

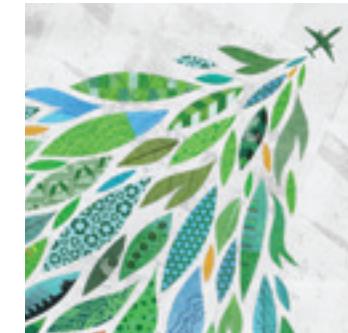
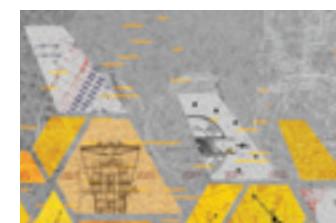


IATA
**ANNUAL
REVIEW**
2017



Alexandre de Juniac
Director General & CEO
International Air Transport Association
Annual Review 2017
73rd Annual General Meeting
Cancun, June 2017

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MEMBERS' LIST

A

Adria Airways
Aegean Airlines
Aer Lingus
Aero Contractors
Aero Repùblica
Aeroflot
Aerolineas Argentinas
Aerolineas Galapagos S.A.—Aerogal
Aeromexico
Aigle Azur
Air Algerie
Air Arabia
Air Astana
Air Austral
Air Baltic
Air Berlin
Air Botswana
Air Burkina
Air Cairo
Air Caledonie
Air Canada
Air Caraibes
Air China
Air Corsica
Air Europa
Air France
Air India
Air Koryo
Air Macau
Air Madagascar
Air Malta
Air Mauritius
Air Moldova
Air Namibia
Air New Zealand
Air Niugini
Air Nostrum
Air Serbia a.d. Beograd
Air Seychelles
Air Tahiti
Air Tahiti Nui
Air Transat

Air Vanuatu
AirBridgeCargo Airlines
Aircalin
Airlink
Alaska Airlines
Alitalia
All Nippon Airways
Allied Air
AlMasria Universal Airlines
American Airlines
Arik Air
Arkia Israeli Airlines
Asiana Airlines
ASL Airlines Belgium
Atlas Air
AtlasGlobal
Austral
Austrian
Avianca
Avianca Brasil
Azerbaijan Airlines
Azul Brazilian Airlines

Bahamasair
Bangkok Air
Belavia—Belarusian Airlines
BH Air
Biman—Bangladesh Airlines
Binter Canarias
Blue Air
Blue Panorama
bmi Regional
Boliviana de Aviación—BoA
Braathens Regional Aviation AB
British Airways
Brussels Airlines
Bulgaria Air

C

C.A.L. Cargo Airlines
Camair-Co
Capital Airlines
Cargojet Airways
Cargolux
Caribbean Airlines
Carpatair
Cathay Dragon
Cathay Pacific
Cemair
China Airlines
China Cargo Airlines
China Eastern Airlines
China Postal Airlines
China Southern Airlines
CityJet
Comair
Condor
Copa Airlines
Corendon Airlines
Corsair International
Croatia Airlines
Cubana
Czech Airlines

D

Delta Air Lines
DHL Air
DHL Aviation
Dniproavia

E

Egyptair
El Al
Emirates
Ethiopian Airlines
Etihad Airways

Euroatlantic Airways
European Air Transport
Eurowings
EVA Air

F

Federal Express
Fiji Airways
Finnair
flybe
flydubai
FlyEgypt
Freebird Airlines

G

Garuda Indonesia
Georgian Airways
Germania
Guangxi Beibu Gulf Airlines
Gulf Air

H

Hahn Air
Hainan Airlines
Hawaiian Airlines
Hi Fly
Hong Kong Airlines
Hong Kong Express Airways

I

Iberia
Icelandair
InselAir
Interjet
Iran Air
Iran Airtour Airlines

Iran Aseman Airlines
Israir Airlines

J

Japan Airlines
Jazeera Airways
Jet Airways (India)
Jet Lite (India)
JetBlue
Jordan Aviation
JSC Nordavia-RA
Juneyao Airlines

K

Kenya Airways
Kish Air
KLM
Korean Air
Kuwait Airways

L

LACSA
LAM—Linhas Aéreas de Moçambique
Lao Airlines
LATAM Airlines Argentina
LATAM Airlines Brasil
LATAM Airlines Colombia
LATAM Airlines Ecuador
LATAM Airlines Group
LATAM Airlines Paraguay
LATAM Airlines Peru
LATAM Cargo Brasil
LATAM Cargo Chile
LATAM Cargo Mexico
LIAT Airlines
LLC Nordwind
LOT Polish Airlines
Loong Air

Lucky Air
Lufthansa
Lufthansa Cargo
Lufthansa CityLine
Luxair

M
Mahan Air
Malaysia Airlines
Malindo Air
Mandarin Airlines
Martinair Cargo
Mauritania Airlines International
MEA—Middle East Airlines
Meridiana fly
MIAT Mongolian Airlines
Mistral Air
MNG Airlines
Montenegro Airlines
Myanmar Airways International

N
Neos
NESMA Airlines
Nextjet
NIKI
Nile Air
Nippon Cargo Airlines (NCA)
Nouvelair

O
Okay Airways
Olympic Air
Oman Air
Onur Air
Overland Airways

P
Pegas Fly (LLC "IKAR")
Pegasus Airlines
PGA—Portugália Airlines
Philippine Airlines
PIA—Pakistan International Airlines
Precision Air
PrivatAir

Q
Qantas
Qatar Airways

R
Rossiya Airlines
Royal Air Maroc
Royal Brunei
Royal Jordanian
RwandAir

S
S7 Airlines
SAA—South African Airways
Safair
Safi Airways
Santa Barbara Airlines
SAS
SATA Air Açores
SATA Internacional
Saudi Arabian Airlines
SF Airlines
Shandong Airlines
Shanghai Airlines
Shenzhen Airlines
SIA—Singapore Airlines
SIA Cargo
Sichuan Airlines

Silk Way West Airlines
Silkair
SKY Airline
South African Express Airways
SriLankan Airlines
SunExpress
Surinam Airways
SWISS
Syrianair

T
TAAG—Angola Airlines
TACA
TACA Peru
TACV Cabo Verde Airlines
TAM—Transportes Aéreos del Mercosur
TAME—Línea Aérea del Ecuador
TAP Portugal
TAROM
Tassili Airlines
Thai Airways International
Thai Lion Air
THY—Turkish Airlines
Tianjin Airlines
TUIfly
Tunis Air
T'way Air

U
Ukraine International Airlines
United Airlines
UPS Airlines
Ural Airlines
UTair
Uzbekistan Airways

V
Vietjet
Vietnam Airlines
Virgin Atlantic
Virgin Australia
Volaris
Volga-Dnepr Airlines
VRG Linhas Aéreas—Grupo GOL
Vueling Airlines

W
Wamos Air
Westjet
White Airways
Wideroe

IATA represents airlines from all corners of the globe using a multitude of business models. Membership is growing. Of particular note is the increase in new model airline (NMA) members. NMAs now account for more than 10% of IATA membership.

Asia-Pacific has been a particularly active region for new membership in the 12 months to May 2017. Lao Airlines, and Malindo Air—operating out of Laos, and Malaysia, respectively—joined IATA, as did fellow NMAs Thai Lion Air and Vietjet. Bangkok is home to Thai Lion Air, Hanoi to Vietjet.

In China, new IATA members include SF Airlines, a cargo airline based in Shenzhen, and Guangxi Beibu Gulf Airlines—also known as GX Airlines—at Nanning Wuxu International Airport. Loong Air, flying out of Hangzhou Xiaoshan International Airport, and Lucky Air, based in Kunming, also signed up to IATA membership.

X
Xiamen Airlines

New African members are CemAir, FlyEgypt, Mauritania Airlines International, Allied Air, and Overland Airways. The first three carriers are based in Johannesburg, South Africa; Cairo, Egypt; and Nouakchott, Mauritania, respectively, while Allied Air and Overland Airways operate out of Lagos, Nigeria.

Europe has two new IATA members. Neos is a leisure market Italian airline based in Milan, and MNG Airlines is a Turkish cargo carrier flying out of Istanbul.

Elsewhere, new IATA members include Iran Airtour Airline, headquartered in Tehran, and Air Caraibes, a regional airline in the French Caribbean and headquartered in Guadeloupe. And in Russia, Pegas Fly, based at Yemelyanovo International Airport, also joined the IATA fold.

CHAIRMAN WILLIE WALSH



A VOICE THAT MAKES A DIFFERENCE

What have been your top priorities as chairman?

I have thoroughly enjoyed my time as Chairman, and I got to do something that not many Chairmen of IATA get to do, and that is to oversee the transition from one Director General to a new Director General. And it clearly was one of my key priorities to ensure that the transition went well. I'm very pleased to say that both personally, and on behalf of the Board, we're delighted with the work that Alexandre is doing. I think he's shown great leadership, and the transition has been smooth, but as we would expect, he has a different style of leadership, and we're looking forward to that continuing, with Alexandre taking IATA forward from its current strong position.

How significant is the ICAO CORSIA agreement for the industry?

I believe the ICAO CORSIA agreement was probably one of the most significant developments that I've seen in my time in this industry—about 40 years now—so I think that gives you a feeling for how important it was that we got this right. We've been talking about convincing regulators that we needed a global

scheme to avoid this patchwork quilt of schemes that were going to be imposed upon us. So I think we have a unique opportunity, and it's great to see that today 68 states have signed up and intend to participate from the very early stages, and that's great news for us. So there's still more work to do, but I think it's a very significant development and a great step forward for the industry.

Does the industry have sufficient infrastructure to meet future demands for connectivity?

Our industry is growing at a significant pace, driven by the demand for more air travel, and I think it's fair to say that current infrastructure doesn't support what we're doing today. So when I look forward, I struggle to see how our industry will fulfill the demands that are going to be made on it. We have insufficient air traffic control infrastructure, many airports around the world are full, there are very few plans to expand airports, and where those plans do exist they are often at exorbitant cost, and that's something that our industry has to fight against. So this is going to be a challenge for us, and it's one that the

industry needs to work with our partners to ensure that we do have the right infrastructure, sufficient infrastructure, to not just fulfill the requirements for today and tomorrow but for the next 10, 15, 20, 30 years. I think that's going to be a big challenge for everyone.

How important is it that the industry speak with one voice on critical issues?

It's really important that as an industry we can try and find common ground. You know we compete for customers, we compete for capital, we compete for market access, sometimes we compete for talent. This is a very competitive industry, but we do have common issues. And where we can identify those common, issues it's really powerful when we can speak with a single voice and try and convince governments and regulators to do the right thing. So let's not focus on areas of disagreement but try and identify the areas where we do agree and then get together and really push forward a common agenda.

Why should LCCs join IATA?

It's important to remember that we have several low-cost carriers within IATA today. And indeed many airlines would probably not define themselves as low cost but would be seen by customers as operating in that segment. So what we have to do as IATA is to be relevant to every business model. Some of our core activities—the traditional bank or the settlement programs that we have, the cargo settlement system—these may not be relevant to new industry models, but industry models change. Where we do have a big influence is ensuring that we can deal with ICAO, and that's something that every airline globally has to be interested in. So I think if we can get more airlines

into IATA, they can influence our thoughts, they can influence our lobbying, and that has to be a really positive development for everyone in the industry.

What are the biggest issues that you see on the horizon for the industry?

Our industry is always going to be challenged by the unforeseen, and probably the most recent event has been the banning of electronic items in the cabin of the aircraft, which has been I think unfairly imposed on some airlines and by some. But there's clear evidence that this may now spread to other countries, and that clearly has a big impact on how we as airlines operate and how our customers perceive the value of the services that we offer. I think it's something that we're going to have to get together as an industry and understand. What is the risk? What is the challenge? And are the steps that are being taken sufficient to address the risk that we understand? I think this is something that certainly confuses people, it confuses airlines, it confuses customers, and so if we can bring clarity to this in the short term it will be very helpful.

What should IATA focus on in 2017-8?

I think that IATA should continue to focus on the key issues that it's done extremely well on. We're transforming the industry, we're lobbying, we're a voice that actually can make a difference, particularly with regulators, to ensure that we have sensible and safe regulation in place for the benefit of our customers and for the benefit of our industry. So let's not forget what we've done well, and let's continue to make sure that we, as an organization, are relevant to our members and relevant to the customers that fly with us.

IATA BOARD OF GOVERNORS 2016-2017

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INTERNATIONAL
AIRLINES GROUP
(representing BRITISH
AIRWAYS)

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Goh Choon Phong

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Chief Executive Officer
SAS

Robin Hayes

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Chief Executive Officer
JETBLUE AIRWAYS

James Hogan

President
ETIHAD AIRWAYS

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(From August 2016)

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AIR FRANCE KLM GROUP
(representing AIR FRANCE)

Alan Joyce

Chief Executive Officer
QANTAS

Liu Shaoyong

Chairman
CHINA EASTERN AIRLINES

Pham Ngoc Minh

President and
Chief Executive Officer
VIETNAM AIRLINES

Safwat Musallam

Chairman and
Chief Executive Officer
EGYPTAIR

Mbuvi Ngunze

Group Managing
Director and Chief
Executive Officer
KENYA AIRWAYS

Masaru Onishi

Chairman
JAPAN AIRLINES

Douglas Parker

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(From November 2016)

Fernando Pinto

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TAP PORTUGAL

Calin Rovinescu

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Chief Executive Officer
AIR CANADA

Vitaly G. Saveliev

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AEROFLOT

Carsten Spohr

Chairman and
Chief Executive Officer
LUFTHANSA

Tan Wangeng

President and
Chief Executive Officer
CHINA SOUTHERN AIRLINES

ALSO SERVED

(To July 2016)

Alexandre de Juniac

Chairman and
Chief Executive Officer
AIR FRANCE-KLM
(representing AIR FRANCE)

(To October 2016)

Temel Kotil

Chief Executive Officer
and Deputy Chairman
TURKISH AIRLINES

(To May 2017)

Chu Kwok Leung (Ivan)

Chief Executive Officer
CATHAY PACIFIC

THE BUSINESS OF FREEDOM

Aviation is the business of freedom

In 2016, that was very clear, as some 3.8 billion passengers safely took to the air and some 54.9 million tonnes of goods were delivered as air cargo.

Aviation brings people together, transports vital medicines to patients in need, and facilitates the exchange of experiences and ideas. We connect loved ones, support trade, and enable businesses to access global markets. With these and all the other things that aviation does, it is clear that our activity underpins the value created by our globalized world. As an industry, we can be proud that we help people to live better lives.

Financial performance

Aviation's vital role in the world has not always resulted in appropriate rewards to airline investors. In recent years, however, airline efforts to restructure and reengineer their businesses have resulted in a historic strengthening of the bottom line.

The industry earned a return on invested capital of 9.9% in 2016, which exceeded

its cost of capital (estimated at 6.6%). While that is normal for almost any other industry, this was only the second time that the airline industry has attained this benchmark—the first being in 2015. In profit and loss terms, the industry's 2016 net profit was \$34.8 billion on revenues of \$705 billion. On a per passenger basis, airlines earned an average of \$9.13, which still leaves only a thin buffer against cost increases, shocks, or changes in the economic environment.

Levels of profitability vary widely by region. North American airlines earned almost four times more per passenger than airlines in Asia-Pacific and Europe. Latin American and Middle East carriers generated aggregate profits slightly better than breakeven, while African carriers remained in the red.

Safety

The industry competes fiercely for every passenger, but there is no competition when it comes to ensuring safety. There was one major accident for every



2.56 million flights using jet aircraft in 2016. While this was a slight step back on the five-year average (one accident for every 2.77 million flights), flying remains the safest form of long-distance travel.

Of course, the job is never complete on safety. In 2017, major updates are planned for IATA's key audit programs—the IATA Operational Safety Audit (IOSA) and the IATA Safety Audit for Ground Operations (ISAGO).

Working with some 470 partners, we continue to strengthen the foundations of the Global Aviation Data Management (GADM) initiative. Already the data is helping to reveal potential hazards that are prompting mitigation measures before accidents happen.

A recent analysis of accident reporting, however, reveals a major gap with global standards. Of the 1,000 accidents of all sizes and scale over the last decade, accident reports are only available for about 300. This is a clear deviation from the global standards that are at the core of aviation's solid safety performance. We will look to remind governments of the vital importance of accurate, accessible, and timely accident reporting.

Sustainability

The flagship accomplishment of 2016 was the historic agreement by governments to implement a Carbon Offset and

Reduction Scheme for International Aviation (CORSIA). This was agreed at the 39th Assembly of the International Civil Aviation Organization with the full support of a united air transport sector.

CORSIA achieves one pillar of the industry's long-established four-pillar strategy on climate change. It is a market-based measure that will allow the industry to achieve carbon-neutral growth by offsetting emissions growth above the 2020 baseline.

The ultimate goal is to cut net emissions to half of 2005 levels by 2050. For that to occur, the other three pillars of the strategy are critical—improvements in technology, operations, and infrastructure. In particular, we urge governments to match industry investments in high-performing aircraft and sustainable aviation fuels (SAF) by delivering on long-promised air navigation modernization programs and establishing viable fiscal and regulatory frameworks to encourage SAF commercialization through increased supply.

Challenging times

All indications are that the strong financial, safety, and environmental performance will continue in 2017. But there are risks.

The last year has been marked by terrorist activity—some directly targeting travelers. We continue to work with governments on measures to keep our passengers and crew safe. This includes combating emerging landside security threats and engaging governments to find an acceptable long-term alternative to recently announced

bans on large electronic devices in the cabin on some flights.

United Nations Security Council Resolution 2309 in September 2016 recognized the threat of terrorism to civil aviation and the responsibility of governments to work together to keep the global air transport system secure. Key to that will be enhanced cooperation between industry and government, a better information sharing culture among governments and with the industry, and government support for the Global Aviation Security Plan (GASeP) being developed under the leadership of ICAO.

Major shifts in global politics also bring risks. The political landscape in many parts of the world is seeing a growing influence of nationalist, populist, or protectionist rhetoric. IATA is committed to continuing to press the case for borders that are open to people and trade to do business.

Your association

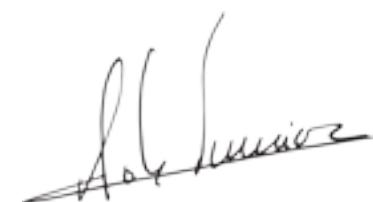
IATA remains a strong association of 274 member airlines constituting 83% of global traffic. With the support of its members, IATA is the voice for the world's airlines, a global standard setter, and critical a supplier of products and services to the air transport industry.

Key among industry services are the IATA Financial Settlement Systems (IFSS), which continue to be the reliable financial backbone of the industry. In 2016, over \$400 billion of industry transactions was processed through the IFSS. The IATA Settlement Systems (ISS)—the largest component—marked

a major milestone with a 100% on-time settlement of nearly \$245 billion of payments. Committed to faster, safer, and more cost-efficient financial services, the NewGen ISS program has been launched with a collaborative development and implementation process.

Taking over the leadership of IATA in September 2016 was a great honor. The work that IATA's members do through their association touches virtually every part of the industry and reaches to all corners of the planet. Along with IATA's global team, I am proud to fulfill IATA's mission to represent, lead, and serve this vital industry.

IATA, through the fortitude of its membership, is committed to being the driving force for a safe, secure, and profitable air transport industry that sustainably connects and enriches our world. Aviation's importance goes far beyond the 63 million jobs and \$2.7 trillion in economic activity that it supports. It is the business of freedom, and it helps people to live better lives.



ALEXANDRE DE JUNIAC
Director general and CEO

01

A RETURN FOR
INVESTORS:
**REGIONAL
DISPARITIES REMAIN**



Air transport connects people and economies

Air transport provides a significant boost to economic development. An ongoing increase in unique city-pair routes has helped to enable the flow of goods, people, capital, technology, and ideas. The number of unique city-pair connections exceeded 18,400 in 2016, over 700 more than in 2015 and almost double the connectivity by air 20 years ago.

The price to users of air transport, meanwhile, continues to fall, after adjusting for inflation. Compared with 20 years ago, real transport costs have more than halved. In addition, enhanced service offerings and nonstop connections have expanded choice for consumers. **Chart ①**

Air transport is crucial to tourism and international trade...

Air transport plays a key role in facilitating tourism and its attendant industries and is vital to international trade. IATA estimates that air travelers spent around \$650 billion in 2016. The value of international trade shipped by air, meanwhile, was \$5.5 trillion in 2016. Reduced air transport costs and improved connectivity have boosted trade flows. **Chart ②**

...and generates wide benefits for the global economy

The global economy overall benefits broadly from the impact of air transport. Heightened airline activity raises jobs in the air transport sector and its supply chain, and those jobs generate spending that ripples through other sectors of the economy. It is estimated that aviation supported 67.7 million supply-chain jobs in 2016 and underpinned \$3.0 trillion in value-added output globally.

Passenger demand sees another strong year worldwide

Industry-wide revenue passenger kilometers (RPKs) grew 7.1% in 2016 when adjusted for the leap year. Although this marked a slight slowdown from the 7.4%, oil price-assisted growth seen in 2015, it was still a strong performance and well ahead of the 10-year average growth rate of 5.5%. More than 3.8 billion passenger segments were flown in 2016, an increase of 250 million compared with 2015. **Chart ③**

Aviation's center of gravity continues to shift eastwards

Asia dominated the ranks of the fastest-growing origin-destination (O-D) passenger markets again in 2016. The industry's center of gravity continues to shift eastwards.

Once again, the domestic China passenger market saw the biggest incremental change in journey numbers, with 37 million more passenger journeys made in 2016 than in the year before. This increase was more than in the next two fastest-growing markets—domestic United States and domestic India—combined.

Given its status as the world's largest air passenger market, the US domestic market saw comparatively modest year-on-year passenger growth, of 3.9% in 2016, equivalent to 19 million additional passenger journeys. To put this in perspective, the domestic Vietnam market surged 33% in 2016, but the absolute number of additional journeys in Vietnam was still only around one-third of those seen in the United States. **Chart ④**

Air freight undergoes a strong 2016 second half

Following a modest start to 2016, the trend for air freight accelerated in the second half of the year. This coincided with a steady increase in manufacturers' export order bookings over the same period and with a particularly strong peak season for air freight. In total, industry-wide freight tonne kilometers (FTKs) grew a solid 3.6% in 2016, nearly double the five-year average pace of 2.0%.

Global trade, however, remains weak. It used to be considered normal for world trade to grow at around twice the pace of gross domestic product (GDP), but this relationship has changed in recent years. Trade volumes now grow broadly in line with global output. Nonetheless, such fast-growing areas as pharmaceuticals and cross-border e-commerce offer opportunities for air freight. **Chart ⑤**



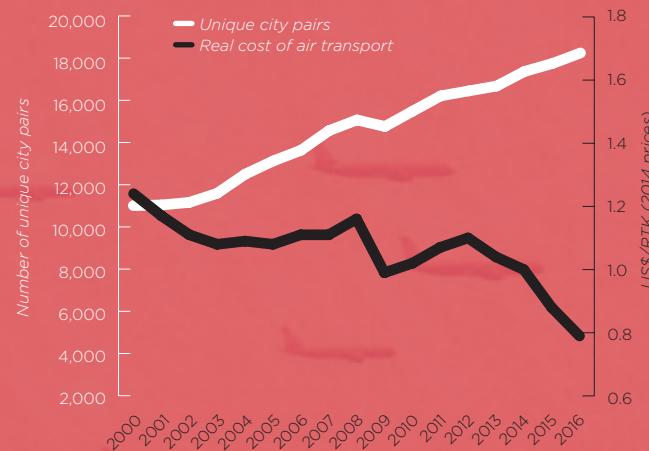
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Once again, the domestic China **passenger market** saw the biggest incremental change in journey numbers, with **37 million more** passenger journeys.

”

1

UNIQUE CITY PAIRS AND REAL TRANSPORT COSTS



2

AIR TOURIST SPENDING AND VALUE OF TRADE CARRIED BY AIR



3

RPK VERSUS WORLD GDP GROWTH



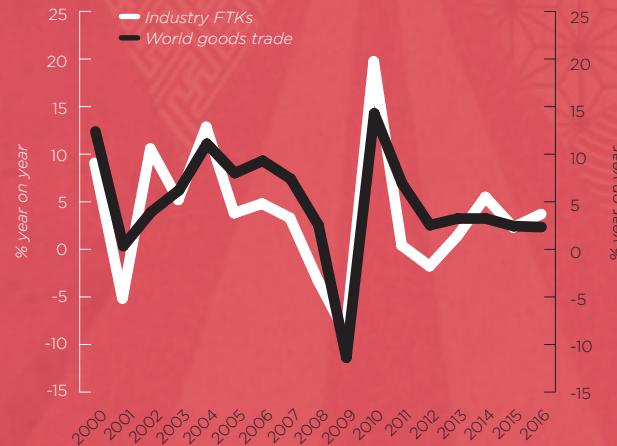
4

TOP 10 INCREASING O-D MARKETS IN 2016



5

AIR FREIGHT VERSUS GLOBAL GOODS TRADE GROWTH



Passenger demand reflects the net impact of competing forces

The upward trend in seasonally adjusted passenger traffic was moderated during the first six months of the year. This was due to a combination of issues, including repeated terrorist attacks, ongoing political instability, and a subdued economic backdrop. Traffic in the Asia-Europe market was particularly sensitive to terror-related disruptions in Europe.

The second half of the year, however, saw an acceleration in the growth trend, with RPKs growing at an annualized pace of nearly 9% between June and December 2016. This pickup reflected a moderate upturn in the global economic cycle and passengers' choice to disregard terrorist efforts to scare people off travel and tourism.

Passenger demand was also supported by lower fares in 2016. Despite a recovery in oil prices during the year, the average price of a barrel of jet fuel was 22% lower than in 2015. This partly mirrored differing hedging practices within the industry, which can delay the impact of oil price movements on airline fuel bills. Jet fuel prices climbed to about \$60 a barrel at the end of 2016—nearly twice the 12-year low reached in January 2016, yet still much lower than the average between 2011 and 2014. And this helped keep airfares down.

Large shifts in foreign exchange markets meant that movements in global jet fuel prices were not felt evenly across airlines and regions. As in 2015, the limited recoveries of many emerging market currencies against the dollar partially shielded airlines in such markets from the full rise in US dollar-based jet fuel prices. **Chart 6**

Passenger loads rise to record level

Airlines were able in 2016 to nearly balance robust passenger demand with passenger capacity. Available seat kilometers (ASK) flown increased 7.5% compared with ASKs in 2015, and the industry-wide passenger load factor remained unchanged from 2015 at an all-time high of 80.4%.

Growth in freight capacity once again outstripped growth in demand, partly reflecting ongoing additions to belly-hold capacity in the passenger fleet. Available FTKs increased 4.9% year on year in 2016, and the freight load factor dropped to 46.9%, 0.8 percentage points lower than in 2015. The upward trend in seasonally adjusted capacity slowed in the second half of the year, and the load factor recovered somewhat. **Chart 7**

Widening gap between break-even and achieved load factors drives improved financial performance

Fuel remains a major cost for airlines, but its share of airlines' costs declined to 19.2% in 2016, the lowest proportion since 2004. The reduction in fuel costs in 2016 helped to lower the industry-wide breakeven load factor for the fourth consecutive year.

Trending improvements in investor returns paid by the industry in recent years, however, reflect changes in industry structure and more returns-focused behavior on the part of airlines. This combination has helped to keep achieved load factors at historically high levels.

The widening gap between breakeven and achieved load factors has driven the recent improvement in industry financial performance. **Chart 8**

Normal return achieved for airline investors

Such is the intensity of the competition and the challenges of doing business that equity investors in the airline industry have typically seen their capital shrink. For only the second time on record, in 2016 the air transport industry paid its investors a normal reward for risking their capital. That is, the industry's return on capital exceeded its cost of capital. **Chart 9**

Operating profits close to matching 2015 record...

It was a year of near-record operating profits in 2016: the operating margin of 8.9% of revenues was up from 8.6% in the previous year and more than three times that achieved in 2012. After allowing for interest charges, taxes, and write-downs, the \$34.8 billion net post-tax profit that airlines generated was slightly down from \$35.9 billion in 2015.

Improving the industry's highly leveraged balance sheets, though, will in most cases require a prolonged period of better profits. As a result, only a handful of airlines are rated "investment grade" by ratings agencies. **Chart 10**

...but with a wide spread in financial performance at a regional level

As in previous years, the industry-wide picture in 2016 masked a diverse spread in financial performance regionally. High investor returns are still not common in the industry.

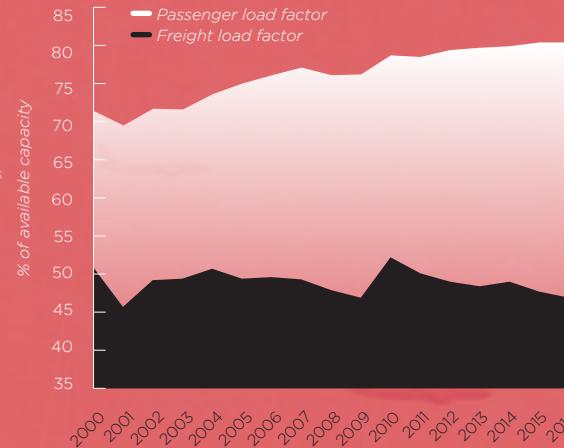
North American airlines have driven much of the rise in industry profits in recent years and again posted the strongest financial performance in 2016. European and Asia-Pacific airlines generated solid margins in 2016, with the latter helped by the improvement in cargo markets—which are particularly important for manufacturing in Asia-Pacific—in the second half of the year. Latin American airlines are starting to see a turnaround in what has been their otherwise harsh environment recently. They, and airlines in the Middle East, posted modest profit margins in 2016. Airlines in Africa, conversely, posted a fifth consecutive year of losses.

It is worth noting that 2016's laudable industry-wide net post-tax profits of \$34.8 billion still only represented \$9.13 of profit per passenger, a comparatively slim margin and down from \$10.08 in 2015. Profitability will need to be sustained for airlines to pay down debt and to repair their balance sheets. **Chart 11**

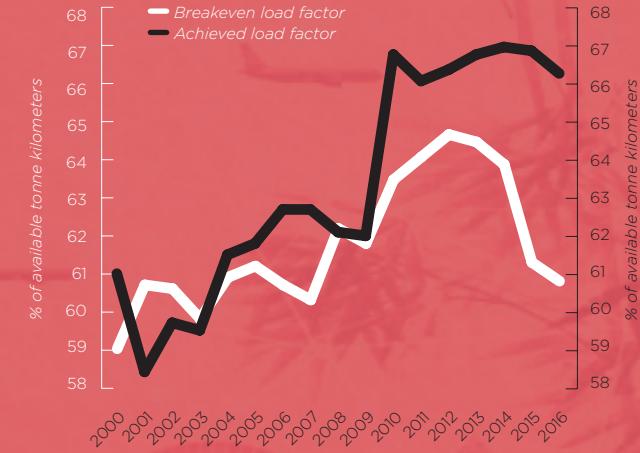
6 EXCHANGE RATE-ADJUSTED JET FUEL PRICES (2016)



7 INDUSTRY PASSENGER AND FREIGHT LOAD FACTORS



8 BREAKEVEN AND ACHIEVED LOAD FACTORS



9 RETURN ON CAPITAL INVESTED IN AIRLINES



10 GLOBAL COMMERCIAL AIRLINE PROFITABILITY



11 NET POST-TAX PROFIT (\$ PER PASSENGER)



02

FLYING SAFELY: THE NUMBER ONE PRIORITY



Improved safety

Over the last 10 years, the airline industry has improved its overall safety performance 54%. The accident rate in 2016 was 1.61 accidents per million flights, compared with 3.53 nearly a decade earlier, in 2007, and fully 10% lower than in 2015.

In 2016, more than 3.7 billion passengers flew safely on over 40.4 million commercial flights. Sadly, there were 10 fatal accidents, involving four passenger flights and six cargo flights, that resulted in 268 fatalities. That compares with the four fatal accidents, involving two passenger and two cargo flights, in 2015,

resulting in 136 fatalities. Despite the step back from the exceptional performance of 2015, the 2016 result was a continued improvement over the annual average of 13.4 fatal accidents and 371 fatalities in the five-year period from 2011 to 2015.

There was a substantial safety improvement in sub-Saharan Africa in 2016. The region had no fatal jet accidents and an overall accident rate of 2.30 per million flights. Its turboprop safety performance continued to rise, with an accident rate, of 3.31, that was 42% lower than the 2011–2015 yearly average.

Detailed information on the industry's safety performance can be found in the *IATA 2016 Safety Report*.

Air accident investigations

A recent analysis of accident reporting has identified air accident investigations as a key area where greater cooperation on global standards is needed. Of approximately 1,000 accidents over the last decade, accident reports are available for only around 300. Of those, many contain insufficient information or lack rigorous analysis. To learn from

an accident, the industry needs reports that are complete, accessible, and timely. And countries need to fully respect the standards and processes enshrined in global agreements for participation in investigations by all specified parties.

In 2017, IATA will work to encourage governments to improve the accuracy and speed of accident reporting. The goal is to strengthen the investigation process, which is one of aviation's most important learning tools for formulating global standards to enhance safety.

ADDRESSING THE PRIMARY CAUSES OF ACCIDENTS

Loss of control in flight (LOC-I)

LOC-I constitutes only
8%
...but
90%
of LOC-I accidents...
involve fatalities.

- IATA published its first edition of the *Environmental Factors Affecting Loss of Control In-Flight: Best Practice for Threat Recognition & Management*.
- IATA Training, with the support of the Pilot Training Task Force (PTTF), provides guidance for enhanced pilot training to help address factors contributing to LOC-I.

Controlled flight into terrain (CFIT)

CFIT accounts for just
5%
of accidents...
...but for
16%
of total fatalities.

- The industry's efforts to reduce CFIT incidents include the development of a CFIT accident reduction strategy.
- IATA analyzed in-depth the effects of reduced enhanced ground proximity warning system (EGPWS) capability on human factors in CFIT accidents between 2005 and 2014. Eleven recommendations from this analysis were presented to the industry.
- IATA also surveyed its member airlines on the implementation of the EGPWS and its integration of GPS data.
- The survey findings were included in the above-mentioned analysis, and six further recommendations were presented to the industry.

Runway excursions (RE)

RE represent
19%
of accidents...
...but less than
1%
of all fatalities.

- The second edition of *Unstable Approaches: Risk Mitigation Policies, Procedures & Best Practices* was written collaboratively by IATA and stakeholders representing air navigation service providers (ANSPs), air traffic controllers, and pilots to address problems related to unstable approaches, a major contributor to RE accidents.

SIX-POINT SAFETY STRATEGY

IATA's Six-Point Safety Strategy is a comprehensive, data-driven approach to identifying organizational, operational, and emerging safety issues. Its six points are as follows:

- Reducing operational risk
- Enhancing quality and compliance through audit programs
- Advocating for improved aviation infrastructure, such as the implementation of performance-based navigation approaches
- Supporting the consistent implementation of safety management systems
- Supporting effective recruitment and training to enhance quality and compliance through programs such as the IATA Training and Qualification Initiative, which seeks to modernize and harmonize the training and assessment of pilots and maintenance technicians
- Identifying and addressing emerging safety issues



Aircraft tracking

Airlines track their aircraft in various ways, and efforts to develop a global standard for aircraft tracking continued throughout 2016. ICAO, industry regulators, and the air transport industry worked together through the Normal Aircraft Tracking Implementation Initiative (NATII) to develop a risk-based tracking standard, for adoption in 2017, to complement the existing standards and to address outcomes identified in the 2015 NATII report submitted to the ICAO Air Navigation Commission (ANC).

In parallel with the new standard, guidance material will be available in 2017 to assist operators with revising procedures and processes or with validating their current tracking procedures against the standard.

Guidance material for the Global Aeronautical Distress and Safety System (GADSS) is also being updated. Ongoing regulatory work, too, continues apace, and air traffic control (ATC) initiatives are being considered. The hope is that in a few years new systems and technology—if adopted universally by air navigation service providers (ANSPs)—will allow for global tracking.

Lithium batteries

A pressing safety issue facing the air transport industry is that of lithium batteries. Airlines, shippers, and manufacturers have worked hard to establish rules that ensure lithium batteries can be carried safely. Yet there have been a number of instances of flagrant abuses of shipping regulations that have risked aircraft and passenger safety.

Disappointingly, each instance has resulted in minimal consequences for the offenders. Various international associations, including IATA; the Portable Rechargeable Battery Association, or PRBA; the US Rechargeable Battery Association; RECHARGE, the European Association of Advanced Rechargeable Batteries; the Global Shippers Forum (GSF); and The International Air Cargo Association (TIACA), are hoping to change this. In a joint letter to the governments of the largest lithium battery manufacturing and export countries, they have called for significant fines and custodial sentences to be imposed on those who circumvent the regulations.

To further eliminate the risks in shipping lithium batteries, the air transport industry is developing a set of standards for packaging material designed to contain a fire in the event of a lithium battery mishap. Defining and testing the performance parameters of the packaging are nearing completion.

IATA has also developed the Lithium Battery Toolkit, which includes the following:

- The *IATA Safety Risk Assessment (SRA)* on the carriage of lithium batteries and associated matrix. This document has been formulated to assist operators in devising their own risk assessment and associated mitigation methods.
- Investigation reports and analyses of accidents over the last 10 years where lithium batteries were suspected to have played a part.
- The second edition of the lithium battery guidance material, with updated sections that incorporate comments from IATA Cargo, the IATA Dangerous Goods Board, and the IATA Safety Group.



Unmanned aerial vehicles

The irresponsible, or malicious, use of unmanned aerial vehicles (UAVs) near airports and aircraft poses safety and security risks. IATA launched an awareness campaign in 2016 that leads off with a joint statement from the International Federation of Air Line Pilots' Associations (IFALPA) and Airports Council International (ACI). It is hoped that this campaign, which also features an educational video, alerts UAV users to the importance of responsible use.

A smart, pragmatic approach to regulating and a firm method of enforcing UAV use are required. As of February 2017, some 93 nations have UAV regulations in place. To help countries define and implement regulations, IATA, other key air transport industry stakeholders, and civil aviation authorities (CAAs) worked with ICAO to develop a toolkit to guide UAV safe operation and governance. The air transport industry's main goal is to ensure safety through regulations that are as harmonized as possible.

The focus on the air traffic management of UAVs is increasing. UAVs need to have the capability to detect other aircraft and obstacles and to take evasive action to avoid collisions. They also need secure data link technology to enable communication with ground stations and with air traffic control. Research and development work is ongoing into an unmanned traffic management (UTM) system, and IATA is actively involved.

Safety audits

The IATA Operational Safety Audit (IOSA) program is the global benchmark for airline operational safety management. In 2016, the accident rate for IOSA members was nearly half that of non-IOSA airlines and more than three times better than over the previous five years.

IOSA is a worldwide standard that enables and maximizes the joint use of audit reports. To date, this has saved the air transport industry more than 6,400 redundant audits and led to extensive cost savings for IOSA-participating airlines.

Since 2008, all IATA members must maintain IOSA registration. Of the 413 airlines on the IOSA Registry, 144 are non-IATA members, a testament to the wide appeal of IOSA for airlines at large.

An IATA focus in 2017 will be to address and initiate the recommendations of the European Aviation Safety Agency (EASA)'s assessment of IOSA. IATA will also begin the IOSA digital transformation with an endorsed roadmap and will continue to ensure that the highest quality standards are maintained throughout the audit process.

The IATA Safety Audit for Ground Operations (ISAGO) is an aviation industry ground service provider (GSP) registration scheme. It is aimed primarily at establishing safe ground operations and raising cost benefits by, respectively, reducing the risk of aircraft damage and personal injuries and eliminating redundant audits by airlines.

A 2016 analysis of ground damage database (GDDB) data showed that ISAGO-registered providers exhibited a better reporting culture than non-ISAGO providers. They reported 70% of all the damage they caused, compared with only 32% for non-ISAGO GSPs. ISAGO providers also experienced significantly less severe damage.

As of February 2017, the number of GSPs in the ISAGO Registry had surpassed 200. There are almost 440 registered ISAGO stations at over 270 airports worldwide. More than 1,300 audits have been performed since ISAGO's inception.

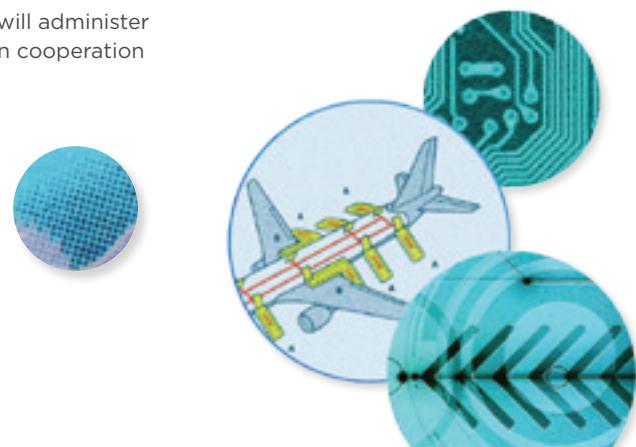
Several major improvements to enhance the scope and the value of ISAGO audit results will be rolled out in 2017. A new operational audit model has been developed in consultation with stakeholders, and the transition should be complete by the end of the year.

As part of the changes, a Charter of Professional Auditors is being developed that will give IATA greater involvement and oversight of the recruitment, training, and qualification of auditors. IATA will also allocate the audits on an annual basis to ISAGO Agents (GOA) that will administer and coordinate the audits in cooperation with GSPs.

International Airline Training Fund success

The International Airline Training Fund (IATF) is funded by IATA and its members and sponsors capacity-building initiatives for airlines and other aviation industry stakeholders worldwide. In 2016, the IATF trained 3,181 aviation industry professionals from developing nations, particularly Africa, which accounted for 73% of the IATF's trainees.

Enhancing aviation safety remained the IATF's priority. As such, it continued the IOSA Implementation Training Initiative (IOSA-ITI) for African airlines in line with the Abuja Declaration and the Associated Plan of Action on Aviation Safety in Africa, which recommends IOSA for all IOSA-eligible airlines in Africa. In 2016, the IOSA-ITI attracted six new airlines to IOSA and helped five airlines onto the IOSA Registry.



SAFETY INITIATIVES



1 AFRICA

In 2016, Africa had its best safety performance in a decade, with an accident rate of 2.30 accidents per million sectors. This was a substantial improvement compared with accident rates of 7.36 in 2015 and 9.73 for the five-year period from 2011 to 2015.

Challenges in bringing Africa in line with global performance remain, however. IOSA overcomes many of these challenges. The 32 sub-Saharan airlines on the IOSA registry performed 7.5 times better than non-IOSA operators in terms of accidents in the 2012–2016 period.

African nations should make IOSA a part of their airline certification process. African governments also need to accelerate the implementation of ICAO's safety-related standards and recommended practices (SARPS). As of the end of December 2016, only 22 of the 48 sub-Saharan African countries had at least 60% SARPS implementation.

2 EUROPE/CIS

During 2016, IATA signed a memorandum of understanding with the Finnish CAA (Trafí) for the use of IOSA to complement Trafí's oversight activities. Trafí is the first CAA in the world to take this step, opening the door for similar agreements elsewhere.

A positive development, meanwhile, occurred with regard to the European Safety List of banned carriers. The European Commission (EC) and the third-country operator (TCO) approval system, managed by EASA, began coordinating their efforts in authorizing foreign carriers to fly into the European Union (EU). By the end of 2016, all Kazakhstan operators had been removed from the EU Safety List, following the 2015 removal from the list of Air Astana. IATA played a major role in supporting Air Astana and Kazakhstan's airlines through this process.

3 ASIA-PACIFIC

The ICAO Asia-Pacific Regional Aviation Safety Group annual safety report for 2016 identified the following safety focus areas: CFIT, RE, and LOC-I. To mitigate the historical risks and to discover and prevent future risks, IATA proposes to develop and implement a risk-based, data-driven safety strategy with reactive, proactive, and predictive capabilities that focuses on the four top regional fatal accident risks: approach and landing accidents (ALAR), LOC-I, CFIT, and midair collisions (MAC). Part of the plan involves encouraging participation in IOSA by all airlines in the region. As of the end of March 2017, seven airlines have been added to the IOSA Registry, and three airlines have been added to the IATA Standard Safety Assessment Registry in Asia-Pacific.

Other regional concerns include soft spots at Bangkok Suvarnabhumi Airport, which remain an ongoing issue. In 2016, IATA reissued its operational notice to alert airlines of the risk to aircraft operations at the airport. In 2017, IATA will continue to work closely with the local air transport industry for a permanent solution to this problem.

In Indonesia, the focus is on improving safety management system (SMS) implementation initiatives.

03

SECURITY PROCESSES: EFFECTIVE AND EFFICIENT



Aviation security

The aviation industry continues to be an iconic target for terrorist and other security-related attacks. The prime responsibility for security rests with national governments. Measures to keep flying secure have evolved in the 16 years since 9/11, but challenges remain. Among the most pressing are the implementation of global standards and the sharing of data between governments, oversight authorities, and the industry. To ensure the measures responding to these challenges are effective and cost-efficient, the aviation industry strives to gain the support of and to work closely with governments, security organizations, and other industry stakeholders.

IATA's security activities cover five main elements:

- Promoting global standards
- Dealing with emerging threats
- Encouraging a security culture
- Advocating the sharing of security-related information
- Lobbying for the regulatory recognition of safety and security management systems

At the 2016 IATA AGM, the Resolution on the Threat of Terrorism to the Airline Industry was unanimously passed. It called for governments to

- work in partnership with each other and with airlines to counter terror threats to aviation, recognizing ICAO's crucial role in this regard;
- commit all possible resources, particularly intelligence resources, to fighting the use of aviation for terrorist acts; and
- share information to ensure that measures to prevent and respond to terrorist acts are appropriate and effective.

The key tenets of the IATA resolution were recognized in United Nations (UN) Security Resolution 2309 (2016), on aviation security. The UN resolution confirms ICAO's leadership in aviation security and the importance of globally coordinated efforts based on ICAO's Global Aviation Security Plan (GASeP).

UN Security Resolution 2309 (2016)

UN Security Council Resolution 2309 (2016) reaffirms the obligation of governments to ensure the security of citizens against terrorist attacks conducted against international civil aviation, wherever attacks may occur. All governments are urged to ensure an effective, risk-based, sustainable implementation of ICAO Annex 17 standards—which deal with aviation security—at all airports under their jurisdiction and to immediately address any gaps or vulnerabilities that are identified.

Global Aviation Security Plan

GASeP will be a focal point for industry activity leading up to the 40th ICAO Assembly in 2019. IATA is supporting ICAO in the development of the plan and is calling for governments to agree to aggressive and measurable targets for addressing significant aviation security concerns.



Conflict zones

Risks to civil aviation arising from conflict zones remain a challenge. Several regions continue to experience militarized hostilities that take place in close proximity to air transport operations. National governments are responsible for the collection and dissemination of protective security intelligence. They must share this information with air operators in a timely manner to support the validity of risk management systems.

IATA fully endorses an amendment to ICAO Annex 17 requiring nations to provide information in support of operators' risk assessments. Risk assessment remains an integral component of security management systems (SeMS), but airlines continue to have difficulty in accessing the security information that makes risk management possible.

In January 2017, ICAO conducted an industry survey concerning the usefulness of its web-based conflict zone information repository. Initial results indicated dramatic improvement was required to provide a more efficient means of disseminating critical information in a timely manner. The IATA Security Working Group is monitoring IATA's research into security information sharing solutions that could be used by IATA member airlines.

Landside security

Airport attacks in Brussels, Istanbul, and Shanghai in 2016 and the shooting at the airport in Fort Lauderdale in January 2017 demonstrated the vulnerability of public areas within airports. Clearly, it is governments that must secure the landside of the airports in their jurisdictions. But IATA, too, is pursuing initiatives for heightened landside security.

Smart Security, One ID, Fast Travel, and the greater use of passenger data will all play a role. These initiatives underpin innovative solutions that will limit passenger and airport staff exposure to landside vulnerabilities.

Cyberattacks are a threat to aviation. The interconnected nature of civil aviation necessitates a global, regional, and local approach to address this growing risk.

Cybersecurity

Cyberattacks are a threat to aviation. The interconnected nature of civil aviation necessitates a global, regional, and local approach to address this growing risk.

A Cybersecurity High-Level Meeting in November 2016 resulted in the Bucharest Declaration. That document promotes cybersecurity awareness and preparedness and contains recommendations for cybersecurity information sharing. IATA, meanwhile, continues to partner with the cosignatories of the Civil Aviation Cybersecurity Action Plan: ICAO, Airports Council International (ACI), the Civil Air Navigation Services Organization (CANSO), and the International Coordination Council of Aerospace Industries Associations (ICCAIA).

In addition, IATA aims to incorporate the guidance in its Aviation Cybersecurity Toolkit into its *Security Management System Manual* by the end of 2017. That manual is intended to help airlines understand and define their organizational risks.

Throughout 2017, IATA will also continue to promote a threat-based, risk-managed, outcome-focused framework for managing cybersecurity concerns. That framework takes account of the industry's cybersecurity capabilities.

Smart Security

Smart Security is a joint initiative of IATA and ACI and is meant to aim for a future where passengers proceed through airport security checkpoints with minimal inconvenience, where security resources are allocated based on risk, and where airport facilities are optimized—contributing to an improved journey from curb to airside. Smart Security elements are being introduced in stages, starting with process innovations and moving to advanced screening technologies and the introduction of risk-based security concepts.

Smart Security is not a one-size-fits-all solution, and airports that are implementing the various Smart Security elements are being assisted with Smart Security Opportunity Assessments (SSOAs). These assessments provide targeted recommendations to airports for the adoption of Smart Security screening processes and technologies that will strengthen security, increase operational efficiency, and enhance the passenger experience. IATA has conducted SSOAs at 26 airports around the globe.

IATA is continuously amending its Smart Security guidance documentation to ensure that it is detailed and in step with the latest developments and recommended practices in security. Hundreds of industry and government stakeholders have access to this guidance material. As a result, an increasing number of European airports are rolling out next-generation security checkpoints and national initiatives aligned with Smart Security objectives, including the Dutch SURE! program, the French Vision Sûreté program, and the German Easy Security program.

In 2016, Smart Security progress was made in North America. The Canadian Air Transport Security Authority (CATSA) started rolling out CATSA Plus checkpoints at Canadian airports, and the US Transport Security Administration experimented with Innovation Lanes at US airports. Among the latter is Hartsfield-Jackson Atlanta International Airport, which also benefits from a memorandum of understanding with IATA and ACI to cooperate on Smart Security initiatives.

The global appeal of Smart Security is evident in the various Smart Security trial projects and implementations under way in the Middle East, Africa, and Asia-Pacific.



The first wave of such Smart Security projects as centralized screening, is moving beyond the early adopter stage. IATA expects the number of implementation projects to grow exponentially over the next couple of years. The vendor community, for example, is increasingly integrating Smart Security concepts into its product design. And Smart Security checkpoints are quickly becoming the norm.

In addition, the air transport industry continues to address challenges that prevent the full implementation of the Smart Security vision. Challenges include the poor harmonization of performance standards for security screening equipment and the associated certification processes; the lack of open standards for the integration of screening equipment and data exchange, which is a key focus in 2017; the reluctance among certain screening equipment manufacturers to move away from closed to open systems architecture; and, in many parts of the world, the low political will and want of a regulatory framework to advance the risk-based, differentiated screening of passengers and their belongings.

In 2017, IATA will again work closely with aviation and government stakeholders to overcome impediments to Smart Security implementation and to gather additional knowledge and information on innovative security technologies and practices to enhance Smart Security. It will reflect any developments in its Smart Security guidance documentation. It will in addition continue its efforts to raise awareness of and to share knowledge on Smart Security through workshops and other events. The second wave of Smart Security checkpoint solutions will include but not be limited to the following:

- Next-generation X-ray equipment
- Next-generation passenger security scanners
- Advanced checkpoint management systems
- Open standards for equipment integration and data exchange
- Infrastructure for risk-based, differentiated screening

Large personal electronic devices ban

In March 2017, several countries implemented a ban on personal electronic devices (PEDs) larger than a cell phone—such as laptop computers, tablets, and portable DVD players—in the cabin on international flights to their territories. These actions were based on fears that such devices could be used to hide explosives.

The United States banned PEDs on flights from 10 airports in the Middle East and North Africa. The United Kingdom's ban affected a similar but not identical list of countries. Based on the same intelligence, Australia and Canada instigated random checks on devices on flights from these regions.

The industry expressed concern regarding the measures and publicly called for better coordination and information sharing from the authorities. In May 2017, IATA facilitated a security summit to address emerging concerns over the restrictions on PEDs. The industry is seeking to work with governments to find an acceptable solution to this issue that keeps flying secure while minimizing inconvenience to passengers.

The global appeal of Smart Security is evident in the various Smart Security trial projects and implementations under way.

All of us are well aware of the challenges we face in terms of integrating the responsibilities and actions of local, regional, and national enforcement and security services. The new Global Aviation Security Plan will help define the roles and responsibilities of all related agencies, and in so doing guide more progressive and coordinated aviation security enhancement measures.

DR. FANG LIU, SECRETARY GENERAL OF ICAO

04

SMARTER REGULATION: **THE FAIR WAY FORWARD**



Supportive approaches

Commercial aviation generates huge economic and employment opportunities. Within the next 20 years, commercial aviation could increase by one-third the number of jobs it supports. That would mean 99 million jobs generating nearly \$6 trillion in annual economic activity by 2034. But just a 1% drop in aviation's growth rate will result in a GDP loss of over \$1 trillion.

To maximize the benefits of commercial aviation, it is essential that regulations and fiscal policies in support of air connectivity are implemented.

Smarter regulations

Smarter regulations deliver clearly defined, measurable policy objectives in the least burdensome way. A smarter fiscal policy, for instance, will encourage air connectivity, not restrict it through overtaxation. A policy framework based on smarter regulation principles positions a country for sustainable aviation growth.

Examples of countries implementing a smarter regulation approach include

- the ratification of the 1999 Montreal Convention by Guatemala (reflecting the “consistency and coherence” principle);
- not applying a social security tax in Brazil to foreign airlines (reflecting the “fair and non-distortive” principle);
- the alignment of advance passenger information/passenger name record (API/PNR) requirements in Lebanon with global standards (reflecting the “consistency and coherence” principle); and
- the removal of a proposal to disclose maintenance information to the public in the Republic of Korea (reflecting the “targeted at risk” and “proportionality” principles).

Consumer protection

The aviation industry operates in an ultracompetitive marketplace and prizes customer loyalty. Airlines, therefore, are highly incentivized to offer good customer service and, if problems occur, to try to put them right. Airlines have in fact agreed to core principles for passenger rights that governments have endorsed through ICAO.

When the circumstances of a flight delay or cancellation are within an airline's control, the industry agrees that passengers have the right to care and assistance in the case of delays and to rerouting, refunds, or other monetary compensation in the case of cancellations. When, however, delays or cancellations are outside an airline's control, governments should allow market forces to determine the care and assistance available to passengers.

If governments feel it necessary to put in place consumer protection regulations that go beyond what is agreed to with airlines, it is important that these be developed in accordance with ICAO's consumer protection guidance. It is particularly vital that governments, regulators, and the flying public understand the balance between protecting consumer rights and providing sustainable air services.

SMARTER REGULATION PRINCIPLES

Smarter Regulation Policy Design Principles

- **Consistency and coherence.** Regulations should not overlap and lead to contradictions nationally or internationally and should be applied with oversight responsibility clearly delineated.
- **Proportionality.** The cost of regulations should be proportionate to the benefits they promise.
- **Targeted at risk.** Regulations should have specific and well-defined objectives that respond directly to the risk identified.
- **Fair and non-distortive.** Regulations should be applied fairly and should not place discriminatory burdens on any particular group.
- **Clarity and certainty.** Regulations should clearly define the groups they apply to, should furnish those groups with clear information about what is expected of them, and should give groups sufficient time for compliance.

Smarter Regulation Process Principles

- **Defining a clear need.** The objective of a regulation should be identified based on sound evidence, and available alternatives must be considered.
- **Impact assessment.** There should be an assessment of the impact of any regulation.
- **Consultation.** The drafting of regulations should involve those who are potentially affected.
- **Reducing burdens and regular reviews.** The development and review of regulations should focus on reducing the compliance burden.
- **Opportunity to respond and revise.** There should be clear procedures for responses to adjudications and appeals and for any needed revisions to regulations.

TAXATION

Excessive and inconsistent taxes affect the ability of air transport to meet demand and impede economic growth. Taxes and fees on aviation should be commensurate with the service being provided and should not be used to cross-subsidize other modes of transportation or to plug budget deficits.

1 THE AMERICAS

BRAZIL

As a result of effective industry advocacy, the Brazilian government passed interpretative legislation that the Social Security Contribution Tax (CSLL) would not apply to foreign carriers (at 9% of taxable income) because of provisions in existing double tax treaties or similar bilateral agreements.

ECUADOR

The Tourism Tax has been subject to a 900% increase over the 2014–2016

period. The most recent increase, to \$50 per international passenger, occurred without consulting the industry.

UNITED STATES

An aviation fuel tax increase proposed by the New Jersey Assembly was ultimately not included in that state's final funding package, following strong industry advocacy. IATA and Airlines for America (A4A)'s federal lawsuit against the US Department of Agriculture's Animal and Plant Health Inspection Service

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2 EUROPE

ITALY

A law was issued in mid-December 2016 confirming that the proposed 2017 and 2018 increases to the Council Tax were to be suspended, resulting in a real cost reduction for the industry.

NORWAY

A tax on air tickets of NOK80 per departure (for domestic flights, NOK88, including a 10% value-added tax [VAT]) was introduced on 1 June

2016, despite strong protests by the industry. Without justification or any constructive consultation, the tax was further increased by NOK2 on 1 January 2017.

SWEDEN

A report published in November 2016 recommended that, for environmental purposes, a SEK80–430 (depending on distance flown) air travel tax be introduced for all passengers departing a Swedish airport. Such a tax would have a significant negative impact on the industry, the Swedish economy, and air connectivity and would not deliver notable environmental improvements.

UNITED KINGDOM

Following the UK government's devolution of responsibility for the Air Passenger Duty (APD), in December 2016 the Scottish government issued a draft bill to replace the APD with an Air Departure Tax (ADT) at Scottish airports. To boost the Scottish economy, the government plans to reduce the ADT 50% starting in April 2018, with the ultimate goal of abolishing it.

3 MIDDLE EAST AND AFRICA

TUNISIA

An increase in the Tunisian Tourism Tax, from TND2.50 to TND20.00 per passenger arriving on international flights, went ahead without advance notice or consultation.

GULF COOPERATION COUNCIL (GCC) COUNTRIES

The six member nations of the GCC will introduce a VAT, most likely commencing in 2018. IATA is closely following developments to ensure best practices are applied for international air transport.

WEST AFRICA

IATA was successful in obtaining a ruling from the Organization for the Harmonization of Business Law in Africa (OHADA) that ensures that foreign airlines are exempt from rules that contradict various bilateral tax and air service treaties and agreements and that would have otherwise created significant corporate tax liabilities for airlines.

4 ASIA-PACIFIC

AUSTRALIA

The government introduced a bill increasing the Passenger Movement Charge from AU\$55 to AU\$60 effective 1 July 2017, despite strong opposition from the industry. As part of the bill, the government committed to not increasing the AU\$60 rate for five years.

INDIA

The implementation of a Goods and Services Tax (GST) is scheduled for 1 July 2017, and there are many issues of concern for the industry. Acceptance of global best practices for international air transport taxation, e.g., zero rating, are highly unlikely, and advocacy efforts are focusing on workable rules and a cost-neutral transition.

SRI LANKA

A government proposal to subject international air passengers and cargo to VAT at 15% was removed after the industry highlighted that this would contradict accepted VAT principles espoused by the Organization for Economic Cooperation and Development (OECD) and ICAO.

There are signs that some countries with strong aviation growth potential understand this balance. These countries are positioning themselves to maximize the economic and social benefits of aviation by adopting a balanced regulatory approach. None of the consumer protection regulations or draft regulations issued in 2016 by India, Malaysia, South Africa, and China feature the type of delay compensation of the European Union. China's tarmac delay provision does not levy the disproportionate fines seen in the United States, and Argentina took action to roll back some of its prescriptive regulations. ANAC in Brazil is revising its regulations to bring them more in line with ICAO and IATA principles, although provisions removing a mandatory baggage allowance continue to be challenged.

In more mature markets, conversely, the inclination is still toward overregulation. Canada announced its intention to create a passenger rights regime that combines elements of US and EU laws. And in Europe, much-needed revisions to Regulation 261 remain stalled. In the United States, airlines face an almost constant barrage of attempts to regulate a deregulated industry under the banner of consumer protection. In 2016, the US Department of Transportation (DOT) finalized rules requiring airlines to disclose their codeshare partners and to file reports on the on-time performance, mishandled baggage, and oversales data of their flights. A number of these regulatory actions have been scaled back considerably, but several are yet in process.

Montreal Convention 1999

Montreal Convention 1999 (MC99) is a treaty for an up-to-date, fair, and universal system of airline liability. It ensures better protection for passengers, especially in cases of death or injury. MC99 offers governments the ability to implement consumer protection that is consistent with ICAO's high-level, non-prescriptive principles. It is a prerequisite for the much-needed digitization and transformation of air cargo. E-cargo initiatives, such as the electronic air waybill (e-AWB) and e-freight, which improve accuracy and speed up shipment times, require MC99 to be in place.

By the end of 2016, 123 countries, or 64% of ICAO's membership, had ratified MC99. Of particular note in 2016 was an Indonesian presidential executive order giving approval for Indonesia to ratify MC99—almost two years to the day after the tragic loss of Air Asia 8501. To ensure that passengers, shippers, and airlines can benefit from the provisions in MC99, IATA is promoting the universal ratification of the treaty. IATA is especially engaged in local campaigns to persuade key holdouts to ratify. These include the major markets of Algeria, Bangladesh, Cambodia, Ghana, Mauritius, Sri Lanka, Thailand, Tunisia, and Vietnam.

Unruly passengers

Continued cooperation is needed to ensure that unruly passengers, who represent a tiny minority of travelers, do not compromise flight safety or interfere with the travel experience of other passengers.

The latest statistics reported to IATA by its member airlines point to a growing unruly passenger problem. For the period from 2007 to 2015, there were 49,084 reported cases, or one incident per 1,613 flights. But in 2015 alone, there were 10,854 instances of unruly passengers, amounting to one incident per 1,205 flights.

The type of incidents vary significantly, from low-level disobedience of crew instructions to major incidents involving aircraft diversions and passenger deplanement. Some 11% of unruly passenger reports were at level 2, which includes verbal aggression, and around 23% of cases mentioned alcohol as a factor.

The industry has already implemented responsible service of alcohol training for cabin crews. The industry does not believe that the heavy-handed regulation of onboard alcohol sales is necessary. A voluntary, cooperative approach is preferred that embraces airlines, ground services, and airports and their hospitality and duty-free concessions. Evidence from trials in the United Kingdom shows that coordination and communication reduces instances of intoxicated and potentially unruly passengers on board.

A deterrent to unruly behavior is appropriate prosecution and enforcement powers for nations and airlines. Montreal Protocol 2014 (MP14) clarifies the powers of countries, but 22 nations are required to ratify MP14 before it can come into force. As of the end of 2016, only 8 nations had ratified MP14, while a further 22 countries—among them France, Kenya, Singapore, South Africa, and Spain—have signaled their intention to ratify.



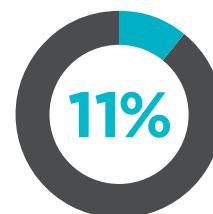
UNRULY PASSENGERS

2007-2015
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2015
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1 incident
every
1,613
flights

1 incident
every
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flights



11%

of reports indicated physical aggression



IT IS ONE OF THE
TOP 3

safety concerns
for cabin crew

Slots

With passenger numbers set to double over the next 20 years, aircraft movements will increase substantially. It is essential that governments and airport operators plan for and construct airports with sufficient capacity. The aviation industry, however, is realistic in assuming that many airports will continue to be slot constrained.

IATA's *Worldwide Slots Guidelines* (*WSG*) is the global standard for the policies, principles, and procedures of airport slot management. Consistent application of the *WSG* provides for the certainty, sustainability, flexibility, and transparency that the industry requires and that passengers benefit from, including dependable services and an expanding route network. In 2016, IATA began a comprehensive strategic review of the *WSG* to ensure that it retains its relevance. The review is strongly focused on stakeholder engagement, such that industry partners, particularly airports, are involved in the review process.

At the 39th ICAO Assembly, a working paper was submitted detailing the importance of the *WSG*. The paper highlights the significance of stakeholder collaboration in developing slot policy. It garnered significant support from ICAO member countries for the continuation of a single, global, consistent approach to airport slot management. In addition, IATA and ACI issued a joint statement pledging collaboration in evaluating the slot process during the strategic review of the *WSG* and in reporting on their progress at the 40th ICAO Assembly, in 2019.

Regional issues

The Americas

- Progress was made in Colombia and Peru following training and education that focused attention on implementing the *WSG*.
- IATA and the International Airline Training Fund (IATF) delivered critical slot training to Cuba in anticipation of heightened demand for flights to Cuba in 2017 and beyond.

Asia-Pacific

- The slot process at Manila, the Philippines, was enhanced to better utilize available capacity and thereby reduce delays.

Europe

- Europe remains the most significant problem region, with nearly 60% of all level 3 airports.
- IATA continues to object to Eurocontrol's proposals to implement a centralized service to identify no-slot operations in the network manager area. IATA's review of the cost-benefit analysis found no basis for such an implementation, which, furthermore, could have unintended negative consequences for airlines and passengers.

North Asia

- The Civil Aviation Administration of China (CAAC) undertook a slot auction trial in 2016 at two international airports, Shanghai Pudong and Guangzhou, involving only domestic airlines. The trial demonstrated the costly impact of even small-scale auctions on the industry. The terms of the trial auction were that a slot is held for three years only, ignoring the *WSG*'s basic principle that an airline can retain a slot that it operates at least 80% of the time.
- IATA's work with Hong Kong International Airport and Hong Kong's Civil Aviation Department on plans to implement a quota scheme to manage night flights resulted in changes to the proposal to lessen the impact on the airlines while maintaining the objective of incentivizing airlines to operate quieter aircraft at night.

GLOBAL SLOT NUMBERS



05

MEETING NEEDS: THE RIGHT WAY TO BUILD



Operational and financial improvements

Air transport requires access to high-quality infrastructure at competitive costs if it is to meet the rising demand for air freight and for passenger travel, which is set to more than double by 2035. The industry's collaboration with infrastructure partners—especially airports, air navigation service providers (ANSPs), and fuel suppliers—is critical to maximize customer service and to boost air connectivity.

The air transport industry is prioritizing infrastructure activities that will

- drive cost-efficiency at airports and lower charges;
- promote sustainable airport governance;
- align airport investment with airline needs;
- secure a reliable supply of jet fuel at competitive and transparent prices;
- shape a common vision of the airport of the future; and
- build modernized, efficient air traffic management (ATM) systems.

Cost-efficiency and lower charges

Infrastructure charges must be set at levels that are fair, justified, and reflective of a value service offering for airlines and passengers. Economic regulation that promotes transparency, consultation, efficiency, and productivity to establish an equitable charges structure is key to improving airport cost-efficiency.

Despite ongoing work to ensure that fair and transparent consultation processes are in place for infrastructure charges, challenges remain.

In 2016, there was an attempt to weaken the ICAO guidelines on airport charges. These guidelines provide a framework for meaningful consultations on airport and air navigation services charges. But it was moved at the ICAO Triennial Assembly that clauses ensuring cost-efficiency and cost-effectiveness priorities be removed from the guidelines. IATA rebuffed the proposal, and the guidelines continue to promote collaboration.

The European Commission's regulatory forums to improve Europe's Airport Charges Directive, meanwhile, provided an opportunity for IATA to participate in and contribute to the EC guidelines. These emphasize the importance of consulting users on changes to airport charges, of transparency to justify charges, and of the parameters used to calculate the cost of capital.

In 2017, airlines will continue to challenge unfair infrastructure charges in national aviation policies. Notable here is the Indian government's decision to promote the use of a "hybrid till" approach to setting charges despite the regulator's favoring of a "single till" approach. A single till counterbalances the lack of competition between airports and enables airlines and passengers to benefit from the complementary commercial activity generated at airports.

Sustainable airport governance

Airport privatization is a growing trend, and the desire for commercial discipline in managing airports is understandable. Privatization, however, must have mutual, sustainable benefits for the overall air transport network. Whatever the ownership structure of an airport, the airport must provide the capacity, efficiency, and affordability required by the growing aviation industry, and its operations must benefit local communities and national economies.

Privatization, moreover, needs to be driven by real user consultation from start to finish. There needs to be ironclad regulation to ensure that the privatized entity does not become an out-of-control monopoly. The success of airport privatization must be measured by service levels and improved cost-effectiveness rather than by financial gain for governments or investors.

Unfortunately, there have been many cases where a lack of regulation has resulted in unsatisfactory airport privatizations. This has involved the following problems:

- The underinvestment, unnecessary investment, or pre-funding of airports
- Movement from a single till to a hybrid or dual till
- The predetermined evolution of charges levels, the unfair use of concession fees, or the increase of unregulated aviation fees
- Commercial agreements leading to opaque charges structures
- Cross-subsidization within an airport network
- Conflicts of interest

An airport ownership or regulatory structure that does not ensure the correct balance between investment and fair charges can result in the underutilization of the airport and additional costs to airlines and passengers. Potential connectivity options may be unfulfilled. These factors can affect the sustainable and efficient growth of the industry.

IATA will continue to work with the industry to formulate guidelines on a regulatory framework for airport privatization. That framework will safeguard the needs and interests of all stakeholders in a sustainable air transport network.



AIRPORT CHARGES AND FUEL CAMPAIGN HIGHLIGHTS



1 THE AMERICAS UNITED STATES

Industry efforts helped block a proposal to increase the US Passenger Facility Charge (PFC) by \$2 per enplanement, which would have cost the industry an extra \$1.5 billion annually.

CANADA

The industry opposed the government's proposals for the light-handed economic regulation of airports in the government's review of the Canadian Transportation Act. The industry is also opposing the privatization of Canadian airports, which could place additional risk and cost on airlines and their consumers. Instead, IATA is promoting effective economic regulation and the removal of ground rents.

ECUADOR

Lobbying efforts by the industry to challenge a fuel price increase pegged to the highest fuel price among Ecuador's neighbors brought positive results. There was a noticeable reduction in the difference between the ex-refinery price and the international price benchmark.

MEXICO

Following a major revision of Mexico's constitution, IATA engaged with Mexican authorities to develop a regulatory system that ensures a competitive market for jet fuel.

2 EUROPE THE NETHERLANDS

IATA secured an average 7.1% reduction in charges at Amsterdam airports for 2017, saving the industry \$62 million.

ITALY

IATA also saved \$61 million through reductions in charges at Rome airports for 2017-2018.

3 AFRICA GHANA

With the support of its members, IATA was able to reduce government-set fuel prices 25%. IATA continues to negotiate with the government to improve Ghana's reference to international quotations in the ex-refinery price.

ZAMBIA

Industry efforts led the government of Zambia to liberalize import pricing for jet fuel, which will lead to reduced prices.

4 ASIA INDIA

Industry efforts helped prevent a 2016-2019 increase in charges in excess of 100% at Mumbai airport. The regulator decided that the charges should instead be reduced 4.5% but still increase in line with inflation.

Airport investment aligned with airline needs

With more than 177 capacity-constrained airports worldwide, the lack of runway and terminal capacity is of growing concern. Airlines need adequate facilities that match demand with capacity while delivering the functionality, levels of service, and operational efficiency to support operations and customer experience requirements now and in the future. And all of this must be delivered in a cost-effective manner.

Unnecessary capital investment leads to higher costs, which can reduce demand for air travel and weaken the case for investment in required infrastructure. Airline and airport owners and operators must partner in aligning the business needs of the former with the business plans of the latter.

Since infrastructure providers often enjoy monopoly or quasi-monopoly status, governments and regulators must maintain vigorous oversight of charges and development. If necessary, airports should be mandated by regulators to consult with airline experts to ensure that airport expenditures are necessary, functional, and a potential good return on investment.

Close airline-airport working relationships do exist. But too often airlines are excluded from airport-related decision making.

Secure, reliable jet fuel supply at competitive and transparent prices

A sustained period of low oil prices and successful hedging programs resulted in jet fuel accounting for about 20% of airlines' operating costs in 2016. This is significantly less than the 30% average over the past 10 years. Many airlines, especially those in Africa, did not reap the benefits, though, because of unjustified duties, fees, and taxes on jet fuel.

Airlines need access to a reliable supply of jet fuel priced transparently and competitively. During 2016, IATA scrutinized Africa and the Americas, where the average price of jet fuel can be more than 30% higher than elsewhere.

The air transport industry continues to remind governments that it is a tenet of the Chicago Convention, of ICAO policies, and of bilateral air service agreements that jet fuel not be taxed. Industry campaigns to remove or prevent taxes on jet fuel continue. Recently, IATA supported the association of US carriers, Airlines for America, or A4A, in successfully opposing New Jersey's plans to tax all jet fuel uplifts at an increased rate. And in Gabon, IATA successfully lobbied against 18% VAT being applied to jet fuel for international flights.

Unjustifiably high fuel fees nevertheless are an issue. Working with airlines, IATA was able to avoid an increase in fuel fees at Narita International Airport that would have totaled \$44 million by 2019. IATA is also working with local stakeholders at Dublin Airport, where fuel fees have tripled since June 2016 to pre-fund a fuel farm.

Common vision of the airport of the future

Passenger traffic is forecast to double over the next 20 years, and the number of freighters flying is expected to increase 30%. Many airports are operating at or near capacity and will need to undertake major infrastructure investment to handle the increased traffic. In the next 15 years, over \$1 trillion is predicted to be spent on airport development. It is essential that the capital is well spent for the betterment of the industry and the benefit of all stakeholders.

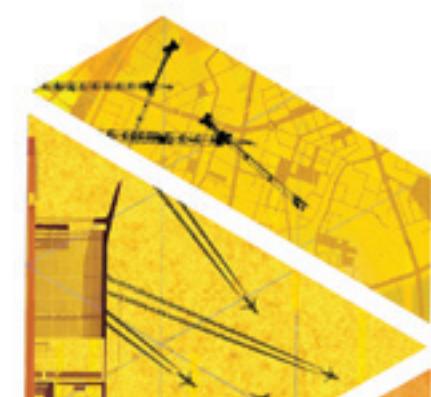
IATA is collaborating with others in the industry to develop a common vision for the airport sector that provides a seamless end-to-end journey for passengers, baggage, and cargo. New and existing concepts in air travel are being considered in developing this vision for the airport of the future so that those airports can cope with the anticipated growth in traffic. This common vision underpins the industry's shaping of airport infrastructure and its future.

Modernized, efficient ATM systems

Efficient air traffic management is a crucial component of a high-performing aviation network that safely provides sufficient capacity and value for money. Throughout 2016, IATA, assisted by a number of airlines, worked within the ICAO framework toward more efficient, cost-effective, and environmentally friendlier trajectory-based operations (TBO). TBO involve airline operations centers collaborating with ANSPs to improve flight operations' predictability and airline choices.

As part of the work to enable TBO, improved common situational awareness has been facilitated through the introduction of the System Wide Information Management (SWIM) data exchange by means of a new system: SkyFusion. This information exchange will eventually allow more efficient flight operations by helping various countries better understand and coordinate the air traffic that is planning to operate in their airspace.

Also in 2016, IATA continued its worldwide efforts to engage with regulators and ANSPs to reduce costs and improve operations. In Europe, service disruption due to industrial disputes and equipment failures increased over the previous year. The report *Economic Benefits of European Airspace Modernization*, which identified a potential GDP increase of €245 billion by 2035, is being used to persuade several European countries to put new momentum into national airspace modernization and the Single European Sky initiative. In 2017, the objective is to work with ANSPs in Europe to develop national airspace strategies and to set out programs to reduce disruption and improve efficiency.



The alignment of the capital expenditures and business strategies of airports and airport owners with the needs of airlines is crucial to ensuring critical and affordable infrastructure and to sustaining traffic growth.

1 MEXICO CITY'S NEW AIRPORT

IATA continues to offer expertise and to seek increased airline involvement as this \$9.2 billion project progresses. Recently, IATA worked with the principal architects to develop and approve a multidimensional check-in solution for the new airport that allows airlines to customize their check-in products. Airlines have welcomed this flexible solution, which will allow them to easily and inexpensively change their check-in allocations and improve their space utilization.

2 LONDON HEATHROW AIRPORT

IATA welcomes the British government's decision to support a third runway at London Heathrow. But it has cautioned that expansion should come at the right cost, be paid at the right time, and not entail excessive operational restrictions.

3 STOCKHOLM ARLANDA AIRPORT

Following requests from IATA and the airlines, Stockholm Arlanda Airport engaged with the airline community on its \$800 million capital expenditure program, which it had earlier announced without

input from users. User consultation enabled the airport to make improvements to its preliminary design that took stakeholder requirements into consideration.

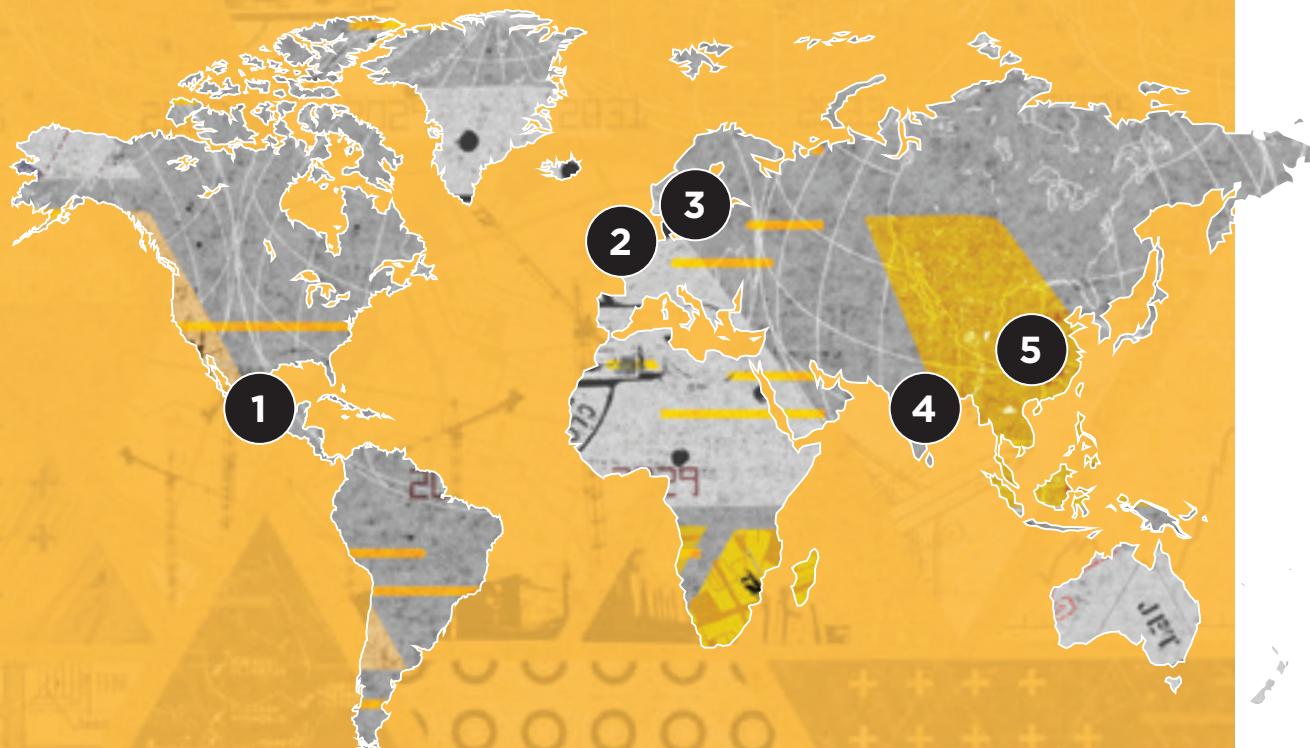
4 INDIAN AIRPORTS

India's economic regulations oblige airports to consult with airlines on capital development plans. This, however, rarely occurs, and the regulator's lack of enforcement is resulting in costly airport development plans that appear unlikely to address airline and passenger needs. IATA has been lobbying the regulator on this issue while pursuing dialogue with Delhi and other major airports on their master planning.

5 BEIJING NEW INTERNATIONAL AIRPORT

IATA is maintaining airline involvement in the \$13 billion project to build Beijing's new airport. Construction of the terminal has begun, and airlines are focusing on operational readiness plans; surface access to the city; and airline terminal occupancy, including the transition of airlines from Beijing Capital International Airport to the new airport.

MAJOR AIRPORT DEVELOPMENTS WORLDWIDE



06

ENVIRONMENTAL COMMITMENTS: **REDUCING IMPACT**



Global market-based measure

The aviation industry is committed to mitigating and reducing its environmental impact. A robust sustainability strategy provides the industry with the license to grow and deliver the social and economic benefits of air connectivity.

The industry's major environmental achievement in 2016 was a historic agreement on a global market-based measure (GMBM) by all 191 ICAO member nations at the 39th ICAO Assembly.

This GMBM provides a scheme for capping the growth of aviation's net emissions from 2020 onward, and its implementation is one pillar of the industry's four-pillar strategy to manage its carbon emissions. As implementation of the GMBM moves forward, the industry continues to push for progress on the operational, technical, and infrastructure improvements that complete this long-standing four-pillar strategy. The aviation industry aims to achieve commitments for carbon-neutral growth starting in 2020 and for a 50% cut in 2005-level carbon emissions by 2050.

In addition to carbon emissions, the industry seeks to manage and where possible reduce its environmental impact in such other areas as noise and waste. The industry is also committed to raising awareness of the trafficking of animal and plant products.

FOUR-PILLAR STRATEGY

1

Improved technology, including the deployment of sustainable low-carbon fuels

2

More efficient aircraft operations

3

Infrastructure improvements, including modernized air traffic management systems

4

A single global market-based measure to fill the remaining emissions gap

Carbon Offset and Reduction Scheme for International Aviation

The 39th ICAO Assembly concluded on 6 October 2016 with the adoption of the Carbon Offset and Reduction Scheme for International Aviation (CORSIA). This is the first time that governments have agreed to a GMBM on economic regulation in the climate change field for a single industry sector.

The adoption of CORSIA by ICAO is the culmination of several years of extensive, industry-wide advocacy. Through IATA's Environment Committee, IATA member airlines and regional airline associations provided invaluable input on policy and were instrumental in ensuring industry consensus in the final stages of the negotiations.

As of 1 January 2017, 66 countries have indicated their intention to participate in CORSIA's voluntary phases. According to ICAO's analysis, some 80% of the growth in carbon emissions above 2020 levels between 2021 and 2035 will be covered by CORSIA. That figure will likely increase as more nations volunteer to participate in the scheme. The industry will continue to encourage countries to participate in CORSIA in the period up to 2021.

THE AVIATION INDUSTRY'S THREE EMISSIONS REDUCTION GOALS

1

Improving fuel efficiency an average of 1.5% annually to 2020

2

Capping net emissions through carbon-neutral growth from 2020 (CNG2020)

3

Cutting net carbon emissions in half by 2050, compared with 2005



The next important step in the ICAO process is to finalize the technical work that will produce the necessary mechanisms for CORSIA's implementation. The need for capacity building and support for the reporting of emissions have been identified as crucial by industry and government stakeholders. Throughout 2017, IATA and the International Emissions Trading Association (IETA) will cooperate in holding capacity-building regional workshops to assist IATA member airlines prepare for the implementation of CORSIA.

As emphasized in the preamble of ICAO Resolution 39-3, ICAO member nations and the aviation industry strongly support a global solution for emissions from international aviation, as opposed to a patchwork of national and regional market-based measures. The implementation of CORSIA from 1 January 2021 obviates the need for existing and new economic measures to be applied to international aviation emissions on a regional or national basis.

Sustainable aviation fuels

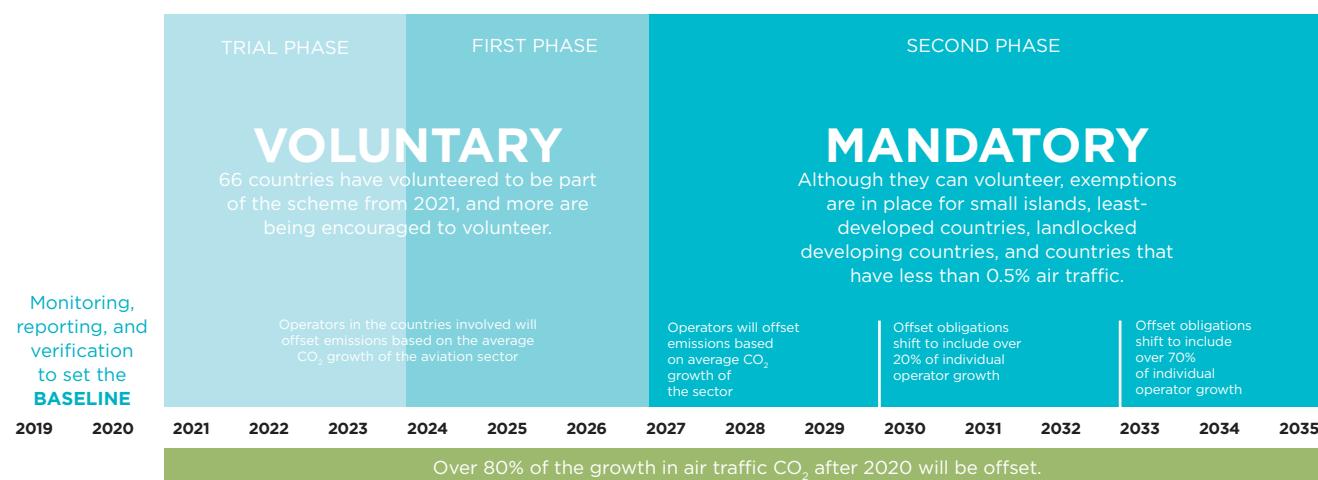
One of the most promising elements in IATA's technology pillar is the development of sustainable aviation fuels (SAF). These are sourced from a variety of renewable or recycled feedstocks, and each SAF can deliver up to an 80% reduction in carbon emissions over its life cycle.

On an industry-wide scale, 2016 saw a number of important milestones in the deployment of sustainable aviation fuels.

- Approximately 4.5 million liters of SAF were produced globally, representing about a 100-fold increase from 2015.
- More than 3,000 flights were operated using a blend of SAF.
- The first continuous SAF supply commenced at Los Angeles International Airport, sponsored by United Airlines.
- JetBlue made history by signing one of the largest renewable jet fuel purchase agreements to date. The agreement is with SG Preston for a 10-year supply of renewable jet fuel derived from a quickly renewable bio-feedstock that does not compete with food crops.

The main challenges to SAF deployment are more economic than technical. A policy framework provided by governments is vital for increasing SAF use. Sustainable aviation fuels must at least be able to compete at the same level as automotive biofuels. Given that aviation lacks the alternatives of ground transport, such as electrification, there are valid arguments to prioritize sustainable fuels for aviation. Effective policies can reduce SAF production risks and enable access to more competitive debt and equity capital. User-friendly SAF accounting methods, the global recognition of sustainability standards, and the effective recognition of SAF within CORSIA are equally important policy enablers of SAF usage.

CORSIA IMPLEMENTATION TIMETABLE



SAF economic activity, including offtake agreements, is enhanced wherever a favorable SAF policy framework exists, such as in the United States. To that end, IATA engaged in government and industry advocacy for SAF initiatives in 2016, including proposing revisions to the EU Renewable Energy Directive. IATA also worked on SAF initiatives with the Australian and Queensland governments; the Indonesian and Mexican governments; Thai and Etihad Airways; the United Arab Emirates' MASDAR Institute; Air Canada; Canada's Biojet Supply Chain Initiative (CBSCI); the US's Commercial Aviation Alternative Fuel Initiative biennial meeting; and Brussels-based policy advocates. In addition, IATA held the second annual Alternative Fuel Symposium, in Hanoi, Vietnam, which attracted 150 delegates.

Wildlife trafficking

The illegal trafficking of endangered wildlife and plants is estimated to be worth \$19 billion a year, with most of the money supporting criminal gangs. At current rates of poaching, many of the world's most iconic and precious animals will be extinct in the wild within the next 20 years.

The responsibility for prosecuting traffickers lies with governments and their customs, border, and wildlife protection agencies. The aviation industry, however, is committed to playing its part in preventing this appalling trade.

At IATA's 72nd AGM, IATA member airlines unanimously condemned illegal trafficking. IATA and 27 member airlines have also signed the Buckingham Palace Declaration, an initiative from the United for Wildlife (UfW) foundation set up by the Duke of Cambridge and Prince Harry, which has founded a transport taskforce to tackle illegal trafficking in wildlife.

IATA has also joined the core team of the USAID ROUTES Partnership to help raise awareness of illegal wildlife trafficking.

IATA Environment Assessment

The IATA Environment Assessment (IEnvA) program provides airlines with a framework for compliance with global regulations and for continuous environmental improvement. It has been adopted by 14 airlines. In 2016, Aeromexico and Philippine Airways joined Stage 1 of the program, Icelandair and Air New Zealand moved to Stage 2, and Finnair had its Stage 2 compliance reassessed in its favor. The IEnvA and its standards manuals have been revised to ensure their compatibility with ISO 14001 standards.



WILDLIFE TRAFFICKING

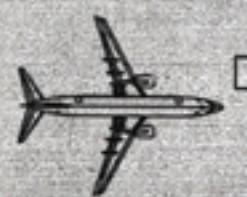
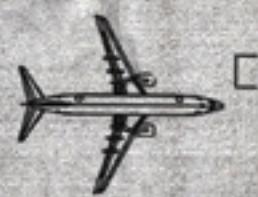
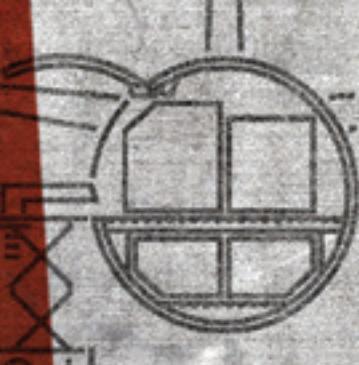


The adoption of the CORSIA resolution was a historic moment for aviation and for the world, but it is just the beginning. A lot will need to be undertaken, by both ICAO and governments and in concert with industry, to make CORSIA fully and meaningfully operational. We will need to complete our work in developing and establishing its registry framework; the monitoring, reporting, and verification process; and the Emissions Unit criteria, but I am greatly encouraged that states representing more than 86% of international traffic have now volunteered to participate as of the pilot phase in 2021.

DR. OLUMUYIWA BENARD ALIU, PRESIDENT OF THE ICAO COUNCIL

07

FASTER
PROCESSES:
**FASTER
DELIVERY**

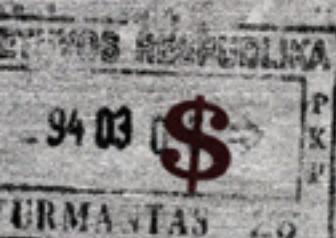


R7

53.9 MILLION METRIC TONS



CAWB



Preferred mode of transport

Air cargo is an essential part of the global trading system. In 2016, airlines transported 53.9 million metric tons of goods, representing about 35% of global trade by value. That is equivalent to \$5.5 trillion worth of goods annually, or \$15.3 billion worth of goods every day. Without air shipments, global supply chains could not function, and the availability of many time- and temperature-sensitive products, such as flowers, fruit, and pharmaceuticals, would be restricted.

Air cargo growth picked up in 2016 after several years in the doldrums. Freight tonne kilometers (FTK) expanded 3.4% compared with FTKs in 2015, the fastest growth since the post-financial crisis bounce back in 2010. The air cargo industry nevertheless remained under pressure. Yields fell 12.5%, as capacity outstripped demand, and revenues decreased \$5.0 billion.

To strengthen its connectivity, the air cargo industry is building on its position as the preferred mode of transport for high-value-to-weight manufactured products, such as microelectronics, pharmaceuticals, aerospace components, and medical devices. The focus is on developing customer-centric supply chain solutions that enhance quality, provide greater visibility, and enable better predictability.

In addition, governments are being asked to improve trade efficiency by reducing tariffs and ratifying international agreements that make global trade easier. The focus of this activity is Montreal Convention 1999 (MC99), the revised Kyoto Convention, and the World Trade Organization (WTO) Trade Facilitation Agreement (TFA). The economic importance of enabling measures was confirmed in an IATA study that calculated a 6.3% increase in a country's total trade volumes for every 1% increase in air cargo connectivity.

2016 focus

Throughout 2016, IATA worked in partnership with shippers, freight forwarders, and the entire air cargo value chain to further a common agenda based on

- enhancing industry digitization through the increasing adoption of e-freight and e-air waybill (e-AWB) and developing enhanced data-sharing platforms and tools;
- improving safety, security, and efficiency through the implementation and enforcement of international regulations and standards; and

- transforming the business by simplifying processes, enhancing industry alignment, harmonizing objectives, and measuring the performance of the end-to-end air cargo chain. Many programs in this area are grouped under the StB Cargo (Simplifying the Business of Air Cargo) initiative, which from 2017 will become the umbrella for all transformational initiatives in air cargo.

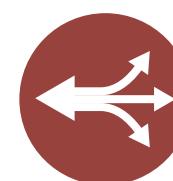
THE SIX GOALS OF CARGO TRANSFORMATION



Modernizing
cargo distribution



Capitalizing on
e-commerce



Optimizing the
end-to-end
journey



Moving to data on
demand



Developing real-
time interaction



Making quality
relevant

Making air cargo easier, smarter, and faster

Cargo digitization

IATA's e-freight vision is to build an end-to-end paperless transportation process for air cargo. A digital process will increase the air cargo value proposition by enabling innovative services and solutions.

The air waybill is a critical air cargo document, and its digitization to an e-AWB is a first step toward the e-freight vision.

To accelerate the global adoption of the e-AWB, IATA developed e-AWB360. The e-AWB360 program is designed around an airport community approach to e-AWB implementation, and e-AWB360 use has started to proliferate. To date, e-AWB360 has been adopted by 24 airlines at 15 airports. This development and the November 2016 launch of the e-AWB desktop tool, eAWBLink, will help small and medium freight forwarders create, send, and manage e-AWBs easily and efficiently.

Challenges remain, however, in digitizing the supply chain. Trade lanes and airports in countries not signed up to MC99 face regulatory limitations in the transfer of digital data and are unable to adopt the e-AWB. Perceived complexity and a lack of harmonization in e-AWB procedures among stakeholders also needs to be overcome. The industry will continue to address these challenges to sustain the growth in e-AWB penetration in 2017.

One digital language

Achieving alignment in digital messaging standards across the air cargo industry will help trade grow, improve security, and accelerate market access for air cargo. Cargo-XML is emerging as the preferred messaging standard for electronic communication about air cargo data among airlines, forwarders, ground handlers, other air cargo stakeholders, and customs authorities.

In 2016, this new messaging standard was adopted in the United Nations' ASYCUDA system, which is used by border agencies in over 90 countries. The Cargo-XML standard was also endorsed by US Customs for exports from the United States, which makes for a positive start to its adoption in that country. In addition, the World Customs Organization (WCO) has developed a risk assessment tool that will soon be available to interested customs administrations, and it is fully compatible with IATA's Cargo-XML.

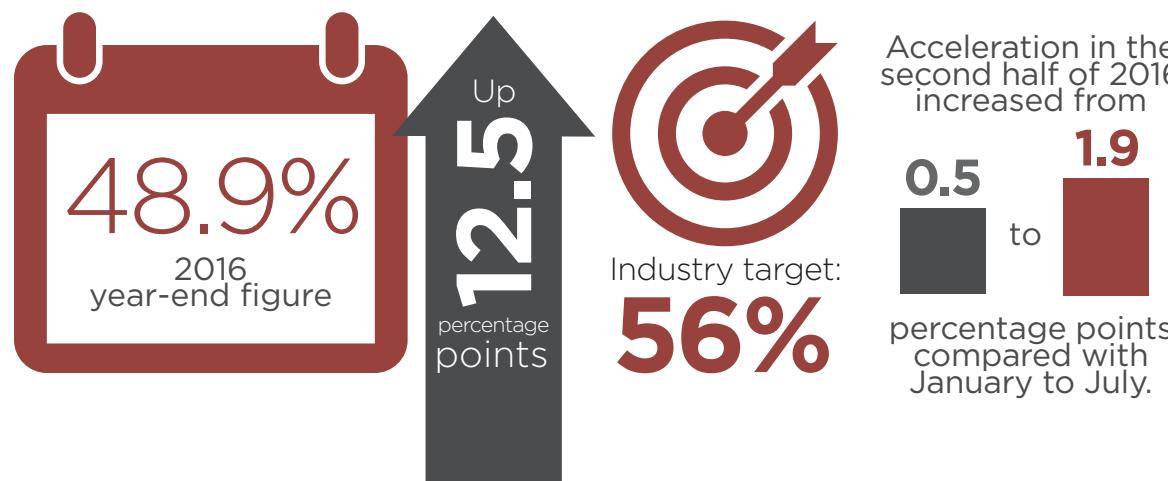
IATA's aim in 2017 is to increase the global adoption of the Cargo-XML standard to elevate message harmonization worldwide among air cargo stakeholders and to facilitate compliance with customs requirements.

Harmonized regulatory standards and industry cooperation

Addressing advance cargo information security is a critical element of the air cargo supply chain. Regulators and industry are working together to further secure the supply chain while ensuring the flow of goods. Most advance cargo electronic information is required before the arrival of the aircraft. Several countries—in particular, Canada, the United States, and the member countries of the European Union—also request some advance cargo information prior to the loading of the aircraft. This preloading advance cargo information, or PLACI, assures additional scrutiny to mitigate security risks.

IATA is working with Canada (Pre-Load Air Cargo Targeting, or PACT); the United States (Air Cargo Advance Screening, or ACAS); and the European Commission (Pre-Loading Consignment Information for Secure Entry, or PRECISE) to develop electronic targeting systems that identify high-risk cargo prior to its loading. Previously, IATA worked with the WCO to develop now-published global customs standards regarding electronic targeting systems. IATA continues to work with the WCO and with ICAO to incorporate robust global response protocols and guidance following the processing of data by targeting systems.

E-AWB PENETRATION



Collaboration with freight forwarders

In 2016, IATA and FIATA (the representative body for international freight forwarders) reached an important agreement on a jointly managed air cargo program (the IATA-FIATA Air Cargo Program, or IFAPC) designed to modernize the relationship between freight forwarders and airlines. The IFAPC reflects the contemporary business relationship between freight forwarders and airlines, not the historic, agency-based relationship. The IFAPC program features a simplified governance structure; a reinforced, bottom-up consultation process; and a joint board to facilitate the key industry goals, including e-cargo priorities and reduced risks of liability and legal challenges, by addressing the principal-to-principal relationship between freight forwarders and airlines.

Simplified processes and measuring performance

Targeting quality management and benchmarking

The Cargo iQ (formerly Cargo 2000) special interest group targets quality management. Specifically, it assists airlines and freight forwarders to monitor and benchmark delivery performance against their service promise, define common processes and procedures, and promote best practices. In 2016, the Cargo iQ group embarked on the Smart Data Project and an audit and certification scheme. The Smart Data Project will monitor over 150 million lines of performance data annually that will help air cargo businesses improve their processes and add value to the air cargo industry overall.

Handling special cargo

By 2018, the transport of time- and temperature-sensitive goods is projected to be worth \$10.28 billion. Standardized air cargo processes are critical to manage this growing area. In shipping such special cargo as pharmaceuticals, for example, the air cargo industry is working toward globally consistent, recognized, and standardized supply chains to satisfy the concerns of pharmaceutical shippers, which are increasingly turning to data loggers to track shipments.

IATA's Center of Excellence for Independent Validators in Pharmaceutical Logistics (CEIV Pharma) addresses issues related to pharmaceutical transport.

CEIV Pharma, operated in partnership with industry stakeholders worldwide, offers a standardized, global certification program that trains people to handle pharmaceuticals and to conduct consistent, on-site assessments of the handling of pharmaceuticals for transport.

Some 46 cold chain logistics businesses and facilities are CEIV Pharma certified, with 88 more undergoing the certification process.

Smart facilities

Managing quality for customer safety and customer service is a challenge when more than 70% of global handling is performed by independent third parties. The Smart Facility program (previously the Facilities Capability Matrix) addresses this priority with self-assessment checklists. In 2017, this will be strengthened with an independent audit procedure that is aligned to the enhanced ISAGO program.

“ Some **46 cold chain logistics businesses** and facilities are CEIV Pharma certified, with **88 more undergoing** the certification process. ”



The coming into force of the WTO's Trade Facilitation Agreement is very good news for world trade. The agreement seeks to improve the efficiency of customs and other border agencies, which will reduce the cost of trade and lead to an increase in cross-border trade volumes.

Industry and governments must now work together to make sure the treaty is implemented quickly and ambitiously.

CARLOS GRAU TANNER, DIRECTOR GENERAL, GLOBAL EXPRESS ASSOCIATION

08

TAILOR-MADE: THE JOURNEY OF THE FUTURE



Personalized travel

Aviation is a customer-focused industry. Travelers want each touch point in their journey to be as uniquely tailored, seamless, hassle free, and efficient as possible, from booking and check-in, through security, to collecting their luggage at their destination airport. With passenger numbers set to double over the next 20 years, delivering this personalized experience will benefit passengers and facilitate the most efficient use of constrained airport infrastructure to cope with demand.

The key to delivering on passenger expectations is innovation. Since 2004, the Simplifying the Business (StB) program has focused on developing and implementing innovative solutions to meet the changing needs of passengers and to accommodate growing demand.

Fast Travel

Fast Travel is an StB program to transform the passenger's airport experience so that a passenger can walk from the door of the terminal to his or her seat on the plane with minimal inconvenience.

The program provides self-service options at six touch points: self- or automated check-in, self-tagging of baggage, self-checking of documentation, self-rebooking of flights, self-boarding, and self-recovery of baggage.

In 2016, 39% of travelers had access to the complete Fast Travel experience. The target is to increase that to at least 80% of passengers by 2020. The focus in 2017 will be on removing obstacles preventing airlines from implementing Fast Travel solutions.

The main obstacles to offering Fast Travel services are regulatory rather than technological. Mobile boarding passes, for example, are accepted in some countries but not in others. Similarly, the delay in permitting home-printed baggage tags for travel to and from the European Union is regulatory not technical.

Baggage

The End-to-End Baggage Program aims for efficient and hassle-free baggage handling. It focuses on improved tracking and modernized messaging standards.

Tracking

The majority of travelers expect their airline to know where their bag is. Part of the solution for airlines is recording when a bag changes hands and sharing that tracking information with the next airport in the journey. This is exactly what IATA Resolution 753 calls for. Compliance with Resolution 753 will help the industry reduce baggage mishandling and allow airlines to offer tracking to passengers if they wish it. The industry is working toward a June 2018 deadline to put the resolution into effect.

Messaging

Effective data sharing is essential to realizing the benefits of Resolution 753. The cost of baggage messaging is high because of such factors as legacy system support. To address this, messaging is being modernized. Trials of systems are under way using baggage brokers and XML messaging in the hope of introducing modern, secure, low-cost messaging. A live messaging operational trial will be held during 2017.

Automated Border Control

IATA's Global Passenger Survey revealed that 48% of passengers have used Automated Border Control (ABC) with 89% satisfaction. The success of ABC has paved the way for a new generation of passenger processes based on biometric recognition. In 2016, a number of airports installed automated kiosks with facial, iris, or fingerprint recognition capabilities.

Future developments for the passenger experience are endless. Biometric data, for example, can be employed as a single travel identification method to drastically improve passenger throughput. The use of a digital identity is very promising and critical to a more positive passenger experience.

One ID

The vision of the One ID initiative (previously One Identity) is to create a streamlined, frictionless process that allows individuals to assert their identities, online or in person while maintaining the privacy of personal data and enabling improvements to operational efficiency and security.

Passengers should have valid, government-issued identification, in combination with which they enter their personal biographic and biometric data on a secure digital platform to perform their "pre-identification screening" ahead of their journey. A digital or virtual tokenized passport on a mobile device is the backbone of the One ID initiative. The concept was presented in an StB white paper in 2016 and will be developed in 2017.

SIMPLIFYING THE BUSINESS HAS THREE GOALS



2016 GLOBAL PASSENGER SURVEY KEY RESULTS



New Distribution Capability

New Distribution Capability (NDC) will play a transformational role in enriching and personalizing air travel from the largely commoditized model of today. As airlines continue to enhance their distribution capabilities through bundled deals, ancillaries, and personalization, passengers need to be able to shop and compare the value of these propositions across airlines, just as they do when shopping for other consumer goods. NDC makes this possible through the development of a modern, XML-based data transmission standard. The NDC standard is for communications between airlines and travel agents. With it, air travelers benefit from transparency and access to an airline's offerings when shopping through a travel agent or online travel site. For customers who choose to identify themselves, NDC will generate personalized offers.

Since 2015, NDC has moved from pilot to implementation phase. Some 113 airlines have confirmed plans to adopt the standard, and 33 airlines are already using NDC, primarily in support of flight and ancillary sales.

Latin American carrier GOL, for example, has tested NDC to improve its collaboration with travel agencies and thereby offer customers access to the airline's content. Promoting new technologies and a new distribution model complements GOL's vision to provide customers with greater choice at an affordable price for airline and customer.

UK-based Flybe, meanwhile, is using NDC to advance its offerings to corporate buyers and to achieve a cohesive distribution strategy. The latter grants products the same sales potential across all channels and devices.

According to the *2016 NDC Implementation Report*, around 93% of airlines that have implemented NDC are able to use it to push content about flights and ancillaries, whereas 7% of airlines distribute only ancillaries. A majority of airlines offer ancillaries a la carte or bundled with a flight. More than 48% of the airlines using NDC are offering rich content in the form of images and videos that enable customers to see what they are buying and airlines to differentiate their products.

An NDC milestone was reached in June 2016 with the launch of the NDC Registry. The registry identifies companies that have implemented part or all of the NDC standard. It also lists airlines; travel agents; and aggregators, such as global distribution systems, that have achieved NDC certification and IT providers that have demonstrated NDC standard capability. To date, some 82 companies are listed on the registry.

Also in 2016, more than 100 participants in the air travel value chain participated in the first IATA Business Travel Summit. Representatives from corporations, travel management companies (TMCs), IT providers, global distribution systems (GDSs), and airlines met in Geneva and explored the opportunities for business travelers and travel management made possible by the NDC standard.

This was followed in September with the launch of the North American Travel Manager Advisory Forum, which mirrors the Europe-based Travel Manager Advisory Group. The existence of these groups ensures that IATA and the corporate travel buyer community have an ongoing collaborative environment to discuss NDC and related issues affecting corporate airline programs.

In 2017, the priority continues to be NDC's adoption by airlines. NDC has seen strong traction from IT providers delivering NDC-capable solutions, and this should accelerate the adoption of NDC by airlines. In addition, NDC hackathons and other initiatives will stimulate creative solutions in business and leisure travel. Engagement regarding NDC with travel agents and the corporate buyer community, in Europe and North America in particular, will also intensify in 2017.

ONE Order

ONE Order leverages the data communication advances from NDC to modernize and simplify airline order management. It encompasses the delivery, fulfillment, and accounting processes related to airline products and services.

For passengers, ONE Order means the gradual disappearance of multiple reservation records associated with a customer purchase, such as the GDS reservation number, the ticket number, and the airline reservation number. With ONE Order, the only thing that passengers will need to locate their itinerary and be recognized throughout their journey is a single order number. ONE Order will greatly simplify the passenger experience and remove one of the hassles of travel—trying to find the correct document or number when dealing with an itinerary change or a travel disruption. ONE Order also has the potential to facilitate greater interoperability between traditional and ticketless carriers, bringing further benefits to air travelers in terms of network opportunities.

For airlines, ONE Order continues the business transformation that began with the e-ticket. It will modernize back-office processes by replacing multiple rigid, paper-based booking, ticketing, delivery, and accounting methods with a standard order management process. And that process will be based on a single customer order record that includes all the data: customer details; order items, including the flight segments and additional products and services; and payment, billing, and fulfillment status information.

ONE Order took a major step forward in late 2016 when the Passenger Services Conference (PSC) adopted a resolution on a standard for the initiative. The role of the resolution is to put in place the framework for the industry to work with a single order. In 2017, the industry will develop its first set of ONE Order standard messages. Various trials are expected to ensure the robustness of the standard and to demonstrate its benefits.

The full adoption of ONE Order is anticipated to be a multiyear, multistage process. It will require cooperation with the industry's IT partners and a fundamental change in back-office procedure and in mindset.



ONE Order will greatly simplify the passenger experience and remove one of the hassles of travel—trying to find the correct document when dealing with an itinerary change.



With passenger numbers increasing dramatically, air transport is under increasing capacity pressure. Innovative solutions to tackle terminal congestion are required to provide passengers with a seamless experience and minimal disruption. ACI-IATA joint industry initiatives and recommended practices on technology, customer service, and airport security, allow travelers to be better served and airports and airlines to develop better businesses. New tools offer more options, and passengers are increasingly comfortable with digital services and expectant that they be tailored to their travel experiences. Airports and airlines are committed to working together to deliver this future for our customers.

ANGELA GITTENS, DIRECTOR GENERAL, AIRPORTS COUNCIL INTERNATIONAL (ACI) WORLD

09

SETTLEMENT SYSTEMS: THE FINANCIAL BACKBONE OF THE INDUSTRY



An integrated global system

Global standards and systems that ensure the swift, secure, and reliable movement of funds among the participants in the air travel value chain are essential components of the global aviation system. IATA Financial Settlement Systems (IFSS) have been the back office of the global air transport system for six decades. They are so reliable they often go unnoticed, despite the very significant sums of money that they handle. In 2016, the IFSS processed \$401.4 billion.

\$219
BILLION

IATA's **Billing and Settlement Plan** (BSP), part of the IATA Settlement Systems (ISS), processed \$219.0 billion. The BSP facilitates and simplifies the selling, reporting, and remittance procedures of IATA-accredited passenger sales agents and improves financial control and cash flow for IATA's roughly 400 participating airlines. At the close of 2016, there were BSP operations in 181 countries and territories. Their overall on-time settlement rate was 100%.

\$26.4
BILLION

IATA's **Cargo Account Settlement System** (CASS), also part of the ISS, is designed to simplify the billing and settling of accounts between airlines and freight forwarders. It operates through CASS link, an advanced, global, web-enabled e-billing solution. At the end of 2016, CASS was processing 93 operations serving over 500 airlines, general sales and service agents (GSSAs), and ground handling companies. The on-time settlement rate for CASS was 99.999%, and \$26.4 billion was processed.

\$54.34
BILLION

The IATA **Clearing House** (ICH) provides fast, secure, and cost-effective settlement services to more than 430 airlines, airline-associated companies, and airline travel partner participants. In 2016, the ICH processed \$54.34 billion with a financial settlement rate of 100%.

\$32.42
BILLION

IATA **Currency Clearance Services** (ICCS) offers global cash management that enables airline treasurers to centrally control and repatriate their worldwide sales funds. The ICCS is used by more than 330 airlines and is available in over 200 IATA BSP and CASS operations worldwide. The ICCS was responsible in 2016 for repatriating over \$370 million from countries with severe currency liquidity issues and restrictions, including Nigeria and Egypt. Overall, in 2016 the ICCS processed \$32.42 billion.

\$66
BILLION

IATA's **Simplified Invoicing and Settlement** (SIS) is the highly cost-effective electronic invoicing platform developed by IATA to remove all paper from the invoicing and settlement of industry services. SIS is streamlining processes by enabling the exchange of electronic data between airlines and between airlines and direct operating cost suppliers. The use of a single standard, the IS-XML, simplifies business activity for the industry and allows suppliers to use one invoicing standard for all their airline customers.

\$3.5
BILLION

IATA's **Enhancement & Financing** (E&F) helps air navigation service providers (ANSPs) and airports improve the efficiency and quality of their invoicing and collection processes. E&F processed \$3.5 billion in 2016.



**IFSS PROCESSED
\$401.4 BILLION**

In 2016, SIS had more than 2,140 participants, including 398 airlines, 297 suppliers, and 1,449 others enabled as receivers of SIS e-invoices to maximize efficiency on the invoice sender side. SIS processed over 1.5 million interline and supplier invoices during the year and settled \$66.0 billion in volume.

ISS

IATA devotes constant effort to improving the two elements of the ISS: the BSP and CASS. An improved ISS achieved the following in 2016:

- Safer funds, with unrecovered debt of 0.023%
- Higher average rate of on-time funds, at 100%
- Lower operating unit fees
 - BSP program: 49% below the 2010 actuals
 - CASS program: 48% below the 2010 actuals

In the interest of furthering this performance, IATA has initiated a review of ISS targets intended for application from 2017 through 2023. The aim for 2017 is to keep the net default rate on gross sales at or below 0.023% and the on-time settlement rate at 99.980% or higher.



The ISO 9001 certification obtained by IATA during 2016 for its quality management system and the ISS provide the foundation for better customer satisfaction and continuous improvement. IATA will strive in 2017 to maintain its global ISO 9001 certification.

New Generation ISS

Since its launch in 1971, the BSP has facilitated the distribution and settlement of funds between travel agents and airlines safely and securely. Its rules, however, were established in an era of paper tickets, brick-and-mortar travel agencies, limited payment methods, and high airline industry regulation. These rules fail to address the diverse and complex needs and risks of today's airlines and travel agents.

NewGen ISS is a program launched by IATA to ensure the continued relevance and value of the BSP to airline and travel agent customers. For airlines, NewGen ISS means faster settlement, safer funds, and a lower cost of distribution. For travel agents, NewGen ISS will offer more products and services, greater flexibility, and new and more cost-effective solutions.

NewGen ISS will deliver

- three levels of travel agent accreditation, enabling agents to choose the one that best fits their business model;
- a remittance holding capacity that will ensure a safer selling process;
- IATA EasyPay, a secure and cost-effective pay-as-you-go solution; and
- a global default insurance (GDI) product that will offer a cheaper financial security option to travel agents and help to reduce default losses for airlines.

In line with the goal of putting customers at the heart of its financial settlement systems, IATA is restructuring how it works internally to offer customer service 24 hours a day, seven days a week. IATA expects to implement this level of service by the end of 2018.



IATA has taken a collaborative approach to introducing NewGen ISS. Forums such as the Passenger Agency Program Global Joint Council (PAPGJC) and Agency Program Joint Councils (APJCs) provided IATA's travel agent partners with the opportunity to contribute to the development of NewGen ISS.

In September 2016, the Passenger Agency Conference (PACConf) adopted resolution changes that will enable the introduction of the new accreditation levels, IATA EasyPay, and GDI. Early in 2017, IATA selected the firm Euler Hermes to develop and offer the GDI as an option to travel agents. Payment solutions providers were also selected to deliver IATA EasyPay.

Resolution text related to remittance holding capacity will be presented to the PACConf in 2017 following the reaching of a joint agreement between travel agency associations and airlines. Trials of NewGen ISS in various countries will begin in the second half of 2017 and will center on the IATA EasyPay solution. The plan is to have NewGen ISS rolled out to all BSP markets over the period 2017–2020.

10

SUPPORTING
SUCCESS:
SOLUTIONS
IN ALL AREAS



SOLUTIONS FOR AIRLINES

DDS (Direct Data Solutions)

- Direct Data Solutions (DDS) is a game-changing, industry-sponsored program that provides the travel industry with timely, accurate, cost-effective access to global airline market data.
- Participating carriers gain easy access to the most comprehensive global data set, aggregated from such multiple sources as ARC Air Logistics, Inc.'s Area Settlement Plan (ASP) transactions, IATA's available billing and settlement plan (BSP) transactions, and carriers' contributions.
- No matter what business intelligence you require—network planning to fleet planning, revenue management, sales and marketing, or business and product development—DDS delivers.



Airs@t



- Airs@t is the only passenger satisfaction benchmarking survey specifically designed for the airline industry.

- It tracks and compares airline customer satisfaction ratings in-depth, with research into all travel service aspects of the preflight, in-flight, and postflight passenger travel experience.

- See below "What is one aspect that will improve your travel experience?"

AIRS@T INCLUDES

80 preflight, in-flight, postflight, and other attributes and involves surveying
60,000 PASSENGERS A YEAR FROM
40 & 30 AIRLINES AIRPORTS
worldwide, as was the case in 2015.

What is one aspect that will improve your travel experience?

-24

In-flight
WI-Fi



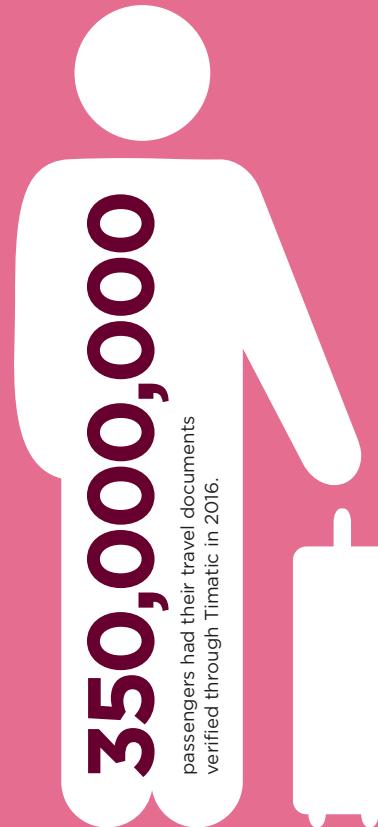
25-44

Timely
e-notifications



45+

Attentive cabin crew



Timatic

- Timatic is the industry standard for ensuring airlines' compliance with passenger travel document requirements.

- Its flexibility allows it to be integrated into airlines' departure control systems and into kiosk and mobile check-in procedures.

- Timatic is updated at least 72 times daily every day of the year to ensure its application of the latest regulations.

IATA Consulting

- IATA Consulting has comprehensive experience of the full array of the aviation sector's business challenges.
- It draws on IATA's more than 70 years of service to the airline industry and thus unrivaled experience to offer its clients the best solutions.
- IATA Consulting's depth and breadth of aviation industry knowledge enables it to help its clients maximize the value of their operating models, realize their growth ambitions, and gain insights that translate into sustainable competitive advantages.

IATA Consulting's numbers for 2016 are as follows:

80+ projects

45+ countries

25+ airports

- Traffic studies
- Passenger terminal optimization
- Security enhancement
- Airport development

20+ airlines

- Strategic planning
- Fuel and operational efficiency
- NDC consulting services
- Safety enhancement

5+ CAAs and governments

- Civil aviation restructuring
- Capacity enhancement

4 other aviation stakeholders (financial institutions and ANSPs)

- Connectivity studies
- Air traffic management optimization

SOLUTIONS FOR CARGO

CargoIS

- CargoIS is the leading source for air cargo business intelligence.
- Its information spans the entire supply chain: airlines, general sales agents, freight forwarders, ground handlers, airports, and many others.
- It sources its data from CASS, the Cargo Accounts Settlement Systems operated by IATA and used by airlines to settle with freight forwarders.
- It is thus the only air cargo intelligence solution based on actual transactional data.
- The CargoIS Direct Data (CDD) project is designed to complement the information received from CASS with data directly from participating airlines.
- The CDD will be launched as a product in 2017 and will be based on the strength of both data sources.
- The CDD will include information on commodities transported and will thereby achieve unrivaled geographic coverage and marketing penetration.

140k

30k

19 m

26b

20+

In 2016, CargoIS

offered market dynamics across more than 140,000 airport-to-airport trade lanes;

reflected the business of more than 30,000 freight forwarders and more than 200 airlines and GSAs;

provided data sourced from CASS, meaning the more than 19 million records of airway bill information per annum that are fed into Cargo IS; and

offered data representing \$26 billion worth of air freight charges.

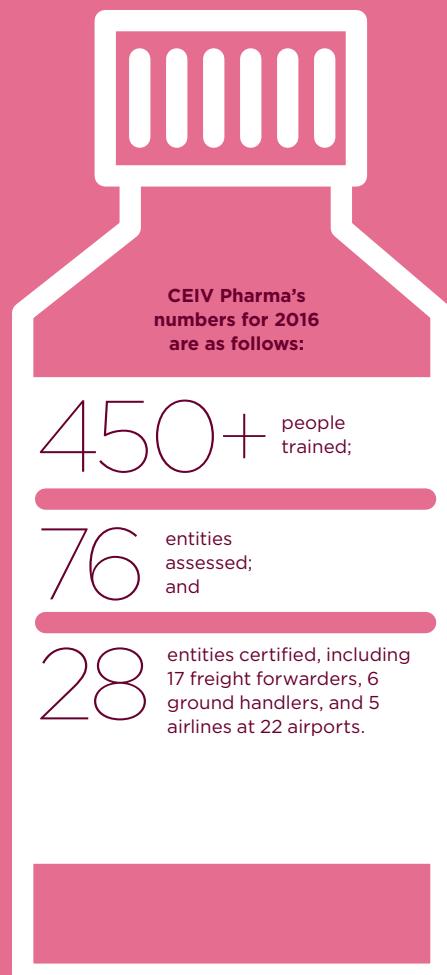
Dangerous Goods Regulations

- The *Dangerous Goods Regulations (DGR)* are the global reference for shipping dangerous goods by air.
- The *DGR* has been the only standard recognized by the global airline industry for almost 60 years.
- It is the most complete, up-to-date, and user-friendly reference for dangerous goods handling in the industry.



CEIV Pharma

- IATA's Center of Excellence for Independent Validators in Pharmaceutical Logistics (CEIV Pharma) aims to improve the handling of pharmaceutical products by introducing a standardized pharmaceutical-handling process at airports globally that complies with pharmaceutical manufacturers' requirements.



As of the end of 2016, there were

11 CEIV Pharma Communities:

North America

1 Miami

Europe

- 2 Amsterdam
- 3 Athens
- 4 Barcelona
- 5 Basel
- 6 Brussels
- 7 Frankfurt
- 8 Liege
- 9 Madrid

Asia

- 10 Hong Kong
- 11 Singapore

SOLUTIONS FOR CARGO

TACT

- The Air Cargo Tariff, or TACT, is the only industry source for published rates and rules for air freight.
- TACT and TACT Rules provide air cargo professionals with the comprehensive information they require to efficiently transport air cargo worldwide.
- TACT Rules is the definitive source for shipping and accepting air cargo, comprising as it does industry, country, and carrier regulations, while TACT Rates provides access to the most current industry, carrier, and preconstructed rates.
- TACT Rates contains nearly five million rates for 350,000 city pairs and is the most comprehensive global rates database in the industry.



TACT Net Rates

- TACT Net Rates will introduce the dynamic and automated delivery of private air freight rates and charges from airlines to forwarders and eliminate the cumbersome manual creation and e-mailing of thousands of rate sheets.
- It will launch in 2017.
- TACT Net Rates is running as a trial with seven airlines and four forwarders.



TACT's numbers include the following:

- 7,961**
active users of TACT Online
- 45,721**
sessions, January to February
- 171.27**
minutes as the average length per session
- 4,862,364**
rates included in TACT Rates at the end of 2016, versus 2,237,871 in June 2000
- 18,241**
copies of TACT shipped in 2016
- 115**
nations in TACT customer base
- 09/05/1969**
is the date TACT was first published

SOLUTIONS FOR AIRPORTS

AirportIS

- AirportIS offers the most comprehensive passenger and cargo traffic data available and is used by more than 70 airports globally for marketing and air service development activities.
- As of March 2017, the data in AirportIS will be enhanced by data sourced from the Direct Data Solutions (DDS) database of ticketing information.
- As of the 2016 year-end, 70 airports were using AirportIS.

SOLUTIONS FOR TRAINING

IATA Training

(Formerly, IATA Training and Development Institute, or ITDI)

- IATA Training puts participants from around the world through realistic business scenarios and gaming situations to promote industry standards; to help aviation-related businesses operate safely, efficiently, and sustainably; and to foster career paths in support of the more than 58 million jobs related to aviation.
- It carries ISO 9001:2015 certification in recognition of its high quality and its solid quality management system.

SOLUTIONS FOR STRATEGIC PARTNERSHIPS

IATA Strategic Partnerships

- IATA Strategic Partnerships is a community of more than 400 partners worldwide who share ideas and collaborate to improve aviation practices and technologies.

The numbers for IATA Strategic Partners in 2016 include

- 400** partners,
- 40** areas of involvement,
- 100** workgroups and task forces and
- 17** strategic partners at the AGM.

In 2016, IATA Training

trained more than **100k** people from 1,000-plus organizations in 150-plus countries;

offered over **350** courses and more than 40 diploma programs; and

worked with **450** resellers and partnering institutions, including

20+ regional training partners

270+ authorized training centers, and

160+ accredited training schools.



IATA OFFICES

Geneva Executive Office

33, Route de l'Aéroport
P.O. Box 416
CH - 1215 Geneva 15 Airport
Switzerland

Tel: +41 22 770 2525
Fax: +41 22 798 3553

Montreal Head Office

800 Place Victoria
P.O. Box 113
Montréal, Québec H4Z 1M1
Canada

Tel: +1 514 874 0202
Fax: +1 514 874 9632

Asia-Pacific

TripleOne Somerset
111 Somerset Road
#14-05 Somerset Wing
Singapore 238164

China & North Asia

3rd Floor,
China Digital Harbor
No. 1 Wangjing North Road
Chaoyang District
People's Republic of China

Europe

Torre Europa
95 Paseo de Castellana
Madrid 28046
Spain

Middle East & North Africa

Business Park
Building No. 8
King Abdullah Street
Al Shaab Roundabout
Amman 1194
Jordan

The Americas

703 Waterford Way
Suite 600
Miami, Florida 33126
United States of America



www.iata.org/2017-review