Monthly Network Operations Report

Analysis July 2019

EUROCONTROL

FOUNDING MEMBER SESAR JOINT UNDERTAKING

NETWORK MANAGER

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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.

Graphics
All graphs in sections 2, 3 and 4 are in average minutes of ATFM delay per day, 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). For further information on the NM Area go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at **https://www.eurocontrol.int/publication/reporting-assumptions-and-descriptions**

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

For further information on the regulation reason groupings, go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at **https://www.eurocontrol.int/network-performance**.

ATFM Statistics dashboard
More detailed information available via the new **ATFM Statistics dashboard.**

1. TOTAL TRAFFIC

### Monthly traffic trend
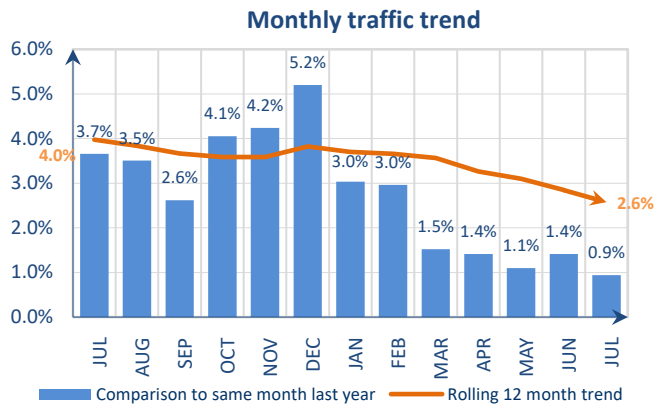
Traffic increased by 0.9% in July 2019[i].

Average daily traffic for last 5 Years
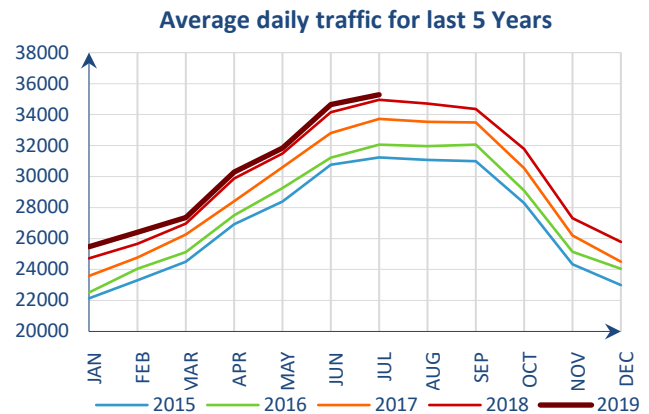
Average daily traffic in July 2019 was 35,282, the highest ever recorded for July.

Average daily traffic in July for last 5 Years
Forecast dated 2019-02
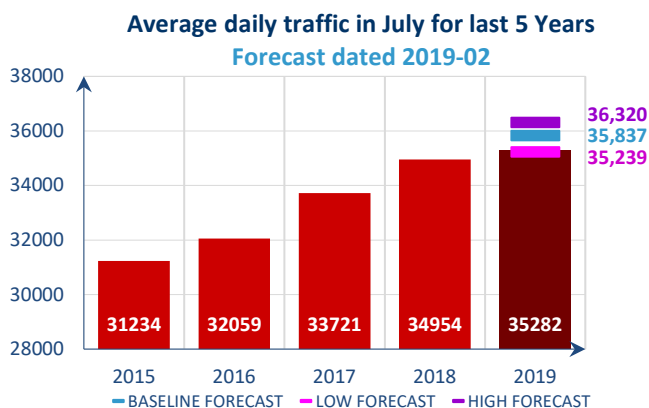
The traffic increase of 0.9% for July was aligned with the low forecast published in February 2019.

12 months rolling traffic trend
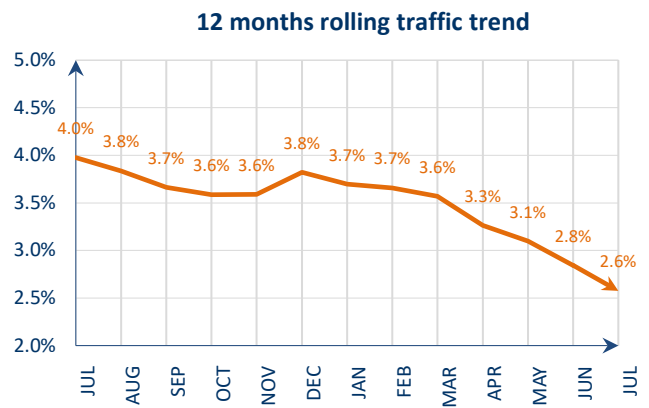
This graph shows the variation in average daily traffic for the last 12-month period relative to the previous 12-months. The average daily traffic from August 2018 to July 2019 was 2.6% higher than the average from August 2017 to July 2018.

Eight states added more than 50 flights per day to the European local[ii] traffic growth. Italy was the strongest contributor with 136 extra daily flights due to its flows to and from Germany (+34 flights/day), France (+14 flights/day), Spain (+12 flights/day) and Greece (+11 flights/day). In addition, the state's flow to and from Egypt grew 31.6% (+9 flights/day). **Spain** (exc. Canary Islands) and **France** tied for second place and added 94 daily flights. Spain's internal flow added 38 flights per day whereas its flow to and from Morocco was up 29.5% with 16 extra daily flights and its flow to and from Portugal (excl. Azores) added 14 flights per day. France's flows to and from Morocco added 18 daily flights and was up 12.9% whereas the state's flows to and from Southern Europe (Italy, Spain, Portugal and Turkey) added a combined 43 daily flights. Austria was the fourth contributor with 88 extra daily flights owing to its flow to and from Germany, which added 17 daily flights along with its flow to, and from Southern Europe (France, Italy, Spain and Greece) which recorded 31 extra daily flights. Turkey ranked fifth with 83 extra daily flights due mainly to its flows to and from the Middle East (+64 flights/day), Germany (+42 flights/day), UK (+25 flights/day). Turkey's domestic flow remained weak as it saw 177 fewer flights per day. Morocco was the sixth contributor with 71 extra daily flights and recorded the best progression with a 12.8% growth rate thanks to its flows to and from France (+18 flights/day), Spain (+16 flights/day) along with its internal flow (+11 flights/day). Ukraine ranked seventh and added 58 daily flights owing to its flow to and from Poland (+11 flights/day), Egypt (+10 flights/day) as well as its flow to and from Western Europe (Greece, Austria, Italy, France and Spain) which added 21 daily flights. Portugal (excl. Azores) was the eight contributor with 53 daily flights owing to its flows to and from Spain (+14 flights/day) and to and from Northern Europe (UK, Ireland, Belgium/Luxembourg) (+22 flights/day). On the other hand, Iceland continued to record fewer flights (-63 flights/day) due mainly to its flow to and from North America which saw 29 fewer daily flights. Bulgaria saw 48 fewer flights owing to its flow to and from Germany (-17 flights/day) and the Russian Federation (-11 flights/day). Germany saw 42 fewer flights due to its flows to and from Spain and Canary Islands (-58 flights/day), UK (-24 flights/day), Switzerland (-20 flights/day), Greece (-19 flights/day) and Bulgaria (-17 flights/day). Sweden saw 39 fewer flights owing primarily to its internal flow which went down 16 flights per day.

The top five external partners (for average daily flights on flow in both directions) were the Russian Federation (1,205 flights, down 6.5%), the United States (1,204 flights, down 2.6%), the United Arab Emirates (354 flights, down 4.0%), Egypt (309 flights, up 13.8%) and Canada (253 flights, down 5.7%).

The aircraft operators which added the most flights to the network on a daily basis were Ryanair (+167 flights), Vueling (+33 flights), Jet2.com (+30 flights), Air Baltic (+29 flights) SWISS (+28 flights) and Air Europa (+26 flights).

For more information on EUROCONTROL Statistics and Forecasts, go to **https://www.eurocontrol.int/dashboard/statfor-interactive-dashboard**

Seven of the top ten airports had positive traffic growth. Overall, the largest traffic increases in July 2019 were at Milano/Malpensa, Vienna, Antalya, Tel Aviv/Ben Gurion and Alicante airports. The largest traffic decreases were at Palma de Mallorca, Paris/Orly, Ibiza, Gran Canaria and London/Stansted airports. Additional traffic due to the temporary closure of Milano/Linate explained the traffic variation at Milano/Malpensa. Traffic changes in Vienna are attributed to new entrants.

Six of the top ten aircraft operators flew more compared to July 2018. The operators with the highest traffic growth were Air Baltic, European Air Transport, Transavia France, Sunexpress Airlines and Jet2.com.
easyJet, Norwegian Air International, HOP, Travel Servis and Thomas Cook recorded the highest traffic decreases.

easyJet Europe commenced use of their second operator code EJU at the start of the IATA summer season, resulting in a shift of flights from the EZY code. Air Europa's 12% increase in flights was attributed to new aircraft deliveries, Jet2 also saw new aircraft join their fleet. The decrease of flights for Norwegian Air International IBK is a result of a lower level of aircraft utilisation during the month.

N°	ADEP	ADEP NAME	201907	%
1	EDDF	FRANKFURT MAIN	760	1.1%
2	LFPG	PARIS CH DE GAULLE	758	3.3%
3	EHAM	AMSTERDAM/SCHIPHOL	740	-1.7%
4	EGLL	LONDON/HEATHROW	681	0.6%
5	LTFM	ISTANBUL NEW AIRPORT	634	0.0%
6	LEMD	ADOLFO SUAREZ MADRID-BARAJA	629	5.1%
7	EDDM	MUENCHEN	607	1.8%
8	LEBL	BARCELONA/EL PRAT	536	1.9%
9	LIRF	ROMA/FIUMICINO	483	-0.1%
10	LTAI	ANTALYA	468	7.9%
11	LEPA	PALMA DE MALLORCA	463	-3.7%
12	EGKK	LONDON/GATWICK	445	-1.2%
13	LOWW	WIEN SCHWECHAT	425	11.3%
14	LGAV	ATHINAI/ELEFTHERIOS VENIZELOS	413	5.5%
15	LSZH	ZURICH	405	0.0%
16	EKCH	KOBENHAVN/KASTRUP	376	-1.2%
17	EIDW	DUBLIN	369	1.8%
18	EBBR	BRUSSELS NATIONAL	357	1.0%
19	ENGM	OSLO/GARDERMOEN	348	0.8%
20	LIMC	MILANO MALPENSA	346	15.1%
21	LFPO	PARIS ORLY	339	-3.2%
22	EDDL	DUESSELDORF	338	3.1%
23	LTFJ	ISTANBUL/SABIHA GOKCEN	336	-2.2%
24	LPPT	LISBOA	336	2.3%
25	EGCC	MANCHESTER	328	2.2%
26	ESSA	STOCKHOLM-ARLANDA	307	-1.7%
27	EGSS	LONDON/STANSTED	302	-2.3%
28	EPWA	CHOPINA W WARSZAWIE	291	1.0%
29	LLBG	TEL AVIV/BEN GURION	280	6.2%
30	LFMN	NICE-COTE D'AZUR	278	1.4%
31	EDDT	BERLIN-TEGEL	272	-0.5%
32	EFHK	HELSINKI-VANTAA	264	1.7%
33	LSGG	GENEVA	253	0.5%
34	LEMG	MALAGA/COSTA DEL SOL	250	3.0%
35	LKPR	PRAHA RUZYNE	244	-0.6%
36	EDDH	HAMBURG	220	0.9%
37	EDDK	KOELN-BONN	220	1.2%
38	EGGW	LONDON/LUTON	217	3.3%
39	EGPH	EDINBURGH	202	0.1%
40	EDDS	STUTTGART	202	4.2%
41	LEIB	IBIZA	193	-3.0%
42	LROP	BUCURESTI/HENRI COANDA	191	-1.4%
43	LHBP	BUDAPEST LISZT FERENC INT.	187	4.0%
44	UKBB	KYIV/BORYSPIL	179	0.0%
45	LFLL	LYON SAINT-EXUPERY	179	5.0%
46	LEAL	ALICANTE	178	5.8%
47	EGBB	BIRMINGHAM	174	0.1%
48	LFML	MARSEILLE PROVENCE	162	0.0%
49	LIPZ	VENEZIA TESSERA	162	-0.7%
50	GCLP	GRAN CANARIA	162	-2.6%
	TOTALS and % TOTAL TRAFFIC		**17489**	**55.9%**

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

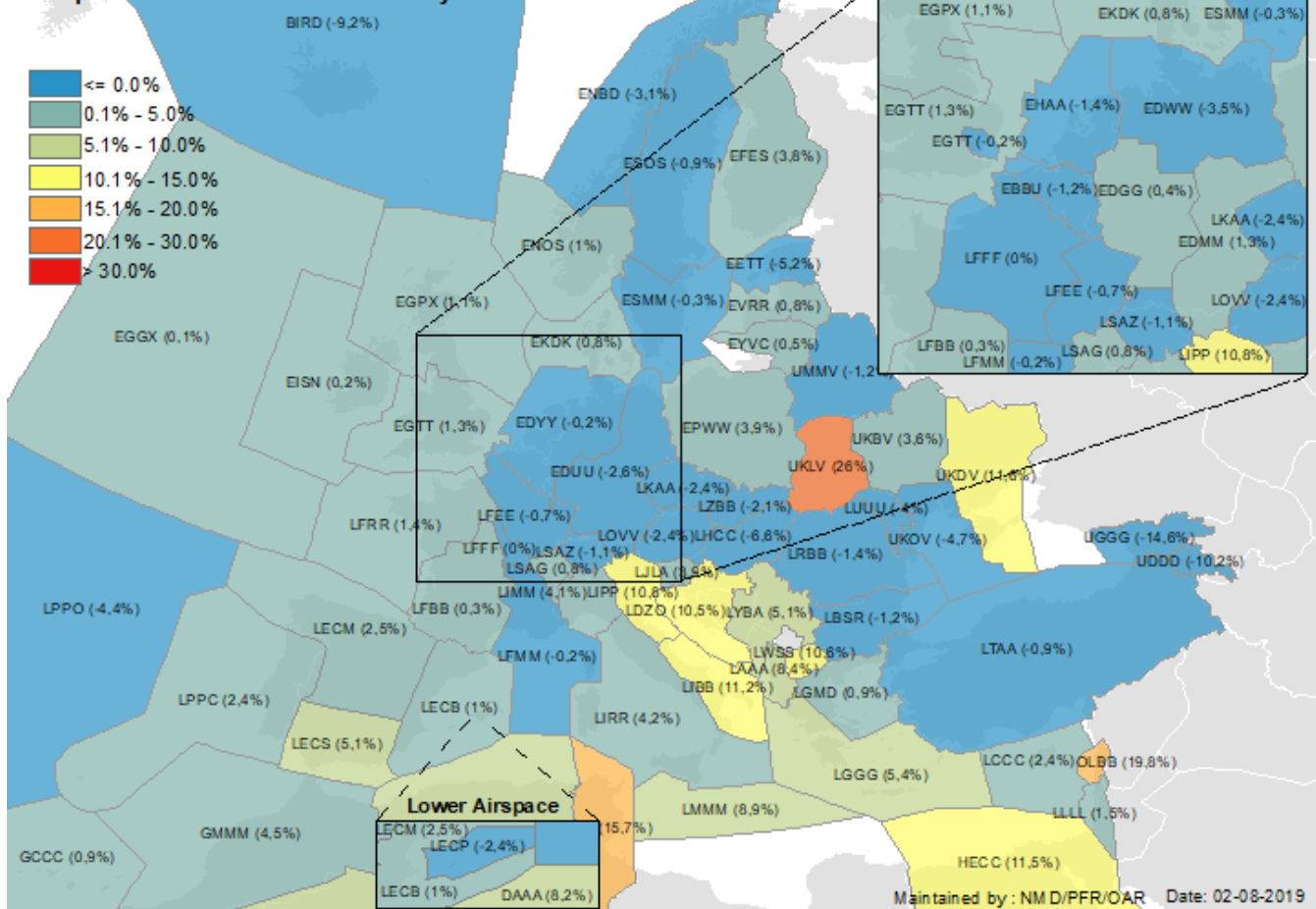| N°	ICAO	AIR OPERATOR	201907	%
1	RYR	RYANAIR	2468	7.7%
2	DLH	DEUTSCHE LUFTHANSA	1549	0.4%
3	THY	TURKISH AIRLINES	1467	-2.7%
4	AFR	AIR FRANCE	940	0.3%
5	EZY	EASYJET	887	-46.0%
6	EJU	EASY JET EUROPE AIRLINE GMBH	823	
7	SAS	SCANDINAVIAN AIRLINES SYSTEM	783	0.7%
8	BAW	BRITISH AIRWAYS	755	0.2%
9	EWG	EUROWINGS AG	744	-0.1%
10	VLG	VUELING AIRLINES SA	732	4.7%
11	KLM	KLM ROYAL DUTCH AIRL	718	1.4%
12	WZZ	WIZZ AIR	604	-0.1%
13	AZA	ALITALIA	592	0.7%
14	PGT	PEGASUS HAVA TASI.	516	-2.7%
15	SWR	SWISS INTERNATIONAL	459	6.6%
16	AUA	AUSTRIAN AIRLINES	437	5.2%
17	BEE	JERSEY EUROPEAN T/A FLYBE	426	-1.4%
18	TAP	TAP/AIR PORTUGAL	417	4.3%
19	LOT	LOT-POLISH AIRLINES	390	5.9%
20	NAX	NORWEGIAN AIR SHUTTLE	371	4.7%
21	FIN	FINNAIR OY	361	6.4%
22	EXS	JET2.COM	354	9.4%
23	AFL	AEROFLOT-RUSSIAN	348	2.9%
24	AEA	AIR EUROPA	319	8.9%
25	WIF	WIDEROE	304	0.2%
26	IBE	IBERIA	282	2.3%
27	TOM	THOMSON FLY LTD	272	9.3%
28	VOE	VOLOTEA	261	8.2%
29	BEL	BRUSSELS AIRLINES	259	2.6%
30	QTR	QATAR AIRWAYS COMP.	257	5.5%
31	EIN	AER LINGUS TEORANTA	256	4.6%
32	IBK	NORWEGIAN AIR INTERNATIONAL	252	-19.3%
33	ANE	AIR NOSTRUM	247	3.5%
34	RAM	ROYAL AIR MAROC	242	5.7%
35	OAL	OLYMPIC	237	5.9%
36	SXS	SUNEXPRESS AIRLINES	225	11.5%
37	UAE	EMIRATES	215	4.9%
38	TRA	TRANSAVIA.COM	208	2.5%
39	AEE	AEGEAN AIRLINES	203	7.0%
40	BTI	AIR BALTIC CORPORAT.	197	17.1%
41	HOP	HOP (MERGE OF BZH + RAE + RLA)	194	-10.5%
42	AUI	UKRAINE INTERNATIONA	190	-2.5%
43	BCS	EUROPEAN AIR TRANSP.	190	13.3%
44	NJE	NETJETS	183	0.9%
45	CFG	CONDOR FLUGDIENST	179	-4.1%
46	DAL	DELTA AIR LINES INC.	179	5.2%
47	TVS	TRAVEL SERVIS	174	-9.4%
48	EZS	EASY JET SWITZERLAND	168	7.2%
49	TVF	TRANSAVIA FRANCE	163	11.7%
50	TCX	THOMAS COOK AIT LTD	162	-4.9%
	TOTALS and % TOTAL TRAFFIC		**23159**	**65.6%**

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

N°	ICAO	AIR OPERATOR	201907	%
		Unidentified	2397	-1.1%

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

EN-ROUTE TRAFFIC GROWTH

**Percentage change in traffic during July 2019 compared to the same month last year**

Legend:
- <= 0.0%
- 0.1% - 5.0%
- 5.1% - 10.0%
- 10.1% - 15.0%
- 15.1% - 20.0%
- 20.1% - 30.0%
- > 30.0%

Lower Airspaces

EGPX (1,1%)   EKDK (0,8%)   ESMM (-0,3%)
EGTT (1,3%)   EHAA (-1,4%)   EDWW (-3,5%)
EGTT (-0,2%)
EBBU (-1,2%) EDGG (0,4%)
LKAA (-2,4%)
EDMM (1,3%)
LFFF (0%)
LFEE (-0,7%)   LOVV (-2,4%)
LFBB (0,3%)   LSAZ (-1,1%)
LFMM (-0,2%)   LSAG (0,8%)   LIPP (10,8%)

Map labels:

BIRD (-9,2%)
ENBD (-3,1%)
ESOS (-0,9%)   EFES (3,8%)
ENOS (1%)
EGPX (1,1%)   ESMM (-0,3%)   EVRR (0,8%)
EKDK (0,8%)   EYVC (0,5%)
EGGX (0,1%)
EISN (0,2%)   UMMV (-1,2%)
EGTT (1,3%)   EDYY (-0,2%)   EPWW (3,9%)   UKBV (3,6%)
EDUU (-2,6%)   UKLV (26%)   UKDV (11,6%)
LFRR (1,4%)   LFEE (-0,7%)   LKAA (-2,4%)
LZBB (-2,1%)   LUUU (-4%)
LFFF (0%) LSAZ (-1,1%)   LOVV (-2,4%) LHCC (-6,6%)   UKOV (-4,7%)   UGGG (-14,6%)
LSAG (0,8%)   LRBB (-1,4%)   UDDD (-10,2%)
LPPO (-4,4%)   LJLA (3,9%)
LFBB (0,3%)   LMM (4,1%)LIPP (10,8%)
LECM (2,5%)   LDZO (10,5%)LYBA (5,1%)   LBSR (-1,2%)
LFMM (-0,2%)   LWSS (10,6%)   LTAA (-0,9%)
LAAA (8,4%)
LIBB (11,2%)   LGMD (0,9%)
LPPC (2,4%)   LECB (1%)
LIRR (4,2%)
LECS (5,1%)
LCCC (2,4%)OLBB (19,8%)
GMMM (4,5%)   LMMM (8,9%)   LGGG (5,4%)   LLLL (1,5%)
LECM (2,5%)
LECP (-2,4%)   (15,7%)
GCCC (0,9%)   HECC (11,5%)
LECB (1%)   DAAA (8,2%)

Lower Airspace

Maintained by : NM D/PFR/OAR   Date: 02-08-2019

Nº	ASP ID	ASP NAME	201907	%	Nº	ASP ID	ASP NAME	201907	%
1	BIRDACC	REYKJAVIK ACC	452	-9.2%	39	LFBBALL	BORDEAUX ACC	3320	0.3%
2	DAAAACC	ALGER ACC	578	8.2%	40	LFEEACC	REIMS ACC	3320	-0.7%
3	DTTCACC	TUNIS ACC	472	15.7%	41	LFFFALL	PARIS ACC	3821	0.0%
4	EBBUACC	BRUSSELS ACC	1994	-1.2%	42	LFMMACC	MARSEILLE ACC	4067	-0.2%
5	EDGGALL	LANGEN ACC	4046	0.4%	43	LFMMAPP	MARSEILLE TMA	1222	4.4%
6	EDMMACC	MUENCHEN ACC	3656	1.3%	44	LFRRACC	BREST ACC	3727	1.4%
7	EDUUUAC	KARLSRUHE UAC	5556	-2.6%	45	LGGGACC	ATHINAI ACC	2591	5.4%
8	EDWWACC	BREMEN ACC	1939	-3.5%	46	LGMDACC	MAKEDONIA ACC	2018	1.0%
9	EDYYUAC	MAASTRICHT UAC	5682	-0.2%	47	LHCCACC	BUDAPEST ACC	2973	-6.6%
10	EETTACC	TALLIN ACC	689	-5.2%	48	LIBBACC	BRINDISI ACC	1518	11.2%
11	EFESACC	TAMPERE ACC	492	3.8%	49	LIMMACC	MILANO ACC	3178	4.1%
12	EGGXOCA	SHANWICK OACC	1624	0.1%	50	LIPPACC	PADOVA ACC	2846	10.8%
13	EGPXALL	SCOTTISH ACC	3227	1.1%	51	LIRRACC	ROMA ACC	3298	4.2%
14	EGTTACC	LONDON ACC	6732	1.3%	52	LJLAACC	LJUBLJANA ACC	1350	3.9%
15	EGTTTC	LONDON TMA TC	4341	-0.2%	53	LKAAACC	PRAHA ACC	2766	-2.4%
16	EHAAACC	AMSTERDAM ACC	1756	-1.4%	54	LLLLACC	TEL-AVIV ACC	665	1.5%
17	EIDWACC	DUBLIN ACC	802	0.9%	55	LMMMACC	MALTA ACC	428	8.9%
18	EISNACC	SHANNON ACC	1518	0.2%	56	LOVVACC	WIEN ACC	3081	-2.4%
19	EKDKACC	KOBENHAVN ACC	1738	0.8%	57	LPPCACC	LISBOA ACC	1826	2.4%
20	ENBDACC	BODO ACC	554	-3.2%	58	LPPOOAC	SANTA MARIA OAC	455	-4.4%
21	ENOSACC	OSLO ACC	1054	1.0%	59	LQSBACC	SARAJEVO ACC	191	11.1%
22	ENSVACC	STAVANGER ACC	673	3.4%	60	LRBBACC	BUCURESTI ACC	2600	-1.4%
23	EPWWACC	WARSZAWA ACC	2940	3.9%	61	LSAGACC	GENEVA ACC	2200	0.8%
24	ESMMACC	MALMO ACC	1726	-0.3%	62	LSAZACC	ZURICH ACC	2700	-1.1%
25	ESOSACC	STOCKHOLM ACC	1085	-0.9%	63	LTAAACC	ANKARA ACC	4751	-0.9%
26	EVRRACC	RIGA ACC	943	0.8%	64	LTBBACC	ISTANBUL ACC	2311	-0.4%
27	EYVCACC	VILNIUS ACC	847	0.5%	65	LUUUACC	CHISINAU ACC	192	-4.0%
28	GCCCACC	CANARIAS ACC	968	0.9%	66	LWSSACC	SKOPJE ACC	908	10.6%
29	GMMMACC	CASABLANCA ACC	1257	4.5%	67	LYBAACC	BEOGRAD ACC	2846	5.1%
30	HECCACC	CAIRO ACC	764	11.5%	68	LZBBACC	BRATISLAVA ACC	2055	-2.1%
31	LAAAACC	TIRANA ACC	907	8.4%	69	OLBBACC	BEIRUT ACC	248	19.8%
32	LBSRACC	SOFIA ACC	3093	-1.2%	70	UDDDACC	YEREVAN ACC	185	-10.2%
33	LCCCACC	NICOSIA ACC	1343	2.4%	71	UGGGACC	TBILISI ACC	410	-14.6%
34	LDZOACC	ZAGREB ACC	2662	10.5%	72	UKBVACC	KYIV FIR/ACC	611	3.6%
35	LECBACC	BARCELONA ACC	3422	1.0%	73	UKDVACC	DNIPRO ACC	77	11.6%
36	LECMALL	MADRID ACC	3590	2.5%	74	UKLVACC	L'VIV ACC	644	26.0%
37	LECPACC	PALMA ACC	1495	-2.4%	75	UKOVACC	ODESA ACC	383	-4.7%
38	LECSACC	SEVILLA ACC	1348	5.2%	76	UMMVACC	MINSK ACC	995	-1.2%

The highest relative traffic increases in July 2019 were in L'viv, Beirut, Tunis, Dnipro, Cairo, Brindisi and Sarajevo ACCs. The Sevilla, Casablanca, Barcelona and Madrid ACCs variation is due to high demand during summer period. However, traffic increase in Ukraine is partially due to an increase in overflights.
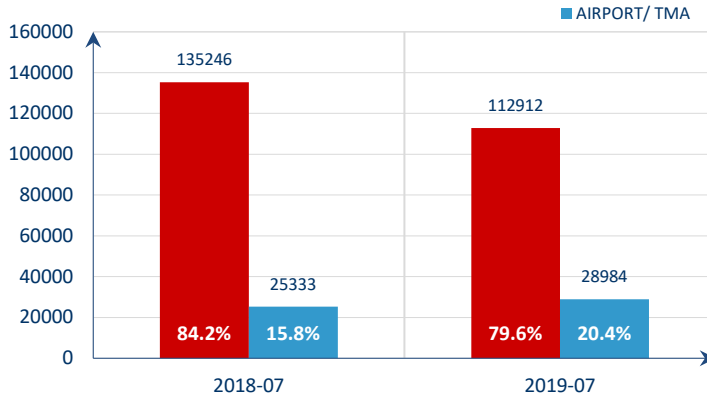
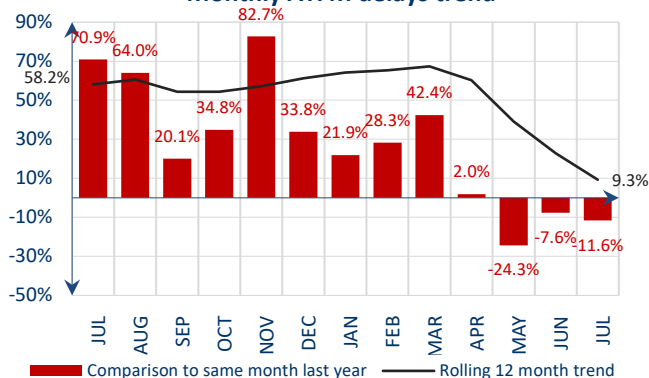# 2. ATFM DELAY AND ATTRIBUTIONS

Average daily ATFM delays
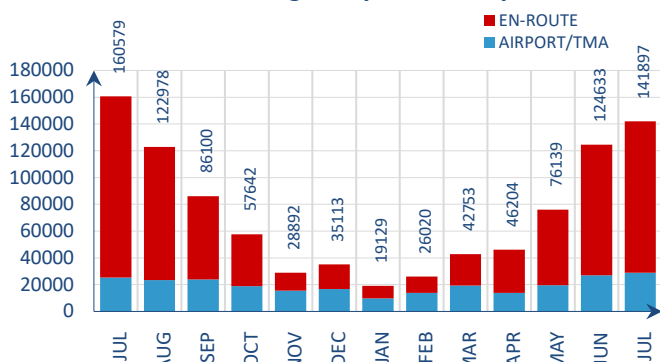
Total ATFM delays decreased by 11.6% in July 2019[i].
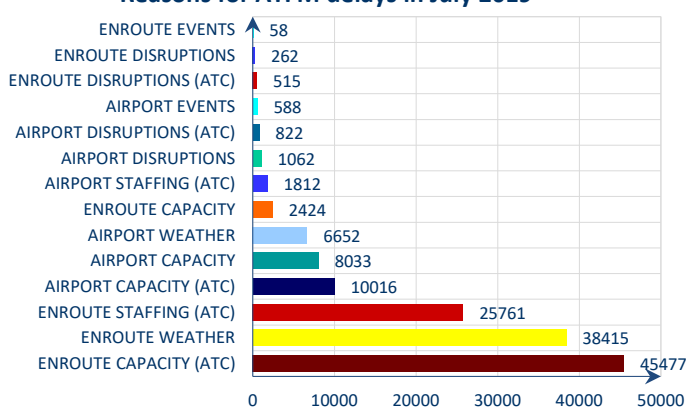
Average daily ATFM delays

En-route ATFM delays decreased by 16.5% and airport ATFM delays increased by 14.4%.

Monthly ATFM delays trend


The rolling 12-month trend shows that ATFM delay was 9.3% higher during the period August 2018 – July 2019 compared to August 2017 – July 2018.

Reasons for ATFM delays in July 2019

Reason	Value
ENROUTE EVENTS	58
ENROUTE DISRUPTIONS	262
ENROUTE DISRUPTIONS (ATC)	515
AIRPORT EVENTS	588
AIRPORT DISRUPTIONS (ATC)	822
AIRPORT DISRUPTIONS	1062
AIRPORT STAFFING (ATC)	1812
ENROUTE CAPACITY	2424
AIRPORT WEATHER	6652
AIRPORT CAPACITY	8033
AIRPORT CAPACITY (ATC)	10016
ENROUTE STAFFING (ATC)	25761
ENROUTE WEATHER	38415
ENROUTE CAPACITY (ATC)	45477

En-route ATC capacity (32.1%), en-route weather (27.1%) and en-route ATC staffing (18.2%) were the main causes of ATFM delays in July 2019.

Top 20 delay reference locations in July 2019
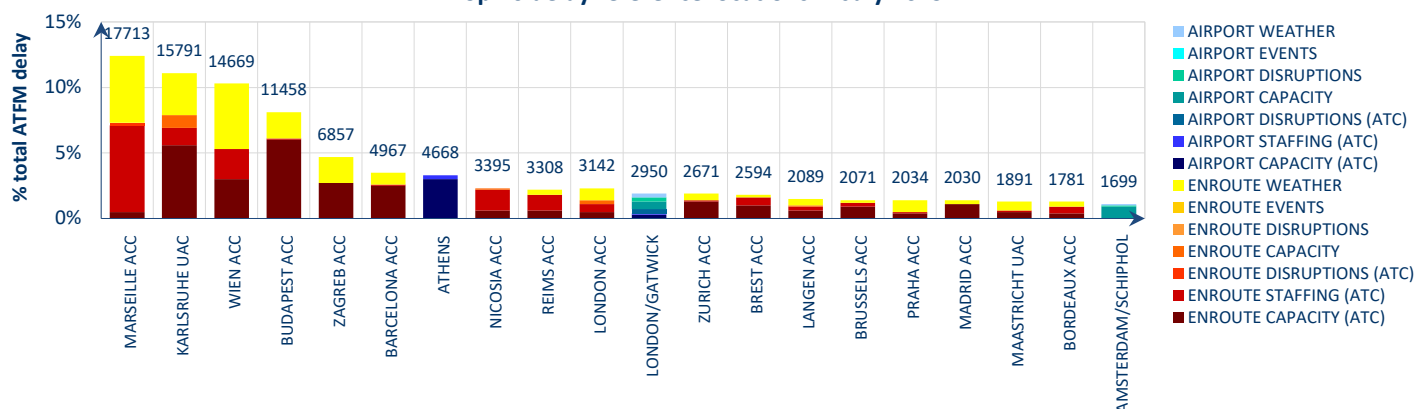
These are the top 20 delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

- Convective activity impacted operations strongly in Marseille, Vienna and to a lesser extent in Karlsruhe, Budapest and Zagreb ACCs;
- ATC capacity issues due to high demand in Vienna, Zagreb and Barcelona ACCs;
- High delays due to staffing in Marseille, Karlsruhe and Budapest ACCs;
- High delays at Athens airport despite an overall increase in ATC capacity in both airport and TMA to meet the demand.

3. EN-ROUTE ATFM DELAYS

EN-ROUTE ATFM DELAY PER LOCATION

Top 20 delay locations for en-route delays in July 2019
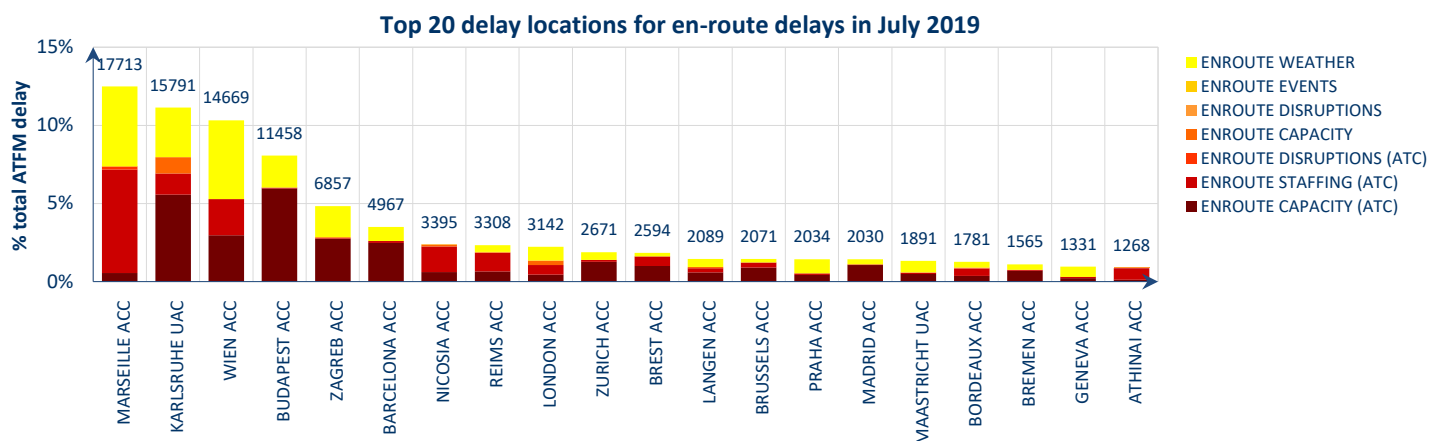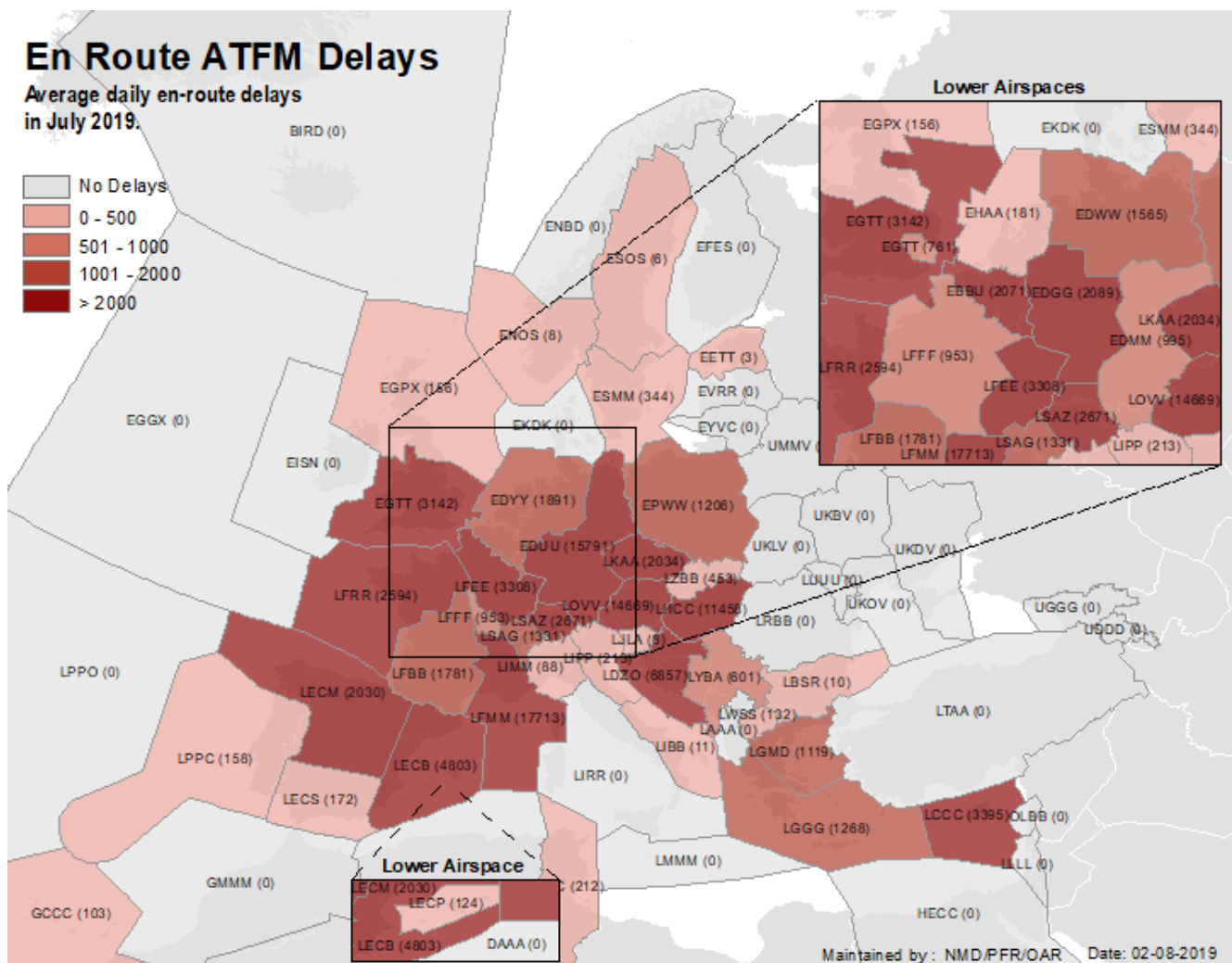
These are the top 20 en-route ATFM delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

The top 20 en-route ATFM delay locations generated **72.3%** of the monthly total (network) ATFM delay.
The top 5 en-route ATFM delay locations generated **46.9%** of the monthly total (network) ATFM delay.

More detailed information available in the Airspace dashboard via the **ATFM Statistics dashboard.**

EN-ROUTE ATFM DELAY PER DELAY GROUP

Reasons for en-route delays in July 2019

ENROUTE EVENTS	0.0%
ENROUTE DISRUPTIONS	0.2%
ENROUTE DISRUPTIONS (ATC)	0.4%
ENROUTE CAPACITY	1.7%
ENROUTE STAFFING (ATC)	18.2%
ENROUTE WEATHER	27.1%
ENROUTE CAPACITY (ATC)	32.1%
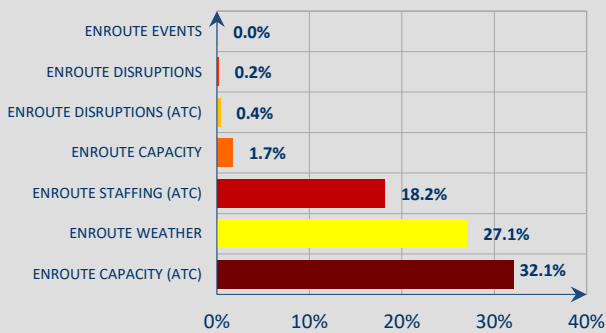
En-route ATFM delays accounted for 79.6% of all ATFM delays. Most of this delay was caused by en-route ATC capacity, en-route weather and en-route ATC staffing as explained in detail below. The other causes were:

En-route capacity; Military exercises in Karlsruhe, London, Nicosia and Langen ACCs;

En-route ATC disruptions; Radio failure in Bordeaux ACC, phone communication failure in Makedonia ACC and frequency problem in Marseille ACC;

En-route disruptions; Delays in Athens ACC.

Top en-route Capacity (ATC) delays in July 2019
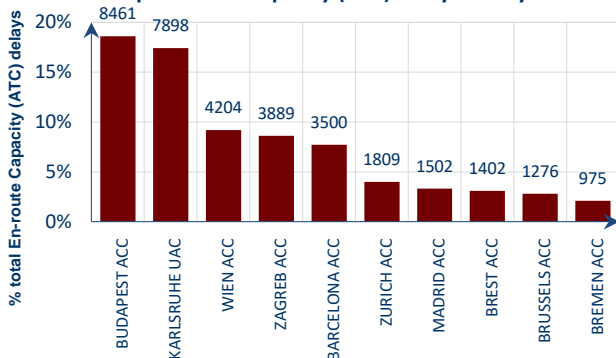
Budapest and Karlsruhe ACCs acknowledge at Weekly Summer Coordination meetings that staffing shortages are responsible for much of the ATFM delays.

Top en-route Weather delays in July 2019
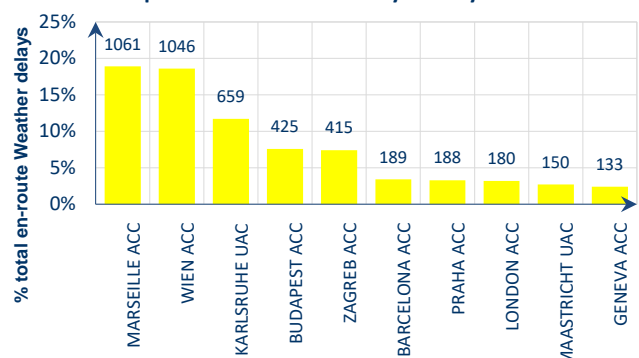
Convective activity impacted operations strongly in Marseille and Vienna ACCs throughout the month. A peak of 52,788 minutes of ATFM delays was recorded in Marseille on 27 July. The highest delay in Vienna was on 01 July with a total of 37,309 minutes of ATFM delay.

Top en-route Staffing (ATC) delays in July 2019
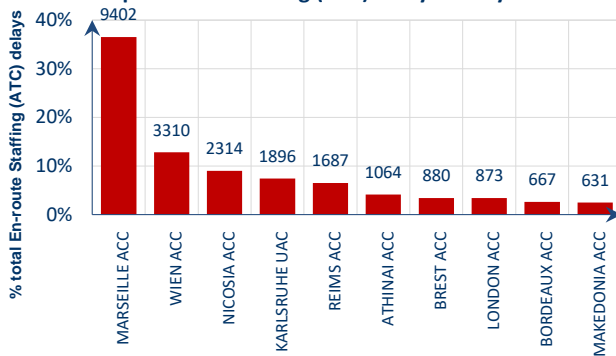
Several staffing issues throughout the month in Marseille ACC generated a total of 291,402 minutes of ATFM delay.

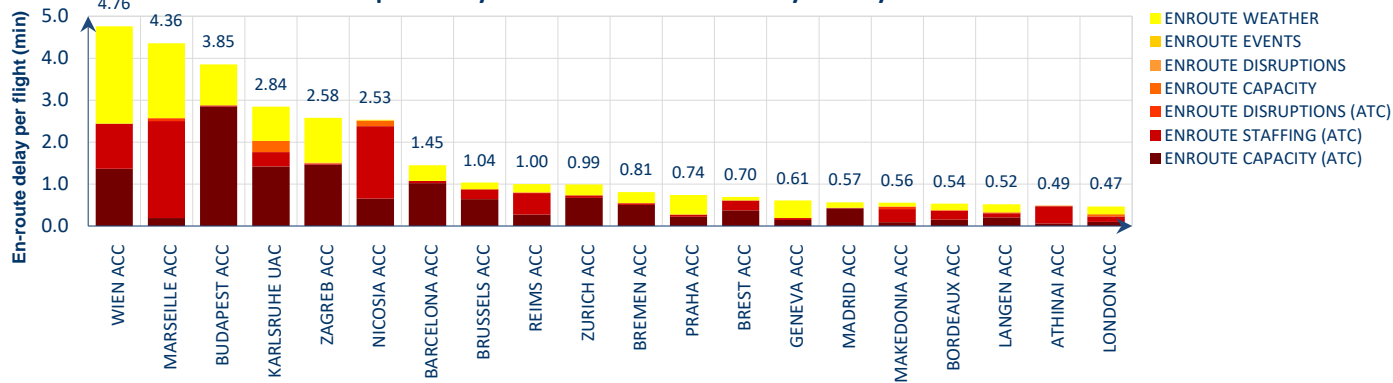## Average daily flights >= 15 min en-route delay
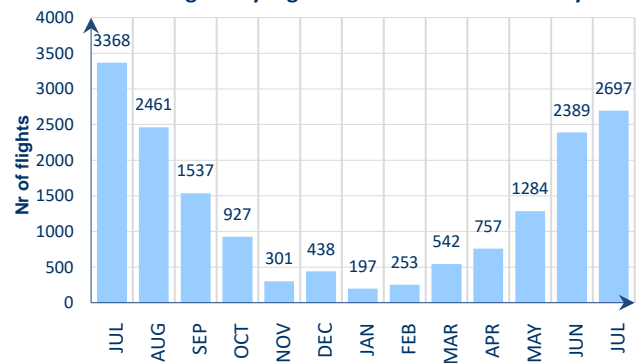
The average daily flights with an en-route ATFM delay of at least 15 minutes decreased from 3,368 flights/day in July 2018 to 2,697 flights/day in July 2019, which represents 7.6% of all traffic.

EN-ROUTE ATFM DELAY PER FLIGHT
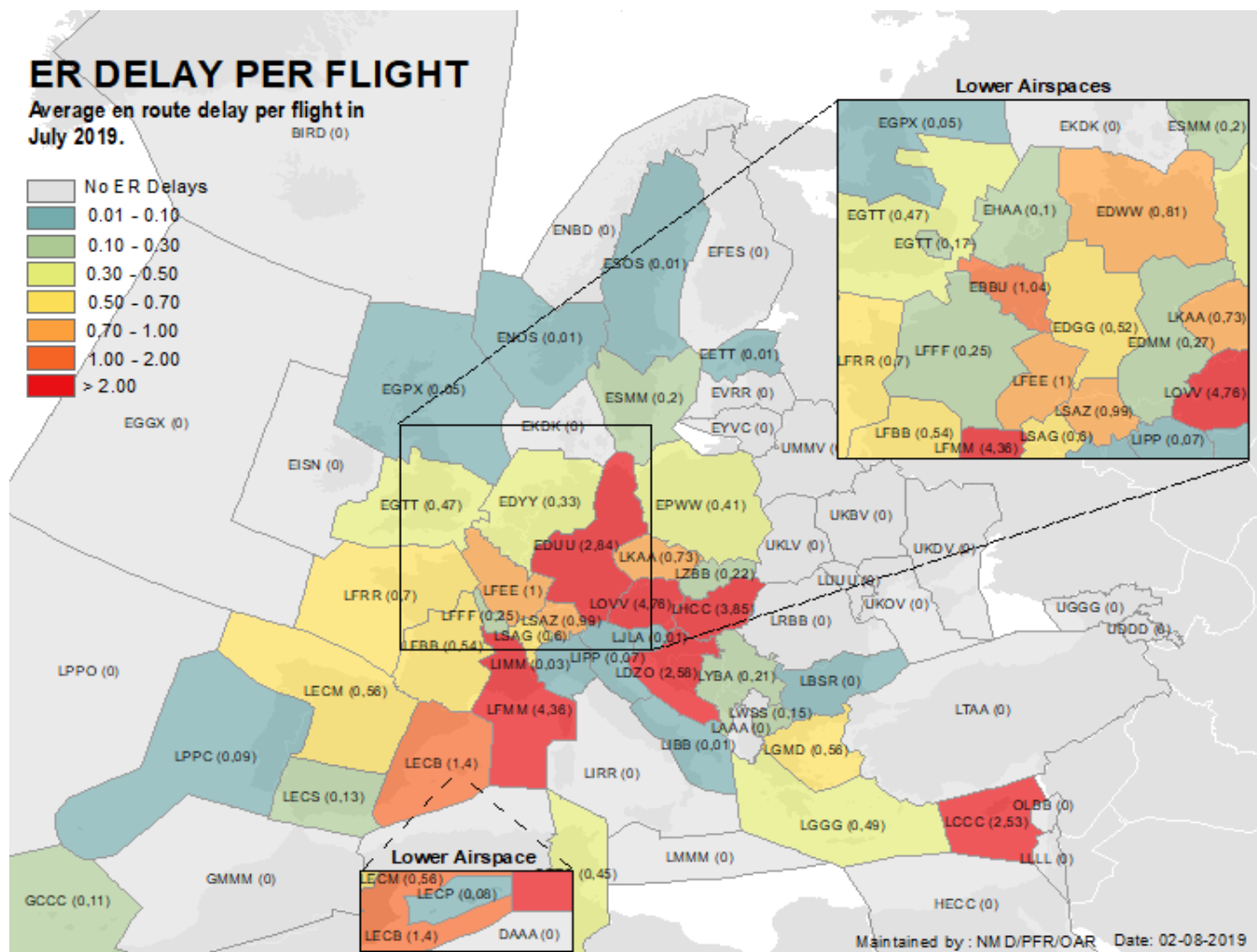
ER DELAY PER FLIGHT
Average en route delay per flight in July 2019.

No ER Delays
0.01 – 0.10
0.10 – 0.30
0.30 – 0.50
0.50 – 0.70
0.70 – 1.00
1.00 – 2.00
> 2.00

Maintained by : NM D/PFR/OAR   Date: 02-08-2019

Top 20 delay locations for en-route delays in July 2019

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.

Marseille ACC en-route ATFM delay/flight increased from 2.53 min/flight in June 2019 to 4.36 min/flight in July 2019 due to more ATC staffing issues and weather;

Budapest ACC en-route ATFM delay/flight increased from 3.36 min/flight in June 2019 to 3.85 min/flight in July 2019 due to more ATC staffing issues;

Zagreb ACC en-route ATFM delay/flight increased from 1.55 min/flight in June 2019 to 2.58 min/flight in July 2019 due to more ATC capacity and weather issues;

Bremen ACC en-route ATFM delay/flight decreased from 2.20 min/flight in June 2019 to 0.81 min/flight in July 2019 due to fewer ATC capacity issues.

EN-ROUTE ATFM DELAY YEAR-TO-DATE

**Top 20 delay locations for year-to-date en-route ATFM delays**
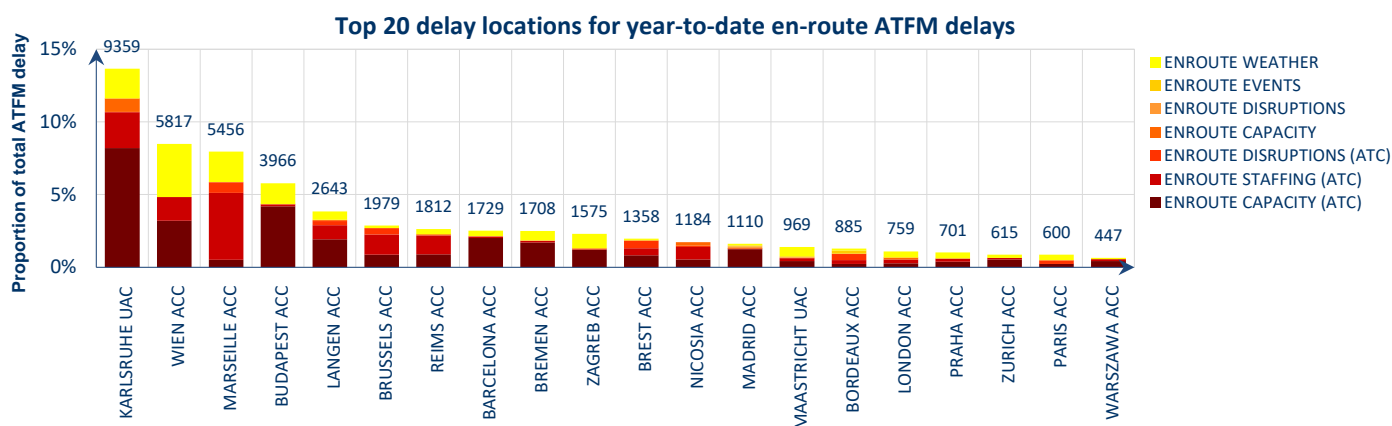
These are the top 20 en-route delay locations for 2019 with respect to the total ATFM delay. Figures are the average daily en-route delay in minutes for the individual locations.
The top 20 en-route delay locations generated **65.1%** of the total ATFM (network) delay.
The top 5 en-route delay locations generated **39.7%** of the total ATFM (network) delay.

Top 20 delay locations for year-to-date en-route delays
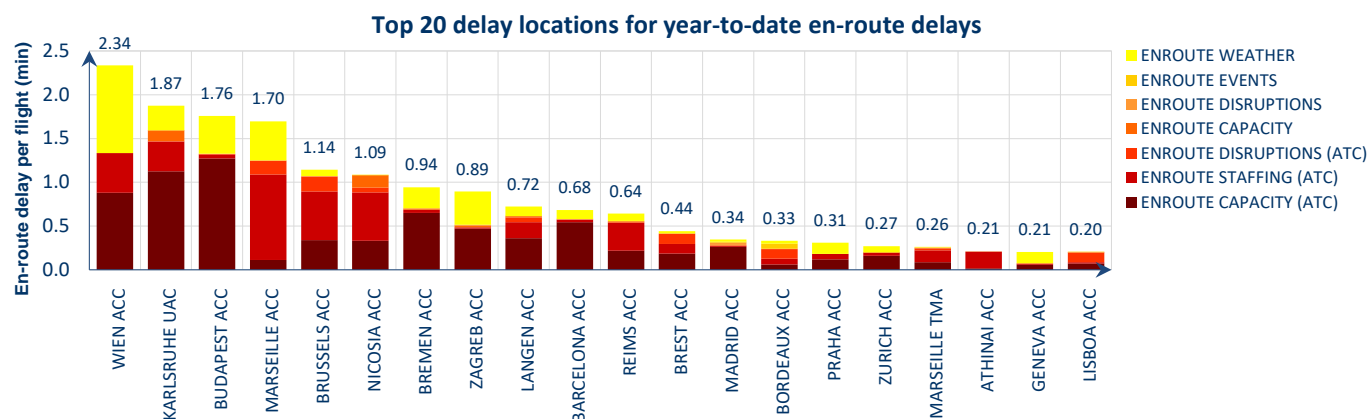
These are the top 20 average en-route ATFM delay per flight generating locations in 2019. Figures are the average daily en-route delay in minutes per flight for the individual locations.

Monthly en-route delay per flight monitoring

Year-to-date daily flights >= 15 min en-route delay
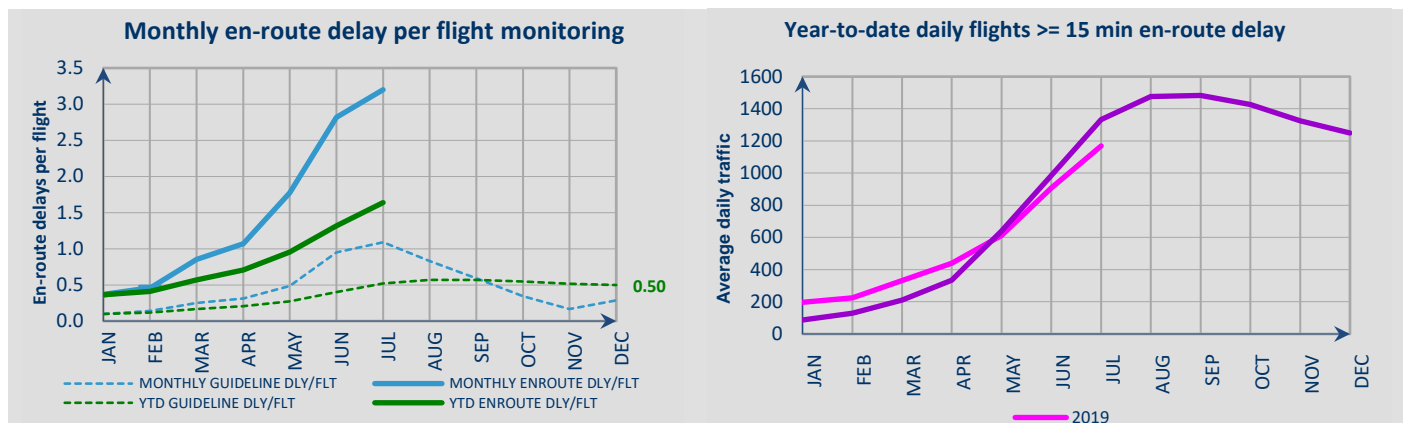
Reporting month: The average en-route ATFM delay per flight in the NM area[iii] in July was 3.20 min/flt, which is well above the corresponding monthly guideline[iv] value of 1.09 min/flt.
Year To Date: The average YTD en-route ATFM delay per flight in 2019 in the NM area[iii] is 1.64 min/flt which is three times the corresponding guideline value of 0.52 min/flt.
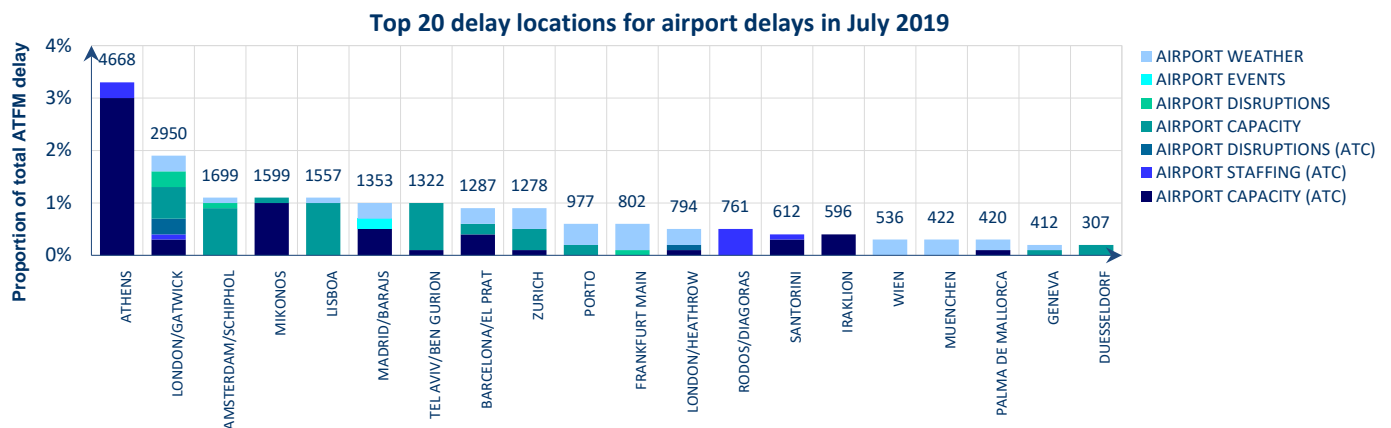
An average of 1,169 flights/day had an en-route ATFM delay of at least 15 minutes in 2019. The corresponding figure in 2018 was 1,333 flights/day.

The top 3 locations for flights with 15 minutes or more en-route ATFM delay (year-to-date) are:
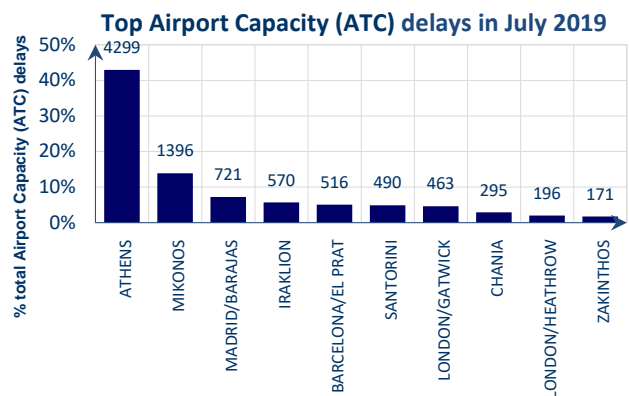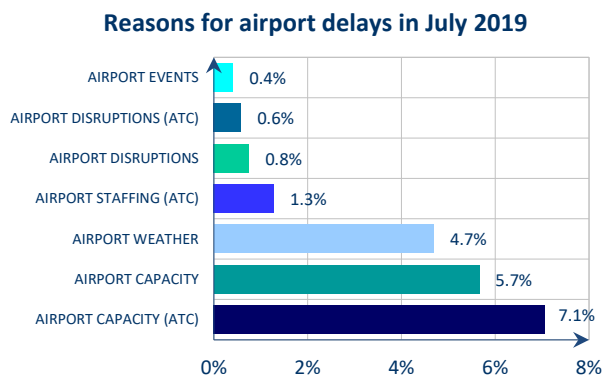- Karlsruhe UAC with 215 flights/day
- Wien ACC with 144 flights/day
- Marseille ACC with 131 flights/day

4. AIRPORT/TMA ATFM DELAYS
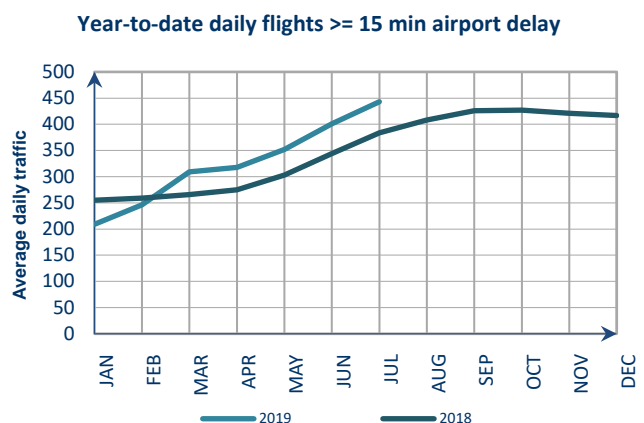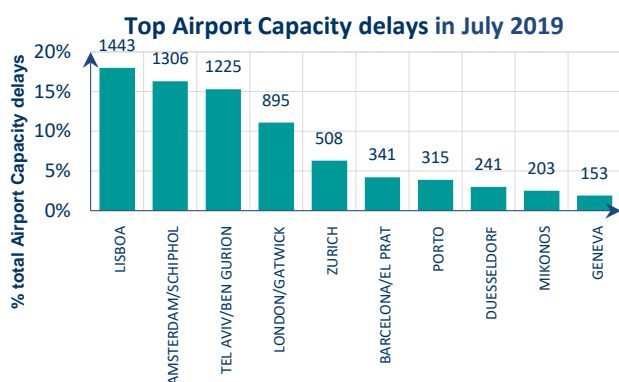
AIRPORT/TMA ATFM DELAY PER LOCATION

Top 20 delay locations for airport delays in July 2019

Legend:
- AIRPORT WEATHER
- AIRPORT EVENTS
- AIRPORT DISRUPTIONS
- AIRPORT CAPACITY
- AIRPORT DISRUPTIONS (ATC)
- AIRPORT STAFFING (ATC)
- AIRPORT CAPACITY (ATC)

Values by location: ATHENS 4668, LONDON/GATWICK 2950, AMSTERDAM/SCHIPHOL 1699, MIKONOS 1599, LISBOA 1557, MADRID/BARAJS 1353, TEL AVIV/BEN GURION 1322, BARCELONA/EL PRAT 1287, ZURICH 1278, PORTO 977, FRANKFURT MAIN 802, LONDON/HEATHROW 794, RODOS/DIAGORAS 761, SANTORINI 612, IRAKLION 596, WIEN 536, MUENCHEN 422, PALMA DE MALLORCA 420, GENEVA 412, DUESSELDORF 307

AIRPORT/TMA ATFM DELAY PER DELAY GROUPS

Reasons for airport delays in July 2019

- AIRPORT EVENTS — 0.4%
- AIRPORT DISRUPTIONS (ATC) — 0.6%
- AIRPORT DISRUPTIONS — 0.8%
- AIRPORT STAFFING (ATC) — 1.3%
- AIRPORT WEATHER — 4.7%
- AIRPORT CAPACITY — 5.7%
- AIRPORT CAPACITY (ATC) — 7.1%

Top Airport Capacity (ATC) delays in July 2019

Values: ATHENS 4299, MIKONOS 1396, MADRID/BARAJAS 721, IRAKLION 570, BARCELONA/EL PRAT 516, SANTORINI 490, LONDON/GATWICK 463, CHANIA 295, LONDON/HEATHROW 196, ZAKINTHOS 171

Airports accounted for 20.4% of all ATFM delays in July 2019, mainly due to ATC capacity, airport capacity and weather. Weather impacted operations at Frankfurt/Main, Zurich and Porto airports. London/Gatwick airport generated high delays due to a combination of all reasons.
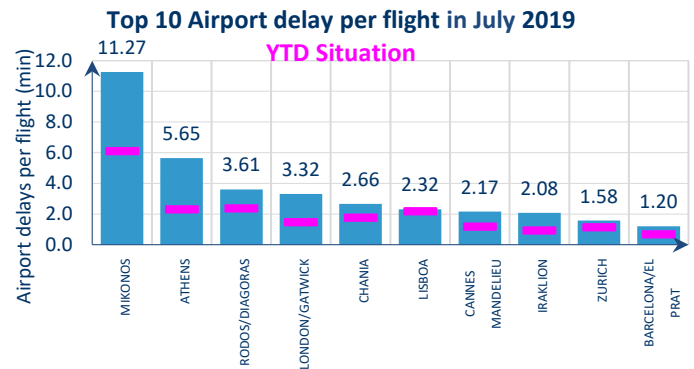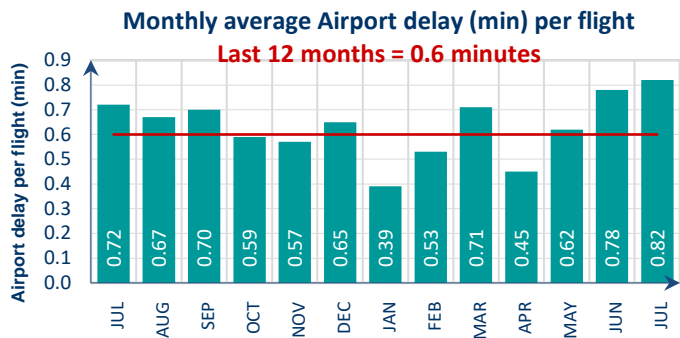
High delays at Athens airport despite an overall increase in ATC Capacity in both Airport and TMA to meet the demand.

Top Airport Capacity delays in July 2019

Values: LISBOA 1443, AMSTERDAM/SCHIPHOL 1306, TEL AVIV/BEN GURION 1225, LONDON/GATWICK 895, ZURICH 508, BARCELONA/EL PRAT 341, PORTO 315, DUESSELDORF 241, MIKONOS 203, GENEVA 153

Year-to-date daily flights >= 15 min airport delay

Legend: 2019, 2018

Delays at Lisbon airport due to military activity in the vicinity of the airport. Capacity issues at Amsterdam/Schiphol airport due to demand, in conjunction with maintenance on the taxiway, generated high delays. Delays at Tel Aviv/Ben Gurion were due to GPS/GNSS interference.

An average of 443 flights/day had an airport ATFM delay of at least 15 minutes. The corresponding figure in 2018 was 384 flights.
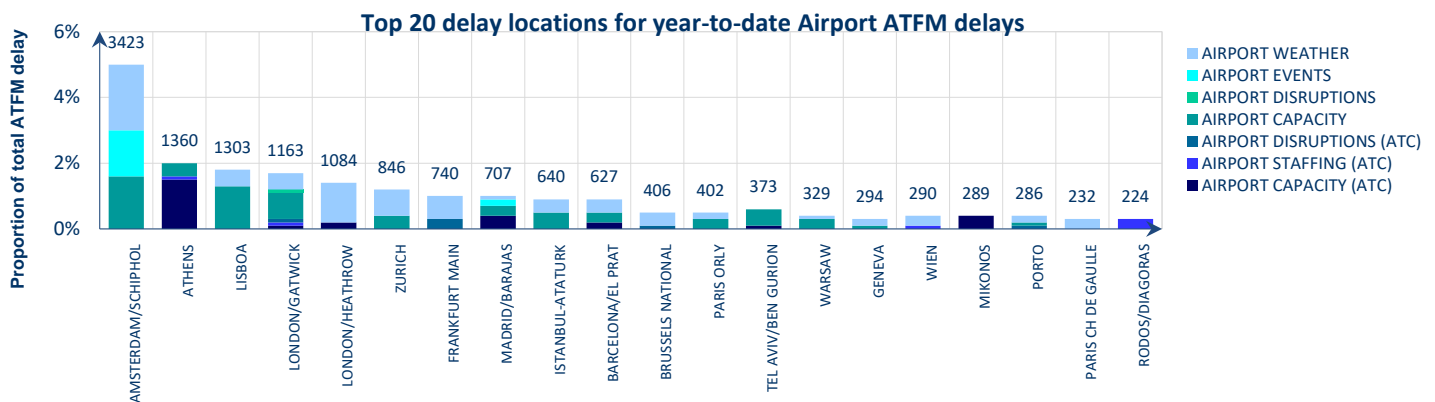
AIRPORT/TMA ATFM DELAY PER FLIGHT

Monthly average Airport delay (min) per flight
Last 12 months = 0.6 minutes

Top 10 Airport delay per flight in July 2019
#### YTD Situation

Average airport/TMA delay per flight increased from 0.72 min/flt in July 2018 to 0.82 min/flt in July 2019.

Mikonos and Athens airports generated delays high above their year-to-date value due to high demand relative to their ATC capacity.

AIRPORT/TMA ATFM DELAY YEAR-TO-DATE

Top 20 delay locations for year-to-date Airport ATFM delays

5. DAILY EVOLUTION

Average delay (min) per flight in July 2019
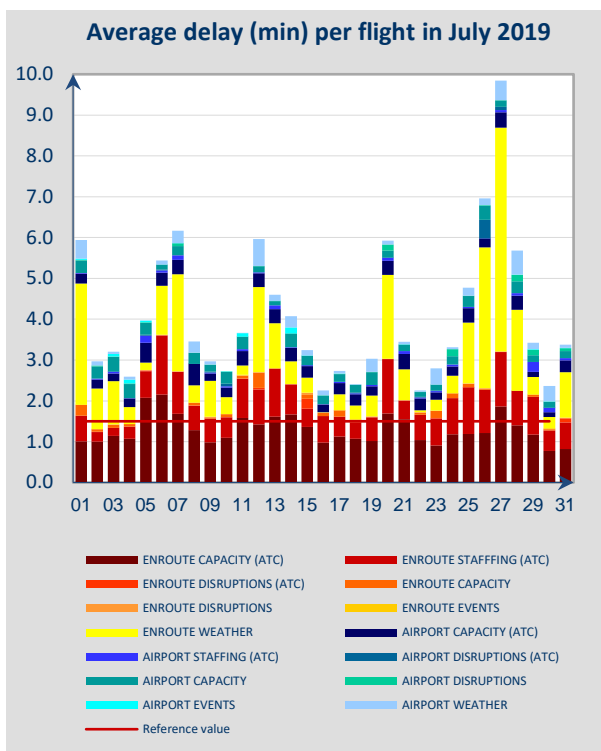
All days in July 2019 had an average ATFM delay per flight exceeding 1.5 min. These were the most significant days:

01 July; Convective activity impacted several ACCs from the South-East Axes with high delays in Vienna, Prague, Karlsruhe, Zurich and Marseille; Thunderstorms generated delays at Munich, Vienna and Zurich airports; ATC capacity issues in Budapest, Zagreb and Karlsruhe ACCs; Staffing shortage in Marseille and London ACCs.

07 July; Convective activity impacted operations strongly in Vienna, Marseille, Budapest, Karlsruhe and Zagreb ACCs; Strong winds generated high delays at Zurich airport; ATC capacity delays in Zurich, Karlsruhe, Barcelona, Madrid and Budapest ACCs; Staffing measures in Marseille, Athens, Reims and Nicosia ACCs.

12 July; Weather continued to impact a number of ACCs as Karlsruhe, Vienna, Langen, Maastricht and Munich; Thunderstorms impacted operations strongly at Frankfurt airport; ATC capacity issues in Budapest, Karlsruhe, Brussels and Zagreb ACCs; ATC staffing delays in Marseille, Vienna and London ACCs; Military activity in Karlsruhe and London ACCs.

20 July; Convective activity impacted operations in Karlsruhe, Maastricht, Budapest, Marseille and Bordeaux ACCs; ATC capacity issues in Barcelona, Zagreb, Karlsruhe, Budapest, Madrid and Vienna ACCs; Staffing shortage in Vienna and Marseille ACCs.

27 July; 320,215 minutes of ATFM delay - the highest ever delay for non-industrial action day. Convective activity crossing Iberian Peninsula, Eastern part of France and Alps region contributed the most to overall ATFM delay: Marseille, Karlsruhe, Vienna, Budapest and Geneva ACCs were regulated during entire day and generated high delays; Staffing issues in Marseille, Vienna, Nicosia and Makedonia ACCs; ATC capacity issues in Karlsruhe, Vienna, Barcelona, London and Madrid ACCs.

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 airlines. Data coverage is 61% of the commercial flights in the ECAC region for June 2019. 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. In the event of a long delay an example being during ATC industrial action a flight may keep its original schedule, however when it's flight plan is submitted for example a day later any ATFM delay allocated may be lower or zero, in this case airline reported delay will exceed NM reported ATFM delay.

**Breakdown Average Delay per Flight June 2019**
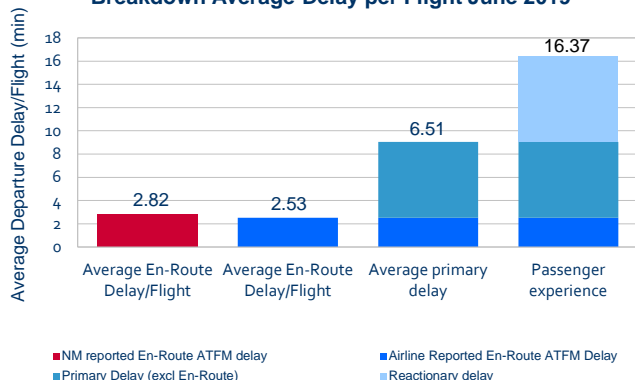
Based on airline data, the average departure delay per flight from 'All-Causes' was 16.37 minutes per flight, a 14% decrease in comparison to June 2018 where the average delay was 19.00 mins/flight. Primary delays counted for 55% or 9.04 min/flt, with reactionary delays representing the smaller remaining share of 45% at 7.33 min/flt.

Average Departure Delay per Flight 2018/2019
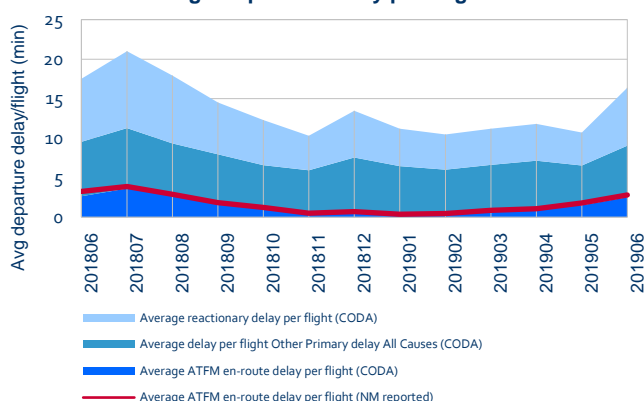
Further analysis of the past 12 months shows that the monthly average 'All-Causes' en-route ATFM delay was at 2.53 minutes per flight in June 2019. In June 2019, convective weather occurred in Vienna, as well as Karlsruhe, Budapest and Marseille ACCs. En-route capacity delays were observed in Karlsruhe, Vienna and Budapest ACCs, ATC staffing issues affected Marseille ACC.

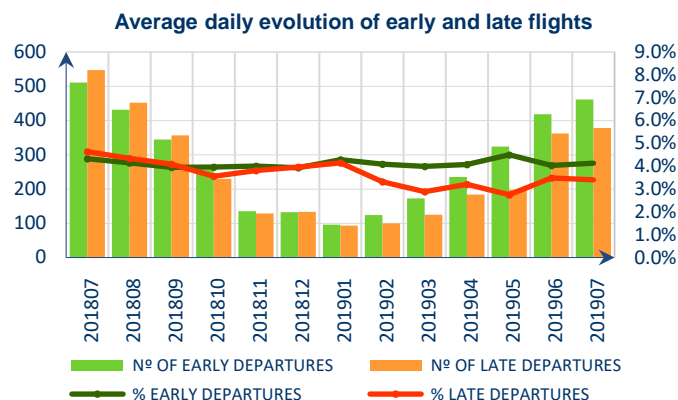**Percentage of Delayed Flights: ATFM & All Causes**
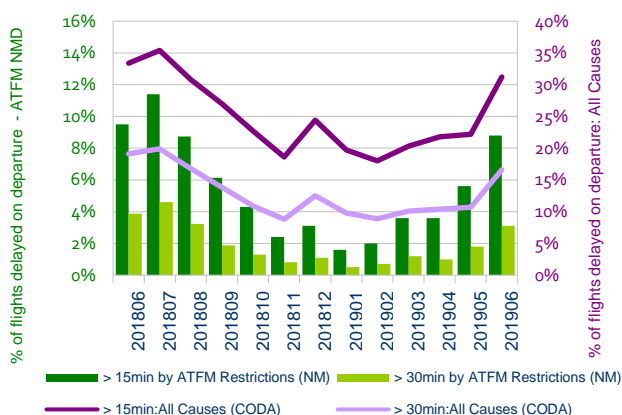
The percentage of flights delayed greater than 15 minutes from 'All-Causes' decreased by 2.2 percentage points to 31.2% when compared to the same period last year. 'All-Causes' delays exceeding 30 minutes fell by 2.5 percentage points to 16.6% of flights. 8.8% of flights in June 2019 experienced an ATFM delay exceeding 15 minutes with 3.1% of flights having an ATFM delay exceeding 30 minutes.

For more information on CODA delays:
https://www.eurocontrol.int/publication/all-causes-delay-air-transport-europe-june-2019

7. ATFM SLOT ADHERENCE

Average daily evolution of early and late flights

Legend:
- Nº OF EARLY DEPARTURES
- Nº OF LATE DEPARTURES
- % EARLY DEPARTURES
- % LATE DEPARTURES

The percentage of early departures for July 2019 is 4.1% of regulated flights, which is a decrease of 0.2 percentage points compared to July 2018.

The percentage of late departures for July 2019 is 3.4% of regulated flights, which is a decrease of 1.2 percentage points compared to July 2018.

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.

Proportion of regulated flights outside the Slot Tolerance Window in July 2019
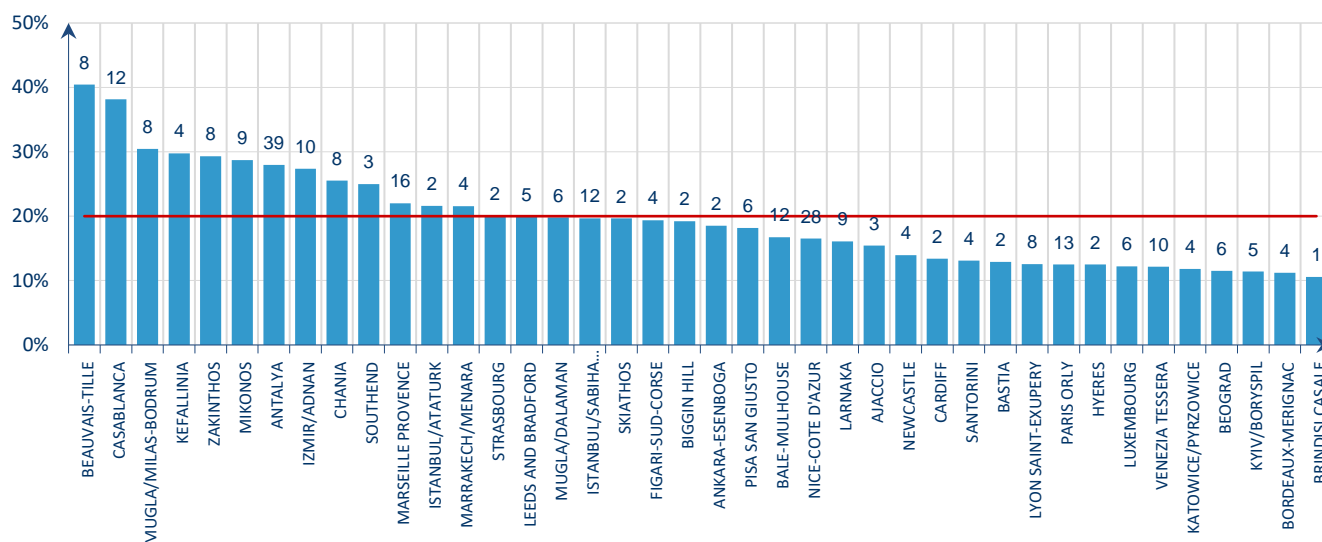
8. SIGNIFICANT EVENTS AND ISSUES

PLANNED EVENTS

ACC

MAJOR AIRSPACE OR ATM SYSTEM IMPROVEMENT PROJECTS

No major projects, airspace or technical related, had been planned for the month of July by any ACCs.

AIRPORTS

Local Plans in July

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

Special Events

- Removal of unexploded WWII ordnance generated 2,257 minutes of ATFM delay at Frankfurt/Main airport on 07 July;
- The International Paris Air Show 2019 generated 1,139 minutes of ATFM delay at Paris/Le Bourget on 11 July, a total of 2,769 at Paris/Orly and a total of 3,278 minutes at Paris/Charles de Gaulle on 11 and 14 July;
- Additional traffic at Milano/Malpensa airport due to the closure of Milano/Linate generated a total of 1,239 minutes of ATFM delay from 27 July until the end of the month;
- Radar upgrade at Luxemburg airport generated a total of 6,475 minutes of ATFM delay throughout the month.

Completed

- Runway maintenance/closure at Amsterdam/Schiphol airport;
- Taxiway and/or apron improvements at Tbilisi airport.

Ongoing

- Runway maintenance/closure at Katowice, Oslo/Gardermoen, Stockholm/Arlanda (generated 1,755 minutes of ATFM delay), Paris/Orly (1,997 minutes of ATFM delay) and Venice airports;
- Taxiway and/or apron improvements at Basel/Mulhouse, Cologne, Düsseldorf, Frankfurt/Main, Hamburg (generated 1,401 minutes of ATFM delay), Munich, Porto, Rome/Fiumicino, Stuttgart, Tenerife Sur, Tirana and Toulouse airports;
- ILS maintenance at Paris/Le Bourget (generated 4,489 minutes of ATFM delay) and Milano/Malpensa airports;
- Terminal building improvements/works at Budapest, Frankfurt/Main, Ljubljana, Milano/Linate, Oslo/Gardermoen and Paris/Charles de Gaulle airports.

DISRUPTIONS

Operational

- New approach procedures at Madrid Airport generated a total of 7,417 minutes of ATFM delay from 01 to 05 July;
- Nicosia ACC carried out system update on 30 July generating 629 minutes of ATFM delay.

Technical

- Frequency problems in Bordeaux ACC on 11,12, 23 and 25 July generated 1,373 minutes of ATFM delay;
- Aircraft blocking the runway generated 2,764 minutes of ATFM delay at London/Gatwick airport on 20 July and 2,095 minutes of ATFM delay at Santorini airport on 27 July;
- Electrical problems in the fueling system at Amsterdam/Schiphol airport generated 5,836 minutes of ATFM delay on 24 July (combined with environmental issues). Approximately 200 flights were cancelled;
- A technical issue at London ACC on 26 July affected flights to LHR/LGW (ATFM delays of 6,314/9,828 minutes);
- Technical issues with the stand management system at London/Gatwick airport generated 14,684 minutes of ATFM delay from 27 to 31 July;
- Communication system failure in Makedonia ACC on 31 July generated 3,259 minutes of ATFM delay;
- GPS/GNSS interference generated a total of 21,979 minutes of ATFM delay at Tel Aviv/Ben Gurion throughout the month.
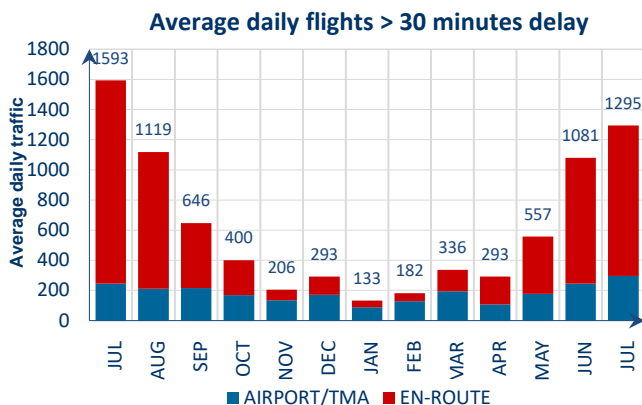
9. NM ADDED VALUE

FLIGHTS WITH DELAY > 30'

The number of flights with more than 30 minutes of ATFM delay decreased by 18.7% between July 2018 and July 2019.

In July 2019, 77.1% of flights with more than 30 minutes of ATFM delay were en-route and 22.9% were airport.

An average 142 flights per day had their delay reduced to less than 30 minutes by NM.

REROUTING PROPOSAL DIRECT DELAY SAVINGS

On average 11 RRPs/day were executed saving 885 min/day, accounting for 0.6% of ATFM delays.

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

Average daily flights > 30 minutes delay

Year-to-date RRP delay saving
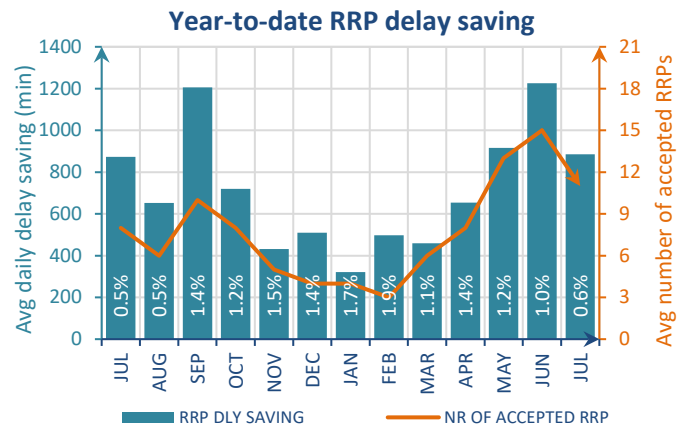
Contact Us
Operational Analysis & Reporting,
Performance, Forecasts and Relations (PFR) Unit,
Network Manager Directorate (NMD),
EUROCONTROL,
96 Rue de la Fusée,
B - 1130 Brussels

e-mail: nm.ops.perf@eurocontrol.int
https://www.eurocontrol.int/network-performance

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i See Notice on page 2 for more information on traffic and delay comparison.
ii Internals, international arrivals and departures, excluding overflights.
iii See Notice on page 2 for more information on NM Area.
iv NM's calculation that provides the guideline en-route delay (min) requirements to achieve the annual target (0.5 min/flight).
v NM has revised the delay saving method. Where flights are subject to scenarios, delay savings from RRPs are considered when the RRP is sent 3 hours (or less) in advance of the EOBT.

EUROCONTROL