Institute of Air Transport and Airport Research

Global Aviation Monitor (GAM)

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

September 2017

DLR

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 2016: More than 35 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: October 2016 – September 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 September 2017
- September 2017: 3.2 M flights supplied (+5.1%)
- 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., Ryanair, Easyjet, Air China, Aeroflot, Jetblue and IndiGo; some airlines with decrease, e.g. British Airlines and SAS

World Regions, Europe

- In Europe, 4.7% traffic increase; in Asia continued growth around 10%; strong growth in Africa, too
- Airports: Heterogeneous developments of no. of flights offered; strong increase e.g. at Moscow, Manchester, Palma and Stockholm, however, decline at some airports, e.g. Istanbul and Copenhagen
- Airlines: Heterogeneous developments of flights, some airlines, e.g. Aeroflot, TAP and LOT with strong growth, strong growth in the low cost segment, e.g. Wizz, Ryanair and 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). Air Berlin: insolvency August 2017; former strategy: a) core business: Long-haul, b) tourist: Niki, c) wetlease: Eurowings. Some airlines, e.g. Alitalia and Swiss with decrease

Germany

- Airports: Some bigger airports, e.g. Cologne and some small airports e.g. Munster, 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. Ryanair and Wizz Air; some airlines, e.g. British Airways with decreasing traffic

Outlook: October 2017 – December 2017

Global

- For the next few months, a traffic growth of around 5-7 % is expected

World Regions, Europe

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

Germany

- For the next few months, a traffic growth of 2-3 % is expected

Rank	Airport	09/2017	Growth rate
1	Chicago O'Hare International	36.235	1,2
2	Atlanta Hartsfield-Jackson Intl	34.392	-3,1
3	Los Angeles International	26.603	2,1
4	Beijing Capital	25.900	2,8
5	Dallas/Fort Worth Intl	25.579	-1,5
6	Denver Intl	22.735	-1,4
7	Amsterdam	21.727	5,0
8	Shanghai Pudong International	21.454	9,1
9	Frankfurt International	21.172	3,7
10	Charlotte	20.856	3,6
11	London Heathrow	20.329	0,0
12	Jakarta Soekarno-Hatta	20.311	18,0
13	Paris Charles de Gaulle	19.766	-0,0
14	Istanbul Ataturk	19.625	-1,6
15	Guangzhou	19.531	8,9
16	Toronto Lester B Pearson Intl	18.601	2,3
17	San Francisco International	18.387	3,8
18	Tokyo Haneda	18.367	0,5
19	New York J F Kennedy International	18.051	1,1
20	Delhi	17.783	10,6
21	Munich International	17.558	2,0
22	Seattle/Tacoma International	16.965	2,2
23	Hong Kong International	16.869	2,4
24	Houston George Bush Intercontinental	16.665	-3,7
25	Newark Liberty International	16.537	0,6

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

Rank	Airport	09/2017	Growth rate
1	Frankfurt International	21.172	3,7
2	Munich International	17.558	2,0
3	Dusseldorf International	10.006	2,4
4	Berlin Tegel	8.191	0,7
5	Hamburg	6.589	1,7
6	Stuttgart	4.845	0,2
7	Cologne/Bonn K.A.	4.692	6,0
8	Berlin Schoenefeld	3.628	-2,3
9	Hanover	2.492	2,9
10	Nuremberg	2.082	13,6
11	Bremen	1.086	-7,7
12	Leipzig/Halle	1.010	2,7
13	Dresden	793	-13,2
14	Frankfurt Hahn	769	2,0
15	Dusseldorf Niederrhein	621	5,4
16	Dortmund	613	0,8
17	Munster	535	9,2
18	Karlsruhe/Baden Baden	496	-2,2
19	Memmingen	377	18,9
20	Saarbrucken Ensheim	320	1,6
21	Paderborn	284	4,8
22	Friedrichshafen	268	10,7
23	Westerland	162	-5,3
24	Rostock-Laage	135	51,7
25	Erfurt	115	12,7

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

Rank	Airport	09/2017	Growth rate
1	Amsterdam	21.727	5,0
2	Frankfurt International	21.172	3,7
3	London Heathrow	20.329	0,0
4	Paris Charles de Gaulle	19.766	-0,0
5	Istanbul Ataturk	19.625	-1,6
6	Munich International	17.558	2,0
7	Madrid Barajas	15.983	0,3
8	Barcelona	14.415	3,2
9	Rome Fiumicino	13.666	-4,8
10	London Gatwick	13.283	1,0
11	Moscow Sheremetyevo International	12.419	11,4
12	Palma Mallorca	11.099	7,4
13	Copenhagen	10.989	-3,7
14	Moscow Domodedovo	10.707	8,7
15	Stockholm Arlanda	10.664	7,0
16	Zurich	10.634	-0,4
17	Oslo	10.474	0,8
18	Vienna	10.238	-0,4
19	Paris Orly	10.207	-4,8
20	Dusseldorf International	10.006	2,4
21	Brussels	9.587	0,8
22	Dublin	9.580	6,0
23	Manchester International	9.415	7,6
24	Istanbul Sabiha Gokcen	9.283	-4,1
25	Lisbon	8.954	12,4

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

Source: OAG 2016/17, DLR 2016/17

Rank	Airline	09/2017	Growth rate
1	American Airlines	182.285	-0,6
2	Delta Air Lines	152.822	-1,0
3	United Airlines	134.613	-1,2
4	Southwest Airlines	107.857	2,0
5	Ryanair	66.138	10,1
6	China Southern Airlines	62.346	5,0
7	China Eastern Airlines	59.305	4,7
8	Air Canada	49.773	1,1
9	easyJet	49.026	6,2
10	Lufthansa German Airlines	46.127	2,3
11	Turkish Airlines	43.390	1,8
12	Air China	41.147	8,0
13	British Airways	31.821	-2,1
14	Alaska Airlines	30.772	7,6
15	All Nippon Airways	30.647	0,5
16	JetBlue Airways Corporation	28.951	8,5
17	Air France	28.801	-1,3
18	Aeroflot Russian Airlines	28.300	10,1
19	SAS Scandinavian Airlines	27.275	-3,4
20	IndiGo Air	26.924	9,7
21	Japan Airlines International	23.945	5,1
22	Qantas Airways	22.885	-2,2
23	AVIANCA	22.441	2,6
24	KLM-Royal Dutch Airlines	22.137	6,5
25	Hainan Airlines	22.073	12,7

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

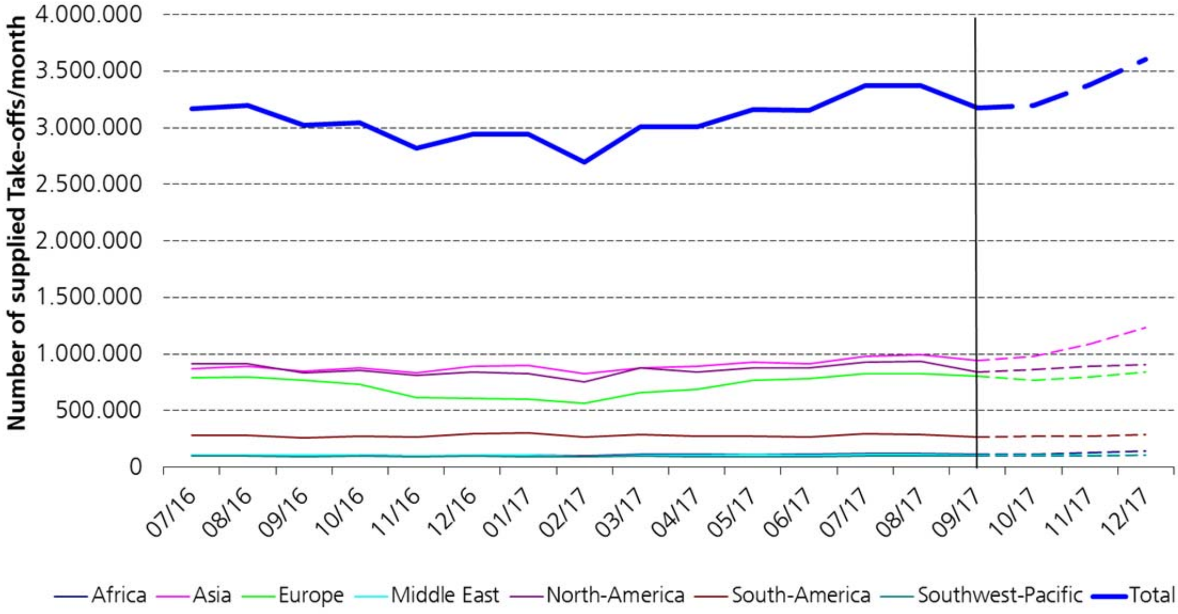
Rank	Airline	09/2017	Growth rate
1	Lufthansa German Airlines	28.132	2,2
2	Air Berlin	8.652	-27,3
3	Eurowings	6.340	106,2
4	Ryanair	4.992	22,3
5	germanwings	4.594	-33,2
6	easyJet	2.499	5,1
7	Condor Flugdienst	2.147	19,8
8	NIKI	2.060	51400,0
9	TUIfly	1.559	0,2
10	SunExpress	1.490	26,2
11	Turkish Airlines	1.419	-10,9
12	KLM-Royal Dutch Airlines	1.375	1,1
13	Austrian Airlines AG	1.374	6,6
14	British Airways	1.319	-10,0
15	Germania	1.310	31,8
16	Air France	1.182	-5,9
17	Swiss	1.053	-10,5
18	SAS Scandinavian Airlines	972	-14,4
19	Wizz Air	943	26,4
20	Aeroflot Russian Airlines	785	12,3
21	British Midland Regional	606	-2,3
22	Air Dolomiti	561	-2,1
23	Flybe	542	-5,9
24	Pegasus Airlines	511	15,3
25	LOT - Polish Airlines	481	40,2

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

Rank	Airline	09/2017	Growth rate
1	Ryanair	65.374	10,1
2	easyJet	48.646	6,2
3	Lufthansa German Airlines	42.302	2,5
4	Turkish Airlines	37.888	2,0
5	SAS Scandinavian Airlines	26.871	-3,4
6	British Airways	26.532	-2,2
7	Air France	25.278	-1,8
8	Aeroflot Russian Airlines	23.830	10,4
9	KLM-Royal Dutch Airlines	20.043	7,2
10	Vueling Airlines	18.701	-0,9
11	Alitalia	16.382	-5,8
12	Iberia	16.090	-4,3
13	Flybe	15.497	-11,9
14	Wizz Air	14.866	16,6
15	Pegasus Airlines	14.710	8,6
16	Air Berlin	11.705	-37,5
17	Austrian Airlines AG	11.670	7,2
18	Eurowings	11.564	124,2
19	Swiss	11.373	-5,4
20	TAP Air Portugal	10.375	12,4
21	Norwegian Air Shuttle	10.311	-13,6
22	Wideroe's Flyveselskap	10.118	-6,3
23	Finnair	9.808	3,6
24	LOT - Polish Airlines	9.390	32,7
25	Aer Lingus	9.044	-0,9

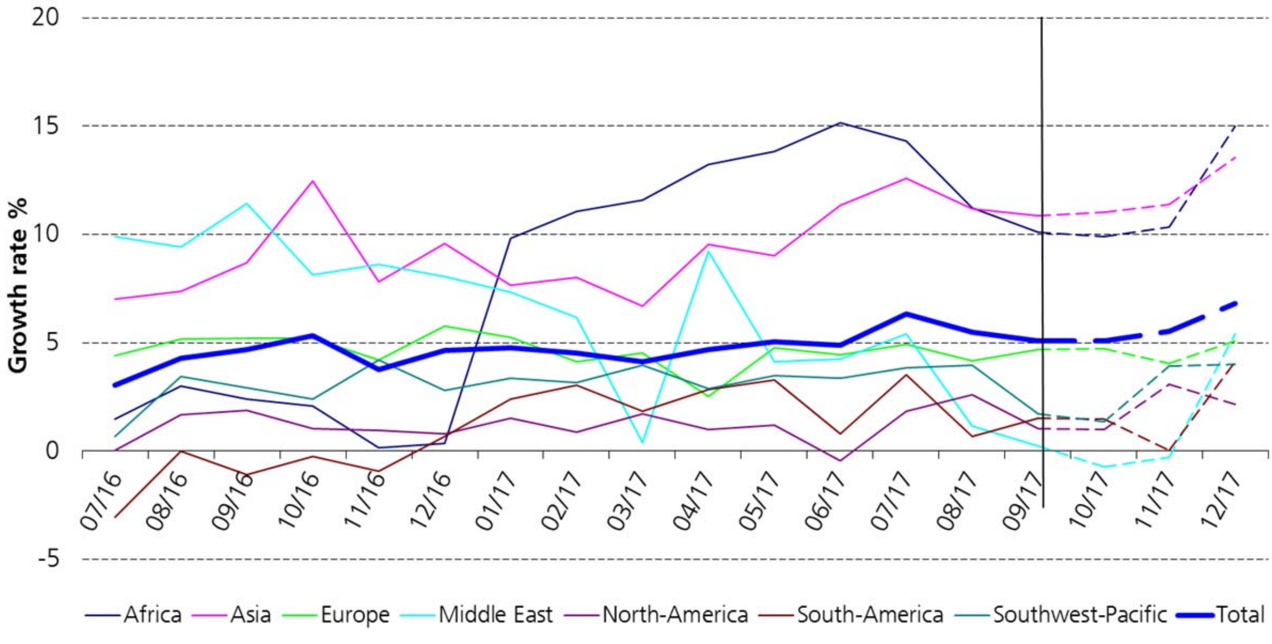
Tab. 5: Number of monthly Take-offs by the largest Airlines in Europe from European airports

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

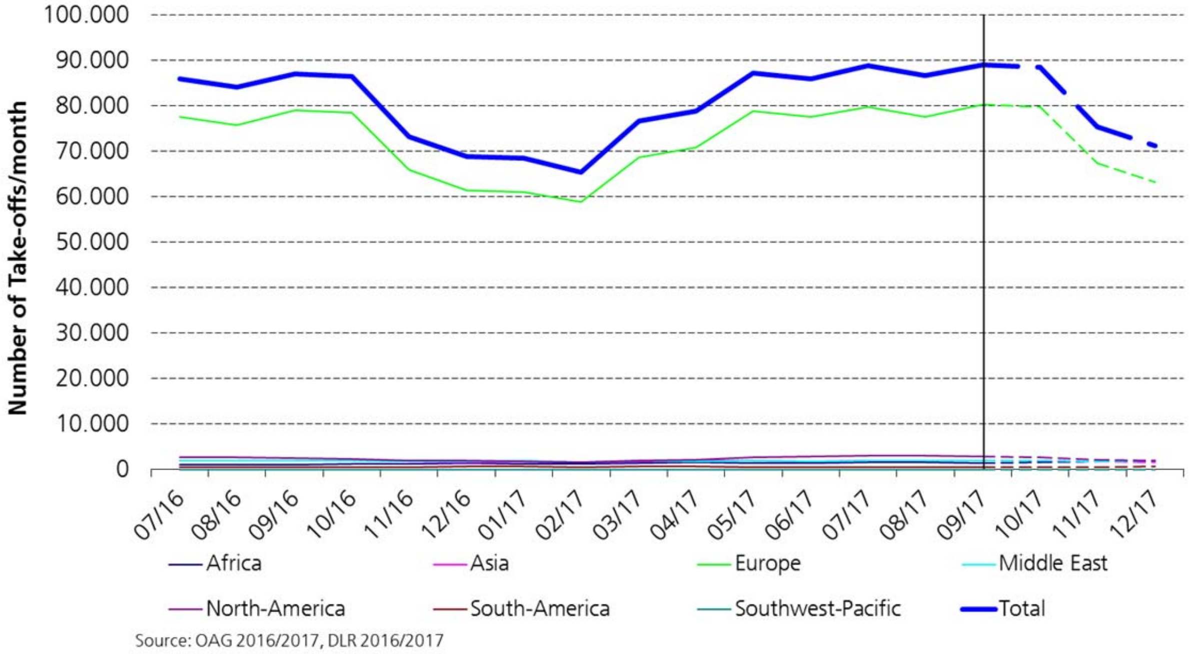
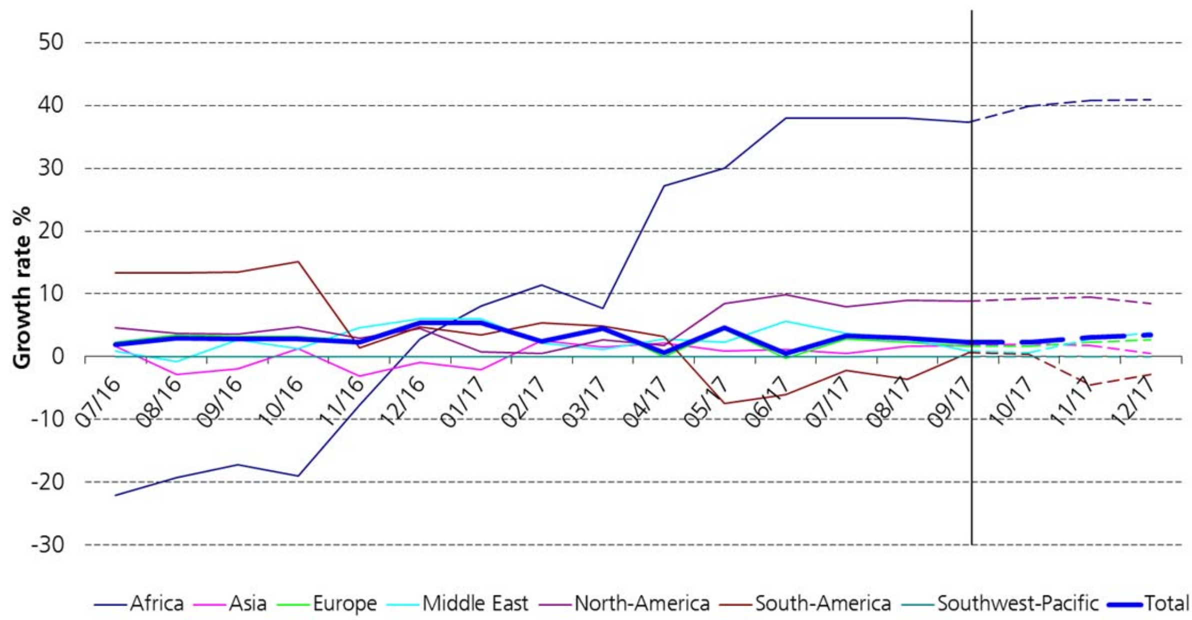


Fig. 3: Development of the German Air Transport Supply



Source: OAG 2016/2017, DLR 2016/2017

Fig. 4: Changes in the German Air Transport Supply

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