



Network Manager
nominated by
the European Commission



Monthly Network Operations Report

Analysis – February 2018



TABLE OF CONTENTS

TABLE OF CONTENTS	2
NOTICE	2
1. TOTAL TRAFFIC	3
2. ATFM DELAY AND ATTRIBUTIONS	6
3. EN-ROUTE ATFM DELAYS	7
En-Route ATFM Delay per Location	7
En-Route ATFM Delay per Delay Group	8
En-Route ATFM Delay per Flight	9
En-Route ATFM Delay Year-To-Date	10
4. AIRPORT/TMA ATFM DELAYS	11
Airport/TMA ATFM Delay per Location	11
Airport/TMA ATFM Delay per Delay Groups	11
Airport/TMA ATFM Delay per Flight	12
Airport/TMA ATFM Delay Year-To-Date	12
5. DAILY EVOLUTION	12
6. ALL AIR TRANSPORT DELAYS (SOURCE: CODA)	13
7. ATFM SLOT ADHERENCE	14
8. SIGNIFICANT EVENTS AND ISSUES	14
Planned Events	14
ACC	14
Airports	15
Disruptions	15
9. NM ADDED VALUE	16

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 chapter 3 and chapter 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 <http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting>.

Regulation Reason Groupings

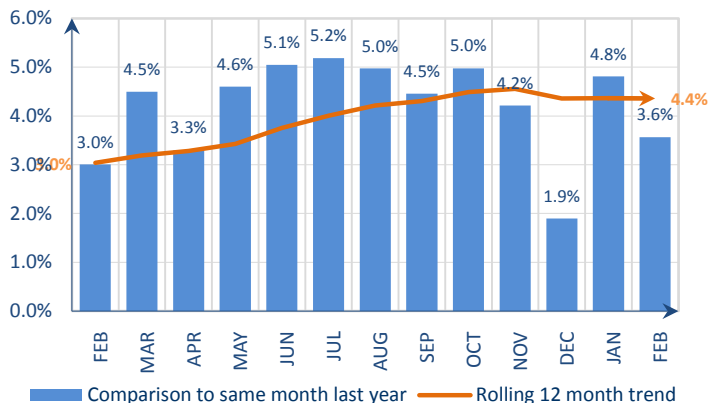
The table below shows the colour coding used in the report charts.

	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 <http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting>.

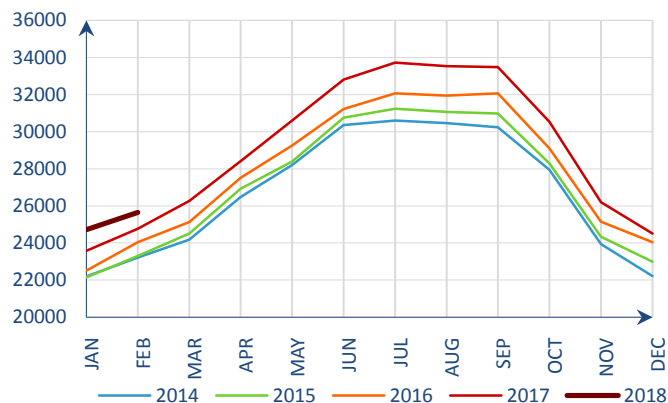
1. TOTAL TRAFFIC

Monthly traffic trend



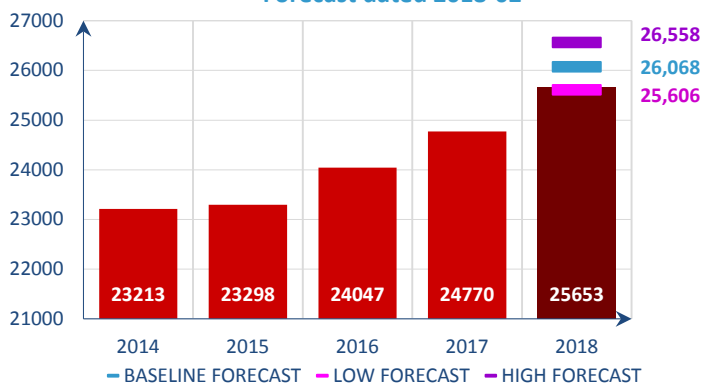
Traffic increased by 3.6% in February 2018ⁱ.

Average daily traffic for last 5 Years



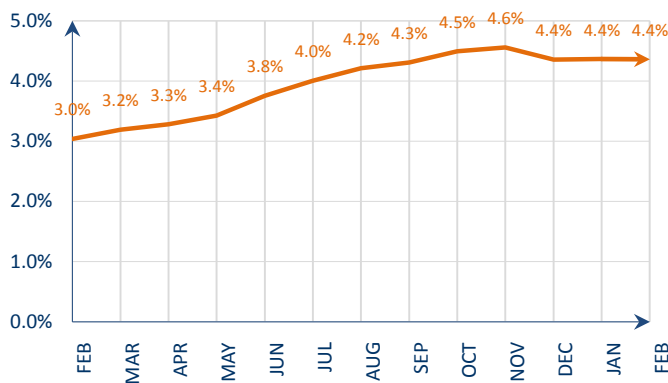
Average daily traffic in February 2018 was the highest for February in the last five years.

Average daily traffic in February for last 5 Years
Forecast dated 2018-02



The traffic increase of 3.6% for February was at the low-end of the forecast updated in February 2018.

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 March 2017 to February 2018 was 4.4% higher than the average from March 2016 to February 2017.

Severe weather conditions (snowstorms) in UK, Ireland and across Western Europe throughout the month led to multiple flight cancellations. As a result, only seven countries added more than 50 flights per day to the European localⁱⁱ traffic growth. Spain was the top contributor bringing 157 extra flights to the network, followed by Turkey which added 149 flights per day owing to a dynamic domestic flow along with its continued improving flow from/to the Russian Federation. Poland was the third contributor with 113 extra daily flights owing to strong increases on its flows from/to Ukraine and from/to Israel. Germany added 100 flights per day. The Netherlands and Portugal (excluding Azores) added 67 and 60 daily flights respectively. UK impacted by snowstorms recorded 42 fewer daily flights while it added 244 daily flights to the network in February last year. France hit by adverse weather and strike action affecting its domestic flow saw 31 fewer flights per day.

The traditional scheduled segment remained the main driver of growth with 565 extra flights per day and an increase of 4.2% year on year. For the seventh month in a row, the charter segment had the fastest growth and surged to a 19.7% increase. The all-cargo and business aviation segments recorded growth rates of 3.4% and 2.8% respectively. The low-cost segment continued to suffer from the failures of Monarch and Air Berlin and posted a small increase of 1.1% in February.

The top three external partners (for average daily flights on flows in both directions) were the United States with 783 flights (+4%), the Russian Federation with 640 flights (+11%) and the United Arab Emirates with 333 flights (+1%). Traffic flows between Europe and Egypt increased by 35.6% with circa 219 flights per day whereas traffic flows between Europe and Tunisia were up by 7.9% to 105 daily flights.

The aircraft operators which added the most flights to the network on a daily basis in February 2018 were Turkish Airlines (+145 flights), easyJet UK (+99 flights), Lufthansa (+87 flights), Wizz Air (+75 flights), Ryanair (+62 flights) and Vueling (+55 flights).

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

Seven of the top ten airports had positive traffic growth. Overall, the largest traffic increases in February 2018 were at Tel Aviv/Ben Gurion, Ankara, Budapest, Stuttgart and Lisbon airports. The largest traffic decreases were at Paris/Orly, Birmingham, Hamburg, Berlin/Tegel and Berlin/Schoenefeld airports. The Tel Aviv/Ben Gurion traffic increase was due to the expansion of routes made available by low-cost airlines and increased of tourism. Traffic decreases at Berlin/Tegel, Hamburg and Berlin/Schoenefeld are due in part to Air Berlin cessation of operations.

Seven of the top ten aircraft operators flew more compared to February 2017. The operators with the highest traffic growth were Eurowings, Norwegian Air International, Jet2.com, Qatar Airways and Wizz Air. The highest traffic decreases were recorded by HOP, Wideroe, Air France, British Airways Shuttle and United Airlines. Some of these reductions are due to the impact of severe weather conditions in Europe and North America.

The traffic variation of Eurowings follows the continued integration of Germanwings, some Lufthansa routes and more recently ex Air Berlin operated routes into the Eurowings operation. Norwegian Air International traffic variation comes from a change in fleet size following new aircraft deliveries, as well as aircraft moving from using NAX to the IBK callsign.

N°	ADEP	ADEP NAME	201802	%	N°	ICAO	AIR OPERATOR	201802	%
1	EHAM	AMSTERDAM/SCHIPHOL	641	4.7%	1	RJR	RYANAIR	1708	3.8%
2	EGLL	LONDON/HEATHROW	630	0.5%	2	DLH	DEUTSCHE LUFTHANSA	1371	6.7%
3	EDDF	FRANKFURT MAIN	629	7.6%	3	THY	TURKISH AIRLINES	1252	13.1%
4	LFPG	PARIS CH DE GAULLE	602	-0.5%	4	EZY	EASYJET	1224	8.8%
5	LTBA	ISTANBUL-ATATURK	591	6.6%	5	AFR	AIR FRANCE	804	-4.3%
6	EDDM	MUENCHEN	522	-0.3%	6	SAS	SCANDINAVIAN AIRLINES SYSTEM	785	-3.3%
7	LEMD	ADOLFO SUAREZ MADRID-BARAJA	519	5.7%	7	BAW	BRITISH AIRWAYS	657	0.8%
8	LEBL	BARCELONA/EL PRAT	381	5.9%	8	KLM	KLM ROYAL DUTCH AIRL	624	9.0%
9	LIRF	ROMA/FIUMICINO	354	0.5%	9	EWG	EUROWINGS AG	582	262.6%
10	EGKK	LONDON/GATWICK	342	-1.4%	10	AZA	ALITALIA	465	-2.6%
11	EKCH	KOBENHAVN/KASTRUP	335	0.7%	11	VLG	VUELING AIRLINES SA	443	14.3%
12	ENGM	OSLO/GARDERMOEN	333	2.8%	12	WZZ	WIZZ AIR	432	20.9%
13	LSZH	ZURICH	331	0.8%	13	PGT	PEGASUS HAVA TASI	431	10.4%
14	ESSA	STOCKHOLM-ARLANDA	318	-0.4%	14	BEE	JERSEY EUROPEAN T/A FLYBE	386	-1.3%
15	LTFJ	ISTANBUL/SABIHA GOKCEN	287	5.0%	15	SWR	SWISS INTERNATIONAL	361	-2.8%
16	EBBR	BRUSSELS NATIONAL	286	-1.3%	16	FIN	FINNAIR O/Y	334	7.9%
17	LOW	WIEN SCHWECHAT	286	2.2%	17	TAP	TAP AIR PORTUGAL	331	12.7%
18	LFPO	PARIS ORLY	278	-7.5%	18	NAX	NORWEGIAN AIR SHUTTLE	319	0.5%
19	EIDW	DUBLIN	266	2.3%	19	WIF	WIDEROE	319	-6.6%
20	LPPT	LISBOA	262	12.1%	20	LOT	LOT-POLISH AIRLINES	305	18.2%
21	EDDL	DUESSELDORF	262	-5.0%	21	AUA	AUSTRIAN AIRLINES	301	5.9%
22	LSGG	GENEVA	259	-1.1%	22	AFL	AEROFLOT-RUSSIAN	283	6.1%
23	EFHK	HELSINKI-VANTAA	251	7.0%	23	IBE	IBERIA	234	6.0%
24	EGCC	MANCHESTER	232	-1.7%	24	AEA	AIR EUROPA	234	16.4%
25	EGSS	LONDON/STANSTED	232	3.9%	25	QTR	QATAR AIRWAYS COMP.	229	21.9%
26	EPWA	CHOPINA W WARSZAWIE	227	11.5%	26	IBK	NORWEGIAN AIR INTERNATIONAL	226	33.3%
27	LIMC	MILANO MALPENSA	224	9.9%	27	HOP	HOP (MERGE OF BZH + RAE + RLA)	207	-10.9%
28	EDDT	BERLIN-TEGEL	214	-5.5%	28	ANE	AIR NOSTRUM	201	2.9%
29	LGAV	ATHINA/ELEFTHERIOS VENIZELOS	197	5.7%	29	BEL	BRUSSELS AIRLINES	201	-1.2%
30	GCLP	GRAN CANARIA	183	12.0%	30	UAE	EMIRATES	190	-0.7%
31	EDDH	HAMBURG	180	-6.2%	31	RAM	ROYAL AIR MAROC	186	0.5%
32	LTAC	ANKARA-ESENBOGA	171	22.8%	32	EIN	AER LINGUS TEORANTA	166	1.7%
33	LLBG	TEL AVIV/BEN GURION	167	27.4%	33	BCS	EUROPEAN AIR TRANSP.	161	5.5%
34	LKPR	PRAHA RUZYNE	165	5.8%	34	AUI	UKRAINE INTERNATIONAL	145	7.1%
35	EGGW	LONDON/LUTON	163	-3.3%	35	EZS	EASY JET SWITZERLAND	127	0.3%
36	EDDK	KOELN-BONN	163	0.8%	36	BTI	AIR BALTIC CORPORAT.	121	14.1%
37	EDDS	STUTTGART	151	13.4%	37	TRA	TRANSAVIA.COM	113	-2.1%
38	EGPH	EDINBURGH	150	1.7%	38	OAL	OLYMPIC	112	2.0%
39	LIML	MILANO LINATE	148	-2.7%	39	NJE	NETJETS	110	3.9%
40	LFLL	LYON SAINT-EXUPERY	147	-0.7%	40	LOG	LOGANAIR	110	1.2%
41	LROP	BUCURESTI/HENRI COANDA	143	1.1%	41	CFE	CITYFLYER EXPRESS	109	7.1%
42	LFMN	NICE-COTE D'AZUR	140	2.5%	42	EXS	JET2.COM	104	30.6%
43	LHBP	BUDAPEST LISZT FERENC INT.	134	13.6%	43	TOM	THOMSON FLY LTD	103	0.0%
44	EGBB	BIRMINGHAM	131	-6.7%	44	UAL	UNITED AIRLINES INC.	101	-3.7%
45	LEMG	MALAGA/COSTA DEL SOL	130	3.0%	45	SHT	BAW SHUTTLE	100	-4.2%
46	LEPA	PALMA DE MALLORCA	129	1.9%	46	AEE	AEGEAN AIRLINES	99	4.0%
47	EDDB	SCHOENEFELD-BERLIN	128	-4.4%	47	DAH	AIR ALGERIE	98	3.2%
48	LFBO	TOULOUSE BLAGNAC	127	-3.2%	48	TAY	TNT INTERNATIONAL	95	-0.9%
49	LFML	MARSEILLE PROVENCE	121	-1.7%	49	ROT	TAROM	92	1.3%
50	GMMN	CASABLANCA/MOHAMMED	113	0.0%	50	DAL	DELTA AIR LINES INC.	92	7.8%
TOTALS and % TOTAL TRAFFIC			13375	58.6%	TOTALS and % TOTAL TRAFFIC			17783	69.3%

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

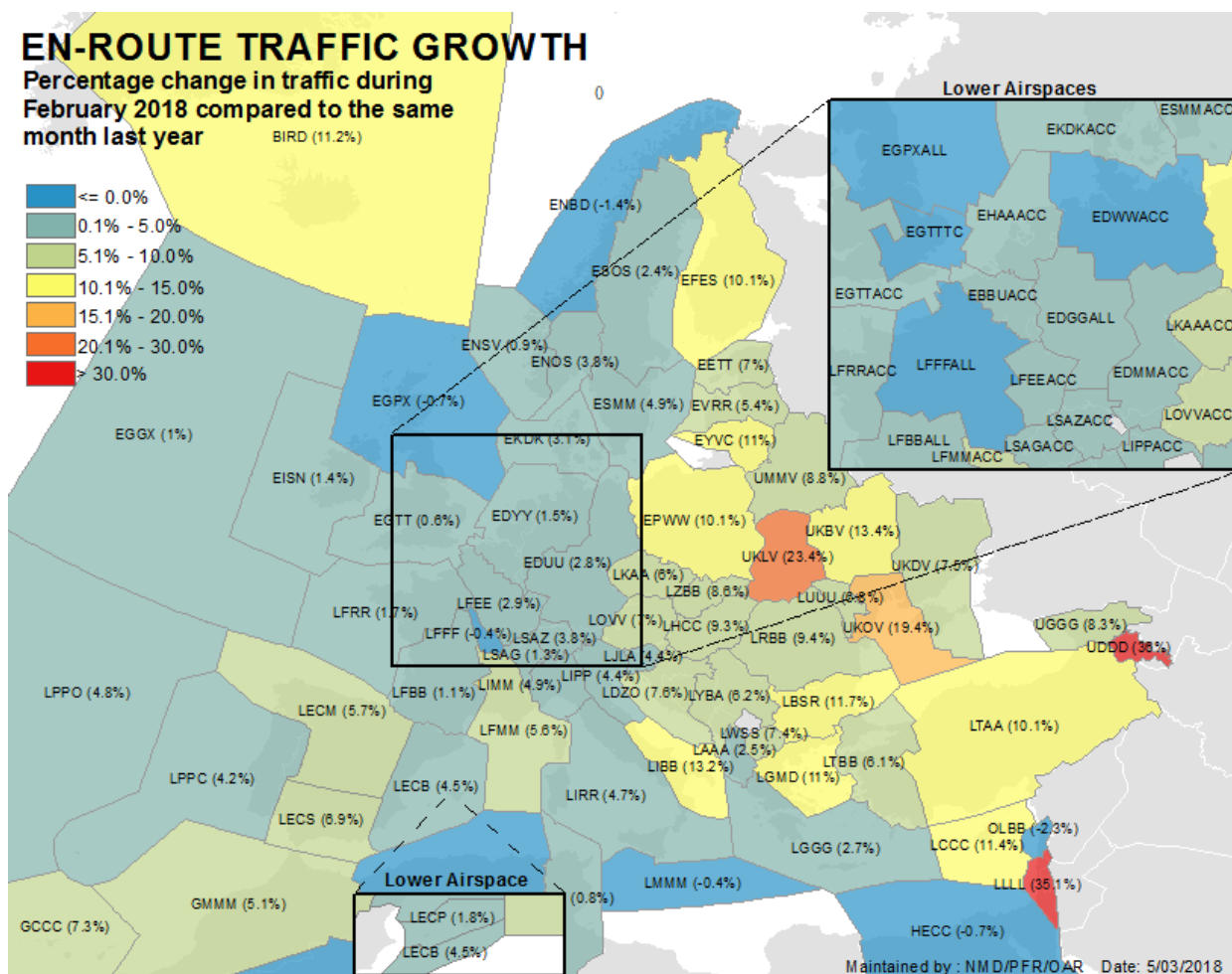
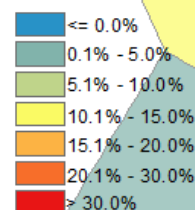
Top 50 Air Operators with average daily traffic and percentage compared to same period of previous year

N°	ICAO	AIR OPERATOR	201802	%
		Unidentified	1796	3.2%

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 February 2018 compared to the same month last year



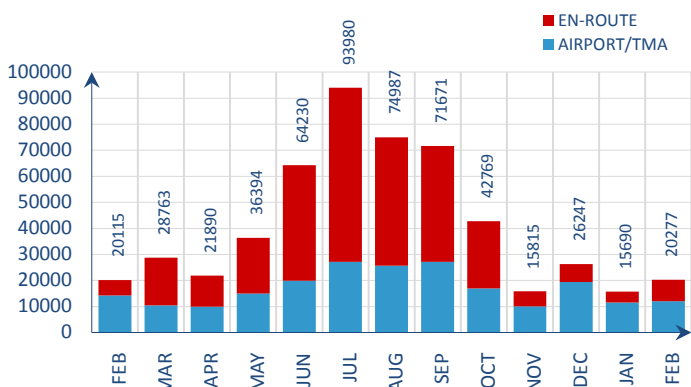
Maintained by : NMD/PFR/OAR Date: 5/03/2018

Nº	ASP ID	ASP NAME	201802	%	Nº	ASP ID	ASP NAME	201802	%
1	BIRDACC	REYKJAVIK ACC	348	11.2%	39	LFBBALL	BORDEAUX ALL ACC	2070	1.1%
2	DAAAACC	ALGERS ACC	448	-0.9%	40	LFEACC	REIMS U/ACC	2395	2.9%
3	DTTACC	TUNIS ACC	244	0.8%	41	LFFFALL	PARIS ALL ACC	2985	-0.4%
4	EBBUACC	BRUSSELS CANAC	1518	4.8%	42	LFMMACC	MARSEILLE ACC	2372	5.6%
5	EDGGALL	LANGEN ACC_FIR	3196	4.9%	43	LFMMAPP	MARSEILLE TMA	668	-0.5%
6	EDMMACC	MUNCHEN ACC	2854	3.4%	44	LFRRACC	BREST U/ACC	2361	1.7%
7	EDUUUAC	KARLSRUHE UAC	4433	2.8%	45	LGGGACC	ATHINAI CONTROL	921	2.7%
8	EDWWACC	BREMEN ACC	1587	-2.5%	46	LGMACC	MAKEDONIA CONTROL	704	11.0%
9	EDYYUAC	MAASTRICHT UAC	4534	1.5%	47	LHCCACC	BUDAPEST ACC	1701	9.3%
10	EETTACC	TALLIN ACC	506	7.0%	48	LIBBACC	BRINDISI ACC	576	13.2%
11	EFESACC	TAMPERE ACC	535	10.1%	49	LIMMACC	MILANO ACC	1870	4.9%
12	EGGXOCA	SHANWICK OACC	1115	1.0%	50	LIPPACC	PADOVA ACC	1393	4.4%
13	EGPXALL	SCOTTISH ACC	2377	-0.7%	51	LIRRACC	ROMA ACC	1732	4.7%
14	EGTTACC	LONDON ACC	4899	0.6%	52	LJLAACC	LJUBLJANA ACC	566	4.4%
15	EGTTTTC	LONDON TMA TC	3540	0.0%	53	LKAAACC	PRAGUE ACC	1846	6.0%
16	EHAAACC	AMSTERDAM ACC(245-)	1497	3.4%	54	LLLLACC	TEL AVIV ACC	431	35.1%
17	EIDWACC	DUBLIN ACC	568	1.8%	55	LMMMACC	MALTA ACC	265	-0.4%
18	EISNACC	SHANNON ACC	1009	1.4%	56	LOWVACC	WIEN ACC	1820	7.0%
19	EKDKACC	COPENHAGEN ACC	1433	3.1%	57	LPPCACC	LISBOA ACC/UAC	1456	4.2%
20	ENBDACC	BODO ACC	574	-1.4%	58	LPPDACC	SANTA MARIA OACC	416	4.8%
21	ENOSACC	OSLO ATCC	936	3.8%	59	LQSBACC	BOSNIA-HERZEGOVINA	71	0.0%
22	ENSVACC	STAVANGER ATCC	572	0.9%	60	LRBBACC	BUCURESTI ACC	1518	9.4%
23	EPWWACC	WARSAWA ACC	1828	10.1%	61	LSAGACC	GENEVA ACC	1559	1.3%
24	ESMMACC	MALMO ACC	1383	4.9%	62	LSAZACC	ZURICH ACC	1851	3.8%
25	ESOSACC	STOCKHOLM ACC	1139	2.4%	63	LTAACC	ANKARA ACC	3236	10.1%
26	EVRACC	RIGA ACC	629	5.4%	64	LTBBACC	ISTANBUL ACC	1879	6.1%
27	EYVACC	VILNIUS ACC	577	11.0%	65	LUUUACC	CHISINAU ACC	94	6.8%
28	GCCCACC	CANARIAS ACC/FIC	985	7.3%	66	LWSSACC	SKOPJE ACC	233	7.4%
29	GMMMACC	CASABLANCA ACC	1145	5.1%	67	LYBAACC	BEOGRADE ACC	1192	6.2%
30	HECCACC	CAIROACC	607	-0.7%	68	LZBBACC	BRATISLAVA ACC	1080	8.7%
31	LAAAACC	TIRANA ACC	334	2.5%	69	OLBBACC	BEIRUT ACC	125	-2.3%
32	LBSRACC	SOFIA ACC	1686	11.7%	70	UDDACC	YEREVAN ACC	136	36.0%
33	LCCCACC	NICOSIA ACC	857	11.4%	71	UGGGACC	TBILISI ACC	354	8.3%
34	LDZOACC	ZAGREB ACC	967	7.6%	72	UKBVACC	KIEV ACC	347	13.4%
35	LECBACC	BARCELONA ACC	1660	4.5%	73	UKDVACC	DNIPROPETROVSK ACC	43	7.5%
36	LECMALL	MADRID ALL ACC	2739	5.7%	74	UKLVACC	L'VIV ACC	264	23.4%
37	LECPACC	PALMA ACC	344	1.8%	75	UKOVACC	ODESSA ACC	197	19.4%
38	LECSACC	SEVILLA ACC	920	6.9%	76	UMMVACC	MINSK ACC	677	8.8%

The Sevilla, Lisbon, Canarias, Madrid and Casablanca ACCs variation is due to increased traffic in the South/West axis. However, the highest relative traffic increases in February 2018 were in Yerevan, Tel Aviv, L'viv, Odessa and Kiev ACCs. Traffic increase in Ukraine is partially due to an increase of overflights from/to Turkey. Israel is now integrated in IFPS and the inclusion of Israeli domestic traffic explains much of the traffic growth for Tel Aviv ACC. Reykjavik ACC variation is due to weather patterns that resulted in transatlantic flights adopting more northerly routes. The traffic variation in Turkish ACC is due to domestic and Russian flights recovery.

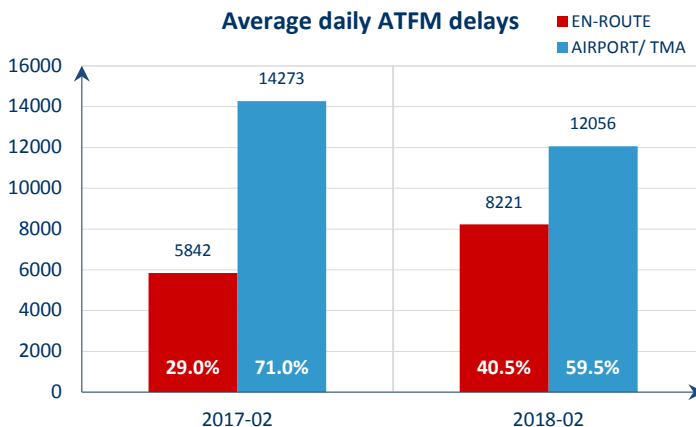
2. ATFM DELAY AND ATTRIBUTIONS

Average daily ATFM delays



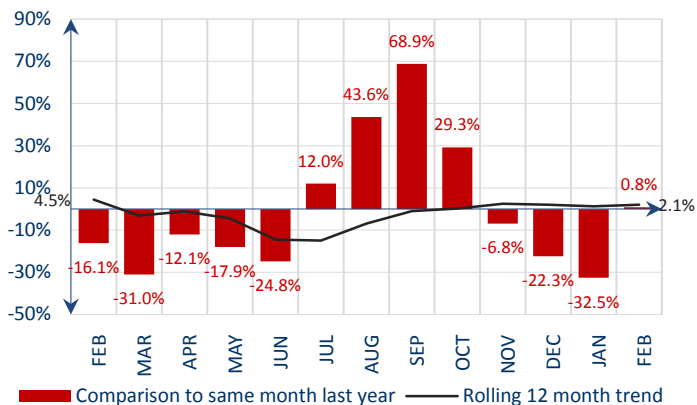
Total ATFM delays increased by 0.8% in February 2018¹.

Average daily ATFM delays



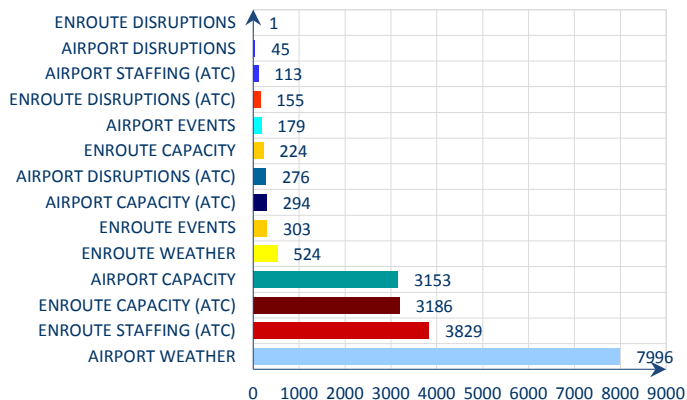
En-route ATFM delays increased by 40.7% and airport ATFM delays decreased by 15.5%.

Monthly ATFM delays trend



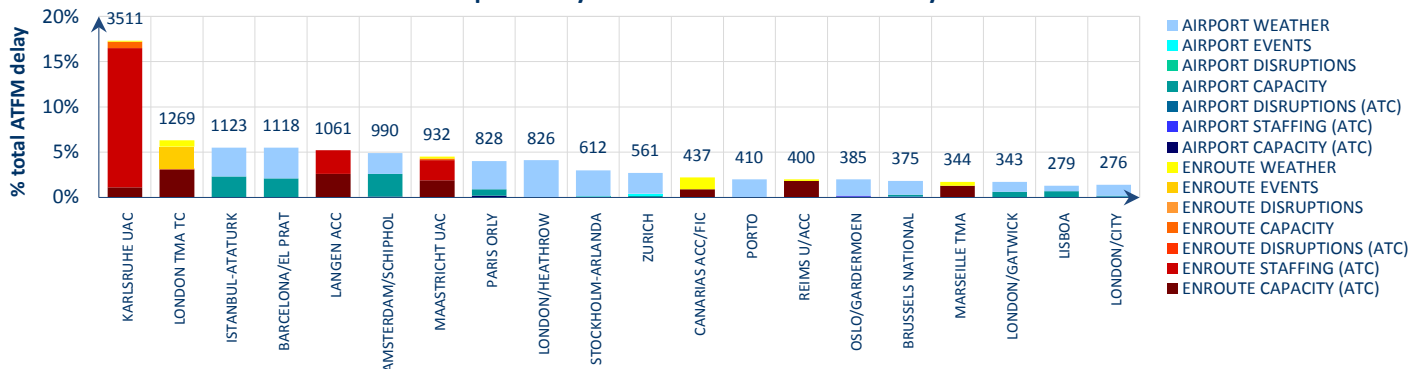
The rolling 12-month trend shows that ATFM delay was 2.1% higher during the period March 2017 – February 2018 compared to March 2016 – February 2017.

Proportion of ATFM delays in February 2018



Airport weather (39.4%), en-route ATC staffing (18.9%), en-route ATC capacity (15.7%) and airport capacity (15.6%) were the main causes of ATFM delays in February 2018.

Top 20 delay reference locations in February 2018

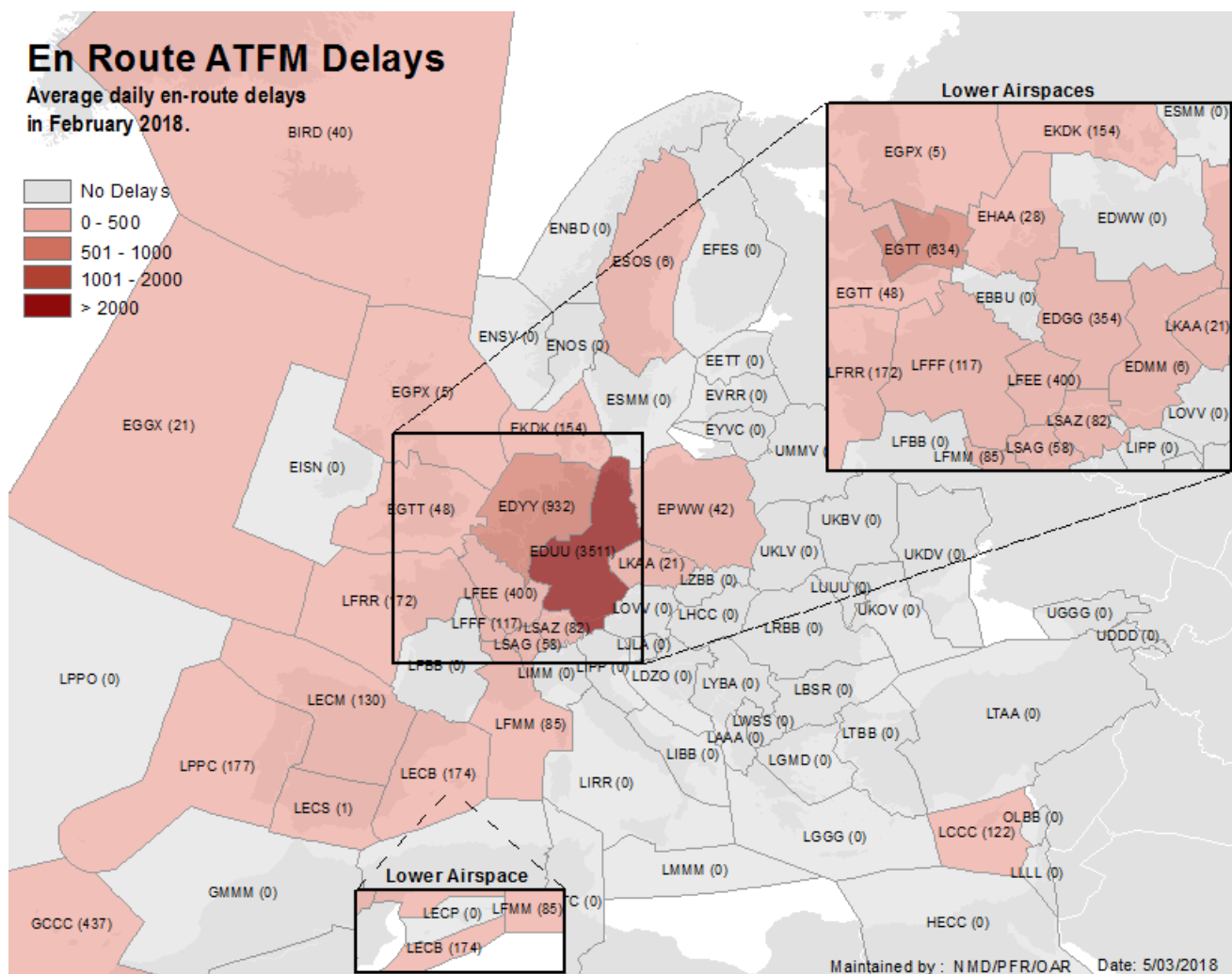


These are the top 20 delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

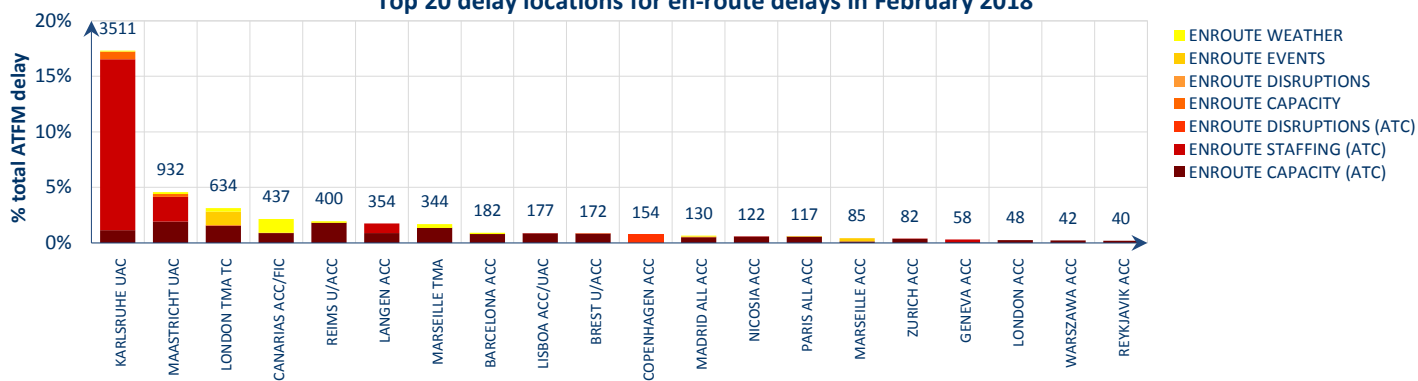
- Seasonal weather impacted operations at London/Heathrow, Barcelona, Istanbul/Atatürk, Paris/Orly, Stockholm/Arlanda and Zurich airports;
- En-route ATC staffing issues in Karlsruhe UAC;
- En-route capacity delays in Karlsruhe, London, Langen, Maastricht and Reims ACCs;
- Capacity issues at Istanbul/ Atatürk and Amsterdam/Schiphol airports;
- Work in progress at Barcelona airport;
- Implementation of Extended Computer Display system in London TC.

3. EN-ROUTE ATFM DELAYS

EN-ROUTE ATFM DELAY PER LOCATION



Top 20 delay locations for en-route delays in February 2018



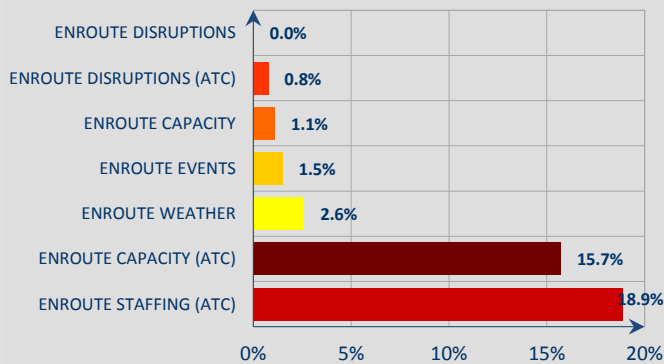
These are the top 20 en-route ATFM delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

The top 20 en-route ATFM delay locations generated **39.5%** of the monthly total (network) ATFM delay. The top 5 en-route ATFM delay locations generated **29.2%** of the monthly total (network) ATFM delay.

More detailed information available in the Monthly per ACC Summary Report via the [NM ATFCM Statistics website](#).

EN-ROUTE ATFM DELAY PER DELAY GROUP

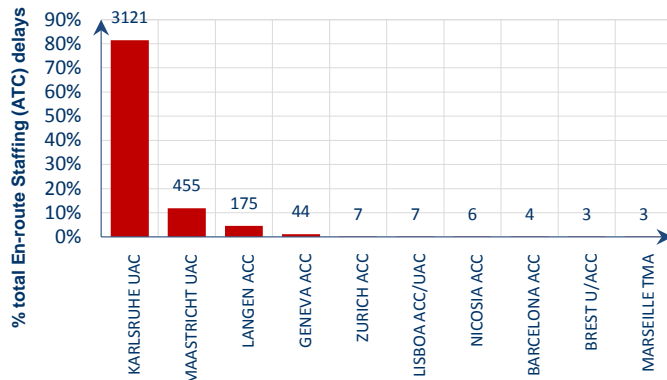
Reasons for en-route delays in February 2018



En-route ATFM delays accounted for 40.5% of all ATFM delays. Most of this delay was caused by en-route ATC staffing, en-route ATC capacity and en-route weather as explained in detail below. The other causes were:

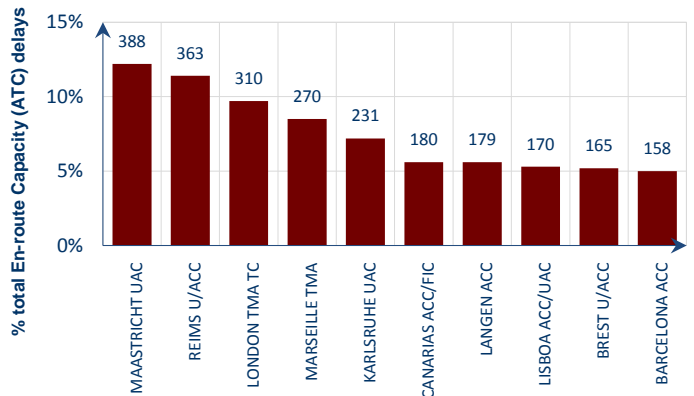
- En-route events*; Implementation of Extended Computer Display system in London TC;
- En-route capacity*; Military activities in Maastricht and Karlsruhe UACs;
- En-route ATC disruptions*; FDPS failure in Copenhagen ACC on 02 February.

Top en-route Staffing (ATC) delays in February 2018



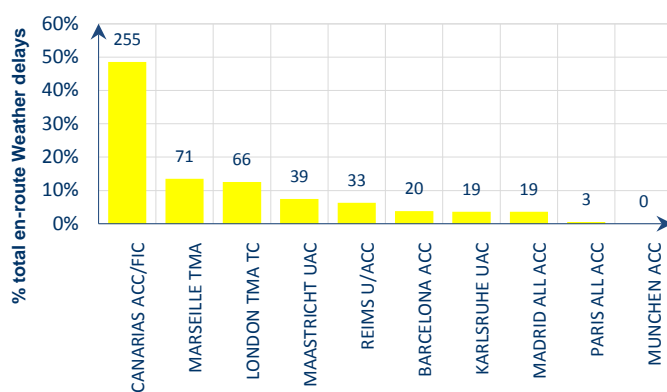
Karlsruhe UAC generated 82% of en-route ATC staffing delays due to staff shortage.

Top en-route Capacity (ATC) delays in February 2018



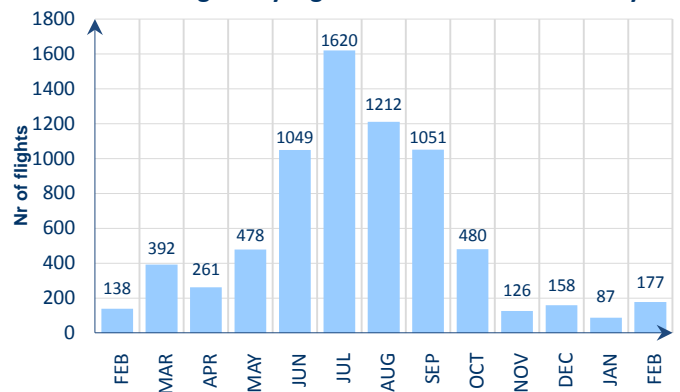
Maastricht, Reims and London TC ACCs were the biggest generators of en-route ATC capacity delays in February.

Top en-route Weather delays in February 2018



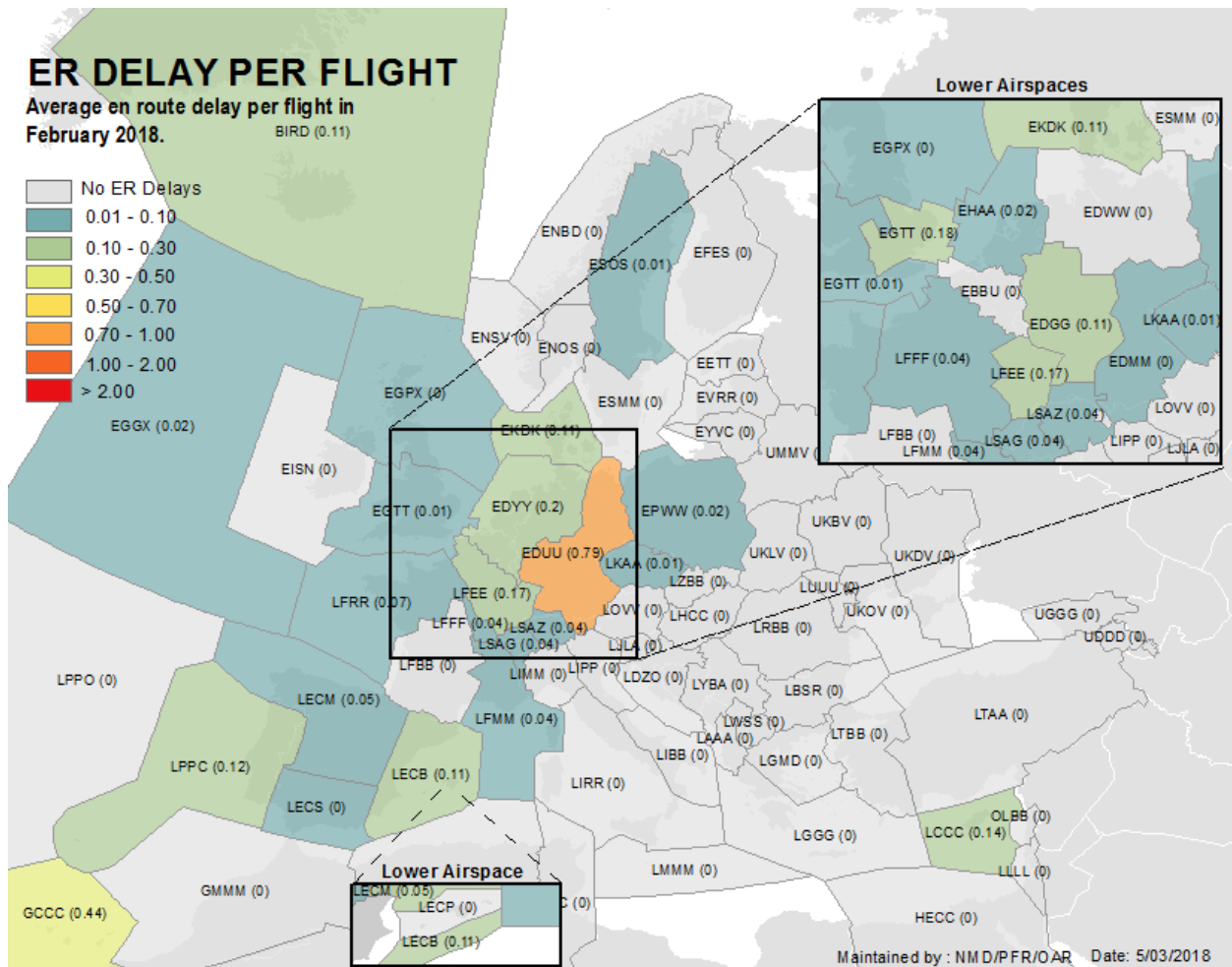
Wind direction created additional TMA complexity on 24 February in Canarias ACC and resulted in 2,613 min of ATFM delay.

Average daily flights >= 15 min en-route delay

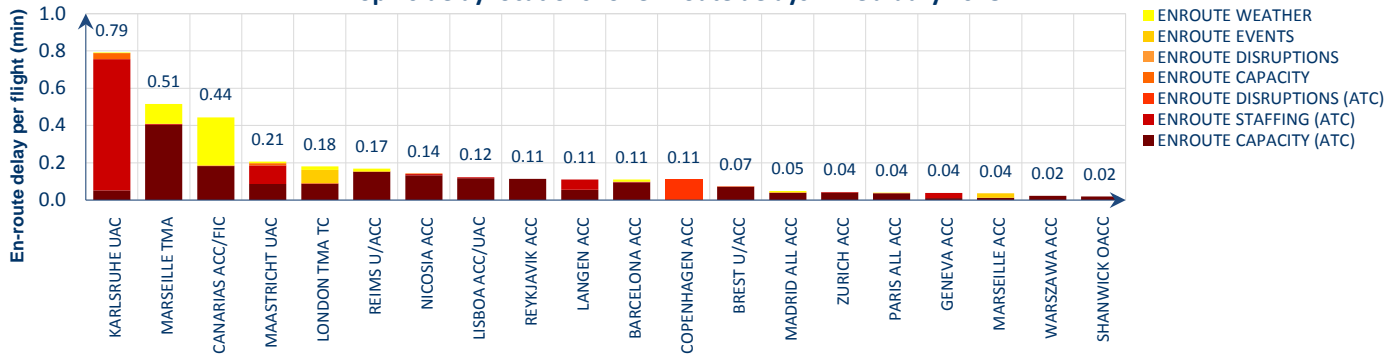


The average daily flights with an en-route ATFM delay of at least 15 minutes increased from 138 flights/day in February 2017 to 177 flights/day in February 2018, which represents 0.7% of all traffic.

EN-ROUTE ATFM DELAY PER FLIGHT



Top 20 delay locations for en-route delays in February 2018



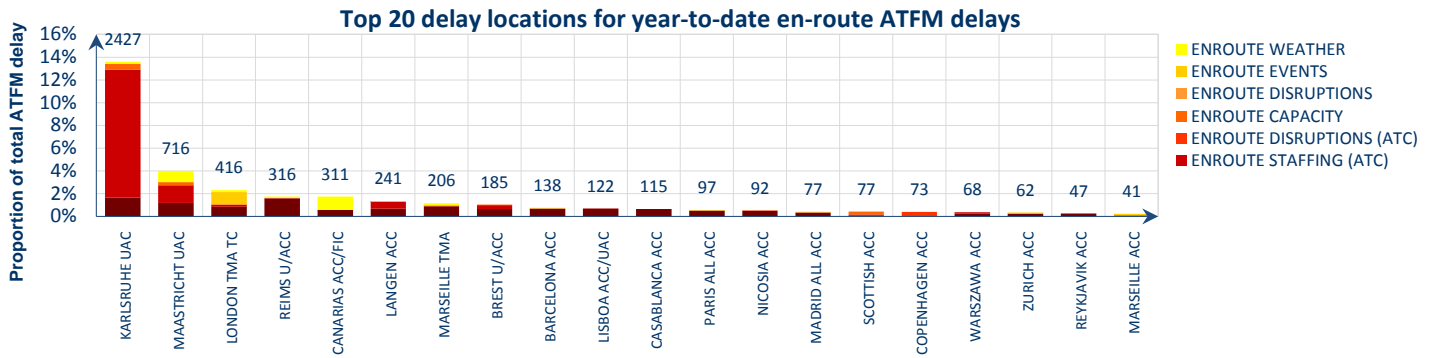
These are the top 20 average en-route ATFM delay per flight generating locations for the reporting month. Figures are the average en-route ATFM delay per flight in minutes for the individual locations.

Karlsruhe UAC en-route ATFM delay/flight increased from 0.34 min/flight in January 2018 to 0.79 min/flight in February 2018, mainly due to higher impact of staffing shortage;

Marseille TMA en-route ATFM delay/flight increased from 0.21 min/flight in January 2018 to 0.51 min/flight in February 2018, mainly due to an increase of en-route capacity issues;

Canarias ACC en-route ATFM delay/flight increased from 0.21 min/flight in January 2018 to 0.44 min/flight in February 2018, mainly due to weather and capacity.

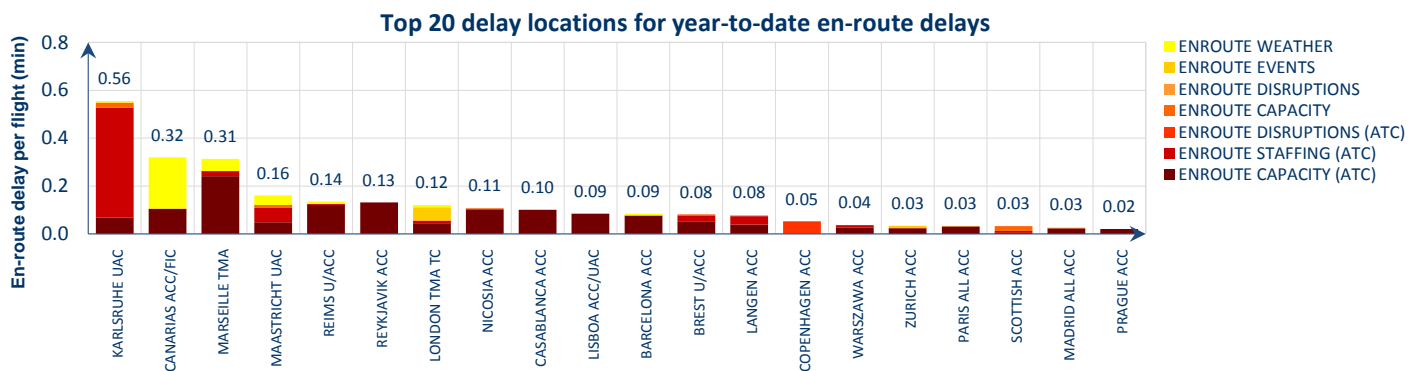
EN-ROUTE ATFM DELAY YEAR-TO-DATE



These are the top 20 en-route delay locations for 2018 with respect to the total ATFM delay. Figures are the average daily en-route delay in minutes for the individual locations.

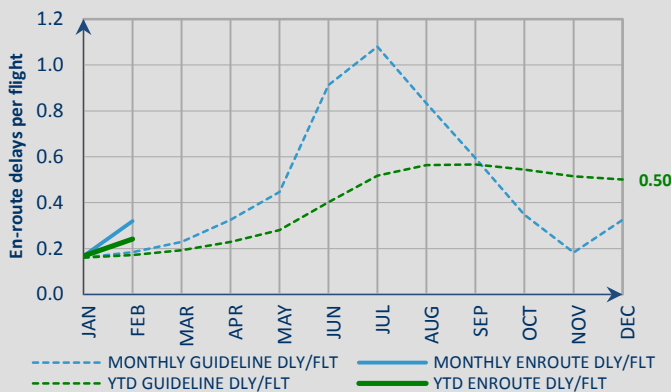
The top 20 en-route delay locations generated **32.6%** of the total ATFM (network) delay.

The top 5 en-route delay locations generated **23.4%** of the total ATFM (network) delay.

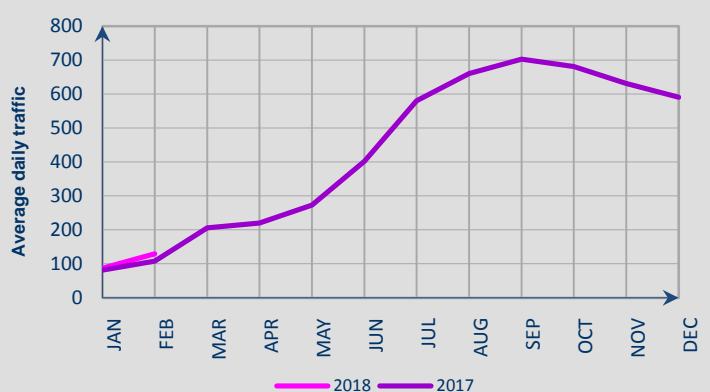


These are the top 20 average en-route ATFM delay per flight generating locations in 2018 with respect to the total ATFM delay. Figures are the average daily en-route delay in minutes for the individual locations.

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 areaⁱⁱⁱ in February was 0.32 min/ft, which is above the corresponding monthly guideline^{iv} value of 0.18 min/ft.

Year To Date: The average YTD en-route ATFM delay per flight in 2018 in the NM areaⁱⁱⁱ is 0.24 min/ft which is above the corresponding guideline value of 0.17 min/ft.

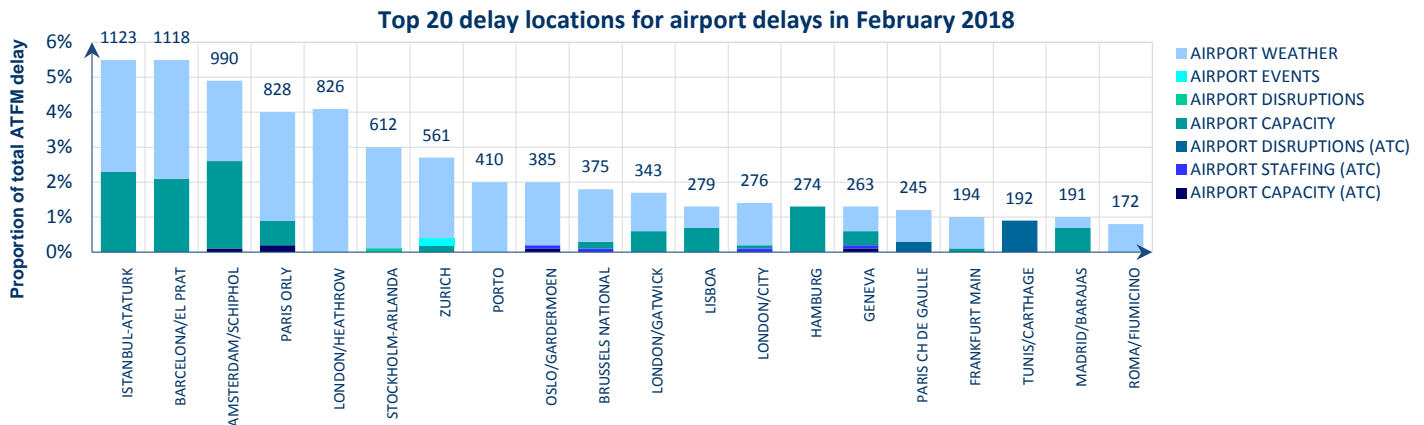
An average of 130 flights/day had an en-route ATFM delay of at least 15 minutes in 2018. The corresponding figure in 2017 was 108 flights/day.

The top 3 locations for flights with 15 minutes or more en-route ATFM delay (year-to-date) are:

- 45 flights/day in Karlsruhe UAC
- 15 flights/day in Maastricht UAC
- 11 flights/day in London TC

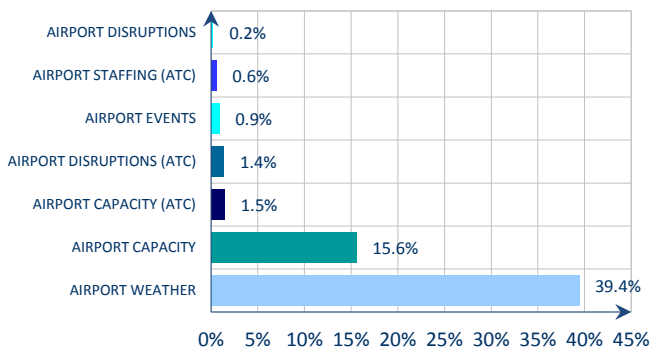
4. AIRPORT/TMA ATFM DELAYS

AIRPORT/TMA ATFM DELAY PER LOCATION



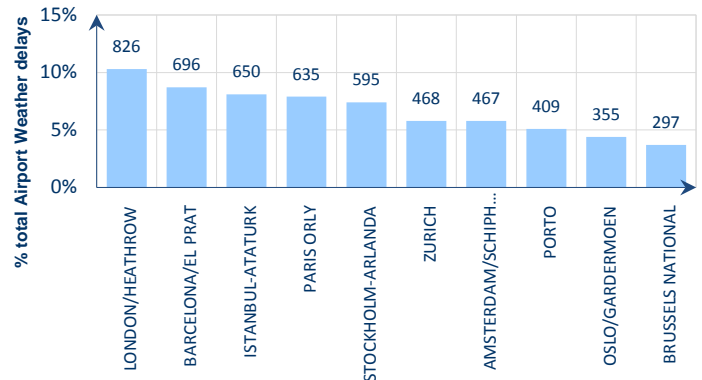
AIRPORT/TMA ATFM DELAY PER DELAY GROUPS

Reasons for airport delays in February 2018



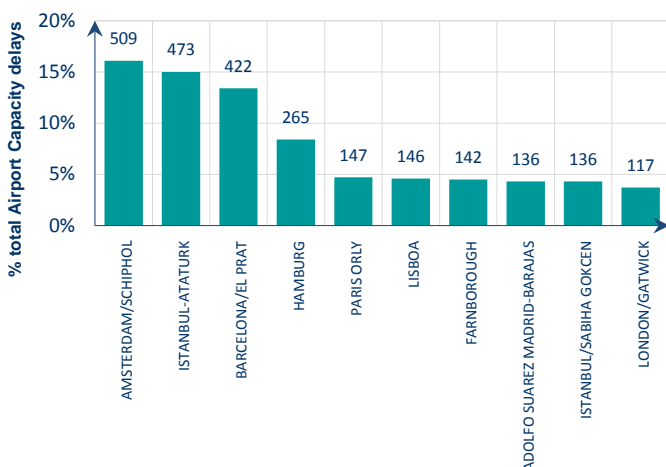
Airports accounted for 59.5% of all ATFM delays in February 2018, mainly due to airport weather and aerodrome capacity.

Top Airport Weather delays in February 2018



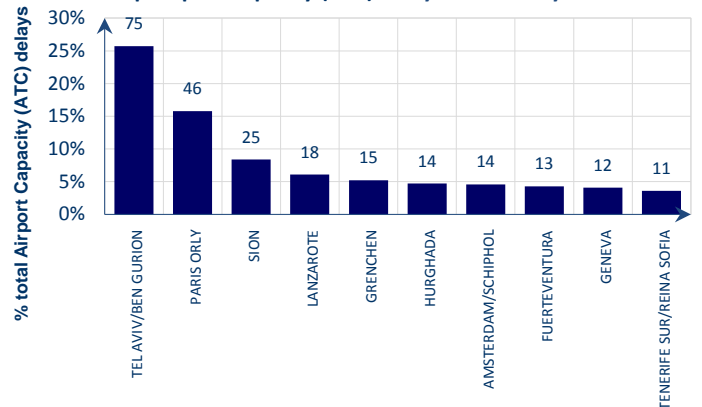
London/Heathrow airport was impacted by strong winds especially on 25 and 26 February with a total of 7,078 minutes of ATFM delay. Thunderstorms impacted operations at Barcelona airport especially on 04 and 05 February with a total of 13,301 minutes of ATFM delay.

Top Airport Capacity delays in February 2018



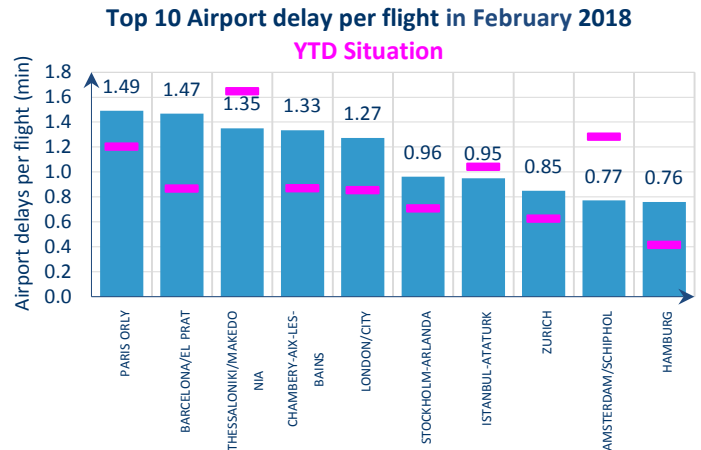
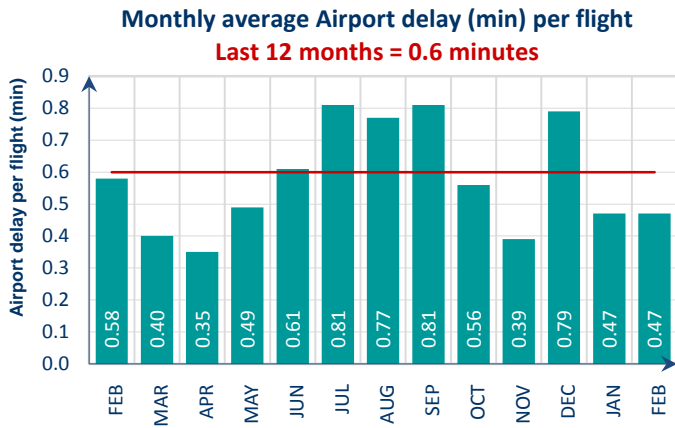
Capacity issues at Amsterdam/Schiphol and Istanbul/Ataturk airports. Work in progress at Barcelona airport. Capacity delay at Istanbul Sabiha/Gökçen airport has significantly decreased since last year, despite growth in traffic demand. This decrease is due to an increase in arrival capacity, enabled by the completion of a new rapid exit taxiway at the airport.

Top Airport Capacity (ATC) delays in February 2018



Airport ATC capacity delays at Tel Aviv/Ben Gurion airport throughout the month.

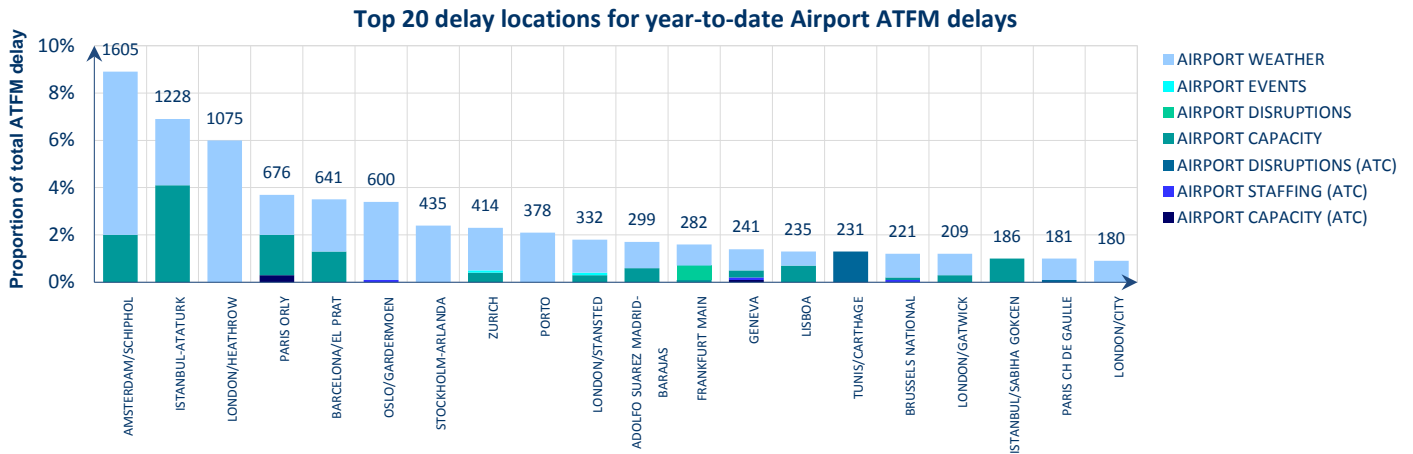
AIRPORT/TMA ATFM DELAY PER FLIGHT



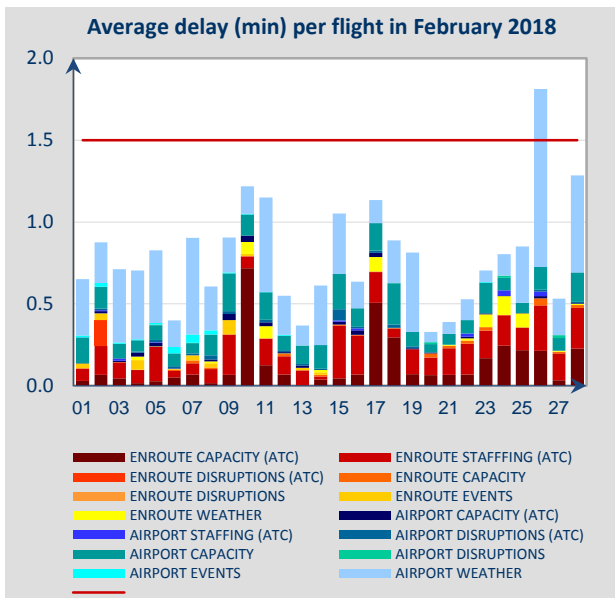
Average airport/TMA delay per flight decreased from 0.58 min/ft in February 2017 to 0.47 min/ft in February 2018.

Paris/Orly airport had the highest delay per flight in February. Barcelona airport delay per flight increased from 0.65 min/ft in February 2017 to 1.47 min/ft in February 2018.

AIRPORT/TMA ATFM DELAY YEAR-TO-DATE



5. DAILY EVOLUTION



One day in February 2018 had an average ATFM delay per flight exceeding 1.5 min:

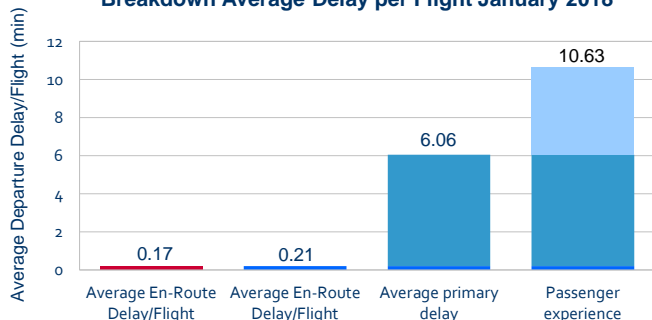
26 February 2018: Seasonal weather impacted operations strongly at Stockholm/Arlanda and Rome/Fiumicino airports. Strong winds impacted operations at London/Heathrow and Zurich airports; ATC staffing issues in Karlsruhe UAC; En-route ATC capacity issues in Canarias, Langen and Reims ACCs; Airport capacity delays at Amsterdam/Schiphol and Istanbul/Atatürk airports.

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 60% of the commercial flights in the ECAC region for January 2018. ATFM delays reported by airlines could 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.

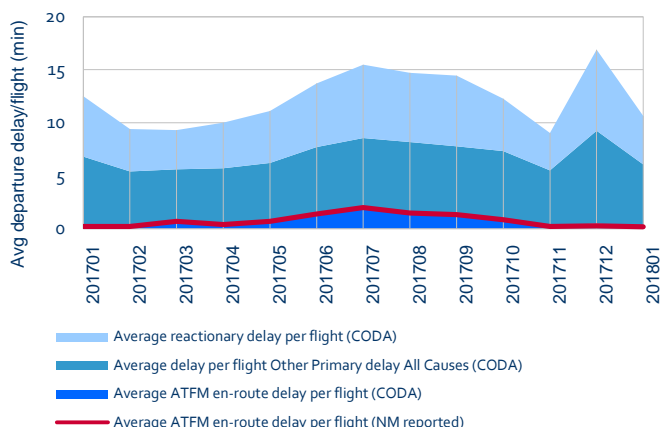
Breakdown Average Delay per Flight January 2018



Based on airline data, the average departure delay per flight from ‘All-Causes’ was 10.63 minutes per flight, a decrease in comparison to January 2017 where the average delay was 12.50 minutes per flight. Primary delays counted for 57% (or 6.06 min/flt), with reactionary delays representing the smaller remaining share of 43% at (4.57 min/flt).

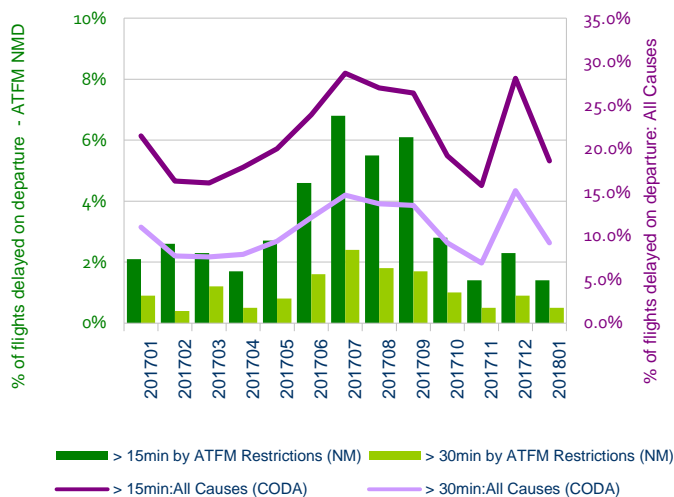
■ NM reported En-Route ATFM delay
■ Airline Reported En-Route ATFM Delay
■ Primary Delay (excl En-Route)
■ Reactionary delay

Average Departure Delay per Flight 2017/2018



Further analysis of the past 12 months shows that the average ‘All-Causes’ en-route ATFM delay reported by airlines has been very similar to the NM reported en-route ATFM delay. For January 2018 the airline reported en-route ATFM delay was 0.21 minutes per flight which was slightly higher when compared to the NM reported average en-route ATFM delay of 0.17 minutes per flight.

Percentage of Delayed Flights: ATFM & All Causes

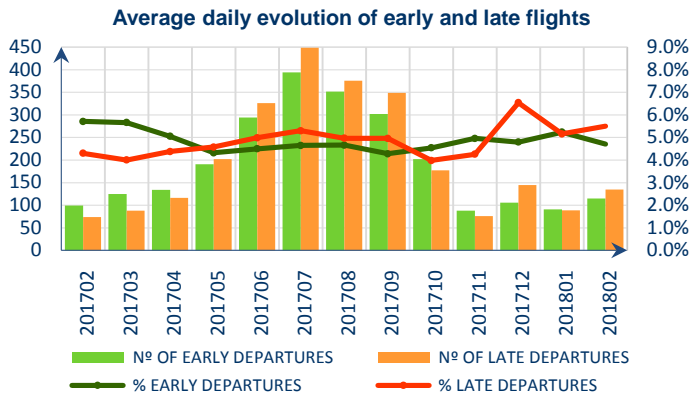


Compared to January 2017, the percentage of flights delayed more than 15 minutes from ‘All-Causes’ decreased with 2.9 percentage points to 18.6% in January 2018. Departure delays exceeding 30 minutes also decreased with 9.2% of flights being delayed more than 30 minutes in January 2018.

For more information on CODA delays:

<http://www.eurocontrol.int/sites/default/files/content/documents/official-documents/facts-and-figures/coda-reports/flad-jan-2018.pdf>

7. ATFM SLOT ADHERENCE

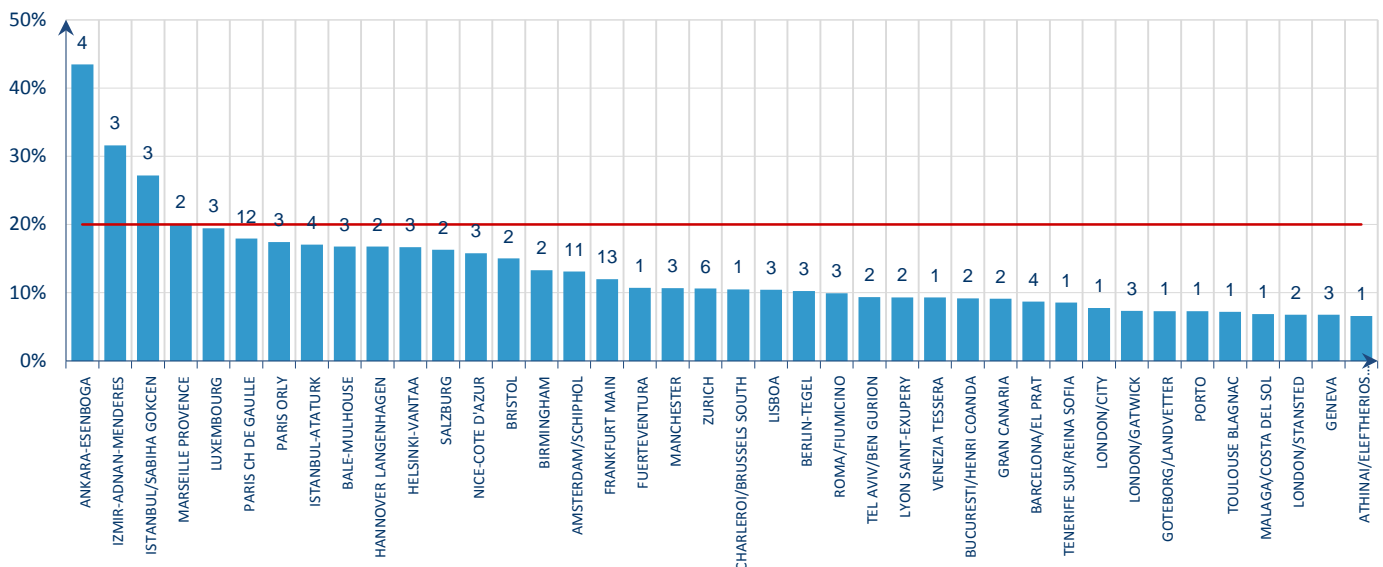


The percentage of early departures for February 2018 is 4.7% of regulated flights, which is a decrease of 1.0 percentage points compared to February 2017.

The percentage of late departures for February 2018 is 5.5% of regulated flights, which is an increase of 1.2 percentage points compared to February 2017.

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 February 2018



8. SIGNIFICANT EVENTS AND ISSUES

PLANNED EVENTS

ACC

MAJOR AIRSPACE OR ATM SYSTEM IMPROVEMENT PROJECTS

PLANNED EVENTS

Munich ACC implemented OASE project (restructured sector family EAST) on 01 February, not generating any ATFM delay. The transition had been planned to progress in two phases, with capacity reductions of up to 20% for the first phase, until 07 February.

London TC, Luton and Stansted approach sectors went through the post implementation transition to ExCDS (full electronic flight progress strip capability), generating 6,883 minutes of ATFM delay. Originally, capacity reductions had been planned until 16/02/2018, to the agreed service delivery targets for Luton and Stansted arrivals. This amount of delay presented 39% of total delay, 17,761min, generated by London TC during February.

ADDITIONAL INFORMATION

Marseille ACC and Marseille Provence airport generated 1,597 min and 3,180 min of delay, respectively, due to the implementation of IAM interface AIX Marseille reorganisation project.

AIRPORTS

Local Plans in February

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

Special Events

- Ibiza airport became fully operational ATC Advanced Tower airport on 20 February.
- WWII ordnance disposal with zero rate regulation at London/City and Bremen airports on 12 and 13 February.

Completed

- New radar equipment implementation at Tunis/Carthage airport generated 5,370 minutes of ATFM delay until 20 February;
- Runway maintenance at Larnaca and Hamburg airports.

Ongoing

- Runway maintenance at Antalya, Cologne, Copenhagen, Dublin, Iraklion, Istanbul/Sabiha Gökçen, Krakow and Thessaloniki airports;
- Taxiway and/or apron improvements at Antalya, Dublin, Frankfurt/Main, Hamburg (generated 6,983 minutes of ATFM delay, in conjunction with runway maintenance), Ibiza, Lisbon, Nice, Palma de Mallorca, Paris/Orly, Rome/Fiumicino, Tenerife/Sur, Thessaloniki and Zurich airports;
- Tower renovation at Paris/Orly airport generated, in conjunction with taxiway maintenance, a total of 4,367 minutes of ATFM delay;
- ILS maintenance at Warsaw airport;
- Terminal building improvements/works at Barcelona (9,141 minutes of ATFM delay), Budapest, Frankfurt/Main, Malta, Manchester and Oslo/Gardermoen airports.

DISRUPTIONS

Technical

- FDPS failure in Copenhagen ACC on 02 February generated 4,322 minutes of ATFM delay;
- Technical issues with the local airport flight planning network generated 2,361 minutes of ATFM delay at Amsterdam airport on 28 February;
- ILS partial unavailability at Paris/Charles de Gaulle, in conjunction with low visibility procedures, generated 1,492 minutes of ATFM delay on 15 February.

9. NM ADDED VALUE

FLIGHTS WITH DELAY > 30'

The number of flights with more than 30 minutes of ATFM delay decreased between February 2017 and February 2018.

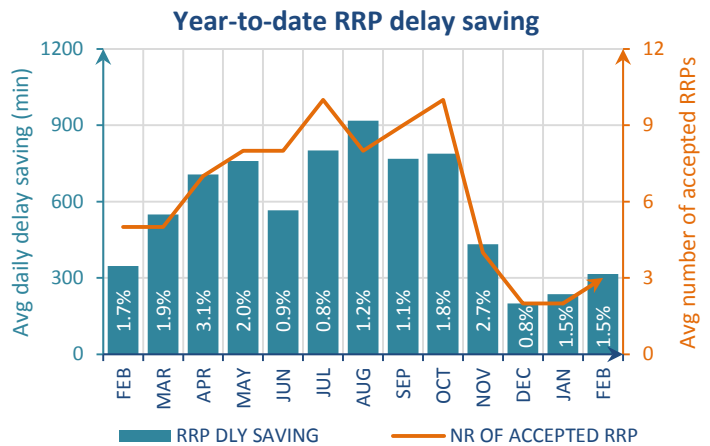
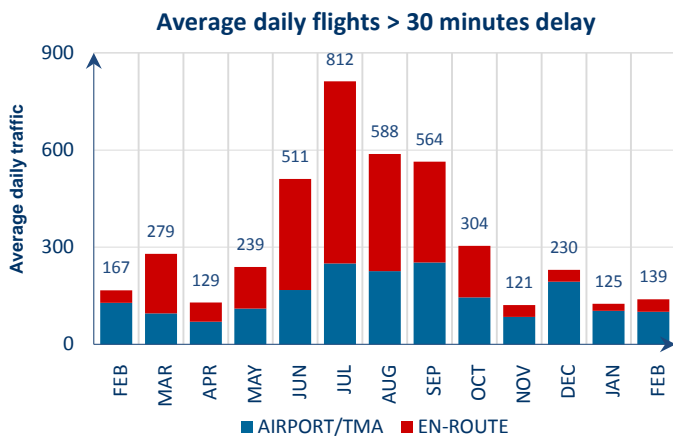
In February 2018, 28.1% of flights with more than 30 minutes of ATFM delay were en-route and 71.9% were airport.

An average 29 flights per day had their delay reduced to less than 30min by NM.

RRP DIRECT DELAY SAVINGS

On average 3 RRPs/day were executed saving 316 min/day, accounting for 1.5% of ATFM delays.

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



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<http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting>

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.