



Monthly Network Operations Report

Overview September 2023



SUPPORTING EUROPEAN AVIATION



NETWORK
MANAGER





1. SUMMARY

Traffic in September (968,389 flights) was 8.2% higher than September 2022. Network traffic was slightly below the latest EUROCONTROL baseline scenario. Week 38 closed the summer season, but airlines had adapted their schedules at the beginning of the month.

On average the network saw 32,279 flights/day in September. The peak day was Friday 01 September (34,296 flights). While domestic traffic saw a slight increase (+2.8%), the two main traffic axes (SW and SE) saw over 8% growth compared to last year.

The war in Ukraine continues to affect overflights in several countries. The EUROCONTROL NM continues to help manage the aviation crisis caused by the war.

Several air operators and airports still had double-digit growth compared to September 2022. Ryanair was the busiest operator with, on average, 3,278 movements per day, followed by easyJet (1,768), Turkish Airlines (1,584), Lufthansa (1,281) and Air France (1,072).

Four airports in the top 10 had double-digit growth compared to September 2022. The busiest airport was Istanbul/iGA (1,487 flights/day), followed by Amsterdam/Schiphol (1,397 flights/day), Paris/Charles de Gaulle (1,338 flights/day), Frankfurt/Main (1,332 flights/day) and London/Heathrow (1,314 flights/day).

Network departure punctuality (63.9%) and arrival punctuality (70.0%) increased compared to August 2023. Punctuality on the SW axis was consistent with the network level. However, SE axis departure (59.4%) and arrival (64.9%) punctuality were lower than the network level.

In particular, departure punctuality dropped significantly between the first rotation and midday periods at Frankfurt and Munich airports. The network (average) actual turnaround time remained slightly higher than scheduled.

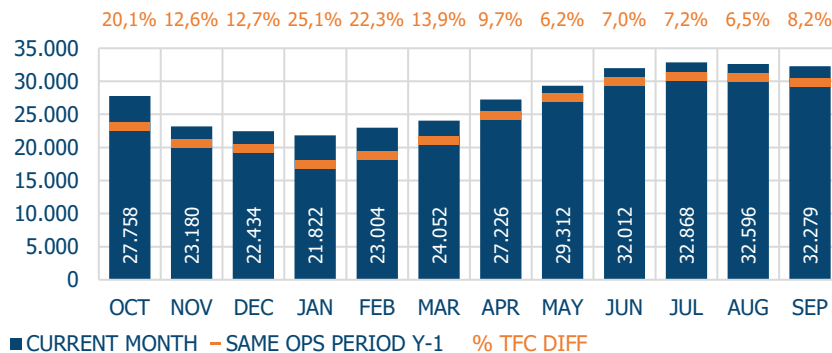
There were 2,623,334 minutes of ATFM delay in September, 6.1% lower than September 2022. En-route accounted for 70.9% of these ATFM delays, and airports for 29.1%. The average en-route ATFM delay per flight for the network was 2.7 minutes in September and the YTD en-route ATFM delay was 2.1 minutes. Flow measures in September were mainly due to en-route ATC capacity, en-route and airport weather.

Direct actions taken by the NM Operations Centre (NMOC) reduced en-route ATFM delays by 13.1% and airport ATFM delays by 9.3%.

Following the earthquake that hit Morocco, all humanitarian flights to/from Morocco were facilitated to operate without any delay.

2. Traffic evolution

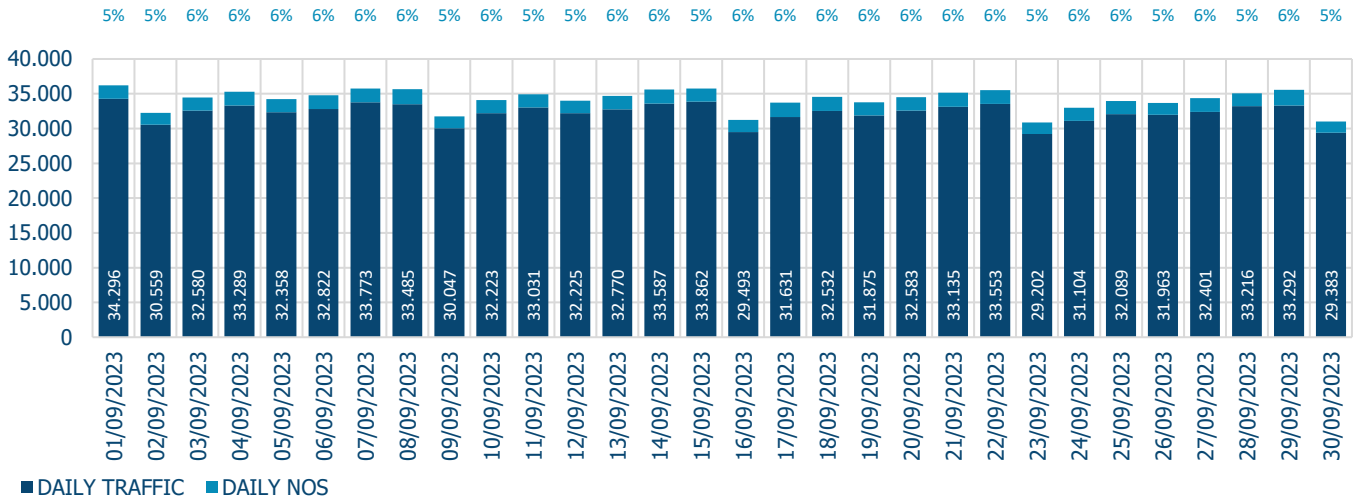
Last 12 months average daily traffic



There were 968,359 flights throughout Europe in September 2023, 8.2% up compared to the same period last year. September 2023 traffic was just below EUROCONTROL's baseline forecast.

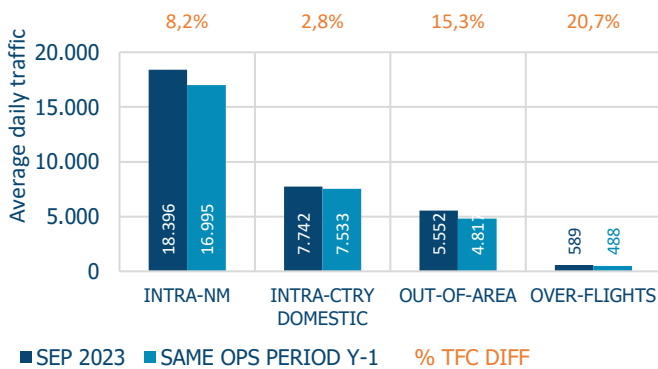
Compared to September 2022, the Mainline (+20.0%), Low-cost (+5.2%) and Regional (+3.2%) market segments continued to drive the growth in September 2023, adding altogether 2,560 daily flights to the network. The Charter segment increased by 1.6%, up 21 daily flights in September 2023 (vs Sep 2022). All-cargo contracted by -7.3% (-78 flights/day) with the largest daily flight decreases in Sweden (-16), Germany (-14) and Italy (-12) in September 2023 (vs Sep 2022). The All-cargo market share of 3% of all flights in September 2023 is now back to its pre-Covid flight share. The Business aviation segment declined by -7.0% (-179 flights/day) owing partly to fewer daily flights in Germany (-36), UK (-24), Italy (-17), the Netherlands (-16) and France (-11) in September 2023 (vs Sep 2022). Despite this drop in traffic, Business aviation stood at 110% of September 2019 flight levels.

Daily network traffic evolution

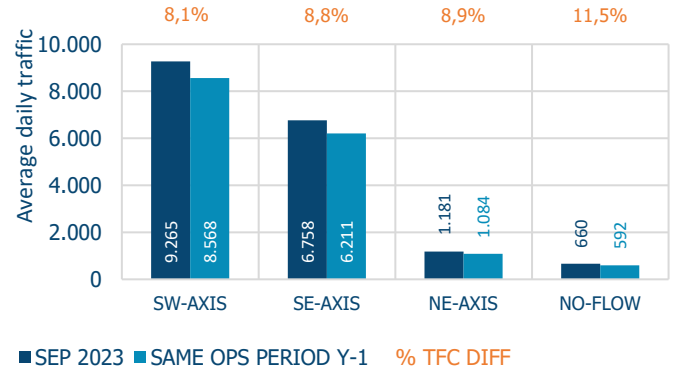


On average, 5.6% of scheduled traffic was not operated in September (see Non-Operated Schedules, NOS, above). The peak day was Friday 01 September (34,296 flights).

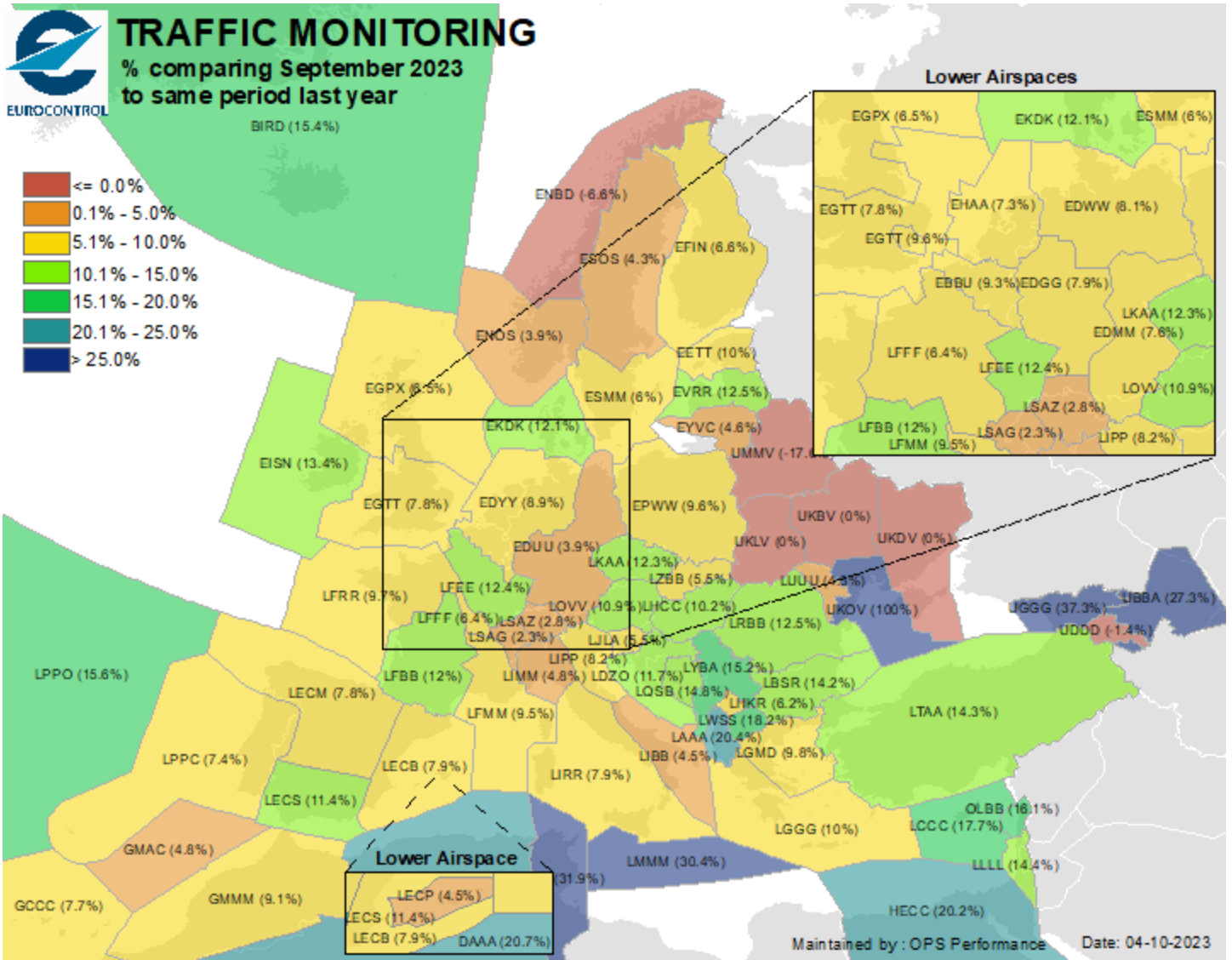
Traffic per flow



Intra-NM daily traffic

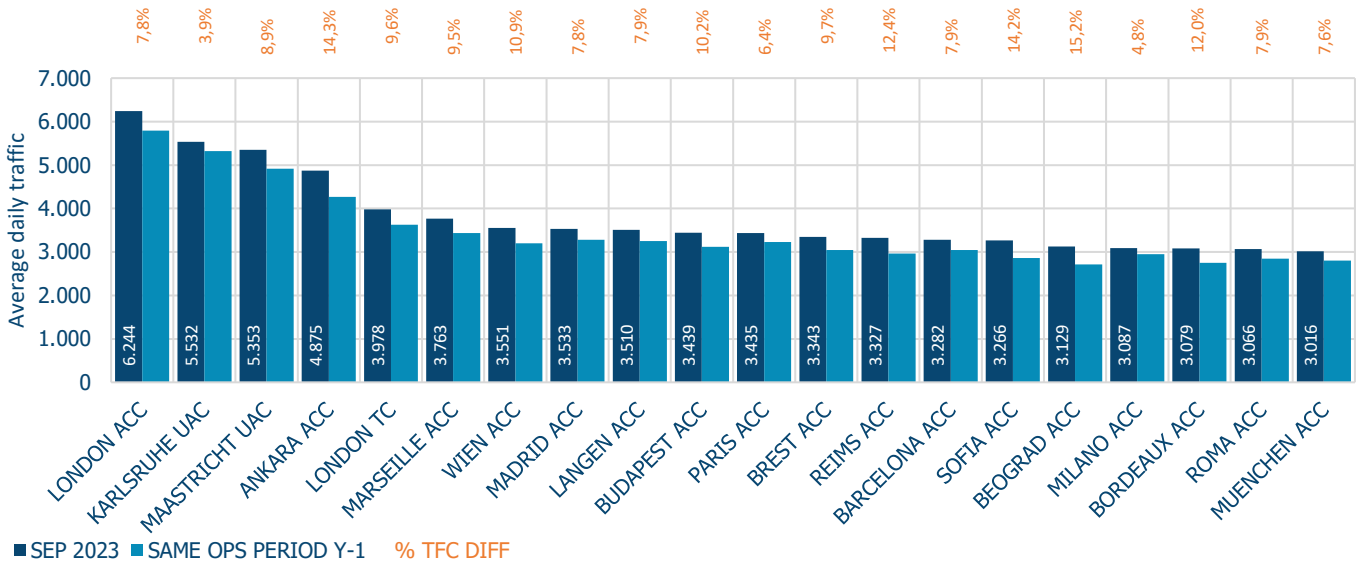


There were 277,938 flights in the Intra-NM SW-Axis traffic flow; 232,250 domestic flights; 202,747 flights in the Intra-NM SE-Axis; and 166,573 out-of-area flights. Strong Intra-NM (+1400 flights/day) growth over the three main axes and Out-of-Area (+735 flights/day) growth influenced the network growth of 8.2%.



The designations employed do not imply the expression of any opinion whatsoever on the part of EUROCONTROL concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries

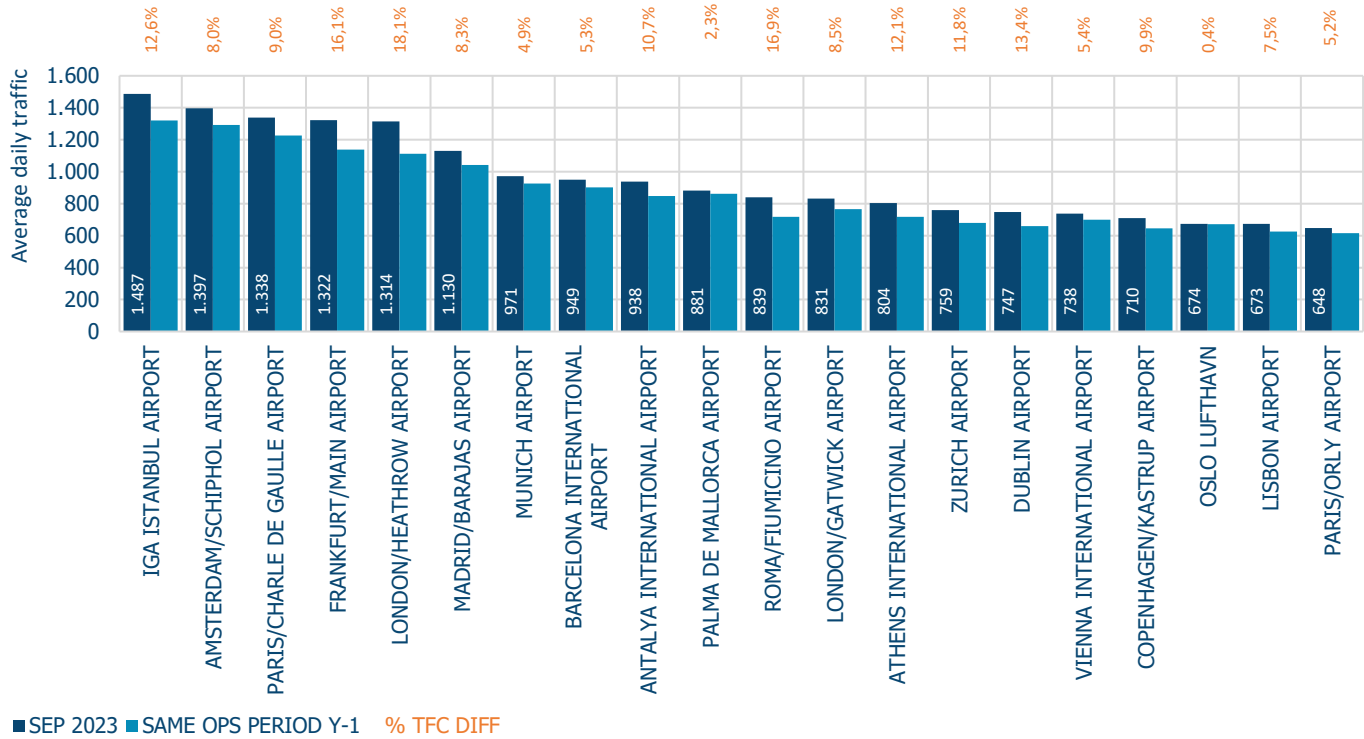
September 2023 | Top 20 ACC daily traffic



London ACC was the busiest ACC followed by Karlsruhe UAC, Maastricht UAC and Ankara ACC. All Top 20 ACCs had positive growth in September compared to last year.

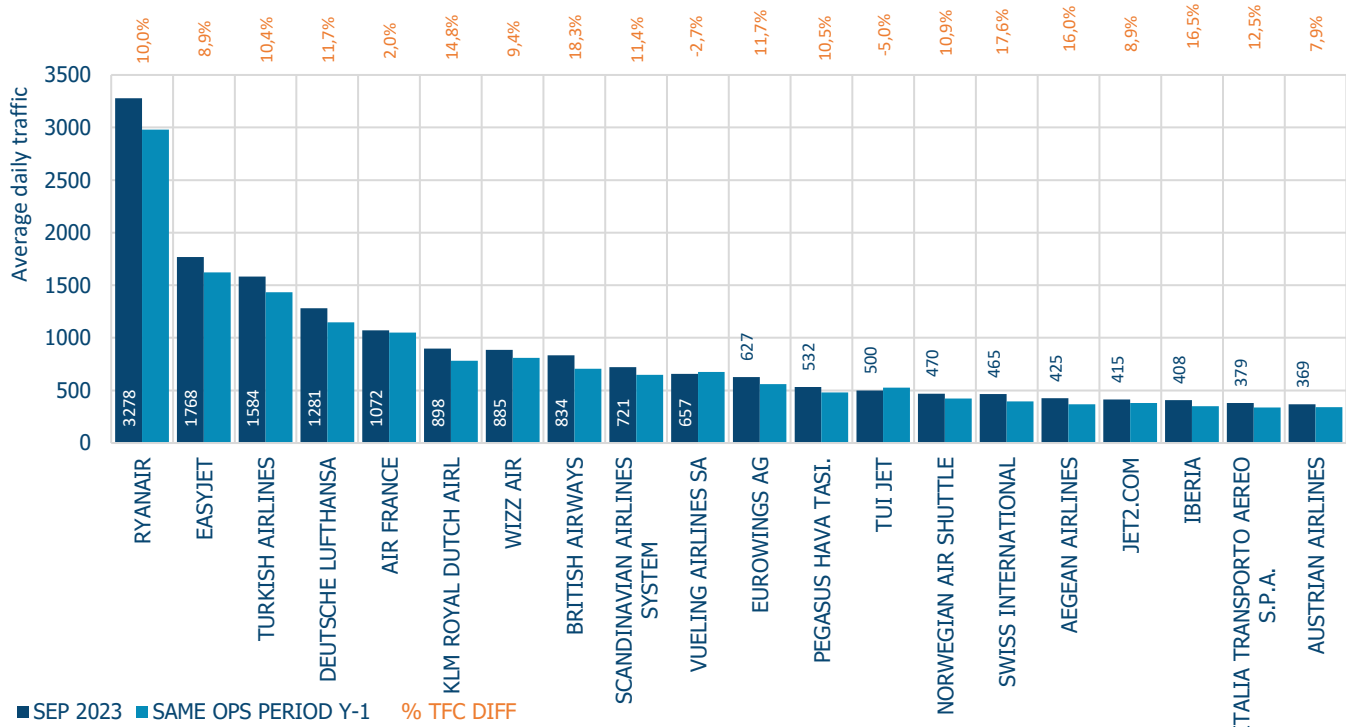


September 2023 | Top 20 Airports daily traffic



Several airports had a double-digit percentage growth compared to last year. Istanbul/iGA was the busiest airport with, on average, 1,487 flights per day followed by Amsterdam/Schiphol (1,397 flights/day), Paris/Charles de Gaulle (1,338 flights/day), Frankfurt/Main (1,322 flights/day) and London/Heathrow (1,314 flights/day).

September 2023 | Top 20 Air Operator groups daily traffic

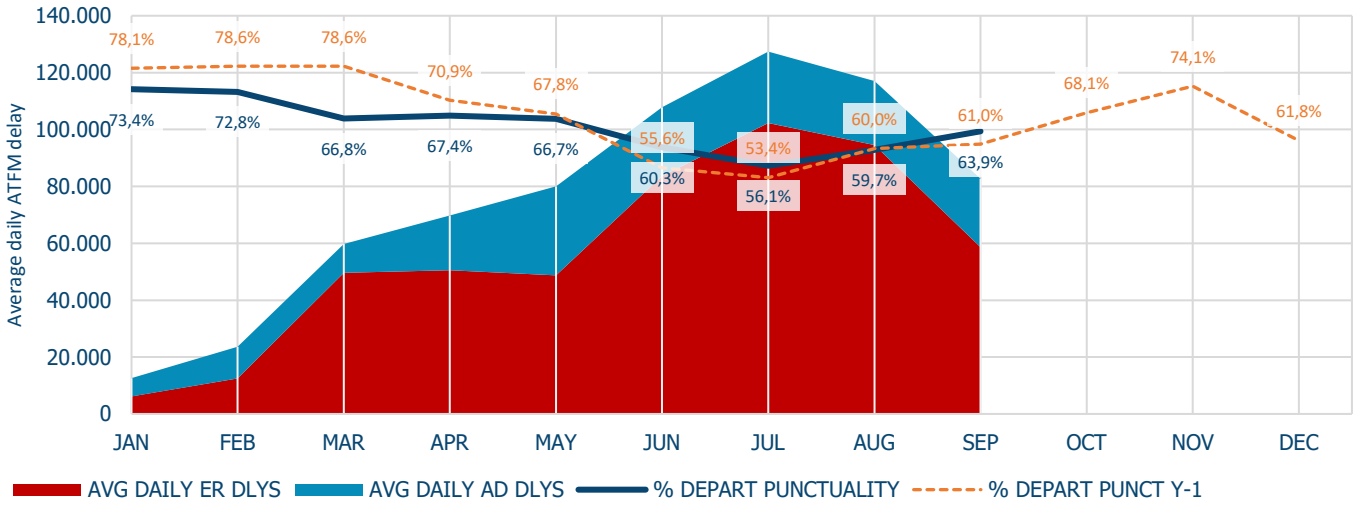


Several air operators had a double-digit percentage growth compared to last year. Ryanair was the busiest operator with, on average, 3,278 movements per day, followed by easyJet (1,768), Turkish Airlines (1,584), Lufthansa (1,281) and Air France (1,072).



Departure Punctuality

Network departure punctuality and ATFM delay

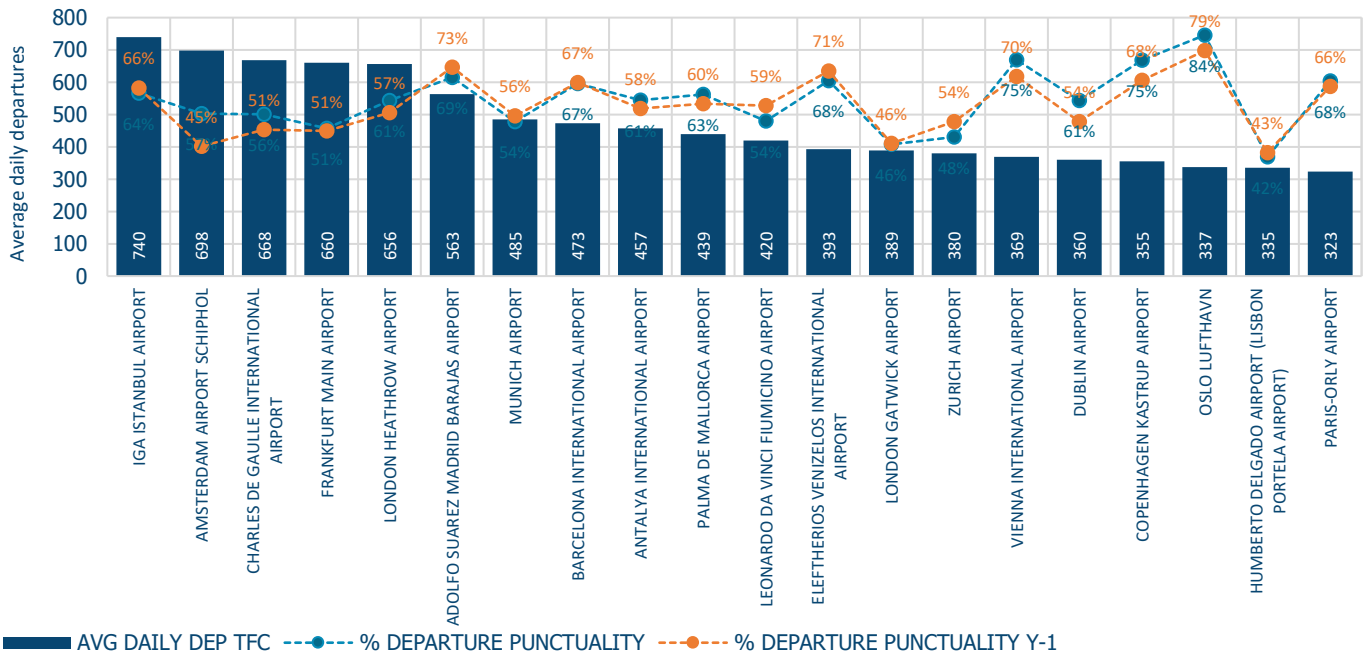


Network departure punctuality increased during September, reaching average monthly figures of 63.9%. This was 2.9 p.p. above the 2022 level. SE axis departure (59.4%) was lower than the network level (-4.5 p.p.).

*This view of operational punctuality can be tracked in near real-time by aircraft operator and airport level in the [NORTI Dashboard](#) and in [MIRROR](#). Archived data can be found in the [FATHOM interactive dashboard](#).

The Central Office for [Delay Analysis CODA reports](#) provide further detailed analysis of airline reported delay reasons.

September 2023 | Top 20 Airport departure traffic and punctuality

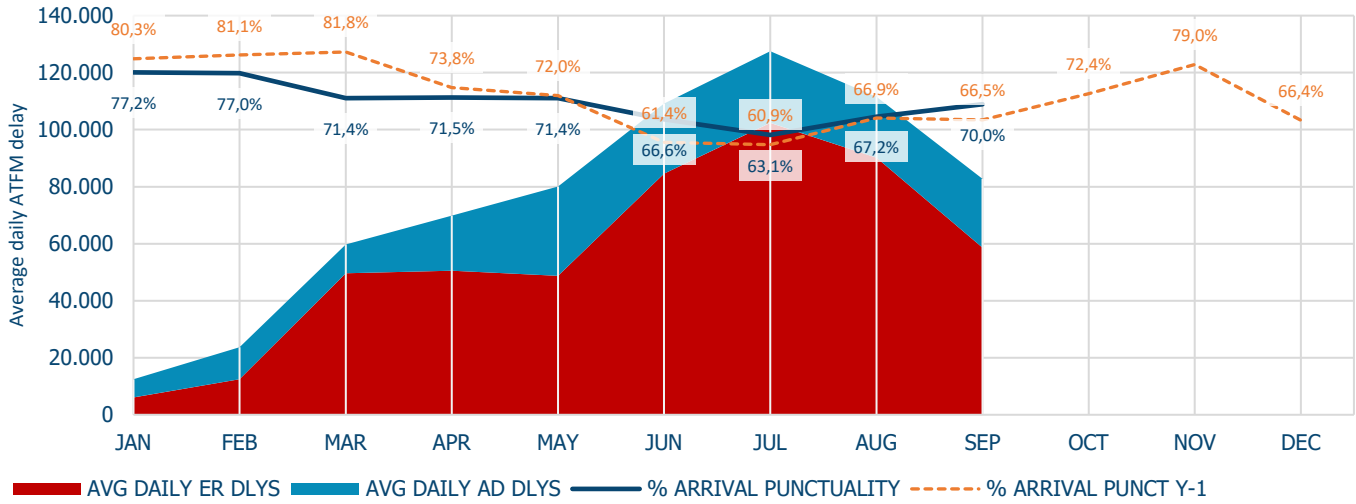


The departure punctuality dropped significantly between First Rotation and Midday periods at Frankfurt and Munich airports. This was due to several reasons:

- Weather delays impacted operations, both thunderstorms and low visibility (especially during the morning hours)
- Related ATFM delays and local ground handling delays contributed further to the delay built-up during the morning hours

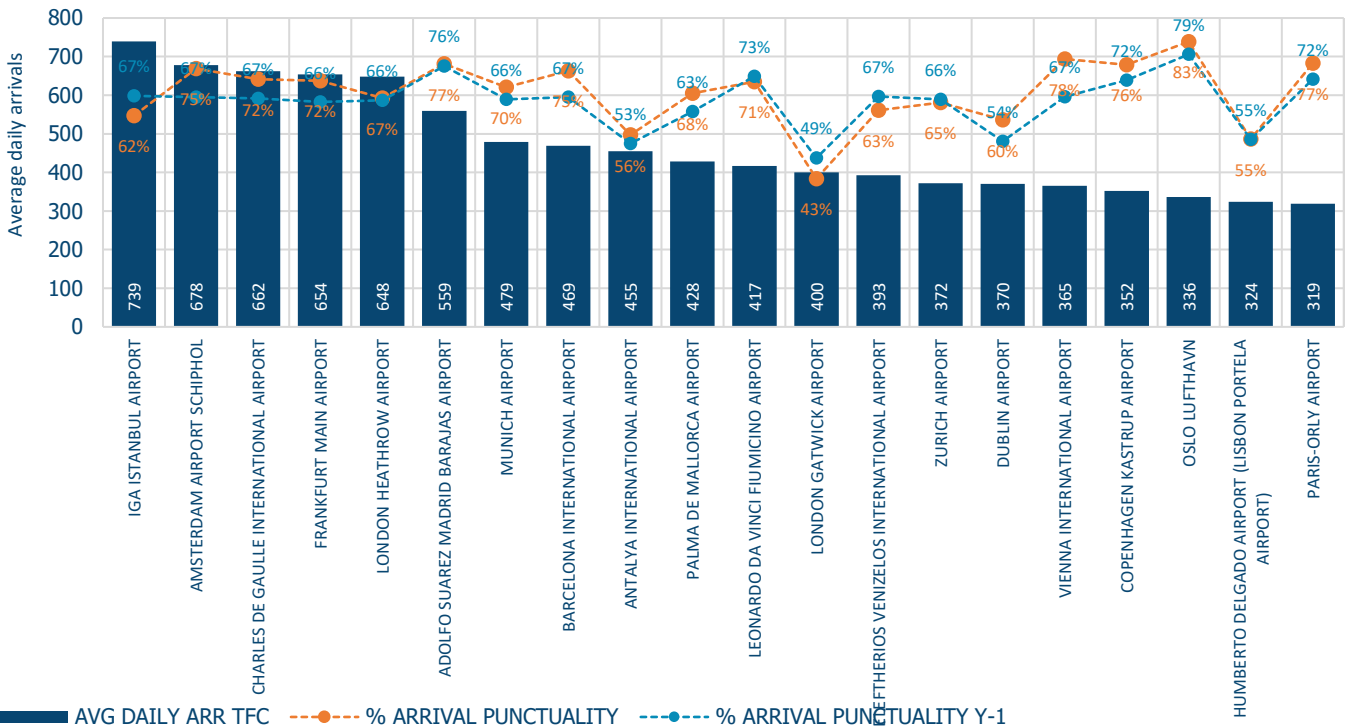
3. Arrival Punctuality

Network arrival punctuality and ATFM delay



Network arrival punctuality increased by 3.8 p.p. in September compared to August. It averaged 70.0% and was higher than the same period in 2022. SE axis arrival (64.9%) was lower than the network level (-5.1 p.p.)

September 2023 | Top 20 Airport arrival traffic and punctuality



Flights departing London Gatwick and Lisbon airports continued to see the impact of Network ATFM regulations as well as reactionary delay impact of ATFM arrival regulations on inbound flights to these airports, these caused by weather and aerodrome capacity Regulations. Lisbon airport continued to see apron capacity issues causing additional local delays.



4. Operations

Network Manager

The EUROCONTROL Network Manager (NM) continued to support operations affected by the Ukrainian war. It maintained airspace closures and NM systems supporting EU Sanctions Regulation for the Russian Federation and Belarus.

Bad weather conditions were less recurrent during September.

NM continued monitoring the operational situation and held weekly Ad-hoc Coordination meetings to share information on the network status. NM provided a consolidated view of relevant NOTAMs on the NOP Portal and issued weekly versions of the Rolling Seasonal Plan. This focuses on the next eight weeks plan and on managing the execution and implementation of the five year NOP. NM also monitored the network CNS/ATM infrastructure and cybersecurity.

Direct actions taken by the NM Operations Centre (NMOC) reduced en-route ATFM delays by 13.1% and airport ATFM delays by 9.3%.

Following the earthquake that hit Morocco, all humanitarian flights to/from Morocco were facilitated to operate without any delay.

Ground Handling

MIRROR's⁽ⁱ⁾ indicator shows that the network (average) available turnaround timeⁱⁱ was higher than the same period last year. The worst day in terms of turnaround time was on 04 September with weather impacting turnaround times at London airports.

The actual turnaround time remained above the scheduled turnaround time.



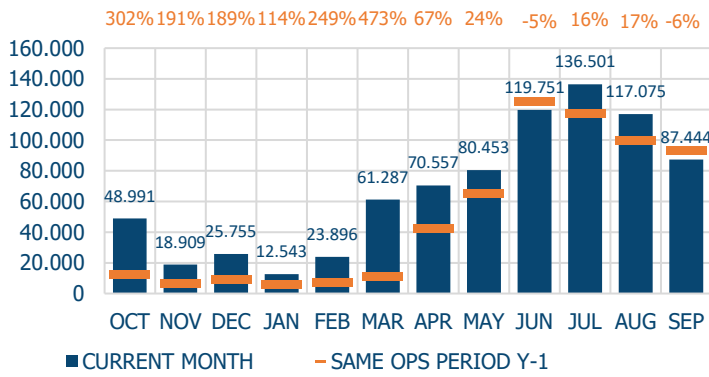
Network

There were 2,623,334 minutes of ATFM delay in September, -6.1% compared to September 2022. Karlsruhe UAC and Reims ACC were well below their 2022 levels.

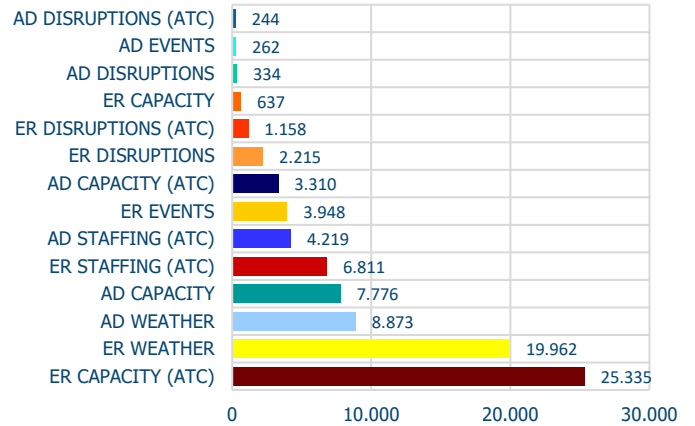
En-route delays accounted for 70.9% of these ATFM delays, and airports for 29.1%.

The average en-route ATFM delay per flight for the network was 2.7 minutes in September.

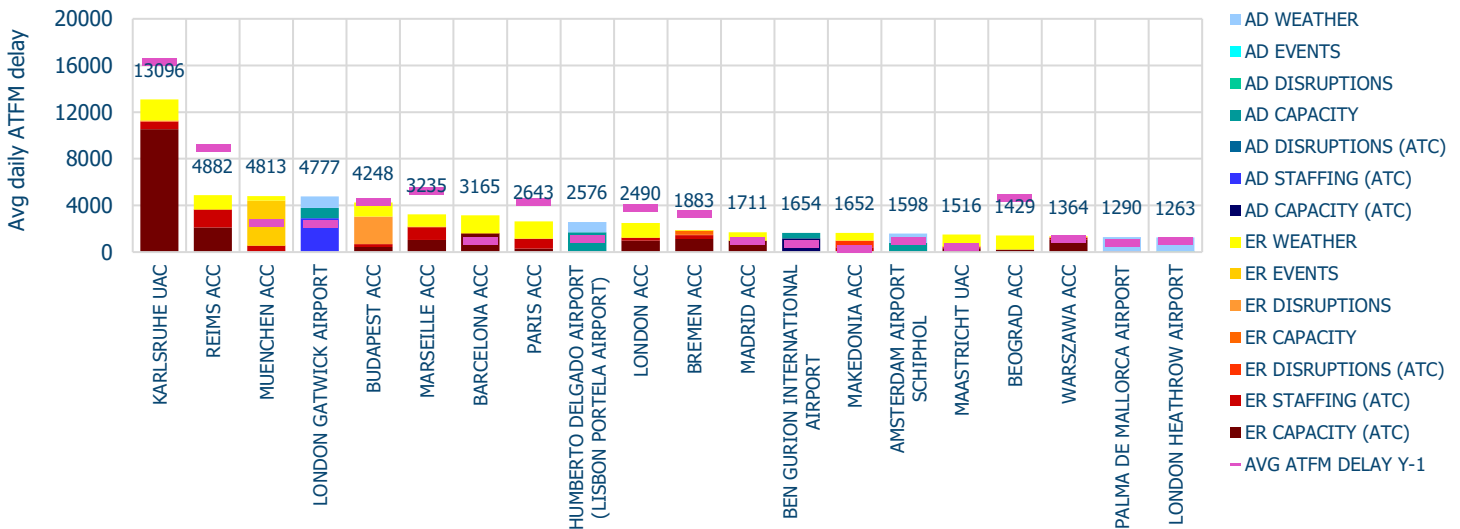
Last 12 months average daily ATFM delays



September 2023 | Reasons for ATFM delays



Top 20 delay reference locations in September 2023



The chart above shows 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.

- ATC capacity issues in Karlsruhe UAC in conjunction with increased military traffic and associated complexity;
- En-route disruptions delay in Budapest ACC due to additional complexity associated with Ukrainian crises;
- ATC staffing shortages at London/Gatwick airport and in Reims ACC;
- CB activity impacted operations in Karlsruhe, Barcelona and Paris ACC. Palma de Mallorca, London/Heathrow and London/Gatwick airports were also impacted.



Significant Events

Event

- Transition phase to new ATM System ICAS2 in München ACC generated 116,222 minutes of ATFM delay.

Technical

- Radio system issues in Brest ACC throughout the month generated 11,844 minutes of ATFM delay;
- Communication system failure in Makedonia ACC from 06 to 16 September generated 15,900 minutes of ATFM delay;
- ILS failure at Paris/Orly airport between 03 and 24 September generated 1,527 minutes of ATFM delay;

Industrial action

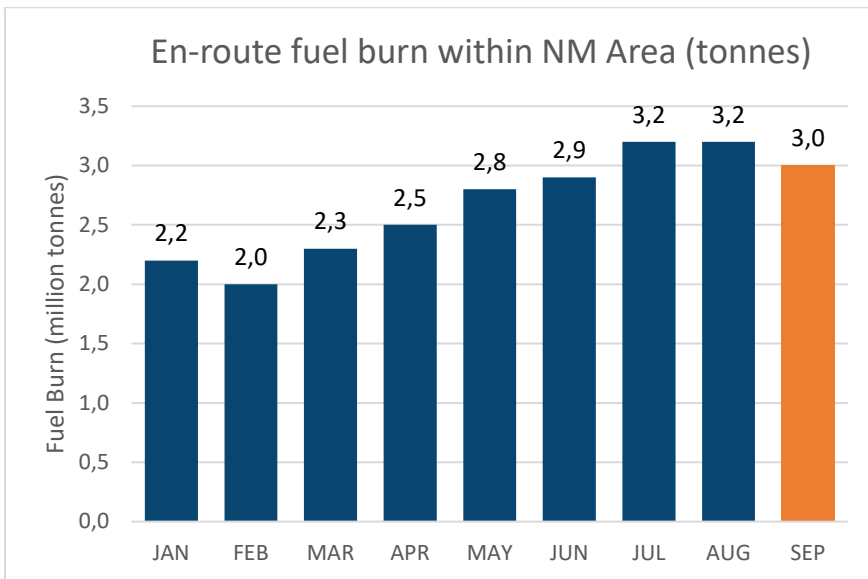
- ATC industrial action at Lanzarote and Fuerteventura airports throughout the month generated 4,906 minutes of ATFM delay.

Other

- Runway blocked due to an accident at Ibiza airport on 16 September generated 1,899 minutes of ATFM delay;
- Runway repair at Madrid/Barajas airport on 16 September generated 1,924 minutes of ATFM delay;
- Technical staff shortage at Luxembourg airport throughout the month generated 3,726 minutes of ATFM delay;
- The additional complexity due to the Ukrainian crisis generated delays in Budapest ACC: 69,639 minutes.

5. Flight Efficiency

Fuel burn



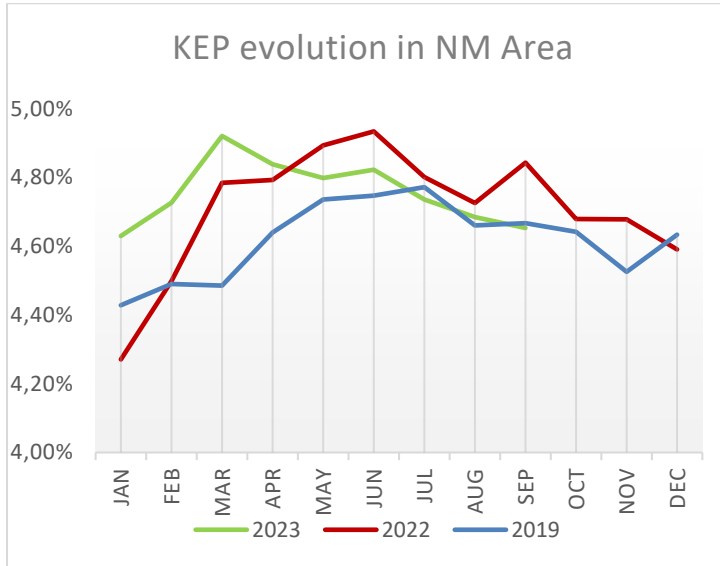
NM estimates that 3.0 million tonnes of fuel was burnt in the en-route flight phase in the NM area in September.



Horizontal Flight Efficiency

HORIZONTAL FLIGHT EFFICIENCY

There are two flight efficiency KPIs⁽ⁱⁱⁱ⁾: the horizontal flight efficiency indicators, KEP and KEA continued to decrease and was lower than 2022 level.

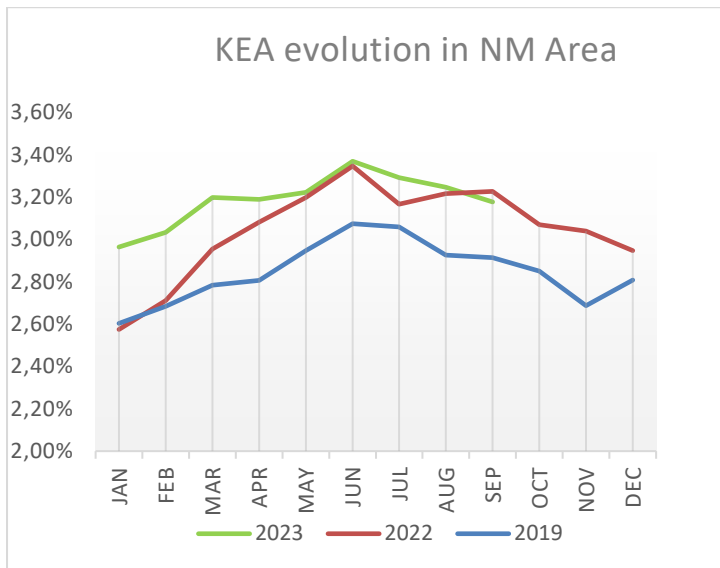


KEP indicator followed the same pattern than KEA at the start of the year. During summer it improved slightly over 2022, getting close to the 2019 level during July - September, despite the on-going Ukrainian airspace closure.

KEP indicator follows the trend of the RTE-RAD indicator. Over the past period, a number of airspace design-related changes impacted RAD indicators (see NM RAIS document for a list of changes

<https://www.eurocontrol.int/publication/rndsg-airspace-improvement-synopsis-rais>), allowing better routing options in the network.

These new options were planned by AOs, leading to a better KEP. In addition, NM worked closely with AOs/CFSPs to further improve their flight planning. KEA then follows KEP trends.



KEA indicator increased in March mainly due to French strikes. It remained high during the summer, at the level of 2022.



6. Notice

Traffic and Delay Comparisons

All traffic and delay comparisons are between report month and equivalent operational period of the previous year.

Traffic Monitoring

Country traffic counts are based on arrivals and departures traffic, overflights are excluded.

NM Area

All figures presented in this report are for the geographical area that is within Network Manager's responsibility (NM area). For further information on the NM Area go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at <https://www.eurocontrol.int/network-performance>

Regulation Reason Groupings

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 <https://www.eurocontrol.int/network-performance>

ATFM Statistics dashboard

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

Network Operations Analysis document

NM will maintain the NOR Overview for the foreseeable future. NOR Analysis remains suspended.

ATFM statistics provides an alternative source of network traffic and ATFM delays.

<https://www.eurocontrol.int/dashboard/air-traffic-flow-management-statistics-dashboard>

And stakeholders can use FATHOM for a more detailed view of their operational performance.

<https://www.eurocontrol.int/tool/network-manager-interactive-analysis-tool>

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ⁱ To request access to MIRROR see the EUROCONTROL [MIRROR project page](#) for more details.

ⁱⁱ **Scheduled turnaround time:** difference between the Scheduled Arrival Time and the Scheduled Departure Time of the next flight operated by same aircraft.

Available turnaround time: difference between the Actual In-Block Time and the Scheduled Departure Time of the next flight operated by same aircraft.

Actual turnaround time: difference between the Actual In-Block Time and the Actual Off-Block Time of the next flight operated by same aircraft.

ⁱⁱⁱ More information on KEP and KEA, see [ANS performance page](#).



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