



NETWORK PLANNING 2017



IN ASSOCIATION WITH

SEATTLE-TACOMA INTERNATIONAL AIRPORT



SEATTLE-TACOMA INTERNATIONAL AIRPORT

Port for Seattle

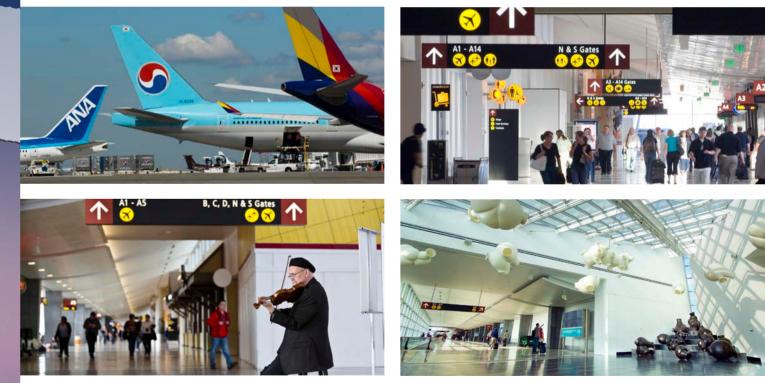
Seattle-Tacoma International Airport: Your Global Gateway

 Amsterdam • Beijing • Calgary • Cancún • Cologne • Dubai • Edmonton • Frankfurt • Guadalajara • Hong Kong • Kelowna • London-Gatwick • London-Heathrow •
Los Cabos • Manchester • Mexico City • Paris • Puerto Vallarta • Reykjavík • Seoul • Shanghai • Shenzhen • Taipei • Tokyo • Toronto • Vancouver • Victoria

SF

CONTENTS

Strong demand keeps profits on upward path	4-5
Top 100 airlines by traffic	6-7
Top 30 airline groups by traffic	9
Top 100 airports by traffic	10-11
Airport leaders	12-13
Airline start-ups and suspensions	14-15
Alliance players	16-17
Leading European airports	18
Capacity snapshot – Europe	19



The information contained in our databases and used in this presentation has been assembled from many sources, and whilst reasonable care has been taken to ensure accuracy, the information is supplied on the understanding that no legal liability whatsoever shall attach to FlightGlobal, its offices, or employees in respect of any error or omission that may have occurred.

© 2017 FlightGlobal, part of Reed Business Information Ltd

STRONG DEMAND KEEPS PROFITS ON **UPWARD PATH**

While relatively little has changed in terms of industry profitability since IATA issued its first projection for 2017, the slightly improved outlook it outlined in June during its AGM underscores significant movement in some of the drivers.

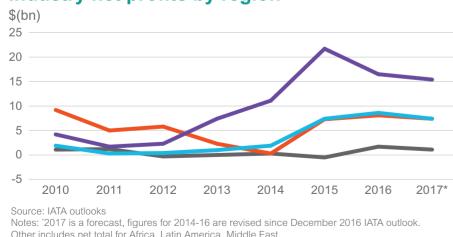
Crucially, demand - both passenger and, perhaps even more unexpectedly, air freight – is much stronger than IATA originally anticipated.

"I think there have been some quite significant changes," notes IATA chief economist Brian Pearce. "The first one, which is unambiguously positive, is we have seen guite an improvement in business and consumer confidence and a return of economic activity. And the industry typically does well in those conditions.

"I think the challenge, and we've seen this in the first guarter numbers, is also guite an acceleration in costs. The outturn of this year will really depend on the balance of those two potentially opposing forces."

IATA now sees airline passenger traffic growing 7.4% in 2017 - more than two percentage points higher than expected six months ago. That rate of growth would result in 275 million more passengers – the highest-ever growth in annual passenger numbers, in absolute terms - and take global passenger levels past the four-million mark.

Industry net profits by region



Other includes net total for Africa, Latin America, Middle East

North America	Asia	Europe	Other
North Amoriou	1010	Laropo	Othor

That would mark a third consecutive year of traffic growth in excess of 7% – well above historic average rates. One of the main drivers of the high growth in 2015 and 2016 was lower fares - as airlines passed on some of the bounty of lower fuel costs through fare cuts. While some price-stimulation remains, interestingly it is the stronger economic outlook that is playing a more significant part in driving traffic growth this year.

IATA is factoring in world economic growth of 2.9% for 2017. This would represent the strongest year of economic growth since 2011.

"The combination of stronger growth and still quite substantial price stimulation means we are much more optimistic about air transport," says Pearce.

Not that falling yields are out of the picture altogether. Few airline commentaries in the first-quarter results season failed to mention continued yield pressure.

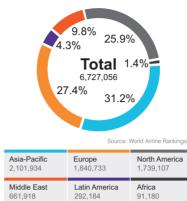
IATA had originally expected a flat yield environment during 2017. But It now expects unit revenues to be down 2% across the year. That would be a sixth consecutive year of falling yields, albeit at a much lower level of decline.

"We have started to see this levelling-out," says Pearce.

"A lot of that is because the economy is growing quite a lot. Certainly were weren't expecting that strength six months ago, and that is leading to some stability in yields."

High levels of capacity growth in many markets has also been a contributor to the lower yields. But while IATA expects airlines to add more capacity during the year, this will be less than the increase in traffic. As a result IATA sees load factors, already standing at record highs, climbing again this year to 80.6%. That would mark a 10th consecutive year of higher load factors.





Note: RPKs in millions for top 150 airlines in 2016 Even more notable is the more positive change for cargo. The seemingly moribund sector sparking into life with a doubling of air freight traffic expectations to 7.5%. That would mark the highest rate of air freight growth since 2010 – a year which in part included recovering ground from the sharp falls from the financial crisis – and 2004 before that.

But

strength of demand

factors have risen to

new highs in most

regions," says Pearce.

"That's really one of

the key reasons why

we see profits doing

better than we had

originally expected."

load

we've seen,

If the stronger demand and load factor picture was unexpected, a creeping-up of costs was less surprising.

"In the first guarter we have seen a rise in unit costs of about 5%, so that's the emerging challenge for airlines. The key cost driver is fuel, and that's particularly evident in the US, but also maintenance costs, labour and also infrastructure," says Pearce. "This is partly the downside of the upturn in economic activity, which has tightened labour markets in some countries and is adding to upward cost pressures."

All of which has resulted in a slightly improved outlook for 2017 than IATA had been projecting six months ago. IATA now sees airlines posting collective profits of \$31.4 billion an improvement of \$1.6 billion on its original expectations. That is just \$3.4 billion short of 2016, net profit for which IATA has revised downwards slightly to \$34.8 billion in part because of higher hit from fuel hedging losses.

That makes it one of its most profitable years ever – behind 2015 and 2016, the biggest years for net and operating profits respectively.

Notably, IATA has improved its outlook for every region except North America. The outlook for both Asia-Pacific and European carriers is aided by the better cargo market, Latin American carriers by the recovery of the key Brazilian economy, and African business by rising commodity prices - though it remains the only region in the red. High-profile challenges in the Middle East are expected to keep profits

"Airlines have been for the carriers in the region at their lowest level for four adding new capacity. vears. given the

> But IATA has scaled back its projection for North American profits by \$2.7 billion on what they were projecting six months ago. North American carriers remain the most profitable, for a fifth consecutive year, and at \$15.4 billion would still contribute almost half of industry net profit. However, the gap with Asia-Pacific and European carriers is less pronounced than in the past.

That slip in North American profits from the high of 2015 is driven by higher costs, notably in fuel expenditure – where there is limited hedging in place - and a tighter labour market. US carriers also continued to find an upturn in yields elusive in the first quarter.

Notably, it means that the industry, on the whole at least, is on course to deliver returns above cost of capital for a third consecutive year.

Top 10 airline groups by RPKs

American Airlines	359,574m
Delta Air Lines UNITED STATES	342,860m
United Continental	338,388m
Emirates Airline	276,608m
IAG B UNITED KINGDOM	243,474m
Air France-KLM	238,183m
Lufthansa Group GERMANY	226,633m
China Southern Air CHINA	206,092m
Southwest Airlines	200,964m
Air China Group	188,137m

TOP 100 AIRLINES BY TRAFFIC

Top passenger operations ranked by 2016 traffic: 1 to 50

Ran	king	Airline operation	Country	Pax traff	ic (RPK)	Seat capa	city (ASK)	Load	factor	Pax n	umber	Fleet	Notes
	2015		2		Change %	-	Change %	Percent	Pt change		Change %	Current	
1	(1)	American Airlines	USA	359,574	0.2	439,916	1.7	81.7	-1.2	198.7	-1.3	1,122	Group
2	(2)	Delta Air Lines	USA	342,860	1.7	405,236	2.1	84.6	-0.3	183.7	2.4	994	Group
3	(3)	United Airlines	USA	338,388	0.8	408,026	1.4	82.9	-0.5	143.2	2.0	743	Group
4	(4)	Emirates Airline	UAE	276,608	8.4	368,102	10.3	75.1	-1.3	56.1	8.2	258	
5	(5)	Southwest Airlines	USA	200,964	6.2	239,190	5.7	84.0	0.4	151.8	4.9	737	
6	(6)	China Southern Airlines	China	161,879	7.1	198,461	7.1	81.6	0.0	84.9	3.5	527	ICAO
7	(10)	Ryanair EST	Ireland	148,676	13.9	158,000	12.3	94.1	1.3	119.8	12.6	401	ASK & PLF estimated
8	(7)	Lufthansa	Germany	145,878	-0.3	184,428	1.1	79.1	-1.1	62.4	0.1	318	Includes LH regional airlines
9	(9)	British Airways	UK	145,170	2.2	178,732	2.6	81.2	-0.3	44.5	2.8	267	_
10	(14)	Qatar Airways	Qatar	142,037	24.1	185,208	21.9	76.7	1.4	32.0	20.1	200	
11	(8)	Air France	France	140,447	-1.4	166,742	-1.4	84.2	-0.1	49.8	-1.4	224	Includes Hop
12	(12)	China Eastern Airlines	China	138,528	14.7	170,413	14.1	81.3	0.4	80.9	6.6	394	ICAO; Inc Jiangsu
13	(11)	Air China	China	135,646	8.7	168,995	8.0	80.3	0.5	62.4	6.1	387	Includes Dalian Airlines
14	(13)	Turkish Airlines	Turkey	126,815	6.2	170,092	11.0	74.6	-3.3	62.8	2.5	292	
15	(16)	Air Canada Group	Canada	123,058	13.2	149,196	14.7	82.5	-1.0	44.8	9.1	170	Group
16	(15)	Cathay Pacific	Hong Kong	110,248	1.2	129,140	2.8	85.4	-1.3	24.4	1.6	144	ICAO; excl Cathay Dragon
17	(19)	Aeroflot	Russia	105,397	13.4	130,040	9.3	81.0	2.9	39.2	7.9	272	Excludes Pobeda
18	(18)	KLM	Netherlands	97,737	4.8	112,065	3.9	87.2	0.8	30.4	6.4	114	
19	(17)	Singapore Airlines	Singapore	92,914	-1.4	117,662	-0.6	79.0	-0.7	19.0	-0.2	109	
20	(20)	Etihad Airways	UAE	90,000	8.1	114,250	9.0	78.8	-0.6	18.5	5.1	125	RPK & ASK calculated
21	(21)	All Nippon Airways	Japan	84,594	6.9	119,229	4.5	71.0	1.6	52.1	2.5	205	Group
22	(22)	EasyJet	UK	81,496	5.0	87,724	4.6	92.9	0.3	73.1	6.6	278	
23	(23)	Qantas	Australia	79,245	5.0	99,859	4.1	79.4	0.7	28.2	3.0	138	Inc Qantaslink; excl JetStar
24	(24)	Korean Air	South Korea	75,907	5.9	96,655	3.8	78.5	1.6	26.9	7.7	172	
25	(25)	JetBlue Airways	USA	73,492	9.4	86,412	8.8	85.0	0.4	38.3	9.0	232	
26	(28)	Japan Airlines	Japan	60,658	4.5	79,550	2.1	76.3	1.7	32.9	1.5	160	Excl JAL subsidiaries
27	(27)	Thai Airways Int'l	Thailand	59,754	1.1	81,010	0.4	73.8	0.5	18.2	-1.4	77	
28	(26)	LATAM Airlines Brazil	Brazil	57,007	-6.1	68,314	-7.5	83.4	1.3	33.8	-8.9	143	ANAC
29	(34)	Hainan Airlines	China	54,321	29.8	62,326	30.5	87.2	-0.5	27.4	27.3	181	ICAO
30	(29)	Saudia	Saudi Arabia	53,481	8.1	76,087	12.2	70.3	-2.7	28.2	3.3	175	AACO (scheduled)
31	(30)	Alaska Airlines	USA	52,870	8.3	62,292	7.8	84.9	0.4	24.4	6.8	157	
32	(31)	Iberia	Spain	51,064	5.1	62,282	4.0	82.0	0.9	17.8	9.0	98	Includes Iberia Express
33	(33)	Norwegian	Norway	50,798	20.1	57,910	18.1	87.7	1.5	29.3	13.8	135	
34	(32)	Air Berlin	Germany	45,815	-2.5	54,341	-2.7	84.3	0.1	28.9	-4.4	70	
35	(49)	IndiGo	India	43,797	28.1	51,828	26.5	84.5	1.1	41.1	30.9	135	DGCA
36	(39)	Shenzhen Airlines	China	42,779	9.4	52,091	8.4	82.1	0.7	27.6	7.9	168	ICAO; excl Kunming Airlines
37	(37)	Asiana Airlines	South Korea	42,430	6.9	51,387	3.4	82.6	2.7	19.3	6.5	82	RPK, ASK & PLF from ICAO
38	(36)	Swiss	Switzerland	42,290	5.6	52,731	9.1	80.2	-2.7	18.0	2.5	70	Includes Edelweiss Air
39	(38)	Jet Airways	India	41,119	4.8	50,526	6.4	81.4	-1.2	24.4	4.3	111	
40	(41)	Air India	India	40,991	7.5	53,749	6.6	76.3	0.6	19.8	6.7	115	DGCA
41	(46)	EVA Air	Taiwan	40,946	16.0	51,166	17.2	80.0	-0.8	11.2	11.7	76	
42	(43)	China Airlines	Taiwan	38,702	4.4	49,392	5.1	78.4	-0.6	14.7	0.3	83	
43	(47)	WestJet	Canada	38,565	11.3	47,140	8.9	81.8	1.8	22.0	8.2	119	
44	(45)	Sichuan Airlines	China	38,347	8.6	45,145	10.5	84.9	-1.5	23.0	7.9	124	ICAO
45	(44)	Avianca	Colombia	38,233	7.8	47,145	5.9	81.1	1.4	29.5	4.2	144	
46	(56)	Wizz Air	Hungary	37,628	22.2	41,691	19.7	90.1	1.9	23.8	18.9	83	
47	(55)	Xiamen Airlines	China	37,169	14.3	48,798	13.6	76.2	0.5	24.5	7.5	146	ICAO
48	(42)	Virgin Atlantic Airways	UK	37,126	-0.1	47,175	-2.5	78.7	1.9	5.4	-8.5	37	
49	(50)	SAS	Sweden	36,940	9.4	48,620	9.8	76.0	-0.3	29.4	2.0	162	
50	(40)	Gol	Brazil	35,928	-6.5	46,329	-6.9	77.5	0.3	32.6	-16.1	116	

Ran	nking	Airline operation	Country	Pax trat	ffic (RPK)	Seat cap	acity (ASK)	Load factor	Notes	Rank	Airline Pas	ssenge
016	2015			Million	Change %	Million	Change %	Percent				Millio
51	(48)	Alitalia EST	Italy	35,000	1.8	45,000	1.3	77.8	FAB estimate	1	American Airlines	198
52	(54)	Garuda Indonesia	Indonesia	34,790	6.2	47,566	11.3	73.1		2	Delta Air Lines	183
53	(61)	Spirit Airlines	USA	34,725	19.9	41,021	20.0	84.7		3	Southwest Airlines	151
4	(58)	AirAsia	Malaysia	34,676	15.6	40,086	7.2	86.5		4	United Airlines	143
5	(52)	Lion Air EST	Indonesia	34,500	4.5	39,250	4.9	88.0	FAB estimate	5	Ryanair	119
6	(51)	Thomson Airways	UK	34,415	3.1	36,589	2.7	94.1	UK CAA	6	China Southern Airlines	84
7	(62)	Vietnam Airlines EST	Vietnam	33,500	18.3	40,000	18.4	83.8	FAB estimate	7	China Eastern Airlines	80
8	(59)	Air New Zealand	New Zealand	33,223	11.0	39,684	11.5	83.7		8	EasyJet	73
9	(57)	Jetstar	Australia	32,982	8.1	40,370	6.4	81.7		9	Turkish Airlines	62
0	(63)	Philippine Airlines	Philippines	32,503	14.8	46,997	13.4	69.2		10	Lufthansa	6
51	(53)	Virgin Australia	Australia	32,283	-1.7	41,135	-3.2	78.5		11	Air China	6
2	(35)	Malaysia Airlines	Malaysia	31,541	-21.9	42,391	-24.9	74.4		12	Emirates Airline	5
3	(69)	Ethiopian Airlines	Ethiopia	28,962	15.5	42,617	13.6	68.0		13	All Nippon Airways	5
4	(60)	TAP Portugal	Portugal	28,536	-3.4	36,269	-3.5	78.7	ICAO	14	Air France	4
5	(67)	Copa Airlines	Panama	28,463	8.5	35,407	1.5	80.4		15	Air Canada Group	4
6	(65)	SkyWest Airlines	USA	28,235	3.4	34,268	4.2	82.4		16	British Airways	4
7	(66)	Aeromexico	Mexico	28,101	5.1	34,270	4.8	82.0	ICAO	17	Indigo	4
8	(70)	Vueling Airlines	Spain	28,046	13.2	33,884	11.2	82.8		18	Aeroflot	3
9	(64)	Condor	Germany	27,286	-2.2	30,806	-0.7	88.6	ICAO	19	JetBlue Airways	3
0	(68)	Finnair	Finland	27,065	5.8	33,914	6.5	79.8	10/10	20	LATAM Airlines Brazil	3
1	(76)	Shandong Airlines	China	26,434	23.4	33,987	20.1	77.8		21		3
2	(75)	Frontier Airlines	USA	25,759	19.5	29,539	18.5	87.2		22	Japan Airlines	3
3	(73)	Hawaiian Airlines	USA	24,927	7.1	29,581	3.7	84.3		23	Gol	3
3 4	(74)	Spring Airlines	China	24,927	11.7	29,004	13.1	91.7		23	Qatar Airways	3
4 5	. ,		Turkey	24,739	16.5	30,510	9.1	76.4	ICAO	24		3
5 6	(77)	Pegasus LATAM Airlines Chile	Chile	24,721	17.1	28,069	15.9	85.8	ICAU	25	SkyWest Airlines KLM	3
0 7	. ,				5.8	28,344	6.0	84.0		20	Avianca	
	(72)	Air Europa Thomas Cook Airlines	Spain	23,813 23,584	5.0		7.3	89.8	UK CAA		SAS	4
8	(73)					26,261			UK CAA	28		
9	(90)	AirAsia X	Malaysia	23,188	32.1	29,343	25.5	79.0		29	Norwegian	2
0	(84)	Volaris	Mexico	23,051	23.9	26,877	18.9	85.8		30	Air Berlin	2
1	(88)	Juneyao Airlines	China	22,097	23.8	25,786	23.1	85.7	1010	31	Qantas	2
2	(80)	EIAI	Israel	22,086	8.0	26,348	6.3	83.8	ICAO	32	Saudia	2
3	(82)	Cebu Pacific Air	Philippines	21,220	6.8	25,989	4.4	81.6	Includes Cebgo	33	Vueling Airlines	2
4	(94)	Capital Airlines	China	20,815	24.2	22,960	22.7	90.7	ICAO	34	Shenzhen Airlines	2
5	(78)	South African Airways		20,678	-2.3	28,005	-2.0	73.8		35	Hainan Airlines	2
6	(89)	Shanghai Airlines	China	20,524	15.7	25,790	15.0	79.6		36	Korean Air	2
7	(95)	Eurowings	Germany	20,107	26.7	25,264	26.5	79.6		37	AirAsia	2
8	(93)	Virgin America	USA	19,590	16.7	23,451	14.8	83.5		38	Xiamen Airlines	2
9	(85)	Aerolineas Argentinas	Argentina	19,541	6.5	24,430	6.6	80.0	ICAO	39	Cathay Pacific	2
0	(87)	Air Transat EST	Canada	19,250	6.9	21,000	7.7	91.7	FAB estimate	40	Alaska Airlines	2
1	(92)	Aer Lingus	Ireland	19,194	9.5	23,533	9.6	81.6		41	Jet Airways	2
2	(86)	Austrian	Austria	18,609	2.3	24,451	4.9	76.1		42	Pegasus	4
3	(99)	Oman Air	Oman	18,452	25.5	24,790	20.4	74.4	AACO	43	Garuda Indonesia	4
1	(83)	Azul	Brazil	18,235	-2.2	22,869	-2.4	79.7		44	Wizz Air	2
5	(96)	S7 Airlines	Russia	18,039	14.9	21,173	8.3	85.2	FAVT	45	Alitalia EST	1
6	(98)	Thai AirAsia	Thailand	17,285	16.2	20,629	13.9	83.8		46	Sichuan Airlines	2
7	(91)	Egyptair	Egypt	17,213	-1.9	25,890	-1.8	66.5	AACO (scheduled)	47	ExpressJet Airlines	2
В	(81)	ExpressJet Airlines	USA	16,817	-17.6	20,941	-17.2	80.3		48	WestJet	2
9	(97)	Air Arabia	UAE	16,600	9.9	20,500	9.0	81.0		49	Spirit Airlines	2
	(100)	Allegiant Air	USA	16,545	15.0	19,912	17.6	83.1		50	Vietnam Airlines EST	

Notes: EST FAB estimate

While this table functions as a ranking of discrete airlines by traffic, in some cases it is impossible and/or illogical to split data from airline groups into individual operating units. Furthermore, in some instances the figures for an airline will incorporate those of a co-branded regional operator. While we have endeavoured to compare like-for-like businesses, the rankings are indicative. Estimates have been used for indicative purposes; TRAFFIC/CAPACITY/ LOADS Traffic data generally includes scheduled and charter. All data is in metric units as follows: RPK=revenue passenger km, ASK=available seat km, RTK=revenue tonne km, 1 US ton=1.1 tonnes and 1 mile=1.608/m; YEAR Results are for the fiscal year unavailable; but calendar or nearest full 12-month period are used if fiscal year unavailable; SOURCES: Fleet data is provided by Flight Fleets Analyzer, and includes the different operating units applicable to the traffic figures. All other figures are primarily sourced from company replies to *Flight Airline Business* or company reports. Other sources include national regulators, regional airline associations and ICAO.

SRS Analyser

FlightGlobal

Your complete network planning and analysis tool

Drive your growth strategies with SRS Analyser

SRS Analyser is powered by our leading schedules data covering over 900 global airlines, including more than 140 low cost carriers, representing 99.6% of all scheduled passenger flight ASKs. The online query tool is updated weekly enabling you to analyse the most reliable data to make informed strategic decisions. You'll have access to the most recent, historical (17 years) and future (11 months) schedules data.

With SRS Analyser you can:

- Craft your network plan and consider new routes
- Determine any necessary schedule changes analysing flight frequencies, seat capacity, ASMs/ASKs
- Realise hub connectivity and the opportunities from potential codeshares and partnerships
- Anticipate demand on specific routes across multiple dates
- Understand changes in competitor activity, including class configuration and seat capacity
- Design automated, custom reports that can be emailed at your chosen frequency

Request your demo today flightglobal.com/srsanalyser

New York	London	Hong Kong	Tokyo	Singapore
Tel: +1 646 746 6851	Tel: +44 (0)20 7911 1400	Tel: +852 2813 6366	Tel: +81 3 5561 5630	Tel: +65 6780 4315

DATA COMPILED BY SILVA ISHAK FLIGHTGLOBAL DATA RESEARCH TEAM

Top 30 airline groups by traffic

Strong air travel demand and high load factors continued in 2016, amid lower fares and intense competition. Traffic, as measured in RPKs, rose 7% among the 150 biggest operators last year. The three big North American carrier groups led the way in terms of overall traffic, followed by Emirates and the three major European network players. This year's World Airline Rankings for the first time also includes a full listing of the 30 biggest airlines and/or groups by passenger traffic, to provide a consistent comparison of top-level performance

Top 30 airline groups by 2016 passenger traffic

Rank	Group/Airline	Country		ffic (RPK)	Seat capa	acity (ASK)	Load Factor	Passengers	Main group carriers
			Million	Change %	Million	Change %	Percent	Million	
1	American Airlines Group	USA	359,574	0.2	439,916	1.7	81.7	198.7	
2	Delta Air Lines	USA	342,860	1.7	405,236	2.1	84.6	183.7	Endeavor Air
3	United Continental	USA	338,388	0.8	408,026	1.4	82.9	143.2	
4	Emirates Airline	UAE	276,608	8.4	368,102	10.3	75.2	56.1	
5	IAG	UK	243,474	9.7	298,431	9.4	81.6	100.7	Aer Lingus, BA, Iberia, Vueling
6	Air France-KLM	France	238,183	1.1	278,807	0.7	85.4	80.2	Transavia
7	Lufthansa Group	Germany	226,633	2.8	286,555	4.6	79.1	109.7	
8	China Southern Air	China	206,092	8.7	255,988	8.6	80.5	114.6	Xiamen Airlines
9	Southwest Airlines	USA	200,964	6.2	239,190	5.7	84.0	151.8	
10	Air China Group	China	188,137	9.6	233,051	8.5	80.7	96.6	Dalian Airlines
11	China Eastern Airlines	China	167,523	14.5	206,249	13.5	81.2	101.7	
12	Ryanair EST	Ireland	148,676	13.9	158,000	12.3	94.1	119.8	
13	Qatar Airways	Qatar	142,037	24.1	185,208	21.9	76.7	32.0	
14	Turkish Airlines	Turkey	134,913	6.6	179,901	11.2	75.0	74.8	
15	Cathay Pacific Group	Hong Kong	123,478	0.9	146,085	2.4	84.5	34.3	Cathay Dragon
16	Air Canada Group	Canada	123,058	13.2	149,196	14.7	82.5	44.8	Air Canada Express, Rouge
17	Singapore Airlines	Singapore	122,136	2.6	154,541	3.6	79.0	31.6	Scoot, Silk Air, Tigerair
18	Qantas Group	Australia	119,054	5.8	148,691	4.5	80.1	51.4	Jetstar, Qantaslink
19	LATAM Airlines Group	Chile	113,627	1.9	134,968	0.6	84.2	67.0	LATAM Airlines Brazil/Chile
20	Aeroflot Group	Russia	112,110	14.8	137,642	10.3	81.5	43.4	Aurora, Pobeda, Rossiya
21	Etihad Airways	UAE	90,000	8.1	114,250	9.0	78.8	18.5	
22	ANA Holdings	Japan	84,594	6.9	119,229	4.5	71.0	52.1	
23	Hainan Airlines Group	China	81,805	23.5	93,166	24	87.8	46.3	
24	EasyJet	UK	81,496	5.0	87,724	4.6	92.9	73.1	
25	Alaska Air Group	USA	78,445	10.8	93,243	10.2	84.1	41.9	Horizon Air
26	Korean Air	South Korea	75,907	6.0	96,655	3.8	78.5	26.9	
27	JetBlue Airways	USA	73,492	9.4	86,412	8.8	85	38.3	
28	Japan Airlines Group	Japan	65,183	0.8	86,045	-0.4	75.8	41.0	
29	Thai Airways International	Thailand	59,754	1.1	81,010	0.4	73.8	18.2	
30	Saudia	Saudi Arabia	53,481	8.1	76,087	12.2	70.3	28.2	

otes: EST Ryanair ASK and load factor data for 2016 is estimated. Main group carriers listed where there are either major subsidiaries or company name does not reflect that of mainline operation

8 FlightGlobal



TOP 100 AIRPORTS BY TRAFFIC

Top 100 Airports: Preliminary passenger ranking 2016 (1-50) and FlightGlobal frequency/capacity analysis (May 2017)

Ra	nking	City	Airport	Code	Country	Passengers		Available seats	per week
2016	2015					Number (000)	Change %	Number (000)	Av seats change %
1	(1)	Atlanta	Hartsfield Int'l	ATL	USA	104,172	2.6	2,581	1.3
2	(2)	Beijing	Capital	PEK	China	94,393	5.0	2,513	2.7
3	(3)	Dubai	International	DXB	UAE	83,654	7.2	2,446	5.9
4	(7)	Los Angeles	International	LAX	USA	80,922	8.0	2,181	5.4
5	(5)	Tokyo	Haneda Int'l	HND	Japan	80,122	6.4	2,198	4.2
6	(4)	Chicago	O'Hare International	ORD	USA	77,961	1.3	1,964	1.9
7	(6)	London	Heathrow	LHR	UK	75,676	1.0	2,077	-0.2
8	(8)	Hong Kong	International	HKG	Hong Kong	70,502	2.9	1,734	1.9
9	(13)	Shanghai	Pudong International	PVG	China	66,002	9.8	1,809	6.3
10	(9)	Paris	Charles de Gaulle	CDG	France	65,933	0.3	1,666	1.0
11	(10)	Dallas/Fort Worth	International	DFW	USA	65,671	0.2	1,603	3.2
12	(14)	Amsterdam	Schiphol	AMS	Netherlands	63,600	9.1	1,629	6.8
13	(12)	Frankfurt	International	FRA	Germany	60,792	-0.4	1,759	4.5
14	(11)	Istanbul	Ataturk International	IST	Turkey	60,119	-2.0	1,631	-1.8
15	(17)	Guangzhou	Baiyun International	CAN	China	59,732	8.2	1,652	7.3
16	(15)	New York	JFK	JFK	USA	58,800	3.5	1,523	1.5
17	(16)	Singapore	Changi	SIN	Singapore	58,698	5.9	1,612	3.3
18	(19)	Denver	International	DEN	USA	58,267	7.9	1,667	9.6
19	(18)	Jakarta	Soekarno Hatta Int'l	CGK	Indonesia	58,195	7.6	1,781	0.2
20	(22)	Seoul	Incheon International	ICN	South Korea	57,765	17.2	1,414	6.0
21	(25)	Delhi	Indira Gandhi Int'l	DEL	India	55,631	21.0	1,636	10.5
22	(20)	Bangkok	Suvarnabhumi	BKK	Thailand	55,473	5.9	1,471	4.7
23	(21)	San Francisco	Internationa	SFO	USA	53,107	6.1	1,425	2.9
24	(23)	Kuala Lumpur	International	KUL	Malaysia	52,624	7.5	1,437	10.6
25	(24)	Madrid	Barajas	MAD	Spain	50,421	7.7	1,259	4.3
26	(26)	Las Vegas	McCarran Int'l	LAS	USA	47,436	4.5	1,382	3.3
27	(32)	Chengdu	Shuangliu Int'l	CTU	China	46,039	9.0	1,266	10.9
28	(31)	Seattle	Tacoma International	SEA	USA	45,737	8.0	1,184	2.1
29	(35)	Mumbai	International	BOM	India	44,681	10.0	1,206	3.9
30	(28)	Miami	International	MIA	USA	44,585	0.5	1,048	0.3
31	(27)	Charlotte	Douglas	CLT	USA	44,422	-1.0	1,169	3.5
32	(33)	Toronto	Pearson International	YYZ	Canada	44,336	8.0	1,094	5.0
33	(39)	Barcelona	El Prat	BCN	Spain	44,155	11.2	1,209	8.4
34	(29)	Phoenix	Sky Harbor	PHX	USA	43,384	-1.4	1,268	5.5
35	(37)	London	Gatwick	LGW	UK	43,137	7.1	1,101	7.4
36	(44)	Taipei	Taoyuan International	TPE	Taiwan	42,296	9.9	1,067	0.7
37	(34)	Munich	International	MUC	Germany	42,278	3.1	1,277	7.1
38	(46)	Kunming	Changshui Int'l	KMG	China	41,980	11.9	1,343	19.1
39	(38)	Shenzhen	Baoan International	SZX	China	41,975	5.7	1,229	10.3
40	(43)	Orlando	International	MCO	USA	41,923	8.0	1,183	4.9
41	(40)	Sydney	Kingsford Smith Int'l	SYD	Australia	41,870	5.6	1,067	3.2
42	(36)	Rome	Fiumicino	FCO	Italy	41,745	3.2	1,067	0.0
43	(45)	Mexico City	Benito Juarez Int'l	MEX	Mexico	41,710	8.5	1,085	8.4
44	(30)	Houston	George Bush	IAH	USA	41,616	-3.3	1,063	1.9
45	(41)	Shanghai	Hongqiao Int'l	SHA	China	40,460	3.5	1,076	4.9
46	(47)	Newark	Liberty International	EWR	USA	40,351	7.6	1,117	10.7
47	(49)	Manila	Ninoy Aquino Int'I	MNL	Philippines	39,517	8.0	1,009	1.9
48	(48)	Tokyo	Narita International	NRT	Japan	39,054	4.6	955	-1.2
49	(49)	Minneapolis-St. Paul	International	MSP	USA	37,518	2.6	962	4.0
50	(58)	Doha	International	DOH	Qatar	37,300	20.5	1,101	9.7

Top 100 airports: Preliminary passenger ranking 2016 (51-100)

Ranking	City	Airport	Code	Country	Passengers		Available seats pe	week
2016 2015					Number (000)	Change %	Number (000) Av s	eats change %
51 (54)	Xian	Xianyang Int'l	XIY	China	36,995	12.2	1,130	13.7
52 (42)	Sao Paulo	Guarulhos Int'l	GRU	Brazil	36,596	-6.1	934	7.5
53 (51)	Boston	Logan International	BOS	USA	36,288	8.5	1,097	5.2
54 (55)	Chongqing	Jiangbei Int'l	CKG	China	35,889	10.8	1,006	10.1
55 (63)	Bangkok	Don Mueang Int'l	DMK	Thailand	34,690	21.3	843	4.4
56 (53)	Tullamarine	Tullamarine	MEL	Australia	34,574	4.8	826	1.9
57 (52)	Detroit	Wayne County	DTW	USA	34,401	2.9	921	-0.5
58 (56)	Moscow	Sheremetyevo Int'l	SVO	Russia	34,031	7.7	864	10.2
59 (64)	Hangzhou	Xiaoshan Int'l	HGH	China	31,595	11.4	969	13.1
60 (61)	Paris	Orly	ORY	France	31,238	5.3	825	1.2
61 (60)	Bogota	El Dorado Int'l	BOG	Colombia	31,042	3.6	817	14.3
62 (62)	Jeddah*	King Abdulaziz Int'l	JED	Saudi Arabia	31,000	6.7	907	14.6
63 (57)	Philadelphia	International	PHL	USA	30,155	-4.1	819	-2.5
64 (71)	New York	LaGuardia	LGA	USA	29,800	14.2	833	-3.9
65 (70)	Jeju	International	CJU	South Korea	29,707	13.2	463	-13.4
66 (65)	Istanbul	Sabiha Gokcen Int'l	SAW	Turkey	29,646	4.8	745	-2.2
67 (67)	Fort Lauderdale	Hollywood Int'l	FLL	USA	29,205	8.4	853	10.9
68 (68)	Copenhagen	Kastrup	CPH	Denmark	29,043	9.1	767	0.8
69 (59)	Moscow	Domodedovo Int'l	DME	Russia	28,500	-6.6	653	7.5
70 (72)	Dublin	International	DUB	Ireland	27,900	11.0	735	4.0
71 (69)	Zurich	Zurich	ZRH	Switzerland	27,666	5.3	758	5.4
72 (75)	Palma de Mallorca	Palma de Mallorca	PMI	Spain	26,254	10.6	771	11.8
73 (73)	Oslo	Gardermoen	OSL	Norway	25,788	4.5	723	2.9
74 (79)	Manchester	International	MAN	UK	25,614	10.4	717	14.1
75 (78)	Osaka	Kansai Int'l	KIX	Japan	25,232	8.7	680	4.2
76 (74)	Baltimore	Washington Int'l	BWI	USA	25,123	5.5	836	4.0
77 (80)	Seoul	Gimpo International	GMP	South Korea	25,043	8.1	426	-5.9
78 (81)	Stockholm	Arlanda	ARN	Sweden	24,702	7.0	735	9.6
79 (77)	Abu Dhabi	International	AUH	UAE	24,482	5.1	586	-3.8
80 (85)	London	Stansted	STN	UK	24,317	7.8	603	8.0
81 (84)	Riyadh*	King Khalid Int'l	RUH	Saudi Arabia	24,000	5.7	679	14.8
82 (82)	Washington	Reagan National	DCA	USA	23,595	2.4	688	-3.2
83 (86)	Dusseldorf	International	DUS	Germany	23,522	4.6	735	11.4
84 (83)	Vienna	Vienna	VIE	Austria	23,352	2.5	698	5.3
85 (89)	Salt Lake City	International	SLC	USA	23,043	4.3	603	6.3
86 (90)	Xiamen	Gaogi International	XMN	China	22,738	4.2	793	13.8
87 (87)	Brisbane	Brisbane	BNE	Australia	22,690	1.3	567	3.2
88 (88)	Chicago	Midway International	MDW	USA	22,678	2.1	738	2.6
89 (97)	Lisbon	Lisbon	LIS	Portugal	22,400	11.7	616	15.9
90 (102)	Nanjing	Lukou Int'l	NKG	China	22,358	16.7	760	27.4
91 (95)	Vancouver	International	YVR	Canada	22,289	9.7	597	11.3
92 (110)	Bengaluru	Kempegowda Int'l	BLR	India	22,188	22.5	671	6.8
93 (91)	Washington	Dulles Int'l	IAD	USA	21,969	1.5	602	4.9
94 (76)	Brussels	National	BRU	Belgium	21,818	-7.0	675	6.3
95 (93)	Fukuoka*	International	FUK	Japan	21,750	4.4	607	3.0
96 (100)	Cancun	International	CUN	Mexico	21,416	9.3	490	9.4
97 (94)	Sapporo	New Chitose	CTS	Japan	21,312	4.2	588	2.8
98 (105)	Changsha	Huanghua Int'l	CSX	China	21,297	13.8	628	14.5
99 (92)	Berlin	Tegel	TXL	Germany	21,254	1.2	611	5.3
100 (103)	Wuhan	Tianhe International	WUH	China	20,772	9.7	648	20.9
100 (100)						v.i		20.0

Notes: *Flight Airline Business estimates used where traffic figures unavailable; Source: FlightGlobal research based on preliminary traffic figures published by airports, which are in many cases reported on a Terminal Passenger basis and which excludes a small portion of transit passengers; airline capacity shares based on FlightGlobal schedules data for May 2017

NETWORK PLANNING 2017

AIRPORT LEADERS

Passenger growth at leading hubs remained strong in 2016 as lower fuel costs and competition kept fares down. This helped drive a 5.9% jump in traffic across the world's 100 biggest airports, with the total surpassing 4 billion







MIXED PICTURE EMERGES

While airports in emerging markets again led the way in terms of passenger growth in 2016, there were some notable cases where recent pacesetters saw their traffic expansion rate hit. Airports in China and India were among the fastest growing in 2016. A strong recovery in the Indian market helped drive passenger numbers up more than a fifth at Delhi and Bengaluru, and by 10% at Mumbai.

Passenger numbers were up a fifth at Qatar Airways' home in Doha, but growth of 7% and 5% at Dubai and Abu Dhabi respectively was relatively slow compared with recent rates. Economic challenges also hit Brazilian growth and traffic was down 6% at Sao Paulo Guaralhos. A mix of political challenges and fallout from terrorist attacks hit Turkish travel demand, contributing to a 2% fall at Istanbul Ataturk.



10-year trend: Top 100 airports traffic



LEADING FORTUNES

2006 2007

2008

2009

2010

2011

2012

2013

2014

201

201

Atlanta Hartsfield remains the busiest airport in the world, handling just over 104 million passengers, but fast-growing Beijing airport continues to close the gap. Growth of 5% in 2016, double the rate of Atlanta, took the gateway to the Chinese capital within 10 million passengers of Atlanta.

Another Chinese airport, Shanghai Pudong, was the fastest growing among the top 10 airports in 2016. Passenger numbers grew almost 10% at Shanghai to reach 66 million,

moving it into the top 10 for the first time. Strong growth at Los Angles International helped it move above Tokyo Haneda, Chicago O'Hare and London Heathrow to become the fourth-biggest airport in the world. It grew passengers 8% in 2016 to reach 80.9 million. Amsterdam Schiphol was the fastest growing of the big European hubs. Passenger numbers at the Dutch airport jumped 9% to reach 63.6 million, making it the 12thbiggest airport in the world.

2.76bn

2.92br

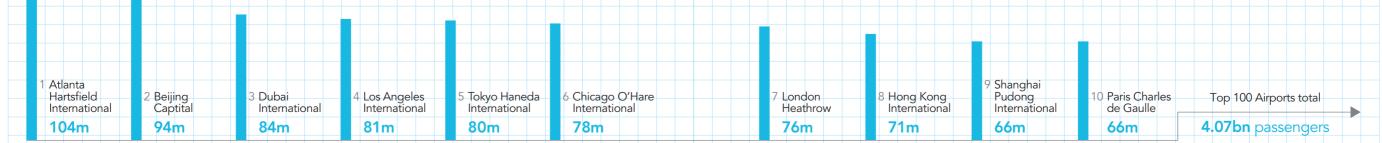
2.89bn

3 00hr

3.30bn

3.45bn

2.82bn



AIRLINE START-UPS AND SUSPENSIONS

START-UPS

FlightGlobal data shows that 29 new airline operations were established over the first eight months of 2017, outweighing the 11 airlines suspending flights and the five that formally ceased operations.

The 29 start-ups include several that are subsidiary carriers created to enter new markets – or, in the case of EasyJet Europe, to ensure continuity of operations ahead of the UK's exit from the European Union.

Notable start-ups include Level, IAG's new Barcelona-based long-haul, low-cost operation. The airline launched in June – providing a competitive response to Norwegian's launch of long-haul flights from the Spanish airport.

Level began operations in June using Airbus A330s on transatlantic routes from Barcelona. It serve Buenos Aires, Los Angeles, Oakland and Punta Cana. It is using aircraft operated by IAG sister carrier Iberia, and IAG has already converted options on three more A330s for the carrier to take in 2018.

Level is evolving into a separately governed entity and IAG chief executive Willie Walsh says a management team will

Airline start-ups in 2017 so far (selected)

Airline	Country	Business model
Air Costa Rica	Costa Rica	Regional
Azur Air Germany	Germany	Leisure
EasyJet Europe	Austria	Low-cost
Fly Mid Africa	Gambia	Mainline
Hong Kong Air Cargo	Hong Kong	Cargo
JC International Airlines	Cambodia	Mainline
JetSmart	Chile	Low-cost
Level	Spain	Low-cost
Longhao Airlines	China	Cargo
LongJiang Airlines	China	Regional
SalamAir	Oman	Low-cost
Sundair	Germany	Leisure
Viva Air Peru	Peru	Low-cost
Wataniya Airways	Kuwait	Mainline
Zoom Air	India	Regional

Source: FlightGlobal, data as of 31 August 2017, 29 start-ups in total

be in place "definitely" by the first quarter of 2018 but "probably" by the end of this year.

Elsewhere in Europe, flights were begun by the EasyJet Europe division established in July after the UK carrier secured an Austrian air operator's certificate. The airline has established the new unit to protect its European operations following the UK's withdrawal from the European Union.

Some 100 aircraft operating at EasyJet's non-UK bases within the EU will be transferred to the new division.

In Latin America, Chile is the latest country where Indigo Partners – backer of several successful low-cost operators – is looking to deploy its formula again.

Santiago-based JetSmart launched revenue service in late July as it builds up its network to initially eight domestic destinations.

JetSmart began operations with a pair of Airbus A320s and aims to build this fleet to at least nine A320s, says chief executive Estuardo Ortiz.

Further ahead, he says, the carrier aims to begin flights to Peru. That is a market in which one low-cost carrier entrant has already emerged this year, with Viva Air launching its second carrier in the region. Viva Air Peru started operations in May, initially deploying a pair of Airbus A320s on seven domestic routes.

In the Middle East, Saudia is taking steps to launch a new low-cost operation. In August, Flyadeal took delivery of the first of eight Airbus A320s being leased from Dubai Aerospace Enterprise ahead of the planned launch of flights in late September.

Omani start-up SalamAir launched services in January. It initially began flights on the Muscat-Salalah domestic route, but subsequently added flights to Dubai, the Saudi Arabian cities of Jeddah and Medina, as well as Karachi and Sialkot in Pakistan.

Meanwhile, Kuwaiti carrier Wataniya Airways relaunched operations this summer with a pair of A320s – six years after ceasing flights – having gained an AOC in June.

SUSPENSIONS

The relatively benign operating environment – with solid economic growth supporting increased air travel demand, set against still favourable oil prices – is reflected in the low number of airline collapses or suspensions of service.

But there remain some challenging markets – few more so than Venezuela. Long-running problems repatriating revenues earned in local currency had already prompted many international carriers to scale back or cut altogether their services into Venezuela. Unrest in the country earlier this year and continued political uncertainty have prompted more carriers to pull the plug.

Venezuela's airlines, meanwhile, have been forced to ground aircraft and cut service due to difficulties in accessing foreign currencies to pay for spare parts and other expenses. Then, in August, Venezuela's oldest airline Aeropostal was forced to cease operations as the ongoing crisis in the country expanded to local carriers.

Challenges in the region have also created problems for InselAir, which resulted in its Aruba-based subsidiary filing for bankruptcy in June. InselAir Aruba had been grounded even before it entered bankruptcy administration in June and has remained so, but its Curacao-based counterpart continues to operate Fokker 50s connecting four Dutch Caribbean territories.

There remains hope that a potential partnership with Synergy Aerospace, parent to Colombia's Avianca, could allow InselAir to operate under the Avianca Curacao brand. In April, Synergy signed a letter of intent with Curacao's government to form a strategic partnership to rescue the troubled Caribbean carrier, but the bankruptcy of InselAir's Aruba subsidiary delayed the effort.

In Asia, Indian carrier Air Costa in June had its air operator's permit suspended by India's Directorate General of Civil Aviation following three months of inactivity. The carrier suspended operations on 28 February after hitting financial troubles, and at the time said it was in talks with an investor to receive a cash injection that would allow it to restart operations.

Efforts meanwhile continue to restore the operations of another Indian carrier, Air Pegasus. A deal emerged at the start of the year under which Bengaluru-based Flyeasy would acquire a stake in Air Pegusus and work began on restarting operations in March. But services are still to resume. Air Pegasus, which suspended operations in July 2016, is now hopeful of restarting operations within a month, as it awaits approval from country's aviation regulator for its recapitalisation plan.

Shyson Thomas, Air Pegasus's managing director, says that following the approval, the grounded carrier will look to reapply for an air operator's permit. Its previous permit was cancelled in October 2016.

Thomas adds that Air Pegasus has completed the sale of a 30% stake in the company to Flyeasy, itself awaiting regulatory approval to start operations. The deal, valued at \$3 million, will contribute to Air Pegasus's recapitalisation plan.

Another Indian carrier, ATR-operator Air Carnival, suspended flights earlier this year.

Indian Ocean carrier Mega Maldives Airlines meanwhile suspended services at the start of May, to undergo a restructuring programme.

The carrier described the suspension as temporary and says it is focusing on its recapitalisation and restructuring. Unconfirmed reports suggest the airline is closing in on a resumption of services.

Elsewhere, Turkish regional carrier Borajet – which was acquired by SBK Holdings at the turn of the year – suspended operations in April to carry out restructuring with a view to resuming its scheduled operations in 2018.

One of last year's biggest airline casualties was Taiwanese carrier TransAsia Airways, which ceased flights in November. In January, its shareholders voted for its dissolution, and its route rights were reassigned later that month.

Airlines suspending operations in 2017 so far (selected)

Airline	Country	Business model
Air Carnival	India	Regional
Air Costa	India	Mainline
Borajet	Turkey	Regional
InselAir Aruba	Aruba	Regional
Mega Maldives Airlines	Maldives	Mainline
Rainbow Airlines	Zimbabwe	Regional
VECA	El Salvador	Low-cost

Source: FlightGlobal, data as of 31 August 2017, carriers may subsequently resume services

Air Berlin SAS LOT

ALLIANCE



Lufthansa



EUROPEAN AIRPORTS GROWTH STORY

Rapid growth, notably by low-cost carriers, meant World Routes host airport Barcelona was the seventh biggest European airport by passenger number in 2016.

Barcelona El Prat handled just over 44 million passengers during the year, an increase of more than 11% on 2015. This was the fastest growth of any of Europe's 10 biggest airports and closed the gap on another Spanish airport, Madrid Barajas. The latter also enjoyed strong growth, with passenger numbers up almost 8% to just over 50 million.

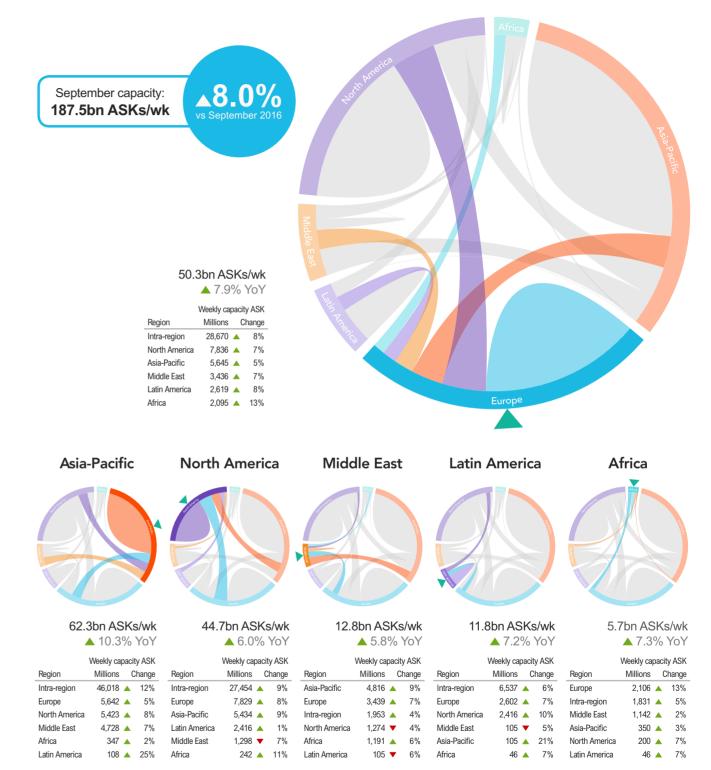
There was also notable growth at Amsterdam Schiphol. Passenger numbers from the Dutch airport increased just under 10% to almost 64 million, making it Europe's third biggest airport.

Schiphol is one of five European airports to feature among the biggest 15 airports by passenger number in 2016.

London Heathrow remains the biggest European airport in handling just over 75 million passengers last year. That represents a 1% increase over 2015. It ranks as the seventh largest airport in the world, having been overtaken by fast-growing Los Angeles airport in terms of passenger numbers.

After years of strong growth, passenger numbers fell at Istanbul Ataturk by 2% in 2016, amid the political unrest and terrorist actions which impacted wider travel demand to Turkey last year. That included the devastating bomb blast at Ataturk itself in June 2016.





Notes: Data based on one week of schedules data, September 2017 against September 2016 Figures reflect airlines operating nonstop unrestricted scheduled passenger services

Seattle Hub of Innovation

Long known as a world leader in innovation, Seattle is the birthplace of some of the world's most well-known companies, including Microsoft, Amazon, Starbucks, and Boeing.

The ninth busiest airport in North America, Seattle-Tacoma International Airport connects this vibrant region with over 100 nonstop destinations worldwide.

SEATTLE-TACOMA INTERNATIONAL AIRPORT

