

Global Aviation Monitor (GAM)

Analysis and Short Term
Outlook of Global, European
and German Air Transport

December 2018



Main Results of Global Air Transport Supply Analysis and Outlook

Background:

- Covers about 3,500 airports worldwide
- Covers about 850 airlines worldwide
- Air transport supply of 2018: More than 38 M flights (non-stop) worldwide, new record value
- Busiest month 2018: August with 3.5 M flights
- Air traffic increases slowly since April 2013
- Forecasting methodology: Time series analysis
- The mean absolute forecast error over a twelve month period typically lies in a range of between 0.5 and 1.5 percentage points for a forecast horizon of 1, 2 & 3 months.

Analysis: January 2018 – December 2018

Global

- History: About 5 % growth per year before financial crisis 2008/2009, then a rapid decline of more than 9 % between February 2008 and February 2009, followed by a rather slow recovery until 2011 (7.2 % increase between February 2009 and February 2011). Since 2011, the number of flights grows only very slowly; stagnation between September 2012 and March 2013, small growth rates since April 2013; growth rates of around 3 % since March 2015, 3.0 %- 6.3 % between December 2015 and December 2018
- December 2018: 3.2 M flights supplied (+4.1 %)
- Airports: Heterogeneous development of no. of flights offered; strong growth e.g. at Chicago, Denver and Frankfurt (5 % and more)
- Airlines: Heterogeneous development of no. of flights offered; strong growth e.g. of United Airlines, China Southern, Lufthansa, IndiGo and LATAM (LATAM: merger LAN Chile and TAM)

World Regions, Europe

- In Europe, 4.9 % traffic increase; in Asia continued growth around 5 %
- Airports: Heterogeneous developments of no. of flights offered; strong increase e.g. at Moskau Sheremetyevo and Vienna, however, decline at some airports, e.g. Istanbul Ataturk
- Airlines: Heterogeneous developments of flights, some airlines, e.g. Lufthansa, Aeroflot and LOT with strong growth, strong growth in the low cost segment, e.g. Easyjet; new: Eurowings (former Lufthansa and germanwings flights in Germany and Europe are now operated by Eurowings except at Frankfurt; long-haul low cost flights from Cologne, Munich and Dusseldorf). Air Berlin: insolvency: parts of Air Berlin went to Lufthansa/Eurowings: LGW; Easyjet acquired parts of Air Berlin. Some airlines, e.g. SAS with decreasing supply; Some additional flights of Ryanair with Laudamotion flightnumber

Germany

- Airports: Some bigger airports, e.g. Frankfurt with strong growth, some small airports e.g. Memmingen, with traffic growth; some German airports with downward trend, e.g. Hahn
- Airlines: Heterogeneous developments of number of flights offered; strong growth of e.g. Easyjet and Ryanair; flybe with decreasing traffic

Outlook: January 2019 – March 2019

Global

- For the next few months, a traffic growth between 4 % and 5 % is expected

World Regions, Europe

- For the next few months, a traffic growth between 4 % and 5 % is expected

Germany

- For the next few months, a traffic growth of around 10 % is expected

Rank	Airport	12/2018	Growth rate
1	Chicago O'Hare International	37.175	5,4
2	Atlanta Hartsfield-Jackson Intl	35.027	0,2
3	Los Angeles International	27.220	-0,3
4	Dallas/Fort Worth Intl	26.451	1,5
5	Beijing Capital	26.139	1,0
6	Denver Intl	23.494	6,2
7	Charlotte	21.467	0,8
8	Shanghai Pudong International	21.314	-0,3
9	Jakarta Soekarno-Hatta	21.163	0,1
10	Guangzhou	20.419	2,3
11	Delhi	19.611	3,4
12	London Heathrow	19.284	-0,8
13	Tokyo Haneda	19.178	1,2
14	Amsterdam	19.027	1,1
15	Houston George Bush Intercontinental	18.891	2,9
16	Frankfurt International	18.759	7,0
17	Paris Charles de Gaulle	18.547	4,5
18	New York J F Kennedy International	18.361	3,5
19	Mexico City Juarez International	18.179	3,5
20	San Francisco International	17.798	-3,3
21	Istanbul Ataturk	17.707	-3,5
22	Hong Kong International	17.676	0,2
23	Kuala Lumpur International	17.621	1,6
24	Toronto Lester B Pearson Intl	17.310	-3,2
25	Newark Liberty International	17.209	1,9

Tab. 1: Number of monthly Take-offs at the largest Airports in the World

Rank	Airport	12/2018	Growth rate
1	Frankfurt International	18.759	7,0
2	Munich International	15.015	8,0
3	Dusseldorf International	7.987	27,3
4	Berlin Tegel	7.739	63,7
5	Hamburg	5.236	3,1
6	Stuttgart	3.833	13,4
7	Cologne/Bonn K.A.	3.368	5,0
8	Berlin Schoenefeld	3.158	-1,4
9	Hanover	1.702	4,2
10	Nuremberg	1.450	4,0
11	Leipzig/Halle	866	20,3
12	Bremen	763	5,7
13	Dresden	697	7,9
14	Dortmund	674	22,5
15	Frankfurt Hahn	478	-19,5
16	Memmingen	395	20,8
17	Munster	337	17,4
18	Paderborn	282	100,0
19	Karlsruhe/Baden Baden	276	-3,8
20	Dusseldorf Niederrhein	236	-13,9
21	Friedrichshafen	195	11,4
22	Saarbrücken Ensheim	192	42,2
23	Rostock-Laage	81	-3,6
24	Mannheim	60	-31,0
25	Erfurt	32	10,3

Tab. 3: Number of monthly Take-offs at the largest Airports in Germany

Rank	Airport	12/2018	Growth rate
1	London Heathrow	19.284	-0,8
2	Amsterdam	19.027	1,1
3	Frankfurt International	18.759	7,0
4	Paris Charles de Gaulle	18.547	4,5
5	Istanbul Ataturk	17.707	-3,5
6	Madrid Barajas	15.708	5,5
7	Moscow Sheremetyevo International	15.491	30,7
8	Munich International	15.015	8,0
9	Barcelona	11.892	7,8
10	Rome Fiumicino	11.721	9,4
11	London Gatwick	10.368	4,1
12	Vienna	9.682	17,6
13	Zurich	9.657	6,6
14	Istanbul Sabiha Gokcen	9.252	6,7
15	Copenhagen	8.994	6,0
16	Paris Orly	8.865	2,0
17	Oslo	8.786	4,0
18	Stockholm Arlanda	8.499	1,1
19	Moscow Domodedovo	8.483	-0,7
20	Dublin	8.302	7,1
21	Lisbon	8.252	2,8
22	Dusseldorf International	7.987	27,3
23	Berlin Tegel	7.739	63,7
24	Brussels	7.684	1,2
25	Milan Malpensa	7.524	13,7

Tab. 2: Number of monthly Take-offs on the largest Airports in Europe

Rank	Airline	12/2018	Growth rate
1	American Airlines	190.382	1,7
2	Delta Air Lines	152.597	0,9
3	United Airlines	147.858	7,1
4	Southwest Airlines	116.531	1,9
5	China Southern Airlines	66.391	7,3
6	China Eastern Airlines	64.281	8,4
7	Ryanair	55.824	7,5
8	Air Canada	46.998	-1,3
9	easyJet	44.852	16,3
10	Air China	42.007	5,7
11	Lufthansa German Airlines	41.686	5,6
12	IndiGo Air	41.609	35,2
13	LATAM	40.307	112,4
14	Turkish Airlines	39.481	0,5
15	Alaska Airlines	38.366	23,2
16	JetBlue Airways Corporation	31.690	3,2
17	All Nippon Airways	30.746	-5,5
18	Aeroflot Russian Airlines	30.147	15,5
19	British Airways	28.160	-1,5
20	Air France	27.152	1,0
21	Japan Airlines International	25.758	3,1
22	Hainan Airlines	23.617	6,5
23	Azul	22.995	6,1
24	Gol Transportes Aereos	22.952	-1,3
25	AVIANCA	22.912	6,9

Tab. 4: Number of monthly Take-offs by the largest Airlines in the World

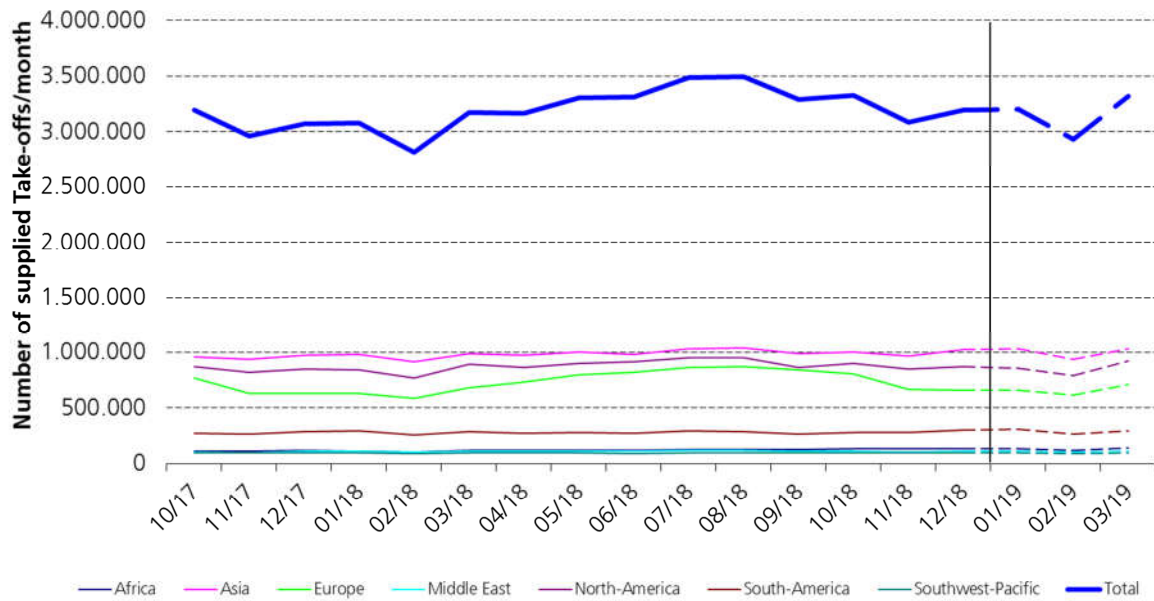
Rank	Airline	12/2018	Growth rate
1	Lufthansa German Airlines	25.809	5,8
2	Eurowings	11.374	17,3
3	easyJet	4.892	126,3
4	Ryanair	4.082	7,1
5	British Airways	1.387	7,0
6	Austrian Airlines AG	1.366	7,1
7	Swiss	1.341	19,4
8	KLM-Royal Dutch Airlines	1.255	2,9
9	Condor Flugdienst	1.164	23,3
10	Turkish Airlines	1.124	3,2
11	Air France	1.117	2,6
12	Wizz Air	1.090	25,9
13	Germania	884	45,6
14	Aeroflot Russian Airlines	880	14,0
15	SAS Scandinavian Airlines	773	3,8
16	TUIfly	703	9,2
17	LOT - Polish Airlines	647	32,6
18	SunExpress	608	26,7
19	British Midland Regional	532	-12,1
20	Pegasus Airlines	507	35,2
21	TAP Air Portugal	477	-1,0
22	Air Dolomiti	469	23,4
23	Flybe	449	-5,9
24	Iberia	438	6,8
25	Luxair	405	52,8

Tab. 6: Number of monthly Take-offs by the largest Airlines in Germany from German airports

Rank	Airline	12/2018	Growth rate
1	Ryanair	54.395	6,8
2	easyJet	44.191	16,0
3	Lufthansa German Airlines	38.384	5,9
4	Turkish Airlines	34.434	0,5
5	Aeroflot Russian Airlines	25.489	15,4
6	Air France	23.626	1,0
7	British Airways	22.740	-2,0
8	SAS Scandinavian Airlines	19.912	-1,3
9	KLM-Royal Dutch Airlines	18.104	2,1
10	Eurowings	16.877	15,2
11	Iberia	15.522	6,6
12	Vueling Airlines	14.820	9,6
13	Alitalia	14.342	6,7
14	Pegasus Airlines	13.904	1,3
15	Wizz Air	13.822	5,7
16	Flybe	13.141	-3,3
17	Swiss	11.001	6,4
18	TAP Air Portugal	10.137	2,4
19	LOT - Polish Airlines	10.027	16,3
20	Finnair	9.603	6,4
21	Austrian Airlines AG	9.505	4,0
22	Norwegian Air Shuttle	9.019	10,6
23	Wideroe's Flyveselskap	9.015	-2,4
24	Norwegian Air International	7.675	23,4
25	Air Europa	7.549	11,6

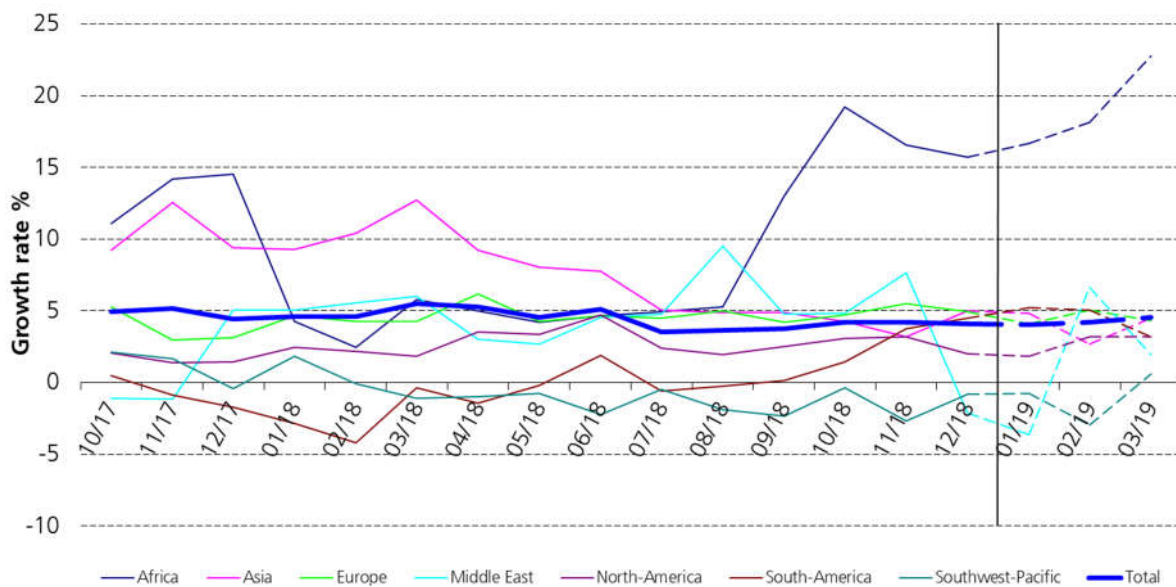
Tab. 5: Number of monthly Take-offs by the largest Airlines in Europe from European airports

Source: OAG 2017/18, DLR 2017/18



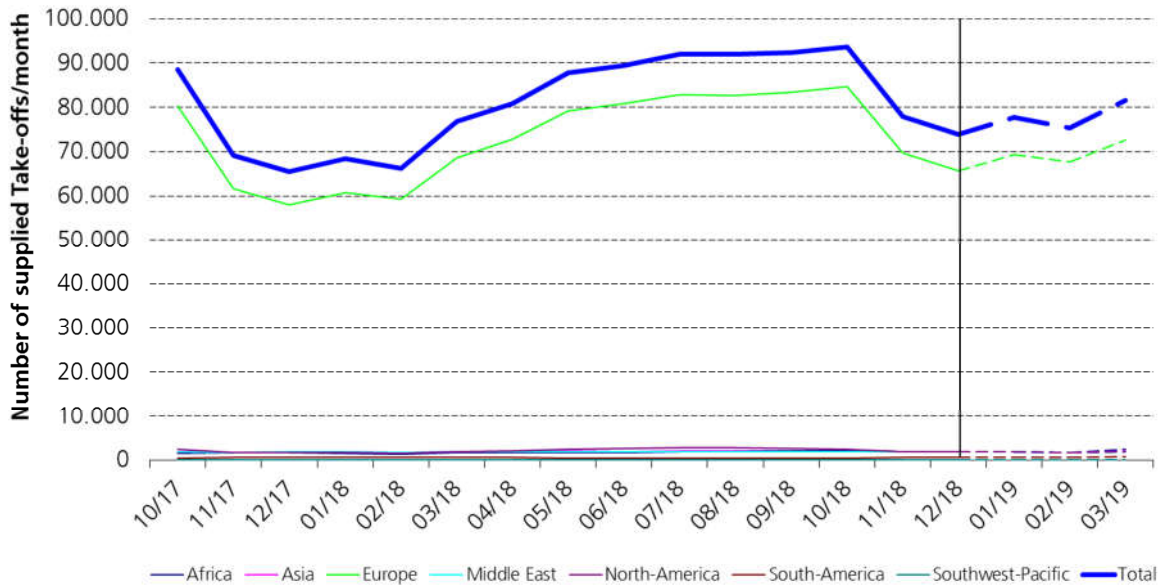
Source: OAG 2017/2018, DLR 2017/2018

Fig. 1: Development of the Global Air Transport Supply



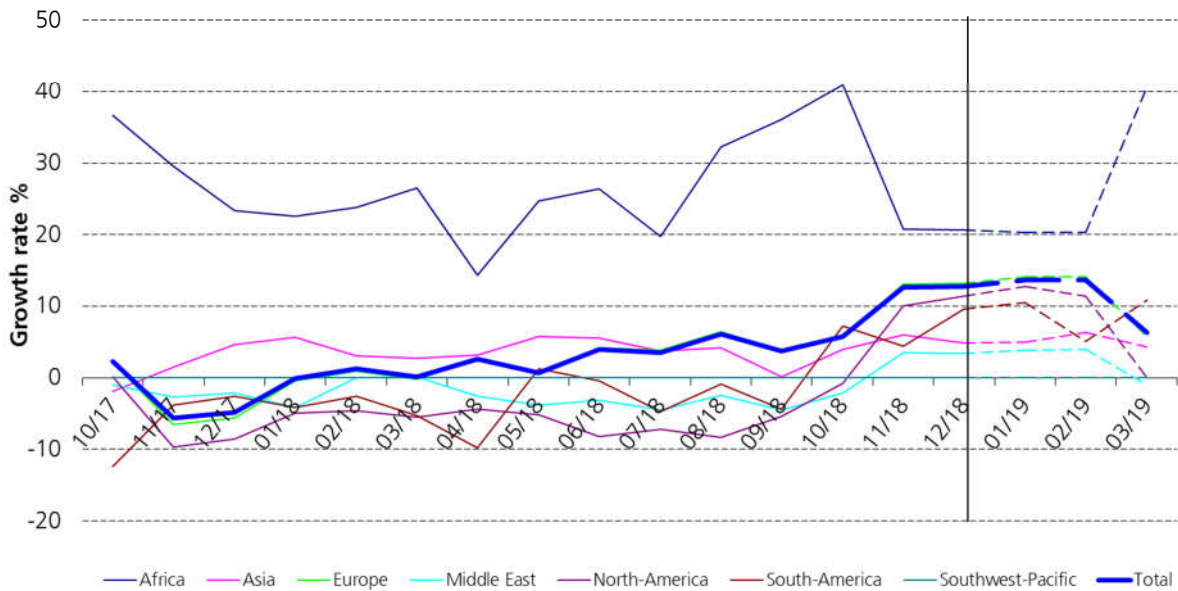
Source: OAG 2017/2018, DLR 2017/2018

Fig. 2: Changes in the Global Air Transport Supply



Source: OAG 2017/2018, DLR 2017/2018

Fig. 3: Development of the German Air Transport Supply



Source: OAG 2017/2018, DLR 2017/2018

Fig. 4: Changes in the German Air Transport Supply

Authors:

Dr. Peter Berster
DLR
Air Transport and Airport Research
D-51147 Cologne
E-Mail: peter.berster@dlr.de

Dr. Marc Gelhausen
DLR
Air Transport and Airport Research
D-51147 Cologne
E-Mail: marc.gelhausen@dlr.de

Holger Pabst
DLR
Air Transport and Airport Research
D-51147 Cologne
E-Mail: holger.pabst@dlr.de

Dieter Wilken
DLR
Air Transport and Airport Research
D-51147 Cologne
E-Mail: dieter.wilken@dlr.de