

Airplane Crash Analysis

Understanding causes and prevention

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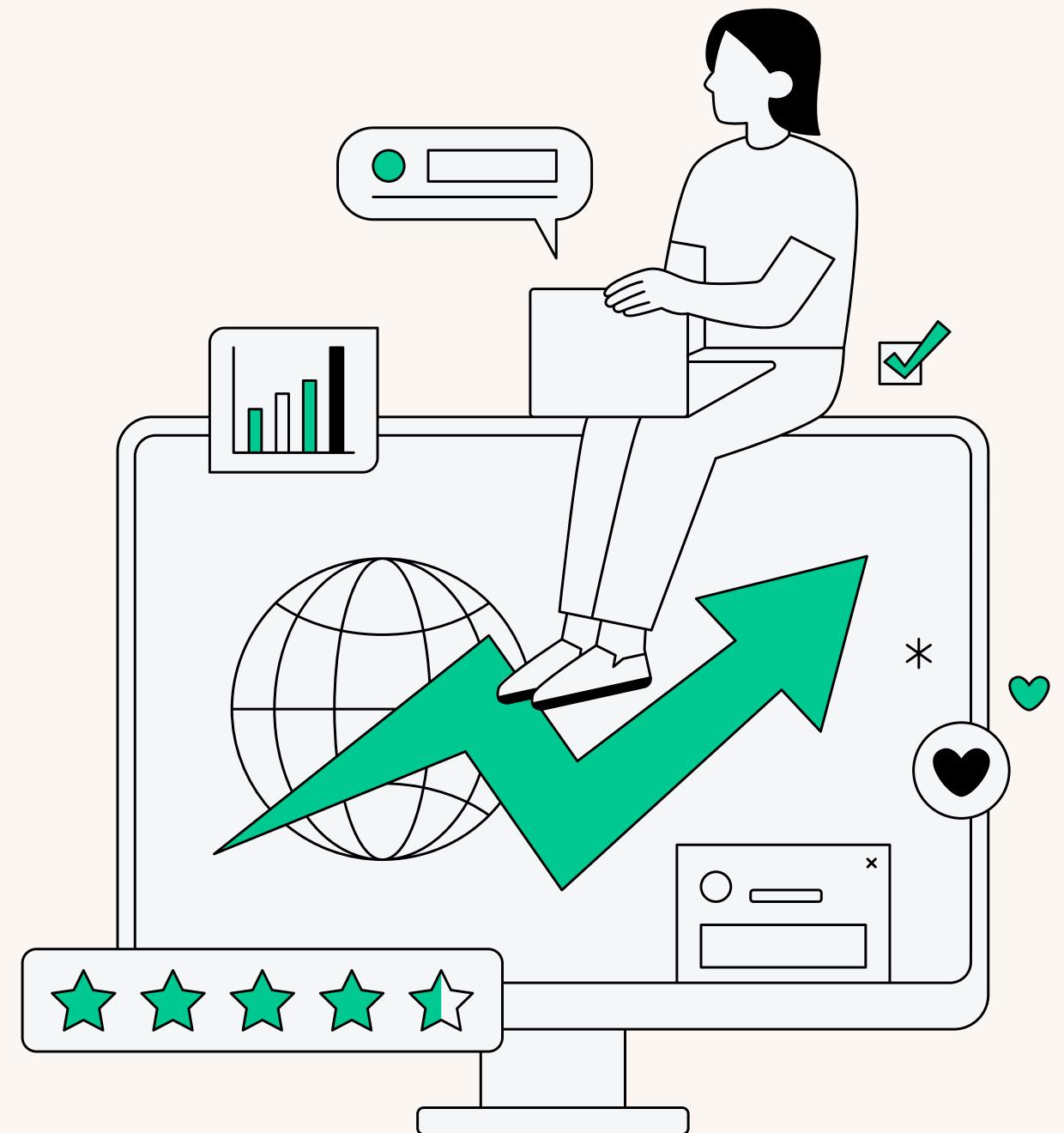
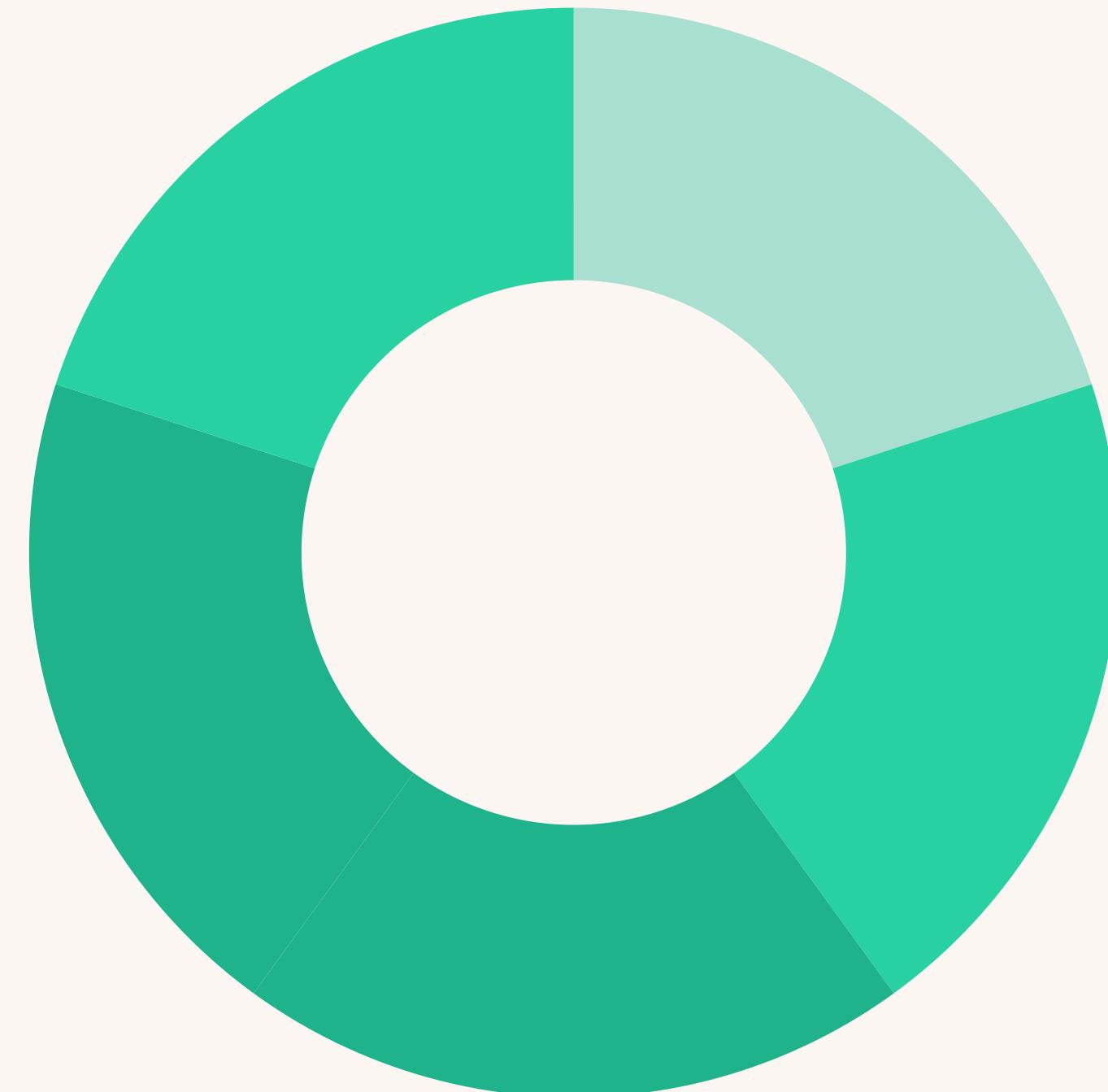


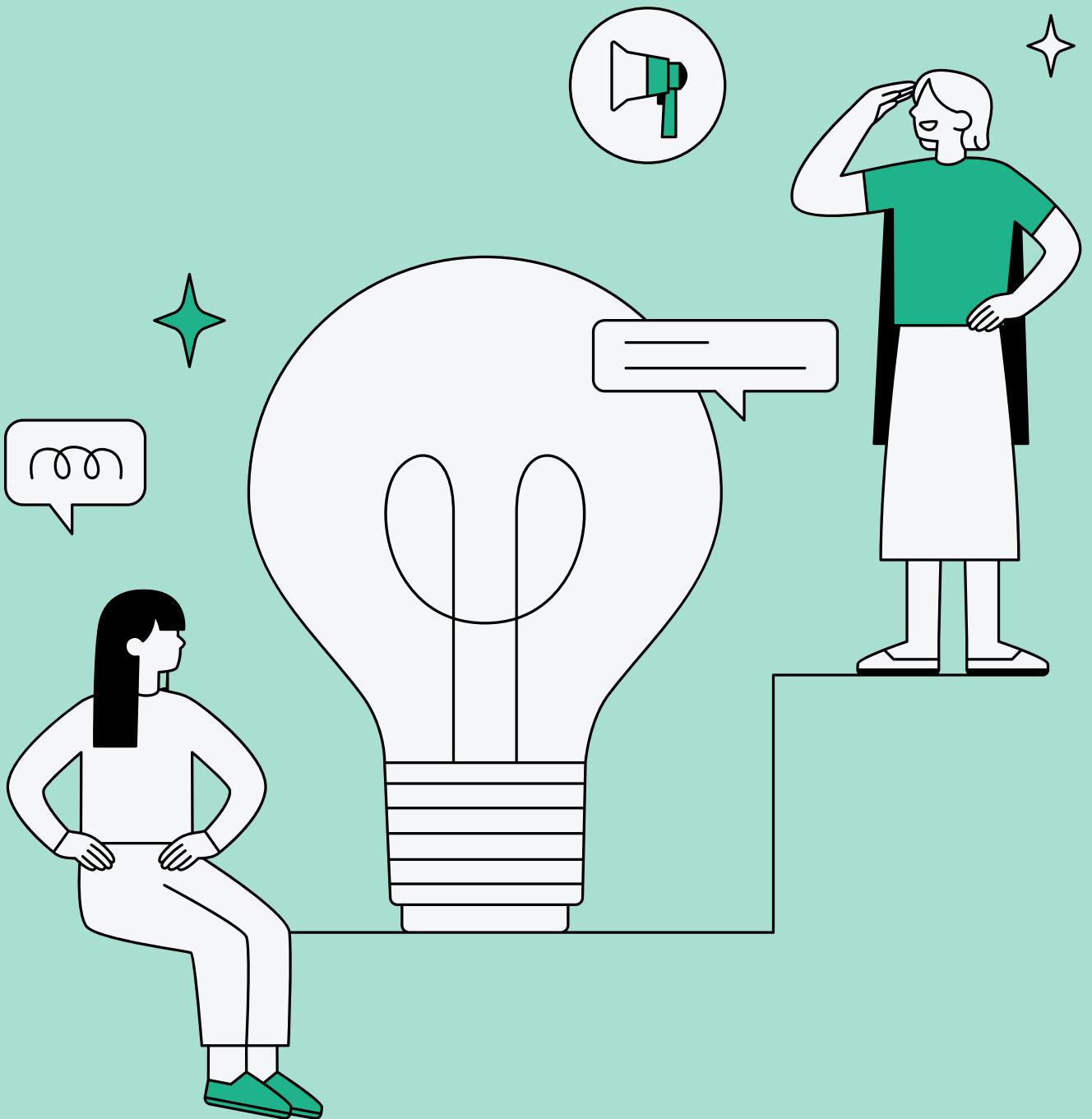
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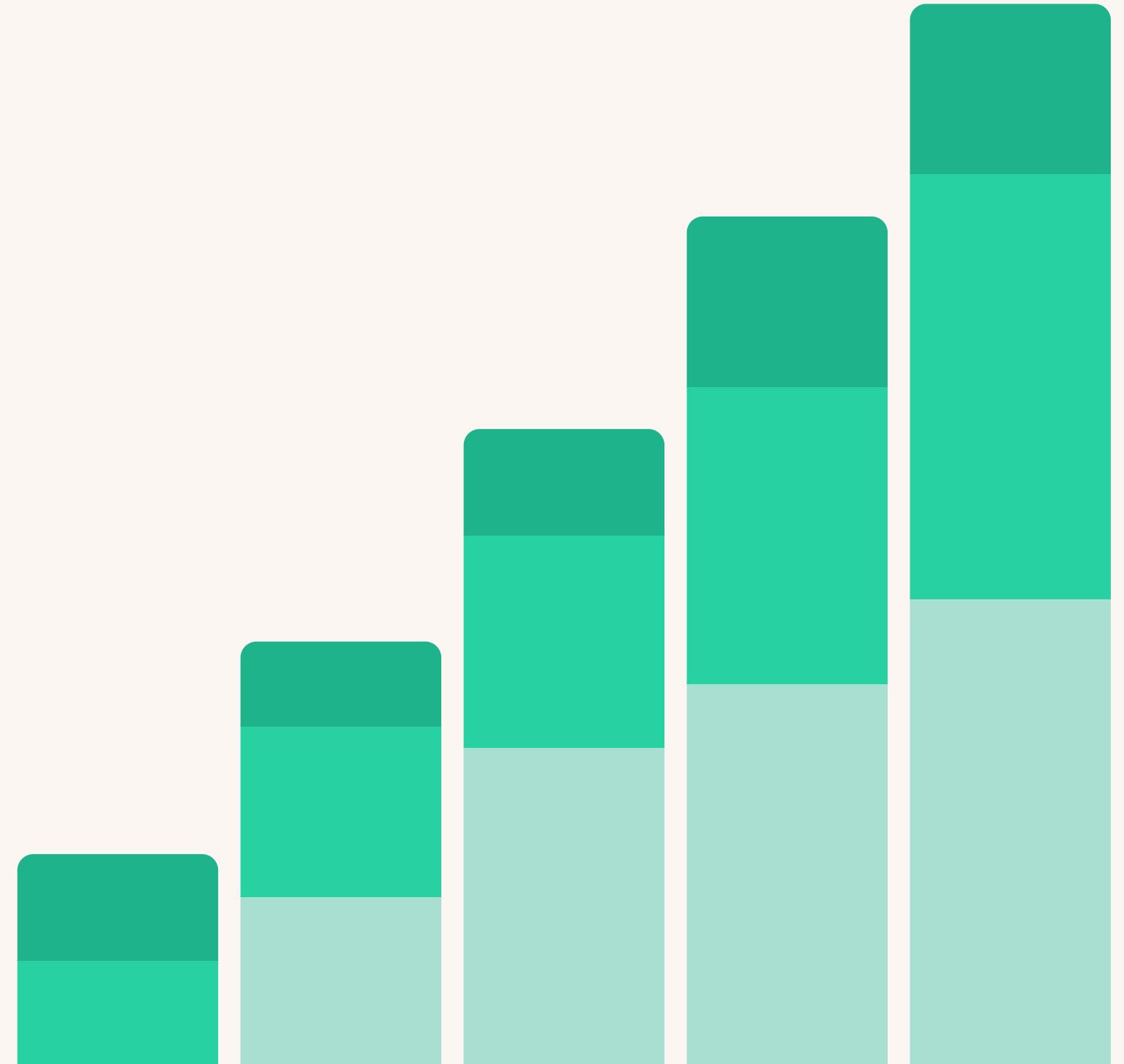
Introduction to airplane crash analysis

Airplane crash analysis is the systematic examination of aviation accidents to understand their causes and prevent similar incidents in the future. It involves collecting and analyzing data related to the accident, including flight data, flight route etc. The goal is to identify contributing factors such as human error, mechanical failures, or environmental conditions. By uncovering these factors, safety recommendations can be developed and implemented to improve aviation safety standards, ultimately saving lives and enhancing the overall safety of air travel.



Methodology used in the analysis

Tableau methodology for airplane crash analysis involves using Tableau software to visually analyze complex aviation accident data. It allows investigators to spot patterns and trends in flight data, weather conditions, and maintenance records quickly. By creating interactive dashboards, stakeholders can gain insights into the causes of crashes, leading to informed decisions and improved aviation safety.



Purpose Of Crash Analysis

01.

- Identify patterns in the frequency and severity of incidents.
- Analyse the distribution of incidents across different regions.

02.

- Identify operators with higher incident rates.
- Examine the relationship between aircraft registration and crash occurrences.

03.

- Investigate factors contributing to fatalities.
- Identify routes with a higher likelihood of incidents.



Data Collection And Processing

Accurate data collection is crucial for meaningful analysis because it forms the foundation of informed decision-making. Without precise and reliable data, any analysis conducted lacks credibility and may lead to flawed conclusions. Accurate data ensures that the insights gained from analysis are trustworthy, allowing organizations to make informed decisions, identify trends, and address challenges effectively. In short, accurate data collection is essential for meaningful analysis as it enables organizations to derive actionable insights that drive positive outcomes.



Dataset Description

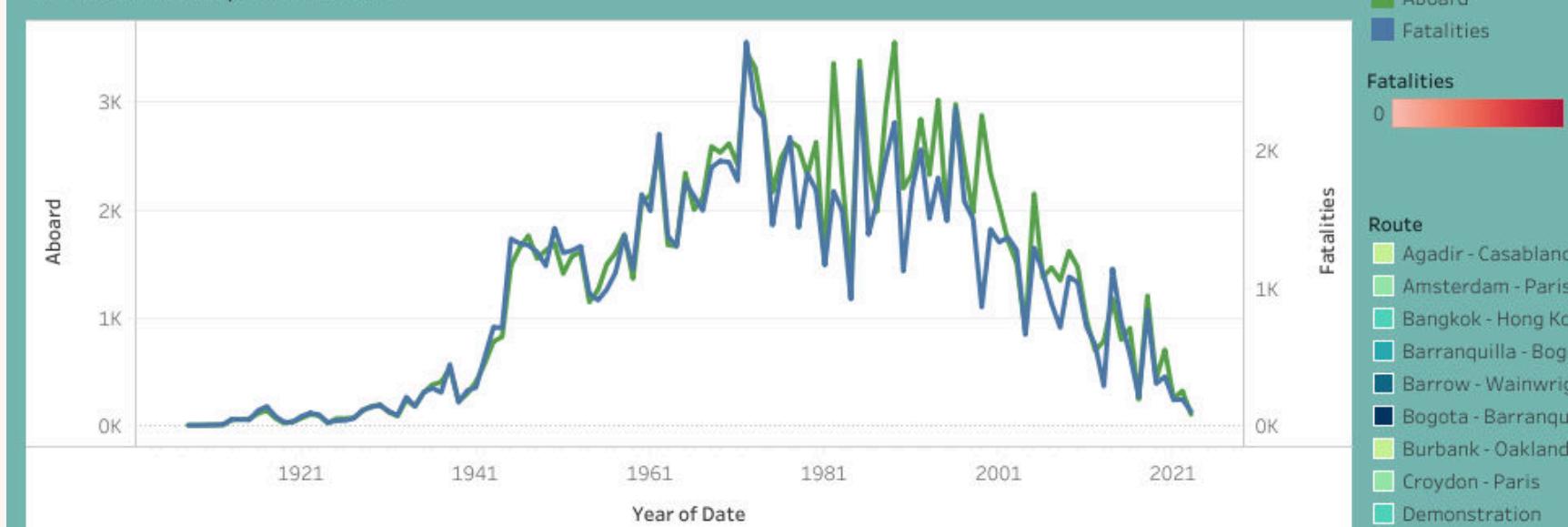
1. **Date:** Date of the airplane crash.
2. **Time:** Time of the airplane crash.
3. **Location:** Location where the airplane crash occurred.
4. **Operator:** Operator or airline involved in the incident.
5. **Flight #:** Flight number associated with the incident.
6. **Route:** Planned route of the flight.
7. **AC Type:** Aircraft type involved in the crash.
8. **Registration:** Registration details of the aircraft.
9. **cn/ln:** Construction or serial number of the aircraft.
10. **Aboard:** Total number of individuals aboard the aircraft.
11. **Aboard Passengers:** Number of passengers aboard the aircraft.
12. **Aboard Crew:** Number of crew members aboard the aircraft.
13. **Fatalities:** Total fatalities in the incident.
14. **Fatalities Passengers:** Number of passenger fatalities.
15. **Fatalities Crew:** Number of crew member fatalities.
16. **Ground:** Casualties on the ground, if any.
17. **Summary:** Brief summary or description of the incident.



Comprehensive Analysis

Airplane Crash Analysis

Trends in Airplane Crash



Hotspot of Airplane Crash



Route Analysis



AIRPLANE CRASH ANALYSIS REPORT

Total Fatalities

Fatalities Passangers	90,620
Fatalities Crew	17,023

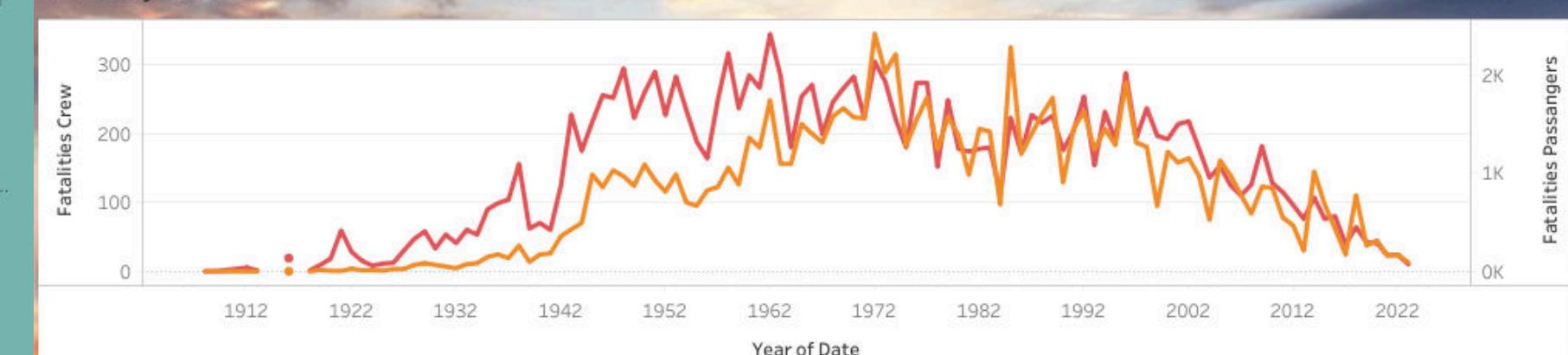
Highest Rates

Operator	
Japan Air Lines	764
Pan American World Airw..	583
Saudi Arabian Airlines / K..	349

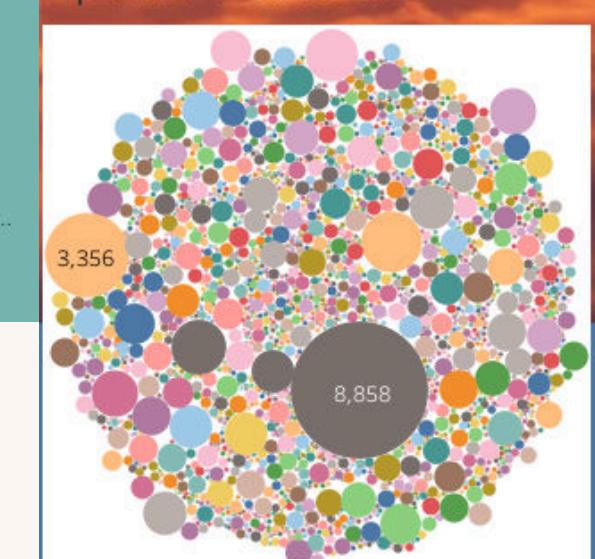
Fatalities By Registration

Registration	
NULL	5,193
N736PA/PH-BUF	583
JA8119	520
HZ-AIH/UN-76435	349

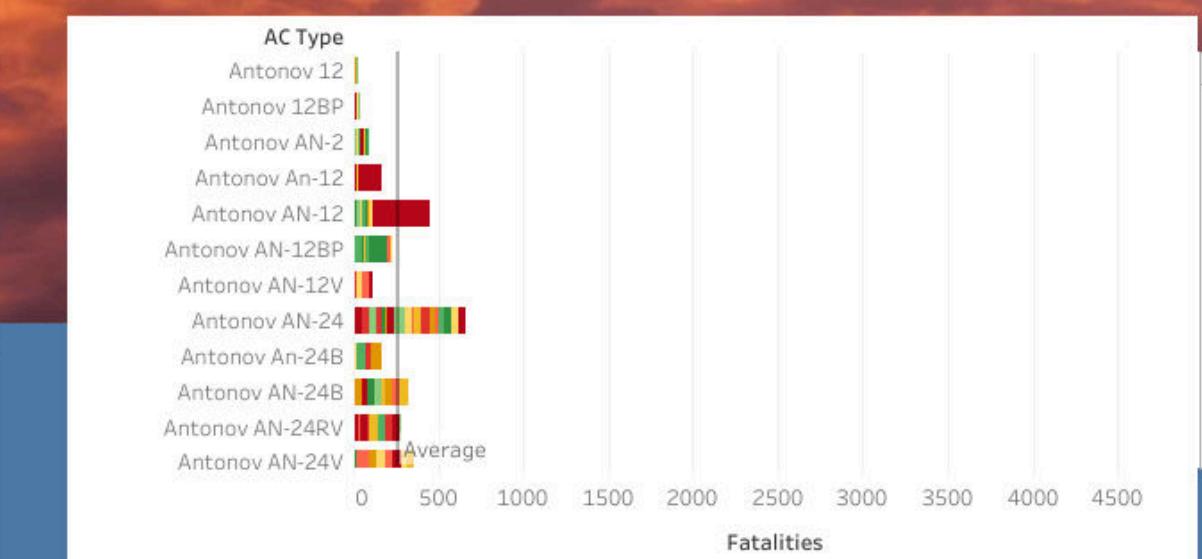
Fatality Trends



Operator Performance



Aircraft Analysis



Main challenges identified

01.

- More than half of the boarded passengers are injured.
- The fatality ratio has high proportion of passengers than crew.

02.

- The hotspot locations include Alaska and Texas with high number of fatalities.
- More than 5 aircraft routes have high fatality rate.

03.

- Three aircraft operators have more than 300 fatalities , 764 fatalities being the highest amongst them.
- The aircrafts with no registration has the highest incident rate of fatalities, 261.64 being the average fatality for registered aircrafts.

Proposed solutions

01.

The causes for high fatalities should be identified and evaluated.

02.

More safety measures should be taken for the hotspot locations and routes to decrease the fatality rate.

03.

The aircrafts must be registered and only then should be allowed to board , and the registered aircrafts with high fatalities should take appropriate safety measures.

04.

The airline must do the security and technical check before take off and it must ensure safety of the boarded passengers.



Thank you very much!

