



Network Manager
nominated by
the European Commission



Monthly Network Operations Report

Analysis – April 2018

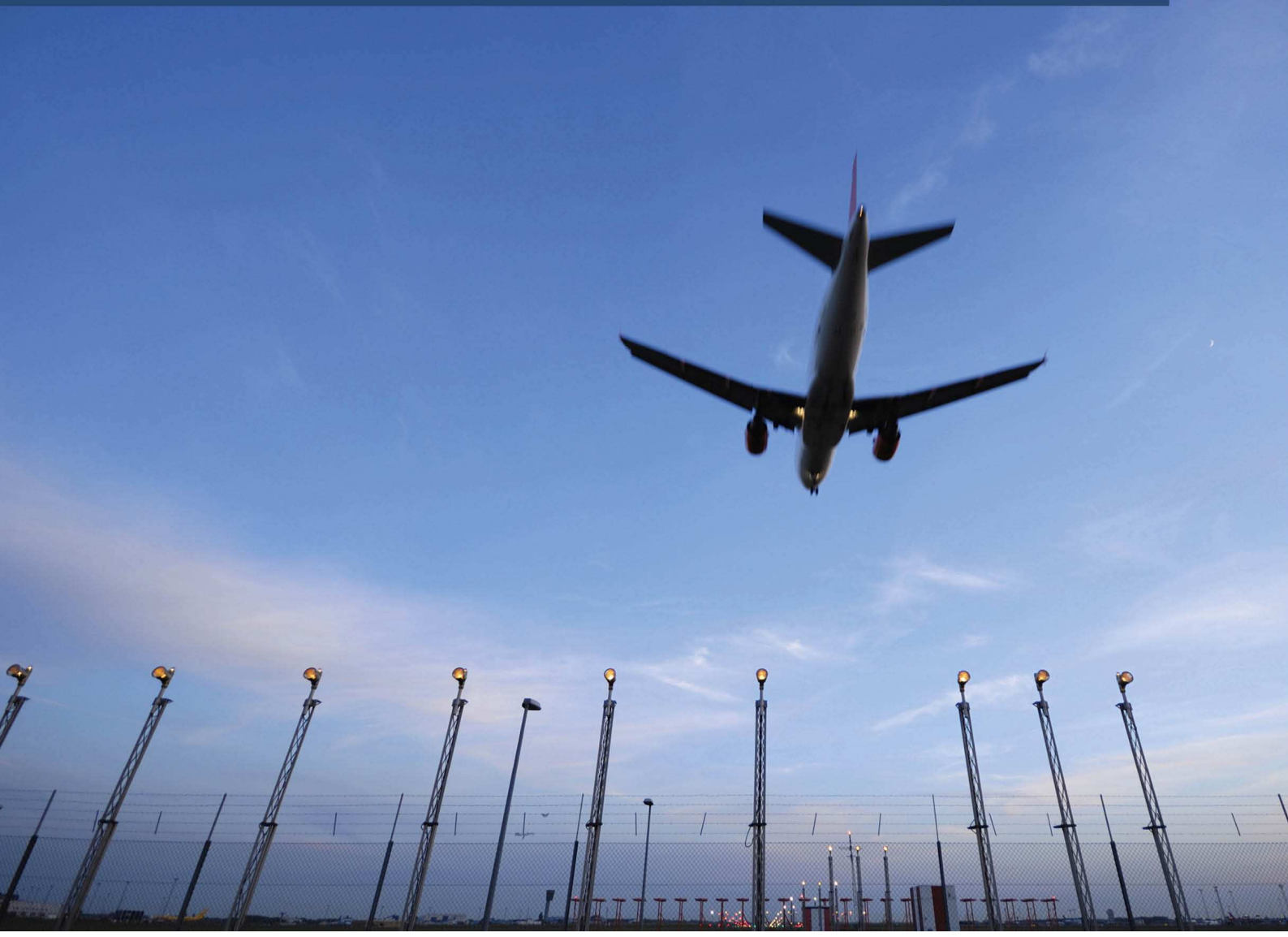


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NOTICE

Incomplete traffic data – 3 April

NM operational data archive for 3 April is incomplete due to NM system outage (See note i)

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

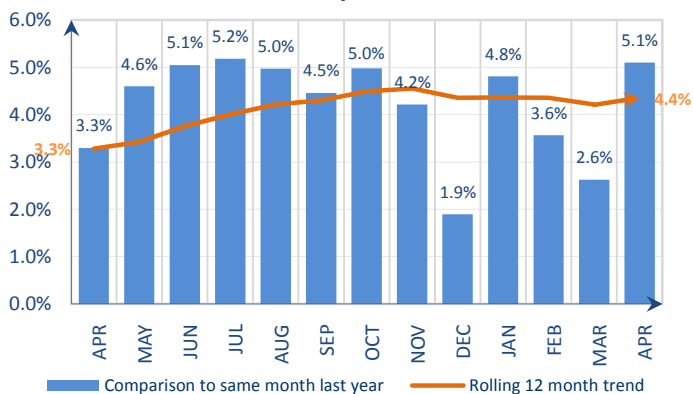
For further information on the regulation reason groupings, go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at <http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting>.

ATFM Statistics dashboard

More detailed information available via the new [ATFM Statistics dashboard](#).

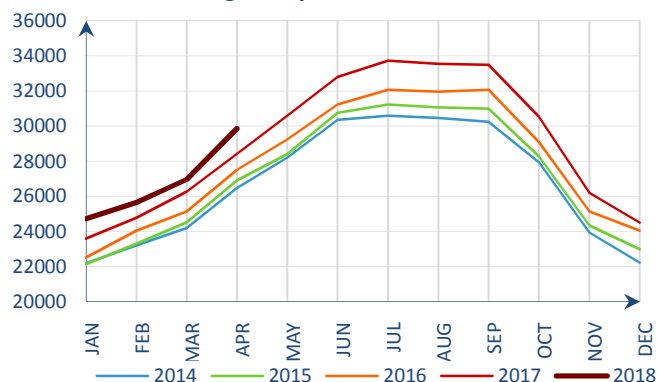
1. TOTAL TRAFFICⁱ

Monthly traffic trend



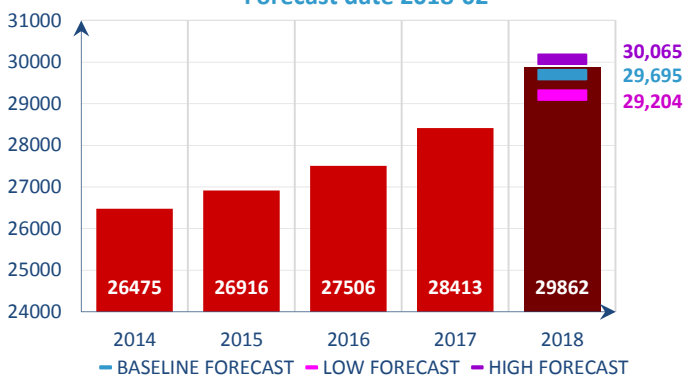
Traffic increased by 5.1% in April 2018ⁱⁱ.

Average daily traffic for last 5 Years



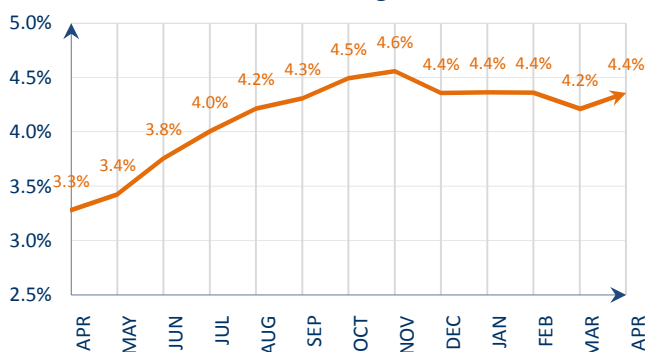
Average daily traffic in April 2018 was the highest for April in the last five years.

Average daily traffic in April for last 5 Years
Forecast date 2018-02



The traffic increase of 5.1% for April was close to the baseline 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 May 2017 to April 2018 was 4.4% higher than the average from May 2016 to April 2017.

Ten states contributed the most to the growth of local trafficⁱⁱⁱ in Europe by adding more than 50 flights per day to the network. Turkey was the top contributor and added 137 flights per day owing primarily to a strong internal flow (+37 flights/day) along with its flow to and from the Russian Federation (+33 flights/day). Poland ranked second with 127 flights per day and saw a 14% growth rate of its local traffic thanks to its continued robust flow to and from Ukraine (+13 flights/day) but also to and from Northern Europe (+46 flights/day). Germany was the third contributor with 87 extra daily flights owing mainly to a dynamic internal flow (+48 flights/day). Spain came next but decelerated from 218 extra flights per day in March to 77 extra flights per day in April. Norway was the fifth contributor and surged to 73 additional daily flights in April when it saw 111 fewer daily flights in March, owing to the recovery of its internal flow. Italy added 62 flights per day. Finland added 58 flights per day and saw an increase of 10.8% in its local traffic owing to its flow to and from Sweden (+16 flights/day) and to its internal flow (+10 flights/day). Greece, Ukraine and Sweden altogether added 161 daily flights to the network. France, impacted by industrial action, saw 113 fewer flights and saw its local traffic decline by 3% in April.

With an increase of 18%, the charter segment had the fastest growth owing to strong increases of flights between Turkey and the Russian Federation, Ukraine and Egypt and Germany and Egypt. The traditional scheduled and all-cargo segments each saw a 3.5% increase. The business aviation segment was up 2.6% and the low-cost segment increased by 0.2%.

The top five external partners in average daily flights on flows in both directions were the United States (938 flights, down 1.4%), the Russian Federation (794 flights, up 12.8%), the United Arab Emirates (332 flights, up 0.4%), Egypt (257 flights, up 26.5%) and Qatar (181 flights, up 16.8%).

The airlines which added the most flights to the European network on a daily basis were Ryanair (+143 flights/day), easyJet UK (+115 flights), Turkish Airlines (+ 71 flights/day), Lufthansa (64 flights/day), Wizzair (+62 flights/day).

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 April 2018 were at Antalya, Ankara, Tel Aviv/Ben Gurion, Budapest and Stuttgart airports. The largest traffic decreases were at Düsseldorf, Birmingham, Paris/Charles de Gaulle, Berlin/Tegel and Geneva airports. The Tel Aviv/Ben Gurion traffic increase was due to the expansion of routes made available by low-cost airlines and increased tourism. Traffic decreases at Düsseldorf and Hamburg airports are due in part to Air Berlin cessation of operations. Birmingham airport traffic variation is partially due to the Monarch cessation of operations.

Nine of the top ten aircraft operators flew more compared to April 2017. The operators with the highest traffic growth were Eurowings, LOT Polish airlines, Cityflyer Express, Qatar and Air Baltic Airlines. The highest traffic decreases were recorded by Air France, Transavia.com, Aegean, HOP and Flybe. Air France was impacted by several days of company industrial action throughout the month.

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. LOT Polish Airlines traffic increase was partially due to the opening of new routes from Europe to United States. The traffic variation of Qatar was partially due to the opening of new routes and the frequency increases of current routes.

N°	ADEP	ADEP NAME	201804	%	N°	ICAO	AIR OPERATOR	201804	%
1	EDDF	FRANKFURT MAIN	714	8.3%	1	RYR	RYANAIR	2234	7.0%
2	EHAM	AMSTERDAM/SCHIPHOL	713	-0.2%	2	EZY	EASYJET	1499	8.3%
3	EGLL	LONDON/HEATHROW	666	0.7%	3	DLH	DEUTSCHE LUFTHANSA	1467	4.6%
4	LFPG	PARIS CH DE GAULLE	646	-5.3%	4	THY	TURKISH AIRLINES	1344	5.6%
5	LTBA	ISTANBUL-ATATURK	643	2.5%	5	SAS	SCANDINAVIAN AIRLINES SYSTEM	869	4.6%
6	LEMD	ADOLFO SUAREZ MADRID-BARAJA	563	5.5%	6	AFR	AIR FRANCE	783	-13.1%
7	EDDM	MUENCHEN	559	2.0%	7	BAW	BRITISH AIRWAYS	698	0.6%
8	LEBL	BARCELONA/EL PRAT	475	3.1%	8	KLM	KLM ROYAL DUTCH AIRL	689	1.3%
9	LIRF	ROMA/FIUMICINO	428	3.8%	9	EWG	EUROWINGS AG	666	128.3%
10	EGKK	LONDON/GATWICK	391	-1.2%	10	VLG	VUELING AIRLINES SA	579	6.7%
11	LSZH	ZURICH	377	4.1%	11	WZZ	WIZZ AIR	516	13.7%
12	EKCH	KOBENHAVN/KASTRUP	373	6.1%	12	AZA	ALITALIA	509	-1.2%
13	ENGM	OSLO/GARDERMOEN	373	12.1%	13	PGT	PEGASUS HAVA TASI	452	8.7%
14	ESSA	STOCKHOLM-ARLANDA	359	5.4%	14	BEE	JERSEY EUROPEAN T/A FLYBE	406	-6.9%
15	LOWW	WIEN SCHWECHAT	348	5.2%	15	SWR	SWISS INTERNATIONAL	406	2.4%
16	LFPO	PARIS ORLY	329	-2.3%	16	AUA	AUSTRIAN AIRLINES	385	4.3%
17	EIDW	DUBLIN	325	7.1%	17	TAP	TAP/AIR PORTUGAL	357	11.0%
18	EBBR	BRUSSELS NATIONAL	325	1.6%	18	NAX	NORWEGIAN AIR SHUTTLE	357	12.0%
19	LTFJ	ISTANBUL/SABIHA GOKCEN	307	6.9%	19	FIN	FINNAIR O/Y	337	7.1%
20	LPPT	LISBOA	298	7.8%	20	LOT	LOT-POLISH AIRLINES	317	16.4%
21	LEPA	PALMA DE MALLORCA	285	0.9%	21	WIF	WIDEROE	316	3.7%
22	EDDL	DUESSELDORF	283	-8.6%	22	AFL	AEROFLOT-RUSSIAN	301	10.0%
23	EGSS	LONDON/STANSTED	279	9.7%	23	IBK	NORWEGIAN AIR INTERNATIONAL	289	15.1%
24	EGCC	MANCHESTER	269	-1.8%	24	AEA	AIR EUROPA	254	12.8%
25	LGAV	ATHINA/ELEFTHERIOS VENIZELOS	268	12.0%	25	IBE	IBERIA	250	4.2%
26	EFHK	HELSINKI-VANTAA	262	10.8%	26	BEL	BRUSSELS AIRLINES	236	-1.3%
27	LIMC	MILANO MALPENSA	261	5.5%	27	QTR	QATAR AIRWAYS COMP.	221	15.8%
28	LSGG	GENEVA	251	-3.0%	28	ANE	AIR NOSTRUM	220	3.0%
29	EPWA	CHOPINA W WARSZAWIE	244	12.0%	29	EIN	AER LINGUS TEORANTA	206	-0.6%
30	EDDT	BERLIN-TEGEL	239	-3.3%	30	RAM	ROYAL AIR MAROC	205	-4.2%
31	LLBG	TEL AVIV/BEN GURION	222	15.9%	31	HOP	HOP (MERGE OF BZH + RAE + RLA)	196	-7.5%
32	EDDH	HAMBURG	206	-1.3%	32	UAE	EMIRATES	192	-2.5%
33	LEMG	MALAGA/COSTA DEL SOL	201	1.1%	33	AUI	UKRAINE INTERNATIONA	161	7.8%
34	LKPR	PRAHA RUZYNE	200	6.5%	34	EXS	JET2.COM	157	14.2%
35	LTAI	ANTALYA	198	20.6%	35	TRA	TRANSAVIA.COM	152	-12.9%
36	LFMN	NICE-COTE D'AZUR	192	-2.4%	36	BCS	EUROPEAN AIR TRANSP.	152	10.8%
37	EDDK	KOELN-BONN	190	7.2%	37	BTI	AIR BALTIC CORPORAT.	151	15.1%
38	EGGW	LONDON/LUTON	189	0.5%	38	OAL	OLYMPIC	148	2.8%
39	EGPH	EDINBURGH	185	2.9%	39	EZS	EASY JET SWITZERLAND	145	1.9%
40	EDDS	STUTTGART	176	12.9%	40	TVF	TRANSAVIA FRANCE	132	13.0%
41	GCLP	GRAN CANARIA	175	10.9%	41	SXS	SUNEXPRESS AIRLINES	131	1.9%
42	LROP	BUCURESTI/HENRI COANDA	167	6.6%	42	AEE	AEGEAN AIRLINES	127	-11.0%
43	LTAC	ANKARA-ESENBOGA	166	18.9%	43	VOE	VOLOTEA	126	6.0%
44	LFLL	LYON SAINT-EXUPERY	158	-0.7%	44	NJE	NETJETS	124	-0.4%
45	LHBP	BUDAPEST LISZT FERENC INT.	156	13.2%	45	UAL	UNITED AIRLINES INC.	120	-1.0%
46	LIML	MILANO LINATE	154	-0.2%	46	DAL	DELTA AIR LINES INC.	119	-5.1%
47	EGBB	BIRMINGHAM	148	-7.2%	47	LOG	LOGANAIR	117	-1.5%
48	EDDB	SCHOENEFELD-BERLIN	146	6.5%	48	TOM	THOMSON FLY LTD	115	1.1%
49	LEAL	ALICANTE	141	0.3%	49	BMS	BLUE AIR AIRLINE MANAGEMENT SOLUTIONS	107	-0.1%
50	LFBO	TOULOUSE BLAGNAC	139	-1.1%	50	CFE	CITYFLYER EXPRESS	103	15.9%
TOTALS and % TOTAL TRAFFIC			15362	58.8%	TOTALS and % TOTAL TRAFFIC			20143	68.7%

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

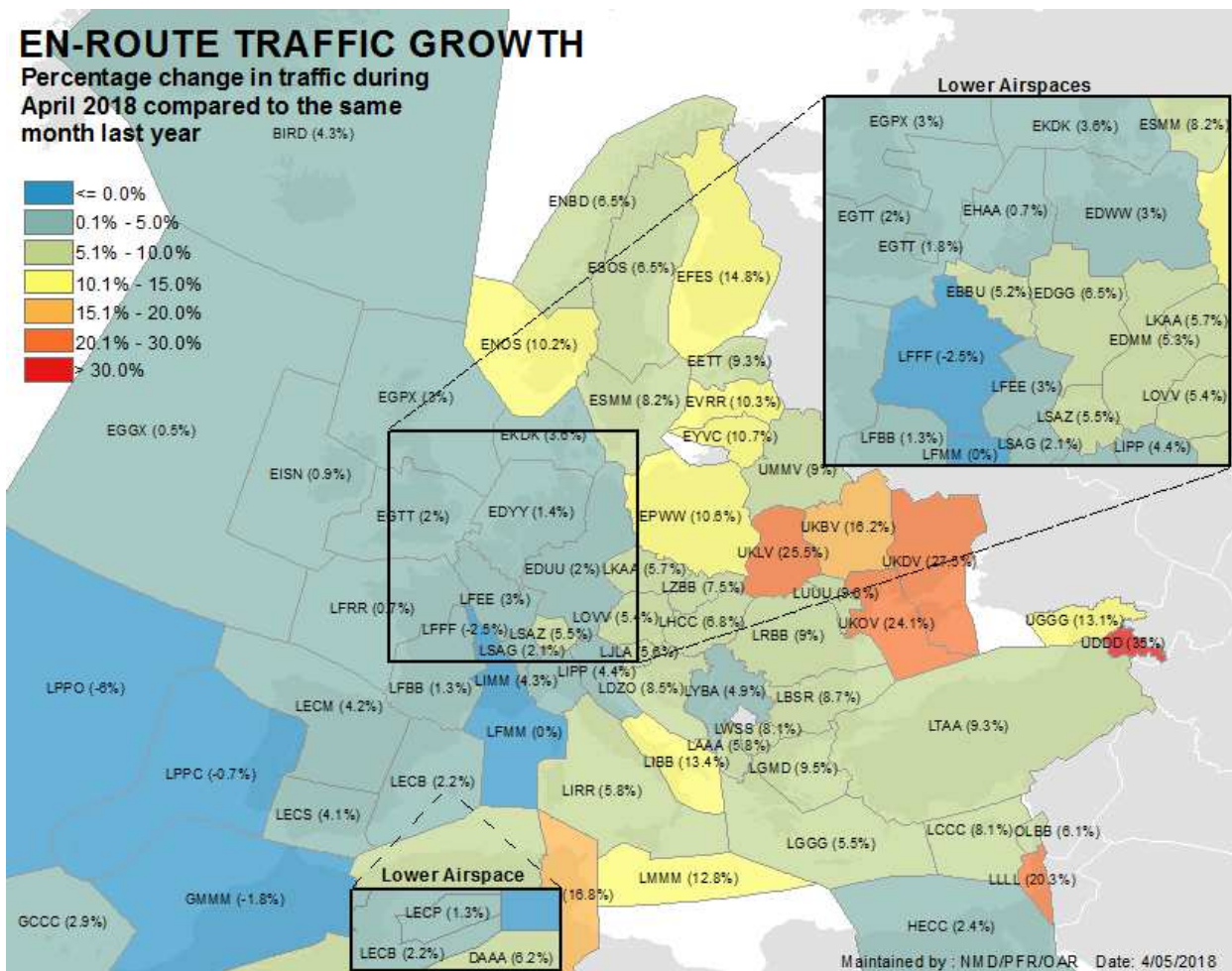
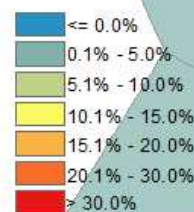
Top 50 Air Operators with average daily traffic and percentage compared to same period of previous year

N°	ICAO	AIR OPERATOR	201804	%
		Unidentified	2026	3.8%

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 April 2018 compared to the same month last year

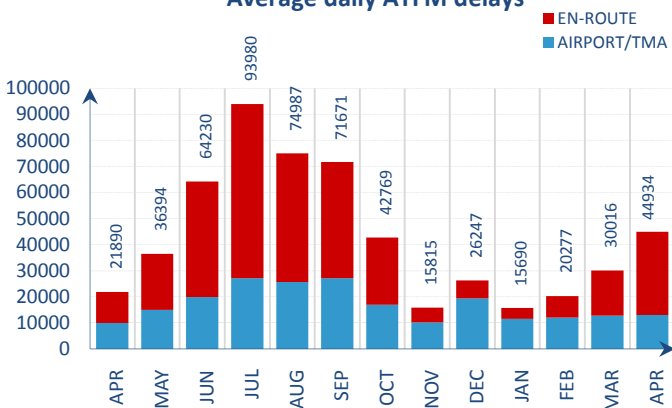


Nº	ASP ID	ASP NAME	201804	%	Nº	ASP ID	ASP NAME	201804	%
1	BIRDACC	REYKJAVIK ACC	361	4.3%	39	LFBBALL	BORDEAUX ALL ACC	2726	1.3%
2	DAAAACC	ALGERS ACC	495	6.2%	40	LFEEACC	REIMS U/ACC	2891	3.0%
3	DTTCACC	TUNIS ACC	327	16.8%	41	LFFFALL	PARIS ALL ACC	3344	-2.5%
4	EBBUACC	BRUSSELS CANAC	1792	5.2%	42	LFMMACC	MARSEILLE ACC	3024	0.0%
5	EDGGALL	LANGEN ACC	3682	6.5%	43	LFMMAPP	MARSEILLE TMA	866	-1.1%
6	EDMMACC	MUNCHEN ACC	3191	5.3%	44	LFRRACC	BREST U/ACC	3048	0.7%
7	EDUUUAC	KARLSRUHE UAC	5168	2.0%	45	LGSGACC	ATHINAI CONTROL	1321	5.5%
8	EDWWACC	BREMEN ACC	1818	3.0%	46	LGMDACC	MAKEDONIA CONTROL	1027	9.5%
9	EDYYUAC	MAASTRICHT UAC	5152	1.4%	47	LHCCACC	BUDAPEST ACC	2084	6.8%
10	EETTACC	TALLIN ACC	586	9.3%	48	LIBBACC	BRINDISI ACC	805	13.4%
11	EFESACC	TAMPERE ACC	544	14.8%	49	LIMMACC	MILANO ACC	2329	4.4%
12	EGGXOCA	SHANWICK OACC	1338	0.5%	50	LIPPACC	PADOVA ACC	1896	4.4%
13	EGPXALL	SCOTTISH ACC	2794	3.0%	51	LIRRACC	ROMA ACC	2298	5.9%
14	EGTTACC	LONDON ACC	5681	2.0%	52	LJLAACC	LJUBLJANA ACC	805	5.6%
15	EGTTTC	LONDON TMA TC	3920	1.8%	53	LKAAACC	PRAGUE ACC	2187	5.7%
16	EHAAACC	AMSTERDAM ACC(245-)	1676	0.7%	54	LLLLACC	TEL AVIV ACC	545	20.3%
17	EIDWACC	DUBLIN ACC	702	5.7%	55	LMMMACC	MALTA ACC	353	12.8%
18	EISNACC	SHANNON ACC	1249	0.9%	56	LOVVACC	WIEN ACC	2262	5.4%
19	EKDKACC	COPENHAGEN ACC	1591	3.7%	57	LPPCACC	LISBOA ACC/UAC	1632	-0.7%
20	ENBDACC	BODO ACC	594	6.5%	58	LPPOACC	SANTA MARIA OACC	408	-6.0%
21	ENOSACC	OSLO ATCC	1049	10.2%	59	LQSBACC	BOSNIA-HERZEGOVINA	105	2.9%
22	ENSVACC	STAVANGER ATCC	624	7.0%	60	LRBBACC	BUCURESTI ACC	1795	9.0%
23	EPWWACC	WARSAWA ACC	2122	10.6%	61	LSAGACC	GENEVA ACC	1879	2.1%
24	ESMMACC	MALMO ACC	1592	8.2%	62	LSAZACC	ZURICH ACC	2219	5.5%
25	ESOSACC	STOCKHOLM ACC	1235	6.5%	63	LTAACC	ANKARA ACC	3735	9.3%
26	EVRRACC	RIGA ACC	761	10.3%	64	LTBBACC	ISTANBUL ACC	2052	4.3%
27	EYVCACC	VILNIUS ACC	681	10.7%	65	LUUUACC	CHISINAU ACC	126	9.6%
28	GCCACC	CANARIAS ACC/FIC	960	2.9%	66	LWSSACC	SKOPJE ACC	388	8.1%
29	GMMMACC	CASABLANCA ACC	1165	-1.8%	67	LYBAACC	BEOGRADE ACC	1639	4.9%
30	HECCACC	CAIROACC	680	2.4%	68	LZBBACC	BRATISLAVA ACC	1308	7.5%
31	LAAAACC	TIRANA ACC	492	5.8%	69	OLBBACC	BEIRUT ACC	157	6.1%
32	LBSRACC	SOFIA ACC	2032	8.7%	70	UDDDACC	EREVAN ACC	158	35.0%
33	LCCCACC	NICOSIA ACC	1073	8.1%	71	UGGGACC	TBILISI ACC	406	13.1%
34	LDZOACC	ZAGREB ACC	1435	8.5%	72	UKBVACC	KIEV ACC	415	16.3%
35	LECBACC	BARCELONA ACC	2451	2.2%	73	UKDVACC	DNIPROPETROVSK ACC	51	27.5%
36	LECMALL	MADRID ALL ACC	3250	4.2%	74	UKLVACC	L'VIV ACC	325	25.5%
37	LECPACC	PALMA ACC	775	1.3%	75	UKOVACC	ODESSA ACC	247	24.1%
38	LECSACC	SEVILLA ACC	1156	4.1%	76	UMMVACC	MINSK ACC	763	9.0%

Traffic increased in Erevan, Dnipropetrovsk, L'viv, Odessa and Tel Aviv. Traffic variation 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. The traffic increase in Turkish airspace is due to domestic and Russian flights recovery. The traffic variation in Tunis and Algiers ACCs is partly due to the relative effects of several days of ATC industrial action in Marseille ACC throughout the month. Northern Europe traffic variation is due partially to a strong domestic flow in Norway and Sweden.

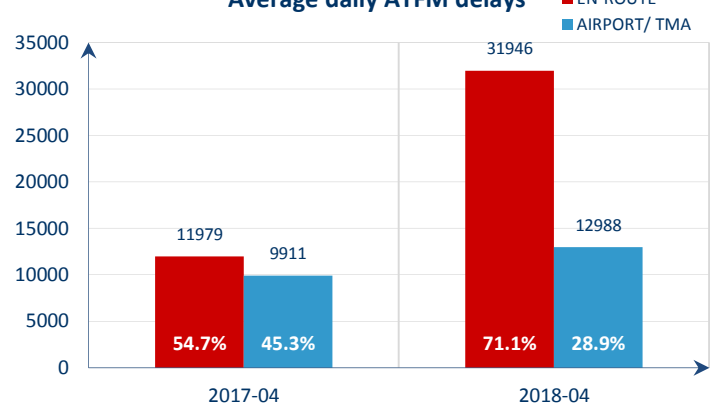
2. ATFM DELAY AND ATTRIBUTIONS

Average daily ATFM delays



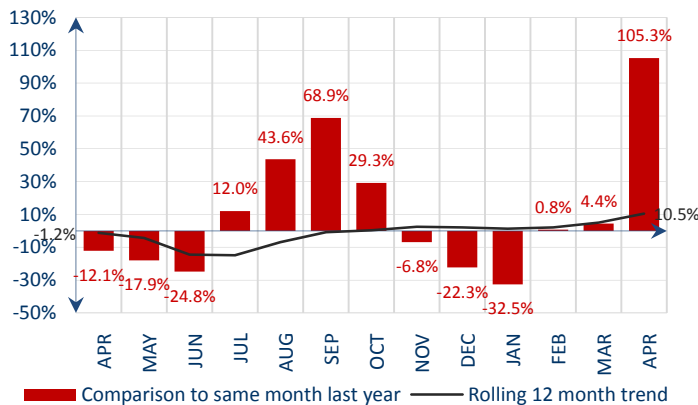
Total ATFM delays increased by 105.3% in April 2018¹.

Average daily ATFM delays



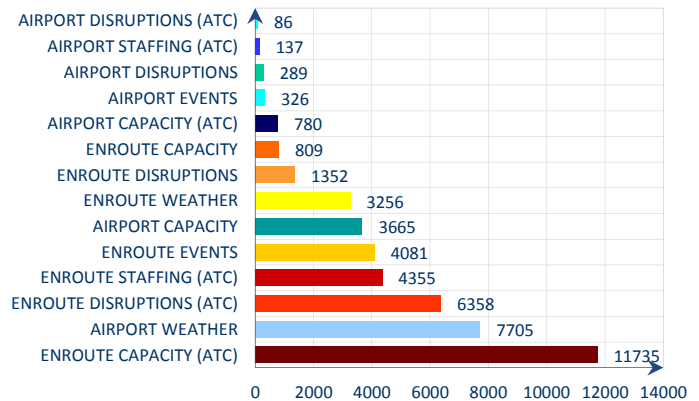
En-route ATFM delays increased by 166.7% and airport ATFM delays increased by 31.1%.

Monthly ATFM delays trend



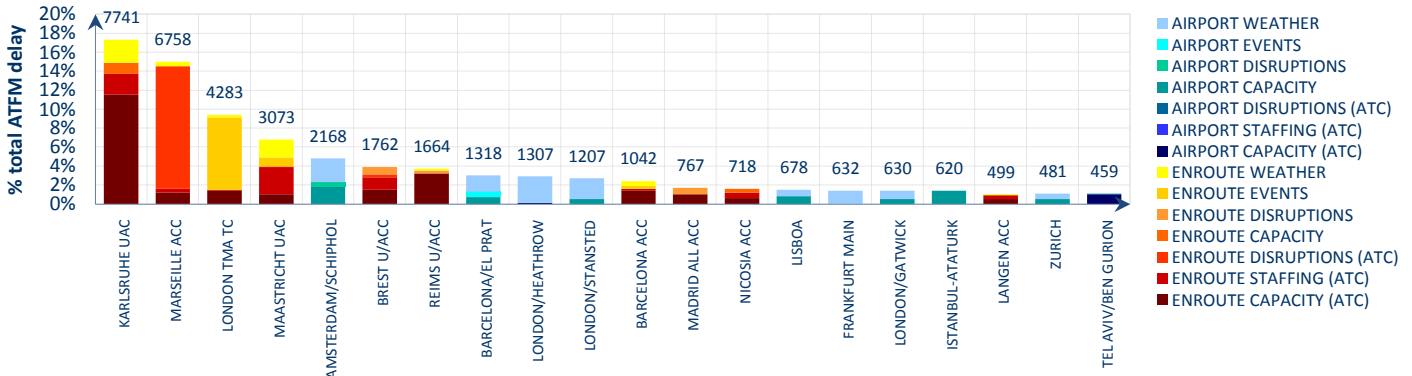
The rolling 12-month trend shows that ATFM delay was 10.5% higher during the period May 2017 – April 2018 compared to May 2016 – April 2017.

Reasons for ATFM delays in April 2018



En-route ATC capacity (26.1%), airport weather (17.2%), en-route ATC disruptions (14.2%) were the main causes of ATFM delays in April 2018.

Top 20 delay reference locations in April 2018

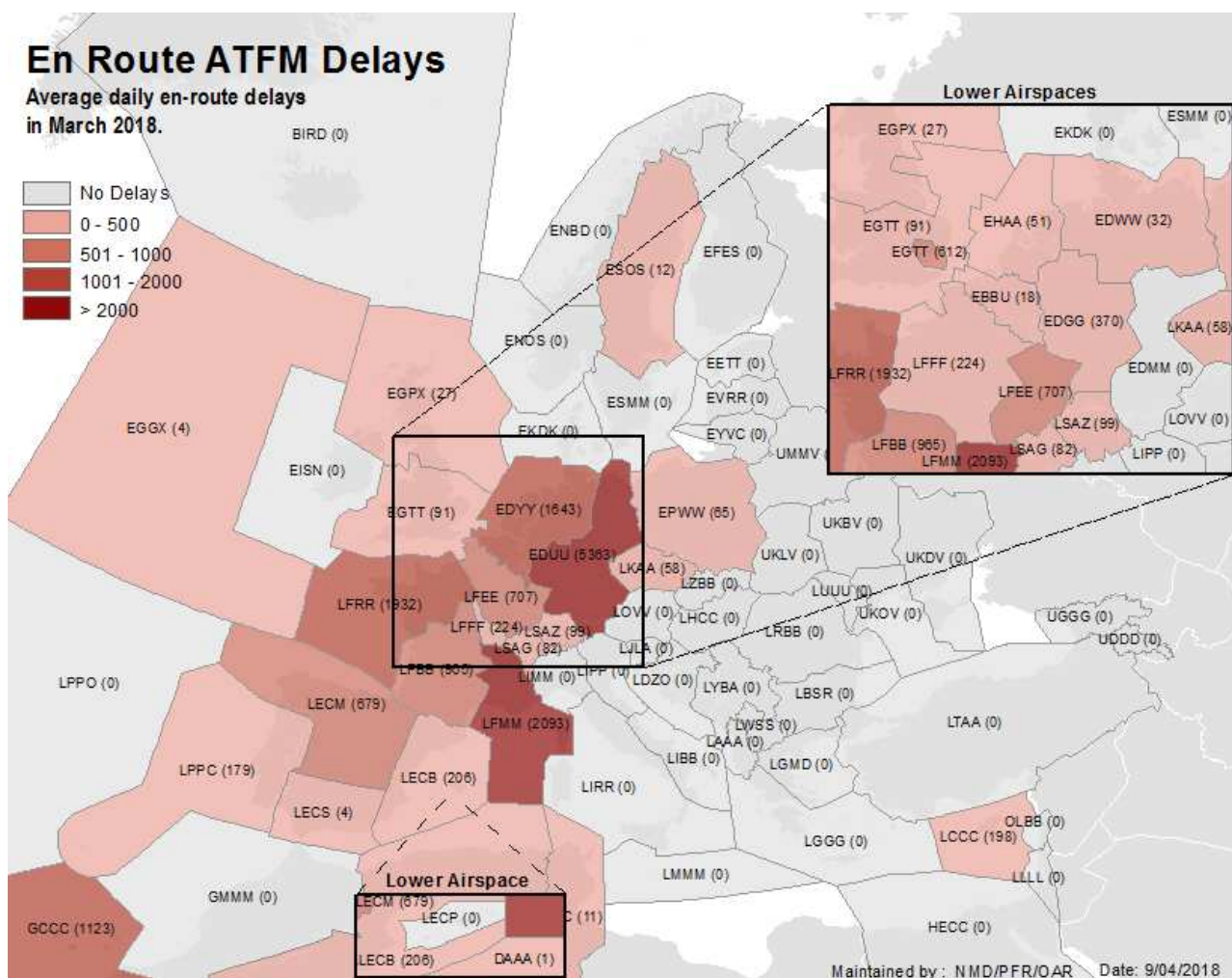


These are the top 20 delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

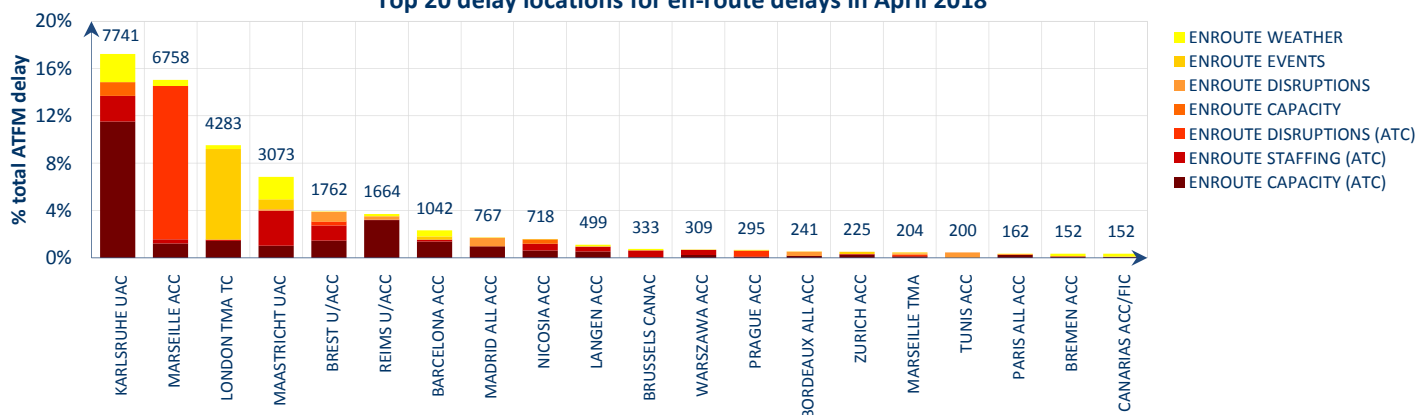
- En-route capacity delays in Karlsruhe, Marseille and Reims ACCs;
- Several industrial action in Marseille ACC generated en-route disruptions delays;
- En-route ATC staffing issues in Karlsruhe, Maastricht and Brest ACCs;
- Seasonal weather impacted operations at Amsterdam/Schiphol, Barcelona, London/Heathrow and London/Stansted airports;
- Capacity issues at Istanbul/Atatürk and Amsterdam/Schiphol airports;
- 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 April 2018



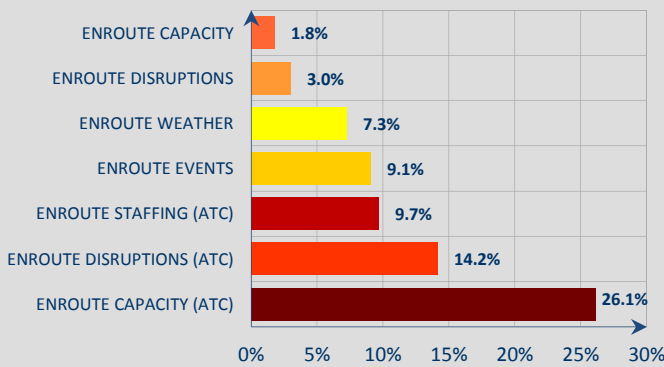
These are the top 20 en-route ATFM delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

The top 20 en-route ATFM delay locations generated **68.1%** of the monthly total (network) ATFM delay.
 The top 5 en-route ATFM delay locations generated **52.6%** 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

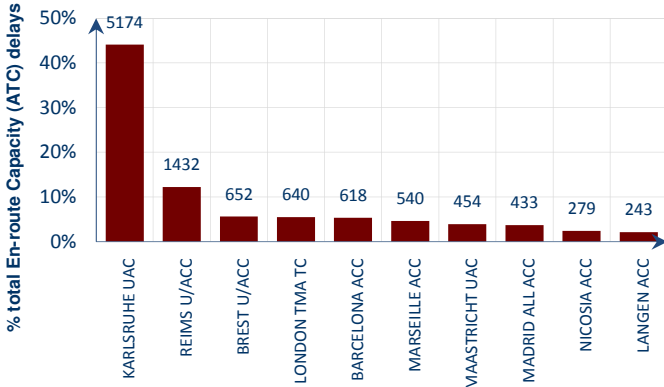
Reasons for en-route delays in April 2018



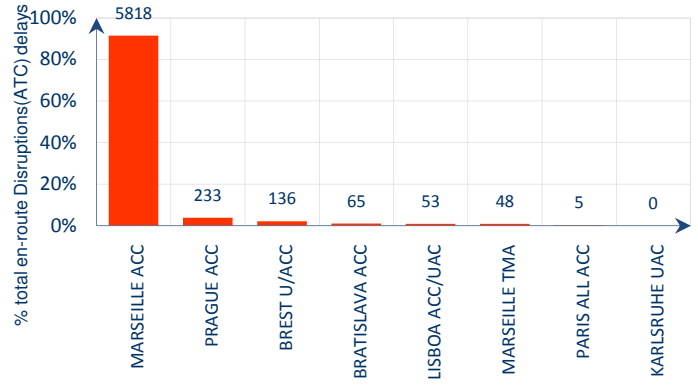
En-route ATFM delays accounted for 71.1% of all ATFM delays. Most of this delay was caused by en-route ATC capacity, en-route ATC disruptions and en-route ATC staffing as explained in detail below. The other causes were:

- En-route events:* Implementation of Extended Computer Display system in London TC;
- En-route weather:* Thunderstorms affected most of the sector groups in Karlsruhe and Maastricht UACs throughout the month;
- En-route disruptions:* Brest and Madrid ACCs reported high demand due to Marseille ACC industrial action.

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



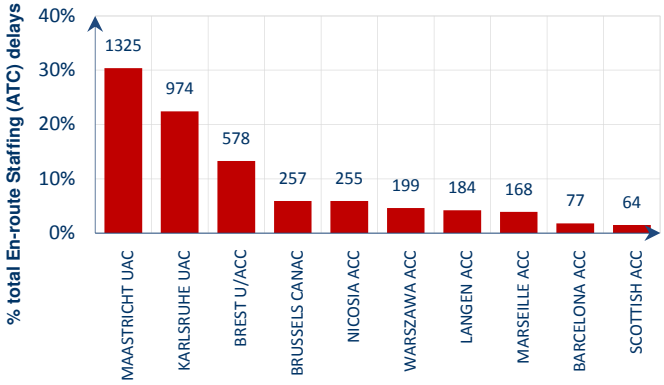
Top en-route Disruption (ATC) delays in April 2018



Karlsruhe UAC was the biggest generator of en-route ATC capacity delays in April.

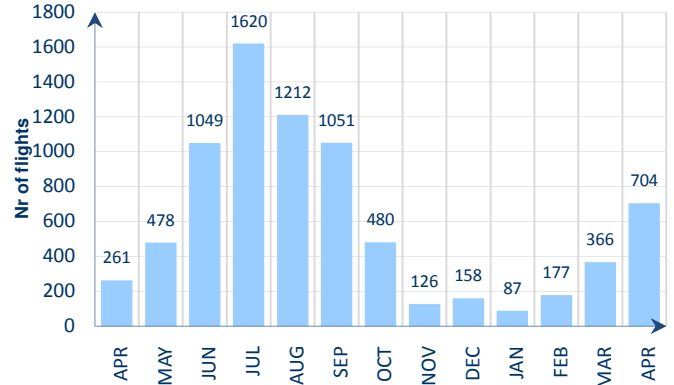
Marseille ACC generated 92% of en-route ATC disruption delay over four days (two weekends).

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



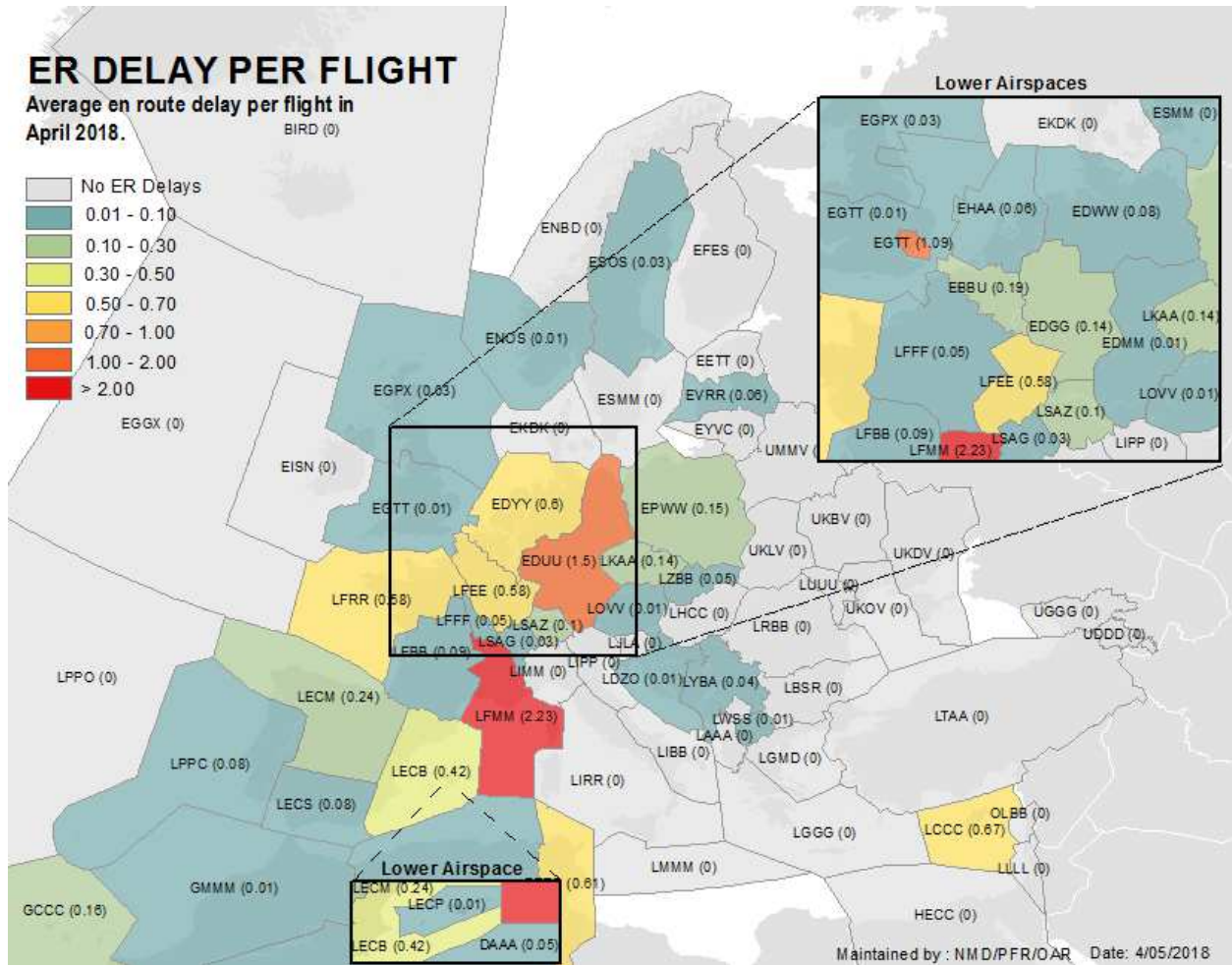
Maastricht and Karlsruhe UACs generated 53% of en-route ATC staffing throughout the month.

Average daily flights >= 15 min en-route delay

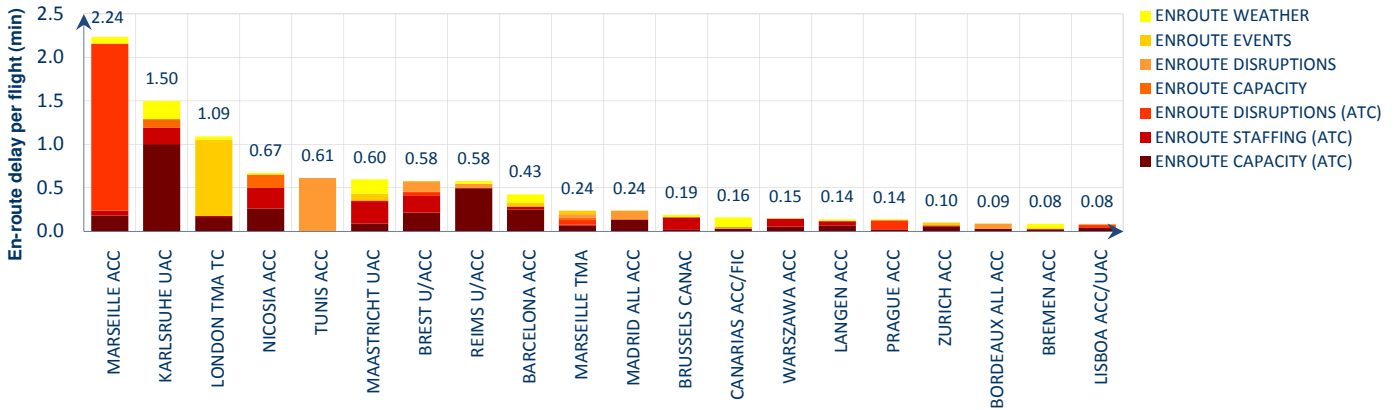


The average daily flights with an en-route ATFM delay of at least 15 minutes increased from 261 flights/day in April 2017 to 704 flights/day in April 2018, which represents 2.4% of all traffic.

EN-ROUTE ATFM DELAY PER FLIGHT



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



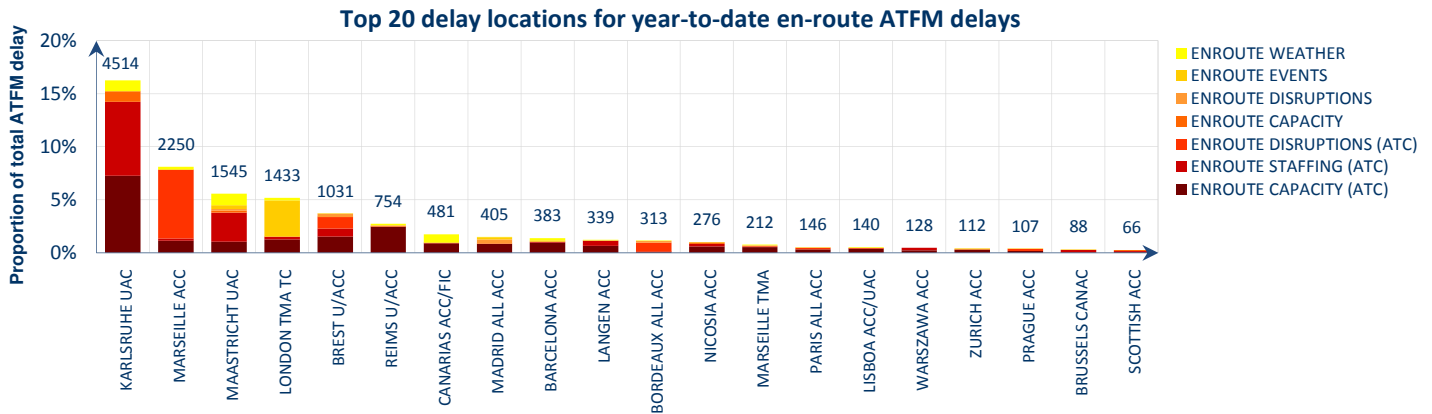
These are the top 20 average en-route ATFM delay per flight generating locations for the reporting month. Figures are the average en-route ATFM delay per flight in minutes for the individual locations.

Marseille ACC en-route ATFM delay/flight increased from 0.81 min/flight in March 2018 to 2.24 min/flight in April 2018, mainly due to ATC industrial action throughout the month;

Karlsruhe UAC en-route ATFM delay/flight increased from 1.14 min/flight in March 2018 to 1.50 min/flight in April 2018, mainly due to ATC capacity and staffing issues;

London TMA TC en-route ATFM delay/flight increased from 0.14 min/flight in March 2018 to 1.09 min/flight in April 2018, mainly due to on-going implementation of ExCDS.

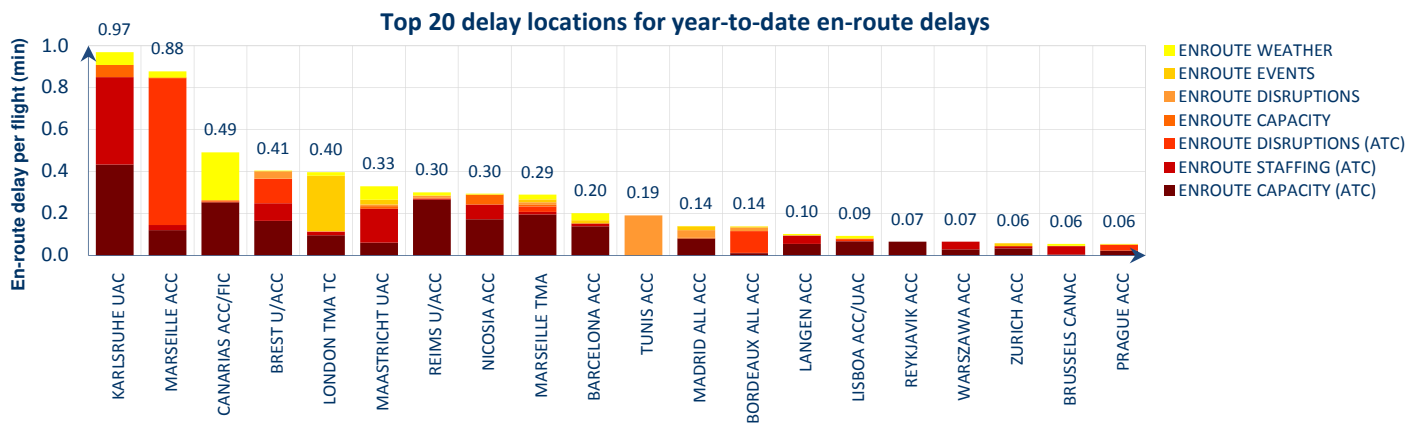
EN-ROUTE ATFM DELAY YEAR-TO-DATE



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.

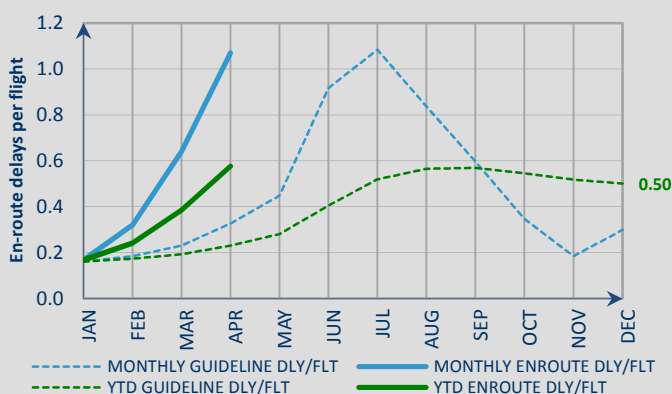
The top 20 en-route delay locations generated **53.0%** of the total ATFM (network) delay.

The top 5 en-route delay locations generated **38.8%** of the total ATFM (network) delay.

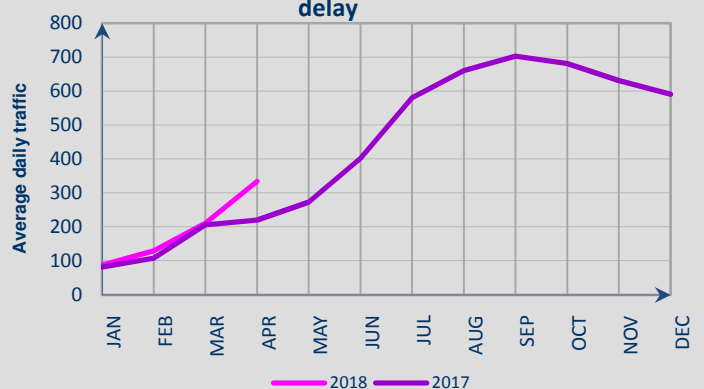


These are the top 20 average en-route ATFM delay per flight generating locations in 2018 with respect to the total ATFM delay. Figures are the average daily en-route delay in minutes for the individual locations.

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 area^{iv} in April was 1.07 min/flt, which is above the corresponding monthly guideline^v value of 0.33 min/flt.

Year To Date: The average YTD en-route ATFM delay per flight in 2018 in the NM area^{iv} is 0.58 min/flt which is above the corresponding guideline value of 0.23 min/flt.

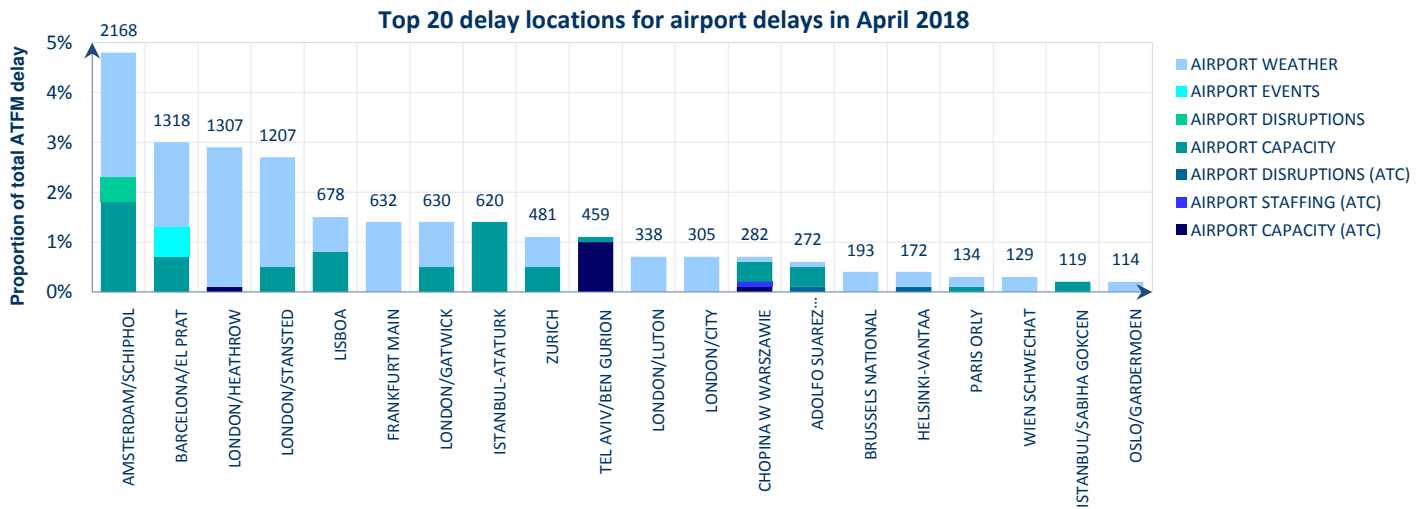
An average of 334 flights/day had an en-route ATFM delay of at least 15 minutes in 2018. The corresponding figure in 2017 was 220 flights/day.

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

- Karlsruhe UAC with 88 flights/day;
- Marseille ACC with 51 flights/day;
- London TC with 36 flights/day.

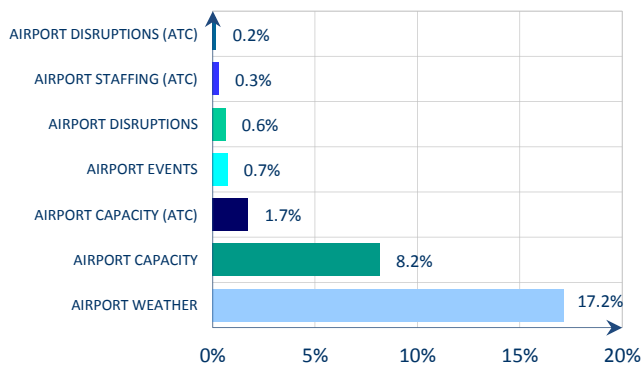
4. AIRPORT/TMA ATFM DELAYS

AIRPORT/TMA ATFM DELAY PER LOCATION



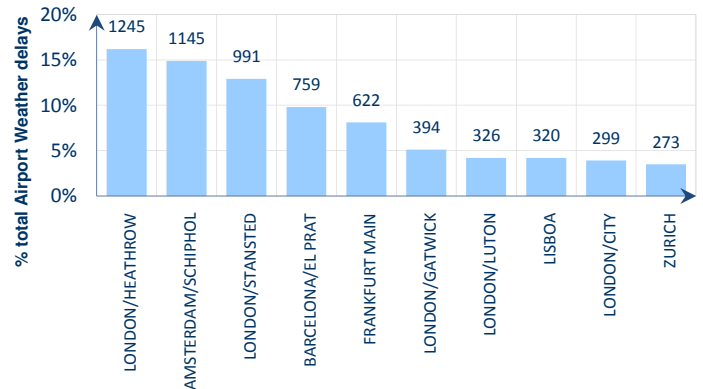
AIRPORT/TMA ATFM DELAY PER DELAY GROUPS

Reasons for airport delays in April 2018



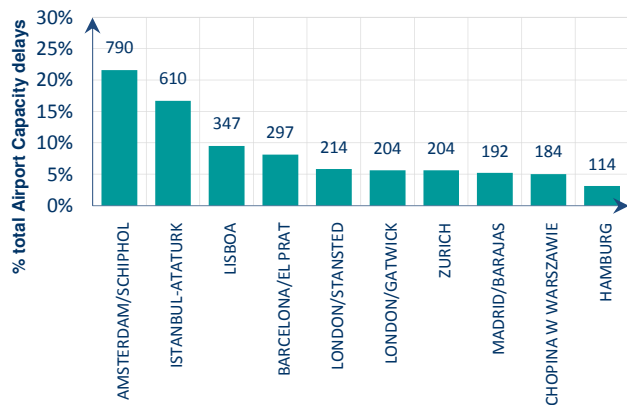
Airports accounted for 28.9% of all ATFM delays in April 2018, mainly due to airport weather and aerodrome capacity.

Top Airport Weather delays in April 2018



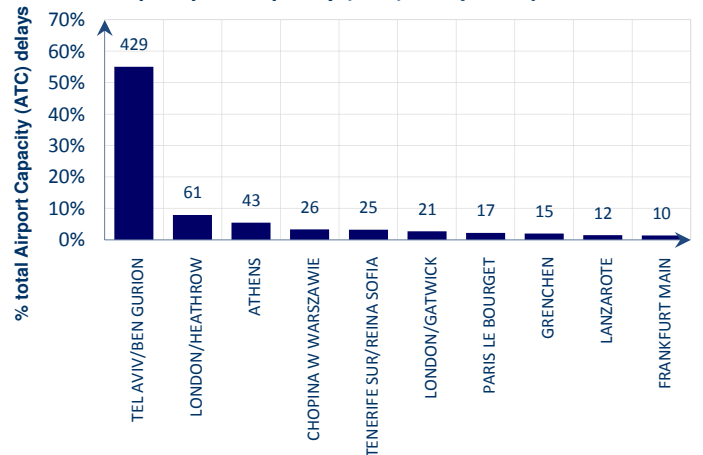
Strong winds impacted operations at London/Heathrow and Amsterdam/Schiphol airports throughout the month.

Top Airport Capacity delays in April 2018



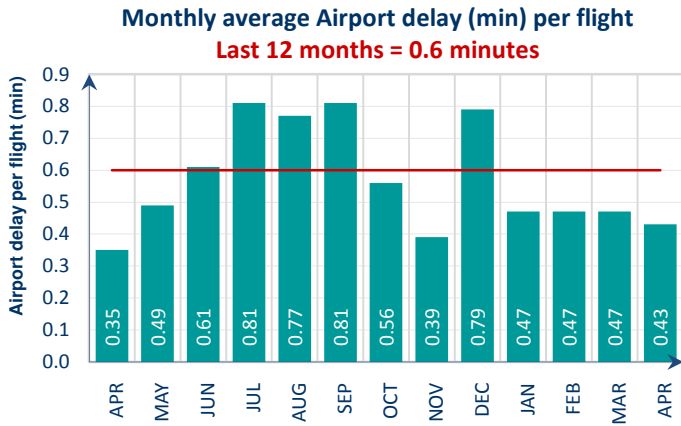
Capacity issues at Amsterdam/Schiphol due to high demand.

Top Airport Capacity (ATC) delays in April 2018

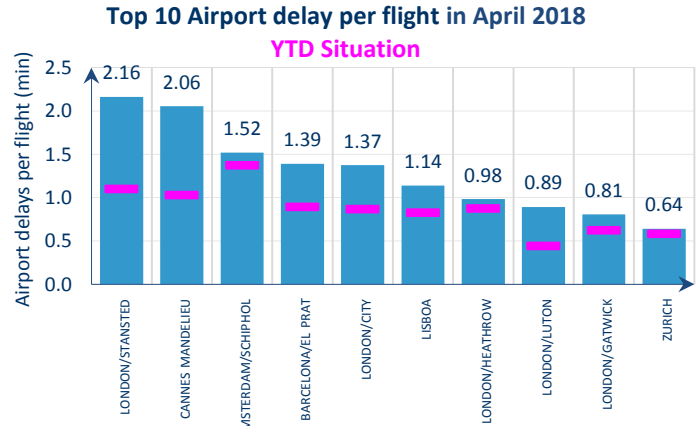


Airport ATC capacity delays at Tel Aviv/Ben Gurion airport throughout the month to facilitate departure flow.

AIRPORT/TMA ATFM DELAY PER FLIGHT

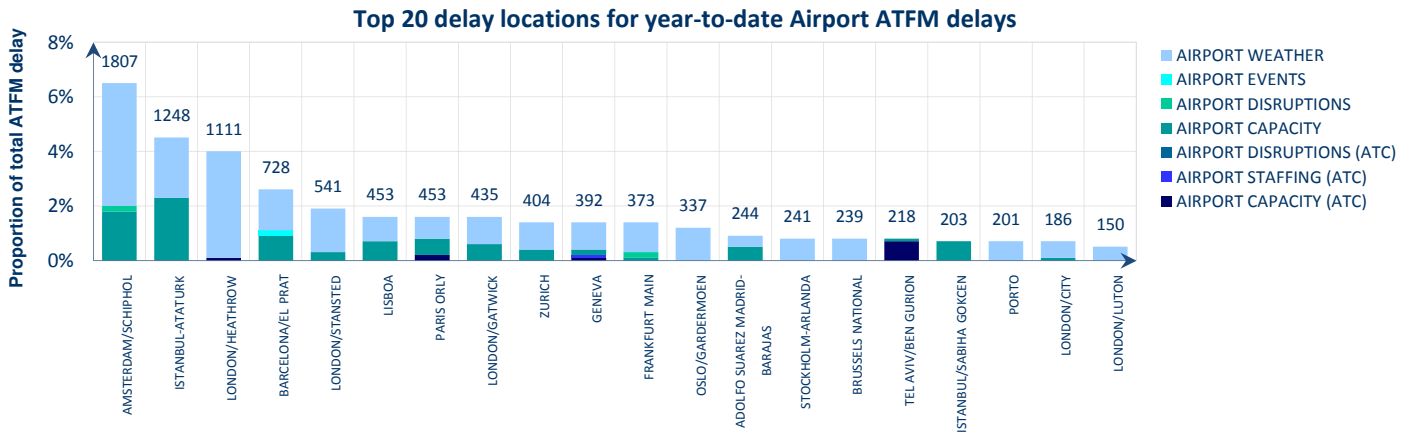


Average airport/TMA delay per flight increased from 0.35 min/ft in April 2017 to 0.43 min/ft in April 2018.

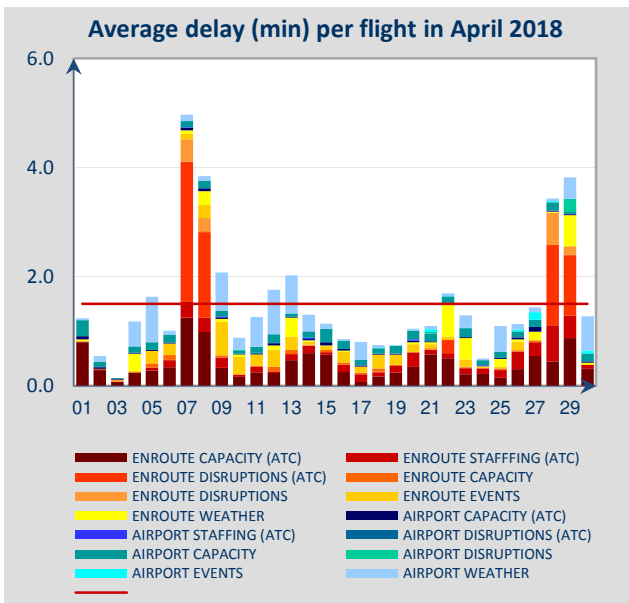


London/Stansted airport had the highest delay per flight in April mainly due to weather. Cannes airport delay per flight increased from 1.15 min/ft in April 2017 to 2.06 min/ft in April 2018 due to airport events.

AIRPORT/TMA ATFM DELAY YEAR-TO-DATE



5. DAILY EVOLUTION



Nine days in April 2018 had an average ATFM delay per flight exceeding 1.5 min:

07-08 April 2018: En-route disruptions delays in Marseille ACC due to ATC industrial action, with additional delays in Brest and Madrid ACCs; En-route ATC capacity delays in Karlsruhe, Reims and Maastricht ACCs; En-route ATC staffing issues in Brest, Maastricht and Karlsruhe ACCs;

09 April 2018: Weather impacted operations at London/Stansted, London/Gatwick, London/Luton and Manchester airports; Continuing planned implementation of ExCDS stripless system in London TMA and major military exercise in Karlsruhe UAC generated events delays; En-route ATC capacity delays in Karlsruhe and Reims ACCs;

28 April 2018: En-route disruptions delays in Marseille ACC due to ATC industrial action, with additional delays in Brest, Reims and Madrid ACCs; En-route ATC capacity issues in Brest, Maastricht and Karlsruhe ACCs; ATFM protective measures in Lisbon ACC due to FDPS technical issue; ATC staffing issues in Maastricht and Brest ACCs;

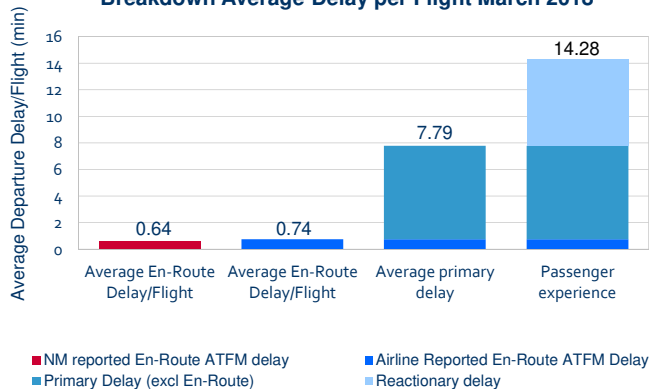
29 April 2018: En-route disruptions delays in Marseille ACC due to ATC industrial action; Thunderstorms impacted operations at Barcelona airport; En-route weather delays in Maastricht, Belgrade, Karlsruhe and Reims ACCs due to thunderstorms/turbulence; ATC capacity delays in Brest and Karlsruhe ACCs; ATC staffing issues in Karlsruhe and Maastricht UACs; Power failure affected Amsterdam/Schiphol airport and resulted in delays.

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 March 2017. 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.

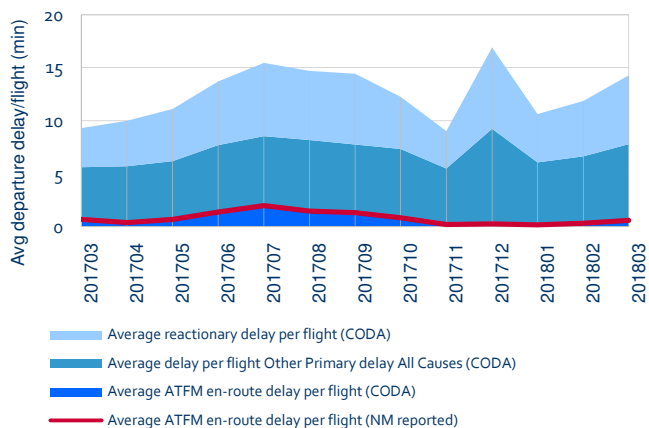
For instance, a flight with an ATFM delay may also have a handling delay absorbed within the ATFM delay. In the event of a long delay an example being during ATC industrial action a flight may keep its original schedule however when it's flight plan is submitted for example a day later any ATFM delay allocated may be lower or zero, in this case airline reported delay will exceed NM reported ATFM delay.

Breakdown Average Delay per Flight March 2018



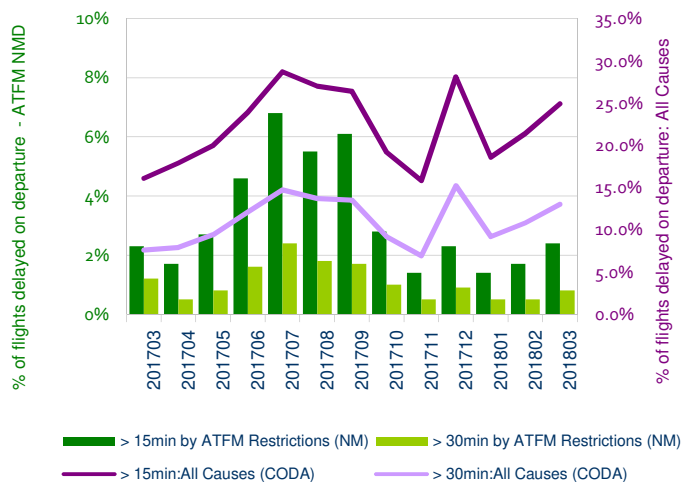
Based on airline data, the average departure delay per flight from ‘All-Causes’ was 14.28 minutes per flight, an increase in comparison to March 2017 where the average delay was 9.30 minutes per flight. Primary delays counted for 55% (or 7.80 min/ft), with reactionary delays representing the smaller remaining share of 45% at (6.49 min/ft).

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 was 0.74 minutes per flight. This was higher when compared to the NM reported average en-route ATFM delay of 0.64 minutes per flight in March 2017.

Percentage of Delayed Flights: ATFM & All Causes

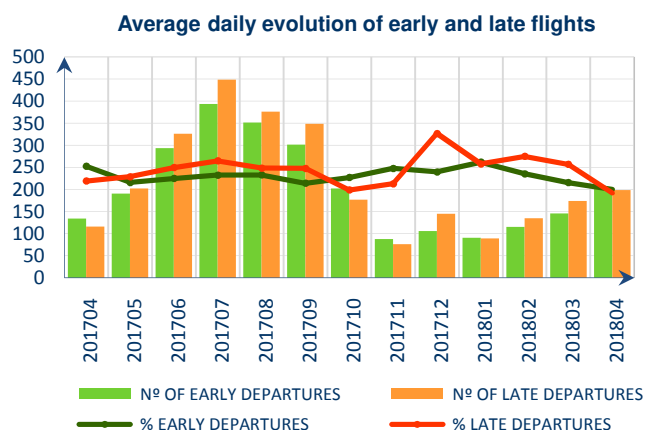


The percentage of flights delayed greater than 15 minutes from ‘All-Causes’ increased by 8.8 percentage points to 24.9%. Delays exceeding 30 minutes also increased, with 13.0% of flights delayed in March 2017.

For more information on CODA delays:

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

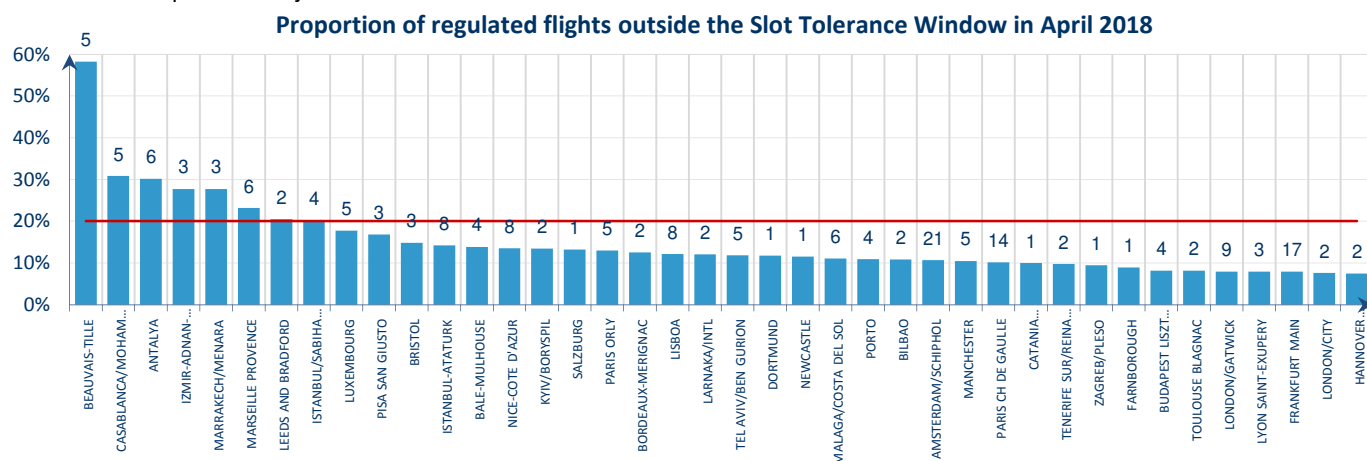
7. ATFM SLOT ADHERENCE



The percentage of early departures for April 2018 is 4.0% of regulated flights, which is a decrease of 1.1 percentage points compared to April 2017.

The percentage of late departures for April 2018 is 3.9% of regulated flights, which is an decrease of 0.5 percentage points compared to April 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.



8. SIGNIFICANT EVENTS AND ISSUES

PLANNED EVENTS

ACC

MAJOR AIRSPACE OR ATM SYSTEM IMPROVEMENT PROJECTS

PLANNED EVENTS

Three ACCs carried out activities involving airspace reorganisations and/or ATM system changes, during this reporting period.

Maastricht UAC implemented new sectorisation in Delta sector group (DECO) (on 29 March), not generating ATFM delay during the transition period in April. Originally, possible 10% capacity reduction had been planned until 19 April.

Agadir ACC started operations from a new ACC building with a new ATM system on 26 April not generating ATFM delays, despite anticipated capacity reductions of 15%.

London TC introduced ExCDS into the TMA South sectors, Heathrow and Gatwick sectors, on 04 April as planned, and generated 103,074 min of ATFM delay. Previously, 20% of capacity reductions had been planned for the said sectors. This amount of delay presented 80% of total delay (128,482min) by London TC in April.

ADDITIONAL INFORMATION

Barcelona ACC generated 7,866 minutes of ATFM delay due to the implementation of RNAV-1 in Barcelona TMA.

Bordeaux ACC generated 4,526 minutes of ATFM delay due to the reorganized interface with Barcelona airport.

Marseille TMA generated 1,077 minutes of ATFM delay due to the introduction of APP service at Rodez-Aveyron airport.

AIRPORTS

Local Plans in April

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

Special Events

- Air race at Cannes airport generated 1,722 minutes of ATFM delay from 18 to 22 April;
- Eurasia Airshow at Antalya airport from 23 to 29 April;
- Berlin Airshow at Berlin Schönefeld airport from 25 to 29 April.

Completed

- Runway maintenance at Amsterdam/Schiphol airport;
- Taxiway and/or apron improvements at Antalya airport;
- ILS maintenance at Warsaw airport;
- Terminal building maintenance at Iraklion airport.

Ongoing

- Runway maintenance at Bilbao, Budapest, Cologne, Dublin, Hamburg (in combination with apron works generated 2,245 minutes of ATFM delay), Istanbul/Sabiha Gökçen, Katowice, Krakow, London/Stansted, Nurnberg, Tenerife/Sur, Thessaloniki and Warsaw airports;
- Taxiway and/or apron improvements at Copenhagen, Dusseldorf, Frankfurt/Main, Hamburg, Helsinki, Ibiza, Lisbon, Palma de Mallorca, Paris/Orly, Stuttgart and Tenerife/Sur airports;
- ILS maintenance at Milan/Malpensa airport;
- Terminal building improvements/works at Budapest, Frankfurt/Main, Malta, Manchester and Oslo/Gardermoen airports.

DISRUPTIONS

Technical

- FDPS technical issue in Prague ACC on 22 April generated 6,997 minutes of ATFM delay;
- Power failure at Amsterdam airport and subsequent arrival regulations generated 6,917 minutes of ATFM delay on 29 April. Initial analysis suggests 140 expected movements did not take place;
- Radio failure in Brest ACC on 08 April resulted in 3,534 minutes of ATFM delay;
- A zero rate was applied at London/Stansted airport due to emergency repairs on active runway, generating 1,992 minutes of ATFM delay on 05 April;
- FDPS technical issue resulted in ATFM protective measure in Bratislava ACC on 28 April and generated 1,953 minutes of ATFM delay;
- FDPS technical issue resulted in ATFM protective measure in Lisbon ACC on 28 April and generated 1,588 minutes of ATFM delay.

Industrial Action

- Marseille ACC industrial action from 0430 UTC on Saturday 07 April to 0430 UTC on Monday 09 April generated 66,612 minutes of en-route ATFM delay in France; Neighbouring states generated 10,526 minutes due to ATFM protective measures;
- Marseille ACC industrial action from 0430 UTC on Saturday 28 April to 0430 UTC on Monday 30 April generated 46,746 minutes of en-route ATFM delay in France; Neighbouring states generated 5,025 minutes due to ATFM protective measures;
- Air France industrial action on 10, 11, 17, 18, 23 and 24 April led to approximately 120 flight cancellations.
- Industrial action by Ground Handling and other airport staff on 10 April resulted in a reduction in movements at a number of German airports, with zero rate ATFM measures applied for Koeln/Bonn between 0625-0900UTC and Bremen between 0530-0900UTC with minimal ATFM delay generated by either measure.

Network

On the 3 April the Network Manager suffered an outage of its technical system affecting primarily its ATFM and CCAMS operational services.

The outage created a large gap in the NM operational archive, exact figures of the network impact do not exist. However, the number of flights that took place on the day of the outage are coherent with the expected number of flights for this day. This suggests that the number of cancelled flights was relatively low. Furthermore analysis of alternative data at the top 50 airports suggests that traffic patterns were disrupted between 12.00 and 18.00 UTC, which is coherent with the time of the outage.

Scheduled departure delays averaged between 4 and 13 minutes during the period of disruption, compared to the expected 2-4 minutes.

NM will review the outage impact as part of the further follow up of the event.

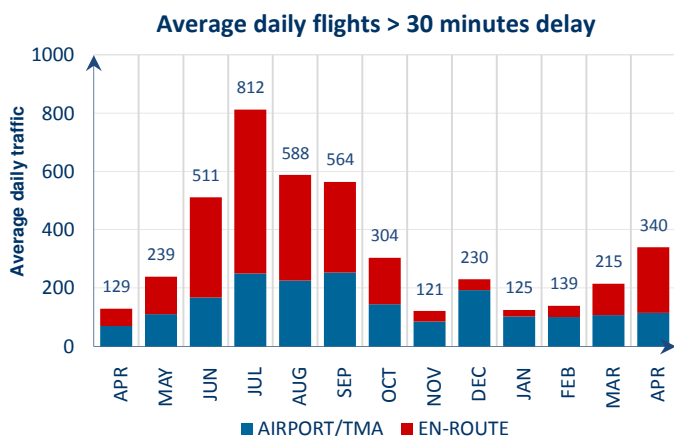
9. NM ADDED VALUE

FLIGHTS WITH DELAY > 30'

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

In April 2018, 66.2% of flights with more than 30 minutes of ATFM delay were en-route and 33.8% were airport.

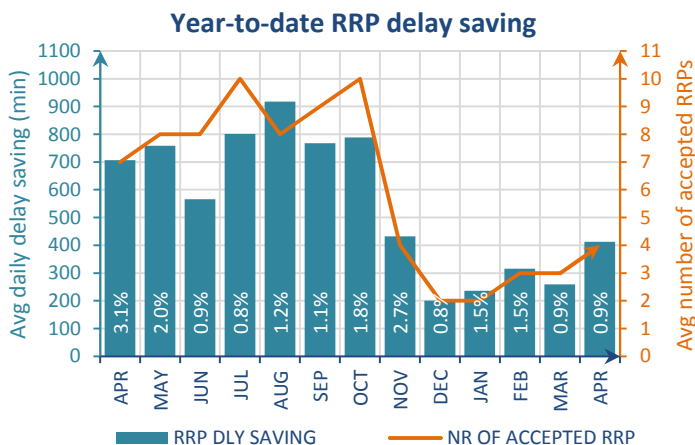
An average 79 flights per day had their delay reduced to less than 30 min by NM.



RRP DIRECT DELAY SAVINGS

On average 4 RRPs/day were executed saving 413 min/day, accounting for 0.9% of ATFM delays.

This graph shows the actual daily averages for the previous 13 months' period^{vi}.



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

i On the 03 April the Network Manager suffered an outage of its technical system affecting its operational services, which resulted in the non-availability of traffic data. Therefore the NOR traffic data for this date are based on guideline estimated traffic.

ii See Notice on page 2 for more information on traffic and delay comparison.

iii Internals, international arrivals and departures, excluding overflights.

iv See Notice on page 2 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).

vi 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.