



Turbulence
Aware

Facilitating industry shift
to data-driven turbulence
mitigation

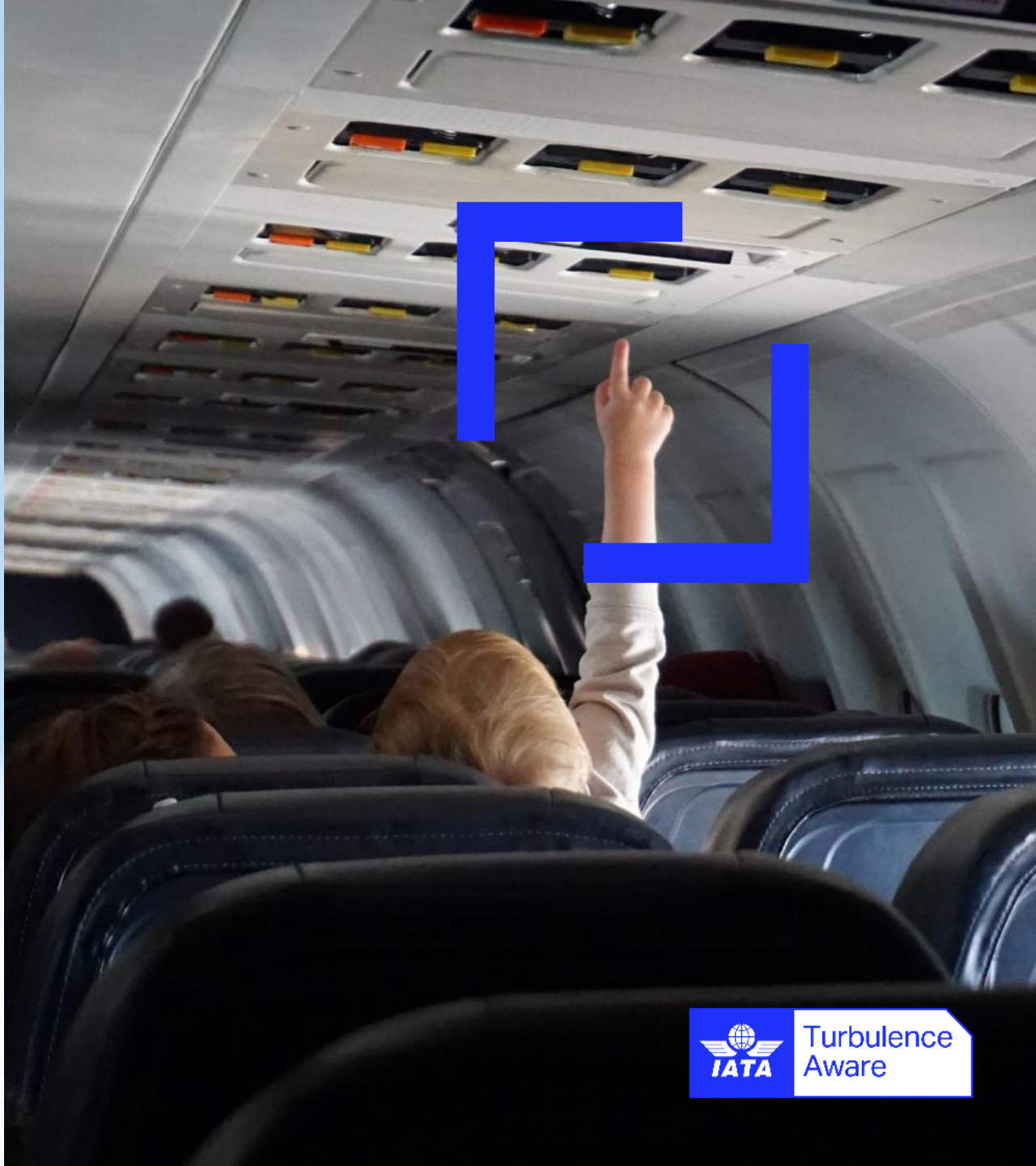


Turbulence is

The leading cause of injuries to cabin crew and passengers in non-fatal accidents (FAA)

Costing the aviation industry hundreds of millions of dollars every year

Causing brand damage and contributing to the fear of flying



Current tools :

Pilot Reports (PIREPS) are Subjective

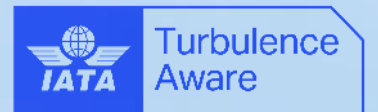
Forecasts may be inaccurate and hours old

Weather radar cannot detect clear air turbulence



149%

The projected **increase**
in the frequency of
severe turbulence*



*Williams, 2017

Industry shift to data-driven turbulence management

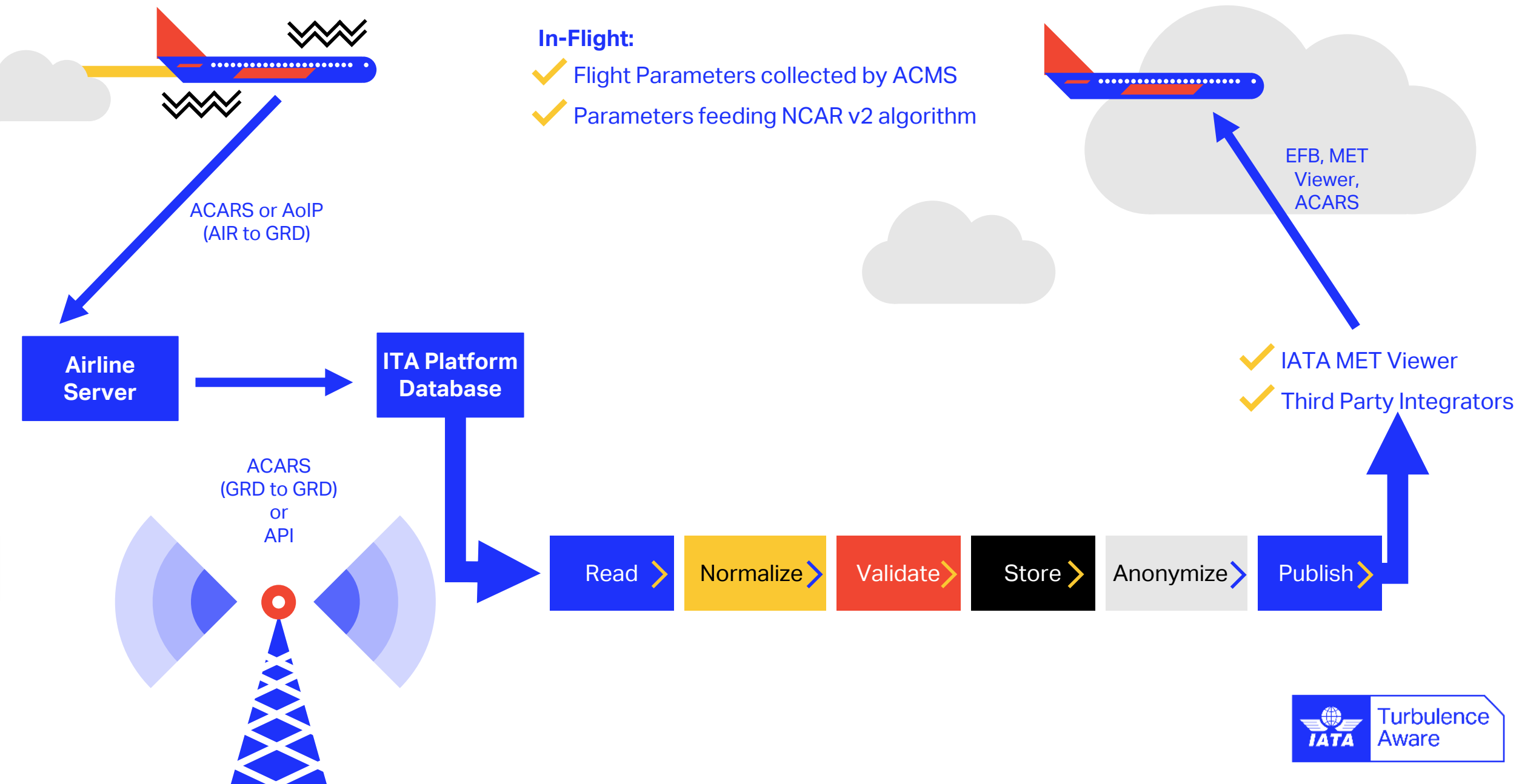
Recent technical advancements now enable aircraft to accurately calculate the turbulence state of the atmosphere in flight



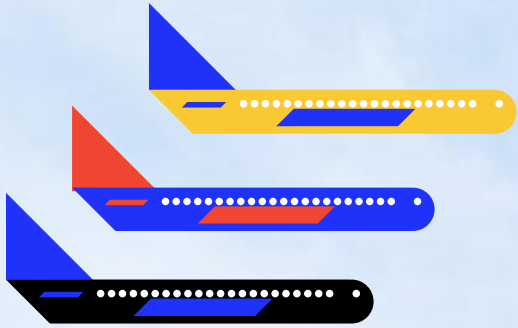
What is real-time turbulence data?

Eddy Dissipation Rate (EDR)

- Turbulence intensity metric measuring the **state of the atmosphere** around an aircraft in flight
- It is the **ICAO standard** for aircraft measure and reporting for clear-air turbulence
- An **aircraft independent** absolute value
- Simple **software installation** based on NCAR v2 open-source algorithm
- **No hardware** required to calculate EDR

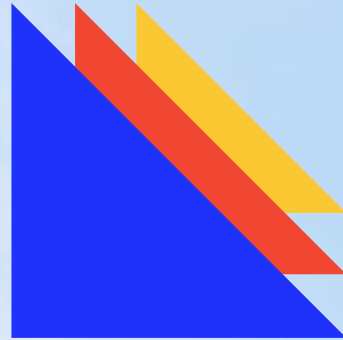


IATA Turbulence Aware in figures



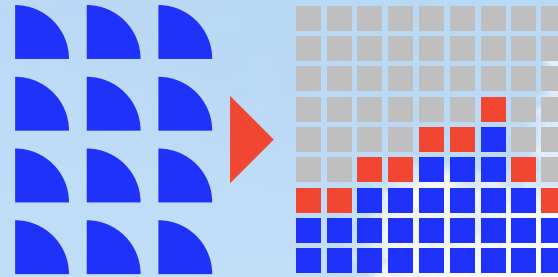
2700+

Reporting Aircraft



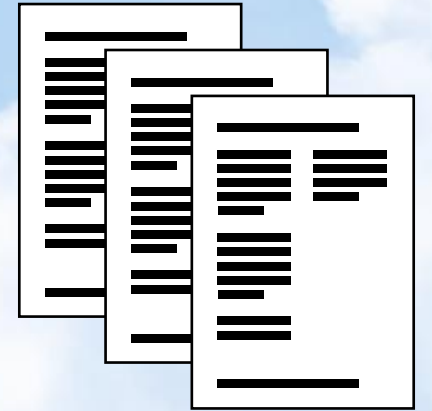
27

**Airlines feeding
data to the Platform**



12

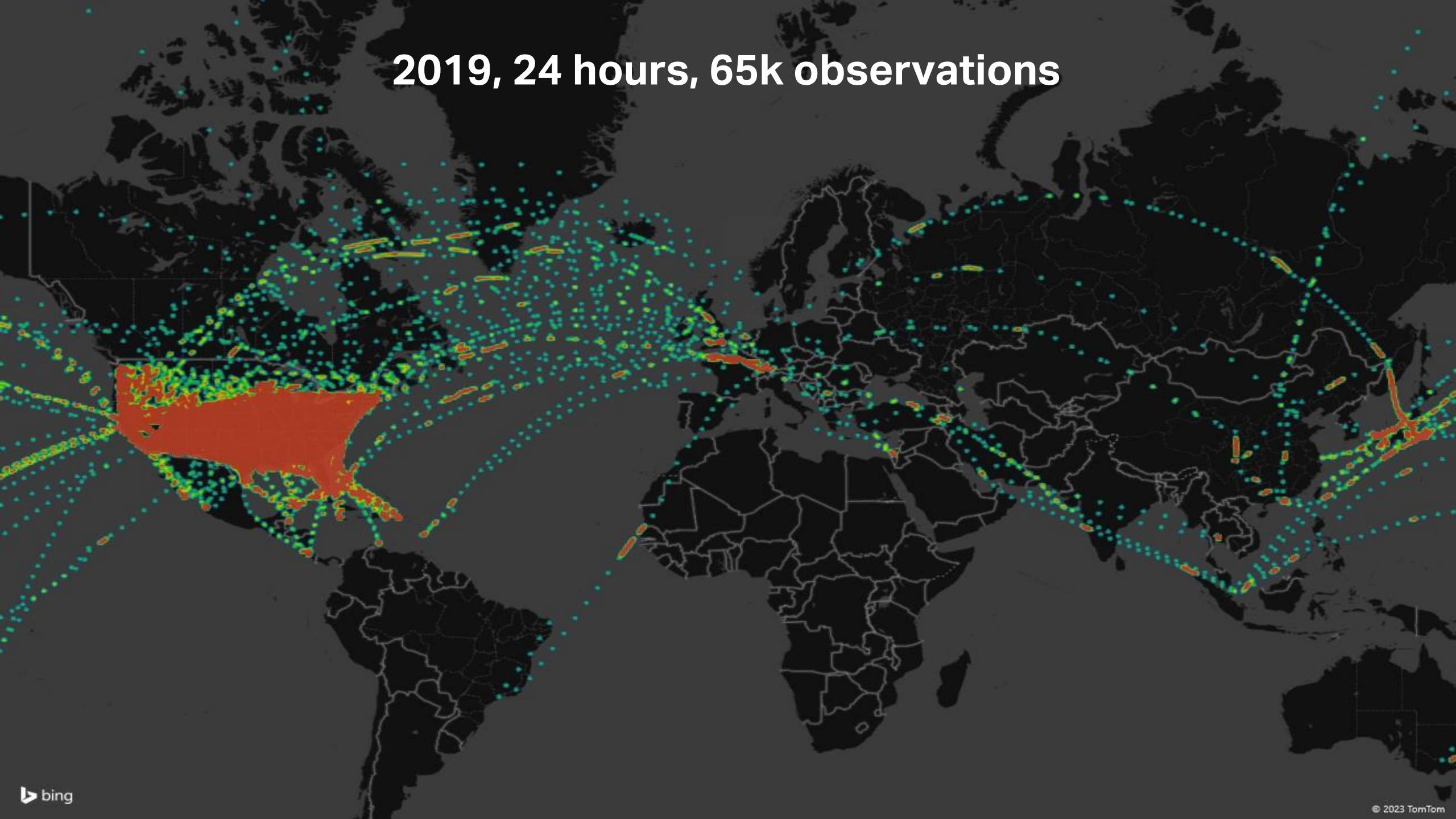
**Service Providers
signed to *integrate*
data**



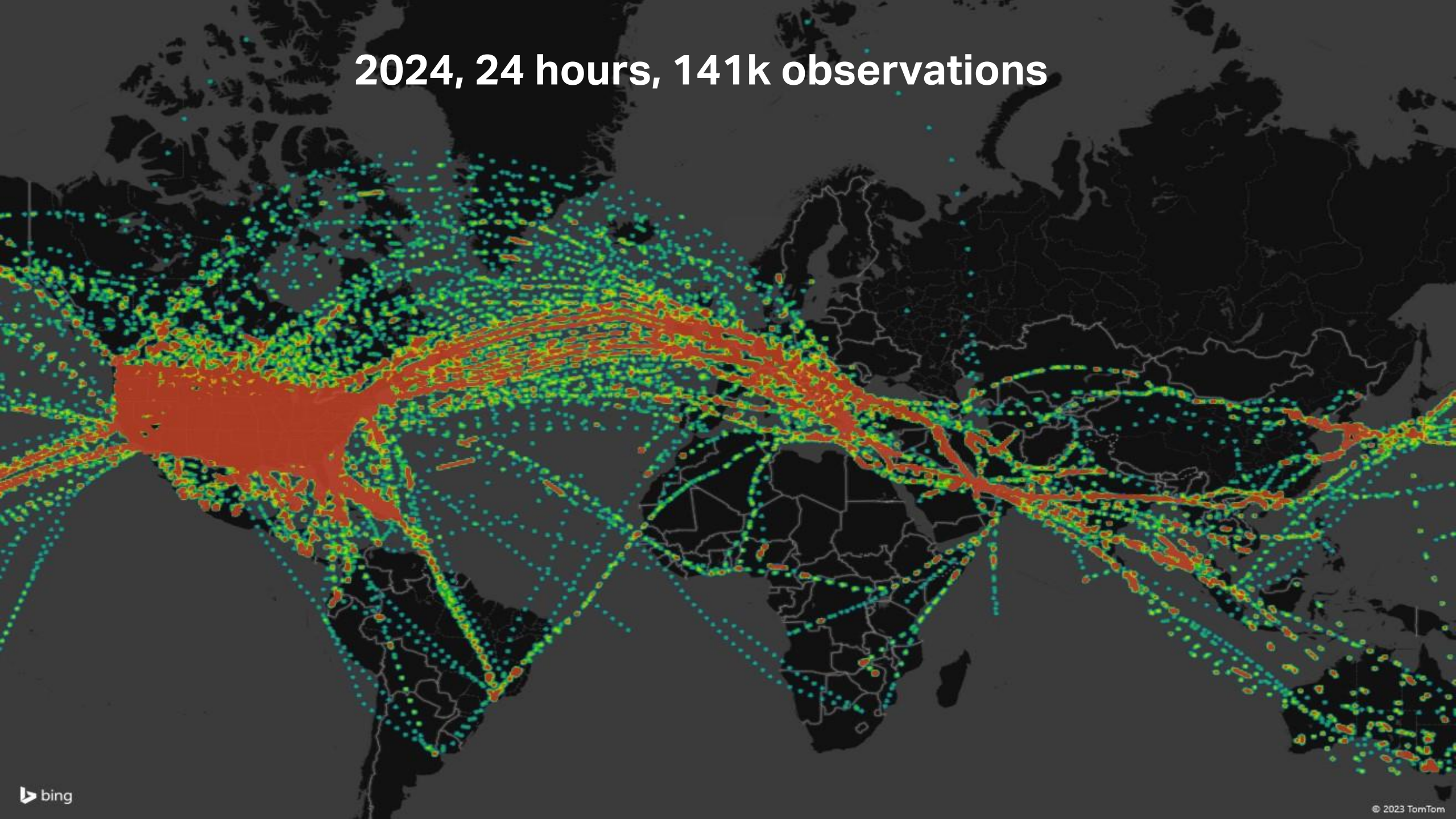
180+ M

**Turbulence Reports
received**

2019, 24 hours, 65k observations

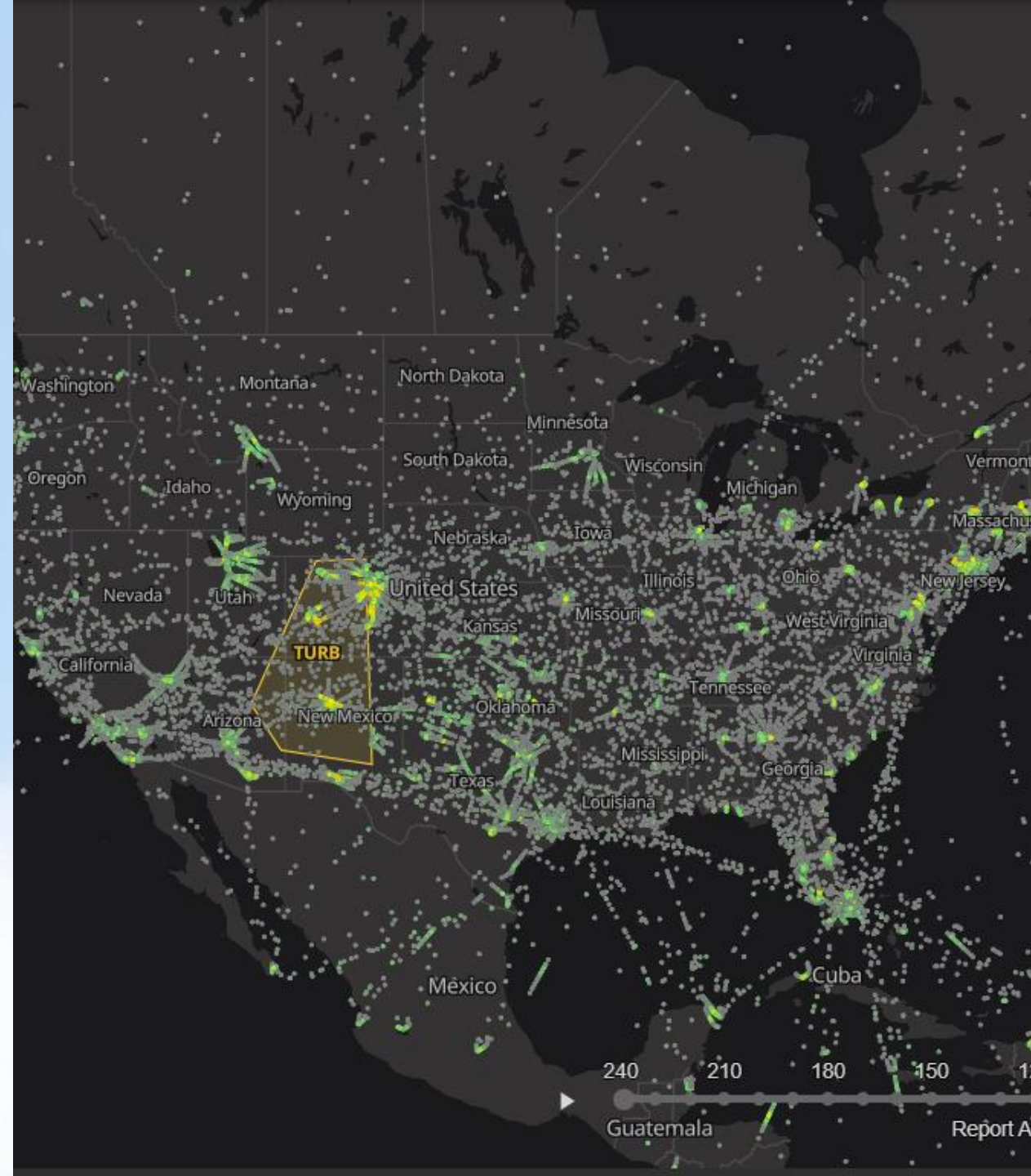


2024, 24 hours, 141k observations



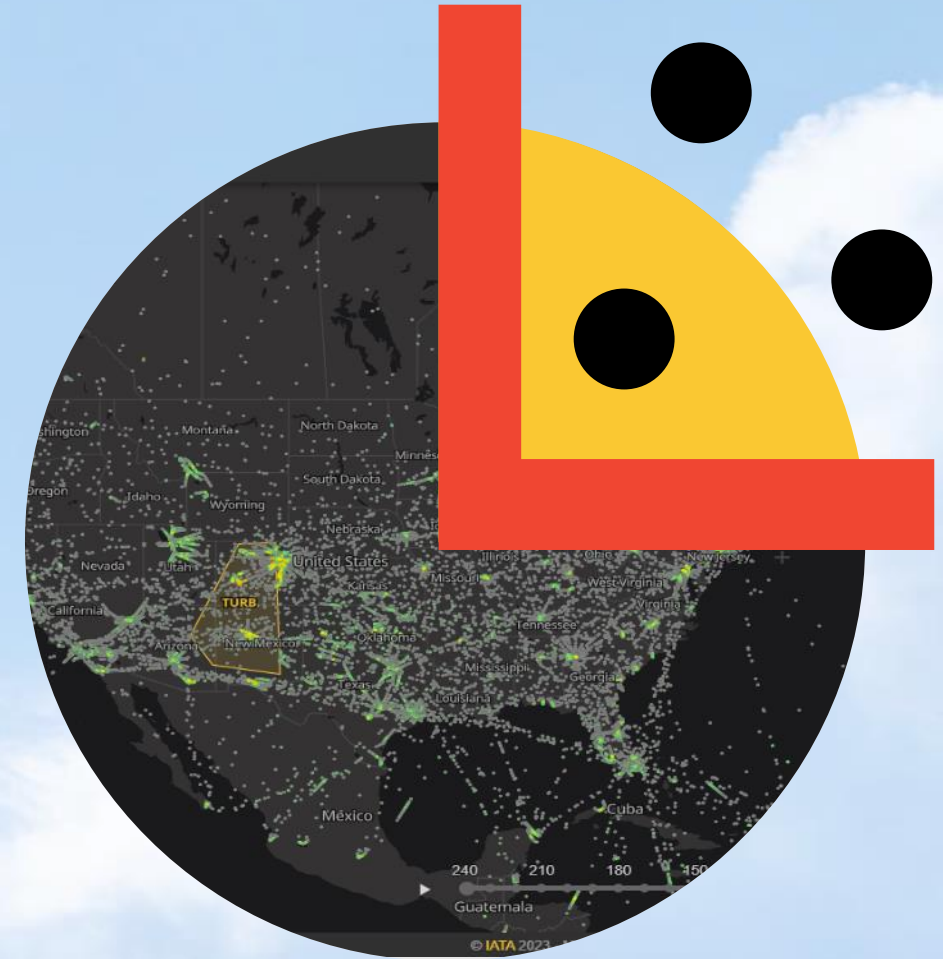
IATA Turbulence Aware offers access to live and historical wind, temperature and turbulence data (*EDR) to support research and meteorological organizations with their demand for turbulence and MET data.

(*) Eddy Dissipation Rate



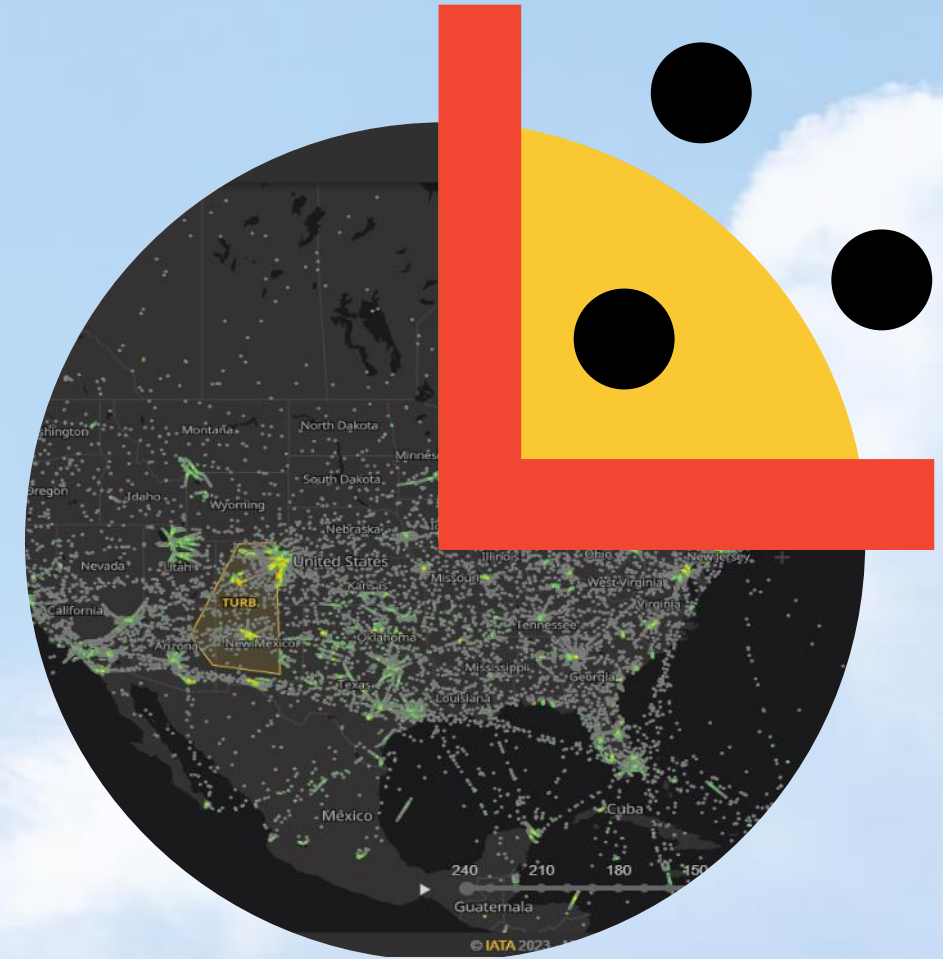
Use Cases:

- Turbulence and SIGMETs Modeling Validation
- Turbulence Model Development
- Turbulence and Weather Research Activities
- Access to the same raw turbulence data as pilots for better operational decisions
- Analysis of areas / altitudes / flight levels to better manage traffic flow and airways
- ATCs no longer need to congest the airways requesting ride reports

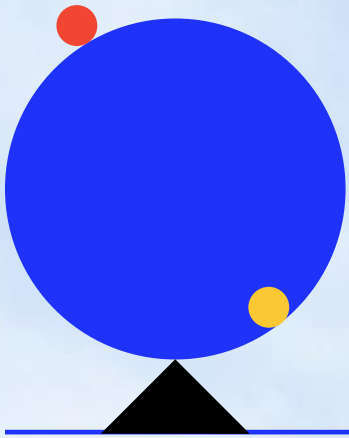


Use Cases:

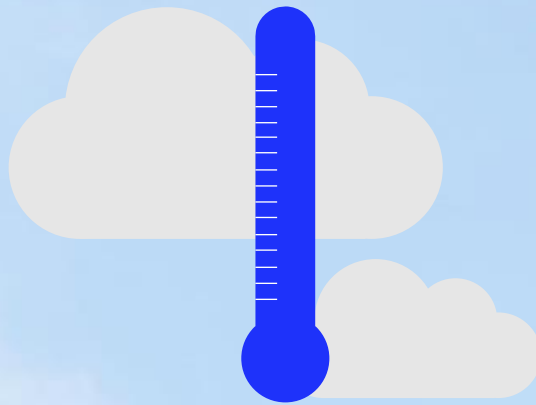
- Proactive management of air traffic flow
- Dynamic management of air traffic sectors
- Optimization of airspace usage
- Informed decisions and improved coordination between airlines, ATS and ATFM units
- Enhanced flight planning
- More accurate advisories and warnings
- Cross-FIR coordination during adverse weather



Available data:



Live Global
Turbulence
Coverage



Wind and
Temperature
Data



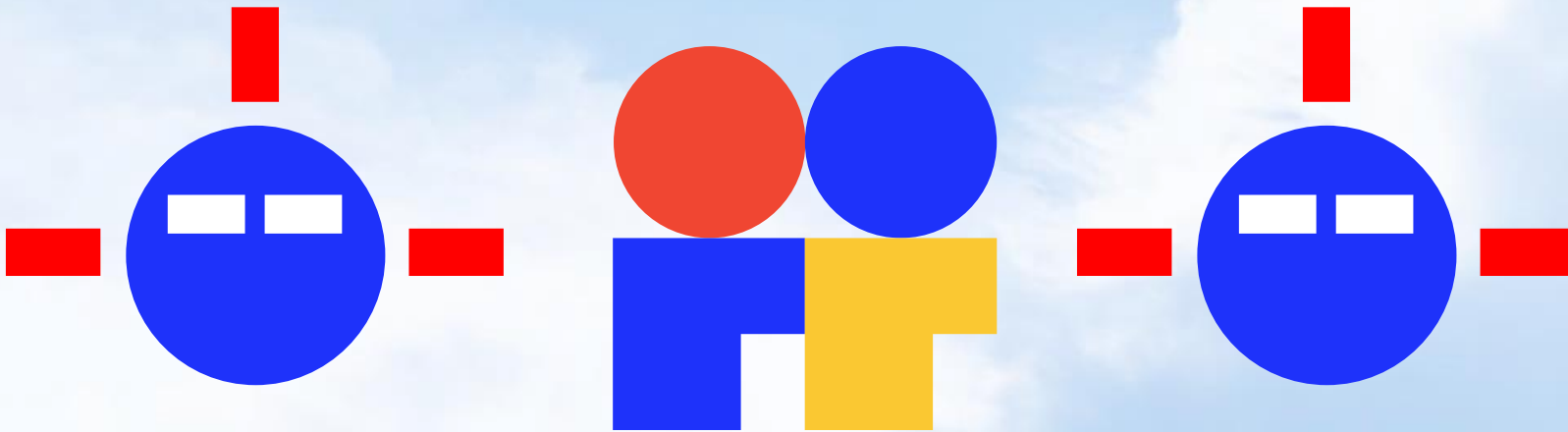
Historical
Data Archive
in CSV format

Parameters delivered for each report listed below:

Parameter	Explanation	Example
Observation Time	Time of report in UTC	2020-05-13t00:00:00Z
Altitude	Altitude Above Sea Level in feet	35,000 ft
Latitude	Geographical coordinate of the report for latitude	22
Longitude	Geographical coordinate of the report for longitude	120
Peak EDR	Maximum EDR value in the calculation	0.37
Mean EDR	Average EDR value of the calculation	0.12
Wind Speed	Wind speed in knots	40kt
Wind Direction	Wind direction in radial degrees	270°
Static Air Temperature	Temperature in degrees Celsius	-55.0 °C

IATA Turbulence Aware

**Safer journey for
1.2+ billion PAX
since product inception**



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