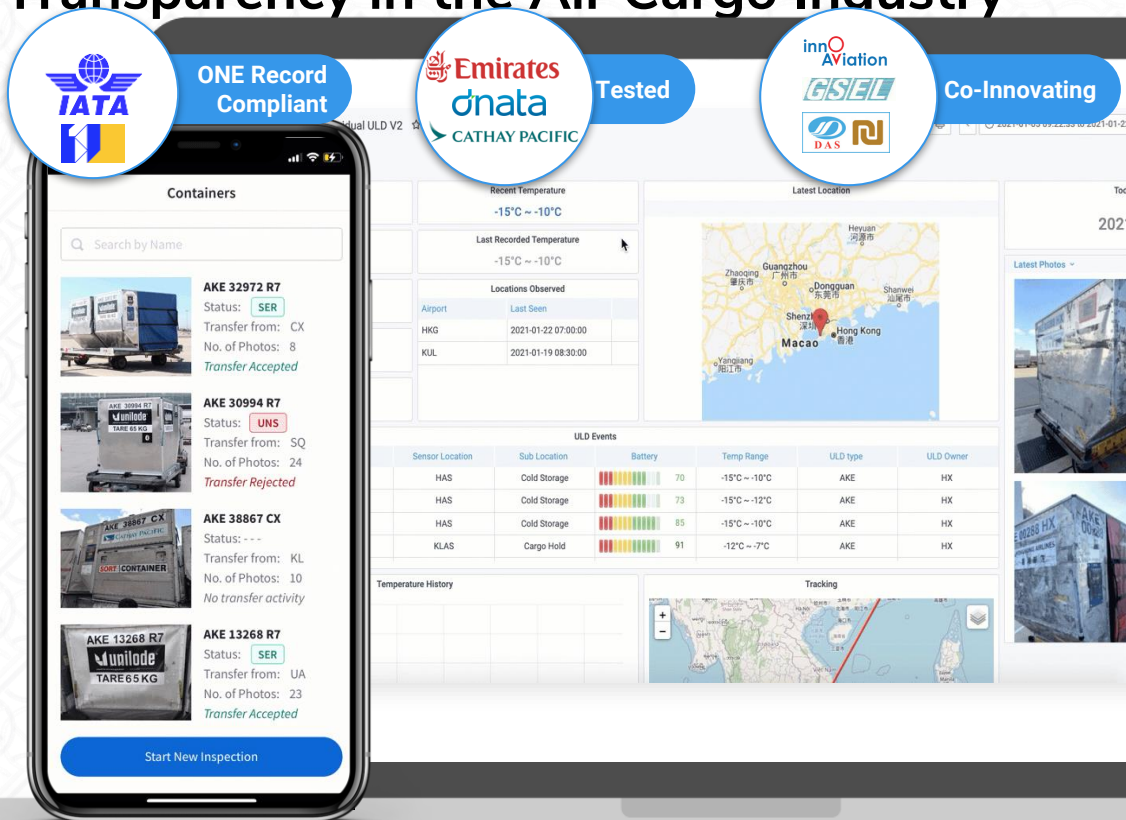
1. **WHICH** custodian party caused damages?
2. **WHO** was handling cargo not in the defined tolerances?
3. **WHICH** party was in charge of the ULD last, before it "got lost".
4. **HOW** to digitize the error-prone, inefficient paper-based ULD transfer process by using IATA ONE Record data format?
5. **HOW** to ease audit process and support safety processes by having relevant ULD tag information available fast?

The foundation of Trust & Transparency in the Air Cargo Industry Anytime, Anywhere



by Virtual Control

- Mobile App to digitize the entire ULD transfer process incl. interlining for all custodian parties
- AI-assisted visual Inspection & Damage Detection
- ULD tag capturing for supporting audit- safety & compliance procedures
- Web Platform combining BLE tag information (Descartes/Core and others) and manual / visual condition inspections from Mobile App
- Automated data exchange supporting IATA One Record data format





We provide the platform of
trust, transparency and
evidence for ULD tracking,
transfers and inspections.
Anytime Anywhere.

We create the new data
economy for the air cargo
industry and protect
shipments like never before.

Our Journey Since 2019

Development Support & Pilots



AIRCARGOWORLD

May 2021

Digitizing the ULD transfer process and protecting shipments with Virtual Control

by Virtual Control — May 14, 2021 in Technology

Share on Facebook

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Like many areas of airfreight transportation and logistics, ULD transfer and repair are inundated with manual processes. The lack of digitization and reliance on paper forms, phone calls and manual data logging leads to negative outcomes from a lack of clarity into who is responsible for damages to equipment to misplaced or lost ULDs

How do manual processes slow down ULD management?



[Publication Link](#)

WINNER 2020 "Innovation Engine Award"



[Publication Link](#)

WINNER 2020 Oceans of Opportunities Challenge



*"The proposed solution has a **high business impact**. The judges also liked that their product was ready to be built on and that gave confidence that future piloting would have a **high chance of success**."*

[Publication Link](#)

Elton Fong, Vice President of PSA UNBOXED , Judge

[Publication Link](#)

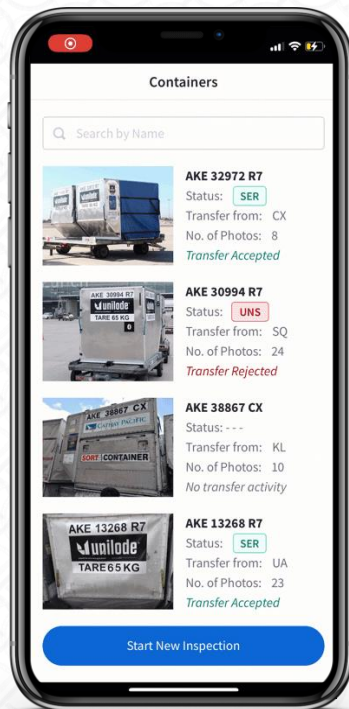
Solution Development Advisor



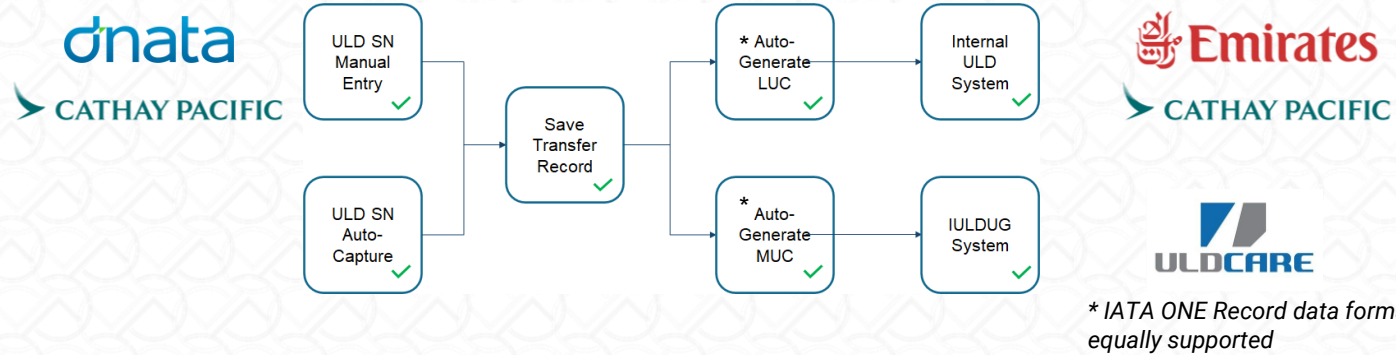
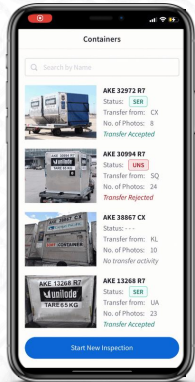
"Virtual Control is writing history in the air-cargo industry by digitizing the complete ULD transfer process and replacing the paper based UCR handling."

Bob Rogers, VP & Treasurer, ULD CARE

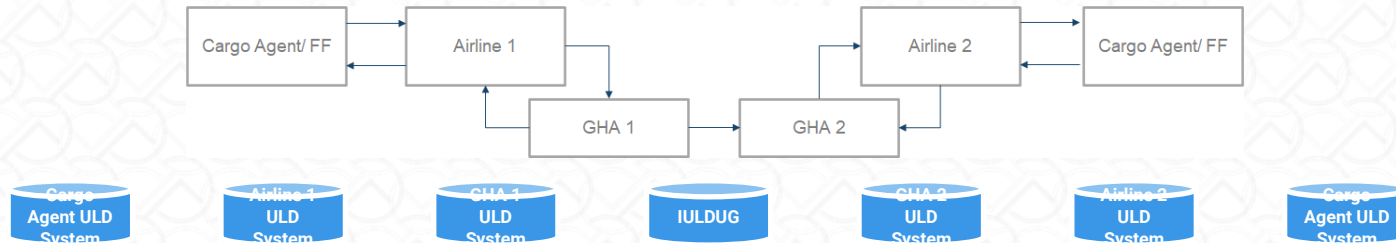
DEMO



Writing History in Air Cargo Business: Digitizing the UCR Process



Exchanging ULD control receive information across all parties involved in the shipping process based on established message formats (IATA ONE Record, LUC/MUC, XML, etc.)



Benefits for Airlines, Ground Handlers & Freight Forwarders



Gapless tracking of ULD conditions along custody transfers and among all parties
– globally, even in remote locations



Increasing efficiency by digitizing paper-based ULD transfer and data-collection (incl. interline process) (UCR)



No process changes required.
Seamless integration into existing business processes and established procedures.



Supporting IATA OneRecord data standard and other data formats.
Open interface for flexible and individual data usage (API).
Out of the box integration with major ULD stock mgt systems.



Full data and audit trail to guarantee trust, data security and transparency in real-time for all partner. Support of claim assessments.



Compliant with all data privacy- and country specific regulations. Supporting audits by providing ULD tag information



Zero additional IT investments into hardware or tag readers.
Software-As-A-Service model & Mobile App
(compatible with Android, IOS, incl. Honeywell, ZEBRA)



Lowering company's risk profile, impacting insurance premiums, reducing financial and safety risks



Thank you

Thomas Gerstner, President
t.gerstner@virtualcontrol.com

The information contained herein is of a general nature and is not intended to address the circumstances of any individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

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OneRecord

By Nexshore

From Hackathon to SaaS



ONE Record Airport hub (Project registered with IATA)



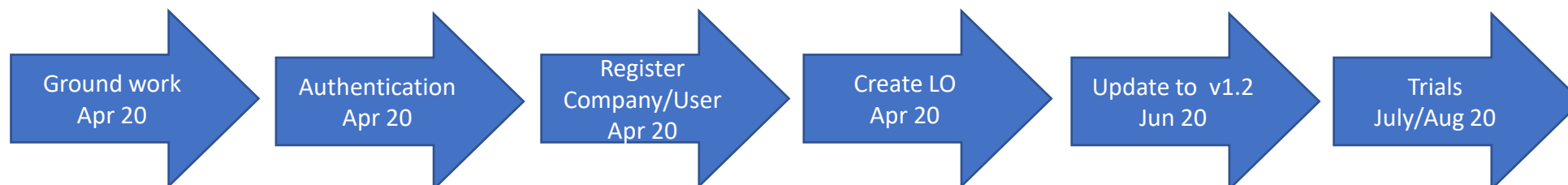
Pilot Description

- Implementation of the IATA One Record specification based on Github documentation.
- Master airwaybill data from two Forwarders being moved through a One Record hub to two Airlines and one Ground Handler
- Initially the trade lane LHR-HKG & HKG-LHR.
- Pilot may include status messages to/from CX
- The pilot server will be built to accommodate additional business scenarios that will be discussed during 2020.

Pilot Participants



System build timelines



ONE Record server and accounts management



Nexshore

- Once business requirements were frozen, Nexshore set about developing the ONE Record server in “Node” format – provided by IATA in their architecture.
- A Node is a completely isolated account secured by its own ONE Record ID on an application server, asynchronously tethered with API and Database servers. All this is completely secured with TLS and handshakes must be established between certified servers before any data can be exchanged.
- Nexshore chose to implement the architecture on the Microsoft Azure Cloud on servers located in the UK south data centers.

ONE Record servers and data flow



- Pub/Sub, Data Delegation and Server TLS handshake was implemented and tested between
 - CCS-UK ONE Record Nodes for GEODIS and dnata (data delegated by Cathay Pacific on AWB)
 - GLSHK's ONE Record Server for Cathay Pacific.
- Waybill objects were exchanged, and immediate Shipment status updates were received.
- The test was conducted with interrupts, so the audience was able to follow along.



AirWaybill Object

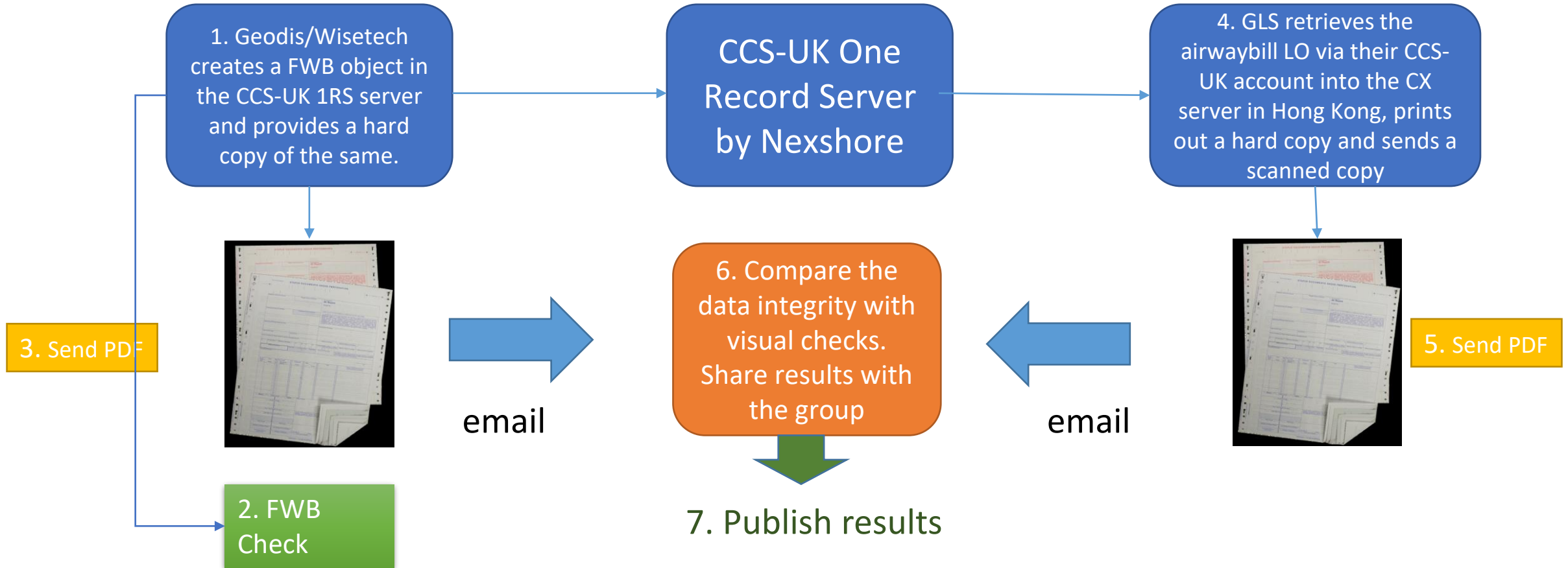
Shipment Status Update



CATHAY PACIFIC



CCS-UK – Success criteria published



The early hackathon user interface

















In the hackathon, Nexshore got into a partnership with PayCargo, LLC and worked on the following challenges:

1. Quote & Book
2. Track & Trace
3. Claims
4. Payments Integration

Technology stack used:

1. Angular 7
2. Core .NET
3. Microsoft SQL server

The screenshot displays a web application interface for logistics tracking. At the top, there's a header 'FWB' and a 'Filter' section. Below this is a table with columns: '+', 'AWB', 'Received', 'DEP', and 'ARR'. The table contains four rows of data, each with a set of icons in the first column. The first icon in the first row is highlighted with a red box. Below the table, there's a 'Logistics Object' section showing a JSON object.

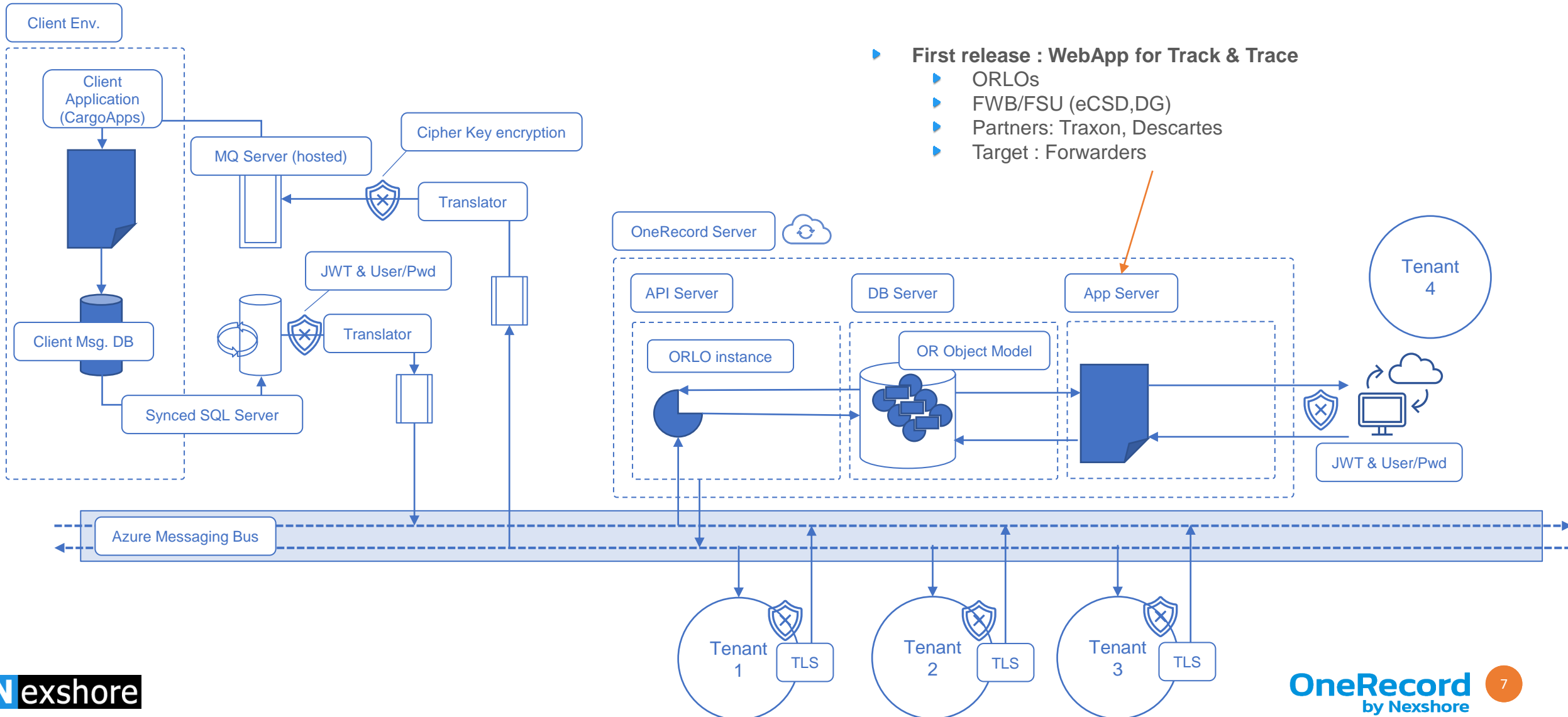
+	AWB	Received	DEP	ARR
   	160-19112839	05-Aug-2019T04:09:50	HKG	JFK
   	160-19113742	05-Aug-2019T04:09:50	HKG	JFK
   	160-19113741	05-Aug-2019T04:09:50	HKG	JFK
   	160-19113740	05-Aug-2019T04:09:50	HKG	JFK

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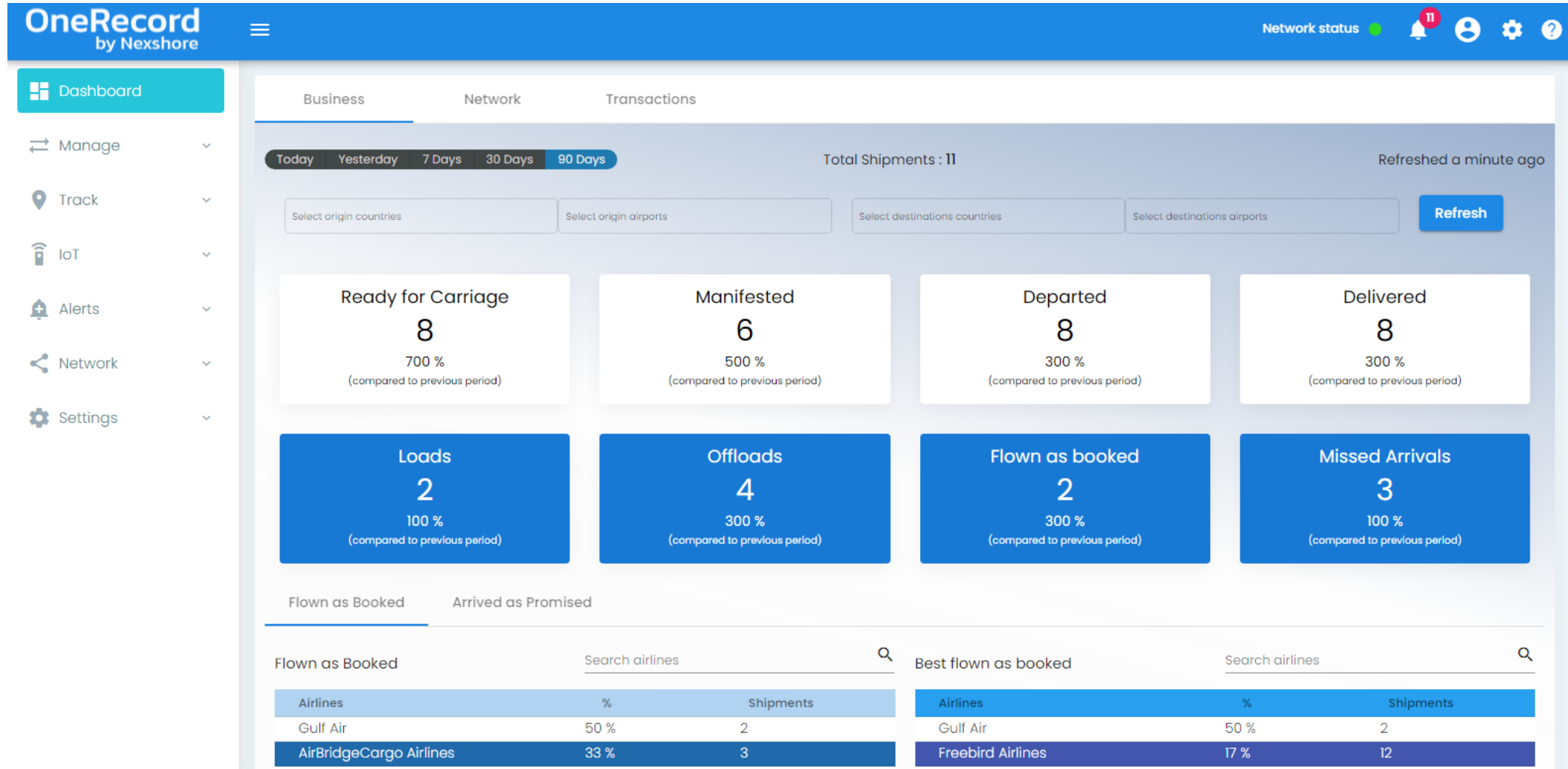
Logistics Object

```
{
  "id": 0,
  "loOwner": "RHKAGT801316010/HKG81",
  "loType": "Air-Waybill",
  "loId": "MTYwLTE5MTEyODM5",
  "lobId": "MTYwLTE5MTEyODM5",
  "companyId": "d2a3208a-8c1a-428e-ba9a-dd2671bdd496",
  "lo": {
    "id": 8,
    "contextURI": 19,
    "context": {
      "contextURI": 19,
      "iata": "http://www.onerecordcargo.org/schema/"
    }
  },
}
```

After the hackathon, we focussed on integrations



The current SaaS product Interface



Connect to several supported Airlines

OneRecord
by Nexshore

Network status 11

Dashboard

Manage

Track

IoT

Alerts

Network

Connections

Manage

Settings

Connections

Connections > Connections

NORD Search

air

Company Name	Action
LATAM Airlines Ecuador	Connect
Saudi Arabian Airlines	Connect
Ortizairline	Connect
Jimenezairline	Connect
Hendersonairline,ad	Connect

Items per page: 5 1 - 5 of 254

Incoming requests

Outgoing requests

Search

Start tracking your Cargo

OneRecord
by Nexshore

Network status

Dashboard

Manage

Track

Air Waybill

IoT

Alerts

Network

Settings

Shipment Has Been Delivered

22nd Jun 2021 1:15 AM

Your Shipment No. 072-70938604 with 4 Pcs 85 Kgs 0.4 MC has been delivered to Consignee

Shipment Received From Flight

19th Jun 2021 10:50 PM

Your Shipment No. 072-70938604 with 4 Pcs 85 Kgs 0.4 MC was received in BAH via GF002 at 22:50:05

Consignee Notified

19th Jun 2021 11:00 PM

Your Shipment No. 072-70938604 with 4 Pcs 85 Kgs 0.4 MC was received in BAH and your agent has been informed

Shipment Has Departed



OneRecord

By Nexshore

Demonstration

