



Megahubs **International Index** 2018

The World's Most Internationally Connected Airports



Contents

About OAG Megahubs International Index 2018	3
Methodology	3
Top 50 International Megahubs	4
Key Highlights	5
Top 25 Low-Cost Megahubs	6
Top Megahubs by Region	8
– Asia Pacific	8
– Europe, Middle East and Africa	8
– Latin America	8
– North America	8
Glossary of Codes	10



About OAG Megahubs International Index 2018

The OAG Megahubs International Index 2018 reveals the 50 most internationally connected airports in the world. The index is generated by comparing the number of scheduled connections to and from international flights with the number of destinations served from the airport. The Megahubs International Index harnesses the world's most comprehensive schedules database to dynamically build connections through a dedicated analytics platform, Connections Analyser, and is further enhanced by OAG's MCT Exception Table.

In an increasingly competitive landscape, providing measures to enable comparison between leading international airports is key. The Megahubs International Index measures the effectiveness of the world's leading international hubs as connecting points, globally and regionally, and provides a platform for comparison for these international airports.

The OAG Megahubs International Index 2018 presents connectivity data as a series of tables based on regional location and airline type. This year the index includes the dominant carrier at each hub and the share of flights operated by that carrier.

Methodology

OAG has calculated the total number of all possible connections between inbound and outbound flights within a six-hour window, where either the inbound, outbound, or both flights are international, at the largest 200 airports in the world (based on total scheduled seats in July 2018) and at the largest 200 international airports (based on total international scheduled seats in July 2018) on the busiest day for global aviation over the 12 months to July 2018.

For the purposes of this analysis, in addition to the in-built business rules within OAG Connections Analyser, the following customisable criteria were chosen for all operating flights:

- Single international* connections only to/from the chosen airports;
- Maximum circuitry of 150;
- Minimum Connection Time (MCT) varies by individual airport. OAG holds the MCT information for every commercial airport in operation;
- Maximum Connection Window of six hours;

OAG Connections Analyser harnesses the power of the OAG Schedules database to dynamically build connections and is further enhanced by including OAG's MCT Exceptions Table. At any one time, there are typically over 120,000 exceptions globally. These are typically less than published MCTs and it is the responsibility of the airlines involved to ensure that the connection time remains realistic for passengers to make the connection.

*international connections include domestic to international, international to domestic and international to international connections

Top 50 International Megahubs

The top 50 International Megahubs are those airports with the highest ratio of possible scheduled international connections to the number of destinations served by the airport. Online and interline connections are included and utilising the power of Connections Analyser, low-cost carriers (LCC) connections are also included.

Rank	Airport	Country	Connectivity Index	Dominant Carrier	Share of Flights at Hub
1	LHR	United Kingdom	333	British Airways	52%
2	ORD	USA	306	United Airlines	48%
3	FRA	Germany	302	Lufthansa	63%
4	AMS	Netherlands	286	KLM	51%
5	YYZ	Canada	271	Air Canada	60%
6	LAX	USA	257	American Airlines	21%
7	ATL	USA	256	Delta Air Lines	79%
8	SIN	Singapore	253	Singapore Airlines	23%
9	CDG	France	250	Air France	51%
10	CGK	Indonesia	249	Garuda Indonesia	28%
11	MUC	Germany	237	Lufthansa	59%
12	KUL	Malaysia	233	AirAsia	40%
13	HKG	Hong Kong (SAR) China	230	Cathay Pacific Airways	26%
14	BKK	Thailand	230	Thai Airways International	21%
15	ICN	South Korea	216	Korean Air	23%
16	JFK	USA	207	Delta Air Lines	34%
17	IST	Turkey	205	Turkish Airlines	80%
18	DXB	UAE	194	Emirates	45%
19	MIA	USA	192	American Airlines	75%
20	MEX	Mexico	181	Aeromexico	46%
21	HND	Japan	179	All Nippon Airways	37%
22	IAH	USA	174	United Airlines	81%
23	EWR	USA	172	United Airlines	70%
24	PVG	China	169	China Eastern Airlines	27%
25	DEL	India	168	IndiGo	26%
26	DFW	USA	166	American Airlines	84%
27	YVR	Canada	159	Air Canada	46%
28	FCO	Italy	156	Alitalia	43%
29	SYD	Australia	155	Qantas Airways	34%
30	SFO	USA	155	United Airlines	49%
31	CAN	China	149	China Southern Airlines	49%
32	PEK	China	148	Air China	40%
33	MNL	Philippines	146	Cebu Pacific Air	32%
34	MAD	Spain	138	Iberia	47%
35	SEA	USA	136	Alaska Airlines	50%
36	SVO	Russian Federation	132	Aeroflot	83%
37	GRU	Brazil	131	LATAM Airlines Group	31%
38	BOM	India	127	Jet Airways	27%
39	BOG	Colombia	122	Avianca	58%
40	BOS	USA	121	JetBlue	26%
41	ZRH	Switzerland	121	SWISS	52%
42	NRT	Japan	120	All Nippon Airways	18%
43	JNB	South Africa	119	South African Airways	42%
44	YUL	Canada	114	Air Canada	57%
45	VIE	Austria	114	Austrian Airlines	54%
46	PHL	USA	105	American Airlines	78%
47	PTY	Panama	104	Copa Airlines	89%
48	FLL	USA	102	JetBlue	26%
49	SGN	Vietnam	100	Vietnam Airlines	37%
50	BCN	Spain	100	Vueling Airlines	41%

*Although HKG and BKK both display a connectivity index of 230, there is a marginal difference before rounding. HKG scored 230.0 and BKK scored 229.8.

Key Highlights

- Once again the most internationally connected airport in the world is **London Heathrow Airport (LHR)**. With an International Connectivity Index which is higher than its nearest rival by some margin, LHR ranks as the world's No. 1 Megahub. On the busiest day for aviation in 2018, there were 66,000 possible international connections between flights arriving and departing at the airport within a six-hour window.
- **Chicago O'Hare (ORD)** has moved up the Megahubs index and is ranked in 2nd place this year. The airport has more potential international connections on the busiest day but these are spread across a greater number of destinations.
- Ranked 3rd and 4th are **Frankfurt Airport (FRA)** and **Amsterdam Airport (AMS)**, securing three of the top 4 places for European hub airports.
- The next largest Megahub in North America is **Toronto Airport (YYZ)**, which is ranked 5th overall.
- **Beijing Airport (PEK)** is the largest airport in the world in terms of scheduled airline capacity (seats) but has half the number of possible international connections on the busiest day, taking its ranking down to 32.
- **Shanghai Pudong Airport (PVG)**, while smaller than the Beijing hub, achieves a higher position in the International Megahubs Index because there are more possible connections for each destination.
- The largest Megahubs in Asia Pacific are all located in South East Asia. **Singapore Changi Airport (SIN)** ranks 8th overall, followed by **Jakarta Airport (CGK)** in 10th place. **Kuala Lumpur Airport (KUL)**, **Hong Kong Airport (HKG)** and **Bangkok Airport (BKK)** are also within the top 15 International Megahubs.
- Another Asian hub, **Incheon (ICN)**, makes it into the top 15 International Megahubs in 15th place.
- Ranked 21st in the International Megahubs Index, **Tokyo Haneda Airport (HND)** has scheduled air services to relatively few destinations – just 83.
- **Istanbul Airport (IST)** comes in just ahead of **Dubai International Airport (DXB)** in 17th place with 55,000 possible international connections within a six-hour window.
- The highest ranked Latin American Megahub in this year's Index is **Mexico City Airport (MEX)**, placed 20th followed by **Sao Paulo Guarulhos Airport (GRU)** in 37th place.
- A key characteristic of many of the top 50 Megahubs is that they have one airline which operates 40 percent or more of flights.



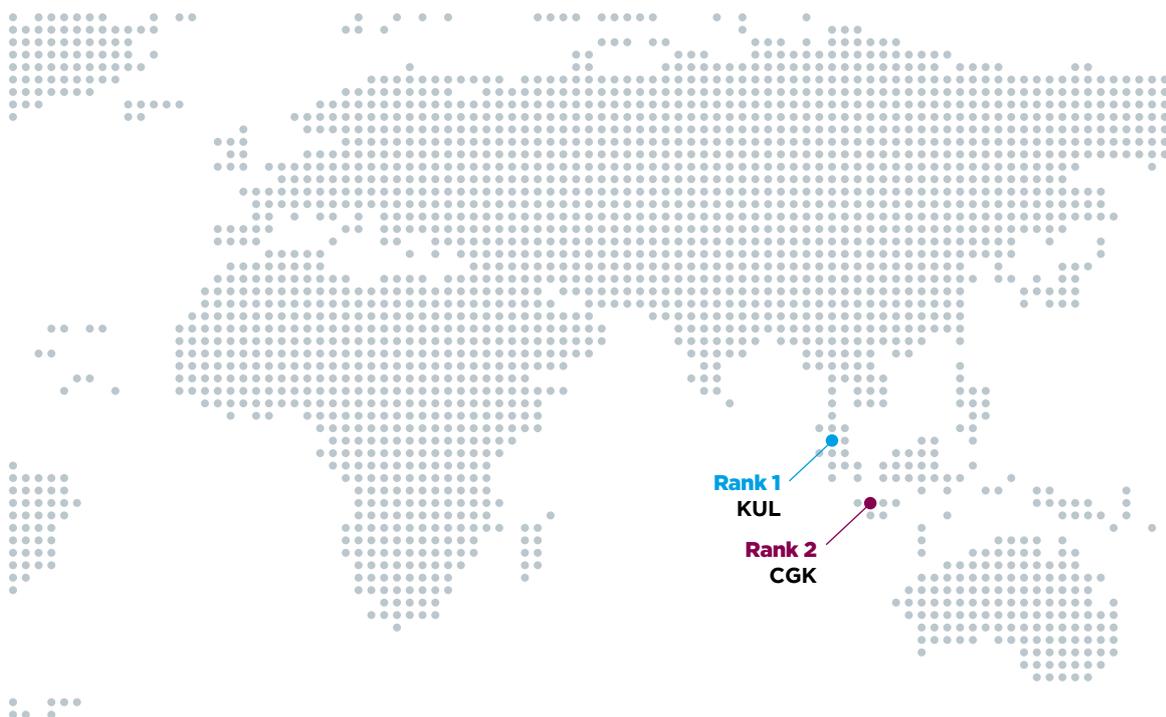
Top 25 Low-Cost International Megahubs

With airports and airlines themselves facilitating international connections more and more between low-cost flights, we have compiled the top 25 Megahubs for low-cost connections which include the same or different low-cost carriers.

Rank	Airport	Country	Connectivity Index	Dominant Carrier	Share of Flights at Hub
1	KUL	Malaysia	135	AirAsia	40%
2	CGK	Indonesia	92	Garuda Indonesia	28%
3	SIN	Singapore	91	Singapore Airlines	23%
4	MNL	Philippines	82	Cebu Pacific Air	32%
5	DMK	Thailand	80	Thai AirAsia	44%
6	DEL	India	79	IndiGo	26%
7	ICN	South Korea	74	Korean Air	23%
8	BCN	Spain	71	Vueling Airlines	41%
9	FLL	USA	69	JetBlue	26%
10	LAX	USA	68	American Airlines	21%
11	DXB	UAE	68	Emirates	45%
12	MEX	Mexico	68	Aeromexico	46%
13	JFK	USA	67	Delta Air Lines	34%
14	BOM	India	66	Jet Airways	27%
15	YYZ	Canada	59	Air Canada	60%
16	MCO	USA	55	Southwest Airlines	28%
17	AMS	Netherlands	54	KLM	51%
18	SAW	Turkey	50	Pegasus Airlines	59%
19	SGN	Vietnam	44	Vietnam Airlines	37%
20	BOS	USA	44	JetBlue	26%
21	GRU	Brazil	43	LATAM Airlines Group	31%
22	FCO	Italy	41	Alitalia	43%
23	LGW	United Kingdom	41	easyJet	44%
24	SJU	Puerto Rico	41	JetBlue	23%
25	DPS	Indonesia	41	Garuda Indonesia	18%

Key Highlights

- The top three places for the low-cost International Megahubs remain as they were in 2017, with **Kuala Lumpur Airport (KUL)** ranked in 1st place. Low-cost carrier AirAsia dominates the airport with 40 percent of flight operations.
- Ranked 2nd is **Jakarta Airport (CGK)** and in 3rd place is **Singapore Changi Airport (SIN)**. At both airports the dominant airline is a legacy carrier indicating the strength of competition between legacy and low-cost airlines.
- **Manila Airport (MNL)** has jumped up the rankings from 12th place last year to 4th place this year, with low-cost airline Cebu Pacific the dominant carrier at the airport and operating a third of flights.
- Ranked 8th, **Barcelona Airport (BCN)** is the highest ranked non-Asian airport on the list.
- **Fort Lauderdale Airport (FLL)**, ranked 9th, is the highest placed airport in the Americas, and has risen from 14th to 9th in the rankings. Low-cost carrier JetBlue is the largest airline and operates a quarter of all flights.
- It's clear that an airport can have a dominant legacy carrier and still succeed in having LCC Megahub status, most notably at **Dubai (DXB)** and **Amsterdam (AMS)**.



Top International Megahubs by Region

Asia-Pacific

Rank	Airport	Country	Connectivity Index	Dominant Carrier	Share of Flights at Hub
1	SIN	Singapore	253	Singapore Airlines	23%
2	CGK	Indonesia	249	Garuda Indonesia	28%
3	KUL	Malaysia	233	AirAsia	40%
4	HKG	Hong Kong (SAR) China	230	Cathay Pacific Airways	26%
5	BKK	Thailand	230	Thai Airways International	21%
6	ICN	South Korea	216	Korean Air	23%
7	HND	Japan	179	All Nippon Airways	37%
8	PVG	China	169	China Eastern Airlines	27%
9	DEL	India	168	IndiGo	26%
10	SYD	Australia	155	Qantas Airways	34%

Europe, Middle East and Africa

Rank	Airport	Country	Connectivity Index	Dominant Carrier	Share of Flights at Hub
1	LHR	United Kingdom	333	British Airways	52%
2	FRA	Germany	302	Lufthansa	63%
3	AMS	Netherlands	286	KLM	51%
4	CDG	France	250	Air France	51%
5	MUC	Germany	237	Lufthansa	59%
6	IST	Turkey	205	Turkish Airlines	80%
7	DXB	UAE	194	Emirates	45%
8	FCO	Italy	156	Alitalia	43%
9	MAD	Spain	138	Iberia	47%
10	SVO	Russian Federation	132	Aeroflot	83%

North America

Rank	Airport	Country	Connectivity Index	Dominant Carrier	Share of Flights at Hub
1	ORD	USA	306	United Airlines	48%
2	YYZ	Canada	271	Air Canada	60%
3	LAX	USA	257	American Airlines	21%
4	ATL	USA	256	Delta Air Lines	79%
5	JFK	USA	207	Delta Air Lines	34%
6	MIA	USA	192	American Airlines	75%
7	IAH	USA	174	United Airlines	81%
8	EWR	USA	172	United Airlines	70%
9	DFW	USA	166	American Airlines	84%
10	YVR	Canada	159	Air Canada	46%

Latin America

Rank	Airport	Country	Connectivity Index	Dominant Carrier	Share of Flights at Hub
1	MEX	Mexico	181	Aeromexico	46%
2	GRU	Brazil	131	LATAM Airlines Group	31%
3	BOG	Colombia	122	Avianca	58%
4	PTY	Panama	104	Copa Airlines	89%
5	LIM	Peru	93	LATAM Airlines Group	49%

*Only 5 airports in Latin America meet the criteria for inclusion in the top 50 International Megahubs.

Glossary of Codes

Code	Name	Country
AMS	Amsterdam	Netherlands
ATL	Atlanta	USA
BCN	Barcelona Apt	Spain
BKK	Bangkok	Thailand
BOG	Bogota	Colombia
BOM	Mumbai	India
BOS	Boston	USA
CAN	Guangzhou	China
CDG	Paris Charles de Gaulle	France
CGK	Jakarta	Indonesia
DEL	Delhi	India
DFW	Dallas/Fort Worth	USA
DMK	Bangkok Don Mueang	Thailand
DPS	Denpasar-Bali	Indonesia
DXB	Dubai	UAE
EWR	Newark	USA
FCO	Rome Fiumicino	Italy
FLL	Fort Lauderdale	USA
FRA	Frankfurt	Germany
GRU	Sao Paulo Guarulhos	Brazil
HKG	Hong Kong	Hong Kong (SAR) China
HND	Tokyo Haneda	Japan
IAH	Houston	USA
ICN	Seoul Incheon	South Korea
IST	Istanbul	Turkey
JFK	New York JFK	USA
JNB	Johannesburg	South Africa
KUL	Kuala Lumpur	Malaysia
LAX	Los Angeles	USA
LGW	London Gatwick	United Kingdom
LHR	London Heathrow	United Kingdom
MAD	Madrid	Spain
MCO	Orlando	USA
MEX	Mexico City	Mexico
MIA	Miami	USA
MNL	Manila	Philippines
MUC	Munich	Germany
NRT	Tokyo Narita	Japan
ORD	Chicago O'Hare	USA
PEK	Beijing Capital	China
PHL	Philadelphia	USA
PTY	Panama City	Panama
PVG	Shanghai Pudong	China
SAW	Istanbul Sabiha Gokcen	Turkey
SEA	Seattle-Tacoma	USA
SFO	San Francisco	USA
SGN	Ho Chi Minh	Vietnam
SIN	Singapore	Singapore
SJU	San Juan	Puerto Rico
SVO	Moscow Sheremetyevo	Russian Federation
SYD	Sydney	Australia
VIE	Vienna	Austria
YUL	Montreal	Canada
YVR	Vancouver	Canada
YYZ	Toronto	Canada
ZRH	Zurich	Switzerland

Connections Analyser

Evaluate airport and airline
network connectivity for
better decision making



missed
connections



customize
QSI



schedule
changes



network
impact



what if
analysis



real connection
times



phantom
flights

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