eCommerce - A paradigm shift for Air Cargo

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EVP & Chief Commercial Officer
Atlas Air Worldwide Inc.
Atlas Air Worldwide at a Glance

**Structure**
- Headquarters: Purchase, NY
- Employees: 2,870
- 2017 Operating Rev: $2.16 Billion
- NASDAQ Listed: AAWW

**Fleet (105 aircraft)**
- Cargo: 10 (747-8F), 12 (777-200LRF), 35 (767-200/300F), 1 (757-200F), 6 (737-400F)
- Passenger: 4 (747-400), 4 (767-200/300ER), 1 (737-800)

**2017 Global Operating Network**
- Total Block Hours: 252,802
- Flights: 48,983
- Airports: 422
- Countries: 103
- Charters Completed: 790
- Unique Customers: 80+

**Valued Customers**
- Shippers: Amazon, Boeing, Inditex
- Forwarders/Brokers: AeroLogic, DHL, Kuehne+Nagel, Panalpina
- Airlines: Asiana Cargo, Cathay Pacific Cargo, FedEx Express, UPS
- Integrators: China Postal Airlines, Emirates, Qantas Freight
Our Value Proposition – Integrated Solutions

ACMI
- Turnkey solution
- Large fleet - various platforms
- Global footprint - scalable network
- Performance, reliability & expertise

CMI
- Crew & technical expertise
- Economy of scale
- Flexible network solutions
- Commercial collaboration

Charter
- Ad-hoc & program charters
- Custom cargo & PAX service
- Leader in South American freight
- Leader in US DOD passenger & cargo service

Dry Leasing
- Asset financing & management
- Dry leasing, sales & sale / leaseback
- Fleet planning
- Conversion management

Services
- Network analysis & design
- Pilot training
- Spare parts management
- Transportation visibility solution

A History of Delivering Value to Our Customers
The Global Air Cargo Market & the impact of eCommerce
Global Air Freight is a Large and Growing Industry

Airlines operating freighters generate 90% of industry revenues

Total $85B

Sources: Flight Global, U.S. DOT F41, airline reports, and Boeing estimates (2017 data)
Air Cargo is essential to the Global Economy

1% of world trade TONNAGE is carried by Air Cargo

35% of world trade VALUE is carried by Air Cargo

Source: IATA
Note: Does not include trans-border tonnage that was transported by truck, rail or fixed installations such as pipelines or conveyors

eCommerce will increase the value
Megatrends Will Drive Opportunity in Airfreight

**Economic Megatrends**
- Increases in urban consumption by the **growing consuming class** – Increase by 1.8B by 2025
- Global consumption to surpass $30 trillion – increase from $12 trillion today

**Digitization**
- Technological breakthroughs at an **increasing pace**
- Adoption of **new technologies**
- Change in buying behaviors. **e-Commerce related airfreight demand** growing significantly

**Globalization**
- **Global flows** increasing – trade, finance, people and data
- Tourism and general travel increasing, **adding jobs**
- **Manufacturing moving away** from traditional passenger hubs

**eCommerce**
- New consumer focused retail model will drive **significant demand growth**
- Trends will require efficient **air networks** to serve effectively
- **Freighters** will play a more important role in the future
Global Airfreight Industry Performance Trends

**Global Airfreight Market**
- International freight tonne kilometers (FTKs) flown up **10.6%** in 2017
- FTK growth expected to exceed **4.3%** in 2018
- PMI Index at 55 for 2017 and semi-conductor sales +18% for 2017

**Global Express Market**
- The International Express market is showing **robust growth**
- 5.8% CAGR since 2011 vs. nominal CAGR for International FTK’s
- The Express segment benefiting from the e-Commerce growth

**Source:** IATA, ICAO, Euromonitor, Forrester, eMarketer, BofA Merrill Lynch Global Research estimates

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**Total Global Airfreight Tonnage Growing from Record Levels**

**International Express Market – DHL, FedEx and UPS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Change in Demand (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>6%</td>
</tr>
<tr>
<td>2012</td>
<td>12%</td>
</tr>
<tr>
<td>2013</td>
<td>19%</td>
</tr>
<tr>
<td>2014</td>
<td>25%</td>
</tr>
<tr>
<td>2015</td>
<td>31%</td>
</tr>
<tr>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>??%</td>
</tr>
</tbody>
</table>

**Global e-Commerce Market**

<table>
<thead>
<tr>
<th>Year</th>
<th>Global e-Commerce Estimates ($ Billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$727</td>
</tr>
<tr>
<td>2013</td>
<td>$940</td>
</tr>
<tr>
<td>2014</td>
<td>$1,191</td>
</tr>
<tr>
<td>2015</td>
<td>$1,450</td>
</tr>
<tr>
<td>2016</td>
<td>$1,735</td>
</tr>
<tr>
<td>2017</td>
<td>$2,076</td>
</tr>
<tr>
<td>2018F</td>
<td>$2,450</td>
</tr>
<tr>
<td>2019F</td>
<td>$2,864</td>
</tr>
</tbody>
</table>

**Supply vs. Demand**

**FTK and AFTK Growth**

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**Overall e-Commerce market penetration is still low**

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Sources: IATA, ICAO, Euromonitor, Forrester, eMarketer, BofA Merrill Lynch Global Research estimates
Market Growth 2017

2017 exceeded market expectations, again...

- 7.5% PASSENGER TRAFFIC GROWTH
- 9.3% CARGO TRAFFIC GROWTH
- $35B AIRLINE PROFITS
- 5.1% PASSENGER TRAFFIC GROWTH
- 3.3% CARGO TRAFFIC GROWTH
- $29.8B AIRLINE PROFITS
Evolution of Distribution Models

- **1970s**: Direct store replenishment by suppliers or wholesalers.
- **1980s**: ‘CENTRALIZATION’ of deliveries through retailer distribution centers.
- **1990s**: The rise of global sourcing.
- **2000s**: E-commerce model involving parcel network.

**The Last Mile**

- Suppliers
  - Mainly domestic suppliers
  - Overseas supplier
  - Domestic supplier
- Retail distribution centers
  - Retail import center
  - Retail distribution center
- Shops
  - Returns
  - Customer home
  - Collection point
  - Delivery point

Local depot (urban logistics)
## B2C vs. B2B

<table>
<thead>
<tr>
<th></th>
<th>B2C</th>
<th>B2B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Customers</td>
<td>Millions</td>
<td>Thousands</td>
</tr>
<tr>
<td>Geographical Density</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Shipment Unit</td>
<td>Package</td>
<td>Pallet</td>
</tr>
<tr>
<td>Value/Weight Ratio</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Delivery Frequency</td>
<td>On-demand</td>
<td>Scheduled</td>
</tr>
<tr>
<td>Delivery Speed</td>
<td>ASAP</td>
<td>Predictable</td>
</tr>
<tr>
<td>Shipper-Consignee Relation</td>
<td>Transactional</td>
<td>Contractual</td>
</tr>
<tr>
<td>Payment</td>
<td>Credit card</td>
<td>Purchase order</td>
</tr>
</tbody>
</table>
e-Commerce – A real Paradigm Shift

- e-Commerce only accounts for ~10% of global retail sales

- **US e-Commerce spend**
  - $385B in 2016 – forecasted to grow to $600B by 2020

- **USA**: 237M internet users – 73% mobile penetration – 9% e-Commerce penetration

- **China**: 700M internet users – 50% mobile penetration – 10% e-Commerce penetration

- **India**: 300M internet users – 25% mobile penetration – 2% e-Commerce penetration

Source: Forrester, Statista, eMarketer
Asia Express & e-Commerce has Great Potential

~2 billion People within 4 Hour Flight

6.2% Average GDP Growth (2016-2020)

9% Middle Class Growth

Limited fleet

~500 million

2.5 - 3%

Stable w/ limited growth

Regional Freighters Deployed

Very large fleet

Source: Worldbank.org / Brookings Institution / OECD.org
Global Macro Outlook
Growth of global “consuming class” will fuel the economy

Airfreight Outlook
Continued growth driven by e-Commerce and Express

Supply Outlook
Demand is expected to outpace Supply

eCommerce will change the Supply Chain
Continued globalization driven by consumer demand

Positive Disruption
Participate with expertise, digitization and continued investment