Fourth meeting of the Directors General of Civil Aviation – MID Region

Muscat, Oman

17 to 19 October 2017

Doc 7300/9

Convention on International Civil Aviation

Convention relative à l'aviation civile internationale

Convenio sobre Aviación Civil Internacional

Конвенция о международной гражданской авиации

This document supersedes Doc 7300/8.
Le présent document annule et remplace le Doc 7300/8.
Éste documento remplaza el Doc 7300/8.
Настоящий документ заменяет Doc 7300/8.

Ninth Edition – Neuvième édition – Novena edición – Издание девятое — 2006

International Civil Aviation Organization
Organisation de l'aviation civile internationale
Organización de Aviación Civil Internacional
Международная организация гражданской авиации

CHICAGO CONVENTION

Preamble
THEREFORE, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international <u>air transport services may be established on the basis of equality of opportunity and operated soundly and economically</u>;

ICAO and the United Nations Sustainable Development Goals (SDGs)

Read more at: http://www.icao.int/about-icao/aviation-development/Pages/SDG.aspx

ICAO STRATEGIC OBJECTIVES

	Goal description	SAFETY	CAP/EFF	SEC/FAL	ECON DEV	ENV
Goal 1	End poverty in all its forms everywhere				●	
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture					
Goal 3	Ensure healthy lives and promote well-being for all at all ages	●		●	●	●
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	●	●	●	●	●
Goal 5	Achieve gender equality and empower all women and girls	●	●	●	●	●
Goal 6	Ensure availability and sustainable management of water and sanitation for all					
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all					●
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all			●	●	
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	●	●		●	●
Goal 10	Reduce inequality within and among countries	●	●	●	●	●
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable					
Goal 12	Ensure sustainable consumption and production patterns				●	●
Goal 13	Take urgent action to combat climate change and its impacts		●		●	●
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development					
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss			●		●
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels			●		
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development	●	●	●	●	●

Growth of air transport

Revenue Passenger-Kilometres (billion)

Freight Tonne-Kilometres (billion)

Oil crisis

Iran-Iraq war

Gulf war

Asian crisis

9/11 terrorist attack

SARS

World recession

+3.8% growth rate *vs.* 2015

205 billion FTK

+7.4% growth rate *vs.* 2015

7.1 trillion RPK
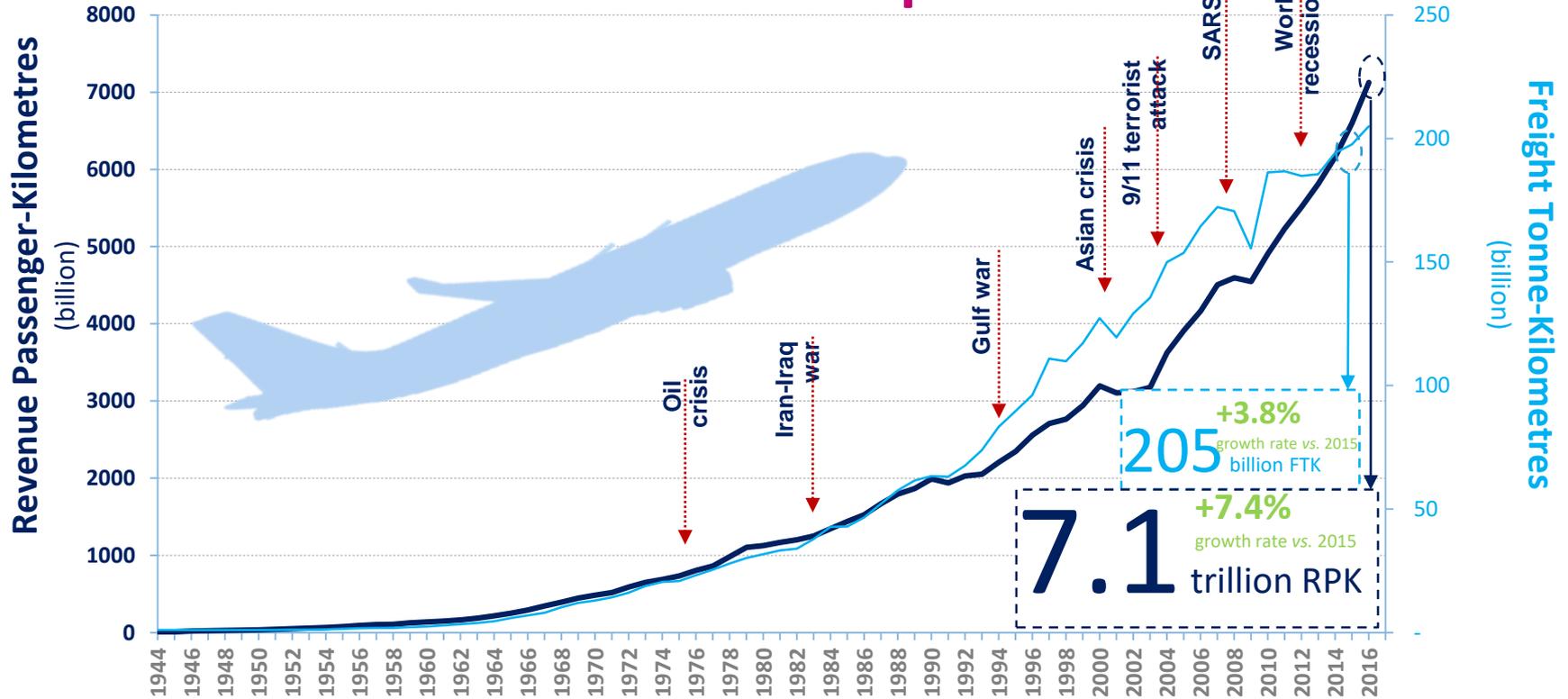
- 3.8 billion passengers
- 35 million aircraft departures
- 53 million tonnes of freight
- Over 1 400 scheduled airlines
- More than 27 000 aircraft
- More than 4 130 airports
- 173 air navigation centres

Traffic is for scheduled services
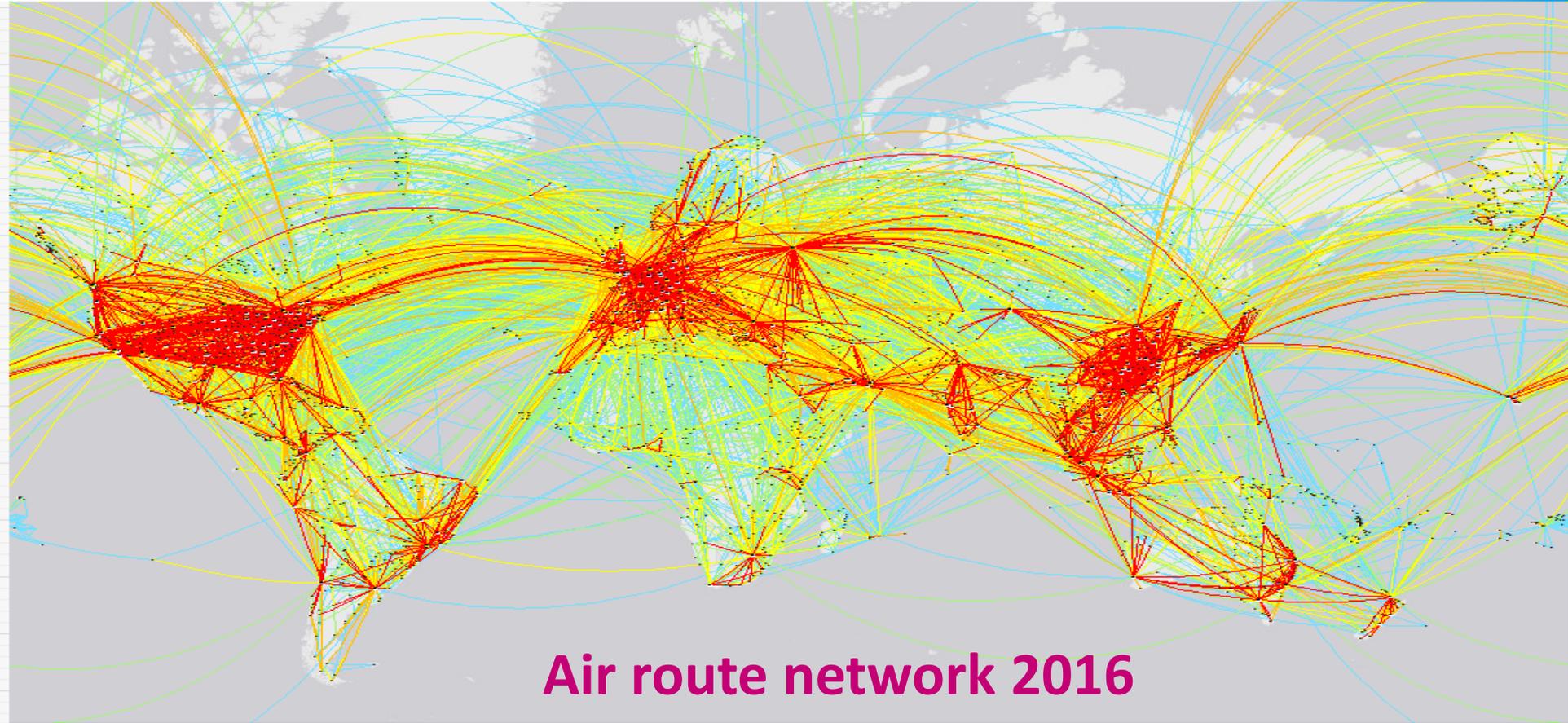
Air route network 2016

Domestic and International
Revenue Passenger-Kilometres
(in billion)
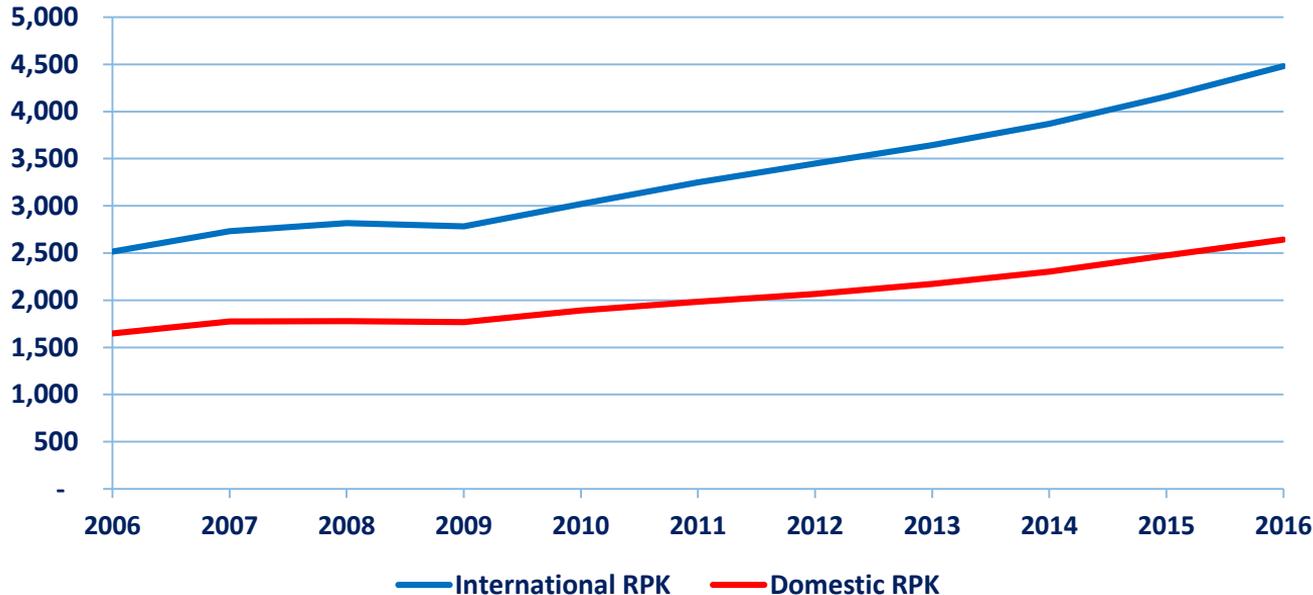
International
+4.3% CARG (2012-2022)

Domestic:
+5.3% CAGR (2012-2022)

— International RPK — Domestic RPK

CAGR: Compound annual growth rate

Direct economic contribution of the aviation sector

Direct, indirect, induced and tourism economic contribution of the aviation sector

10.2 million

Direct **jobs** supported by aviation worldwide

67.3 million

Jobs supported by aviation worldwide

$725 billion

Direct Global **economic impact**

$2.7 trillion

Global **economic impact**

In collaboration with the United Nations, States and international organizations, ICAO is developing a universally-accepted methodology to measure aviation's gross domestic product (GDP) relative to overall economic activity, to better showcase the economic benefits of aviation to the public.

Share of Revenue Passenger-Kilometres by region in 2016

23.8 % North America

26.5% Europe

5.2% Latin America and the Caribbean

2.1% Africa

9.5% Middle East

32.9% Asia and Pacific
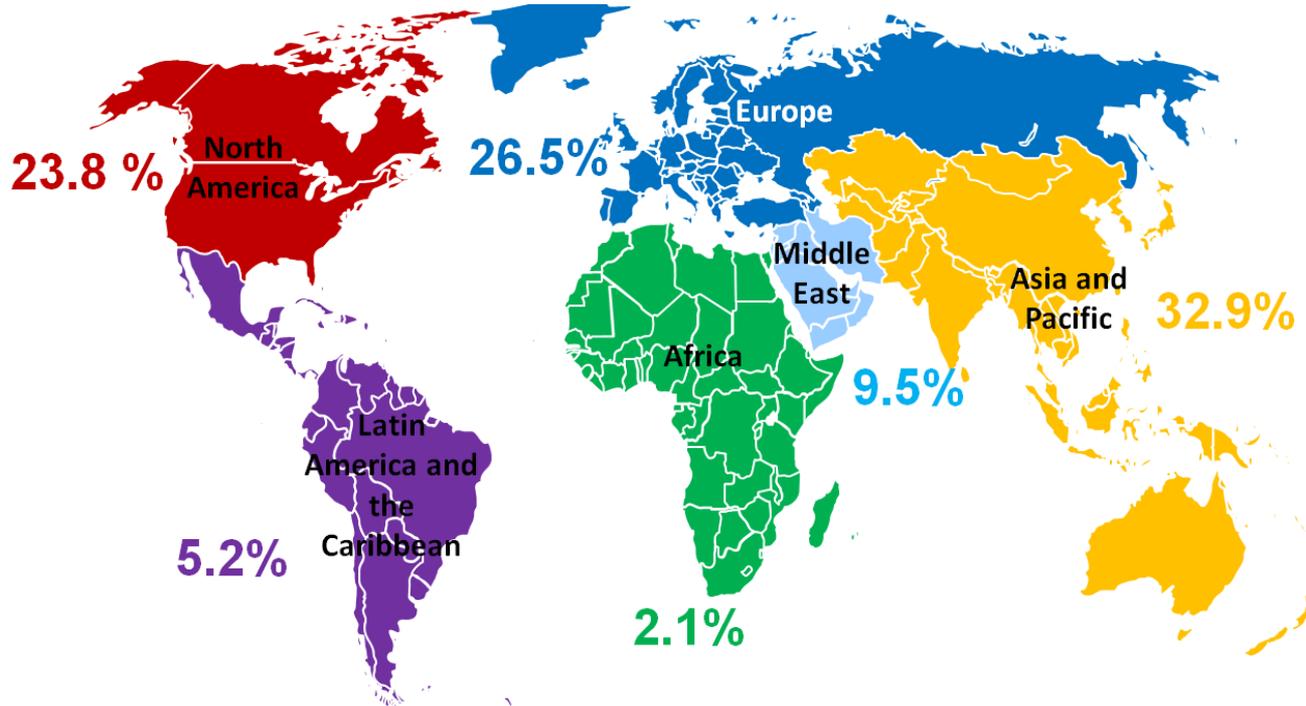
Geographical centre of gravity of departing/arriving passengers

● 1970
● 1980
● 1990
● 2000
● 2010
● 2014
● 2030
● 2040
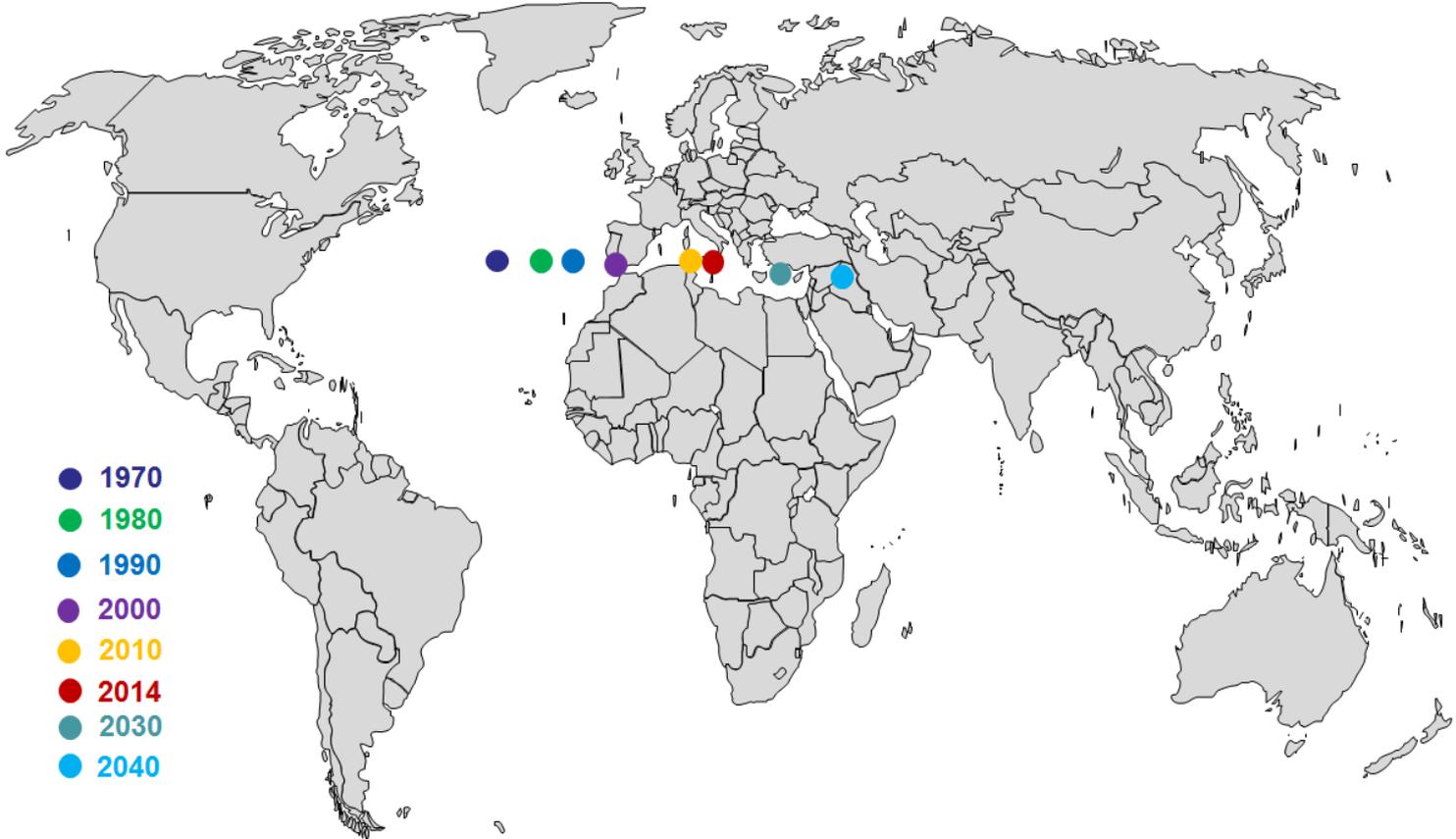
Traffic rankings in 2015-16

International Scheduled Revenue Tonne-Kilometres (RTK)

Rank	State of AOC	RTK 2015	RTK share (%)	Cumulative (%)
1	China	70,319,264,613	12.4%	12.4%
2	United States	61,944,635,087	10.9%	23.3%
3	United Arab Emirates	52,018,798,574	9.2%	32.4%
4	United Kingdom	31,065,978,078	5.5%	37.9%
5	Germany	30,924,097,384	5.4%	43.3%
6	Republic Of Korea	21,802,605,943	3.8%	47.2%
7	Singapore	18,647,388,313	3.3%	50.5%
8	France	18,295,414,100	3.2%	53.7%
9	Qatar	17,359,871,880	3.1%	56.7%
10	Netherlands	15,732,743,524	2.8%	59.5%
11	Turkey	15,618,938,360	2.7%	62.3%
12	Japan	15,495,072,148	2.7%	65.0%
13	Ireland	13,238,242,781	2.3%	67.3%
14	Canada	13,040,382,256	2.3%	69.6%
15	Russian Federation	11,635,019,200	2.0%	71.7%
16	Australia	9,375,936,670	1.7%	73.3%
17	Thailand	9,263,914,735	1.6%	74.9%
18	Spain	9,145,732,692	1.6%	76.6%
19	Malaysia	8,983,623,373	1.6%	78.1%
20	India	6,994,194,840	1.2%	79.4%

Rank	State of AOC	RTK 2016	RTK share (%)	Cumulative (%)
1	China	76,648,972,221	12.7%	12.7%
2	United States	62,335,143,245	10.3%	23.0%
3	United Arab Emirates	55,157,365,092	9.1%	32.1%
4	United Kingdom	33,583,344,058	5.6%	37.7%
5	Germany	31,833,586,740	5.3%	43.0%
6	Republic Of Korea	22,756,334,465	3.8%	46.7%
7	Qatar	21,672,038,650	3.6%	50.3%
8	Singapore	19,217,589,225	3.2%	53.5%
9	France	18,128,411,400	3.0%	56.5%
10	Turkey	17,180,661,359	2.8%	59.3%
11	Japan	16,990,015,370	2.8%	62.1%
12	Netherlands	15,793,797,175	2.6%	64.8%
13	Canada	14,756,948,312	2.4%	67.2%
14	Ireland	14,428,167,318	2.4%	69.6%
15	Russian Federation	12,201,634,090	2.0%	71.6%
16	Spain	9,864,004,663	1.6%	73.2%
17	Thailand	9,697,340,540	1.6%	74.8%
18	Australia	9,684,340,250	1.6%	76.4%
19	Malaysia	8,280,258,118	1.4%	77.8%
20	Scandinavia	8,188,829,017	1.4%	79.2%

(1): Including Hong Kong SAR, Macao SAR and Taiwan Province of China

Rank No.	City and airport code	Passenger (thousand)		2016/2015 (%)	Movements (thousand)		2016/2015 (%)
		2016	2015		2016	2015	
1	Atlanta (ATL)	104 172	101 491	2.6	898	882	1.8
2	Beijing (PEK)	94 393	89 939	5.0	606	590	2.7
3	Dubai (DXB)	83 654	78 015	7.2	420	407	3.2
4	Los Angeles (LAX)	80 922	74 956	8.0	697	656	6.3
5	Tokyo (HND)	79 700	75 573	5.5	446	439	1.7
6	Chicago (ORD)	77 961	76 950	1.3	868	875	-0.9
7	London (LHR)	75 715	74 990	1.0	475	474	0.2
8	Hong Kong (HKG)	70 306	68 283	3.0	422	417	1.2
9	Shanghai (PVG)	66 002	60 098	9.8	480	449	6.8
10	Paris (CDG)	65 933	65 767	0.3	479	476	0.7
11	Dallas/Fort Worth (DFW)	65 671	65 512	0.2	673	681	-1.2
12	Amsterdam (AMS)	63 626	58 285	9.2	496	466	6.6
13	Frankfurt (FRA)	60 787	61 032	-0.4	463	468	-1.1
14	Istanbul (IST)	60 120	61 287	-1.9	465	465	0.1
15	Guangzhou (CAN)	59 732	55 202	8.2	435	410	6.2
16	New York (JFK)	58 873	56 859	3.5	448	439	2.1
17	Singapore (SIN)	58 698	55 449	5.9	365	351	4.0
18	Denver (DEN)	58 267	54 015	7.9	566	541	4.5
19	Incheon (ICN)	57 850	49 413	17.1	343	308	11.3
20	Bangkok (BKK)	55 892	52 902	5.7	333	320	4.1
21	New Delhi (DEL)	55 631	45 982	21.0	407	349	16.4
22	Jakarta (CGK)	54 970	54 054	1.7	385	380	1.4
23	San Francisco (SFO)	53 099	50 058	6.1	450	430	4.8
24	Kuala Lumpur (KUL)	52 644	48 938	7.6	357	355	0.6
25	Madrid (MAD)	50 398	46 808	7.7	378	367	3.1

Top 25 airports in 2016 passenger traffic
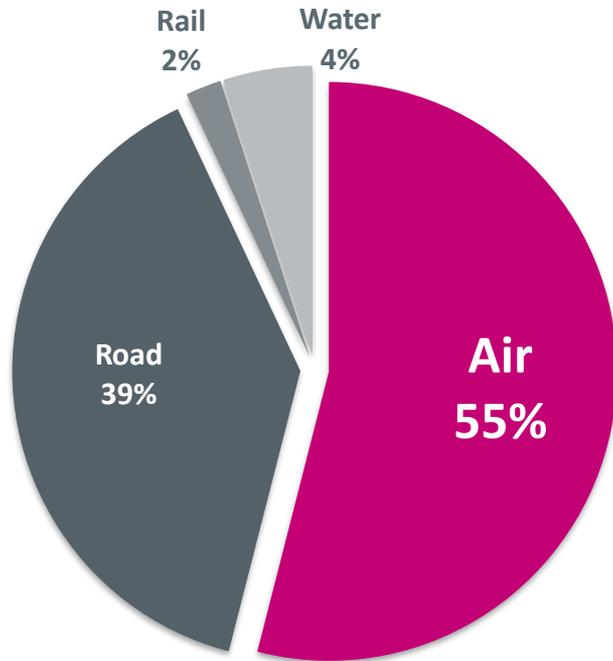
Inbound tourism by mode of transport 2016

Rail 2%
Water 4%
Air 55%
Road 39%

More than half of international inbound tourists arrived by air

- Tourism expansion relies heavily on air transport, providing substantial economic benefits for anyone involved in the value chain of tourism

- Separate sectorial policies on air transport and tourism result in a fundamental, and too often even conflicting disconnect which constitutes a severe constraint on the development of travel and tourism

Low-cost carriers (LCCs) stimulating traffic

Share of passengers carried by LCCs in 2016
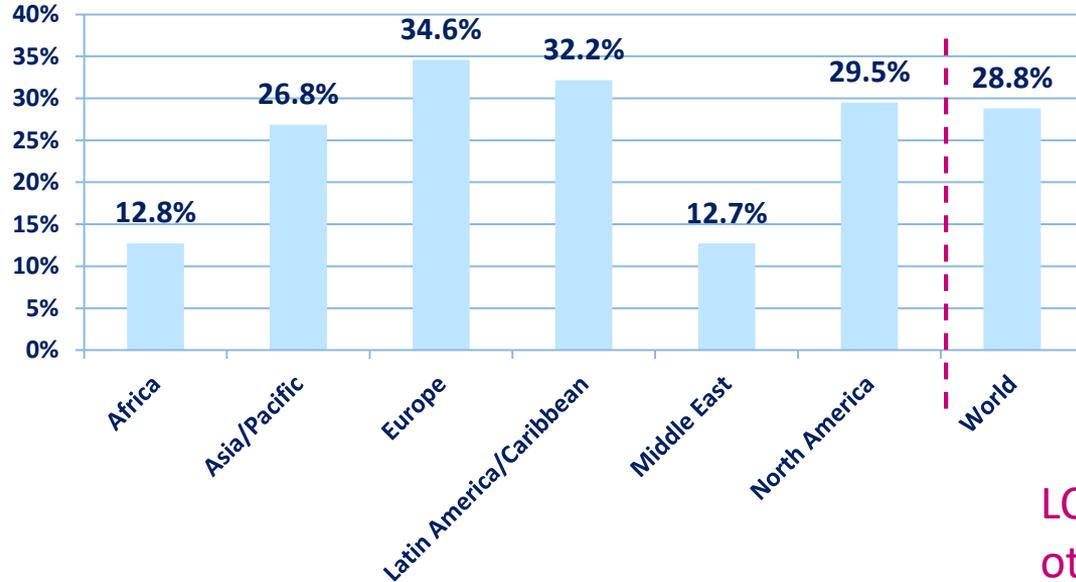
Passenger number growth for LCCs and other carriers

	2015	2016
LCCs	11.4%	10.5%
Others	7.2%	6.8%
Total	7.2%	6.8%

LCCs growth consistently twice as much as other carriers' growth

Intermodal competition

Comparative Freight Rate Indicator [May 2012=100]
- Drewry East-West Container Freight Rate Index (May '12=100)
- Drewry East-West Air Freight Price Index (May '12=100)

Source: Drewry Maritime Research (www.drewry.co.uk)
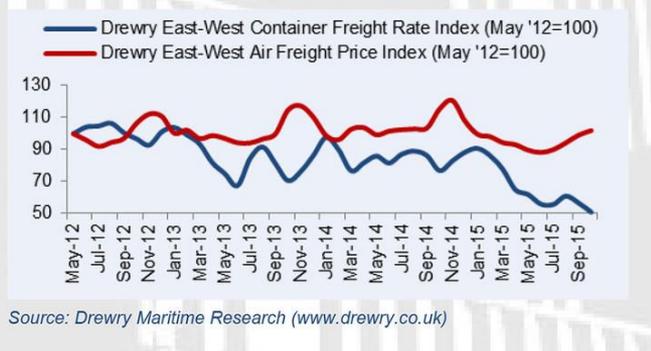
Competitions from Other Modes of Transportation

- Air cargo carriers and liner shipping carriers transport similar commodities and the price gap between sea freight and air freight makes shippers switch from air to ocean

- Railway transportation is gaining more market share. Rail freight makes a 17-day rail journey from China to Europe, at a lower fare than air freight

Volume of world international cargo shipment

Value of world international cargo shipment

Aviation

Surface modes

0.5%
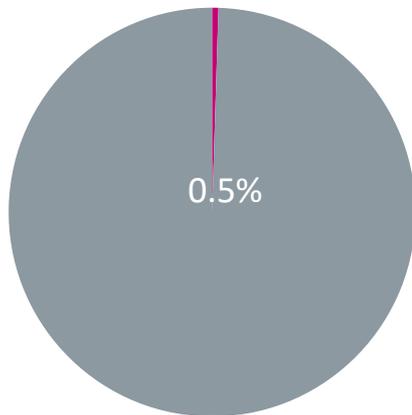
Aviation

One third of the value of world trade is shipped by air

34.6%

Surface modes

Surface modes
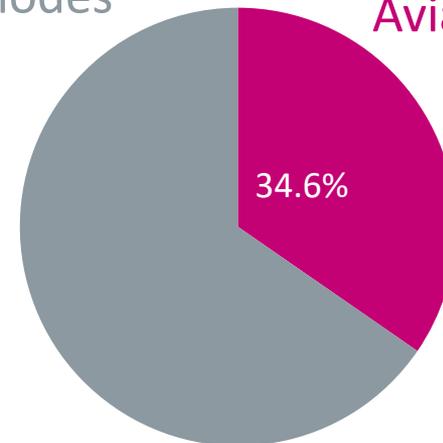
Top 15 airports in 2016 cargo traffic

	City and airport code	Freight tonnes 2016	2016/2015 (%)
1	Hong Kong (HKG)	4,521,028	+3.2%
2	Memphis (MEM)	4,312,884	+0.5%
3	Shanghai (PVG)	3,343,502	+5.1%
4	Incheon (ICN)	2,602,679	+4.5%
5	Dubai (DXB)	2,592,454	+3.4%
6	Anchorage (ANC)	2,542,526	-3.4%
7	Louisville (SDF)	2,340,553	+3.4%
8	Tokyo (NRT)	2,130,847	+2.2%
9	Taipei (TPE)	2,081,043	+3.8%
10	Frankfurt (FRA)	2,029,058	+1.8%
11	Miami (MIA)	1,977,881	+0.4%
12	Singapore (SIN)	1,969,400	+6.3%
13	Paris (CDG)	1,952,935	+2.7%
14	Beijing (PEK)	1,943,159	+2.8%
15	Los Angeles (LAX)	1,903,155	+2.8%

Passenger traffic in MID region in 2016

Revenue Passenger-Kilometres
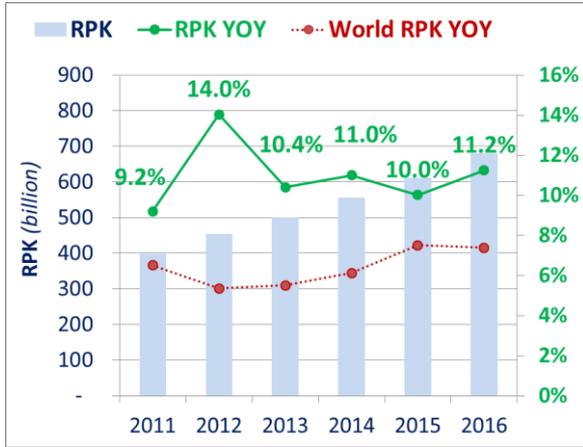
- RPK growth of 11.2% in 2016 supported by the expansion of Qatar Airways (+27.0%)

- RPK growth is above the world average and the highest in the world

Available Seat-Kilometres

- ASK growth of 13.2% in 2016, +1.60 percentage points compared to 2015 growth (12.2%)

- ASK growth is above the world average

Passenger Load Factor
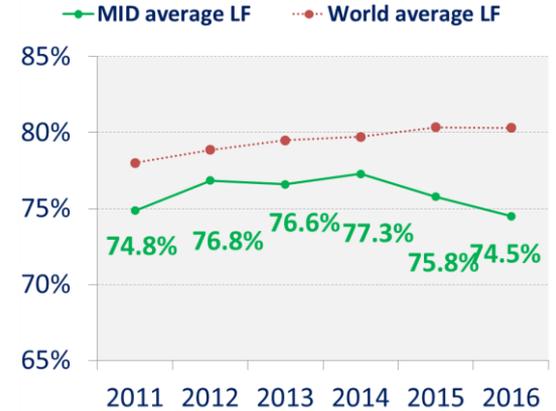
- The passenger load factor decreased in 2016. It reached 74.5% compared to 75.8% in 2015.

- Passenger load factor is below the world average

International and domestic scheduled services

Freight Tonne-Kilometres in MID region in 2016
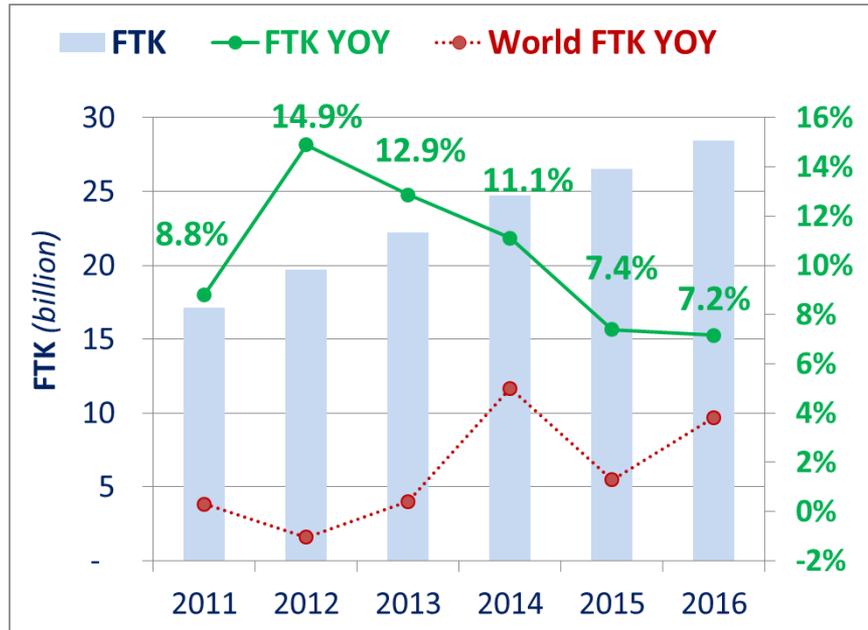
- **FTK growth of 7.2% in 2016, -0.2 percentage points compared to 2015 growth (7.4%)**

- **FTK growth is led by Emirates, Qatar Airways and Etihad Airways**

- **The 3 above-mentioned airlines account for 88% of the freight traffic performed by airlines registered in the region.**

- **FTK growth is far above the world average**

- **Highest FTK growth among world regions**

International and domestic scheduled services

Top 15 airlines in MID region in 2016

Airline	RPK (billion)	YoY
Emirates	270.8	⬆ + 7.8%
Qatar Airways	137.6	⬆ + 27.0%
Etihad Airways	89.5	⬆ + 7.5%
Saudi Arabian Airlines	53.5	⬆ + 8.1%
Oman Air	21.1	⬆ + 6.8%
EgyptAir	17.2	⬇ - 1.9%
Air Arabia	16.6	⬆ + 9.8%
Gulf Air	9.1	⬆ + 2.2%
Flydubai	8.8	⬆ + 15.7%
Royal Jordanian	7.6	⬆ + 5.8%
Kuwait Airways	7.5	⬆ + 0.3%
Flynas	6.5	⬆ + 7.6%
Mahan Air	4.9	⬇ - 17.4%
MEA - Air Liban	4.7	⬆ + 2.6%
Zagros Airlines	3.7	
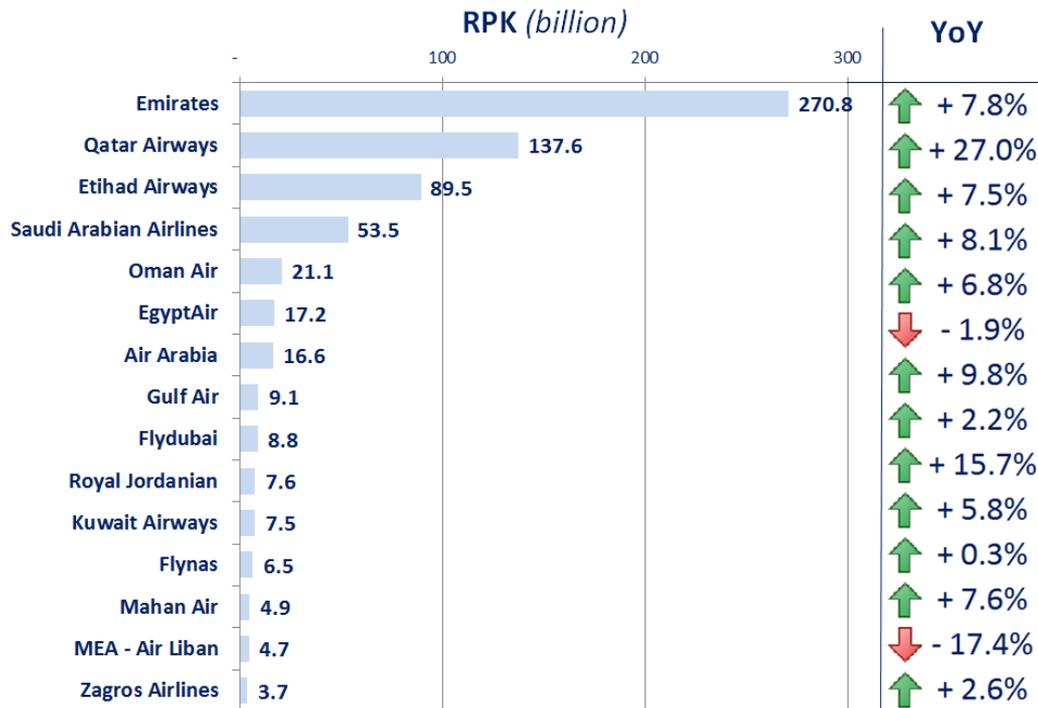
International and domestic scheduled services

Montreal Convention 1999

- An air cargo shipment can generate **up to 30 paper documents…**

- For airlines and other airfreight operators to use **e-air waybill**, States (of origin & destination of shipment) must be parties to **MC99**

- Today, **120 States** are party to MC99

- **39th ICAO Assembly:** *"Urges* **Member States** that have not yet become parties to […] MC99 and other ICAO instruments governing international air transport to give **urgent consideration** to so doing"*

The Future of Air Cargo:
Big Online Retailers? Drones ?

Amazon:
E-commerce giant Amazon has signed up to lease 40 freighters, 20 from Atlas Air Worldwide Holdings and another 20 from ATSG. Amazon also registered a company in the U.S. as a non-vessel operating common carrier (NVOCC), which turned Amazon into a freight forwarder.

Alibaba:
Alibaba's logistics arm, Cainiao Logistics, helped Alibaba rake in a staggering US$14.3 billion in a 24-hour period on 2015 "Singles Day"!

- **Amazon** announced its drone delivery program "Amazon Prime Air" since December 2013. Amazon has developed drones that weigh less than 55 pounds and can carry up to a 5-pound payload.
- UAV manufacturer **Matternet**, announced its partnership with Swiss WorldCargo and Swiss Post on a project to test its drone aircraft as an automated cargo delivery system for small express packages.
- China's **S.F. Express** has revealed it already has a fleet of aircraft flying 500 parcels a day to remote areas, and it is now looking to double the capacity.
- Chinese online retailer **JD.com** has also tested drone deliveries to the remote countryside.

E-Commerce stimulates air cargo

Air Cargo By Commodity

Legend:
- Other
- Refrigerated Goods
- Consumer Goods
- Transport Equipment
- Technology Products
- Intermediate Equipmen
- Capital Equipment
- Apparel

Routes: Asia-NA, NA-Asia, Asia-EU, EU-Asia, NA-EU, EU-NA

Source: World Bank

ICAO is cooperating with UPU and UNCTAD to share big data and research reports on e-commerce
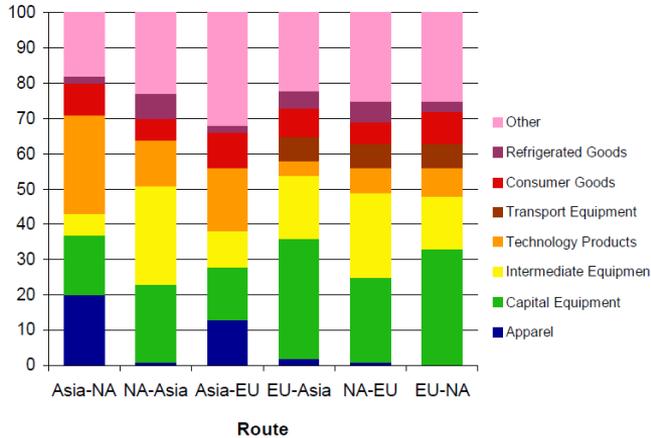
Aggregated Tonnage of Postal Shipments (in millions)

	total	letter-post	parcel-post	EMS
2013	458	163	168	126
2014	567	214	189	164
2015	656	218	220	218
2015/14	**15.8%**	**2.2%**	**16.6%**	**32.8%**
2014/13	**23.8%**	**31.0%**	**12.1%**	**30.3%**

Source: UPU Data on Postal Shipments

- 2/3 of international postal transportation is by air
- Global B2C e-commerce sales hit $1.5 trillion in 2015
- Double-digit annual growth in the e-commerce market
- High frequencies of e-commerce transactions may improve the load factors of air cargo carriers

WCO Working Group on E-commerce

- 1st Meeting from 21 - 23 September 2016;

- established for the purpose of addressing cross-cutting issues in relation to growing e-commerce;

- Members include OECD, WTO and UPU, the Private Sector Consultative Group (PSCG), other stakeholders with recognized WCO observer status, e-commerce supply chain actors (e.g., e-vendors, e-market platforms, financial intermediaries) and academia.

Publications

State of Air Transport

Aviation Benefits

Moving Air Cargo Globally

The purpose of this publication is to promote awareness of the air cargo and mail supply chain, with an emphasis on the related security and facilitation procedures developed by the International Civil Aviation Organization (ICAO), the World Customs Organization (WCO), the Universal Postal Union (UPU) and also the United Nations Office on Drugs and Crime (UNODC).

The intent is to provide a better understanding of supply chain security for those who work in the cargo field, and more broadly, anyone who might benefit from knowing more about international air cargo and mail security standards.

This document familiarizes readers with the roles and responsibilities of all entities involved in the transport of cargo and mail by air. It covers the various operational aspects, security factors, facilitation processes and documentation of that supply chain.

The reader will gain an understanding of the applicable regulatory frameworks and efforts made by International Organizations and their members to support information sharing and continued development of a secure air cargo industry. These provisions and activities enhance the movement of goods by promoting effective end-to-end supply chain security.

Moving Air Cargo Globally
ICAO-WCO Joint Publication on Air Cargo Security and Facilitation (Second Edition)

Available for download in six languages: Arabic, Chinese, English, French, Russian, Spanish

www.icao.int/Security/aircargo/Pages/Air-Cargo-and-Mail-Security-and-Facilitation.aspx

ATRP/14 (July 2017) main outcomes:

- Continue to develop **multilateral agreement for liberalization of market access** and to work on **safeguards**

- Develop specific protocol to facilitate further **liberalization of air cargo services** (up to 7th Freedom)

- Develop standalone **multilateral convention on foreign investment in airlines**

- Additional time for States and industry to provide feedback on ICAO core principles on **consumer protection** (adopted 2015)

- Feedback requested on **GATP concept**

Venue Year	Dubai, UA 2008	Istanbul, Turkey 2009	Kingston, Jamaica 2010	Mumbai, India 2011	Jeddah, Saudi Arabia 2012	Durban, South Africa 2013	Bali, Indonesia 2014	Antalya, Turkey 2015	Nassau, Bahamas 2016
Number of participating States	27	52	39	65	62	73	78	95	67
Number of bilateral meetings held	100	200	200	340	350	485	550	588	430
Number of agreements and arrangements signed	20	60	60	120	130	458	500	550+	400

- **ICAO Air Services Negotiation (ICAN) event**
- **Improves efficiency of negotiations**
  - A place to meet for multiple ASA talks
  - A forum to get info, discuss issues
  - A platform for bilateral, multilateral talks
- **Saves time and money for States**

ICAN2017, 4 – 8 December Colombo, Sri Lanka

ICAN2018: Offers Under Consideration
ICAN2019: Offers Under Consideration
ICAN2020: Offers Under Consideration

AEP-ANSEP/6 (May 2017) main outcomes:

- Finalize **guidance** on **cost-benefit analysis**, **business cases**, **economic impact analyses**
- Clarify terms **"differential" v. "modulated" charges**
- Incorporate into Global Air Navigation Plan 2019 a framework on **operational incentives** to benefit from new technologies and procedures (ASBU)
- Continue development of guidance on **airport networks**, for finalization in 2018
- Review **Airport Economics Manual** (Doc 9562)
- Develop additional (web) **guidance on business cases**
- Monitor developments re: **economics of unmanned aircraft**

Financing Air Transport

- Existing ICAO documents on financing are for Infrastructures only (airports and Air Navigation Service Providers)

- No policies for airlines nor aircraft manufacturers

- Implementation of the Aviation System Block Upgrade (ASBUs):
  – Global cost estimated at around 400 billion USD
  – economic and operational challenges associated with the air navigation services upgrades in particular, and with financing the air transport system in general.

ADAP/2 (March 2017) main outcomes:

- Develop **Aviation Satellite Account** (ASA) methodological framework

- Customize and update **ICAO long-term traffic forecasts**

- Develop methodologies to collect, process and analyze **Big Data**

- Coordinate with **CAEP** on data and analytical requirements for the implementation of **CORSIA**

- Develop a new Form to collect **aviation licensed personnel** data by **gender**

- Develop **forecasts of licensed aviation professionals** for the Next Generation of Aviation Professionals (NGAP) programme

- Finalize **re-engineering** of **ICAO Statistics Programme** by 2018

- In collaboration with ANC Panels, develop **guidelines** on the use of ICAO data and tools; and develop **indicators** and **metrics** for performance monitoring

ICAO's Activities Supporting Implementation

- **Consumer Protection:**
  - Foster regulatory convergence through the adoption of core principles
  - Promote ratification of Montreal Convention of 1999
- **Facilitation/Security:**
  - ICAO TRIP Strategy
- **Competition laws:**
  - Facilitating exchange of best practices
  - Compendium on competition policies and practices
- **User charges and taxation:**
  - Promote the use of ICAO guidance material
  - Study on the impact of taxes on air transport

ICAO's Activities Supporting Implementation

- **Market access liberalization:**
  - Development of long-term vision for liberalization of international air transport
  - International agreements (including for air cargo services) for liberalization

- **Air carrier ownership and control:**
  - International agreement to liberalize current restrictions

- **Infrastructural and intermodal transportation:**
  - Use of Aviation System Block Upgrades (ASBU)
 - Conducted studies on Public-Private-Partnerships

The supporting regulatory framework:

ICAO's contribution to connectivity

NCLB Campaign

- The **No Country Left Behind** (NCLB) campaign highlights ICAO's efforts to assist States in implementing ICAO Standards and Recommended Practices (SARPs).

- The main goal of this work is to help ensure that SARP implementation is better harmonized globally so that <u>all</u> States have access to the significant socio-economic benefits of safe and reliable air transport.

- The NCLB effort also promotes ICAO's efforts to resolve Significant Safety Concerns (SSCs) brought to light through ICAO's safety oversight audits as well as other safety, security and emissions-related objectives.

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- **Aviation Security and Facilitation**
  - Assist States in the identification of deficiencies in your aviation security system
  - Assist States in addressing and solving those deficiencies
  - Assist States in enhancing your aviation security and facilitation capabilities

- **Economic Development of Air Transport**
  - Assist States in assessing and maximizing the contribution of air transport to your economic development
  - Assist States in the analysis of your portfolio of air services agreements and in identifying new opportunities
  - Assist States in your aviation forecasting and planning activities

- **Environmental Protection**
  - Assist States in the preparation of your action plans to reduce CO_2 emissions from aviation
  - Assist States in the estimation of the environmental benefits of air navigation (ATM and operational) measures including ASBUs

The DGCA Conference is invited to:

- support ICAO's work for Economic Development of Air Transport

- encourage States to apply and follow ICAO's policies and guidance in the air transport field in their regulatory practices, including the long-term vision for liberalization and core principles on consumer protection

- coordinate with ICAO in meeting States' needs of data, analysis and tools to promote air transport development in the region

- encourage contributions to the voluntary Air Transport Fund

Shukran, Xie Xie, Thank You, Merci,
Spasiba, Gracias

Questions? Comments?

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