Network Manager
nominated by
the European Commission

EUROCONTROL

Monthly Network Operations Report

Analysis – September 2016

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NOTICE

Traffic and Delay Comparisons
All traffic and delay comparisons are between report month and equivalent month of previous year, unless otherwise stated.

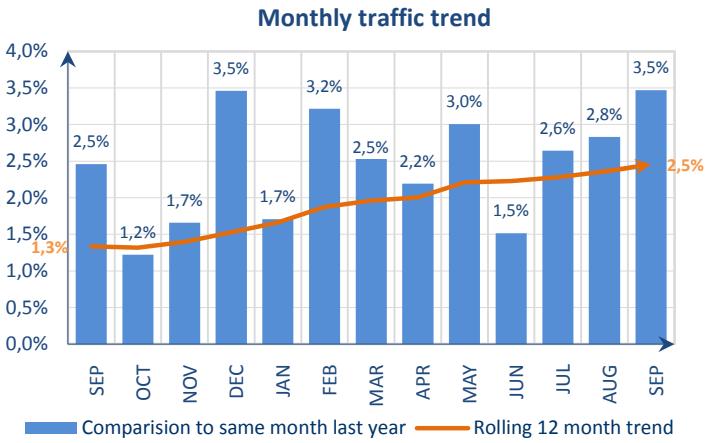
NM Area
All figures presented in this report are for the geographical area that is within Network Manager's responsibility (NM area).

Regulation Reason Groupings
The table below shows the colour coding used in the report charts.

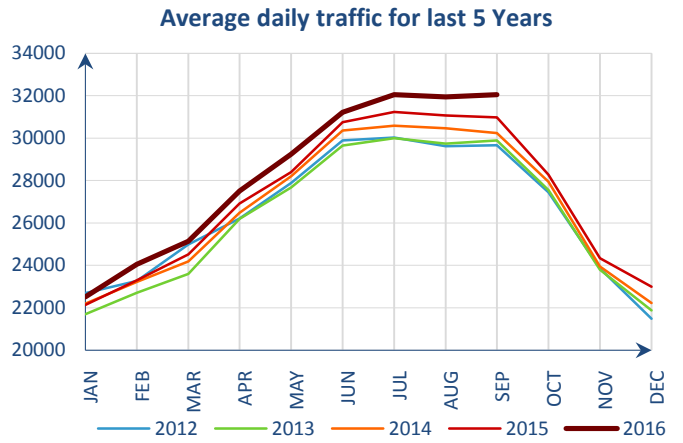
	EN-ROUTE CAPACITY (ATC)		AIRPORT CAPACITY (ATC)
	EN-ROUTE STAFFING (ATC)		AIRPORT STAFFING (ATC)
	EN-ROUTE DISRUPTIONS (ATC)		AIRPORT DISRUPTIONS (ATC)
	EN-ROUTE CAPACITY		AIRPORT CAPACITY
	EN-ROUTE DISRUPTIONS		AIRPORT DISRUPTIONS
	EN-ROUTE EVENTS		AIRPORT EVENTS
	EN-ROUTE WEATHER		AIRPORT WEATHER

Reporting Assumptions and Descriptions
For further information on the NM Area and the regulation reason groupings, go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at **http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting**.

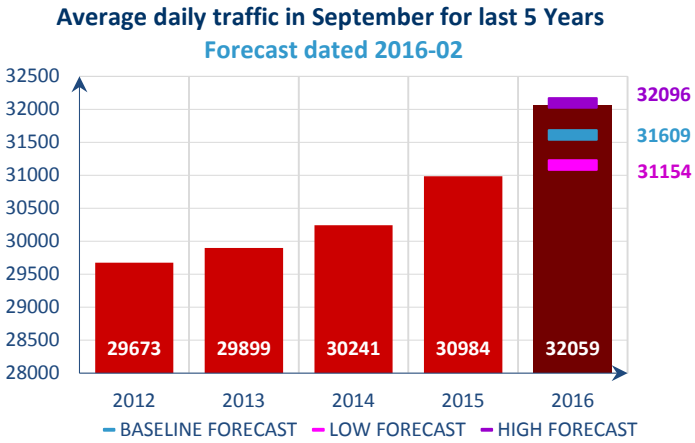
1. TOTAL TRAFFIC



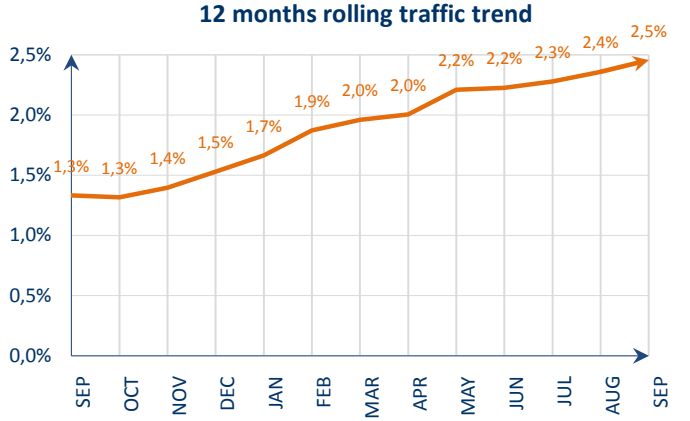
Traffic increased by 3.5 % in September 2016[i].



Average daily traffic in September 2016 was the highest ever for the month of September.



The traffic increase of 3.5% for September was close to the high forecast updated in February 2016.



This graph shows the variation in average daily traffic for the last 12-month period relative to the previous 12-months. The average daily traffic from October 2015 to September 2016 was 2.5% higher than the average from October 2014 to September 2015. The trend shows a continuous recovery in traffic.

The traffic increase of 3.5% in September was the highest monthly growth rate since the beginning of 2016.

In September, seven states added individually more than 100 flights per day to the European network, with UK (+358 daily flights) and Spain (+348 daily flights) being the top contributors to growth of local traffic[ii], followed by Italy (+177 daily flights), Germany (+165 daily flights), Greece (+132 daily flights), France (+111 daily flights) and Portugal (excl. Azores) (+105 daily flights). In all, 13 states contributed more than 50 additional daily flights to the network. Traffic levels in Turkey are declining at a slower rate.

Low-cost was the strongest market segment and the main driver of growth with an increase of 7.8% on September last year. The traditional scheduled segment reached its highest monthly growth rate since January and was up 4.1% in September. The business aviation segment improved and recorded a growth rate of 1.3%. Charter was the weakest market segment in September and was down 20%, a decrease partly due to two airline failures (Air Méditerranée, Transaero) and airlines (Wideroe, Thomas Cook UK) filing a different flight type compared to the same month last year. The all-cargo segment decreased by 0.3%.
The top five airlines adding the most departure flights to the network on a daily basis were all low-cost operators: Ryanair (+207 flights), easyJet (+101 flights), Wizz Air (+49 flights), Vueling (+39 flights) and Flybe (+35 flights).

The top three extra-European partners in average daily flights on flows in both directions were the United States (1,080 flights, up 7%), the Russian Federation (849 flights, down 14%) and Israel (348 flights, up 10%). Traffic flows between Europe and Tunisia were up 4% compared with September last year to 135 daily flights on average, recovering progressively from the June 2015 terrorist attack. The size of the decrease of traffic flows between Europe and Egypt reduced from an average of -35% since January to -32% in September (139 flights per day).

For more information on EUROCONTROL Forecasts, go to http://www.eurocontrol.int/statfor/sid.

Eight of the top ten airports had positive traffic growth. Overall, the largest traffic increases in September 2016 were at Birmingham, Bucharest/Henri Coanda, Malaga, Athens and London/Luton airports. The largest traffic decreases were at Antalya, Milano/Linate, Rome/Fiumicino, Brussels and Helsinki airports. The increase at Birmingham airport is explained by a high demand on charter destinations and the opening of new direct routes to the Middle East and the Caribbean. Bucharest/Henri Coanda airport registered a huge increase of traffic compared to September 2015, partially due new routes inside Europe.

Eight of the top ten aircraft operators had more traffic compared to September 2015. The operators with the highest traffic growth were Olympic, Volotea, Qatar, LOT/Polish and Transavia airlines. Germanwings, Aegean, Sunexpress and Wideroe recorded the highest traffic decrease.

Norwegian Air Shuttle traffic reduction for their NAX callsign is caused by a shift to the new IBK callsign. The traffic variation of Olympic and Aegean is due to Aegean flights operated with Olympic callsign. Volotea and LOT/Polish airline increases of traffic are due to the opening of new routes inside Europe.

N°	ADEP	ADEP NAME	201609	%
1	EHAM	AMSTERDAM/SCHIPHOL	738	6,5%
2	LFPG	PARIS CH DE GAULLE	707	0,9%
3	EDDF	FRANKFURT MAIN	699	-0,6%
4	EGLL	LONDON/HEATHROW	679	0,3%
5	LTBA	ISTANBUL-ATATURK	673	0,2%
6	EDDM	MUENCHEN	608	6,6%
7	LEMD	ADOLFO SUAREZ MADRID-BARAJA	557	3,6%
8	LEBL	BARCELONA/EL PRAT	487	7,2%
9	LIRF	ROMA/FIUMICINO	484	-2,8%
10	EGKK	LONDON/GATWICK	450	4,6%
11	EKCH	KOBENHAVN/KASTRUP	403	4,0%
12	LSZH	ZURICH	396	1,6%
13	LEPA	PALMA DE MALLORCA	395	11,7%
14	ENGM	OSLO/GARDERMOEN	375	-0,5%
15	LOWW	WIEN SCHWECHAT	373	0,1%
16	LFPO	PARIS ORLY	362	1,9%
17	ESSA	STOCKHOLM-ARLANDA	360	2,4%
18	EBBR	BRUSSELS NATIONAL	352	-2,1%
19	EDDL	DUESSELDORF	343	4,3%
20	LTFJ	ISTANBUL/SABIHA GOKCEN	336	-1,7%
21	EIDW	DUBLIN	323	8,8%
22	EGCC	MANCHESTER	311	11,1%
23	LGAV	ATHINAI/ELEFTHERIOS VENIZELOS	306	12,4%
24	LPPT	LISBOA	279	11,6%
25	EDDT	BERLIN-TEGEL	278	0,3%
26	EGSS	LONDON/STANSTED	264	6,2%
27	LSGG	GENEVA	261	1,0%
28	LTAI	ANTALYA	256	-28,1%
29	LIMC	MILANO MALPENSA	256	3,5%
30	EFHK	HELSINKI-VANTAA	251	-2,0%
31	EDDH	HAMBURG	237	2,4%
32	EPWA	CHOPINA W WARSZAWIE	236	10,3%
33	LFMN	NICE-COTE D'AZUR	229	2,6%
34	LKPR	PRAHA RUZYNE	216	5,5%
35	EDDK	KOELN-BONN	208	4,0%
36	EGGW	LONDON/LUTON	207	12,3%
37	LEMG	MALAGA/COSTA DEL SOL	205	15,0%
38	LLBG	TEL AVIV/BEN GURION	198	9,6%
39	EDDS	STUTTGART	194	0,3%
40	EGPH	EDINBURGH	186	7,5%
41	EGBB	BIRMINGHAM	177	15,3%
42	LIML	MILANO LINATE	177	-2,9%
43	LFLL	LYON SAINT-EXUPERY	171	5,9%
44	LROP	BUCURESTI/HENRI COANDA	166	15,2%
45	LEIB	IBIZA	155	11,6%
46	LIPZ	VENEZIA TESSERA	153	10,8%
47	EDDB	SCHOENEFELD-BERLIN	150	0,0%
48	LHBP	BUDAPEST LISZT FERENC INT.	147	3,0%
49	LFML	MARSEILLE PROVENCE	146	2,4%
50	LEAL	ALICANTE	145	0,0%
	TOTALS and % TOTAL TRAFFIC		16265	56,4%

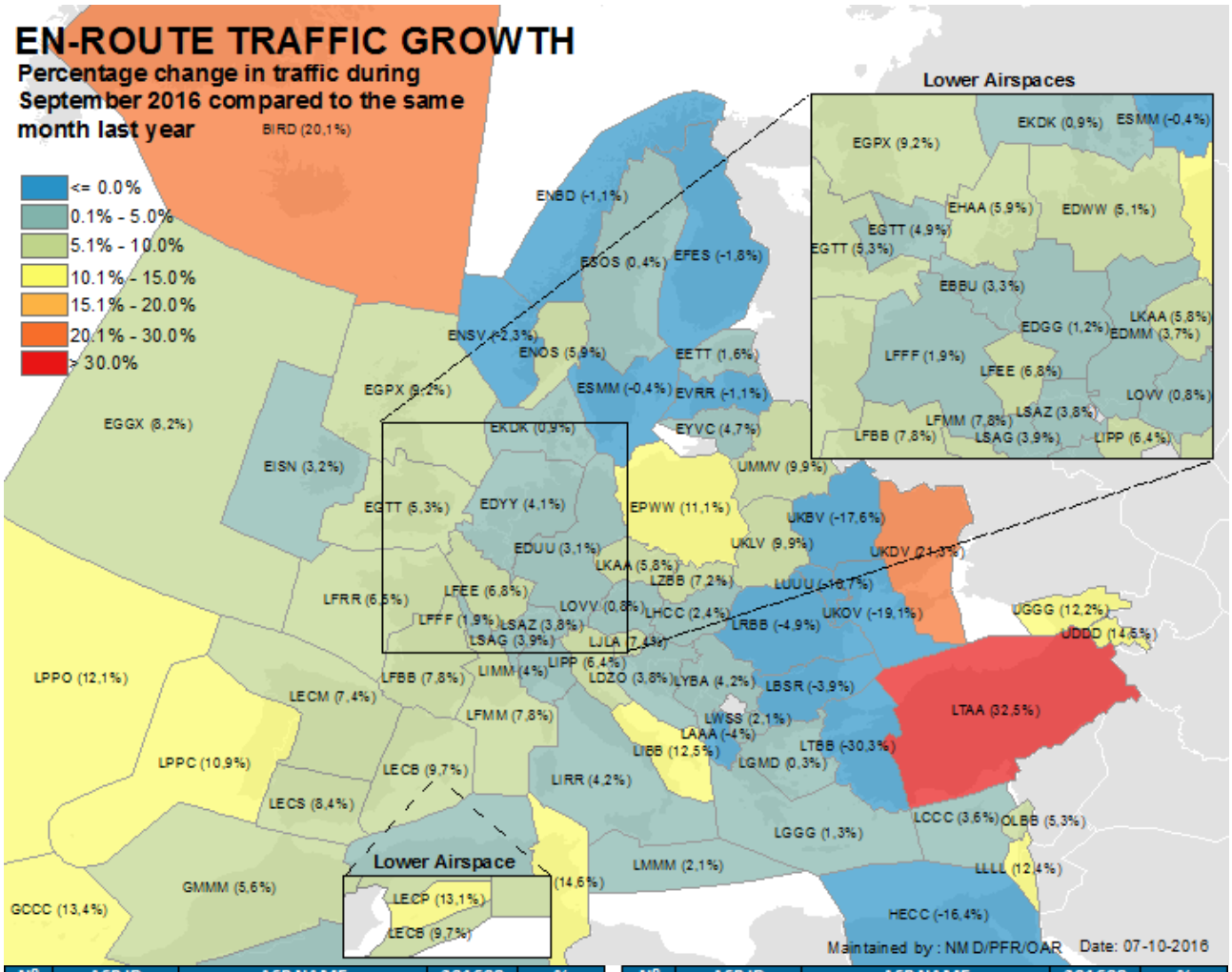
Top 50 Departure Airports with average daily traffic and percentage compared to same period of previous year

N°	ICAO	AIR OPERATOR	201609	%
1	RYR	RYANAIR	2011	11,5%
2	DLH	DEUTSCHE LUFTHANSA	1472	0,9%
3	THY	TURKISH AIRLINES	1398	1,8%
4	EZY	EASYJET	1393	7,8%
5	SAS	SCANDINAVIAN AIRLINES SYSTEM	972	1,1%
6	AFR	AIR FRANCE	947	-3,6%
7	BAW	BRITISH AIRWAYS	738	2,6%
8	KLM	KLM ROYAL DUTCH AIRL	674	3,3%
9	VLG	VUELING AIRLINES SA	642	6,6%
10	BER	AIR BERLIN, INC.	638	-0,8%
11	AZA	ALITALIA	617	-3,9%
12	PGT	PEGASUS HAVA TASI.	455	4,2%
13	BEE	JERSEY EUROPEAN T/A FLYBE	447	8,4%
14	SWR	SWISS INTERNATIONAL	426	1,0%
15	WZZ	WIZZ AIR	420	13,2%
16	NAX	NORWEGIAN AIR SHUTTLE	413	-24,7%
17	AUA	AUSTRIAN AIRLINES	384	4,9%
18	GWI	GERMAN WINGS	364	-29,9%
19	WIF	WIDEROE	360	-6,8%
20	TAP	TAP/AIR PORTUGAL	335	1,4%
21	FIN	FINNAIR O/Y	330	-2,2%
22	AFL	AEROFLOT-RUSSIAN	271	5,3%
23	AEE	AEGEAN AIRLINES	263	-17,7%
24	HOP	HOP (MERGE OF BZH + RAE + RLA)	256	3,1%
25	IBE	IBERIA	250	6,4%
26	BEL	BRUSSELS AIRLINES	249	6,0%
27	LOT	LOT-POLISH AIRLINES	243	25,3%
28	ANE	AIR NOSTRUM	241	3,3%
29	AEA	AIR EUROPA	240	-1,8%
30	TOM	THOMSON FLY LTD	232	0,9%
31	EIN	AER LINGUS TEORANTA	224	1,6%
32	RAM	ROYAL AIR MAROC	218	6,5%
33	TRA	TRANSAVIA.COM	208	23,5%
34	EXS	JET2.COM	195	9,5%
35	UAE	EMIRATES	191	6,1%
36	IBK	NORWEGIAN AIR INTERNATIONAL	188	#####
37	QTR	QATAR AIRWAYS COMP.	183	26,6%
38	EWG	EUROWINGS AG	176	0,0%
39	VOE	VOLOTEA	158	34,0%
40	AUI	UKRAINE INTERNATIONA	156	16,3%
41	BCS	EUROPEAN AIR TRANSP.	156	5,7%
42	NJE	NETJETS	149	4,6%
43	EZS	EASY JET SWITZERLAND	148	-2,8%
44	DAL	DELTA AIR LINES INC.	148	1,9%
45	UAL	UNITED AIRLINES INC.	148	0,2%
46	SXS	SUNEXPRESS AIRLINES	146	-7,7%
47	TVS	TRAVEL SERVIS	145	1,9%
48	TCX	THOMAS COOK AIT LTD	142	7,7%
49	OAL	OLYMPIC	138	146,4%
50	MON	MONARCH AIRLINES LTD	135	3,5%
	TOTALS and % TOTAL TRAFFIC		21033	65,6%

Top 50 Air Operators with average daily traffic and percentage compared to same period of previous year

N°	ICAO	AIR OPERATOR	201609	%
		Unidentified	2356	-2,0%

Average daily traffic and percentage compared to same period of previous year for all flights where Air Operators can't be identified

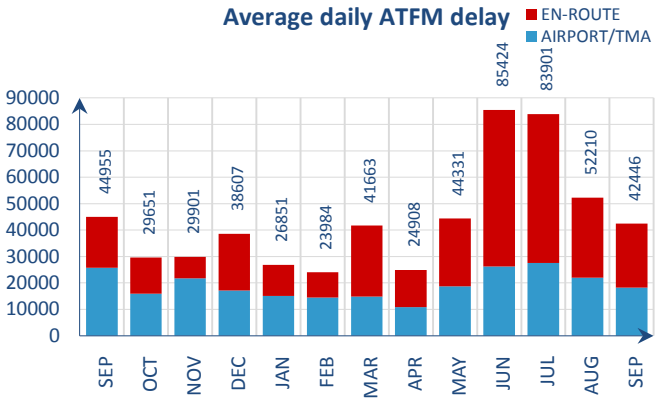


Nº	ASP ID	ASP NAME	201609	%
1	BIRDACC	REYKJAVIK ACC	419	20,1%
2	DAAAACC	ALGERS ACC	481	2,8%
3	DTTCACC	TUNIS ACC	314	14,6%
4	EBBUACC	BRUSSELS CANAC	1868	3,3%
5	EDGGALL	LANGEN ACC_FIR	3846	1,2%
6	EDMMACC	MUNCHEN ACC	3426	3,7%
7	EDUUUAC	KARLSRUHE UAC	5581	3,1%
8	EDWWACC	BREMEN ACC	2047	5,1%
9	EDYYUAC	MAASTRICHT UAC	5427	4,1%
10	EETTACC	TALLIN ACC	585	1,6%
11	EFESACC	TAMPERE ACC	493	-1,8%
12	EGGXOCA	SHANWICK OACC	1446	8,2%
13	EGPXALL	SCOTTISH ACC	2997	9,2%
14	EGTTACC	LONDON ACC	6206	5,4%
15	EGTTTC	LONDON TMA TC	4217	4,9%
16	EHAAACC	AMSTERDAM ACC(245-)	1763	6,0%
17	EIDWACC	DUBLIN ACC	716	11,2%
18	EISNACC	SHANNON ACC	1338	3,2%
19	EKDKACC	COPENHAGEN ACC	1655	0,9%
20	ENBDACC	BODO ACC	639	-1,1%
21	ENOSACC	OSLO ATCC	1101	5,9%
22	ENSVACC	STAVANGER ATCC	708	-2,3%
23	EPWWACC	WARSZAWA ACC	2318	11,1%
24	ESMMACC	MALMO ACC	1579	-0,4%
25	ESOSACC	STOCKHOLM ACC	1241	0,4%
26	EVRRACC	RIGA ACC	745	-1,1%
27	EYVCACC	VILNIUS ACC	685	4,7%
28	GCCCACC	CANARIAS ACC/FIC	813	13,4%
29	GMMMACC	CASABLANCA ACC	1054	5,6%
30	HECCACC	CAIROACC	590	-16,4%
31	LAAAACC	TIRANA ACC	679	-4,0%
32	LBSRACC	SOFIA ACC	2480	-3,9%
33	LCCCACC	NICOSIA ACC	1056	3,6%
34	LDZOACC	ZAGREB ACC	1828	3,8%
35	LECBACC	BARCELONA ACC	2902	9,7%
36	LECMALL	MADRID ALL ACC	3050	7,4%
37	LECPACC	PALMA ACC	1229	13,1%
38	LECSACC	SEVILLA ACC	1085	8,4%

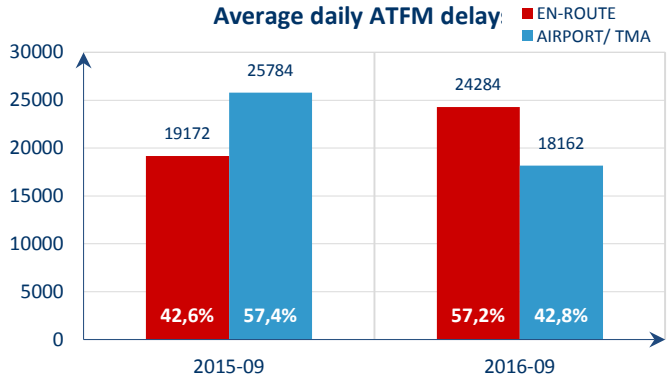
Nº	ASP ID	ASP NAME	201609	%
39	LFBBALL	BORDEAUX ALL ACC	3010	7,9%
40	LFEEACC	REIMS U/ACC	3112	6,8%
41	LFFFALL	PARIS ALL ACC	3670	1,9%
42	LFMMACC	MARSEILLE ACC	3521	7,8%
43	LFMMAPP	MARSEILLE TMA	1005	2,3%
44	LFRRACC	BREST U/ACC	3207	6,5%
45	LGGGACC	ATHINAI CONTROL	1842	1,3%
46	LGMDACC	MAKEDONIA CONTROL	1490	0,3%
47	LHCCACC	BUDAPEST ACC	2487	2,4%
48	LIBBACC	BRINDISI ACC	960	12,5%
49	LIMMACC	MILANO ACC	2646	4,1%
50	LIPPACC	PADOVA ACC	2278	6,4%
51	LIRRACC	ROMA ACC	2623	4,2%
52	LJLAACC	LJUBLJANA ACC	1002	7,4%
53	LKAAACC	PRAGUE ACC	2492	5,8%
54	LLLLACC	TEL AVIV ACC	481	12,4%
55	LMMMACC	MALTA ACC	338	2,1%
56	LOVVACC	WIEN ACC	2566	0,8%
57	LPPCACC	LISBOA ACC/UAC	1532	10,9%
58	LPPOOAC	SANTA MARIA OACC	381	12,1%
59	LQSBACC	BOSNIA-HERZEGOVINA	133	8,1%
60	LRBBACC	BUCURESTI ACC	1974	-4,9%
61	LSAGACC	GENEVA ACC	1981	3,9%
62	LSAZACC	ZURICH ACC	2350	3,8%
63	LTAAACC	ANKARA ACC	3996	32,5%
64	LTBBACC	ISTANBUL ACC	2238	-30,3%
65	LUUUACC	CHISINAU ACC	134	-10,7%
66	LWSSACC	SKOPJE ACC	589	2,1%
67	LYBAACC	BEOGRADE ACC	2210	4,2%
68	LZBBACC	BRATISLAVA ACC	1655	7,2%
69	OLBBACC	BEIRUT ACC	179	5,3%
70	UDDDACC	YEREVAN ACC	126	14,6%
71	UGGGACC	TBILISI ACC	385	12,2%
72	UKBVACC	KIEV ACC	417	-17,6%
73	UKDVACC	DNIPROPETROVSK ACC	57	21,3%
74	UKLVACC	L'VIV ACC	323	9,9%
75	UKOVACC	ODESSA ACC	259	-19,1%
76	UMMVACC	MINSK ACC	812	9,9%

The highest traffic increases in September 2016 were in Ankara, Reykjavik, Tunis, Canarias and Palma ACCs. Airspace realignment in Ankara and Istanbul ACCs accounts for the variation. Reykjavik ACC variation is due to increased international arrivals/departures as well as weather patterns which resulted in transatlantic flights adopting more northerly routes. The Santa Maria and Lisbon ACCs variation is due to increased traffic to/from the Canary Islands and the Azores, and South American destinations. There was significant traffic increase in Tunis and Tel Aviv ACCs, the majority of which traverses European airspace.

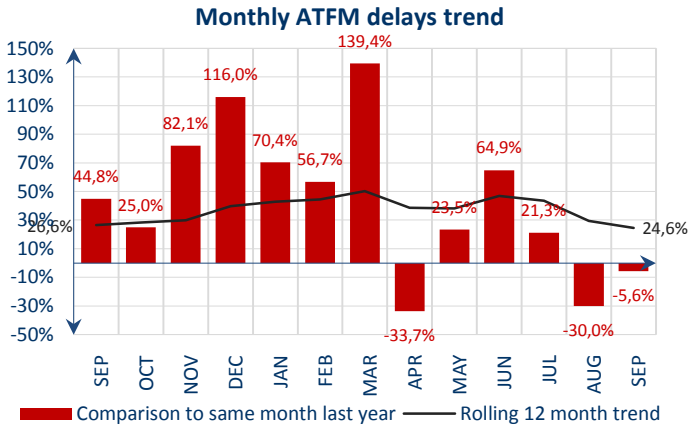
2. ATFM DELAY AND ATTRIBUTIONS



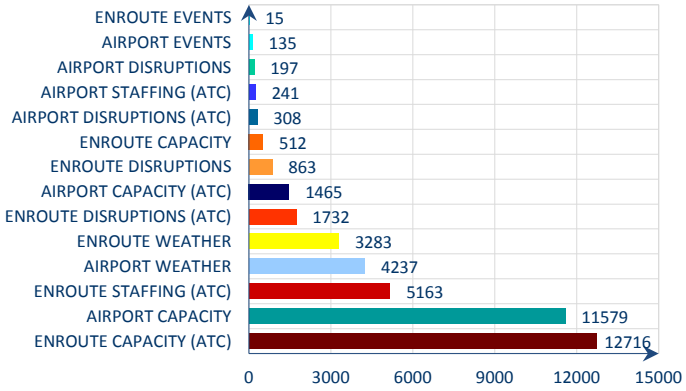
Total ATFM delays decreased by 5.6% in September 2016[1].



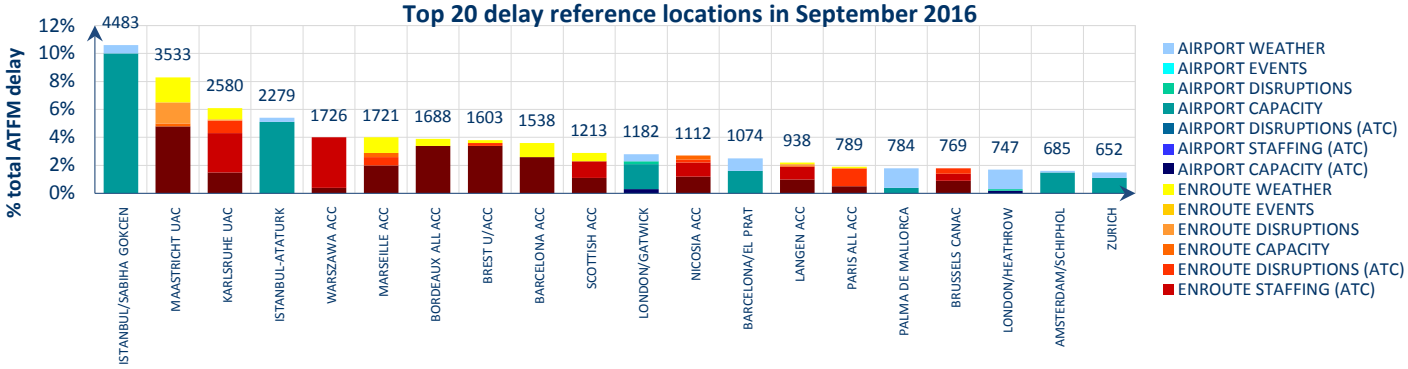
En-route ATFM delays increased by 26.7% and airport ATFM delays decreased by 29.6%.



Although there was a decrease of 5.6%, the rolling 12-month trend shows that ATFM delay was 24.6% higher during the period October 2015 – September 2016 compared to October 2014 – September 2015.



En-route ATC capacity (30.0%), airport capacity (27.3%) and en-route ATC staffing (12.2%) were the main causes of ATFM delays in September 2016.

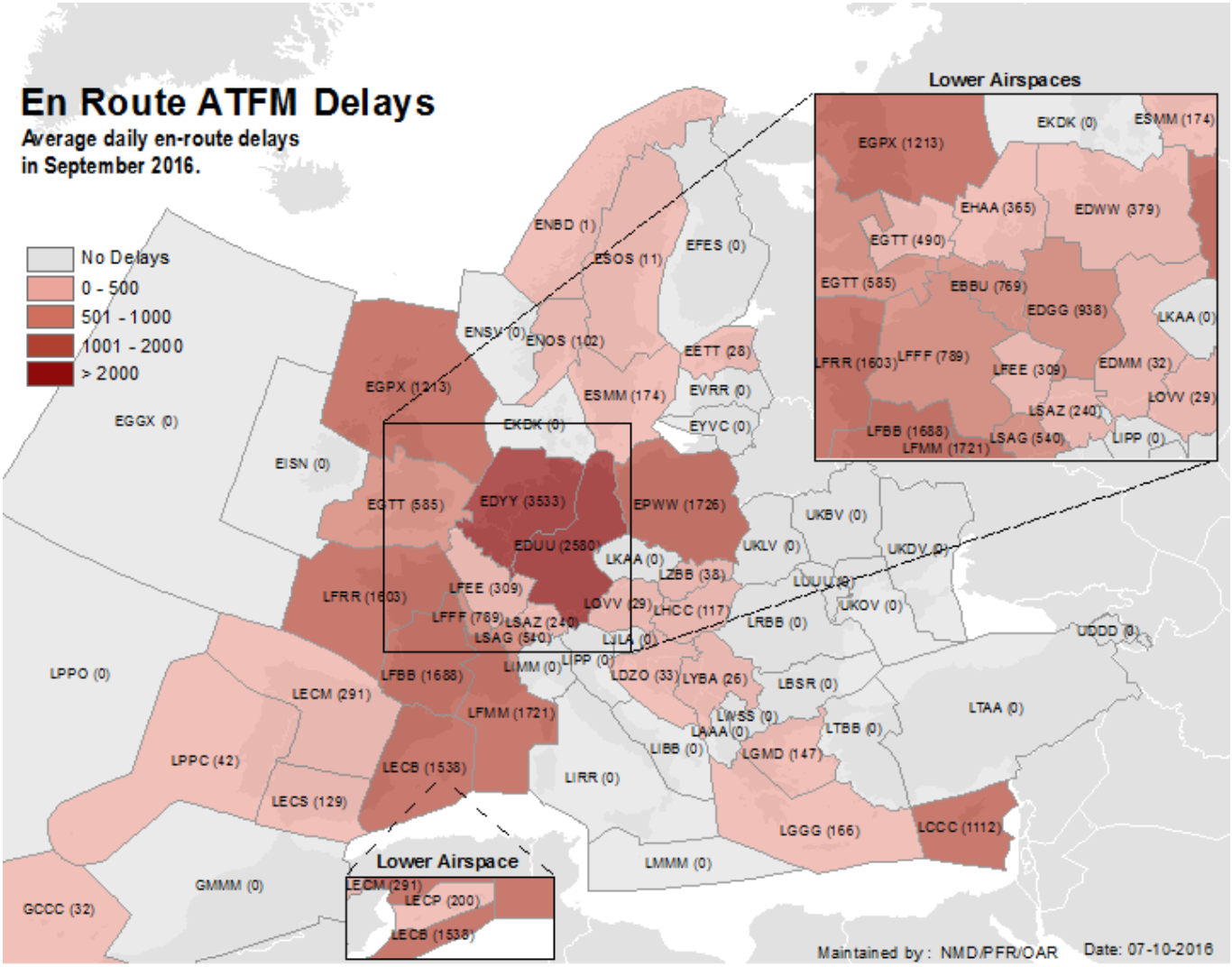


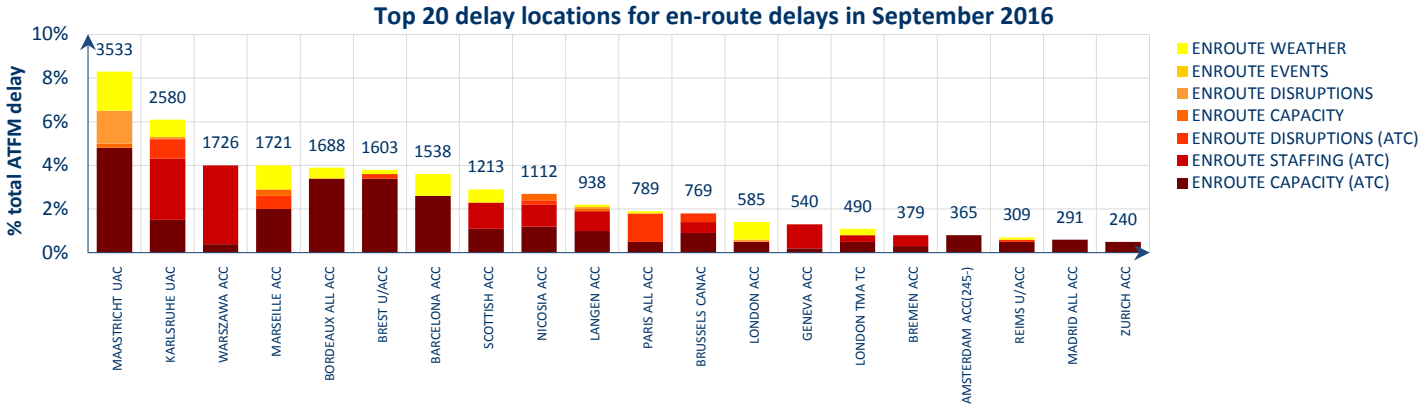
These are the top 20 delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

- Aerodrome capacity issues generated delays at Istanbul/Sabiha Gökcen, Istanbul/Ataturk, London/Gatwick, Barcelona, Amsterdam/Schiphol and Zurich airports;
- En-route ATC capacity delays in Maastricht, Karlsruhe, Marseille, Bordeaux, Brest, Barcelona, Scottish, Nicosia, Langen and Brussels ACCs;
- En-route staffing issues in Karlsruhe, Warsaw, Scottish, Nicosia, Langen and Brussels ACCs;
- Seasonal weather affected Maastricht, Karlsruhe, Marseille, Bordeaux, Barcelona and Scottish ACCs; thunderstorms, heavy rain and/or low visibility impacted London/Heathrow and Palma de Mallorca airports and, to a lesser extent, Istanbul/Sabiha Gökcen, Istanbul/Ataturk, London/Gatwick, Barcelona and Zurich airports;
- Industrial action in France on 14 and 15 September generated en-route ATFM delays in Marseille, Brest and Paris ACCs;
- FDPS system failure in Karlsruhe ACC on 23 September generated delays (11,860 min of delays);
- Frequency issues in Marseille ACC on 14 September (2,901 minutes of delay) and in Brussels ACC on 15 September (4,207 min of delays);
- System upgrade in Nicosia ACC on 16 September generated delays (1,657 minutes of delay).

3. EN-ROUTE ATFM DELAYS

EN-ROUTE ATFM DELAY PER LOCATION

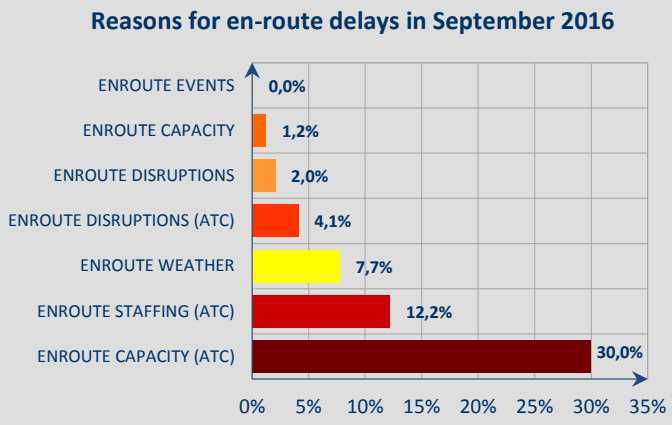




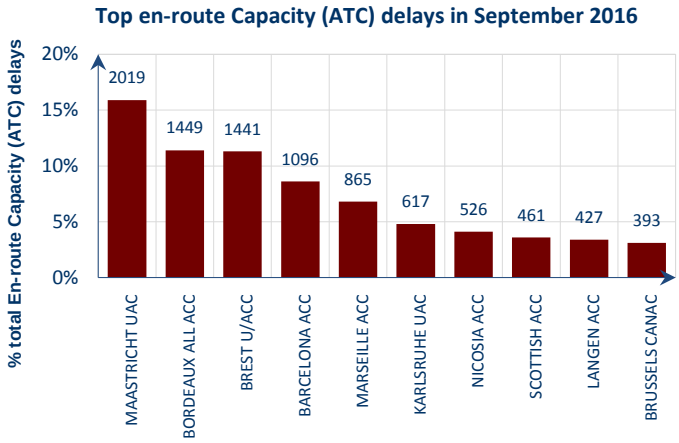
These are the top 20 en-route ATFM delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

The top 20 en-route ATFM delay locations generated **52.4%** of the monthly total (network) ATFM delay.
The top 5 en-route ATFM delay locations generated **26.3%** of the monthly total (network) ATFM delay.

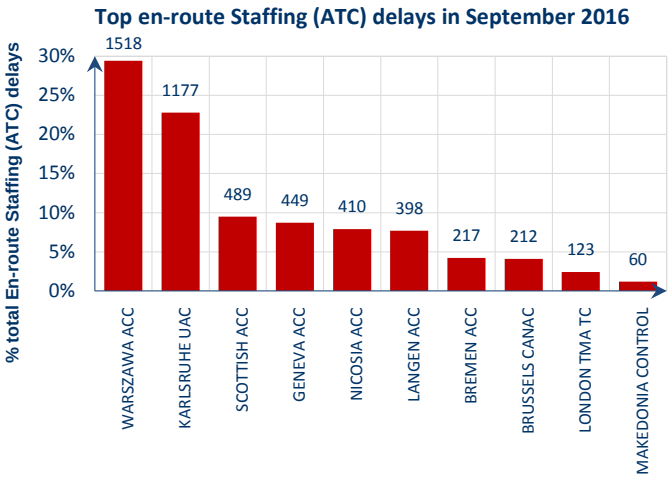
EN-ROUTE ATFM DELAY PER DELAY GROUP



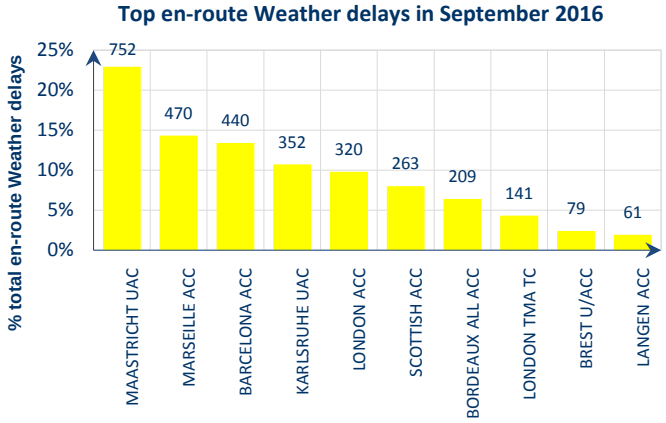
En-route ATFM delays accounted for 57.2% of all ATFM delays. Most of this delay was caused by en-route ATC capacity, en-route ATC staffing and en-route weather as explained in detail below. The other causes:
En-route ATC disruptions; Industrial action in France 14-15 September generated delays in Brest, Marseille and Paris ACCs. System upgrade in Nicosia ACC on 16 September. Frequency issues in Reims and Marseille ACCs. Frequency failure in Brussels ACC on 15 September. Radar problems in Malmo ACC on 14 September. High delays in Karlsruhe ACC on 23 September due to FDPS system failure;
En-route disruptions; Karlsruhe, London, Maastricht and Madrid ACCs all generated delays due to the application of ATFM protective measures during the French ATC industrial action 14-15 September;
En-route capacity; Marseille and Nicosia ACCs generated delays due to airspace management;



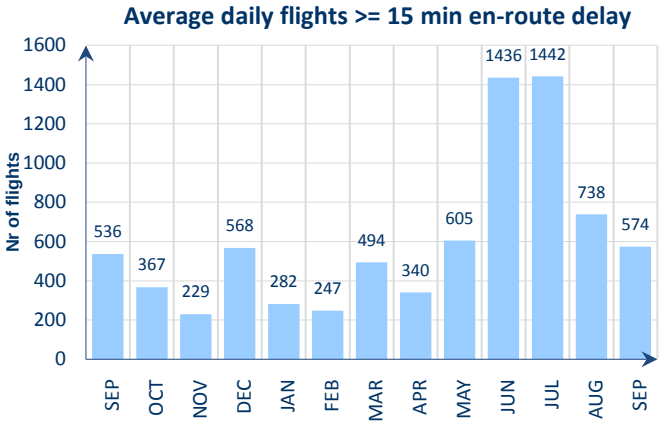
Delays increased in Maastricht and Bordeaux ACCs due to capacity shortage. En-route ATC capacity delays decreased in Brest, Barcelona, Marseille and Karlsruhe ACCs. Scottish, Langen and Brussels ACCs entered the top 10.



Warsaw and Karlsruhe ACCs were the biggest generator of en-route ATC staffing delays in September and these delays increased compared to August 2016. Scottish ACC still impacted by capacity reductions associated to the continued controller familiarisation with the new system (iTec[iii]).

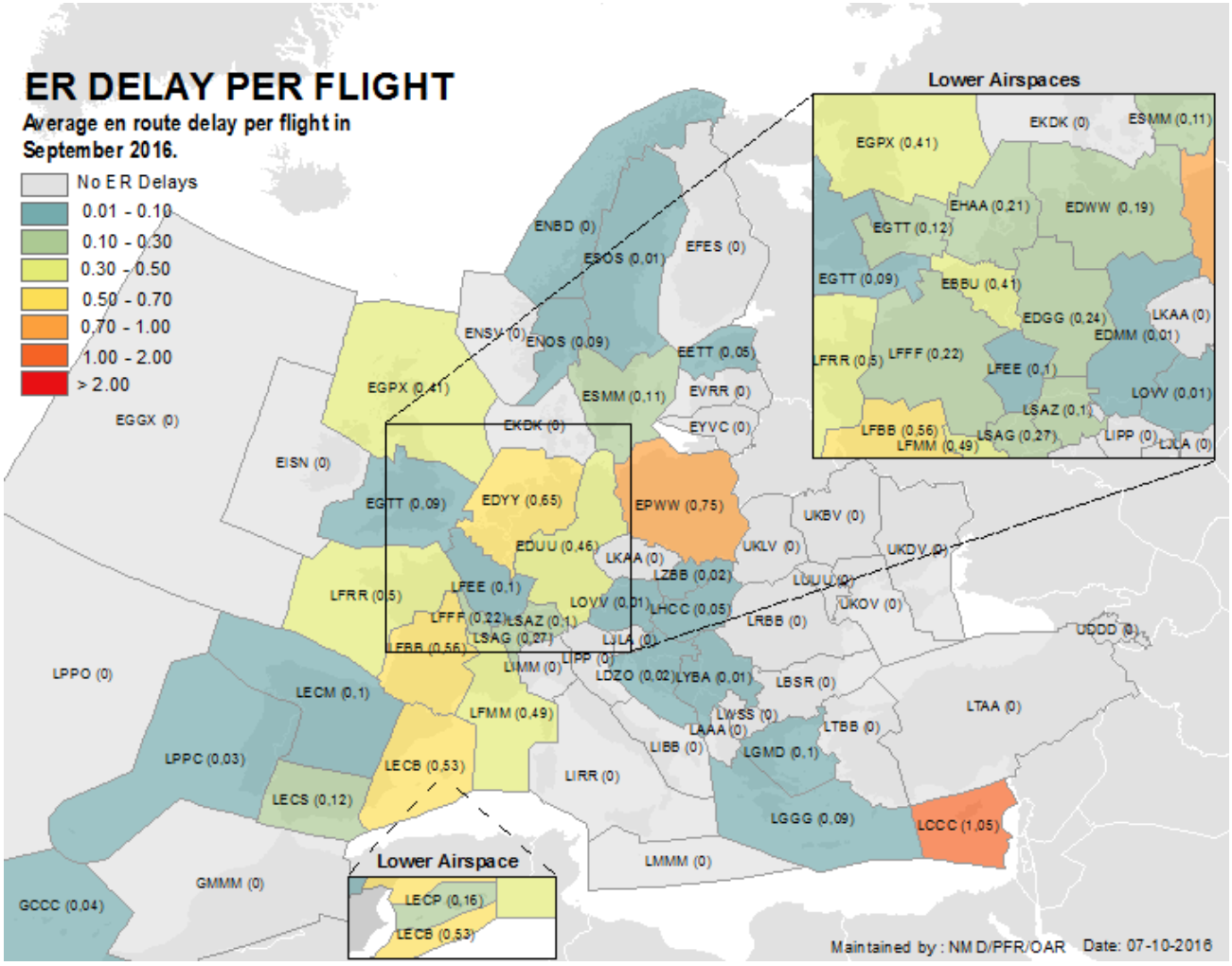


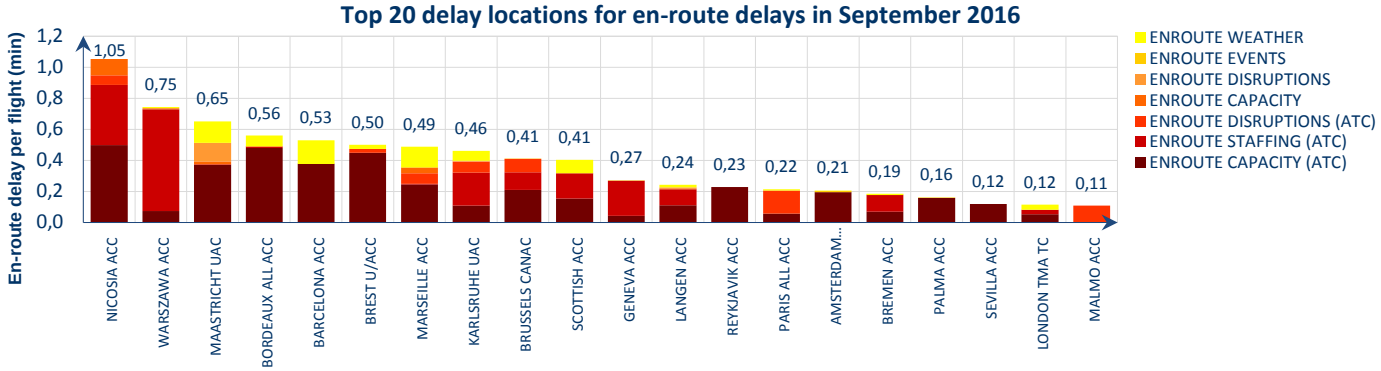
Thunderstorms generated delays in several ACCs. Maastricht ACC was the most impacted throughout the month.



An average of 574 flights/day received an en-route ATFM delay of at least 15 minutes in September 2016. The corresponding figure for September 2015 was 536 flights/day.

EN-ROUTE ATFM DELAY PER FLIGHT





These are the top 20 average en-route ATFM delay per flight generating locations for the reporting month. Figures are the average en-route ATFM delay per flight in minutes for the individual locations.

The biggest differences from the previous month are highlighted below:

Nicosia ACC average en-route ATFM delay/flight increased from 0.93 min/flt in August 2016 to 1.05 min/flt in September 2016.

Maastricht ACC average en-route ATFM delay/flight increased from 0.50 min/flt in August 2016 to 0.65 min/flt in September 2016.

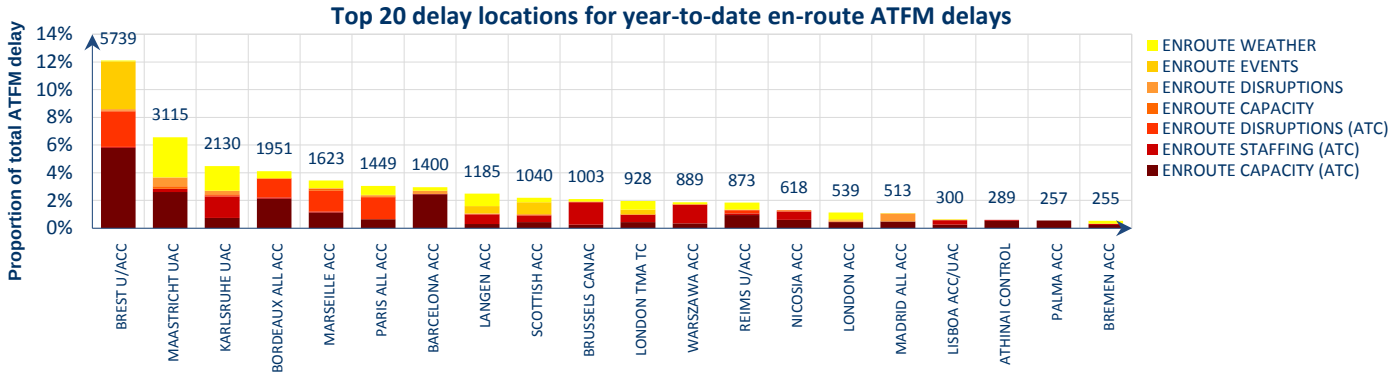
Bordeaux ACC average en-route ATFM delay/flight increased from 0.48 min/flt in August 2016 to 0.56 min/flt in September 2016.

Barcelona ACC average en-route ATFM delay/flight decreased from 0.81 min/flt in August 2016 to 0.53 min/flt in September 2016.

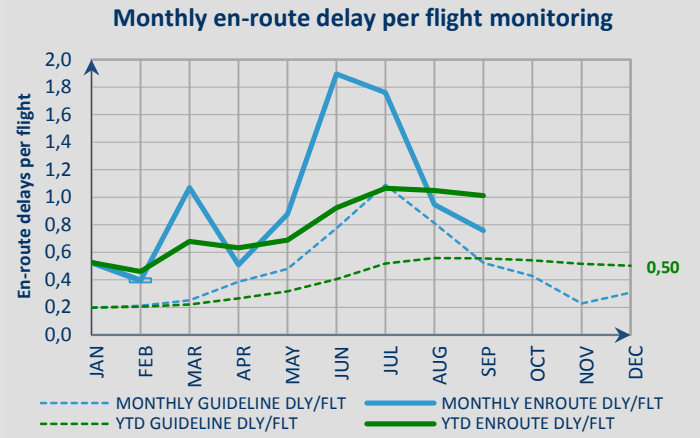
Brest ACC average en-route ATFM delay/flight decreased from 1.73 min/flt in August 2016 to 0.50 min/flt in September 2016.

Brussels ACC average en-route ATFM delay/flight increased from 0.20 min/flt in August 2016 to 0.41 min/flt in September 2016.

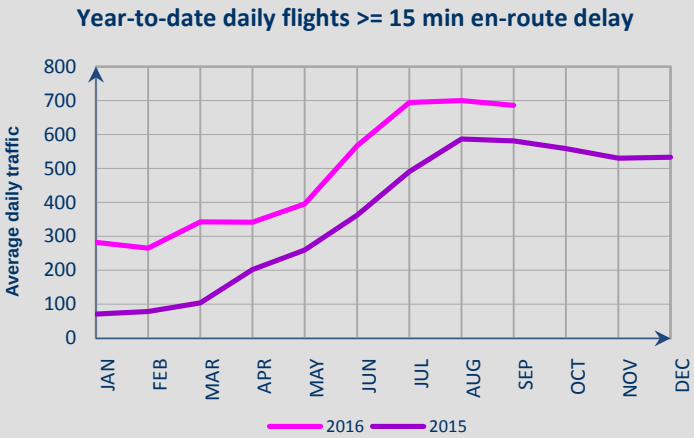
EN-ROUTE ATFM DELAY YEAR-TO-DATE



These are the top 20 en-route delay locations for 2016 with respect to the total ATFM delay. Figures are the average daily en-route delay in minutes for the individual locations.
The top 20 en-route delay locations generated **55%** of the total ATFM (network) delay.
The top 5 en-route delay locations generated **30.7%** of the total ATFM (network) delay.



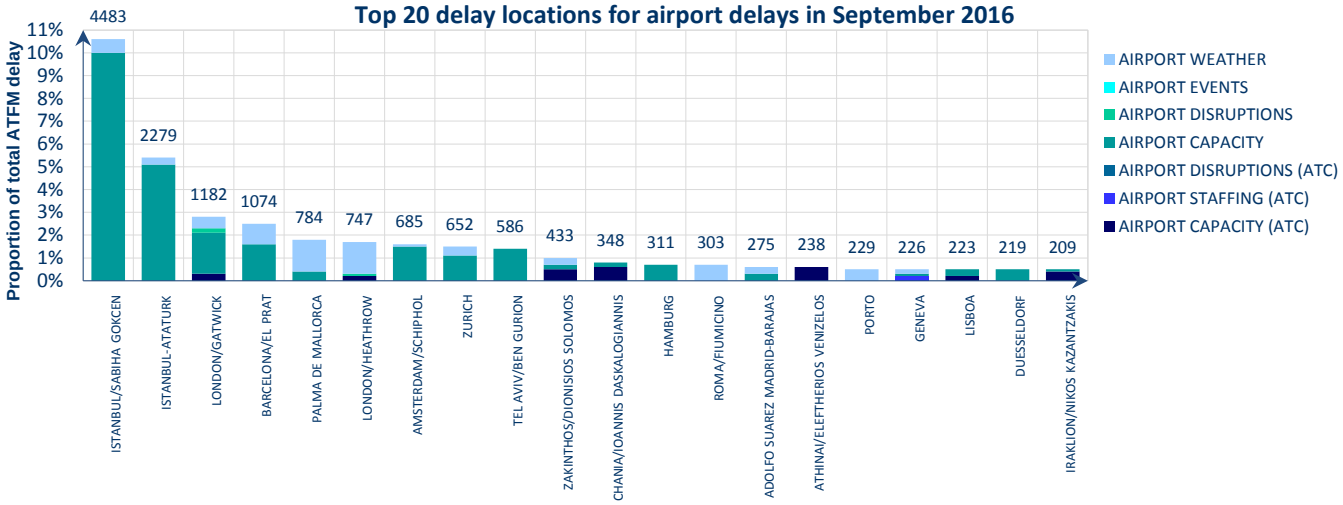
Reporting month: The average en-route ATFM delay per flight in the NM area[iv] in September was 0.76 min/flt which is above the corresponding monthly guideline[v] value of 0.52 min/flt.
Year To Date: The average YTD en-route ATFM delay per flight in 2016 in the NM area is 1.01 min/flt which is above the corresponding guideline value of 0.56 min/flt.



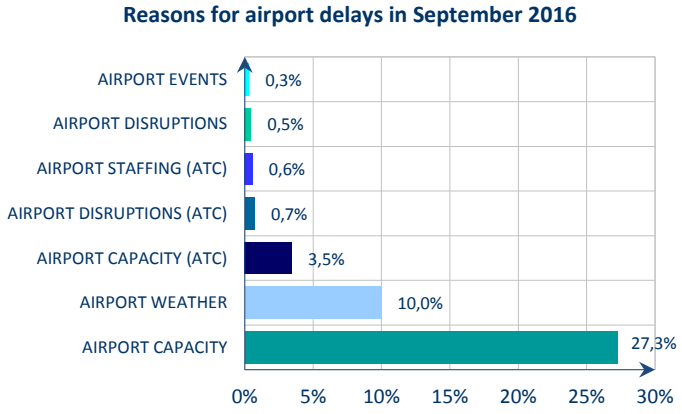
Year to date: An average of 686 flights/day had an en-route ATFM delay of at least 15 minutes in 2016. The corresponding figure in 2015 was 581 flights/day.

4. AIRPORT/TMA ATFM DELAYS

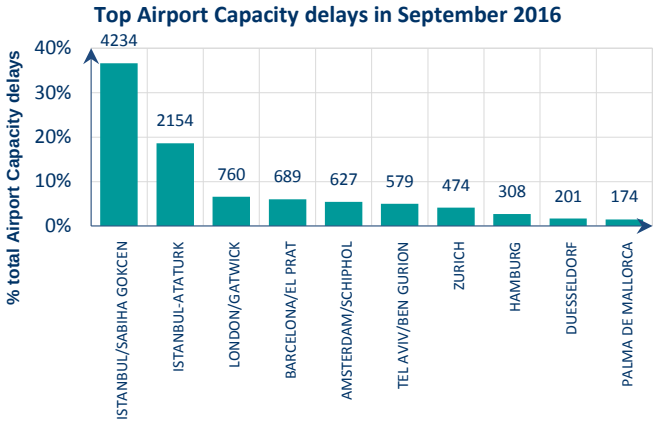
AIRPORT/TMA ATFM DELAY PER LOCATION



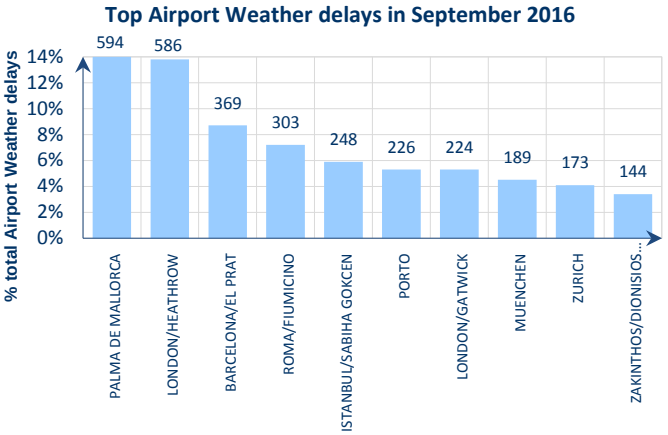
AIRPORT/TMA ATFM DELAY PER DELAY GROUPS



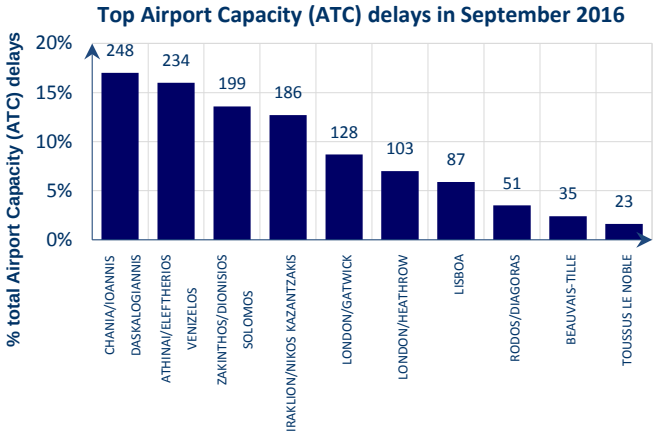
Airports accounted for 42.8% of all ATFM delays in September 2016, mainly due to airport capacity.



Airport capacity issues at both Istanbul airports. Repair of runway and ground congestion at London/Gatwick, runway maintenance at Barcelona airports generated delays.

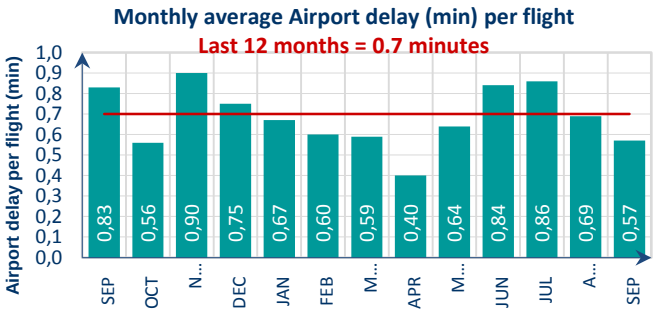


Adverse seasonal weather impacted operations at Palma, London/Heathrow and Barcelona airports.

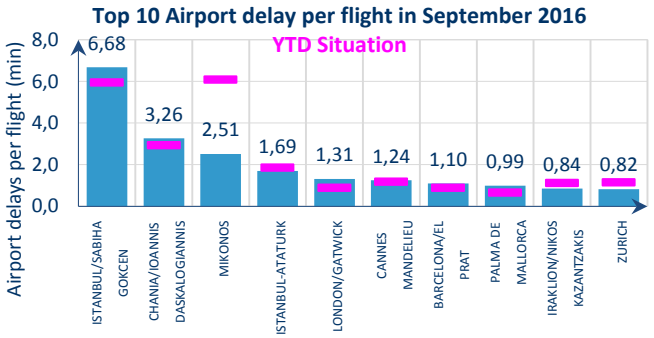


Athens and Greek island airports still generated delay due to high demand but delays started to decrease thanks to the slowdown of traffic after the summer period.

AIRPORT/TMA ATFM DELAY PER FLIGHT

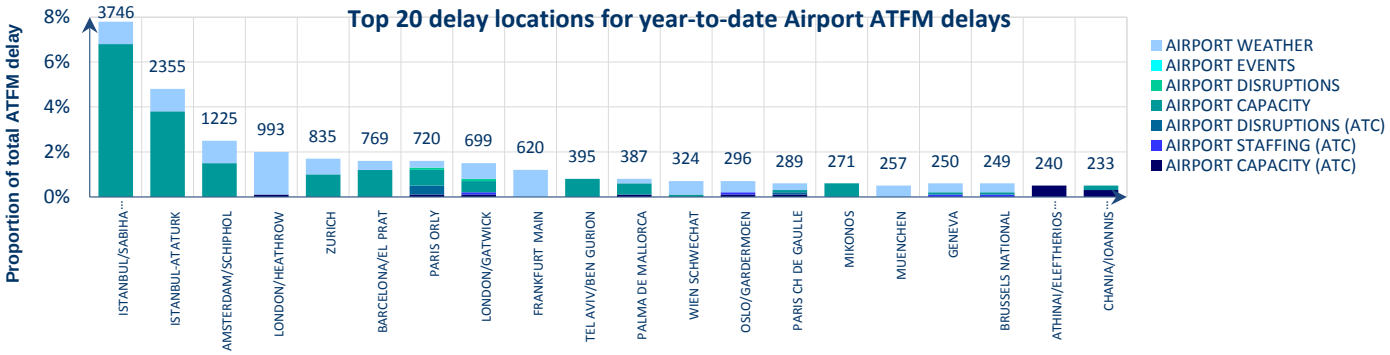


Average airport/TMA delay per flight decreased from 0.83 min/flt in September 2015 to 0.57 min/flt in September 2016.



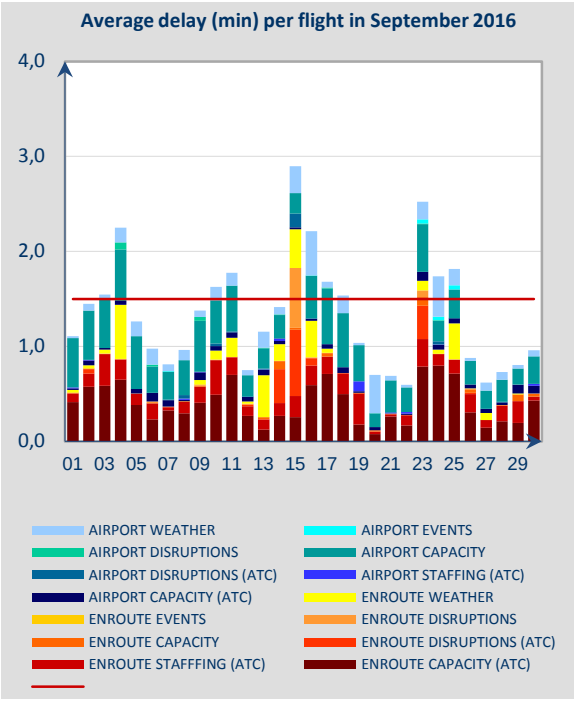
Six of the top 10 delay airports generated a daily average ATFM per flight above their year to date values while Mikonos, Istanbul/Ataturk, Iraklion and Zurich airports decreased.

AIRPORT/TMA ATFM DELAY YEAR-TO-DATE



The top 20 Airport/TMA delay locations have generated **31.6%** of the total ATFM (network) delay in 2016.
The top 5 Airport/TMA delay locations have generated **18.8%** of the total ATFM (network) delay in 2016.

5. DAILY EVOLUTION



There were 11 days in September 2016 where average delay/flt exceeded 1.5 min/flt. These were the most significant days;

04 September; En-route ATC capacity delays in Brest, Marseille, Nicosia, Bordeaux, Sevilla, Palma, Olso, Maastricht and Barcelona ACCs; Airport capacity issues at both Istanbul airports, Barcelona and London/Gatwick airports; Seasonal weather particularly impacted operations in Maastricht and Karlsruhe; ACCs En-route ATC staffing delays in Karlsruhe and Warsaw ACCs; Airport weather delays at Zurich and Frankfurt; Airport disruptions delays at London/Gatwick due to runway damage.

15 September; En-route ATC disruption delays in Paris, Brest and Marseille ACCs due to the French ATC industrial action, with additional delays in Maastricht ACC ; Marseille and Paris/Orly airports were the most impacted by the French ATC industrial action and generated delays; ATC equipment failure in Brussels ACC generated 4,207 min of ATFM delay; En-route weather delays in London and Maastricht ACCs; Weather delays at London/Gatwick, London/Heathrow and Brussels airports; Aerodrome capacity issues at Istanbul/ Sabiha Gökcen; En-route ATC staffing issues in Karlsruhe and Warsaw ACCs.

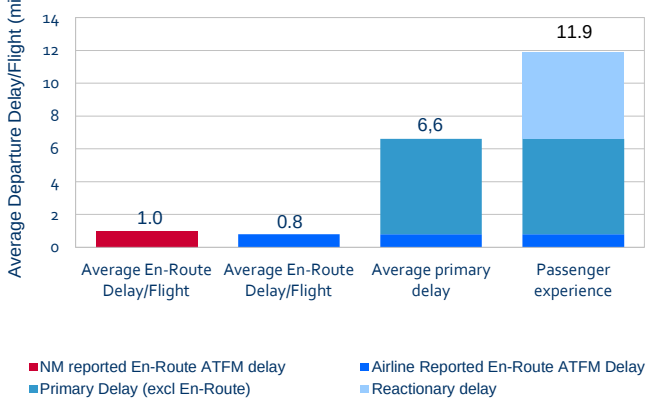
16 September; En-route ATC capacity delays in Maastricht, Langen, Brest, Bordeaux, Karlsruhe, Marseille, Paris and Barcelona ACCs; Aerodrome capacity issues at both Istanbul airports and Barcelona airports; Hamburg airport generated delays due to work in progress; Seasonal weather impacted strongly operations at London/Heathrow, London/ Gatwick and Rome/Fiumicino airports; En-route weather delays in London, Marseille, Bordeaux and Maastricht ACCs;

23 September; En-route ATC capacity delays in Brest, Maastricht, Bordeaux, Karlsruhe and Marseille ACCs; FDPS system failure in Karlsruhe ACC generated 11,860 min of ATFM delay and impacted Amsterdam/Schiphol airport; Aerodrome capacity issues at London/Gatwick and both Istanbul airports; Capacity delays at Hamburg airport due to work in progress and single runway operations; En-route ATC staffing issues in Scottish, Warsaw, Geneva and Brussels ACCs; Airshow in Toulouse/ Francazal airport generated delays at Toulouse/Blagnac airport until 25 September;

6. ALL AIR TRANSPORT DELAYS (SOURCE: CODA)

This section presents the all air transport delay situation as seen from the airlines by using the data collected by Central Office for Delay Analysis (CODA) from the airlines. Data coverage is 62% of the commercial flights in the ECAC region for August 2016. ATFM delays reported by airlines may be lower than the NM calculated ATFM delays due to difference in methods: ATFM delays of NM are the (flight) planned “delays”; the airlines report the “actual” experienced ATFM delay on departure. For instance, a flight with an ATFM delay may also have a handling delay absorbed within the ATFM delay. For the airline, a part of this delay is the ATFM delay and the remaining amount is the handling delay.

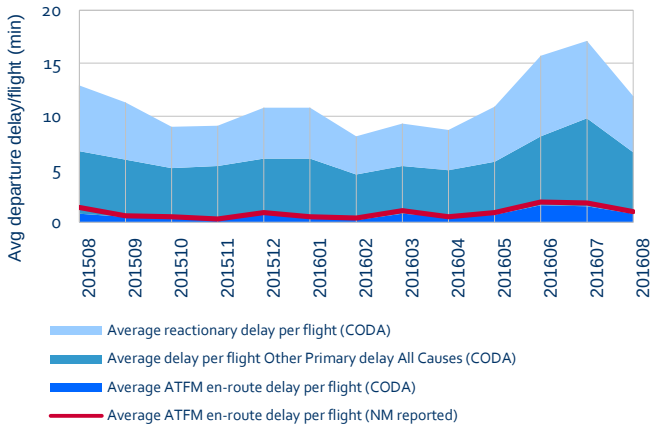
Breakdown Average Delay per Flight August 2016



Based on airline data, the average departure delay per flight from ‘All-Causes’ was 11.9 minutes per flight, this was a decrease of 7% in comparison to 12.8 minutes per flight in the same month of 2015.

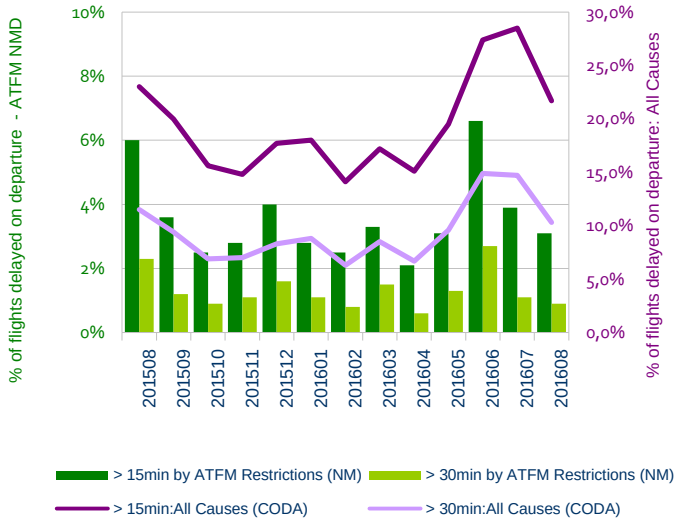
Within all air transport delays, en-route ATFM delays were 0.8 minutes/flight in August 2016. Primary delays counted for 55% (or 6.6 min/flt), with reactionary delays representing a smaller remaining share of 45% at (5.3 min/flt).

Average departure delay per flight 2015/2016



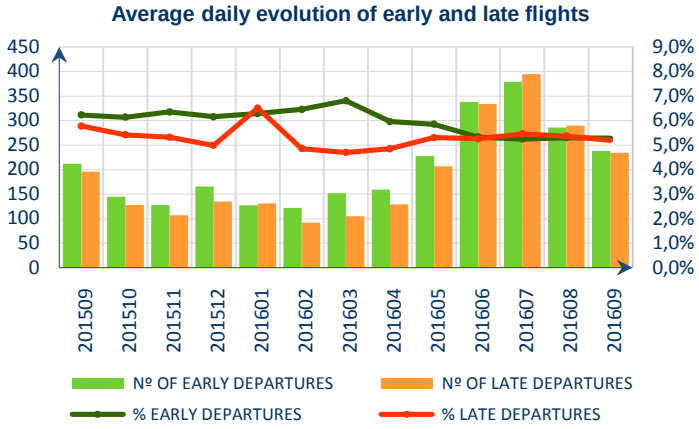
Further analysis of airline data from ’All-Causes’ shows that the average en-route ATFM delay was 0.8 minutes per flight. This was lower than the NM reported average en-route ATFM delay of 1 minute per flight.

Percentage of Delayed Flights: ATFM & All Causes



The percentage of flights delayed from ‘All-Causes’ decreased (those exceeding 15 minutes) by 1 percentage points to 21.7% and those (exceeding 30 minutes) by 1.2 points to 10.3% of flights in August 2016.

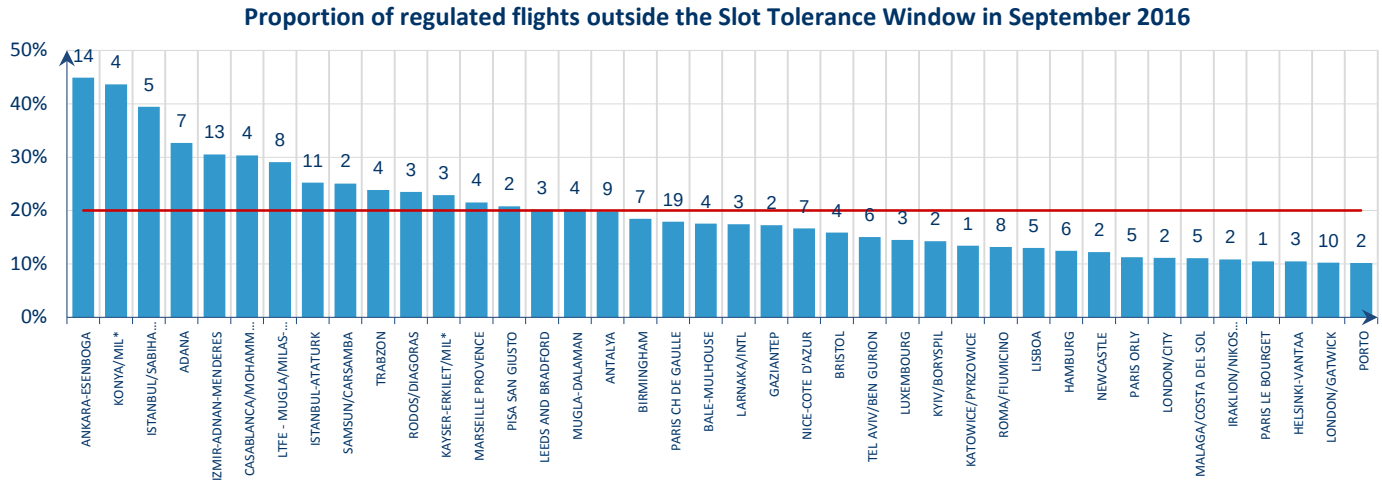
7. ATFM SLOT ADHERENCE



The percentage of early departures for September 2016 is 5.3% of regulated flights, which is a decrease of 1% compared to September 2015.

The percentage of late departures for September 2016 is 5.2% of regulated flights, which is a decrease of 0.6% compared to September 2015.

The chart below shows the airports that have more than 300 regulated flights during the month with their average daily number and proportion of regulated flights that departed outside of the Slot Tolerance Window (STW). Any airport above the red line is non-compliant with the threshold (20%). Those airports with a number of departures outside the slot tolerance window can reduce network predictability.



8. SIGNIFICANT EVENTS AND ISSUES

PLANNED EVENTS

ACC

Major airspace or ATM system improvement projects.
They were no major airspace/system projects during the period.

AIRPORTS

Local Plans in September

A number of airports undertook infrastructure and technical system improvement works during September. These improvements as well as some special events had at most a minor impact on local airport operations unless otherwise stated.

Special Events

- Sanicole Airshow at Brussels Canac 8 – 11 September;
- XVII International CINet Conference in Torino 11 – 13 September, International Conference of Clinical Neonatology in Torino 22 – 24 September;
- EU Summit in Bratislava Ivanka on 16 September;
- Airshow at Toulouse-Francazal airport 23 – 25 September, generated total of 3,528 minutes of ATFM delay at Toulouse/Blagnac airport (Arrival flow 3,253 minutes and Departure flow 275 minutes);
- Airshow at Malta Luqa airport 23 – 25 September.

Completed:

- Runway maintenance at Barcelona (3,192 minutes of ATFM delay), Brussels, Gran Canaria, Hamburg (9,227 minutes of ATFM delay) and Riga airports;
- Taxiway(s) and/or apron(s) improvements at Gran Canaria, Riga, Tenerife/Sur and Toulouse airports;
- ILS maintenance and terminal building improvement at Budapest airport.

Ongoing

- Runway maintenance at Amsterdam/Schiphol, Cologne, Istanbul/Sabiha Gökcen, Kishinev, Krakow, Milano/Malpensa, Paris/Charles de Gaulle, Tallinn and Thessaloniki airports;
- Taxiway(s) and/or apron(s) improvements at Frankfurt/Main, Copenhagen, Hamburg, Helsinki, Lanzarote, London/Heathrow, Malta, Stuttgart, Tallinn and Venice airports;
- ILS maintenance at Bologna, Düsseldorf, Gran Canaria, Oslo/Gardermoen and Paris/Charles de Gaulle airports;
- Terminal building(s) improvements/works at Belgrade, Bergen, Frankfurt/Main, Ljubljana, and Oslo/Gardermoen airports;
- PRIDEP trial at Zurich airport generated 1,726 minutes of airport ATFM delay.

DISRUPTIONS

Technical

- ATC equipment issue in Reims ACC on 02 September generated 1,243 minutes of ATFM delay;
- Radar problems between 8 and 24 September at Pisa/San Giusto generated 2,180 minutes of ATFM delay;
- Frequency failure in Brussels ACC on 15 September generated 4,207 minutes of ATFM delay;
- Radar backup system issues in Malmö ACC on 14 September generated 5,228 minutes of ATFM delay;
- ATC equipment issue in Marseille ACC on 14 September generated 2,901 minutes of ATFM delay;
- ATM system upgrade in Nicosia ACC on 16 September generated 1,657 minutes of ATFM delay;
- FDPS system failure in Karlsruhe ACC on 23 September generated 11,860 minutes of ATFM delay.

Industrial Action

- French ATC industrial action between 14 and 15 September generated 5,163 minutes of airport ATFM delay and 22,249 minutes of en-route ATFM delay in France. Most affected airports were Marseille (2,040 minutes of ATFM delays) and Paris/Orly (1,305 minutes of ATFM delays). Neighboring states generated 20,482 minutes due to ATFM protective measures. NM estimates there were 900 flights fewer during the action.

Other

- Emergency landing at London/Heathrow on 9 September generated 1,485 minutes of ATFM delay;
- Due to ground congestion at London/Gatwick airport on 23 September 4,203 minutes of ATFM delay were generated.

9. NM ADDED VALUE

FLIGHTS WITH DELAY > 30'

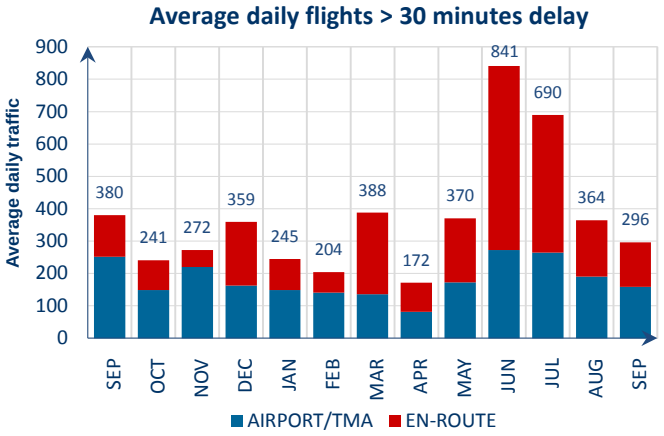
The number of flights that had more than 30 minutes of ATFM delay decreased by 22.1% from 380 flts/day in September 2015 to 296 flts/day in September 2016.

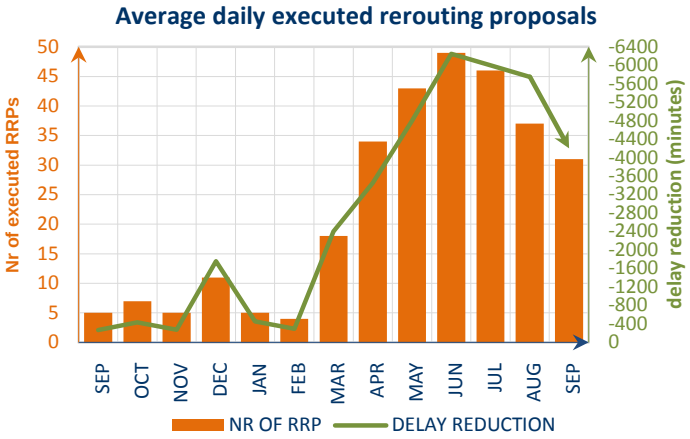
46.3% of flights with more than 30 minutes of ATFM delay in September 2016 were en-route and 53.7% were airport.

RRP DIRECT DELAY SAVINGS

A daily average of 44 RRPs were offered in September 2016 of which 31 RRPs were executed, saving 4,200 minutes of daily delay.

This graph shows the actual daily averages for the previous 13 months' period.





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i See Notice on page 1 for more information on traffic and delay comparison.
ii Internals, international departures and arrivals, excluding overflights.
iii iTEC (interoperability Through European Collaboration) provides advanced flight data processing and Controller Working Position under SWIM (System Wide Information Management) which will improve information flow in control centres and airports.
iv See Notice on page 1 for more information on NM Area
v NM's calculation that provides the guideline en-route delay (min) requirements to achieve the annual target (0.5 min/flight).