

Global Aviation Monitor (GAM)

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

December 2017



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 2017: More than 37 M flights (non-stop) worldwide, new record value
- Busiest month 2017: August with 3.4 M flights
- Air traffic increases 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 2017 – December 2017

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 2017
- December 2017: 3.1 M flights supplied (+ 4.4 %)
- Airports: Heterogeneous development of no. of flights offered; strong growth e.g. at Guangzhou, Shanghai, Jakarta and Dehli (5 % and more)
- Airlines: Heterogeneous development of no. of flights offered; strong growth e.g., China Eastern, Lufthansa, Turkish Airlines and IndiGo; some airlines with decrease, e.g. Qantas

World Regions, Europe

- In Europe, 3.1 % traffic increase; in Asia continued growth around 9 %; strong growth in Africa
- Airports: Heterogeneous developments of no. of flights offered; strong increase e.g. at Moscow, Barcelona and Lisbon, however, decline at some airports, e.g. Rome and Copenhagen
- Airlines: Heterogeneous developments of flights, some airlines, e.g. TAP and LOT with strong growth, strong growth in the low cost segment, e.g. Wizz and Vueling; 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). Air Berlin: insolvency: parts of Air Berlin went to Niki (tourist), and LGW; Eurowings (aircraft wet-lease); Lufthansa acquired Niki and LGW; Easyjet acquired parts of Air Berlin. Some airlines, e.g. Alitalia and Swiss with decrease

Germany

- Airports: Some bigger airports, e.g. Frankfurt and some small airports e.g. Memmingen, with strong traffic growth; some German airports with downward trend, e.g. Dresden
- Airlines: Heterogeneous developments of number of flights offered; strong growth of e.g. Wizz Air; some airlines, e.g. SAS with decreasing traffic

Outlook: January 2018 – March 2018

Global

- For the next few months, a traffic growth of around 5 % is expected

World Regions, Europe

- For the next few months, a traffic growth of 3-5 % is expected

Germany

- For the next few months, a traffic growth between - 5 % and + 3 % is expected

Rank	Airport	12/2017	Growth rate
1	Chicago O'Hare International	35.279	4,5
2	Atlanta Hartsfield-Jackson Intl	34.940	-0,5
3	Los Angeles International	27.306	-0,6
4	Dallas/Fort Worth Intl	26.068	-0,6
5	Beijing Capital	25.884	0,6
6	Denver Intl	22.118	-3,2
7	Shanghai Pudong International	21.387	5,4
8	Charlotte	21.299	0,2
9	Jakarta Soekarno-Hatta	21.137	5,1
10	Guangzhou	19.959	5,5
11	London Heathrow	19.448	4,2
12	Delhi	18.969	10,7
13	Tokyo Haneda	18.948	-2,0
14	Amsterdam	18.817	4,7
15	San Francisco International	18.405	6,2
16	Istanbul Ataturk	18.355	4,5
17	Houston George Bush Intercontinental	18.350	-2,0
18	Toronto Lester B Pearson Intl	17.876	3,6
19	Paris Charles de Gaulle	17.748	1,3
20	New York J F Kennedy International	17.747	-1,3
21	Hong Kong International	17.643	2,4
22	Mexico City Juarez International	17.559	-2,9
23	Frankfurt International	17.534	6,7
24	Dubai	17.354	-1,3
25	Kuala Lumpur International	17.346	8,8

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

Rank	Airport	12/2017	Growth rate
1	Frankfurt International	17.534	6,7
2	Munich International	13.908	-1,8
3	Dusseldorf International	6.272	-16,8
4	Hamburg	5.077	-6,7
5	Berlin Tegel	4.727	-31,6
6	Stuttgart	3.379	2,1
7	Cologne/Bonn K.A.	3.207	-0,3
8	Berlin Schoenefeld	3.204	-8,2
9	Hanover	1.634	-1,0
10	Nuremberg	1.394	-1,2
11	Bremen	722	-9,9
12	Leipzig/Halle	720	3,9
13	Dresden	646	-13,4
14	Frankfurt Hahn	594	9,8
15	Dortmund	550	12,5
16	Memmingen	327	21,6
17	Karlsruhe/Baden Baden	287	4,4
18	Munster	287	3,2
19	Dusseldorf Niederrhein	274	-0,4
20	Friedrichshafen	175	-21,9
21	Paderborn	141	-6,6
22	Saarbrücken Ensheim	135	-35,7
23	Mannheim	87	10,1
24	Rostock-Laage	84	16,7
25	Westerland	57	-32,1

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

Rank	Airport	12/2017	Growth rate
1	London Heathrow	19.448	4,2
2	Amsterdam	18.817	4,7
3	Istanbul Ataturk	18.355	4,5
4	Paris Charles de Gaulle	17.748	1,3
5	Frankfurt International	17.534	6,7
6	Madrid Barajas	14.890	2,3
7	Munich International	13.908	-1,8
8	Moscow Sheremetyevo International	11.851	7,3
9	Barcelona	11.036	9,0
10	Rome Fiumicino	10.713	-2,1
11	London Gatwick	9.957	-2,2
12	Zurich	9.060	-1,0
13	Paris Orly	8.692	-3,6
14	Istanbul Sabiha Gokcen	8.674	2,0
15	Moscow Domodedovo	8.543	10,7
16	Copenhagen	8.488	-6,8
17	Oslo	8.446	1,7
18	Stockholm Arlanda	8.403	-1,0
19	Vienna	8.233	-1,1
20	Lisbon	8.024	13,4
21	Dublin	7.750	3,8
22	Brussels	7.596	-2,8
23	Helsinki	6.732	8,2
24	Manchester International	6.659	-2,6
25	Milan Malpensa	6.615	5,6

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

Source: OAG 2016/17, DLR 2016/17

Rank	Airline	12/2017	Growth rate
1	American Airlines	187.164	-0,5
2	Delta Air Lines	151.254	-0,0
3	United Airlines	138.062	1,8
4	Southwest Airlines	114.378	0,8
5	China Southern Airlines	61.892	1,8
6	China Eastern Airlines	59.320	5,3
7	Ryanair	51.947	1,9
8	Air Canada	47.621	2,8
9	Air China	39.731	3,8
10	Lufthansa German Airlines	39.477	6,7
11	Turkish Airlines	39.301	8,3
12	easyJet	38.564	2,5
13	All Nippon Airways	32.531	1,5
14	Alaska Airlines	31.130	4,5
15	IndiGo Air	30.784	13,6
16	JetBlue Airways Corporation	30.701	2,6
17	British Airways	28.600	3,5
18	Air France	26.874	-0,2
19	Aeroflot Russian Airlines	26.112	3,9
20	Japan Airlines International	24.980	3,2
21	Gol Transportes Aereos	23.249	3,5
22	Xiamen Airlines Company	23.065	12,6
23	Hainan Airlines	22.174	12,6
24	Qantas Airways	22.150	-2,9
25	Lion Air	21.847	0,3

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

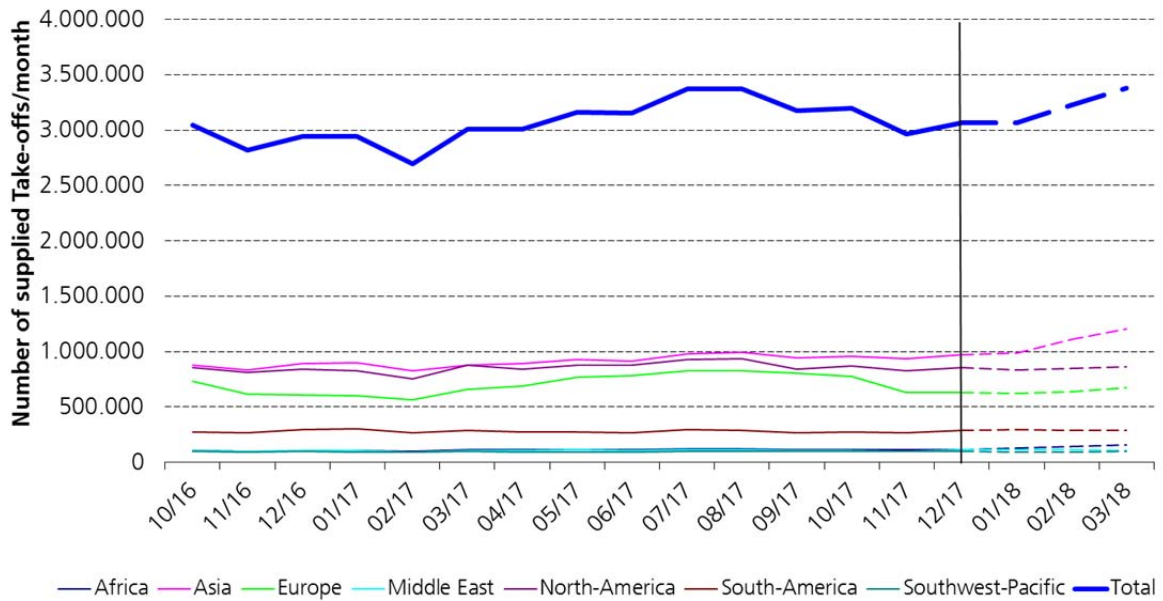
Rank	Airline	12/2017	Growth rate
1	Lufthansa German Airlines	24.394	7,5
2	Eurowings	9.697	313,0
3	Ryanair	3.811	6,8
4	easyJet	2.162	-3,5
5	British Airways	1.296	-3,2
6	Austrian Airlines AG	1.276	14,9
7	KLM-Royal Dutch Airlines	1.220	3,8
8	Swiss	1.123	2,2
9	Air France	1.089	4,8
10	Turkish Airlines	1.089	4,5
11	Condor Flugdienst	944	7,2
12	Wizz Air	866	19,9
13	Aeroflot Russian Airlines	772	-0,4
14	SAS Scandinavian Airlines	745	-10,0
15	NIKI	737	---
16	TUIfly	644	26,0
17	Germania	607	6,5
18	British Midland Regional	605	18,4
19	LOT - Polish Airlines	488	29,4
20	TAP Air Portugal	482	63,4
21	SunExpress	480	-7,9
22	Flybe	477	-19,7
23	Iberia	410	5,9
24	Air Dolomiti	380	4,1
25	Pegasus Airlines	375	10,9

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

Rank	Airline	12/2017	Growth rate
1	Ryanair	50.927	1,3
2	easyJet	38.081	2,3
3	Lufthansa German Airlines	36.260	7,0
4	Turkish Airlines	34.270	9,4
5	Air France	23.397	-0,5
6	British Airways	23.210	3,0
7	Aeroflot Russian Airlines	22.095	4,4
8	SAS Scandinavian Airlines	20.176	-6,8
9	KLM-Royal Dutch Airlines	17.739	8,4
10	Eurowings	14.652	270,7
11	Iberia	14.557	1,4
12	Pegasus Airlines	13.725	12,6
13	Flybe	13.595	-13,5
14	Vueling Airlines	13.524	27,3
15	Alitalia	13.447	-6,2
16	Wizz Air	13.078	15,4
17	Swiss	10.335	-2,6
18	TAP Air Portugal	9.899	14,7
19	Wideroe's Flyveselskap	9.233	-7,3
20	Austrian Airlines AG	9.136	5,4
21	Finnair	9.024	8,6
22	LOT - Polish Airlines	8.619	16,8
23	Norwegian Air Shuttle	8.156	-6,9
24	Aer Lingus	6.900	-0,1
25	Air Europa	6.764	7,8

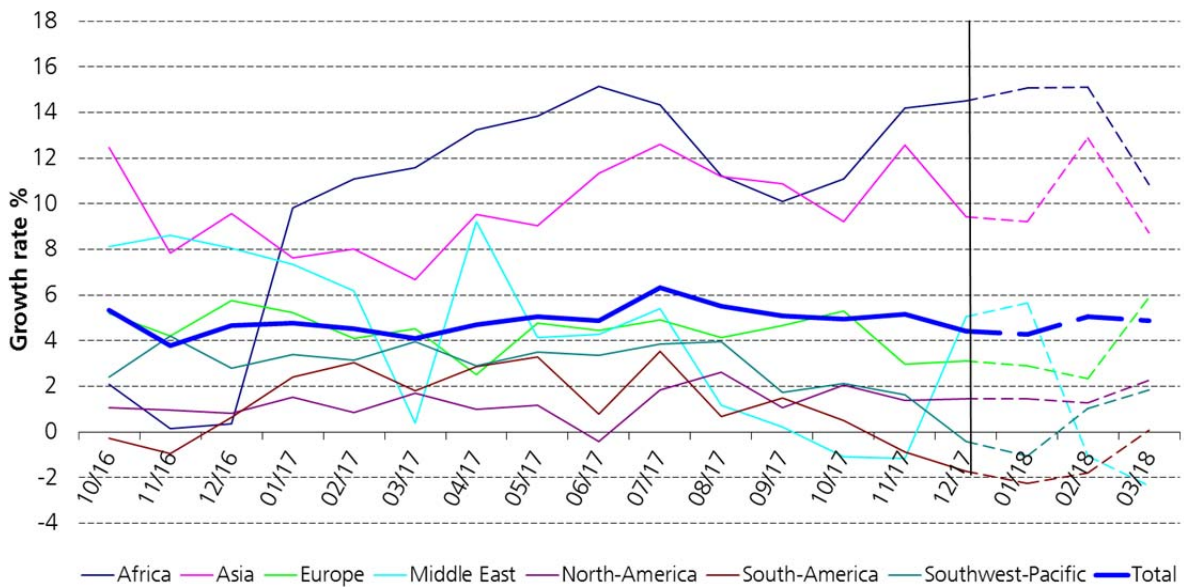
Tab. 5: Number of monthly Take-offs by the largest Airlines in Europe from European airports

Source: OAG 2016/17, DLR 2016/17



Source: OAG 2016/2017, DLR 2016/2017

Fig. 1: Development of the Global Air Transport Supply



Source: OAG 2016/2017, DLR 2016/2017

Fig. 2: Changes in the Global Air Transport Supply

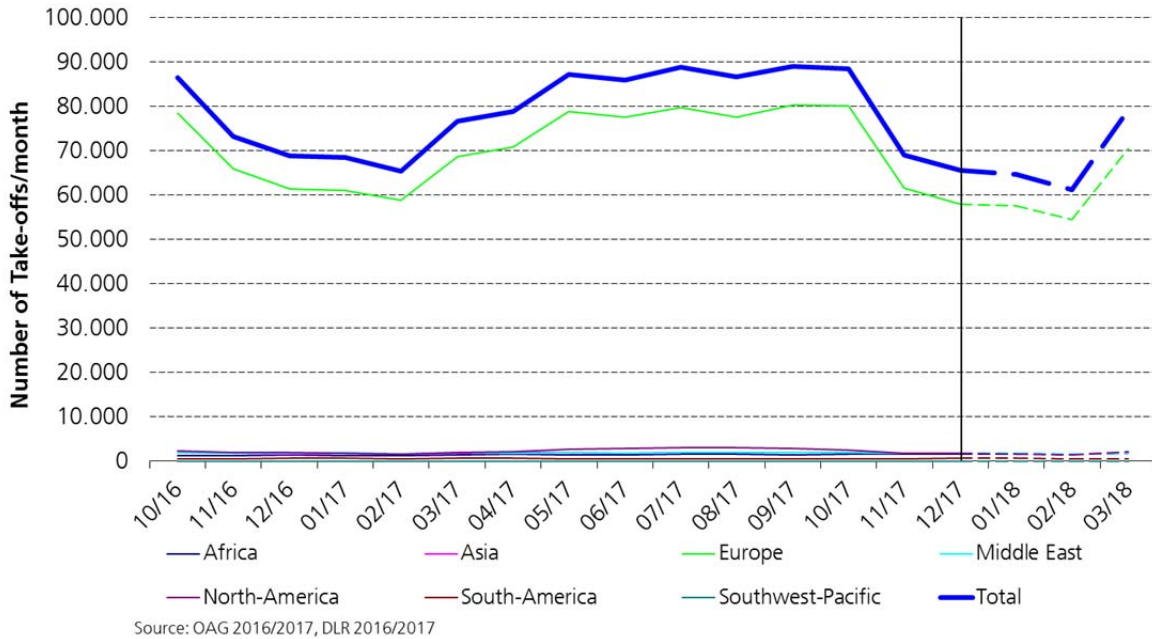


Fig. 3: Development of the German Air Transport Supply

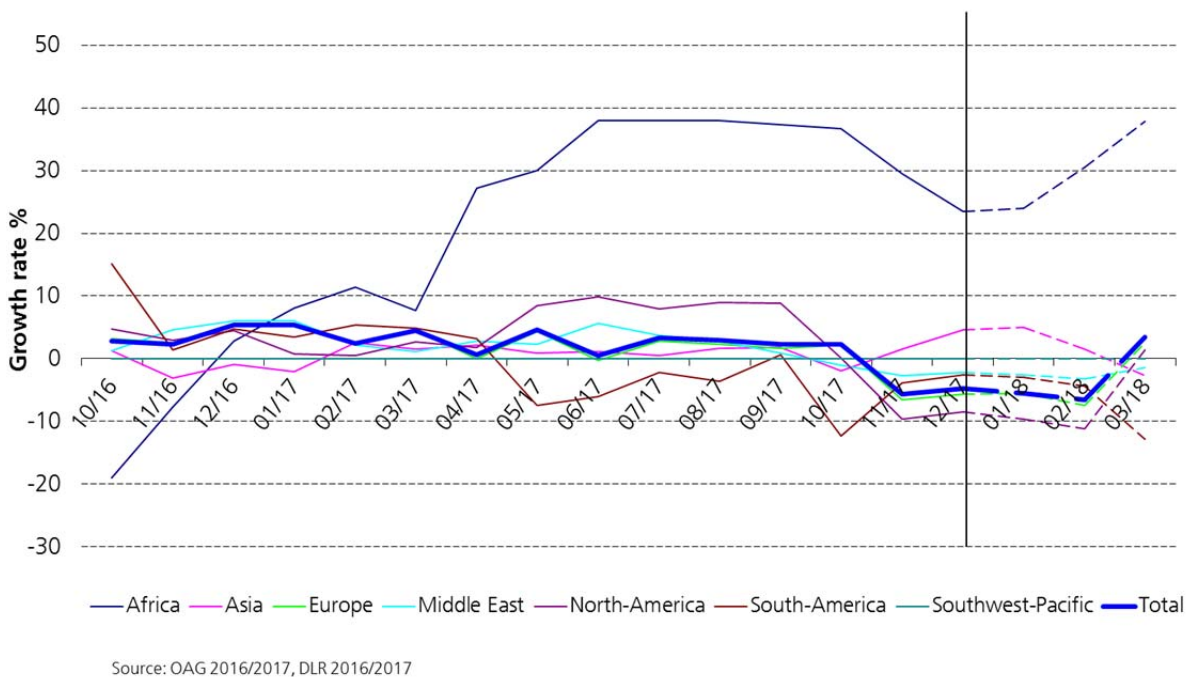


Fig. 4: Changes in the German Air Transport Supply

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