

Global Aviation Monitor (GAM)

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

September 2020



Main Results of Global Air Transport Supply Analysis and Outlook

Background:

- Covers about 3,500 airports worldwide
- Covers about 850 airlines worldwide
- Flight data is taken from OAG
- Air transport supply of 2019: More than 39.5 M non-stop flights worldwide, new record value
- Busiest month 2020: March with 3.1 M flights
- Since March 2020 strong decrease
- 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 2019 – September 2020

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 February 2019; only 1.4 % in February 2020 (seasonally adjusted -2%); COVID-19 pandemic since March 2020, largest decline in April/May 2020 (-60%), slight recovery thereafter, but declines since September again
- September 2020 (base data OAG 9/1/2020): 1.85 M flights supplied (-45%)
- Airports: Heterogeneous development of no. of flights offered; small decrease at asian airports e.g. Guangzhou, strong decrease at US- and European airports (e.g. Paris -56%)
- Airlines: Heterogeneous development of no. of flights offered; small decrease by asian airlines e.g. China Eastern Airlines, strong decrease of US-Airlines (e.g. United Airlines -55%)

World Regions, Europe

- In Europe, 53 % traffic decrease; in Asia decrease around 28 %
- Airports: decline at all biggest airports, due to the coronavirus
- Airlines: Most airlines with decreasing supply

Germany

- Airports: most German airports with downward traffic, e.g. Stuttgart -61 %
- Airlines: most airlines with decreasing traffic, e.g. Air France -60 %

Outlook: October 2020 – December 2020

Global

- For the next three months, traffic tends to stagnate

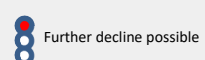
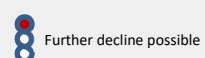
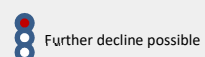
World Regions, Europe

- A slight recovery is possible by the end of the year

Germany

- A slight recovery is possible by the end of the year

Trend for the next six months



Rank	Airport	09/2020	Growth rate
1	Atlanta Hartsfield-Jackson Intl	21.243	-39,9
2	Dallas/Fort Worth Intl	19.511	-33,4
3	Chicago O'Hare International	18.984	-51,5
4	Guangzhou	18.559	-8,3
5	Shanghai Pudong International	16.901	-20,6
6	Denver Intl	16.550	-37,3
7	Shenzhen	15.683	0,1
8	Chengdu	15.504	2,4
9	Kunming	14.963	0,6
10	Beijing Capital	14.833	-41,5
11	Charlotte	14.672	-34,5
12	Xi An Xianyang	14.249	-4,3
13	Chongqing	13.309	1,3
14	Tokyo Haneda	12.838	-33,9
15	Hangzhou	12.237	-2,5
16	Seattle/Tacoma International	11.876	-35,4
17	Amsterdam	11.605	-46,4
18	Shanghai Hongqiao International	11.444	-0,3
19	Jakarta Soekarno-Hatta	11.112	-37,7
20	Los Angeles International	10.881	-58,4
21	Delhi	10.629	-44,0
22	Nanjing	10.029	2,2
23	Beijing Daxing	9.564	---
24	Paris Charles de Gaulle	9.351	-55,8
25	Zhengzhou	9.091	-2,6

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

Rank	Airport	09/2020	Growth rate
1	Frankfurt International	8.262	-63,5
2	Munich International	5.906	-67,3
3	Dusseldorf International	3.673	-62,8
4	Berlin Tegel	2.885	-65,9
5	Hamburg	2.738	-56,5
6	Stuttgart	2.197	-60,8
7	Cologne/Bonn K.A.	1.847	-60,8
8	Hanover	1.141	-56,7
9	Berlin Schoenefeld	1.066	-64,7
10	Dortmund	716	-11,5
11	Nuremberg	648	-63,9
12	Bremen	448	-54,7
13	Memmingen	400	42,9
14	Dresden	316	-54,8
15	Leipzig/Halle	307	-73,5
16	Munster	305	-44,3
17	Frankfurt Hahn	287	-39,2
18	Karlsruhe/Baden Baden	243	-48,9
19	Westerland	163	-15,5
20	Dusseldorf Niederrhein	160	-57,2
21	Saarbrücken Ensheim	157	-45,7
22	Mannheim	130	-26,6
23	Paderborn	81	-78,6
24	Hamburg Luebeck	70	---
25	Friedrichshafen	54	-87,7

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

Rank	Airport	09/2020	Growth rate
1	Amsterdam	11.605	-46,4
2	Paris Charles de Gaulle	9.351	-55,8
3	Frankfurt International	8.262	-63,5
4	Moscow Domodedovo	8.122	-11,1
5	Istanbul	7.800	-59,7
6	Moscow Sheremetyevo International	7.504	-54,5
7	Istanbul Sabiha Gokcen	7.079	-30,4
8	London Heathrow	7.046	-65,6
9	Oslo	6.265	-41,0
10	Munich International	5.906	-67,3
11	Copenhagen	5.903	-48,0
12	Madrid Barajas	5.598	-68,1
13	Athens Intl Eleftherios Venizelos	5.468	-46,3
14	Paris Orly	5.448	-43,0
15	St Petersburg Pulkovo	5.242	-22,3
16	Vienna	5.111	-57,2
17	Moscow Vnukovo International	5.070	-17,9
18	Barcelona	5.026	-67,5
19	Stockholm Arlanda	4.966	-50,8
20	Palma Mallorca	4.943	-57,3
21	Antalya	4.753	-48,0
22	Rome Fiumicino	4.428	-68,5
23	Nice	4.024	-40,1
24	Lisbon	3.887	-59,7
25	Manchester International	3.865	-58,9

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

Source: OAG 2019/20, DLR 2019/20 (base data 9/1/2020)

Rank	Airline	09/2020	Growth rate
1	American Airlines	94.777	-50,7
2	Delta Air Lines	86.088	-45,8
3	United Airlines	66.675	-55,3
4	Southwest Airlines	63.968	-42,4
5	China Southern Airlines	63.710	-5,9
6	China Eastern Airlines	60.633	-10,4
7	Ryanair	39.424	-45,9
8	Air China	39.412	-6,6
9	IndiGo Air	33.038	-24,3
10	All Nippon Airways	30.372	-13,2
11	Alaska Airlines	23.516	-39,5
12	Shenzhen Airlines	21.850	0,7
13	easyJet	21.842	-61,4
14	SAS Scandinavian Airlines	20.622	-25,5
15	Turkish Airlines	20.423	-53,3
16	Air France	20.375	-40,5
17	Xiamen Airlines Company	19.175	-10,7
18	Sichuan Airlines	18.483	-2,3
19	Hainan Airlines	18.245	-23,8
20	Shandong Airlines	18.097	2,4
21	Spring Airlines	16.656	36,8
22	Lufthansa German Airlines	16.246	-66,7
23	Aeroflot Russian Airlines	15.387	-50,8
24	KLM-Royal Dutch Airlines	14.380	-37,0
25	China Express Airlines	13.846	35,9

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

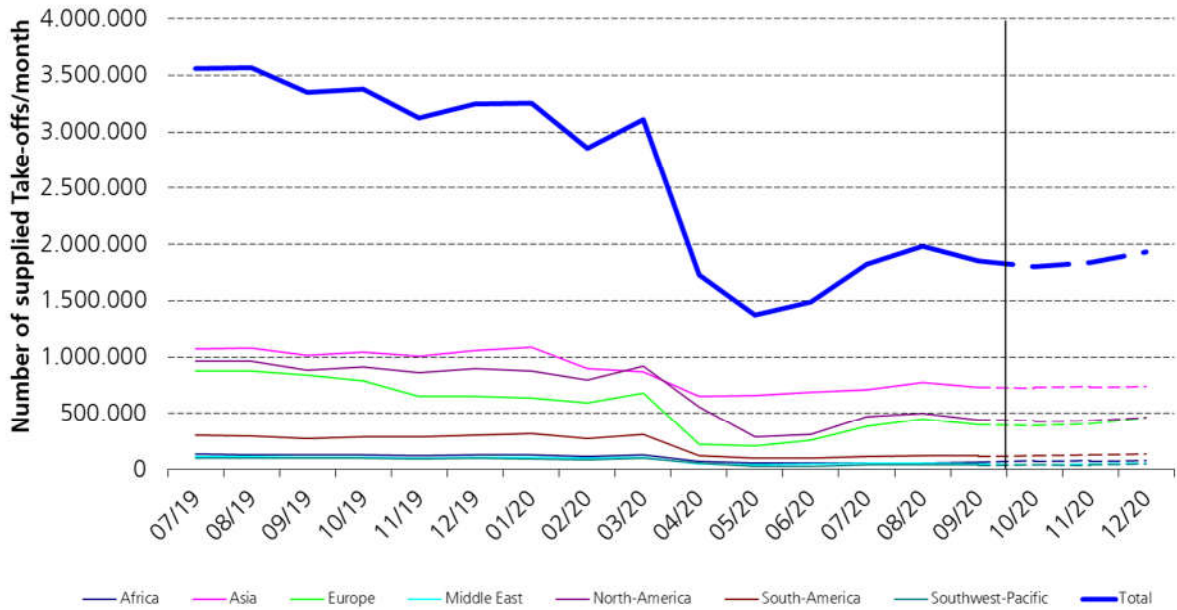
Rank	Airline	09/2020	Growth rate
1	Lufthansa German Airlines	9.830	-67,5
2	Eurowings	5.169	-62,9
3	Ryanair	2.621	-50,0
4	TUIfly	1.724	-5,9
5	Wizz Air	1.225	-14,8
6	SunExpress	950	-48,9
7	KLM-Royal Dutch Airlines	924	-34,3
8	Condor Flugdienst	791	-69,9
9	SAS Scandinavian Airlines	780	-26,8
10	easyJet	711	-86,3
11	Turkish Airlines	628	-57,9
12	Austrian Airlines AG	579	-66,8
13	Pegasus Airlines	570	-32,5
14	Air France	512	-60,2
15	Corendon	490	-9,3
16	Corendon Europe	437	94,2
17	Swiss	409	-74,3
18	FlexFlight	381	4,1
19	Aegean Airlines	369	-18,7
20	LOT - Polish Airlines	285	-51,1
21	British Airways	268	-82,4
22	Croatia Airlines	261	-15,5
23	Air Dolomiti	259	-77,9
24	TAP Air Portugal	224	-56,3
25	United Airlines	220	-51,1

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

Rank	Airline	09/2020	Growth rate
1	Ryanair	39.182	-45,2
2	easyJet	21.804	-61,1
3	SAS Scandinavian Airlines	20.554	-24,6
4	Air France	18.461	-40,0
5	Turkish Airlines	18.382	-51,6
6	Lufthansa German Airlines	14.953	-66,8
7	KLM-Royal Dutch Airlines	13.060	-36,9
8	Aeroflot Russian Airlines	12.892	-51,4
9	Pegasus Airlines	11.672	-23,2
10	Wideroe's Flyveselskap	8.600	-18,0
11	Vueling Airlines	8.178	-61,6
12	Eurowings	7.620	-65,8
13	S7 Airlines	7.581	-14,0
14	Wizz Air	7.211	-60,4
15	British Airways	6.773	-74,6
16	Pobeda	6.659	40,8
17	Iberia	6.502	-62,9
18	Alitalia	6.247	-60,2
19	Jet2.com	6.176	-38,8
20	Volotea	5.516	-21,8
21	FlexFlight	5.407	-19,4
22	LOT - Polish Airlines	5.121	-53,3
23	Ural Airlines	5.065	23,3
24	Binter Canarias	4.977	-16,4
25	Austrian Airlines AG	4.518	-64,3

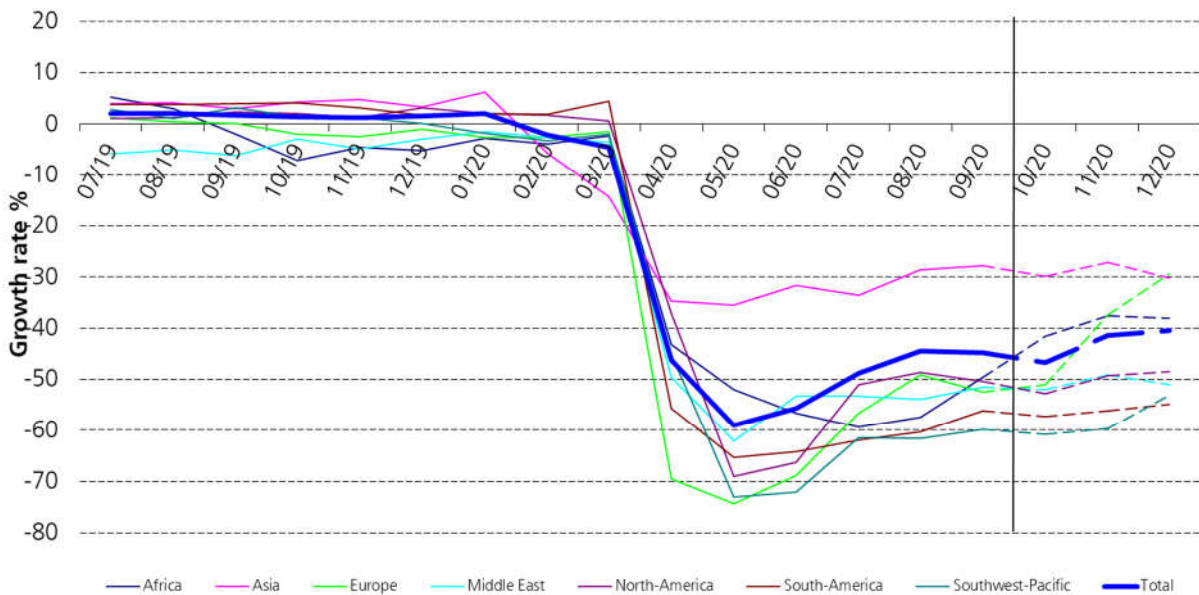
Tab. 5: Number of monthly Take-offs by the largest Airlines in Europe from European airports

Source: OAG 2019/20, DLR 2019/20 (base data 9/1/2020)



Source: OAG 2019/2020, DLR 2019/2020

Fig. 1: Development of the Global Air Transport Supply (OAG until September as of 9/1/2020, Forecast as of 9/15/2020)



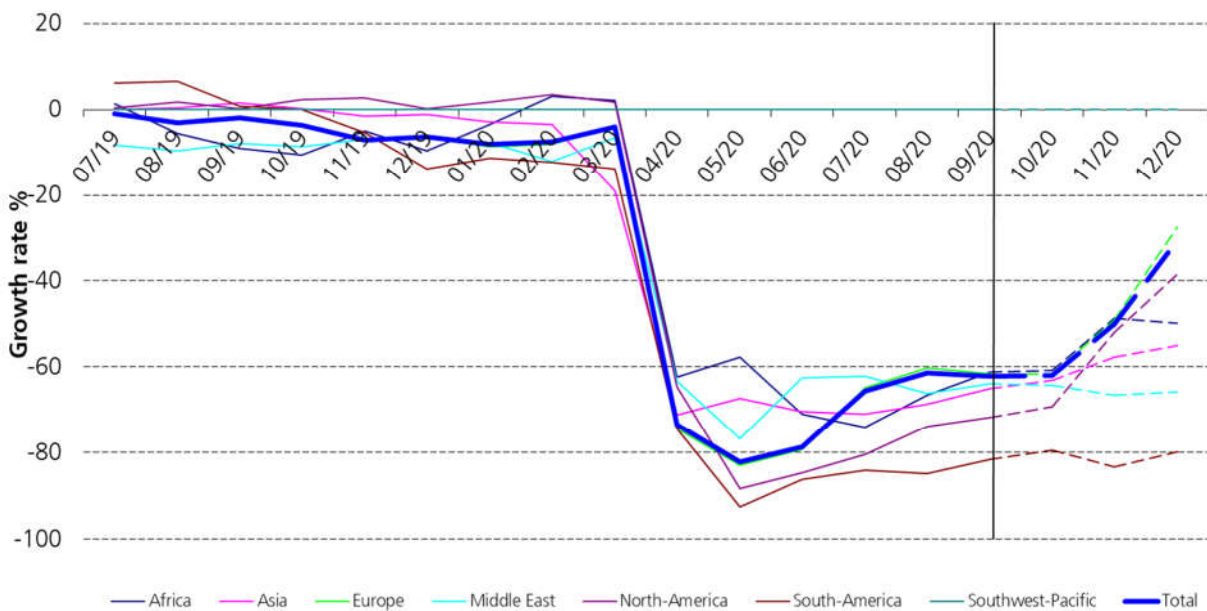
Source: OAG 2019/2020, DLR 2019/2020

Fig. 2: Changes in the Global Air Transport Supply (seasonally adjusted)



Source: OAG 2019/2020, DLR 2019/2020

Fig. 3: Development of the German Air Transport Supply (OAG until September as of 9/1/2020, Forecast as of 9/15/2020)



Source: OAG 2019/2020, DLR 2019/2020

Fig. 4: Changes in the German Air Transport Supply (seasonally adjusted)

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