

# ICAO EUR/MID Radio Navigation Symposium

## GNSS Interference Data Analysis

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# Presentation Overview

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**01** GADM

**02** Global GPS Signal Loss

**03** GNSS RFI MENA

**04** GNSS RFI Europe

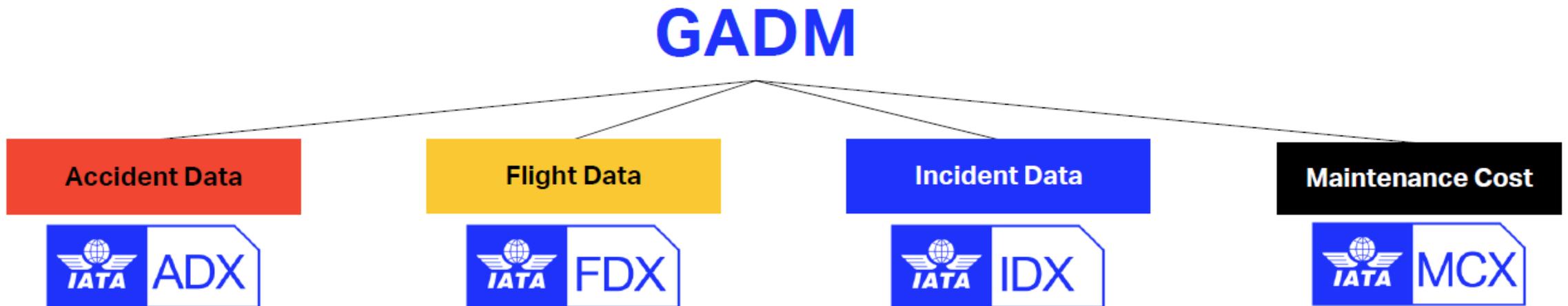
**05** IATA Recommendations

# Aviation Safety Data

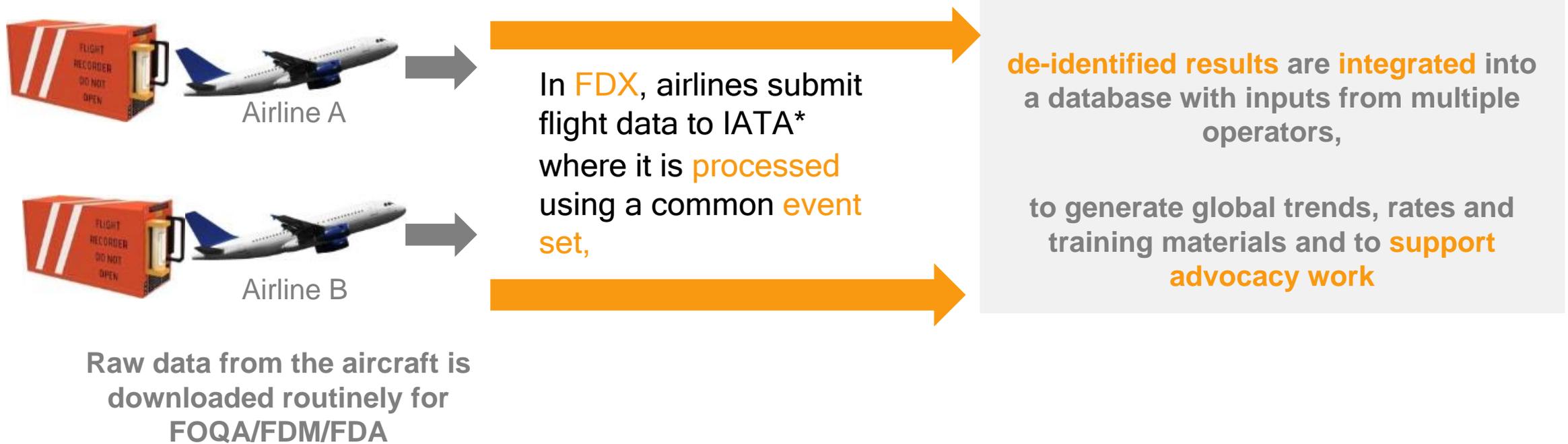
- Safety data and safety information exchange are fundamental components for understanding the underlying safety conditions and allows to **identify safety improvements** through improved safety intelligence to **mitigate safety risks** and improve **flight efficiency**
- IATA, through the **IATA Global Aviation Data Management (GADM)** program, collects and collates multiple forms of data, including safety, operational, flight and aircraft maintenance cost data, for the purposes of **conducting statistical analyses and benchmarking**, and making available to the industry aggregated anonymized outputs in the form of **reports, dashboards and business intelligence tools**;

# Global Aviation Data Management

- IATA's Operations, Safety & Security Division
  - Safety & Operational Data and Analytics Programs
- GADM is a unique global aviation safety database with IATA serving as a custodian trusted by the industry to do this.



# How does it work?



(\*) IATA works with Flight Data Services as its collaborative partner for FDX data processing. Data is displayed only when there are at least 3 operators with the same aircraft type. De-identification includes: no airline information is available, the tail numbers and the flight numbers are written off, the flight date is set to the first day of the month.

# FDX Statistics



More than  
**209**  
Airlines and  
growing

More than  
**7 000 000**  
flights globally

More than  
**6500**  
aircraft



# IDX Statistics



**271**  
Airlines  
Participants  
and growing

# GNSS RFI Regions Affected

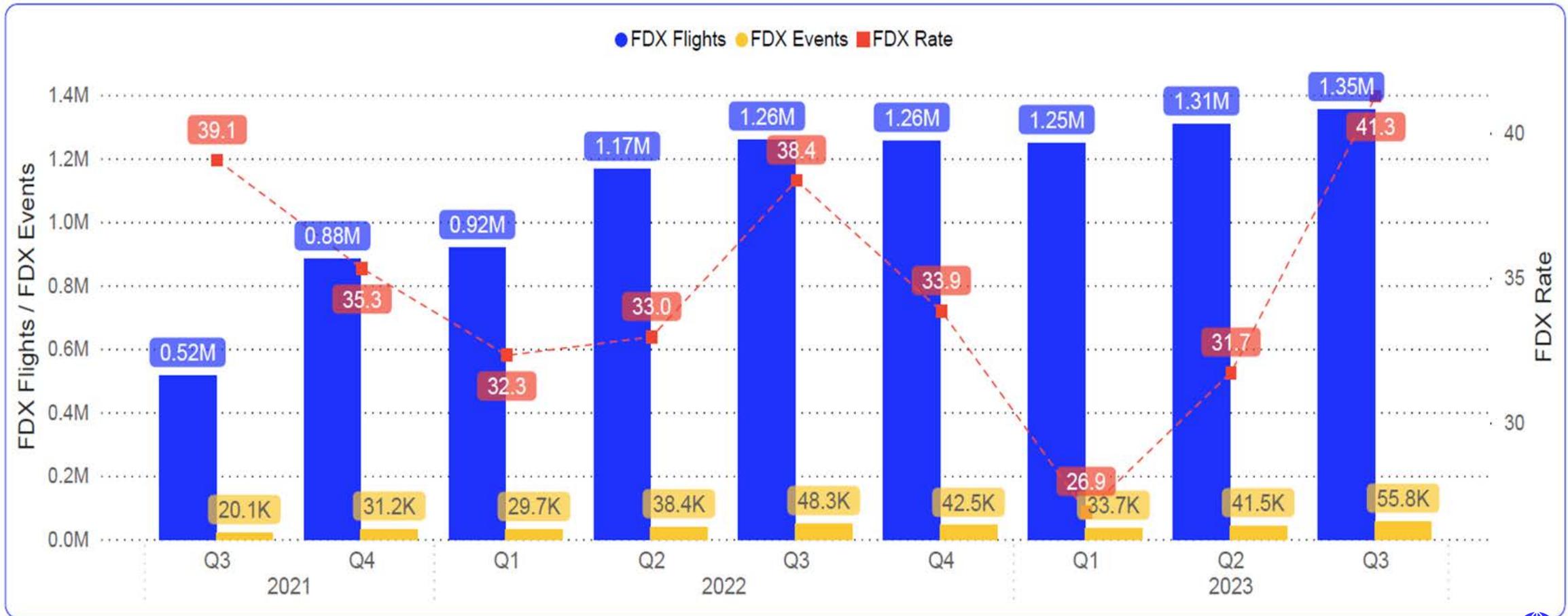
## Regions

- Middle East
- Black Sea
- Caucasus Region
- East Mediterranean
- North Atlantic (impacted by GPS interference in Europe / MID)

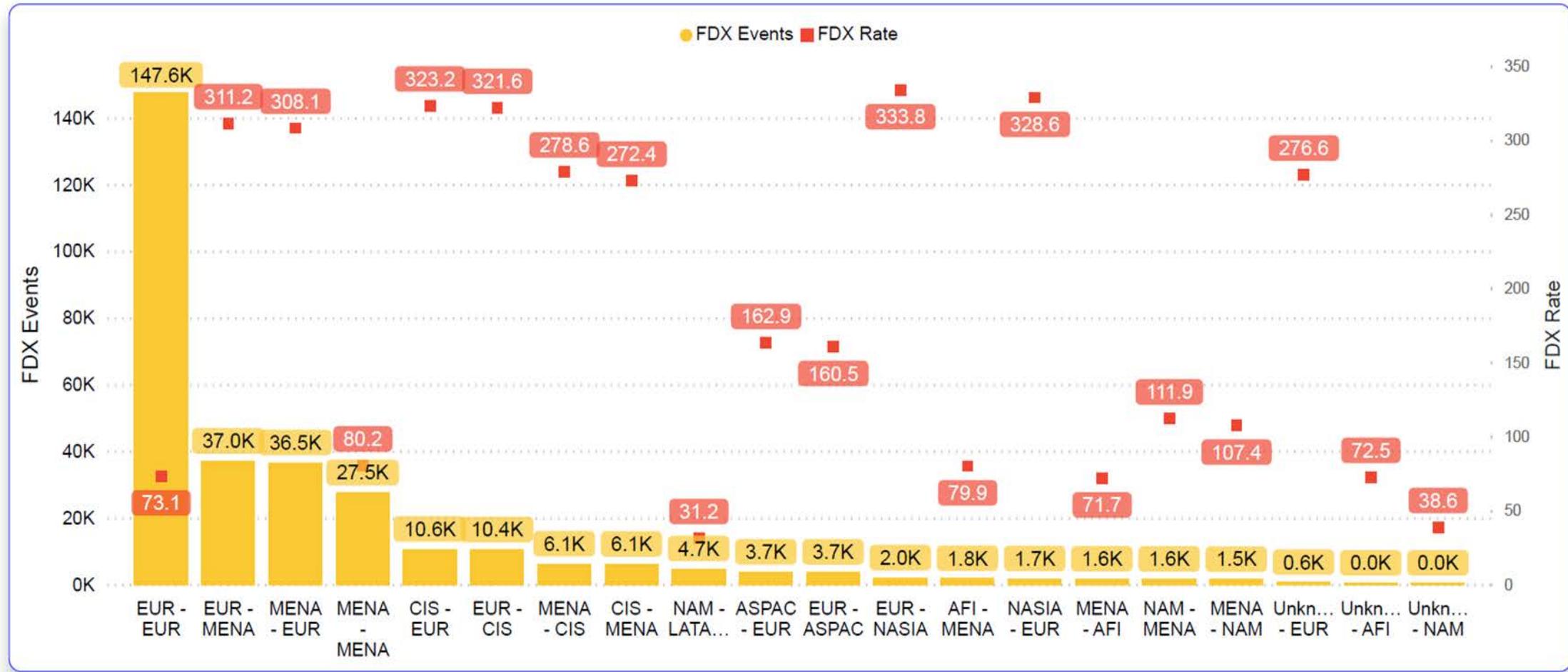
## Regional GPS Interference (NOTAMS)

- Several CAAs in the region, including Turkey, Iraq, and Israel, issued NOTAMS

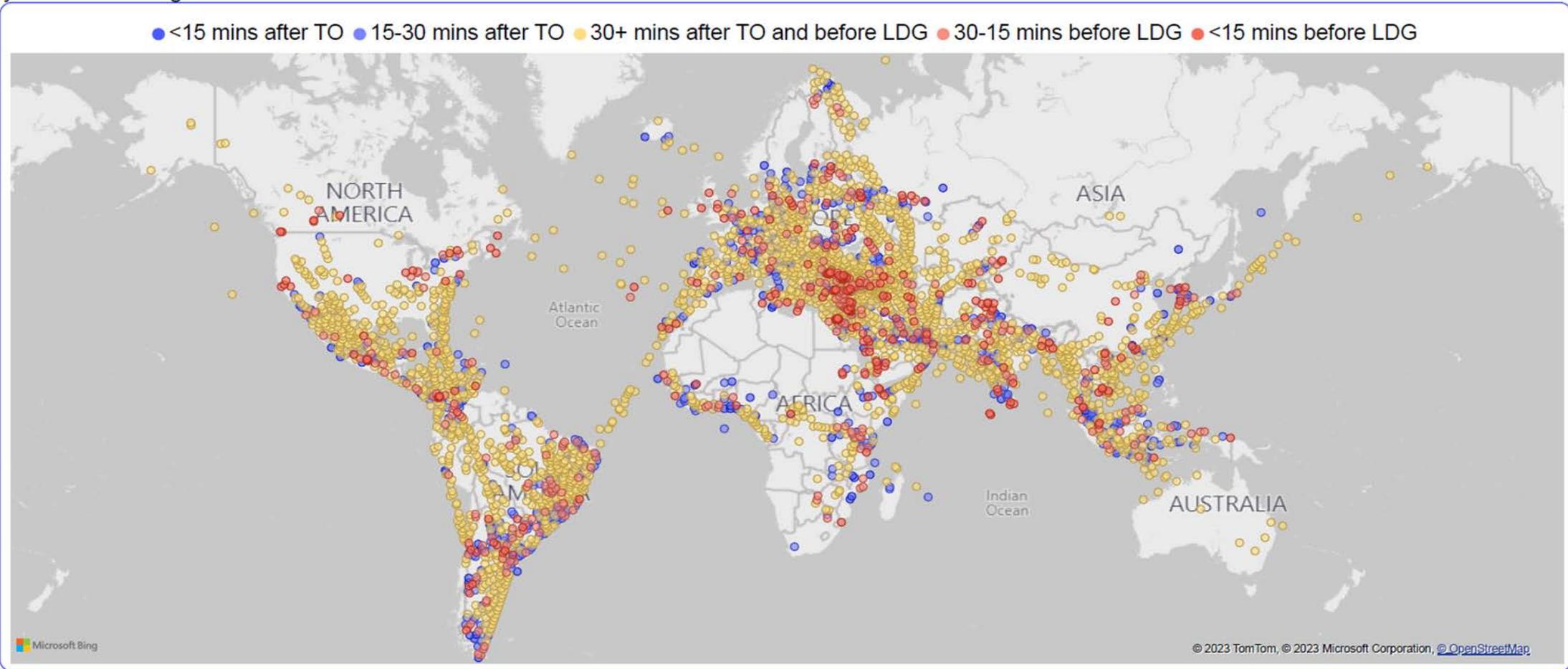
# Global GPS Signal Loss Occurrence Rate



# Global GPS Signal Loss Event

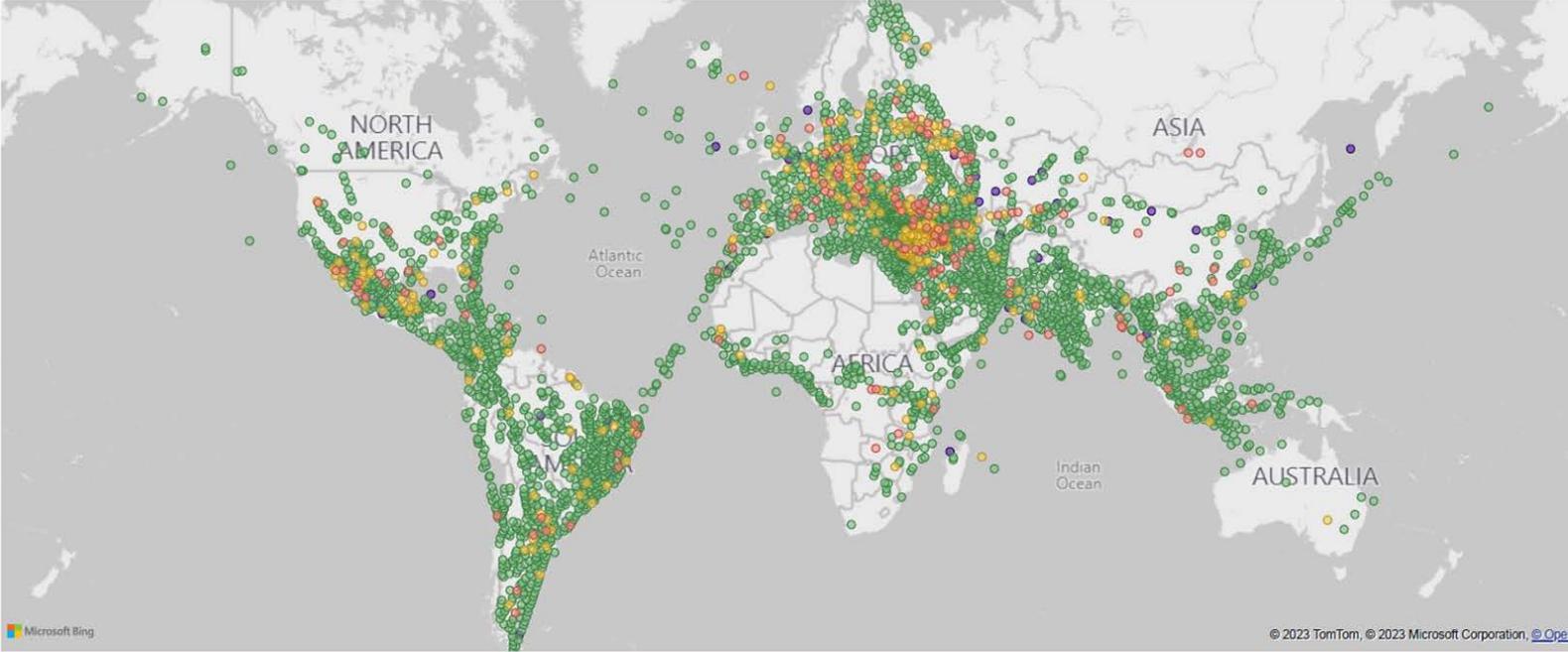


# Signal Loss Occurrence Phase of Flight

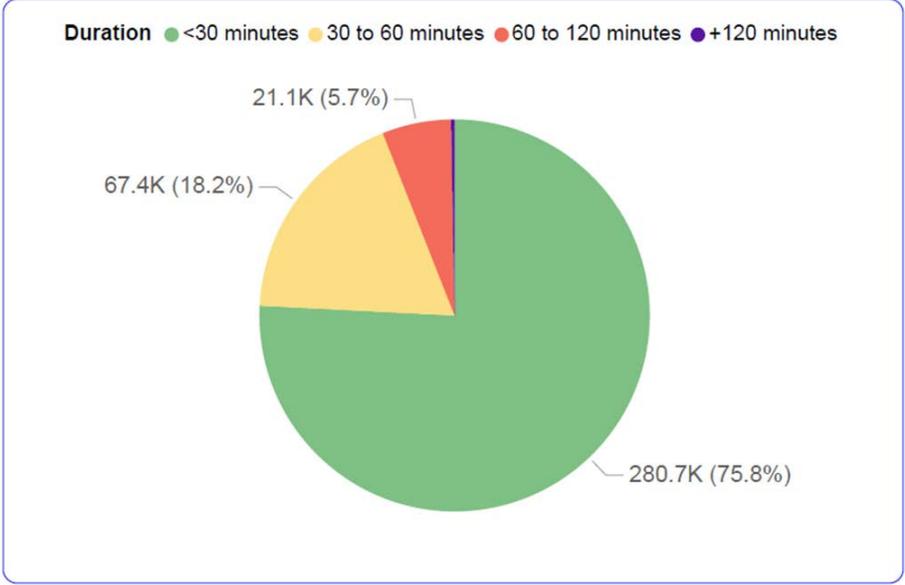


# GPS Signal Loss Occurrence Duration

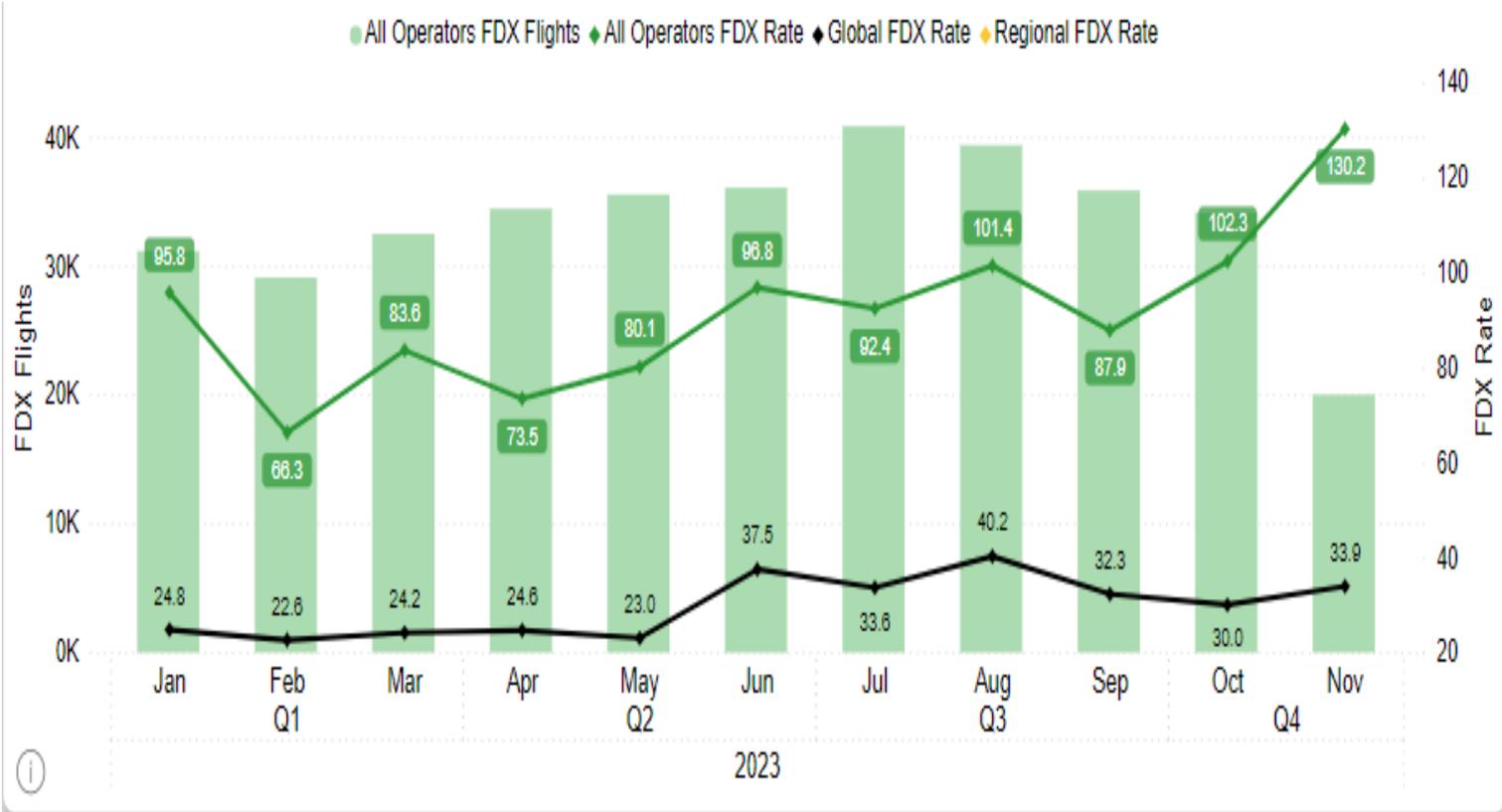
● +120 minutes ● <30 minutes ● 30 to 60 minutes ● 60 to 120 minutes



Duration ● <30 minutes ● 30 to 60 minutes ● 60 to 120 minutes ● +120 minutes

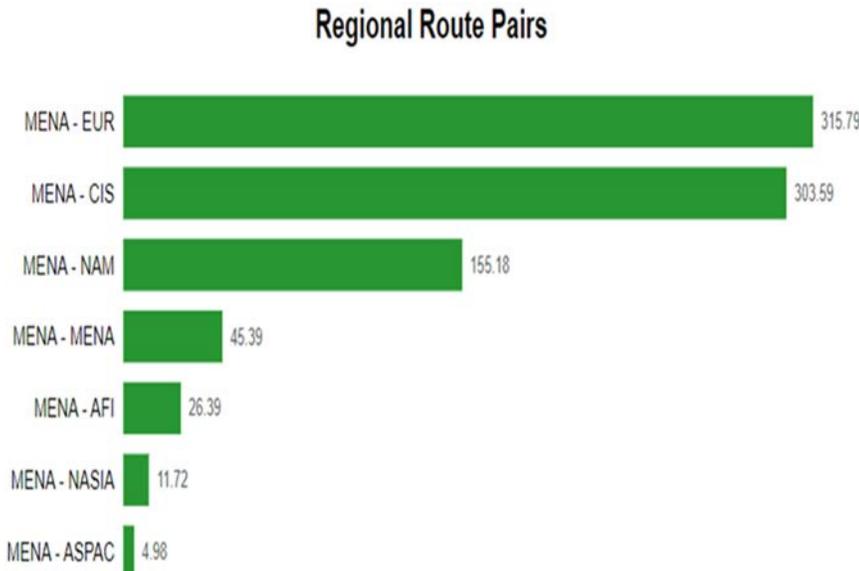


# GNSS RFI MENA



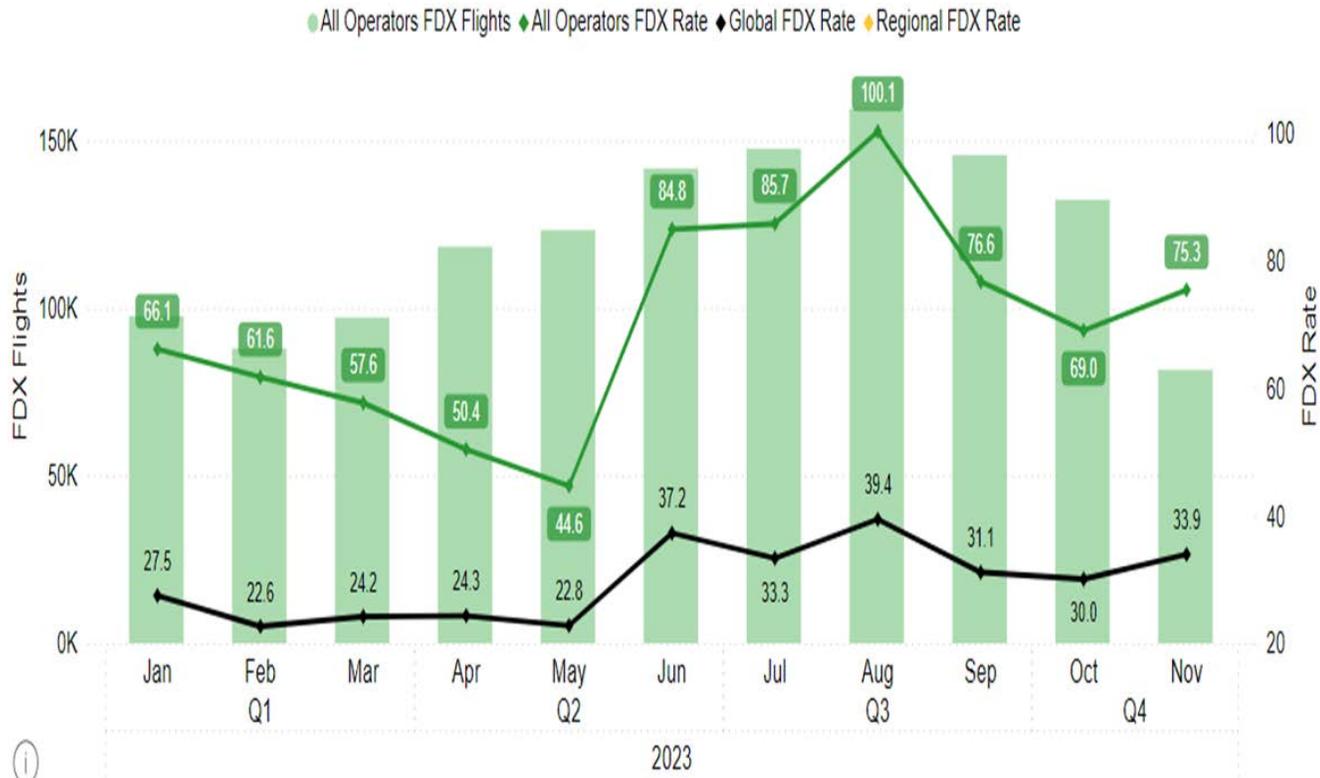
**All Operators FDX Rate**  
**90.82**

**Global FDX Rate**  
**29.74**



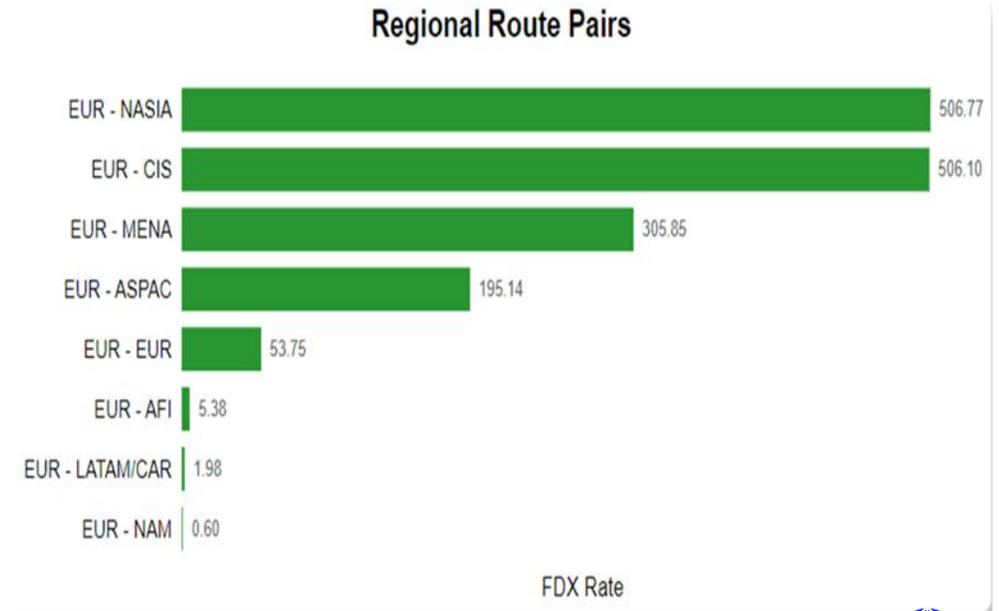
FDX Rate

# GNSS RFI Europe

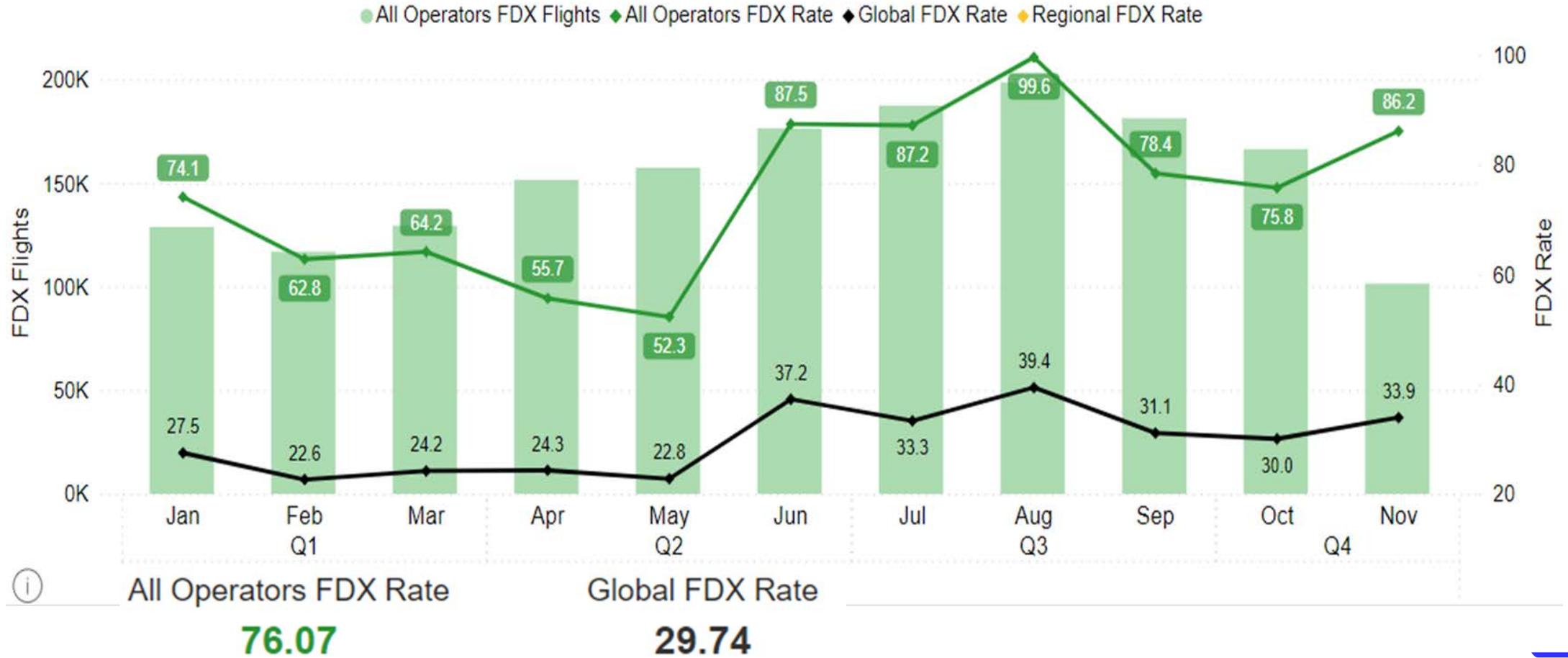


All Operators FDX Rate  
**72.04**

Global FDX Rate  
**29.74**



# GNSS RFI Europe & MENA



# IATA Recommendations

- Establish a regionally determined minimum operational network (MON) of conventional navigation aids .
- ICAO & IATA to continue efforts to encourage **pragmatic elimination** of government origin GNSS RFI.
- States to develop procedures (conventional routes) to be used in case of GNSS interference .
- Airlines to contribute to safety data by joining FDX .
- OEMs to provide guidance on jamming & Spoofing situations.



Thank You!