

Turbulence trend analysis

with Robotic Process Automation

13 November, 2023

Captain Kangwon Bae

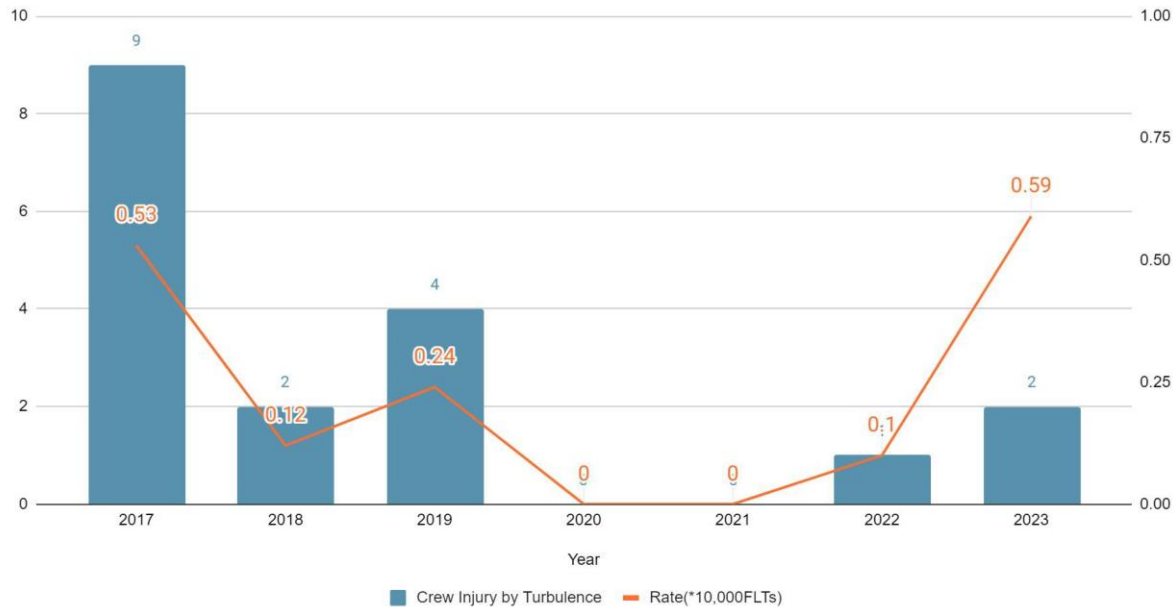
Safety & Security Investigation Team, Corporate Aviation Safety & Security Department, Korean Air



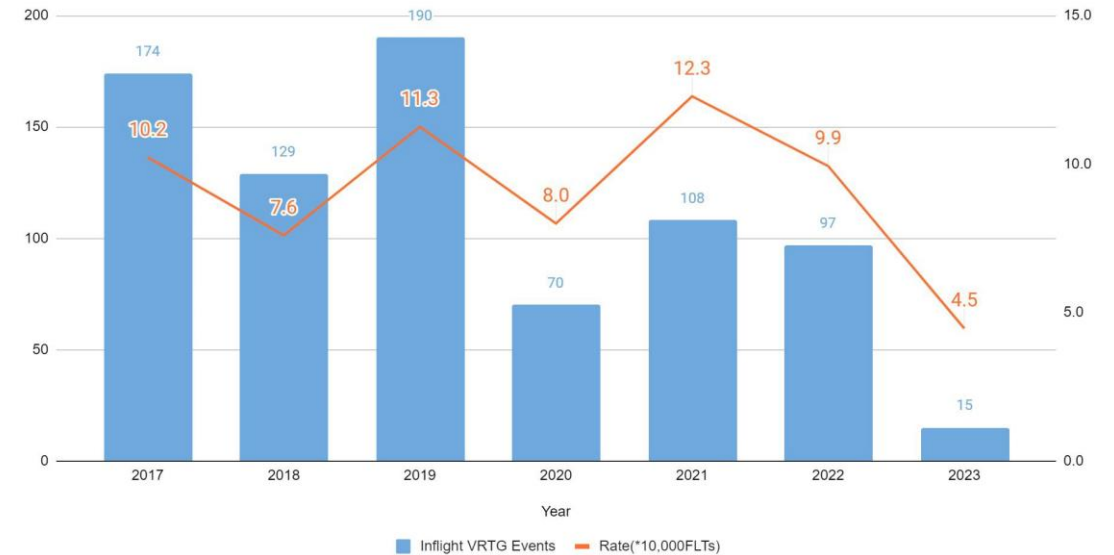
Background

- Increased number of cabin crew injuries caused by Turbulence
- Needs for the other precursors of turbulence trends
: FOQA 'Inflight VRTG' Event decreased 12.3(2021) → 4.5 (2023)

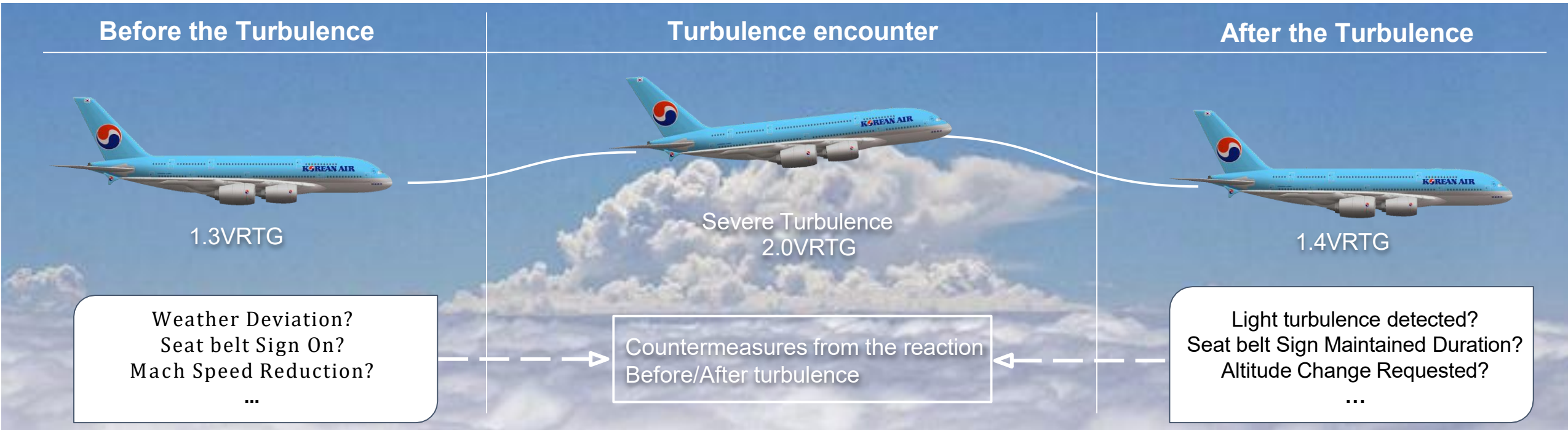
Turbulence Injuries trends : **Increasing**



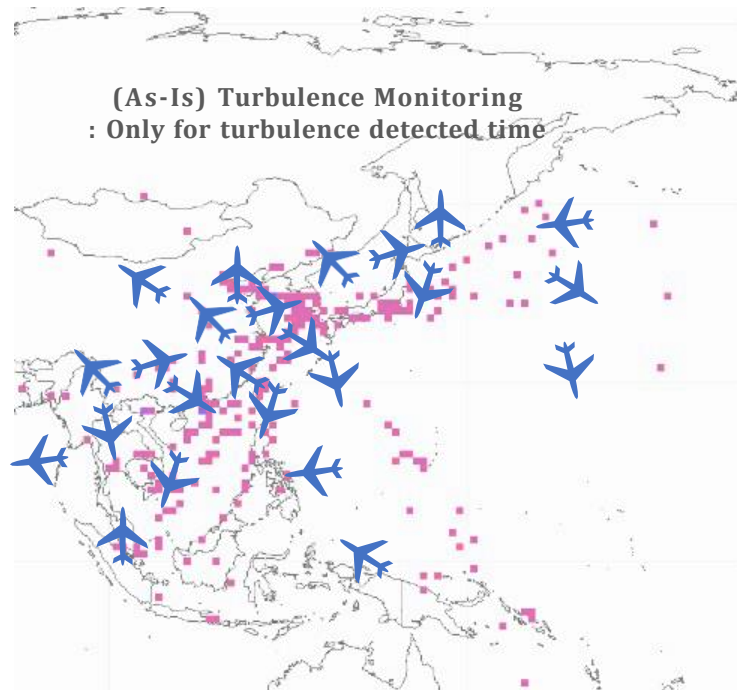
In flight Vertical Acceleration Event Trends : **Decreasing**



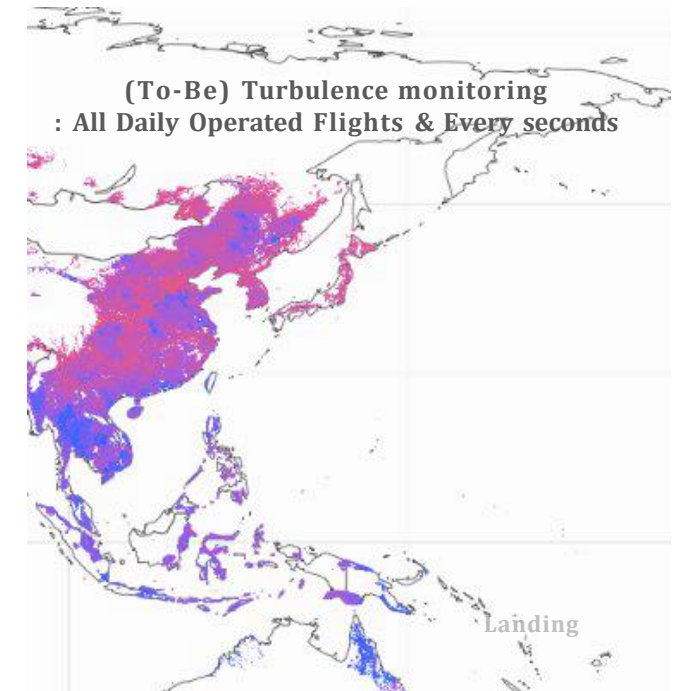
Expansion of flight data monitoring : Countermeasures from the continuous full flight



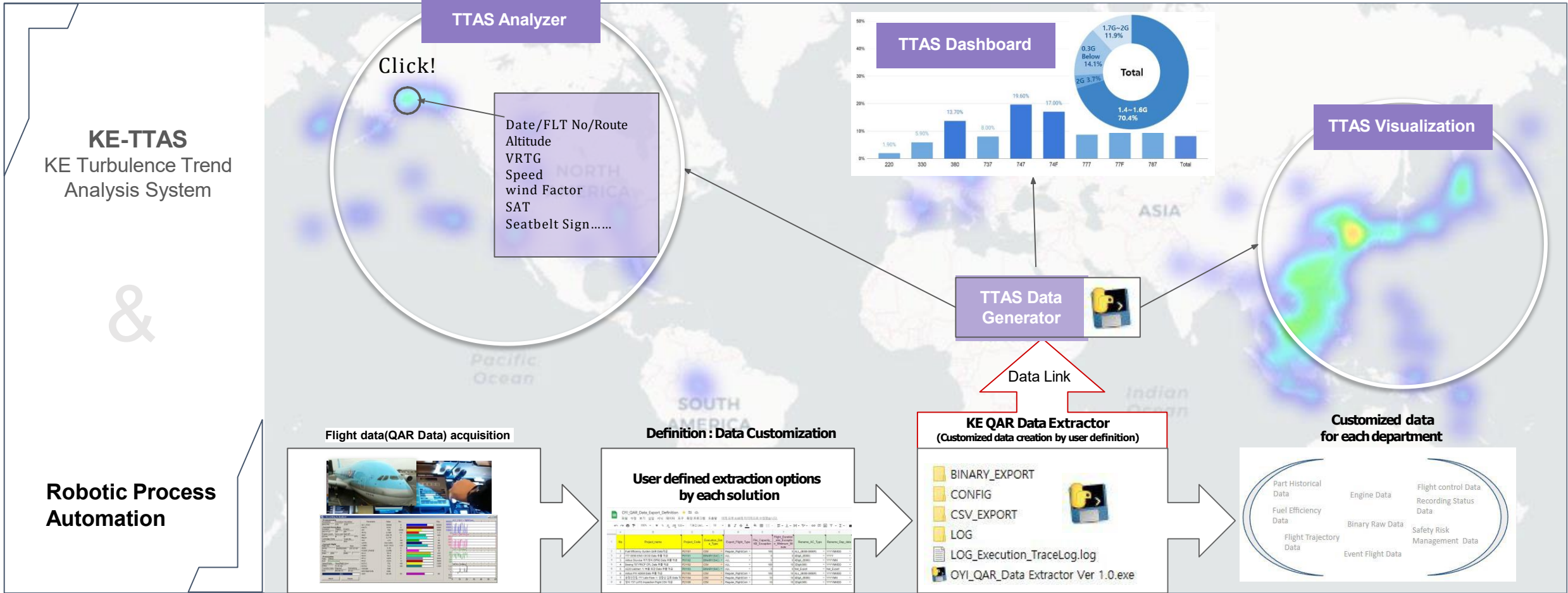
RPA(Robotic Process Automation) Tech. Adaptation : All over the sky & Every moment



Continuous Full Flight Data Utilization →
Robotic Process Automation

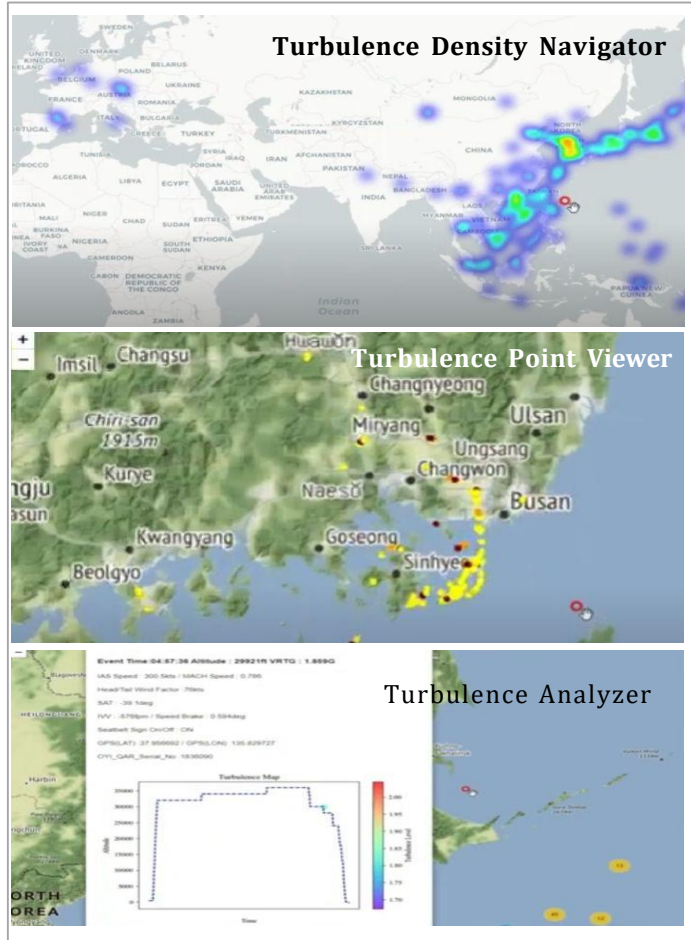


Turbulence Trend Analysis System(TTAS) = Combination between RPA and Turbulence data analyzer

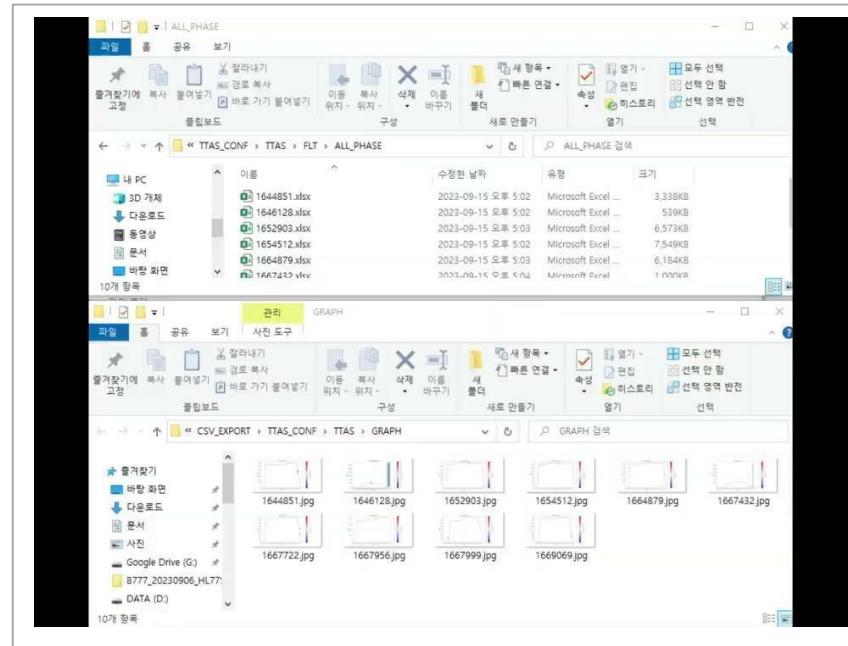


TTAS Data Generator with Robotic Process Automation

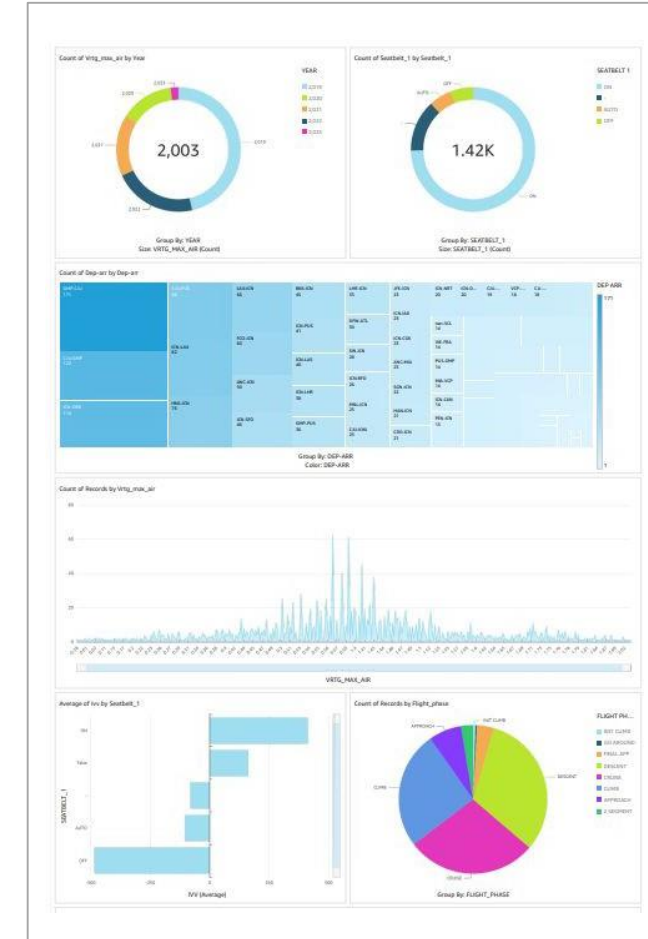
Turbulence Trend Analyzer



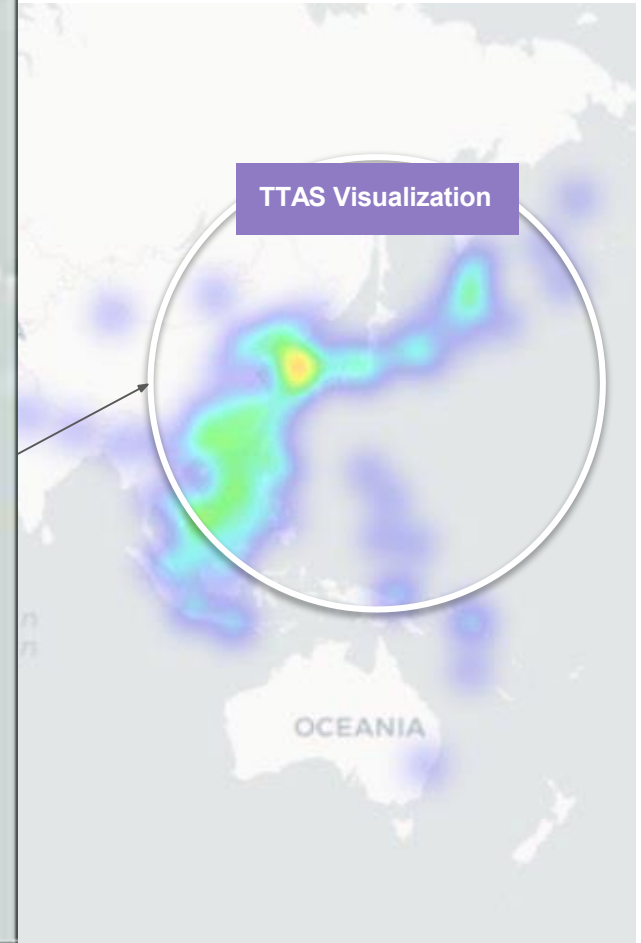
TTAS Data Generator



Turbulence Trend Dashboard



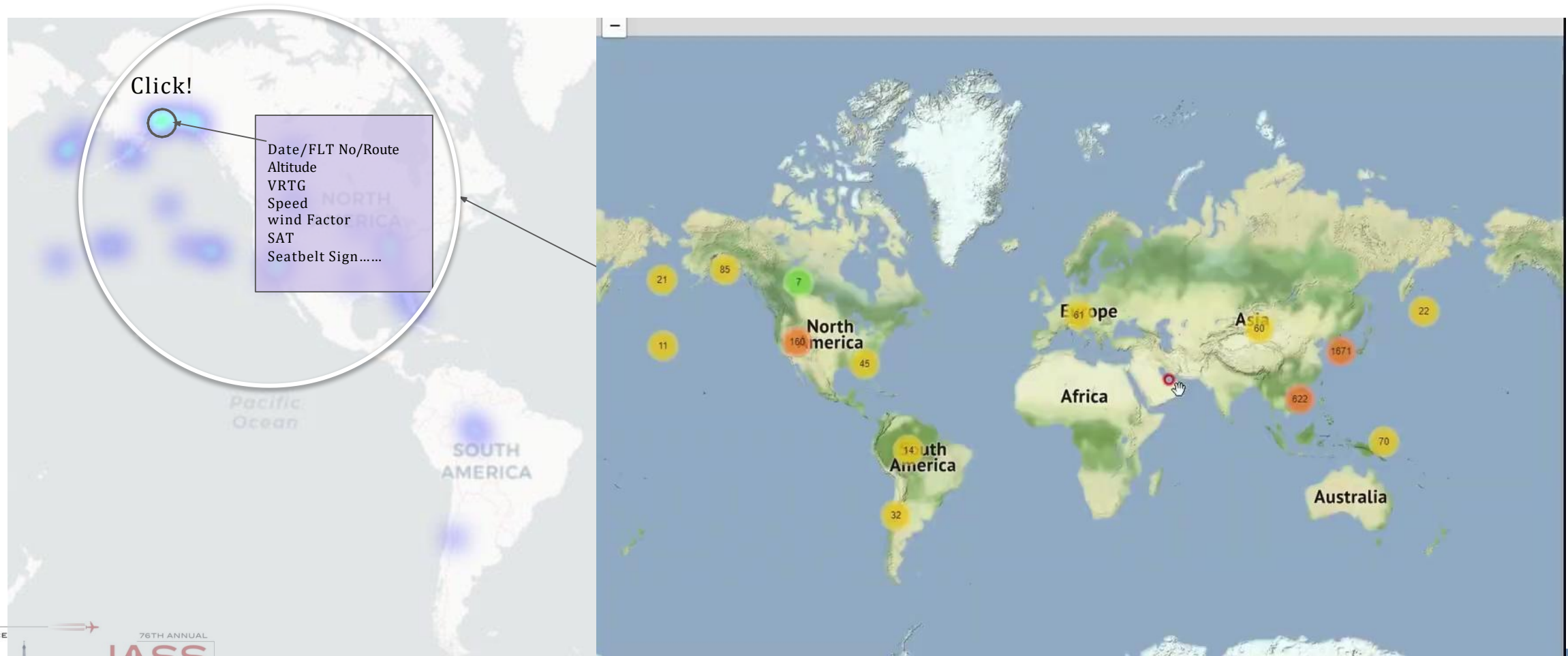
TTAS Demonstration : Turbulence Density Navigator



TTAS Demonstration : Turbulence Point Viewer



TTAS Demonstration : Turbulence Analyzer



Future plan : Expansion of Continuous Full Flight data utilization

