

OAG®

MEGAHUBS

2023 DISCOVER THE MOST CONNECTED
AIRPORTS IN THE WORLD

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ABOUT OAG MEGAHUBS 2023

The **OAG Megahubs Index 2023** reveals the **most internationally connected airports in the world** and the **most domestically connected airports in the U.S. including:**

- Top 50 Most Connected Airports (International)
- Top 25 Most Connected Low-Cost Carrier (LCC) Airports (International)
- Top 25 Most Connected US Airports (Domestic)
- Top 10 Most Connected Airports (International) by region: Europe, EMEA, North America, Latin America and Asia Pacific

Using a connectivity index, Megahubs 2023 measures the effectiveness of the world's leading international airport hubs as connecting points – globally and regionally – as well as gateways into domestic markets and provides a platform for comparison.

The rankings are generated by comparing the **number of scheduled connections** to and from international flights with the **number of destinations served** from the airport.

Megahubs is created using OAG's flight data platform, which contains the most comprehensive airline schedules and global flight connections database in the world, to dynamically build connections and create unique rankings. Megahubs 2023 provides essential insights into how flight connectivity has returned across the world's largest airports.

This year, we return to the full methodology last published in 2019. Each table includes the airport's previous rank in 2019, dominant carrier at each hub and the share of flights operated by that carrier¹.

Methodology

OAG analyzed flight data for the 100 largest airports in the world (based on total scheduled seats in August 2023) and at the largest 100 international airports on the busiest day - Friday 11 August 2023 - for global aviation in the last year (September 2022 - August 2023) and 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).

The connectivity index has used the in-built business rules within OAG Connections Analyser, plus the following customizable criteria were chosen for all operating flights:

- Single international² 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

The Top 25 Low-Cost Carrier (LCC) International Megahubs Index uses the same methodology but the restriction rule is limited to low-cost flights only.

The Top 25 US Domestic Megahubs index uses the same methodology but has different criteria as follows:

- Single domestic connections only to/from the chosen airports
- Maximum circuitry of 120
- Maximum Connection Window of three hours

¹ Dominant carrier analysis includes flights by the operating carrier only, not codeshare or affiliate flights

² International connections include domestic to international, international to domestic and international to international connection.

TOP 50 GLOBAL MEGAHUBS

Key highlights:

- **London Heathrow Airport (LHR) is the most connected airport in the world** this year in first place. LHR is the 4th biggest airport in the world in terms of total scheduled capacity in the year to August 2023. British Airways remains the dominant airline at London Heathrow, operating 50% of all flights. London Heathrow Airport also ranked first in 2019, and while the number of potential connections in the period selected still remains slightly below 2019 levels, London Heathrow ranks highest this year in terms of the ratio of those connections to destinations served.
- **New York's JFK Airport (JFK) is 2nd** in this year's Megahubs Index. New York JFK punches above its weight with high volumes of potential connecting options across its extensive network, and sits just outside the Top 10 largest global airports by scheduled seat capacity. JFK has moved up the rankings considerably from 18th position in 2019, in part driven by American Airlines operating seven more international destinations in 2023, and new services from several carriers including Qantas, Air New Zealand and Air Senegal.
- **The Global Top 20 Megahubs** are evenly distributed across the regions with:
 - 6 in Europe, Middle East and Africa
 - 6 in North America
 - 7 in Asia Pacific
- **The presence of seven Asian airport hubs in the Global Top 20 is significant** considering the region is still on the path towards a full recovery. Most connected of these hubs is **Kuala Lumpur (KUL)** ranking 4th, closely followed by **Tokyo's Haneda Airport (HND)** which ranks 5th.
- **The major European airport hubs - Amsterdam (AMS), Frankfurt (FRA) and Paris (CDG) - join London Heathrow (LHR)** in the Top 10 Global Megahubs. **Istanbul (IST)** also makes it into the Top 10 in 7th place, which is considerably higher than its ranking at 17 in 2019. This does follow a period of fleet expansion from Istanbul's dominant carrier - Turkish Airlines - who have been adding both destinations in Central Asia and the US, and increasing frequency to some points.
- **Other Megahubs of significance** in the Top 20 include **Atlanta (ATL)**, the World's Busiest Airport, which ranks 14th and **Chicago O'Hare (ORD)** which sits in position 10, down from 3rd place in 2019.

#1 LHR

Dominant Carrier
British Airways

Share of Flights **50%**

#2 JFK

Dominant Carrier
Delta Air Lines

Share of Flights **34%**

#3 AMS

Dominant Carrier
KLM-Royal Dutch Airlines

Share of Flights **53%**

#4 KUL

Dominant Carrier
AirAsia

Share of Flights **34%**

#5 HND

Dominant Carrier
All Nippon Airways

Share of Flights **36%**



Source: OAG

TOP 50 GLOBAL 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	Rank in 2019	Dominant Carrier	Share of Flights
1	LHR	United Kingdom	1	British Airways	50%
2	JFK	USA	18	Delta Air Lines	34%
3	AMS	Netherlands	4	KLM-Royal Dutch Airlines	53%
4	KUL	Malaysia	12	AirAsia	34%
5	HND	Japan	22	All Nippon Airways	36%
6	FRA	Germany	2	Deutsche Lufthansa AG	61%
7	IST	Turkey	17	Turkish Airlines	79%
8	ICN	Korea Republic of	11	Korean Air	22%
9	CDG	France	7	Air France	55%
10	ORD	USA	3	United Airlines	48%
11	BKK	Thailand	14	Thai Airways International	14%
12	YYZ	Canada	6	Air Canada	54%
13	SIN	Singapore	9	Singapore Airlines	31%
14	ATL	USA	8	Delta Air Lines	75%
15	MNL	Philippines	29	Philippine Airlines	32%
16	DXB	United Arab Emirates	24	Emirates	39%
17	EWB	USA	23	United Airlines	70%
18	MEX	Mexico	15	Aeromexico	58%
19	CGK	Indonesia	16	Batik Air	21%
20	LAX	USA	13	Delta Air Lines	20%
21	DFW	USA	19	American Airlines	84%
22	MIA	USA	20	American Airlines	65%
23	MUC	Germany	5	Deutsche Lufthansa AG	60%
24	SYD	Australia	26	Qantas Airways	40%
25	DEL	India	35	IndiGo	39%

Source: OAG

TOP 50 GLOBAL MEGAHUBS

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
26	IAH	USA	21	United Airlines	77%
27	MAD	Spain	28	Iberia	49%
28	SEA	USA	37	Alaska Airlines	54%
29	BOG	Colombia	32	Avianca	53%
30	SFO	USA	31	United Airlines	47%
31	FUK	Japan	52	Japan Airlines	19%
32	PVG	China	25	China Eastern Airlines	31%
33	DOH	Qatar	57	Qatar Airways	80%
34	BOM	India	51	IndiGo	42%
35	SAW	Turkey	55	Pegasus Airlines	60%
36	ATH	Greece	56	Aegean Airlines	34%
37	HKG	Hong Kong (sar) China	10	Cathay Pacific Airways	37%
38	YVR	Canada	27	Air Canada	41%
39	JNB	South Africa	38	Airlink	37%
40	SGN	Viet Nam	43	Vietnam Airlines	40%
41	BCN	Spain	45	Vueling Airlines	43%
42	FCO	Italy	34	ITA Airways	31%
43	TPE	Chinese Taipei	54	EVA Airways	24%
44	CAN	China	33	China Southern Airlines	50%
45	BOS	USA	44	Delta Air Lines	26%
46	HAN	Viet Nam	61	Vietnam Airlines	37%
47	MEL	Australia	60	Qantas Airways	34%
48	RUH	Saudi Arabia	73	Saudi Arabian Airlines	41%
49	GRU	Brazil	46	LATAM Airlines Group	48%
50	YUL	Canada	41	Air Canada	57%

Source: OAG

TOP 25 LOW-COST MEGAHUBS

Key highlights:

➤ In the Top 25 Low-Cost Megahubs:

- Asia Pacific airports dominate the rankings with 13 airports (52%).
- EMEA has eight airports (32%).
- North America and Latin America have just two airports each in this league.

➤ This regional dominance reflects the high level of LCC penetration in parts of Asia; South Asia has the highest share of capacity operated by LCCs of any region in the world at 63%. South East Asia has the second highest LCC share, with 53% of all capacity in the region operated by LCCs.

➤ **Kuala Lumpur Airport (KUL)** is ranked 1st in the Low-Cost Megahubs index with 11,188 possible low-cost connections across over 100 destinations. AirAsia is the dominant carrier with a 34% share of flights.

➤ **Incheon (ICN)** is 2nd with Korean Air the dominant carrier with 22% of flights and **Manila (MNL)** is ranked 3rd, with Philippine Airlines the dominant carrier operating 32% of flights.

➤ **Dubai (DXB)** is the highest-ranked non-Asian airport in 7th position, having climbed up from 19th place in 2019.

➤ **New York's JFK Airport (JFK)** is the highest-ranked North American airport in the Top 25 Low-Cost Megahubs in 8th position.

➤ **Barcelona Airport (BCN)** and Istanbul's **Sabiha Gokcen Airport (SAW)** are the highest-ranked airports in Europe to be in the Top 25 in 9th and 10th position.

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

#1 KUL

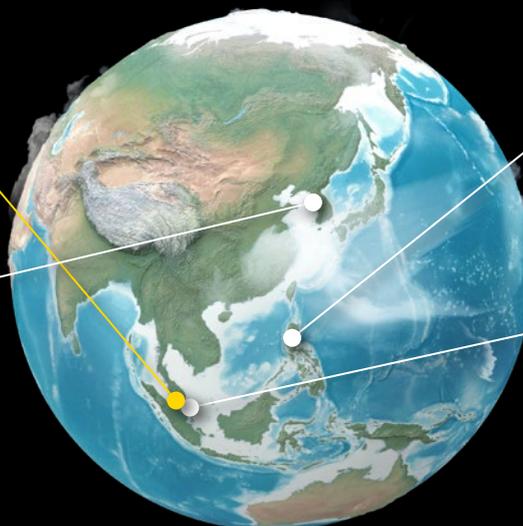
Dominant Carrier
AirAsia

Share of Flights **34%**

#2 ICN

Dominant Carrier
Korean Air

Share of Flights **22%**



#3 MNL

Dominant Carrier
Philippine Airlines

Share of Flights **32%**

#4 SIN

Dominant Carrier
Singapore Airlines

Share of Flights **31%**

TOP 25 LOW-COST MEGAHUBS

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
1	KUL	Malaysia	1	AirAsia	34%
2	ICN	Korea Republic of	4	Korean Air	22%
3	MNL	Philippines	-	Philippine Airlines	32%
4	SIN	Singapore	-	Singapore Airlines	31%
5	CGK	Indonesia	8	Batik Air	21%
6	DEL	India	6	IndiGo	39%
7	DXB	United Arab Emirates	19	Emirates	39%
8	JFK	USA	12	Delta Air Lines	34%
9	BCN	Spain	10	Vueling Airlines	43%
10	SAW	Turkey	16	Pegasus Airlines	60%
11	BOM	India	11	IndiGo	42%
12	BKK	Thailand	33	Thai Airways International	14%
13	FUK	Japan	25	Japan Airlines	19%
14	SGN	Viet Nam	20	Vietnam Airlines	40%
15	DPS	Indonesia	32	Indonesia AirAsia	13%
16	AMS	Netherlands	21	KLM-Royal Dutch Airlines	53%
17	DMK	Thailand	-	Thai AirAsia	52%
18	LGW	United Kingdom	26	Easyjet	51%
19	SYD	Australia	43	Qantas Airways	40%
20	RUH	Saudi Arabia	48	Saudi Arabian Airlines	41%
21	MCO	USA	-	Southwest Airlines	21%
22	MEX	Mexico	-	Aeromexico	58%
23	PMI	Spain	39	Ryanair	23%
24	FCO	Italy	31	ITA Airways	31%
25	CUN	Mexico	36	Vivaaerobus	17%

Source: OAG

TOP 25 US DOMESTIC MEGAHUBS

Key highlights:

- **Chicago O'Hare (ORD) is 1st in the US Domestic Megahubs** (the same position it held in 2019) with United Airlines, their dominant carrier, operating almost half (48%) of all of flights at ORD.
- **Atlanta (ATL)** is in 2nd position (the same position as 2019) with Delta Air Lines dominating at ATL where they operate three quarters of all flights.
- **Denver (DEN)** is 3rd and **Dallas Fort Worth (DFW)** is 4th - both airports have a similar level of potential connections, however this is considerably lower than ORD which offers 30% more potential connections over the same time period.
- At 20 of the Top 25 airports, one of five US legacy carriers is the dominant airline, but four of the airports have low-cost Southwest Airlines as the carrier with the largest market share, showing just how much potential there is for low-cost connectivity.

As the largest domestic aviation market in the world, we include a US domestic Top 25 Megahubs. These airports are those with the highest ratio of possible scheduled connections to the number of destinations served by that airport.



TOP 25 US DOMESTIC MEGAHUBS

As the United States is currently the largest domestic aviation market in the world, we have included the Top 25 US Domestic Airport Megahubs. These airports are those with the highest ratio of possible scheduled connections to the number of destinations served by that airport.

Rank	Airport	Airport Name	Rank in 2019	Dominant Carrier (Domestic Flights only)	Share of Flights
1	ORD	Chicago O'Hare International Apt	1	United Airlines	48%
2	ATL	Atlanta Hartsfield-jackson Intl Apt	2	Delta Air Lines	75%
3	DEN	Denver Intl Apt	3	United Airlines	50%
4	DFW	Dallas Dallas/Fort Worth Intl Apt	5	American Airlines	84%
5	CLT	Charlotte	4	American Airlines	86%
6	SEA	Seattle-Tacoma International Apt	10	Alaska Airlines	54%
7	LAX	Los Angeles International Apt	22	Delta Air Lines	20%
8	LAS	Las Vegas McCarran International Apt	8	Southwest Airlines	43%
9	DTW	Detroit Metropolitan Wayne County	21	Delta Air Lines	74%
10	IAH	Houston George Bush Intercont.	14	United Airlines	77%
11	LGA	New York LaGuardia Apt	6	Delta Air Lines	47%
12	DCA	Washington Ronald Reagan National Apt	7	American Airlines	61%
13	MSP	Minneapolis/St Paul International Apt	13	Delta Air Lines	73%
14	HNL	Honolulu	30	Hawaiian Airlines	44%
15	SLC	Salt Lake City	19	Delta Air Lines	72%
16	BOS	Boston Edward L Logan Intl Apt	12	Delta Air Lines	26%
17	MDW	Chicago Midway Intl	9	Southwest Airlines	88%
18	PHX	Phoenix Sky Harbor Intl Apt	16	American Airlines	41%
19	SFO	San Francisco	18	United Airlines	47%
20	DAL	Dallas Love Field	17	Southwest Airlines	88%
21	JFK	New York J F Kennedy International Apt	23	Delta Air Lines	34%
22	EWR	Newark Liberty International Apt	15	United Airlines	70%
23	IAD	Washington Dulles International Apt	24	United Airlines	69%
24	BWI	Baltimore Washington International Apt	25	Southwest Airlines	71%
25	PHL	Philadelphia International Apt	20	American Airlines	67%

Source: OAG

TOP 10 MEGAHUBS BY REGION

Key regional highlights:

- The **Europe, Middle East and Africa** Top 10 Megahubs achieve the highest average international Connectivity Index of any region, with an average score of 179.
- **Asia Pacific**, while having the second highest average Connectivity Index for the Top 10 Megahubs, has seen significant change. Five of the region's Top 10 most connected Megahubs are in South East Asia with, as yet, no Chinese airports returning to the Megahubs regional ranking. There are two Japanese airports in the Top 10; **Tokyo Haneda (HND)** and **Fukuoka (FUK)**.
- In **Europe**, **London Heathrow Airport (LHR)** remains in the #1 position. **Amsterdam (AMS)** is in 2nd place and has moved up from 4th place in 2019.
- In the **Middle East and Africa**, **Dubai (DXB)** retains 1st position, **Doha (DOH)** is in 2nd place and South Africa's **Johannesburg (JNB)** is in 3rd place.
- **Mexico City (MEX)** remains the top-ranked Megahub in Latin America, with **Bogota (BOG)** in 2nd place.

ASIA PACIFIC

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
1	KUL	Malaysia	12	AirAsia	34%
2	HND	Japan	22	All Nippon Airways	36%
3	ICN	Korea Republic of	11	Korean Air	22%
4	BKK	Thailand	14	Thai Airways International	14%
5	SIN	Singapore	9	Singapore Airlines	31%
6	MNL	Philippines	29	Philippine Airlines	32%
7	CGK	Indonesia	16	Batik Air	21%
8	SYD	Australia	26	Qantas Airways	40%
9	DEL	India	35	IndiGo	39%
10	FUK	Japan	52	Japan Airlines	19%

Source: OAG

EUROPE, MIDDLE EAST AND AFRICA

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
1	LHR	United Kingdom	1	British Airways	50%
2	AMS	Netherlands	4	KLM-Royal Dutch Airlines	53%
3	FRA	Germany	2	Deutsche Lufthansa AG	61%
4	IST	Turkey	17	Turkish Airlines	79%
5	CDG	France	7	Air France	55%
6	DXB	United Arab Emirates	24	Emirates	39%
7	MUC	Germany	5	Deutsche Lufthansa AG	60%
8	MAD	Spain	28	Iberia	49%
9	DOH	Qatar	57	Qatar Airways	80%
10	SAW	Turkey	55	Pegasus Airlines	60%

Source: OAG

EUROPE

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
1	LHR	United Kingdom	1	British Airways	50%
2	AMS	Netherlands	4	KLM-Royal Dutch Airlines	53%
3	FRA	Germany	2	Deutsche Lufthansa AG	61%
4	IST	Turkey	17	Turkish Airlines	79%
5	CDG	France	7	Air France	55%
6	MUC	Germany	5	Deutsche Lufthansa AG	60%
7	MAD	Spain	28	Iberia	49%
8	SAW	Turkey	55	Pegasus Airlines	60%
9	ATH	Greece	56	Aegean Airlines	34%
10	BCN	Spain	45	Vueling Airlines	43%

Source: OAG

MIDDLE EAST AND AFRICA

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
1	DXB	United Arab Emirates	24	Emirates	39%
2	DOH	Qatar	57	Qatar Airways	80%
3	JNB	South Africa	38	Airlink	37%
4	RUH	Saudi Arabia	73	Saudi Arabian Airlines	41%
5	CAI	Egypt	88	Egyptair	42%
6	ADD	Ethiopia	81	Ethiopian Airlines	96%
7	JED	Saudi Arabia	82	Saudi Arabian Airlines	41%
8	KWI	Kuwait	94	Jazeera Airways	31%
9	AUH	United Arab Emirates	84	Etihad Airways	53%
10	BAH	Bahrain	101	Gulf Air	63%

Source: OAG

NORTH AMERICA

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
1	JFK	USA	18	Delta Air Lines	34%
2	ORD	USA	3	United Airlines	48%
3	YYZ	Canada	6	Air Canada	54%
4	ATL	USA	8	Delta Air Lines	75%
5	EWL	USA	23	United Airlines	70%
6	LAX	USA	13	Delta Air Lines	20%
7	DFW	USA	19	American Airlines	84%
8	MIA	USA	20	American Airlines	65%
9	IAH	USA	21	United Airlines	77%
10	SEA	USA	37	Alaska Airlines	54%

Source: OAG

LATIN AMERICA

Rank	Airport	Country	Rank in 2019	Dominant Carrier	Share of Flights
1	MEX	Mexico	15	Aeromexico	58%
2	BOG	Colombia	32	Avianca	53%
3	GRU	Brazil	46	LATAM Airlines Group	49%
4	PTY	Panama	53	Copa Airlines	92%
5	LIM	Peru	58	LATAM Airlines Group	59%

Source: OAG

GLOSSARY OF CODES

Code	Name	Country
ADD	Addis Ababa Bole international	Ethiopia
AMS	Amsterdam Schiphol	Netherlands
ATH	Athens International	Greece
ATL	Atlanta Hartsfield-Jackson International	USA
AUH	Abu Dhabi International	UAE
BAH	Bahrain International	Bharain
BCN	Barcelona	Spain
BKK	Bangkok Suvarnabhumi International	Thailand
BLR	Bangalore International	India
BOG	El Dorado International (Bogota)	Colombia
BOM	Chhatrapati Shivaji Maharaj International (Mumbai)	India
BOS	Boston Edward L Logan International	USA
BWI	Baltimore Washington International	USA
CAI	Cairo International	Egypt
CDG	Paris Charles de Gaulle	France
CGK	Jakarta Soekarno-Hatta	Indonesia
CLT	Charlotte Douglas International	USA
CUN	Cancun International	Mexico
DAL	Dallas Love Field	USA
DCA	Washington Ronald Reagan National	USA
DEL	Indira Gandhi International (Delhi)	India
DEN	Denver International	USA
DFW	Dallas Dallas/Fort Worth International	USA
DOH	Hamad International (Doha)	Qatar
DTW	Detroit Metropolitan Wayne County	USA
DXB	Dubai International	UAE
EWR	Newark Liberty International	USA
FLL	Fort Lauderdale/Hollywood International	USA
FRA	Frankfurt International	Germany
GRU	Sao Paulo Guarulhos International	Brazil
HND	Tokyo International (Haneda)	Japan
HNL	Honolulu	USA
HYD	Hyderabad Rajiv Gandhi International	India
IAD	Washington Dulles International	USA
IAH	Houston George Bush Intercontinental	USA
IST	Istanbul	Turkey

Code	Name	Country
JED	King Abdulaziz International (Jeddah)	Saudi Arabia
JFK	New York J F Kennedy International	USA
KUL	Kuala Lumpur International	Malaysia
KWI	Kuwait International	Kuwait
LAS	Las Vegas McCarran International	USA
LAX	Los Angeles International	USA
LGA	New York LaGuardia	USA
LHR	London Heathrow	United Kingdom
LIM	Jorge Chavez International (Lima)	Peru
MAD	Madrid Adolfo Suarez-Barajas	Spain
MCO	Orlando International	USA
MCT	Muscat International	Oman
MDW	Chicago Midway International	USA
MEL	Melbourne	Australia
MEX	Mexico City Juarez International	Mexico
MIA	Miami International	USA
MNL	Manila Ninoy Aquino International	Philippines
MSP	Minneapolis/St Paul International	USA
MUC	Munich International	Germany
OGG	Kahului	USA
ORD	Chicago O'Hare International	USA
PHL	Philadelphia International	USA
PHX	Phoenix Sky Harbor International	USA
RUH	King Khalid International (Riyadh)	Saudi Arabia
SAW	Istanbul Sabiha Gokcen	Turkey
SEA	Seattle-Tacoma International	USA
SFO	San Francisco	USA
SGN	Tan Son Nhat International (Ho Chi Minh City)	Vietnam
SIN	Singapore Changi	Singapore
SLC	Salt Lake City	USA
SVO	Moscow Sheremetyevo International	Russian Federation
SYD	Sydney Kingsford Smith	Australia
YUL	Montreal Pierre Elliott Trudeau International	Canada
YVR	Vancouver International	Canada
YYZ	Toronto Lester B Pearson International	Canada

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