Welcome

Glyn Hughes
Global Head of Cargo
IATA
13th WORLD CARGO SYMPOSIUM

MARINA BAY SANDS – SINGAPORE
12 – 14 March 2019
Record WCS

1268 Participants  +14% vs 2018
30% Airlines
115 Unique Airlines
Air Cargo Makes it Happen

From his field to your vase

Help from the sky

Travelling first class in a stable market

A life protected

16-19 March
Australia

23-28 March
Malaysia

...air cargo makes it happen.

Air cargo is key to the lifeblood of many businesses and key players, ensuring 95,000 jobs. So when you say it with flowers, remember they've flown farther than you think.

www.iata.org

...air cargo makes it happen.

Air cargo plays an essential role in ensuring timely delivery of critical medical supplies and emergency supplies where they are needed, so we can get them to where they need to go.

www.iata.org

...air cargo makes it happen.

The world's most valuable cargo, the once-in-a-lifetime, hard-to-find horse, is delivered to the destinations where they are destined to be.

www.iata.org

...air cargo makes it happen.

A life protected, in many cases, is delivered every day. Air cargo is crucial in keeping the world's most valuable cargoes where they need to be.

www.iata.org

...air cargo makes it happen.

Efficiency means 15 major benefits every year.

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WORLD CARGO SYMPOSIUM

MARINA BAY SANDS – SINGAPORE

12 – 14 March 2019
Thank you to our Host Airline and Gala Dinner Sponsor
Thank you to our Platinum Sponsors

[Logos of CHAMP, Qatar Airways Cargo]
Thank you to our Track Sponsors
Thank you to our Gold Sponsors
Thank you to our Silver & Bronze Sponsors

Silver Sponsors

Bronze Sponsors

Lufthansa Cargo
Networking the world.

pwc
WCS Social Media Awards

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#IATAWCS

7.8 million Tweet impressions in 2018
Thank you to our Wi-Fi Sponsor

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Password: IBSSoftware
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STEP 2: Download the App
STEP 3: Open the app, search for World Cargo Symposium 2019
Welcome Address

Goh Choon Phong
Chief Executive Officer
Singapore Airlines
Keynote Speech

Dr. Lam Pin Min
Senior Minister of State
Ministry of Transport and Ministry of Health, Singapore
The State of the Industry

Alexandre de Juniac
DG and CEO
IATA
“Protectionism, trade friction, BREXIT and anti-globalization rhetoric are part of a genre of developments that pose real risk to our business…and broadly across the economies of the world.”

Alexandre de Juniac
IATA Director General and CEO
“Governments need to ensure that global standards are consistently implemented and enforced when necessary.”

Alexandre de Juniac
IATA Director General and CEO
“We live in a world where business success is driven by data and speed. But many of our processes still use paper, phone and fax. This is not sustainable.”

Alexandre de Juniac
IATA Director General and CEO
“Enabling Global Trade is a mission of great importance. It helps economies to grow. And in doing so promotes better livelihoods and a better quality of life for real people in every corner of the planet. This is an integral part of why we call aviation the Business of Freedom.”

Alexandre de Juniac
IATA Director General and CEO
Economic Outlook

Brian Pearce
Chief Economist
IATA
Which path will air cargo follow?

% year-on-year  Industry-wide FTK growth

Source: IATA Economics using data from IATA Statistics and own forecasts
FTKs have not grown for more than 12 months

Source: IATA Economics using data from IATA Statistics
Recent weakness is widespread

Growth in FTKs by market segment

Source: IATA Economics using data from IATA Statistics
Export orders point to further decline in near term

Export orders and FTK growth

FTK growth

Export orders index

Source: IATA Economics using data from Thompson Reuters Datastream, IATA Statistics
Weakness only partly due to restocking cycle

Growth in FTKs and the inventory-shipments ratio

Source: IATA Economics using data from Thompson Reuters Datastream, IATA Statistics
The problem is with overall world trade

Global GDP and world trade growth

Source: IATA Economics using data from Oxford Economics and the Netherlands CPB
Late last year US & Asia added to EU trade weakness

Source: IATA Economics using data from Thompson Reuters Datastream
Trade wars add uncertainty to the outlook

Global GDP growth

Source: IATA Economics using data from IMF, Citi ‘US-China Tariffs-Limbo on the Verge of Trade Wars’ 3 December 2018
As does Brexit!

Source: IATA Economics using data from Oxford Economics, NIESR Brexit Impacts Report 26th November 2018
Overall GDP growth is down but is still good

Source: IATA Economics using data from Oxford Economics and Thompson Reuters Datastream
Growth in key economies looks reasonable

Source: IATA Economics using data from Oxford Economics
Government fiscal policy remains expansionary

Fiscal policy injection into economy, % GDP

Source: IATA Economics using data from IMF World Economic Outlook Database, October 2018

Stimulus

Austerity

Source: IATA Economics using data from IMF World Economic Outlook Database, October 2018
Central banks maintaining extraordinary support

Central bank assets

US$ and Euro, trillion

Source: IATA Economics using data from Thompson Reuters Datastream

US$ 6 trillion of bonds, assets purchased by Fed and ECB

US Federal Reserve Bank

European Central Bank
Real borrowing costs still in post-GFC range

Source: IATA Economics using data from Thompson Reuters Datastream
Slower but continued GDP growth expected

Source: IATA Economics using data from Markit, IMF World Economic Outlook January 2019
A pause in globalization constrains the outlook

Ratio of world trade to economic activity (left scale)

Foreign value added in exports i.e. production ‘on-shoring’ (right scale)

Pre-GFC

Post-GFC

Source: Netherlands CPB, UNCTAD Eora database, Datastream
But after weaker 2019 a small rise in trade forecast

Sources: IATA Economics using data from the IMF World Economic Outlook, January 2019
Reasons for optimism on share of world trade

Ratio of FTKs to world trade volume

Sources: IATA Economics using data from the IMF World Economic Outlook Database, IATA Statistics
Weak 2019 outlook but improving trend

Source: IATA Economics 5-year Air Freight Forecast, March 2019
Thank you!

Brian Pearce
Chief Economist
IATA
pearceb@iata.org
www.iata.org/economics
Networking Break

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AOT
Chairman’s Opening Remarks

Glyn Hughes
Global Head of Cargo
IATA
Cargo: Year in Review

Glyn Hughes
Global Head of Cargo
IATA
2018 Cargo in Numbers

63.7 million tonnes of cargo were transported by air in 2018

Equal to the capacity of 544,444 Boeing 747 Freighters
Industry Outlook 2019

More than 50% predict growth
Lithium Batteries

UN 3481
Digital Innovation
Future Air Cargo Executives (FACE)

Action Air Cargo!
E-Commerce Growth
Smart Facility Solution

1 Single accepted Industry audit

50% Reduction in audit complexity

1 Platform for improved transparency
Economic Development
Combating illegal wildlife
Shipper Survey Results

+400 responses

52% foresee using more air cargo
2019 Shipper Survey Results

16% Very happy
8% Very unhappy
7/10 satisfaction
Air Cargo is more competitive!

Of multimodal shippers consider air cargo equally or more competitive compared with other modes of transport.
E-Commerce Results

- 66% shippers see e-commerce transforming supply chain
- 29% think air cargo adequately serves e-commerce needs
- 40% Unaware of dangerous goods regulations in transport for e-commerce shipments
Combating illegal wildlife

83% ready to sign a code of conduct to combat counterfeits, illegal wildlife trade and illegal narcotics
Back in 1959…
This year... ULD Turns 60!
Enabling Global Trade

Moderator
Nick Careen, Senior Vice President APCS, IATA

Panelists
Chin Yau Seng, Senior Vice President Cargo, Singapore Airlines
Steven Polmans, Head of Cargo & Logistics at Brussels Airport Company
Brian Pearce, Chief Economist, IATA
WCS Opening Plenary Wrap-up

Glyn Hughes
Global Head of Cargo
IATA

ENABLING GLOBAL TRADE AT THE 13TH WORLD CARGO SYMPOSIUM
Networking Lunch

Kindly sponsored by

SINGAPORE AIRLINES
E-Commerce: Air Cargo Growth, Key factors

Marco Bloemen
Managing Director, Seabury Consulting
March 12, 2019

Global air cargo and e-commerce growth trends

More insights, better decisions…
SOME AIR FREIGHT TRENDS AS OF LATE...

Global air trade has seen renewed growth, but is it sustainable?

New freighter operators are rising faster than “legacy” cargo airlines

Increasing role of key e-commerce players in air logistics
Global air trade has seen renewed growth, but is it sustainable?

New freighter operators are rising faster than “legacy” cargo airlines

Increasing role of key e-commerce players in air logistics
GLOBAL AIR TRADE HAS SEEN RENEWED GROWTH IN THE LAST THREE YEARS...

Global air cargo weight, 2000-2018
Million tonnes

Global air trade showed renewed growth after a long period of flatlining

1) Corrections may apply due to ongoing analysis with UN Comtrade data; Source: Seabury Global Trade Database, Seabury Consulting Analysis

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Global air trade growth follows China-outbound decreasing trend

Source: Seabury Global Trade Database
TRADE TARIFFS AFFECT ~50% OF CHINA TO USA AIR CARGO VOLUMES, BUT MAY BE LIFTED

Air cargo weight, China to USA, 2018
Thousand tonnes

Comments
- Currently, 49%\(^1\) of Chinese exports to US (by weight) is affected by tariffs imposed by the US.
- Mobile phones (e.g. Samsung, Apple) are currently exempted
- Recent US-China trade deal negotiations remove direct threat of additional tariffs
- Current tariffs could possibly be lifted

1) Measured by air weight. Note: Figures are based on 2018 air trade weight and latest announced list of tariffs; corrections may apply due to ongoing revision of tariffs; Source: Seabury Global Trade database; Seabury Consulting analysis
THE INVENTORY TO SALES (I/S) RATIO HAS RISEN FOR THE FIRST TIME IN 2 YEARS

US Inventories and Sales, 1998 – Nov 2018
Trillion US$

Recent I/S ratio growth indicates slowdown of US air imports

Source: U.S. Census Bureau, Seabury Consulting analysis (February 2019)
Global air trade has seen renewed growth, but is it sustainable?

New freighter operators are rising faster than “legacy” cargo airlines

Increasing role of key e-commerce players in air logistics
WHILE SOME LEGACY CARRIERS HAVE EXITED THEIR FREIGHTER CAPACITY, AMAZON ENTERS INTO TOP 10

In service freighters over time, 2000-2019¹

<table>
<thead>
<tr>
<th>Year</th>
<th>EVA Air</th>
<th>Japan Airlines</th>
<th>Air France – KLM</th>
<th>British Airways</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>9</td>
<td>9</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>2005</td>
<td>16</td>
<td>12</td>
<td>24</td>
<td>4</td>
</tr>
<tr>
<td>2010</td>
<td>15</td>
<td>9</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>2015</td>
<td>10</td>
<td>0</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>2019</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

Top operators by freighter cargo capacity, 2018²

<table>
<thead>
<tr>
<th>Operator</th>
<th>Million tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>FedEx</td>
<td>13.1</td>
</tr>
<tr>
<td>DHL</td>
<td>9.4</td>
</tr>
<tr>
<td>Delta</td>
<td>8.1</td>
</tr>
<tr>
<td>United</td>
<td>2.1</td>
</tr>
<tr>
<td>Lufthansa</td>
<td>2.0</td>
</tr>
<tr>
<td>Air France – KLM</td>
<td>1.8</td>
</tr>
<tr>
<td>Japan Airlines</td>
<td>1.7</td>
</tr>
<tr>
<td>Air France</td>
<td>1.6</td>
</tr>
<tr>
<td>British Airways</td>
<td>1.5</td>
</tr>
<tr>
<td>EVA Air</td>
<td>1.1</td>
</tr>
</tbody>
</table>

¹ Fleet as of January of each year; ² Includes domestic and international freighter capacity (both NB and WB). Integrator capacity includes operators flying on behalf of integrators; Note: AF-KL includes Martinair; British Airways includes British Airways and Global Supply Systems; Source: IATA carrier tracker; Ascend data; Seabury Consulting Scheduled Capacity and Capacity Tracking databases; Seabury Consulting analysis.
BELLY REPRESENTS THE MAJORITY OF THE CARGO CAPACITY ON ORDER

Factory built freighter & belly\(^1\) capacity (on order)

Thousand tonnes

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrator Freighter(^2)</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Airline Freighter</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Passenger</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**2020-2023**
72% of capacity on order is belly

+16% share of belly capacity on order

**Comparison vs. 2004-2019**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>13%</td>
<td>21%</td>
</tr>
<tr>
<td>56%</td>
<td>72%</td>
</tr>
</tbody>
</table>

Belly and integrator freighter capacity will be the main source of capacity growth

1) Wide body passenger aircraft (incl. mixed passenger/freight combinations); only firm OEM orders considered; years represent build years; 2) Integrator aircraft include aircraft flown by FedEx, UPS, DHL Air, DHL International and Suparna Airlines; Source: Ascend Fleet Database, Seabury Consulting analysis (March 2019)
Global air trade has seen renewed growth, but is it sustainable?

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CROSS-BORDER E-COMMERCE IS BOOSTING VOLUME OF PARCELS CARRIED WORLDWIDE

Global freight and express cargo growth, 2006-2018
Index (year 2006=100)

Mail parcels increased close to 4x since 2006

1) 2018 air freight and express figures are based on Seabury Trade Forecast database; 2) CAGR for international mail parcels and letter mail is for 2006-2017;
Source: Universal Postal Union; Seabury Express Trade Database; Seabury Consulting analysis
CHINA HAS HISTORICALLY BENEFITED FROM LOW UPU RATES FOR INTERNATIONAL SHIPPING

Top countries (UPU) by outbound international items, 2017
Thousand items (letters, parcels and express)

Example: 1-pound parcel rate

<table>
<thead>
<tr>
<th>Country</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>US to China</td>
<td>$10.00</td>
</tr>
<tr>
<td>US to Netherlands</td>
<td>$2.50</td>
</tr>
</tbody>
</table>

China Post to pay for US domestic segment

“Were the USPS to start charging market rates for all inbound items, services offered by the likes of FedEx and UPS could suddenly become more competitive with the Post.

E-tailers, on the other hand, would likely experiment with different combinations of general cargo consolidations paired with various last-mile partnerships to reduce their shipment spend.”

To keep transportation rates low, e-commerce may be consolidated into air freight


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CHINA’S E-COMMERCE IMPORTS ARE GAINING SHARE OVER EXPORTS

China’s cross-border e-commerce turnover
% of export/import

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export</td>
<td>10%</td>
<td>11%</td>
<td>12%</td>
<td>17%</td>
<td>25%</td>
</tr>
<tr>
<td>Import</td>
<td>90%</td>
<td>89%</td>
<td>88%</td>
<td>83%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Product distribution on Tmall international in 2014-'17
%

- Home appliances: 13%
- Clothing, shoes, bags: 21%
- Mother and baby products: 22%
- Food & Healthcare: 24%
- Cosmetics: 36%
- Other: 36%

After a spike in 2014, demand for foreign milk powder has decreased.

Cross-border e-commerce may help to overcome imbalanced China trade.
GLOBAL AIR CARGO TRENDS

Global air trade has seen renewed growth, but is it sustainable?

- Though air trade growth picked up after stagnation in 2010-2016,…
- …Q4 2018 shows slowdown of air trade
- In Jan/Feb 2019, overall freighter capacity decreases, with some regional sparks of hope

New freighter operators are rising faster than “legacy” cargo airlines

- Middle Eastern carriers have seen above-average growth in the recent years,
- …while other airlines have downsized their freighter fleet,….
- …integrators are leading in global freighter capacity with new players emerging

Increasing role of key e-commerce players in air logistics

- E-commerce boom continues, especially in mail-parcels volumes
- Key e-commerce players are increasing their role in air logistics
- Importance of e-commerce for China air imports increases
E-Commerce: Embracing the market opportunity

Moderator
Glyn Hughes, Global Head of Cargo, IATA

Panelists
Michael Steen, EVP & Chief Commercial Officer, Atlas Air Worldwide
Wolfgang Lehmacher, Senior Supply Chain Executive
Adriana Diener, Global Managing Director, Freight & Logistics, Accenture
E-Commerce: Connecting the world through logistics

Moderator
Thomas Pellegrin, Senior Principal, IATA Consulting, IATA

Panelists
Vivien Lau, Executive Director, HACTL
Dan March, Chief Executive Officer, WCA Ltd
William Xiong, Head of Strategy & CEO Chief of Office, Cainiao
Innovation Awards 2019
Innovation Awards 2019

56 Submissions
22 Countries
Innovation Award Finalists

Unilode Aviation Solutions
Digital Transformation

SITA, Safran & CHAMP
Smart ULD

Air New Zealand Cargo & AeroTUF
Keep it cool with aeroTHERM ULD
Closing Remarks

Glyn Hughes
Global Head of Cargo
IATA
<table>
<thead>
<tr>
<th>Tuesday 12</th>
<th>Wednesday 13</th>
<th>Thursday 14</th>
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<tbody>
<tr>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
</tr>
<tr>
<td>Networking break 10:30-11:15 (Press Conference)</td>
<td>Morning Tracks: 9:00-12:30 Pharmaceuticals Dangerous Goods Digital Cargo ULD</td>
<td>Morning Tracks: 9:00-12:30 Perishables e-Commerce Cargo Security Focus on Freighters</td>
</tr>
<tr>
<td>Exhibition hall</td>
<td>Networking break 10:30-11:15</td>
<td>Networking break 10:30-11:15</td>
</tr>
<tr>
<td>Networking break</td>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
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<tr>
<td>10:30-11:15</td>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
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<tr>
<td>Opening plenary 9:00-12:30</td>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
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<tr>
<td>Networking break 10:30-11:15</td>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
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<tr>
<td>10:30-11:15</td>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
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<tr>
<td>Networking lunch 12:30-14:00</td>
<td>Networking lunch 12:30-14:00</td>
<td>Networking lunch 12:30-14:00</td>
</tr>
<tr>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
<td>Exhibition hall</td>
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<tr>
<td>Networking break 16:00-16:45</td>
<td>Afternoon Plenary Session (14:00-16:00)</td>
<td>Afternoon Tracks: 14:00-17:30 Live Animals Cargo Operations Focus on Asia Cargo Transformation Cargo Committee (13:30-17:30) CargoIQ AGM (14:00-17:30) CPG (14:00-18:00)</td>
</tr>
<tr>
<td>Exhibition hall</td>
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<td>Exhibition hall</td>
</tr>
<tr>
<td>Networking lunch 12:30-14:00</td>
<td>Networking break 15:30-16:15</td>
<td>Closing plenary 14:00-16:00 TIACA (16:00-18:00)</td>
</tr>
<tr>
<td>Exhibition hall</td>
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<td>Exhibition hall</td>
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<tr>
<td>Exhibition hall</td>
<td>Afternoon Tracks: 14:00-17:30</td>
<td>Cargo Committee (13:30-17:30) CargoIQ AGM (14:00-17:30) CPG (14:00-18:00)</td>
</tr>
<tr>
<td>Exhibition hall</td>
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<td>Exhibition hall</td>
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<td>Exhibition hall</td>
</tr>
<tr>
<td>Airbus Executive Cocktail (Invite Only) FACE Young Executive Cocktail (Invite Only) Cargo Committee Dinner (Invite Only)</td>
<td>Gala Dinner Time: from 19:00</td>
<td>Ground Handlers Reception (Invite Only)</td>
</tr>
</tbody>
</table>

12 Tracks

10 Executive meetings

4 Workshops

12 Industry Meetings
YOU ARE CORDIALLY INVITED TO THE IATA WORLD CARGO SYMPOSIUM GALA DINNER HOSTED BY

SINGAPORE HERITAGE
Singapore’s approach to diversity has given rise to a unique blend of cultures. The evening will showcase this modern diversity with local artisans, cuisine, entertainment & dancing. Come and join us!

WEDNESDAY 13TH MARCH 2019 | 19:00
SANDS GRAND BALLROOM, 5TH LEVEL | SANDS EXPO AND CONVENTION CENTRE
DRESS CODE: COCKTAIL ATTIRE

MARINA BAY SANDS – SINGAPORE
12 – 14 March 2019
Networking Break
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