



**Network Manager**  
nominated by  
the European Commission



# Monthly Network Operations Report

**Analysis – January 2016**



# 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.

### NM Area

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

### Regulation Reason Groupings

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

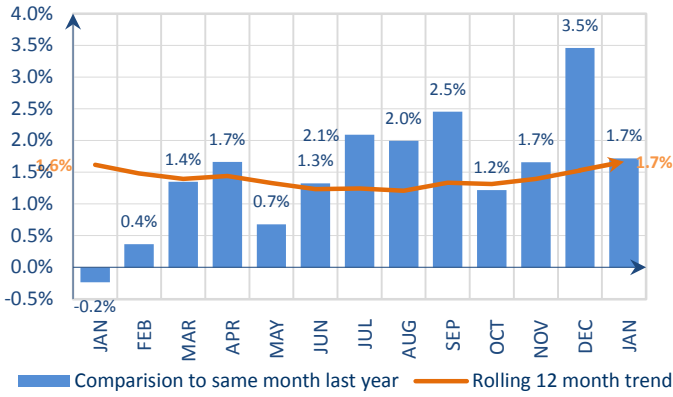
	EN-ROUTE CAPACITY (ATC)		AIRPORT CAPACITY (ATC)
	EN-ROUTE STAFFING (ATC)		AIRPORT STAFFING (ATC)
	EN-ROUTE DISRUPTIONS (ATC)		AIRPORT DISRUPTIONS (ATC)
	EN-ROUTE CAPACITY		AIRPORT CAPACITY
	EN-ROUTE DISRUPTIONS		AIRPORT DISRUPTIONS
	EN-ROUTE EVENTS		AIRPORT EVENTS
	EN-ROUTE WEATHER		AIRPORT WEATHER

### Reporting Assumptions and Descriptions

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

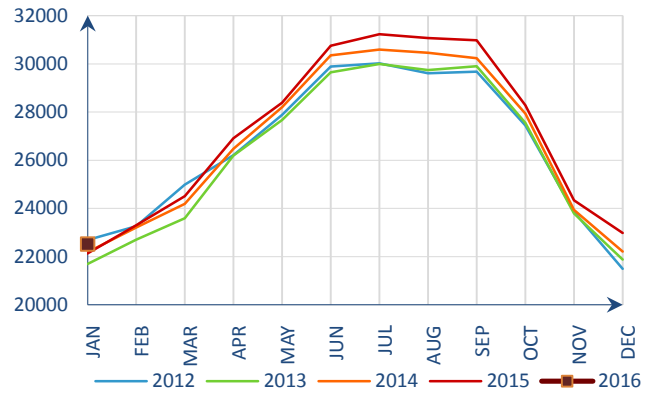
# 1. TOTAL TRAFFIC

Monthly traffic trend



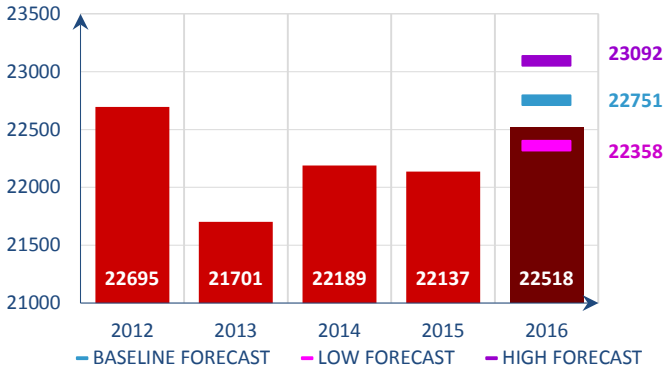
Traffic increased by 1.7% in January 2016<sup>i</sup>.

Average daily traffic for last 5 Years



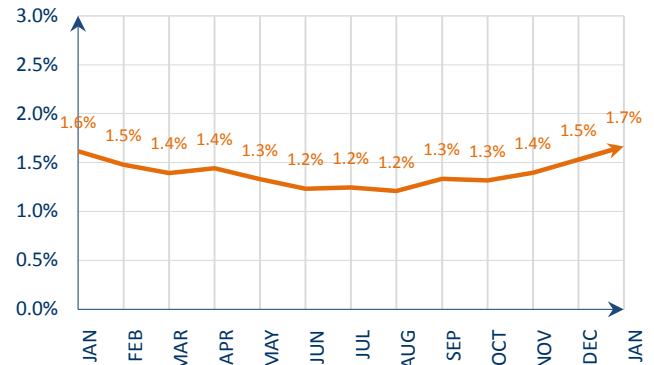
Average daily traffic in January 2016 was the highest January traffic since 2013.

Average daily traffic in January for last 5 Years  
Forecast dated 2015-09



The traffic increase of 1.7% for January was just above the low forecast updated in September 2015.

12 months rolling traffic trend



This graph shows the variation in average daily traffic for the last 12-month period relative to previous 12-months. The average daily traffic from February 2015 to January 2016 was 1.7% higher than the average from February 2014 to January 2015. This increase is the highest since January 2015.

The traditional scheduled and low-cost segments were the only drivers of growth in January 2016 with an increase of 2% and 3.3% respectively<sup>i</sup>. The charter segment continued to be impacted by the bankruptcy of Transaero last October but also by a few airlines changing their business model, and declined by 15.3%. The business aviation and all-cargo segments decreased by 5.8% and 1.9% respectively in January 2016.

Ten states contributed to the growth of local traffic<sup>ii</sup> in Europe in January and saw UK and Turkey as the top contributors each with circa 160 extra flights per day. Spain was in the top 3 and added 150 flights per day to the network. Denmark, Ireland and Canary Islands contributed each to 50 extra daily flights. Lisbon FIR, Poland, the Netherlands and Italy completed the list and added a combined total of 130 daily flights in January 2016. France removed 50 daily flights from the network which led to a 2% decrease in the state's local traffic and was partly due to industrial action on 26 January. As was the case all months last year, Norway continued to remove flights from the network with 44 fewer daily flights in January 2016.

The aircraft operators which added the most flights to the network on a daily basis in January 2016 were Ryanair (+226 flts/day), Turkish Airlines (+86 flts/day), Pegasus (+65 flts/day), Wizz Air (+59 flts/day) and easyJet (+54 flts/day).

The United States were the main extra-European partner with a daily average of 700 flights on flows between Europe and the United States, an increase of 5% in January 2016. Traffic flows between Europe and the Middle-East (United Arab Emirates, Israel, Qatar and Saudi Arabia) increased by 8% in January 2016 with the biggest progression on the flows between Europe and Qatar (+17% compared with January 2015).

Extra-European traffic to and from the Russian Federation continued to decline and was down by 22% in January 2016 to an average of 490 daily flights. Traffic flows between European states and Egypt decreased by 26% down to 140 flights per day on average in January 2016. For more information on EUROCONTROL Forecasts, go to <http://www.eurocontrol.int/statfor/sid>.

Four of the top ten airports had positive traffic growth. Overall, the largest traffic increases in January 2016 were at Istanbul/Sabiha Gökçen, London/Luton, Cologne/Bonn, Dublin and Ankara airports. The largest traffic decreases were at Bergen/Flesland, Hamburg and Vienna/Schwechat airports. French ATC industrial action on 26 January partially accounts for the decrease at the French airports.

Six of the top ten aircraft operators had more traffic. Overall, the operators with the highest traffic growth were Qatar, Wizz Air, Pegasus, Ukraine International, Ryanair and Iberia Express. Germanwings, Norwegian Air Shuttle and Aegean airlines recorded the highest traffic decrease. French ATC industrial action on 26 January partially accounts for the variation by the French carriers.

The continuing transfer of flights between Lufthansa, Germanwings and Eurowings accounts for the variation of the German carriers. The traffic variation of AFR and HOP!, Flybe (Finland) and Finnair, Norwegian Air Shuttle and Norwegian Air International and Malmo Aviation and Braathens Regional is due to the transfer of flights between the aircraft operators. Pegasus recorded an increase in flights due to an increase in fleet size. The use of the American Airlines designator by US Airways from April 2015 accounts for some of the traffic increase by American Airlines.

N°	ADEP	ADEP NAME	201601	%	N°	ICAO	AIR OPERATOR	201601	%
1	EGLL	LONDON/HEATHROW	600	-0.5%	1	RYR	RYANAIR	1464	18.1%
2	LFPG	PARIS CD DE GAULLE	575	-1.4%	2	DLH	DEUTSCHE LUFTHANSA	1173	-1.7%
3	LTBA	ISTANBUL-ATATURK	575	1.8%	3	THY	TURKISH AIRLINES	1148	8.1%
4	EDDF	FRANKFURT MAIN	554	-1.1%	4	EZY	EASYJET	888	6.4%
5	EHAM	AMSTERDAM/SCHIPHOL	548	3.5%	5	AFR	AIR FRANCE	805	-5.2%
6	LEMD	ADOLFO SUAREZ MADRID-BARAJAS	463	5.4%	6	SAS	SCANDINAVIAN AIRLINES SYSTEM	698	3.8%
7	EDDM	MUENCHEN	445	-0.3%	7	BAW	BRITISH AIRWAYS	612	2.1%
8	LIRF	ROMA/FIUMICINO	362	-1.8%	8	AZA	ALITALIA	522	5.5%
9	LSZH	ZURICH	322	-0.6%	9	KLM	KLM ROYAL DUTCH AIRL	521	-1.9%
10	LEBL	BARCELONA/EL PRAT	312	5.5%	10	BER	AIR BERLIN, INC.	398	-6.3%
11	EKCH	KOBENHAVN/KASTRUP	312	8.7%	11	PGT	PEGASUS HAVA TASI	373	21.0%
12	EGKK	LONDON/GATWICK	300	5.0%	12	SWR	SWISS INTERNATIONAL	372	1.1%
13	ENGM	OSLO/GARDERMØEN	286	0.5%	13	WIF	WIDERØE	345	0.5%
14	LTFJ	ISTANBUL/SABIHA GOKCEN	277	20.3%	14	VLG	VUELING AIRLINES SA	329	3.5%
15	LFPO	PARIS ORLY	271	-2.3%	15	WZZ	WIZZ AIR	327	22.0%
16	LOWW	WIEN SCHWECHAT	269	-3.2%	16	BEE	JERSEY EUROPEAN T/A FLYBE	320	-1.3%
17	EBBR	BRUSSELS NATIONAL	269	0.4%	17	NAX	NORWEGIAN AIR SHUTTLE	294	-27.0%
18	ESSA	STOCKHOLM-ARLANDA	268	1.8%	18	TAP	TAP/AIR PORTUGAL	284	-0.6%
19	LSGG	GENEVA	247	0.2%	19	FIN	FINNAIR OY	279	101.3%
20	EIDW	DUBLIN	241	10.9%	20	GWI	GERMAN WINGS	266	-28.3%
21	EDDL	DUESSELDORF	232	-1.5%	21	AUA	AUSTRIAN AIRLINES	260	-0.9%
22	EGSS	LONDON/STANSTED	217	8.4%	22	AFL	AEROFLOT-RUSSIAN	239	0.2%
23	EDDT	BERLIN-TEGEL	213	0.7%	23	HOP	HOP (MERGE OF BZH + RAE + RLA)	218	7.5%
24	EFHK	HELSINKI-VANTAA	209	3.1%	24	AEA	AIR EUROPA	211	7.2%
25	LPPT	LISBOA	209	4.6%	25	IBE	IBERIA	208	9.5%
26	EGCC	MANCHESTER	191	4.8%	26	LOT	LOT-POLISH AIRLINES	193	12.0%
27	LIMC	MILANO MALPENSA	185	1.7%	27	ANE	AIR NOSTRUM	190	-0.2%
28	LGAV	ATHINA/ELEFTHERIOS VENIZELOS	182	6.6%	28	UAE	EMIRATES	189	13.7%
29	EPWA	CHOPINA W WARSZAWIE	174	0.5%	29	RAM	ROYAL AIR MAROC	173	6.1%
30	EDDH	HAMBURG	166	-3.8%	30	BEL	BRUSSELS AIRLINES	172	-1.4%
31	GCLP	GRAN CANARIA	154	5.8%	31	EIN	AER LINGUS TEORANTA	161	5.0%
32	EDDK	KOELN-BONN	151	12.3%	32	QTR	QATAR AIRWAYS COMP.	158	24.4%
33	LIML	MILANO Linate	140	-2.1%	33	AEE	AEGEAN AIRLINES	148	-20.4%
34	LKPR	PRAHA Ruzyně	138	7.6%	34	BCS	EUROPEAN AIR TRANSP.	127	1.7%
35	EGGW	LONDON/LUTON	134	15.8%	35	IBK	NORWEGIAN AIR INTERNATIONAL	121	0.0%
36	EDDS	STUTTGART	128	4.2%	36	EWG	EUROWINGS AG	117	
37	LFLL	LYON SAINT-EXUPERY	126	-1.8%	37	AUI	UKRAINE INTERNATIONAL	105	19.4%
38	LTAC	ANKARA-ESENBOGA	126	10.5%	38	UAL	UNITED AIRLINES INC.	103	-8.0%
39	EGPH	EDINBURGH	125	0.5%	39	BRX	BRAATHENS REGIONAL	103	112.9%
40	LROP	BUCURESTI/HENRI COANDA	124	7.3%	40	EZS	EASY JET SWITZERLAND	100	-7.2%
41	LFMN	NICE-COTE D'AZUR	122	-0.2%	41	SHT	BAW SHUTTLE	98	-1.4%
42	EGBB	BIRMINGHAM	115	4.5%	42	BTI	AIR BALTIC CORPORAT.	97	4.8%
43	LFML	MARSEILLE PROVENCE	114	0.0%	43	DAL	DELTA AIR LINES INC.	95	1.4%
44	LLBG	TEL AVIV/BEN GURION	114	5.6%	44	TOM	THOMSON FLY LTD	93	-0.1%
45	ENBR	BERGEN/FLESLAND	107	-6.1%	45	LOG	LOGANAIR	93	8.3%
46	LHBP	BUDAPEST LISZT FERENC INT.	107	3.5%	46	DAH	AIR ALGERIE	86	1.6%
47	LFBO	TOULOUSE BLAGNAC	106	-2.0%	47	ROT	TAROM	86	-2.1%
48	LEPA	PALMA DE MALLORCA	105	0.0%	48	IBS	IBERIA EXPRESS	83	16.3%
49	EDDB	SCHOENEFELD-BERLIN	105	0.0%	49	NJE	NETJETS	82	1.8%
50	GMMN	CASABLANCA/MOHAMMED	103	-0.6%	50	TRA	TRANSAVIA.COM	82	11.5%
<b>TOTALS and % TOTAL TRAFFIC</b>			<b>11918</b>	<b>59.6%</b>	<b>TOTALS and % TOTAL TRAFFIC</b>			<b>15609</b>	<b>69.3%</b>

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

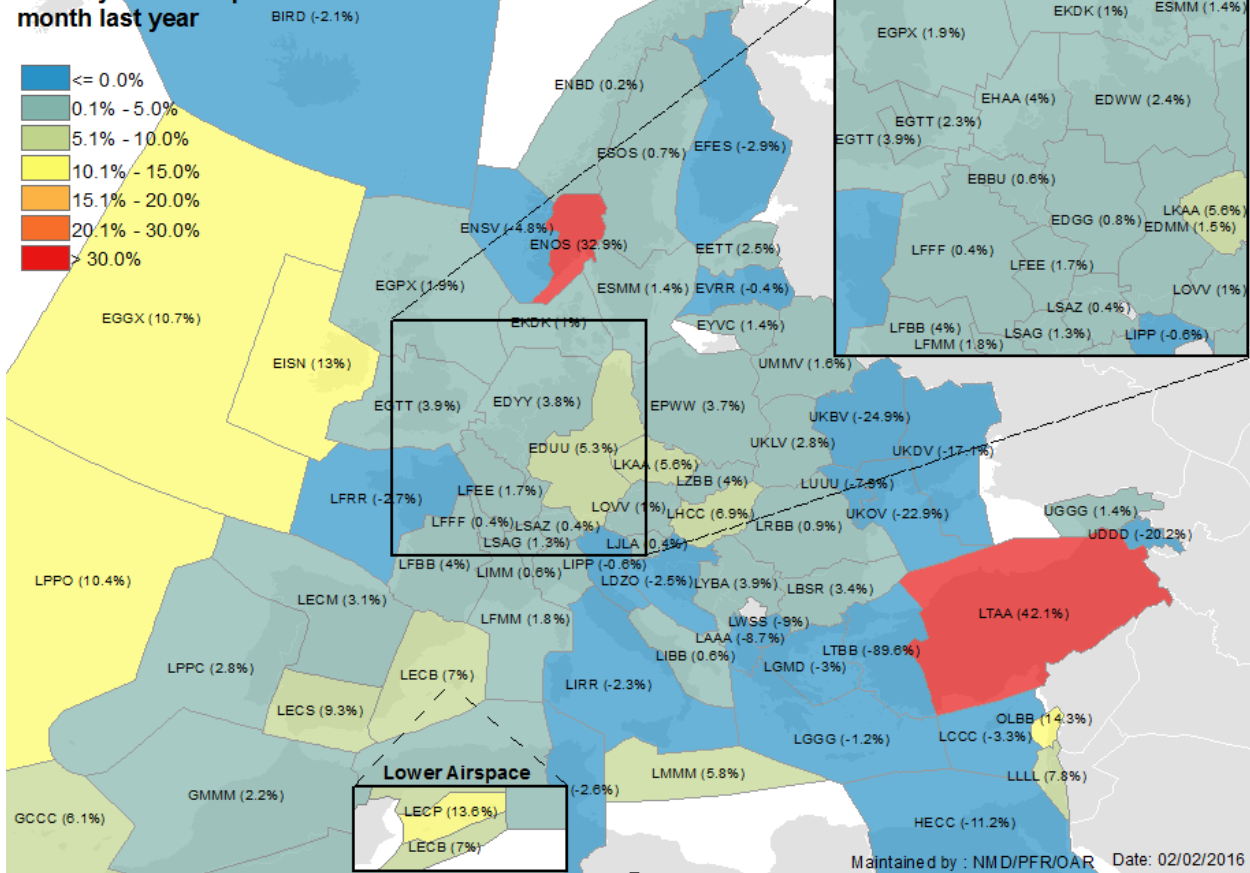
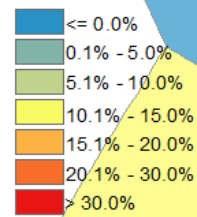
Top 50 Air Operators with average daily traffic and percentage compared to same period of previous year

N°	ICAO	AIR OPERATOR	201601	%
		Unidentified	1540	-7.4%

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

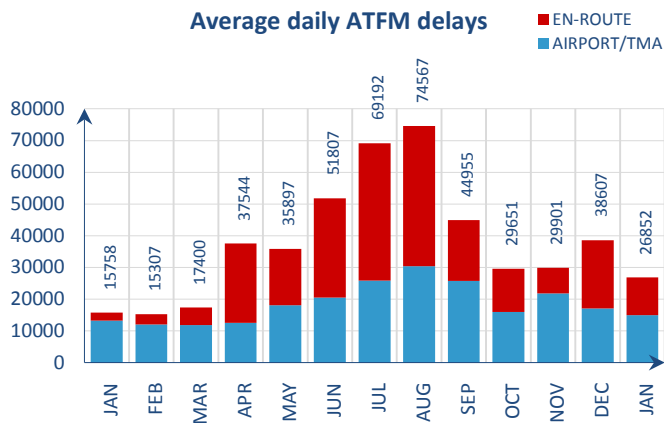
Percentage change in traffic during January 2016 compared to the same month last year



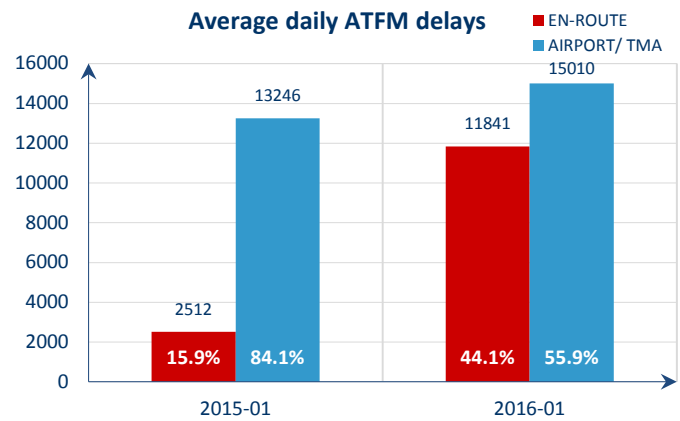
Nº	ASP ID	ASP NAME	201601	%	Nº	ASP ID	ASP NAME	201601	%
1	BIRDACC	REYKJAVIK ACC	274	-2.1%	39	LFBALL	BORDEAUX ALL ACC	1782	4.0%
2	DAAAACC	ALGERS ACC	438	4.8%	40	LFEACC	REIMS U/ACC	2104	1.7%
3	DTTCAACC	TUNIS ACC	225	-2.6%	41	LFFFALL	PARIS ALL ACC	2718	0.4%
4	EBBUACC	BRUSSELS CANAC	1299	0.6%	42	LFMMACC	MARSEILLE ACC	2014	1.8%
5	EDGGALL	LANGEN ACC_FIR	2746	0.8%	43	LFMMAPP	MARSEILLE TMA	595	-1.0%
6	EDMMACC	MUNCHEN ACC	2443	1.5%	44	LFRACC	BREST U/ACC	1883	-2.7%
7	EDUUUAC	KARLSRUHE UAC	4000	5.3%	45	LGGGACC	ATHINAI CONTROL	851	-1.2%
8	EDWWACC	BREMEN ACC	1422	2.4%	46	LGMACC	MAKEDONIA CONTROL	603	-3.1%
9	EDYYUAC	MAASTRICHT UAC	4053	3.8%	47	LHCCACC	BUDAPEST ACC	1517	6.9%
10	EETTACC	TALLIN ACC	456	2.5%	48	LIBBACC	BRINDISI ACC	490	0.6%
11	EFESACC	TAMPERE ACC	398	-2.9%	49	LIMMACC	MILANO ACC	1678	0.6%
12	EGXOACA	SHANWICK OACC	1044	10.8%	50	LIPPACC	PADOVA ACC	1240	-0.6%
13	EGPXALL	SCOTTISH ACC	2028	1.9%	51	LIRRACC	ROMA ACC	1596	-2.3%
14	EGTTACC	LONDON ACC	4335	3.9%	52	LJLAACC	LJUBLJANA ACC	480	0.4%
15	EGTTTACC	LONDON TMA/TC	3141	2.2%	53	LKAAACC	PRAGUE ACC	1620	5.6%
16	EHAACC	AMSTERDAM ACC(245-)	1286	4.0%	54	LLLLACC	TEL AVIV ACC	289	7.8%
17	EIDWACC	DUBLIN ACC	507	10.0%	55	LMMMACC	MALTA ACC	238	5.8%
18	EISNACC	SHANNON ACC	957	13.0%	56	LOWVACC	WIEN ACC	1575	1.0%
19	EKDKACC	COPENHAGEN ACC	1298	1.0%	57	LPPCACC	LISBOA ACC/UAC	1202	2.8%
20	ENBDACC	BODO ACC	545	0.2%	58	LPPDOAC	SANTA MARIA OACC	351	10.4%
21	ENOSACC	OSLO ATCC	1078	32.9%	59	LQSBACC	BOSNIA-HERZEGOVINA	68	1.5%
22	ENSVACC	STAVANGER ATCC	570	-4.8%	60	LRBBACC	BUCURESTI ACC	1333	0.9%
23	EPWWACC	WARSAWA ACC	1599	3.7%	61	LSAGACC	GENEVA ACC	1382	1.3%
24	ESMMACC	MALMO ACC	1193	1.4%	62	LSAZACC	ZURICH ACC	1659	0.4%
25	ESOSACC	STOCKHOLM ACC	918	0.7%	63	LTAACC	ANKARA ACC	2859	42.2%
26	EVRACC	RIGA ACC	560	-0.4%	64	LTBBACC	ISTANBUL ACC	206	-89.6%
27	EYVACC	VILNIUS ACC	521	1.4%	65	LUUUACC	CHISINAU ACC	82	-7.9%
28	GCCCACC	CANARIAS ACC/FIC	836	6.1%	66	LWSSACC	SKOPJE ACC	192	-9.0%
29	GMMMACC	CASABLANCA ACC	1004	2.2%	67	LYBAACC	BEOGRADE ACC	1083	3.9%
30	HECCACC	CAIRO ACC	612	-11.2%	68	LZBBACC	BRATISLAVA ACC	964	4.0%
31	LAAACC	TIRANA ACC	334	-8.7%	69	OLBBACC	BEIRUT ACC	144	14.3%
32	LBSRACC	SOFIA ACC	1501	3.4%	70	UDDACC	YEREVAN ACC	87	-20.2%
33	LCCCACC	NICOSIA ACC	698	-3.3%	71	UGGGACC	TBILISI ACC	299	1.4%
34	LDZOACC	ZAGREB ACC	863	-2.5%	72	UKBVACC	KIEV ACC	248	-24.9%
35	LECBACC	BARCELONA ACC	1384	7.0%	73	UKDVACC	DNIPROPETROVSK ACC	34	-17.1%
36	LECMALL	MADRID ALL ACC	2290	3.1%	74	UKLVACC	L'VIV ACC	184	2.8%
37	LECPACC	PALMA ACC	284	13.6%	75	UKOVACC	ODESSA ACC	131	-22.9%
38	LECSACC	SEVILLA ACC	776	9.3%	76	UMMVACC	MINSK ACC	629	1.6%

Traffic increased in Ankara, Oslo, Palma, Shannon, Shanwick and Dublin ACCs. Airspace realignment in Oslo and Stavanger ACCs, and Ankara and Istanbul ACCs accounts for the variation. Increased usage of the Oceanic ATS routes by traffic avoiding Brest ACC and the French ATC industrial action accounts for the variation in Shannon, Shanwick and Santa Maria ACCs. Increased usage of more southerly routes for traffic routing to/from Turkey accounts for the increase in Malta ACC. Traffic to/from Tunisia, between European States and Egypt and between Russian Federation and Egypt remains suppressed following events in 2015.

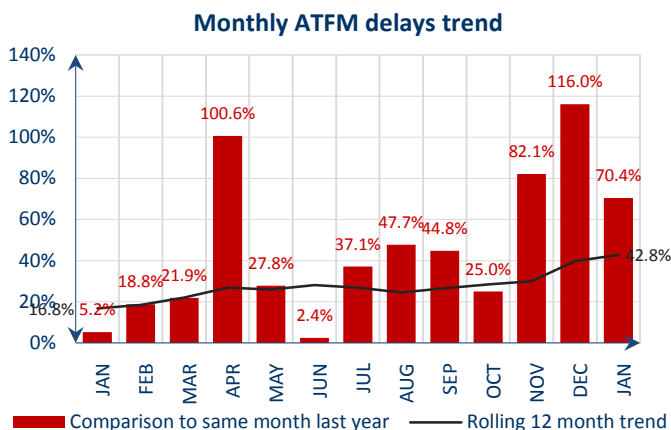
## 2. ATFM DELAY AND ATTRIBUTIONS



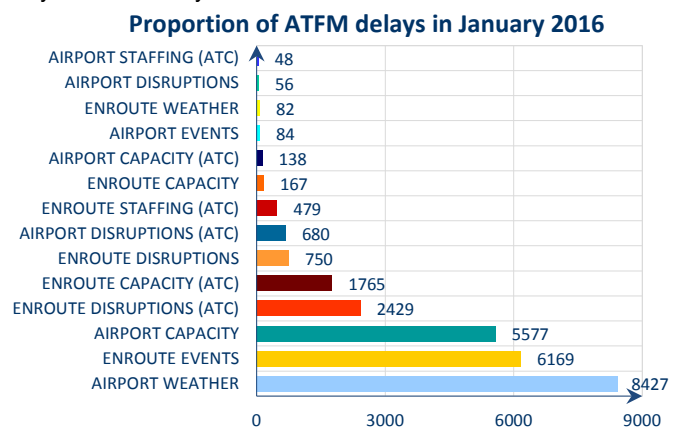
Total ATFM delays increased by 70% in January 2016<sup>1</sup>.



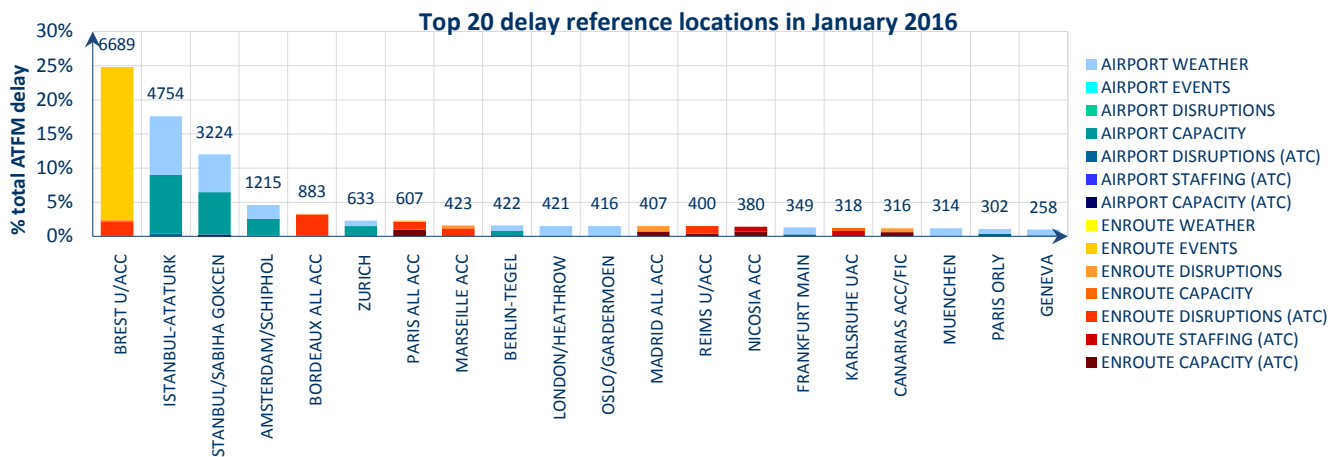
En-route ATFM delays increased by 371% and airport ATFM delays increased by 13.3%.



The rolling 12-month trend shows that ATFM delay was 42.8% higher during the period February 2015 – January 2016 compared to February 2014 – January 2015.



Airport weather (31.4%), en-route events (23%) and airport capacity (20.8%) were the main causes of ATFM delays in January 2016.



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

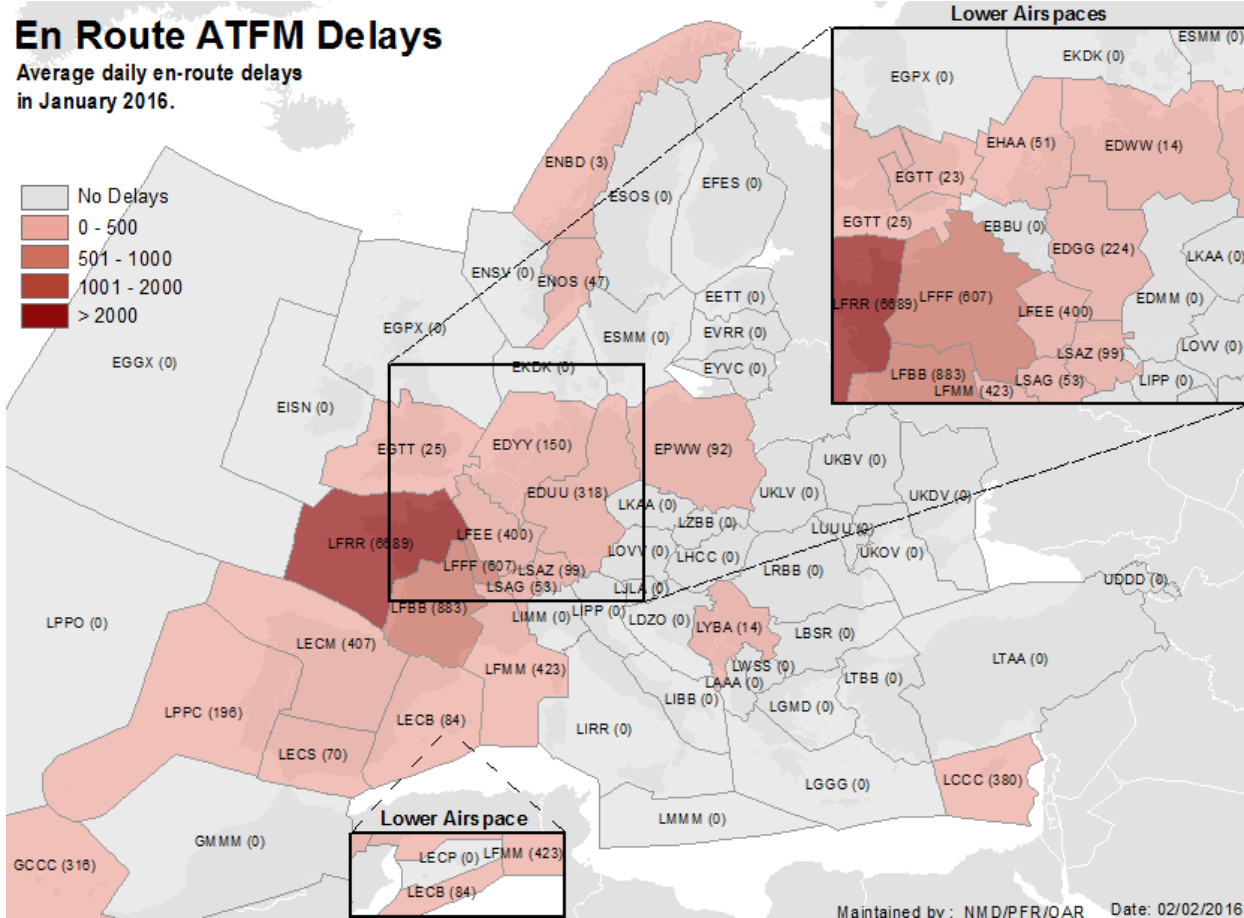
- Implementation of ERATO ATM system generated significant ATFM delays in Brest ACC with additional delays generated in Madrid and Bordeaux ACCs with some delays (in conjunction with increased traffic demand) in Canarias ACC;
- French ATC industrial action on 26 January resulted in delays for the French ACCs and airports with additional delay generated by Madrid ACC due to ATFM protective measures;
- Seasonal weather (fog, strong winds, snow) impacted operations particularly at Istanbul/Ataturk, Istanbul/Sabiha Gökçen, Amsterdam/Schiphol, Zurich, Berlin/Tegel (in conjunction with airport capacity delays due to de-icing), London/Heathrow and Oslo/Gardermoen airports;
- Airport capacity delays at Istanbul/Ataturk, Istanbul/Sabiha Gökçen, Amsterdam/Schiphol and Zurich airports; Priority Departure (PRIDEP) trial generated some airport capacity delays at Zurich;
- En-route ATC capacity delays at Paris, Madrid, Nicosia and Canarias ACCs; en-route ATC staffing issues in Karlsruhe and Nicosia ACCs;
- Technical issues at Istanbul/Ataturk and Istanbul/Sabiha Gökçen airports.

### 3. EN-ROUTE ATFM DELAYS

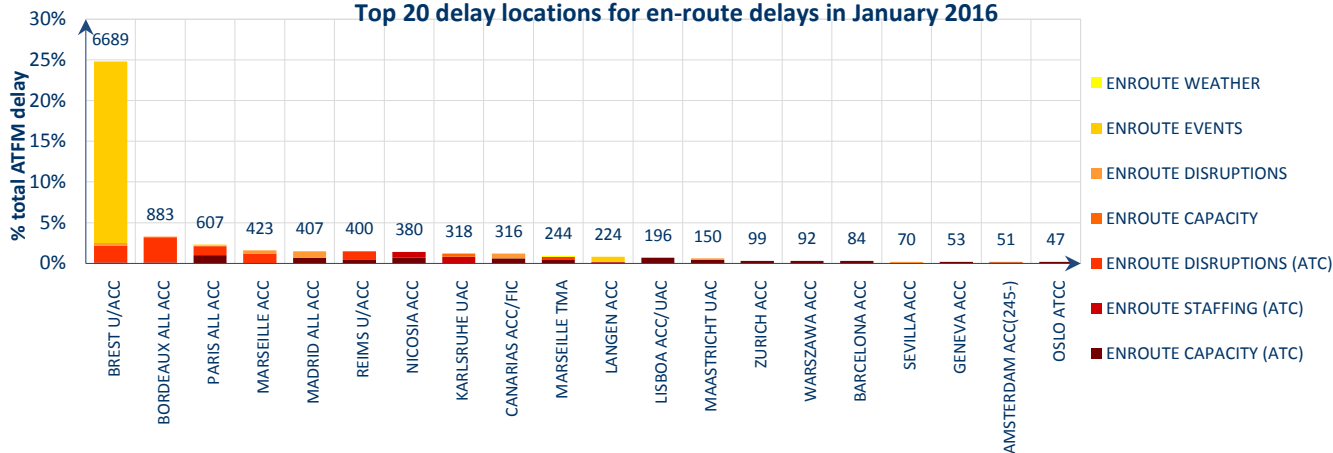
#### EN-ROUTE ATFM DELAY PER LOCATION

##### En Route ATFM Delays

Average daily en-route delays in January 2016.



Top 20 delay locations for en-route delays in January 2016



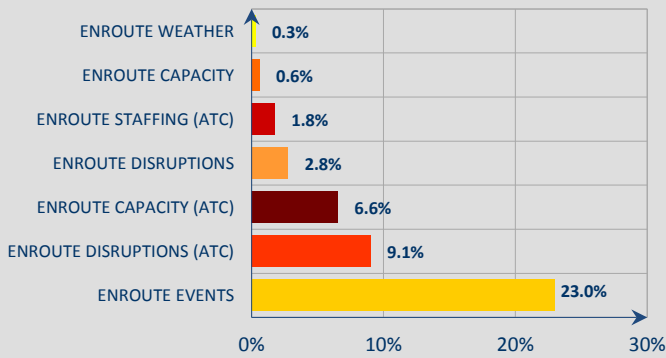
These are the top 20 en-route delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

The top 20 en-route delay locations generated **43.6%** of the monthly total (network) ATFM delay. The top 5 en-route delay locations generated **33.7%** of the monthly total (network) ATFM delay.

Brest ACC generated **24.9%** of the monthly total (network) ATFM delay in January 2016; the remaining 19 en-route delay locations in the top 20 generated **19%** of the monthly total (network) ATFM delay in January 2016.

# EN-ROUTE ATFM DELAY PER DELAY GROUP

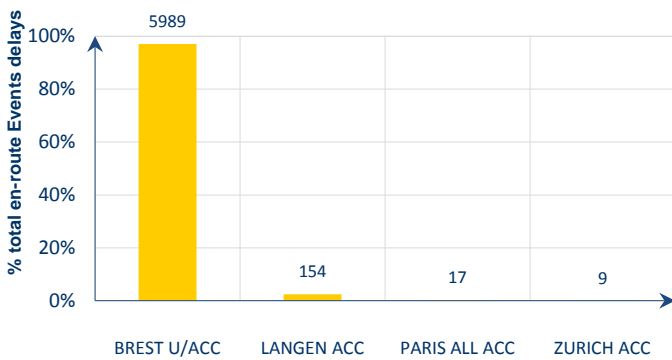
Reasons for en-route delays in January 2016



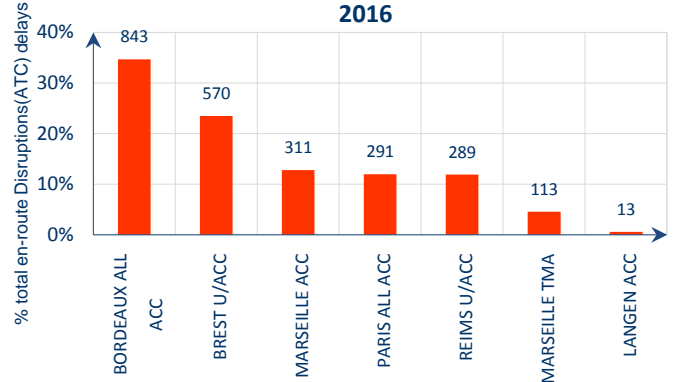
En-route delays accounted for 44.1% of all ATFM delays. Most of this delay was caused by en-route events, en-route ATC disruptions and en-route ATC capacity issues as explained in detail below. The other causes were:

- En-route Disruptions*; delays in Madrid and, to a lesser extent, Canarias ACCs due to traffic onload generated by ERATO implementation in Brest ACC; French ATC industrial action resulted in delays in Maastricht and Madrid ACCs due to ATFM protective measures; military activity in Marseille ACC;
- En-route ATC Staffing*; delays in Karlsruhe and Nicosia ACCs;
- En-route Capacity*; military activity in Karlsruhe UAC generated delays;
- En-route Weather*; some delays due to en-route weather in London and Langen ACCs.

Top en-route Event delays in January 2016



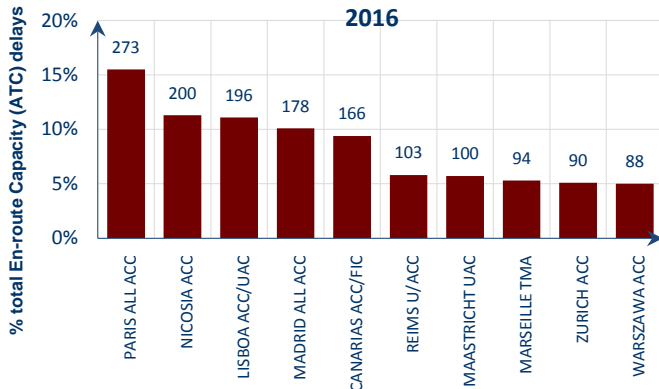
Top en-route Disruption (ATC) delays in January 2016



Brest ACC generated significant en-route ATFM delays throughout the month due to the ERATO ATM system implementation.

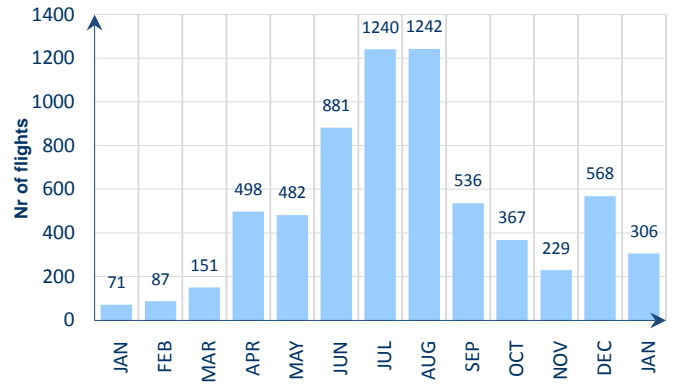
The French ACCs generated en-route ATC disruptions delays due to industrial action on 26 January.

Top en-route Capacity (ATC) delays in January 2016



Madrid ACC generated some en-route ATC capacity delays due to the ERATO ATM system implementation in Brest ACC. Increased demand in Canarias ACC resulted in ATFM delays.

Average daily flights >= 15 min en-route delay



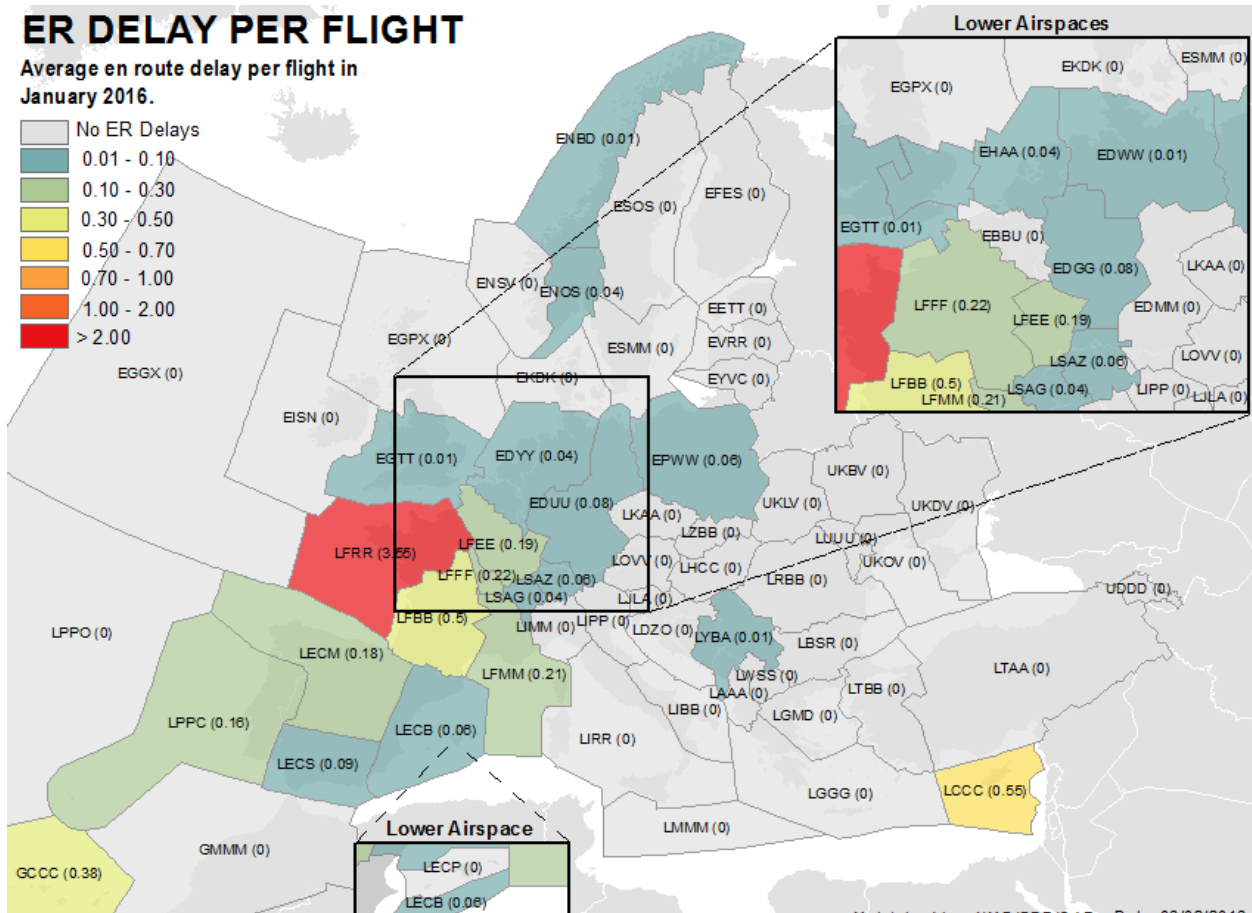
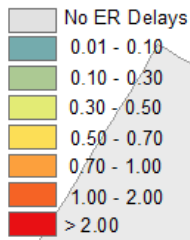
An average of 306 flights/day received an en-route delay of at least 15 minutes in January 2016. The corresponding figure for January 2015 was 71 flights/day.



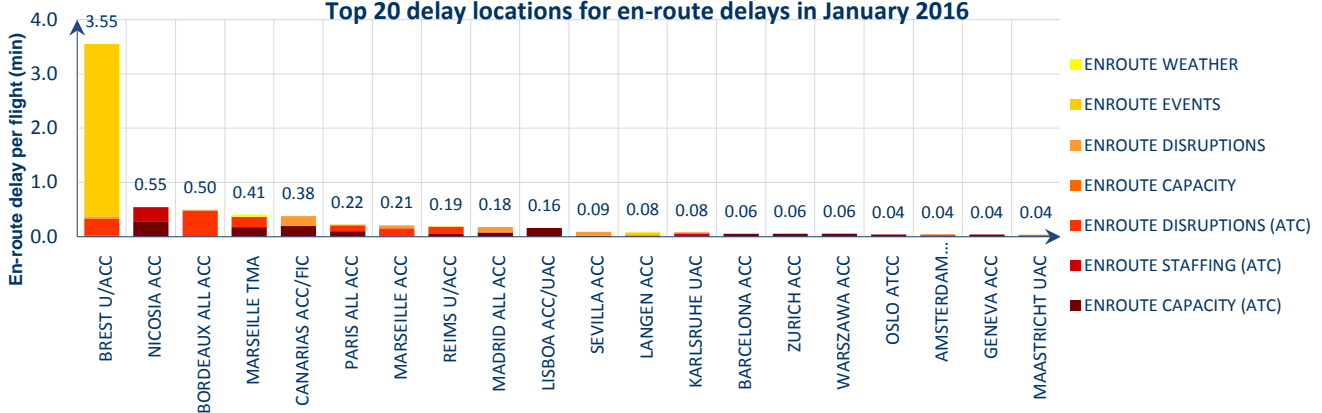
# EN-ROUTE ATFM DELAY PER FLIGHT

## ER DELAY PER FLIGHT

Average en route delay per flight in January 2016.



Top 20 delay locations for en-route delays in January 2016



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.

Two of the top 5 ACCs<sup>iii</sup> increased the average en-route ATFM delay/flight compared to December 2015.

Bordeaux ACC average en-route ATFM delay/flight increased from 0.02 min/flt in December 2015 to 0.5 min/flt in January 2016.

Paris ACC average en-route ATFM delay/flight increased from 0.09 min/flt in December 2015 to 0.22 min/flt in January 2016.

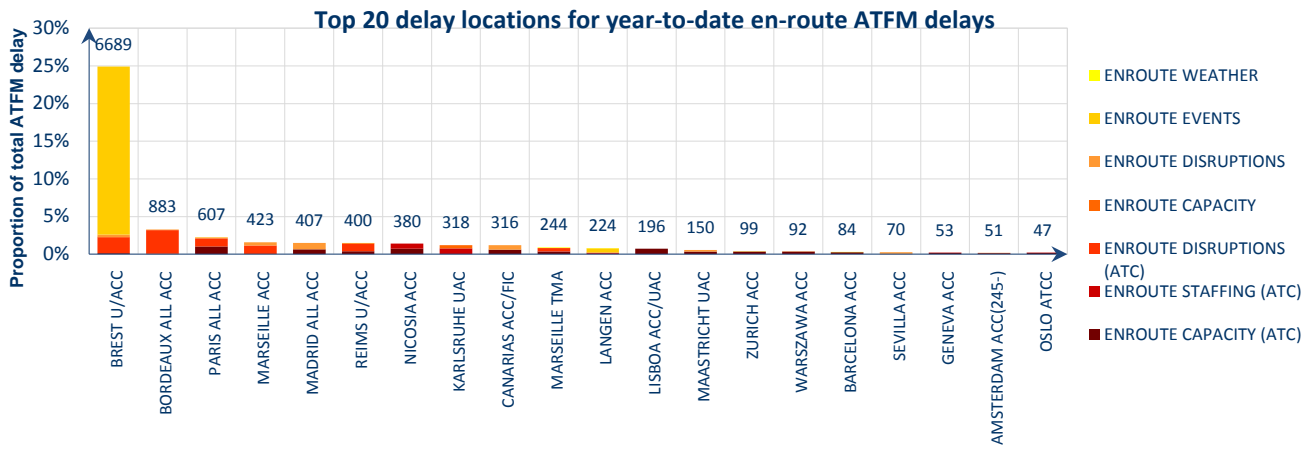
Both of these ACCs generated delays predominantly due to the French ATC industrial action.

Brest ACC average en-route ATFM delay/flight decreased from 8.7 min/flt in December 2015 to 3.55 min/flt in January 2016; 89% (3.18 min/flt) of the delay in January was due to ERATO ATM system implementation and 8.4% (0.3 min/flt) was due to the French ATC industrial action.

Nicosia ACC average en-route ATFM delay/flight decreased from 0.59 min/flt in December 2015 to 0.55 min/flt in January 2016.

Canarias ACC average en-route ATFM delay/flight decreased from 1.5 min/flt in December 2015 to 0.38 min/flt in January 2016.

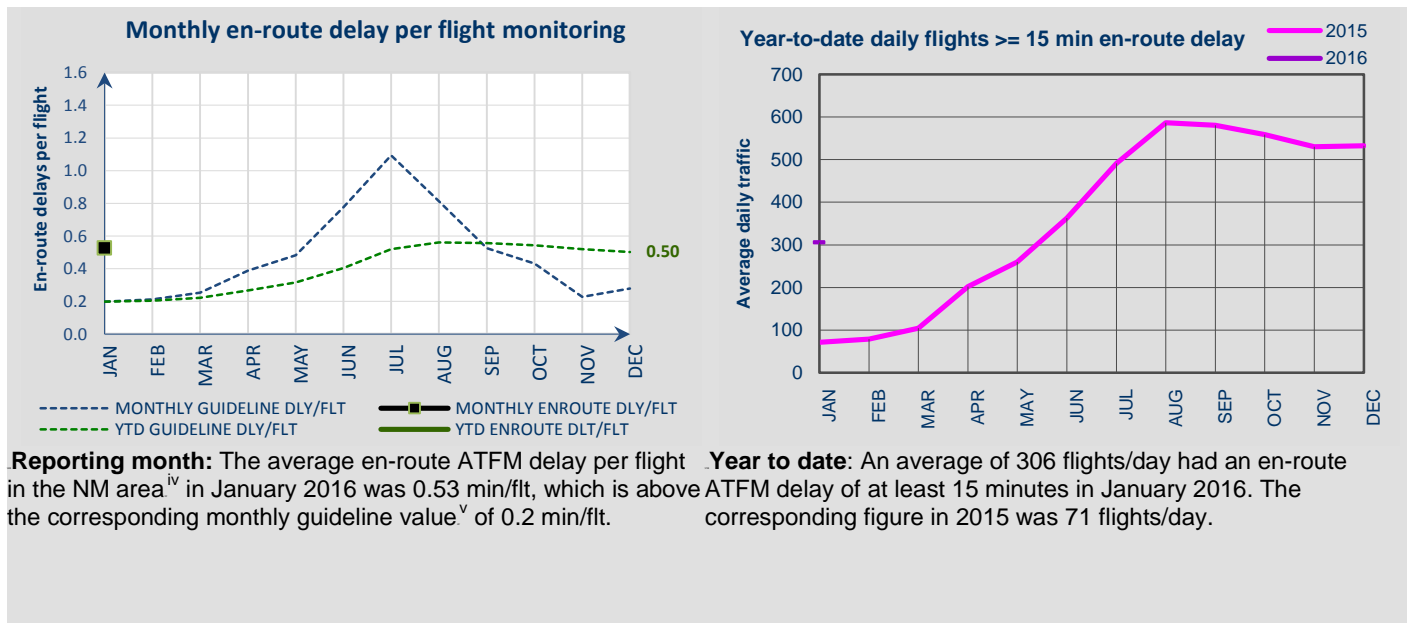
# EN-ROUTE ATFM DELAY YEAR-TO-DATE



These are the top 20 en-route delay locations for 2015 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 **43.7%** of the total ATFM (network) delay.

The top 5 en-route delay locations generated **33.6%** of the total ATFM (network) delay.

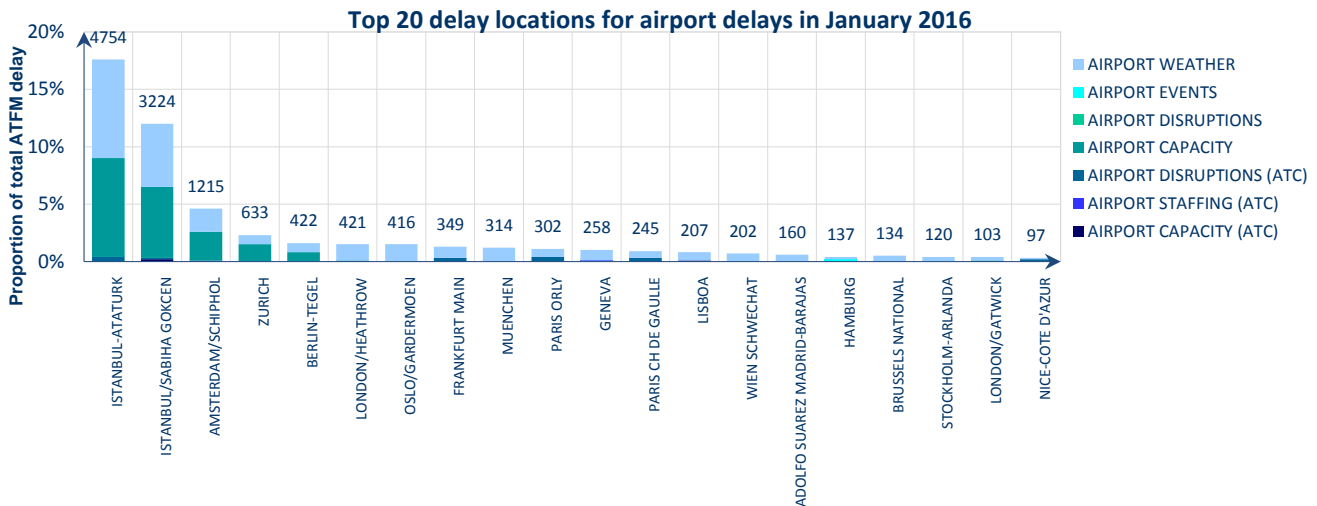


**Reporting month:** The average en-route ATFM delay per flight in the NM area<sup>iv</sup> in January 2016 was 0.53 min/flt, which is above ATFM delay of at least 15 minutes in January 2016. The the corresponding monthly guideline value<sup>v</sup> of 0.2 min/flt.

**Year to date:** An average of 306 flights/day had an en-route in the NM area<sup>iv</sup> in January 2016. The corresponding figure in 2015 was 71 flights/day.

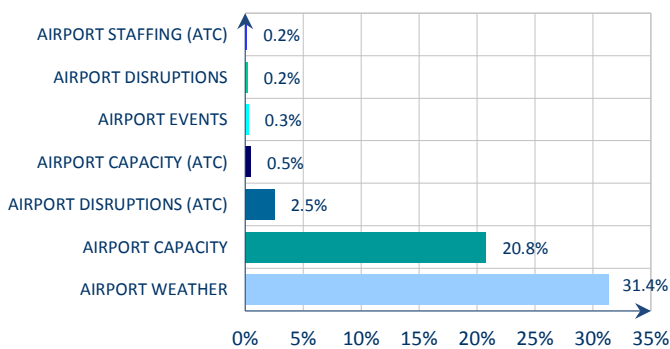
# 4. AIRPORT/TMA ATFM DELAYS

## AIRPORT/TMA ATFM DELAY PER LOCATION

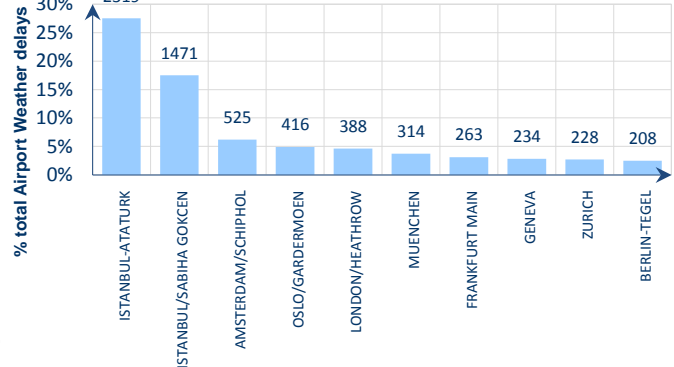


## AIRPORT/TMA ATFM DELAY PER DELAY GROUPS

**Reasons for airport delays in January 2016**



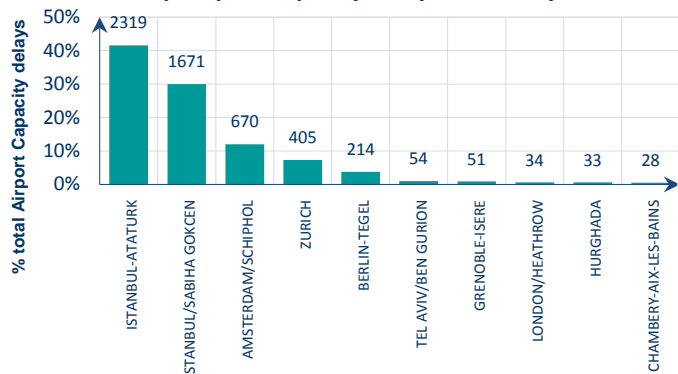
**Top Airport Weather delays in January 2016**



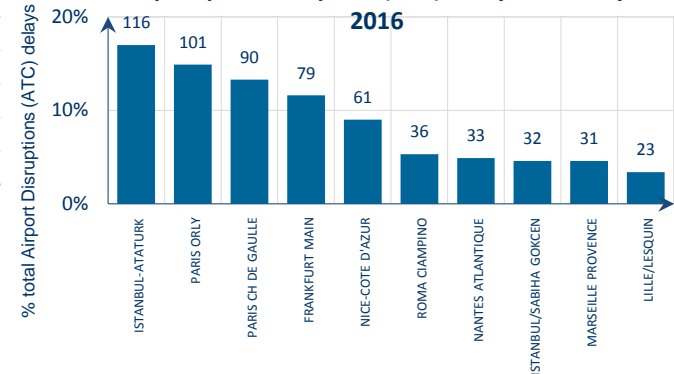
Airports accounted for 55.9% of all ATFM delays in January 2016, mainly due to airport weather and airport capacity.

Seasonal weather impacted operations at Istanbul/Ataturk, Istanbul/Sabiha Gökçen, Amsterdam/Schiphol and Oslo/Gardermoen airports.

**Top Airport Capacity delays in January 2016**



**Top Airport Disruption (ATC) delay in January 2016**

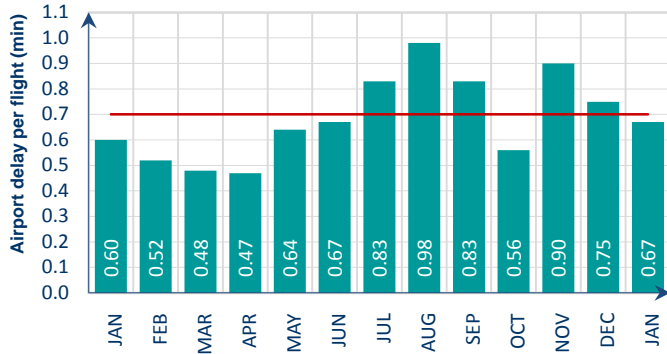


Airport capacity measures running concurrently with technical issues (radar and frequency) and weather (winds and/or de-icing) contributed to airport capacity delays at Istanbul/Ataturk, Istanbul/Sabiha Gökçen and Berlin/Tegel airports. Priority Departure (PRIDEP) trial and, to a lesser extent, the World Economic Forum (WEF) generated some airport capacity delays at Zurich.

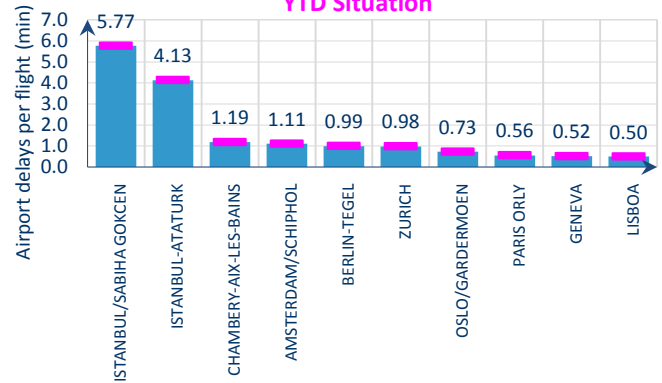
Technical issues at Istanbul/Ataturk, Istanbul/Sabiha Gökçen (radar and frequency problems) and Frankfurt/Main (VOR<sup>VI</sup> unserviceable) airports resulted in airport ATC disruption delays. French ATC industrial action generated delays for the French airports, with Paris/Charles De Gaulle airport generating additional ATFM delays due to ATC equipment calibration. ATC industrial action generated some delays at Rome/Ciampino airport.

# AIRPORT/TMA ATFM DELAY PER FLIGHT

Monthly average Airport delay (min) per flight  
Last 12 months = 0.7 minutes



Top 10 Airport delay per flight in January 2016  
YTD Situation

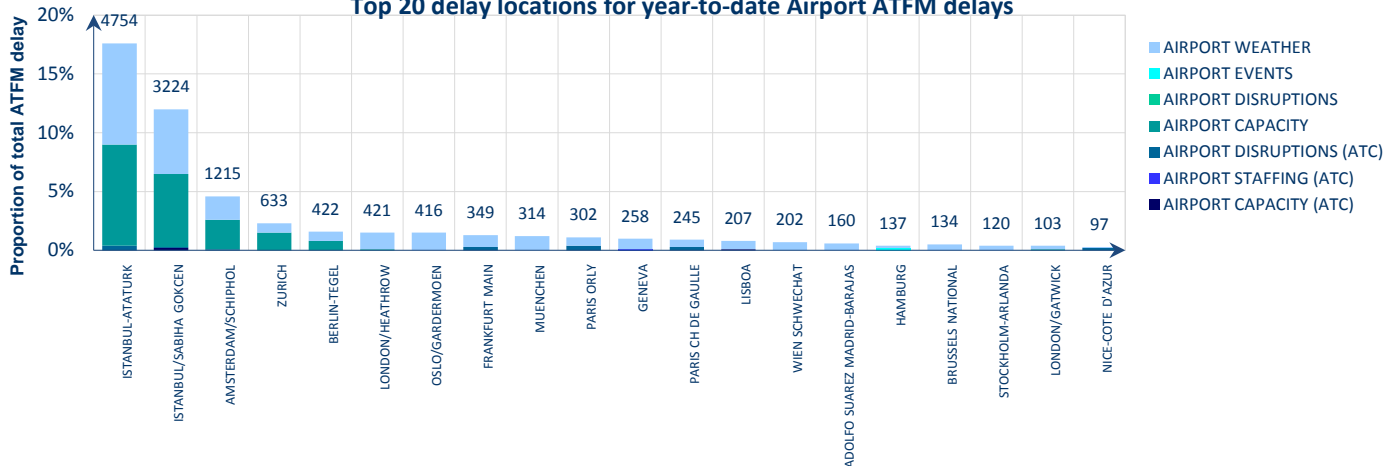


Average airport/TMA delay per flight increased from 0.6 min/ft in January 2015 to 0.67 min/ft in January 2016.

Istanbul/Sabiha Gökçen and Istanbul/Ataturk had the highest delay per flight in January, mainly due to seasonal weather, airport capacity, with some delays generated due to technical issues (radar and frequency). Istanbul/Sabiha Gökçen delay per flight in January 2015 was less than one minute and Istanbul/Ataturk was 1.8 min/ft.

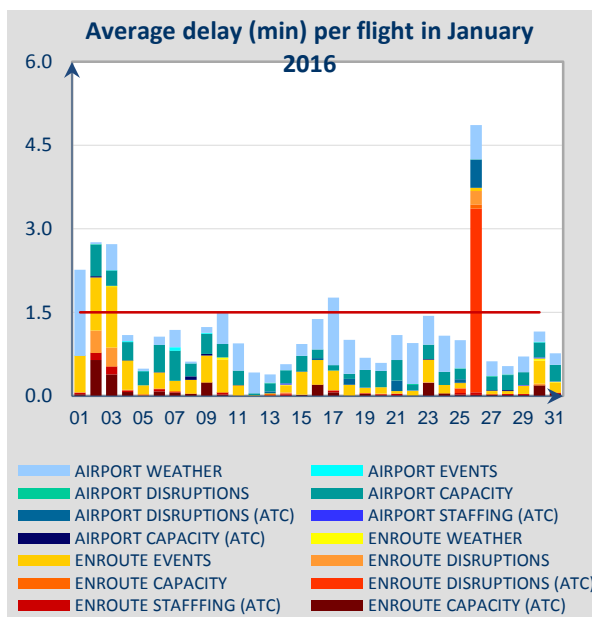
# AIRPORT/TMA ATFM DELAY YEAR-TO-DATE

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



The top 20 Airport/TMA delay locations have generated **41.0%** of the total ATFM (network) delay in 2015. The top 5 Airport/TMA delay locations have generated **28.3%** of the total ATFM (network) delay in 2015.

# 5. DAILY EVOLUTION



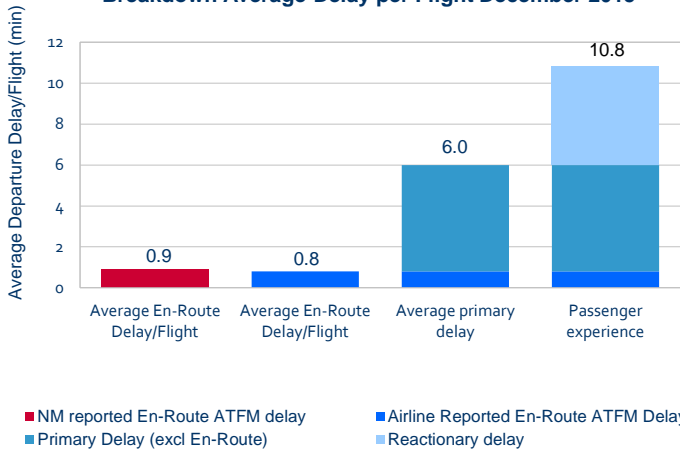
Five days in January 2016 had an average delay/ft above 1.5 min/ft mainly due airport weather (26.9%), en-route ATC disruptions (22.9%) and en-route events (21.6%). The remaining reasons are covered below;

- 1 January; some en-route ATC staffing delays in Nicosia ACC, some en-route ATC capacity delays in Maastricht UAC.
- 2 January; en-route ATC capacity delays in Canarias, Madrid, Paris and Warsaw ACCs; delays in Madrid and Seville ACCs due to traffic onload generated by Brest ACC, with some delays at Gran Canaria airport due to delayed arrival traffic; en-route ATC staffing delays in Karlsruhe UAC, some staffing delays in Nicosia ACC; airport capacity delays at Istanbul/Sabiha Gökçen (in conjunction with de-icing) and Istanbul/Ataturk airports.
- 3 January; en-route ATC capacity delays in Nicosia, Maastricht and Geneva ACCs; en-route ATC capacity delays in Canarias and Madrid ACCs due to traffic onload generated by Brest ACC, with some delays in Bordeaux and Seville ACCs; airport capacity delays at Istanbul/Sabiha Gökçen airport; en-route ATC staffing delays in Karlsruhe UAC.
- 26 January; en-route disruption delays in Marseille ACC due to military activity; airport disruption delays at Paris/Orly, Paris/Charles De Gaulle and Nantes due to the French ATC industrial action, with additional delays in Maastricht and Madrid ACCs due to ATFM protective measures applied during the action.

## 6. ALL AIR TRANSPORT DELAYS (SOURCE: CODA)

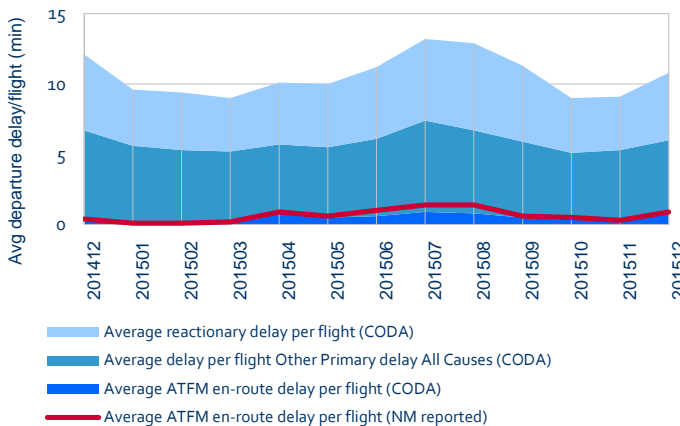
This section presents the all air transport delay situation as seen from the airlines by using the data collected by Central Office for Delay Analysis (CODA) from the airlines. Data coverage is 65% of the commercial flights in the ECAC region for December 2015. ATFM delays reported by airlines may be lower than the NM calculated ATFM delays due to difference in methods: ATFM delays of NM are the (flight) planned “delays”; the airlines report the “actual” experienced ATFM delay on departure. For instance, a flight with an ATFM delay may also have a handling delay absorbed within the ATFM delay. For the airline, a part of this delay is the ATFM delay and the remaining amount is the handling delay.

**Breakdown Average Delay per Flight December 2015**



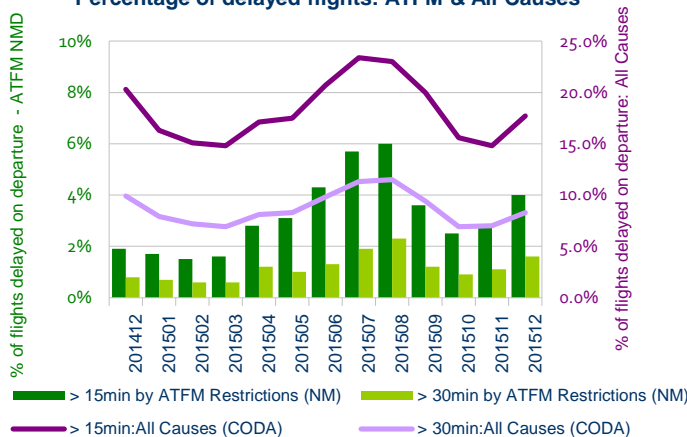
Based on airline data, the average departure delay per flight from “All Causes” was 10.8 minutes per flight, this was a decrease of 12% in comparison to 12.3 minutes per flight in the same month of 2014. Within all air transport delays, en-route ATFM delays were 0.8 minutes/flight in December 2015. Primary delays counted for 56% (or 6 min/ft ) of which 0.8 min/flight was attributed to en-route ATFM delays, with reactionary delays representing a smaller remaining share of 44% at (4.8 min/ft).

**Average departure delay per flight 2014/2015**



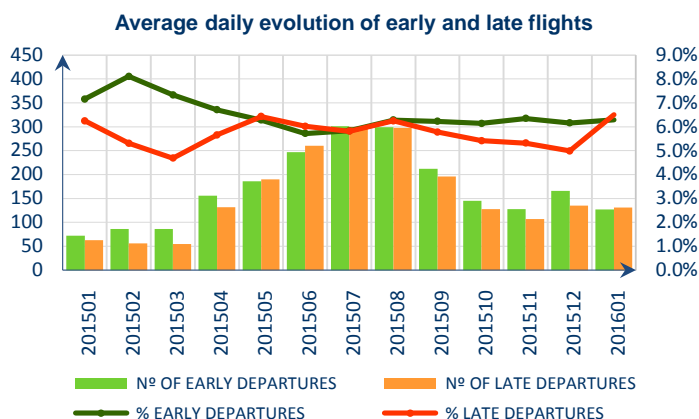
Further analysis of airline data from 'All-Causes' shows that the average en-route ATFM delay was 0.8 minutes per flight. This was slightly below the NM reported average en-route ATFM delay of 0.9 minutes per flight.

**Percentage of delayed flights: ATFM & All Causes**



The percentage of flights subject to long ATFM restrictions (those exceeding 15 & 30 minutes) increased by 2.1 percentage points with flights with restrictions exceeding 15 minutes at 2.1%. The percentage of flights delayed from 'all-causes' also decreased (those exceeding 15 minutes) decreased by 2.6 percentage points to 17.7% and those (exceeding 30 minutes) decreasing by 1.6 points from to 8.3% of flights in December 2015.

## 7. ATFM SLOT ADHERENCE

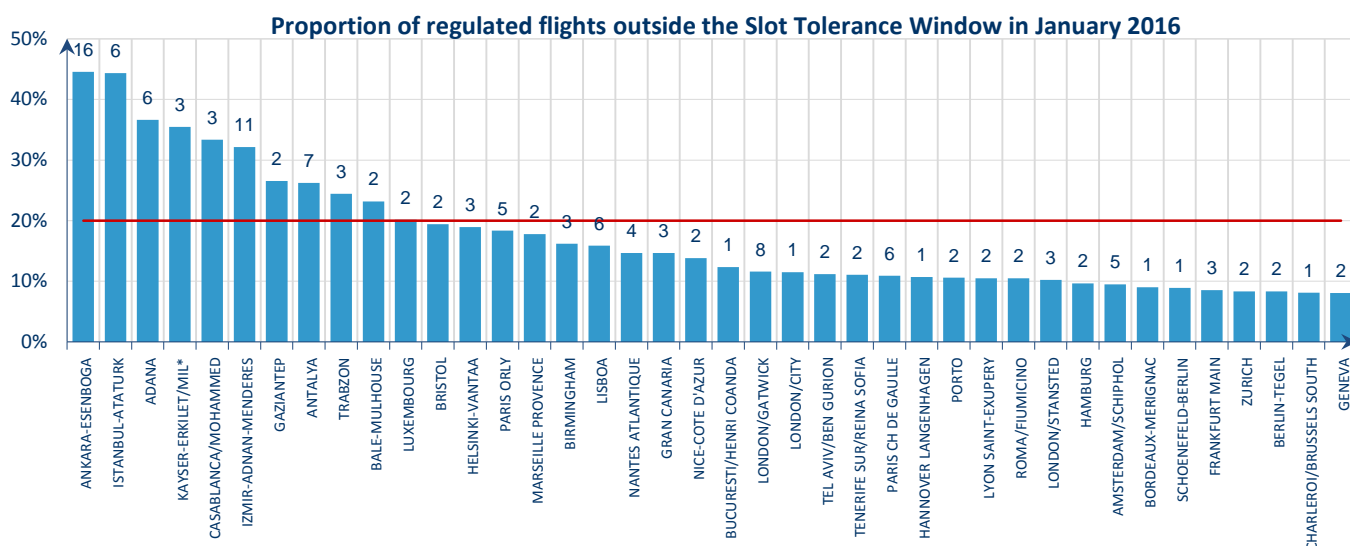


The percentage of early departures decreased compared to January 2015, but the percentage of late departures increased slightly.

The percentage of early departures for January 2016 is 6.3% of regulated flights, which is a decrease of 0.9%.

The percentage of late departures for January 2016 is 6.5% of regulated flights, which was an increase of 0.3%.

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.

Six ACCs and two TMA/APP centres carried out projects, planned for this reporting period, involving ATM system changes/upgrades or airspace reorganisations. All projects had been categorised as special, planned events with potential impact on the network performance.

##### Brest ACC

Stepped implementation of ERATO system extended throughout the entire month of January. A 20% sector capacity reduction had been originally planned, with maximum sector configurations of between 9 and 15 sectors until 4 January, after which date normal configuration (19) would apply. The implementation generated 186,743 minutes of ATFM delay. This presented 90% of total delay (207,282 minutes) by Brest ACC for January. Brest ACC (EEE) generated 52% of total en-route ATFM delay of all causes in January.

##### Langen ACC

Transition to the new, P2 ATM system, originally planned to end on 10 January, was extended throughout the whole month. An ACC sector capacity reduction of 10% had been planned with sector configurations kept at maximum. The total ATFM delay was 4,766 minutes, which presented 68.6% of total ATFM delay (6,943 minutes) for Langen ACC during January 2016

##### Vienna TMA/APP

The project of migrating to the new COOPANS ATM system progressed through the second transition phase. A 25% capacity reduction had been initially anticipated, with the maximum configuration of 4 sectors. No ATFM delay was generated.

### L'viv ACC

The implementation of a new ATM system progressed through the transition phase during January 2016, with a planned capacity reduction of 10%. No ATFM delay was generated.

Maastricht UAC, Warsaw, Zurich ACCs and London TC progressed through the training phase of their respective projects, none of which generated ATFM delay.

### **Other airspace or ATM system improvement projects.**

Two airports carried out projects involving ATM system changes/upgrades which were not defined in the Transition Plan for Major Projects in Europe.

### Hamburg

The implementation of a new ATM system in the TWR generated 2,012 minutes of airport ATFM delay.

### Salzburg

Implementation of TopSky generated some minor airport ATFM delay.

## **AIRPORTS**

### **Special Events**

- Salon International de la Haute Horlogerie (SIHH) in Geneva from 18 - 22 January generated no ATFM delay;
- World Economic Forum (WEF) in Davos from 19 - 22 January generated some minor ATFM delays at Zurich airport;
- 22<sup>nd</sup> Assiom Forex Congress in Turin from 29 - 30 January generated no ATFM delay.

### **Local Plans in January**

A number of airports undertook infrastructure and technical system improvement work during January. These improvements had at most a minor impact on local airport operations:

#### **On-going:**

- **Runway maintenance** at Istanbul Sabiha Gökçen and Palma de Mallorca airports generated no ATFM delay;
- **ILS maintenance** at Bologna airport generated no ATFM delay;
- **Taxiway(s) and/or apron(s) improvements** at Bologna, Dublin, Gran Canaria, Palma de Mallorca, and Venice airports generated no ATFM delay;
- **Terminal building(s) improvements/works** at Bergen Flesland, Frankfurt Main, Hamburg, Munich, Oslo Gardermoen generated no ATFM delay.

## **DISRUPTIONS**

### **Industrial Action**

- Industrial action by French public services on 26 January necessitated ATFM measures from 1800UTC on 25 January until 0500UTC on 27 January 2016. A total of 71,300 minutes of en-route ATFM delay by the French ACCs and 12,100 minutes of ATFM delay by the French airports, with an additional 1,799 minutes of en-route ATFM delay generated by Maastricht and Madrid ACCs due to ATFM protective measures. Aircraft operators were requested to implement a 20% flight reduction program on Tuesday 26 January for a number of French airports, including Paris/Charles De Gaulle, Paris/Orly, Lyon/St. Exupery, Nice/Cote D'Azur, Marseille/Provence Toulouse/Blagnac airports. Approximately 1,000 flights<sup>vii</sup> were removed from the network. There were some additional airport ATC staffing delays at Paris/Orly airport on 27 January due to the blockage of access to the airport by French taxi drivers.
- Industrial action in Italy on 25 January resulted in airport ATFM delay at Rome/Ciampino airport (total ATFM delay: 1,352 minutes).

### **Technical**

- Airport ATFM delays at Frankfurt/Main airport on 18 January due to VOR<sup>vi</sup> unavailability (total ATFM delay: 2,452 minutes);
- Radar and frequency problems at Istanbul/Ataturk and Istanbul/Sabiha Gökçen on 21 January running concurrently with ATFM measures due to airport capacity issues generated delays (total ATFM delay: 12,656 minutes).

### **Other**

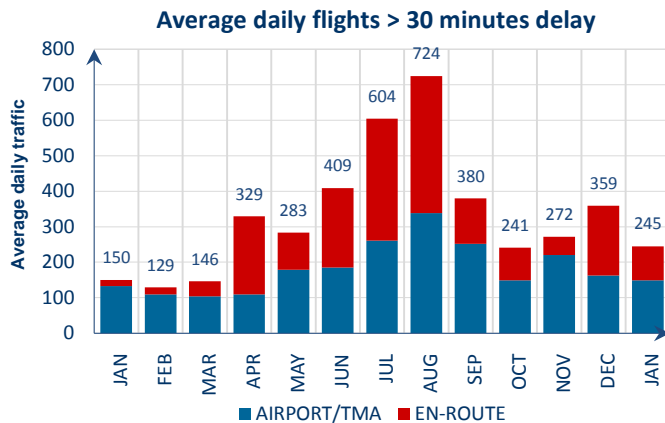
- De-icing issues at Berlin/Tegel on 6 January resulted in a lack of parking stands, with some additional delays on 8 and 23 January (total ATFM delay: 6,483 minutes);
- Ongoing PRIDEP trial at Zurich airport generated 1,498 minutes of ATFM delays.

## 9. NM ADDED VALUE

### FLIGHTS WITH DELAY > 30'

The number of flights that had more than 30 minutes of ATFM delay increased by 63.3% from 150 fts/day in January 2015 to 249 fts/day in January 2016.

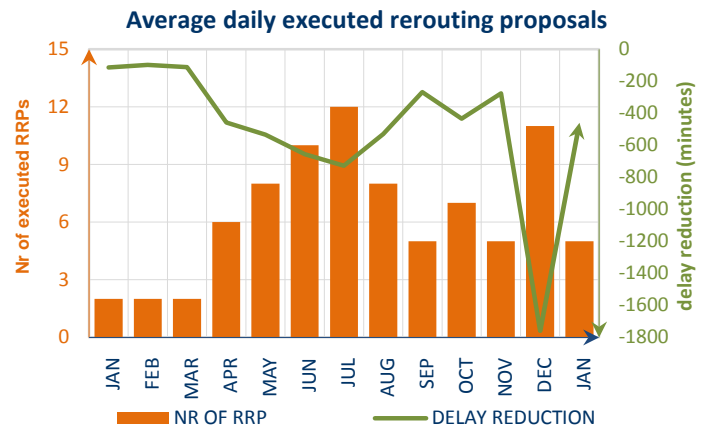
39.6% of flights with more than 30 minutes of ATFM delay in January 2016 were en-route and 60.8% were airport.



### RRP DIRECT DELAY SAVINGS

On average 11 RRP were offered in January 2016 of which 5 RRP were executed, saving 459 minutes of daily delay.

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



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

<sup>i</sup> See Notice on page 1 for more information on traffic and delay comparison.

<sup>ii</sup> Internals, international departures and arrivals, excluding overflights.

<sup>iii</sup> LFMMAPP is only included in this report from January 2016.

<sup>iv</sup> See Notice on page 1 for more information on NM Area.

<sup>v</sup> NM's calculation that provides the guideline en-route delay (min) requirements to achieve the annual target (0.5 min/flight).

<sup>vi</sup> VHF Omni Directional Radio Range (VOR) is a type of short-range radio navigation system.

<sup>vii</sup> NM estimate